S. HRG. 109–287

WINTER FUELS OUTLOOK

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

TO

DISCUSS THE WINTER FUELS OUTLOOK AND THE EFFECT OF HIGH PRICES THIS COMING WINTER

OCTOBER 18, 2005

Printed for the use of the
Committee on Energy and Natural Resources

U.S. GOVERNMENT PRINTING OFFICE

26–240 PDF WASHINGTON : 2006

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2250 Mail: Stop SSOP, Washington, DC 20402–0001

COMMITTEE ON ENERGY AND NATURAL RESOURCES

PETE V. DOMENICI, New Mexico, *Chairman*

LARRY E. CRAIG, Idaho
CRAIG THOMAS, Wyoming
LAMAR ALEXANDER, Tennessee
LISA MURKOWSKI, Alaska
RICHARD M. BURR, North Carolina,
MEL MARTINEZ, Florida
JAMES M. TALENT, Missouri
CONRAD BURNS, Montana
GEORGE ALLEN, Virginia
GORDON SMITH, Oregon
JIM BUNNING, Kentucky

JEFF BINGAMAN, New Mexico
DANIEL K. AKAKA, Hawaii
BYRON L. DORGAN, North Dakota
RON WYDEN, Oregon
TIM JOHNSON, South Dakota
MARY L. LANDRIEU, Louisiana
DIANNE FEINSTEIN, California
MARIA CANTWELL, Washington
JON S. CORZINE, New Jersey
KEN SALAZAR, Colorado

ALEX FLINT, *Staff Director*
JUDITH K. PENSABENE, *Chief Counsel*
BOB SIMON, *Democratic Staff Director*
SAM FOWLER, *Democratic Chief Counsel*
LISA EPIFANI, *Counsel*
JENNIFER MICHAEL, *Democratic Professional Staff Member*

CONTENTS

STATEMENTS

	Page
Bingaman, Hon. Jeff, U.S. Senator from New Mexico	4
Caruso, Guy, Administrator, Energy Information Administration	5
Corzine, Hon. Jon S., U.S. Senator from New Jersey	3
Domenici, Hon. Pete V., U.S. Senator from New Mexico	1
Downes, Laurence M., Chairman, American Gas Association	18
Kuhn, Tom, President, Edison Electric Institute	9
Smith, Peter R., Chairman, National Association of State Energy Officials	24
Sullivan, Jack, Executive Vice President and CEO, New England Fuel Institute, Watertown, MA	31
Talent, Hon. James M., U.S. Senator from Missouri	4

APPENDIXES

APPENDIX I

Responses to additional questions	63

APPENDIX II

Additional material submitted for the record	71

WINTER FUELS OUTLOOK

TUESDAY, OCTOBER 18, 2005

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 10:05 a.m., in room SD–366, Dirksen Senate Office Building, Hon. Pete V. Domenici, chairman, presiding.

OPENING STATEMENT OF HON. PETE V. DOMENICI, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. Good morning, everyone.

At the hurricane recovery hearing on October 6, I said that we need to have a realistic set of expectations about how long we should expect high energy prices, and we need to prepare for the prospect of shortages.

The purpose of today's hearing is to provide a foundation for this winter's fuel costs expectations and to prepare us for what could be a very challenging winter. Now, I understand, with reference to the winter itself, a real cold winter, moderate winter, warm winter, everybody has got information and we are speculating. But nonetheless, since winter is coming, it seems to me we have to prepare our people for a challenging winter.

The impact to residential heating bills is anticipated to be severe. We should hear more about that today from the witnesses. Home heating costs are expected to be well above last year's levels, the result of a tight supply/demand balance that has been exacerbated by the hurricanes, Rita and Katrina. The industry has made, from what we can tell, very valiant efforts to recover from the storms, but I think we now understand that the depth of the disaster caused by these two hurricanes may take a very long time to recover fully. We were far from a strong energy situation when the storms hit us. That precarious state of energy has had a dark cloud over the economy and it has been so for quite some time. It also has an impact on our national security interests and probably will for years.

The bipartisan energy bill was a long-term plan to start to answer those energy challenges. It is a good bill that will increase energy security through real emphasis on research and development and new technology, regulatory certainty, and resource diversification. However, it is obvious that if it would have been passed 4 or 5 or 6 years ago, we would have seen the effects now. But that was not to be.

So hurricanes Katrina and Rita have exposed an energy vulnerability that will show itself this winter and, at the same time, will permit us to examine the entire energy picture.

Access to supply and the ability to move has been seriously compromised. I think you all know that. If we have a real cold winter, we could find ourselves with very, very high prices and I am not sure that any of you would agree, but we might, indeed, be looking at some kind of shortages, at least spot shortages, of heating oil and other products.

A majority of the United States, 110 million households, are heated by natural gas. The EIA, Mr. Caruso, predicts that homes heated by natural gas can expect to see an average of 48 percent increases, roughly $350 more than in 2004-05. That is what I understand you will testify to today. We will ask you about that.

If the weather is colder than expected, then these natural heating expenditures could rise, and we will ask you about that also.

Many people have been focusing these days on the higher gasoline prices, and everybody is worried about that. Everyone on this committee is. But the price of natural gas, particularly this winter, is one of the most distressful energy challenges that we face. For those whose livelihoods are related to natural gas, it should be noted that if we translated the gasoline prices to the level of increases faced by natural gas increases over a period of time, 6 or 8 years ago, then gasoline would be seeing a $7 a gallon price at the pump right now. That is to show you the terrific impact of natural gas on those that use it. So when we drive up to a station, we can brace ourselves for these high prices that are displayed there, but winter fuel costs could be real price-shockers that are not shown on any filling station pump, but when the bills come and the bills come to industry, it will be a tremendous problem that will face our country.

I want to just mention that today we might push as hard as we can on conservation activities that Americans might pursue. Senator Bingaman and I have been talking seriously about what we can pursue and push in the conservation area. But I am just going to state two or three things that we have determined already.

According to the American Chemistry Council, if every American would turn down their thermostats just 2 degrees, it would free up 3 billion cubic feet of gas per day. That is a savings that we could get from three LNG terminals, if they were built, a rather major event.

Other conservation steps we could consider are like lowering the thermostat on your gas heaters to 120 degrees. That would save consumers up to $45 a year and a lot of natural gas.

Now, we can go on, but we will wait and hear from the witnesses, and we will put together our own approach to that, Senator Bingaman, as we move along.

I would mention that along with conservation, there is one big thing we can do, and we have been told that, Senators. That is to move ahead rapidly with Lease 181 in the coastal area between Florida and Alabama. This is a very difficult political issue. I have no direct information, but I am hopeful that the President would move in this area since he has authority and that we could follow up with anything we need to do. That will not be included in the

reconciliation bill. I think the Senators understand that. It will not be.

Senator DORGAN. Mr. Chairman, might I just ask a question about Lease 181? While I support opening Lease 181, do you have any notion of what the potential reserves are there?

The CHAIRMAN. Yes. Terrific. I do. In the Outer Continental Shelf, known as 181, and the non-leased portion of 181, which is now under a moratorium, there are approximately 7.2 trillion cubic feet of gas. That is in areas more than 100 miles from any State coastline. The estimated resources that I have spoken of, according to the API—1 trillion cubic feet would heat 1 million homes for 15 years. So that is a huge contribution.

But I would say one equally important thing is that even though that would take a couple years, we have been told that it would have a dampening effect because it is a known commodity that could be expected.

Now, with that, I am going to let Senator Bingaman comment, and then we are going to the witnesses.

Senator Bingaman.

[The prepared statements of Senators Corzine and Talent follow:]

PREPARED STATEMENT OF HON. JON S. CORZINE, U.S. SENATOR FROM NEW JERSEY

Mr. Chairman, I would like to thank you for holding this hearing to address the incredible expense consumers will face heating their homes this winter. Consumers have already been hit hard by consistently rising fuel prices this past year—with prices at the pump rising by an astounding 37.3 percent in New Jersey. Now, in the wake of the disruption to our energy system caused by Hurricanes Katrina and Rita, the Energy Information Administration's (EIA) winter fuels outlook shows that there is no end in sight for consumers, who will face drastic increases in residential space-heating expenditures.

Mr. Chairman, as you know, winter fuel prices were already expected to be significantly higher than last year before the Hurricanes hit, worsening the situation. The EIA currently projects that consumers will see a 48 percent average increase, the equivalent of $350, over last year's heating costs. These increases on top of the already skyrocketing gasoline prices are going to have a huge impact on consumers' daily lives. And of course, middle- and low-income Americans will be hurt the most this winter—especially in states like mine, where the cost of living is already a huge burden for families.

It is crucial, therefore, that we take immediate steps to mitigate the effects of high fuel prices this winter by increasing the appropriation for the Low Income Home Energy Assistance Program (LIHEAP) to $5.1 billion, the amount authorized in the Energy Policy Act of 2005. States such as New Jersey need the LIHEAP funding to provide relief to the most vulnerable Americans. Seniors and low-income families in New Jersey and across this nation should not be forced to make the choice between putting food on their tables and heating their homes. According to the Center on Budget and Policy Priorities, New Jersey alone would need $205.4 million to ensure that LIHEAP beneficiaries will not be affected by the spike in energy costs. M. Chairman, it is essential that we fully fund LIHEAP so that families will literally not be left out in the cold.

Of course, while adequate LIHEAP funding is one of the most effective and immediate ways to help low-income consumers, we must also take other steps to alleviate high heating costs. Promoting energy efficiency in commercial buildings, air conditioners, water heaters and furnaces, and new homes is another one of the cheapest, fastest, and cleanest methods of reducing costs for families and businesses. I have consistently advocated investing in both energy efficiency and conservation programs and in fact, the inclusion of energy efficiency tax incentives in the Energy Policy Act was one of the few merits of the overall bill.

Mr. Chairman, I also want to again take this opportunity to urge my colleagues not to use the winter fuels outlook as an excuse to begin developing new offshore supplies of oil and gas. The environmental and economic effects of drilling off the coast of a state like New Jersey—a state that depends heavily on the health and cleanliness of its beaches for tourism—far outweigh the possible benefits of drilling.

In addition, it is misleading to suggest drilling is a short term solution to the drastic price increases this winter because development takes years and is not even guaranteed to lower prices in the long run. We cannot make hasty policy decisions, Mr. Chairman. Instead, we should, as I said, adequately fund the effective programs we already have in place. And of course, once immediate relief is provided, we in Congress must have a frank discussion on the most effective means of fixing our energy system so that consumers are not subject to the price volatility that they are expected to experience this winter.

Again, thank you M. Chairman for holding these hearings. I look forward to the testimonies of the witnesses.

PREPARED STATEMENT OF HON. JAMES M. TALENT, U.S. SENATOR FROM MISSOURI

We need increased fuel supply and diversity—Katrina shows our vulnerability due to concentration of fuel type (natural gas) and production location (concentrated area of Gulf of Mexico that is right down hurricane alley).

Tight supply present even before hurricanes—elevated prices due to increased domestic demand for a clean fuel and a then cheap fuel that's no longer cheap.

As our witnesses will attest, energy demand is outstripping supply, driving prices higher.

When balancing the environment and energy prices, there are always difficult choices to make. But we can and will find solutions.

We need more natural gas production. We need more crude oil production—we're sitting on a huge resource in ANWR that we simply must tap into.

Nuclear will help, but it is 10 years or longer away.

But I am puzzled as to why there is so little mention of coal in this debate, both as a source of supply for electricity generation and for vehicle fuels. Coal must be a big part of the solution. Peabody Coal, headquartered in my state, itself has the coal equivalent of a 10 year supply of natural gas.

EIA data shows U.S. natural gas production increasing from 19.2 trillion cubic feet in 2000 to 21.8 Tcf in 2025, but demand growing much faster, from 23.3 Tcf to 30.7 Tcf over the same time period. It will be difficult to make up that difference even with a dramatic increase in LNG imports. And that's not without its own risks.

Dow Chemical President Andrew Liveris testified earlier this month to the difficulty in obtaining sufficient supplies of LNG, and the need to locate his plants elsewhere in places where energy costs are lower. We can't continue to lose jobs to other nations because our energy costs are too high.

Clean coal technology that is available now and can be on line in 2-3 years results in a cleaner gas product than natural gas. At a cost of $6.50/Mcf, coal gasification is well below current natural gas prices of around $14. And coal is available here, so it poses no risk of supply disruption (the largest natural gas reserves are in the Middle East, then Russia).

All that is needed for coal is regulatory certainty and we'll get the needed capital investment to produce an abundant supply of clean energy to add to our natural gas and other fuels for generators and liquids to increase the transportation fuel supply and bring down prices.

As I noted earlier this month at the October 6 hearing on impacts of Katrina and Rita on the U.S. energy infrastructure, an adequate and diverse energy supply with lower prices means much stronger economic growth and risk taken out of the economy. That economic growth, because of the marvelous productivity of the American people produces wealth on the basis of which we can enhance technology, enhance conservation efforts, improve the environment, and take care of our coasts.

We'll end up with the growth, the jobs, the industry, the exports, and a better environment and a better community all at the same time by having faith and confidence in the productivity and the decent instincts of the American people.

We've seen those instincts on display in response, just an immediate gut level response to Hurricanes Katrina and Rita, and we'll see it again. Really all they need us to do is to unshackle them a little bit and they'll go out and get us out of this.

STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

Senator BINGAMAN. Thank you very much, Mr. Chairman. I welcome all the witnesses. Thank you very much for being here. We have a very distinguished group of witnesses this morning.

Mr. Chairman, as I view the hearing today, this is our best opportunity to try to focus on the upcoming winter and the next few months and what can be done in this short period to mitigate the very high prices we are seeing in home heating oil and natural gas and propane and gasoline at the pump. I think we are all anxious to try to identify some initiatives we could pursue that could have a long-term benefit for the country. I certainly want to work on that. But I think that the short term is where we need to have as clear a picture as we possibly can on what we are faced with and what actions we can take.

So I appreciate your having the hearing very much and look forward to the testimony.

The CHAIRMAN. Thank you, Senator Bingaman.

I wanted to clarify one thing. Senator, I mentioned to you what if we went 100 miles out so that there would be less concern. I should clarify if that happened, if we did that, it is estimated that that would be approximately 6 trillion cubic feet of gas. If you just did the normal, it would be 7.2 trillion. It is estimated that 1 trillion will heat 1 million homes for 15 years. So that is the accurate situation. Thank you.

Now we are going to proceed to the statements. Mr. Caruso, we will make your statement a part of the record, and we thank you again for your excellent work and for your help in this area.

STATEMENT OF GUY CARUSO, ADMINISTRATOR, ENERGY INFORMATION ADMINISTRATION

Mr. CARUSO. Thank you very much, Mr. Chairman and members of the committee. It is a pleasure to be here to represent the Energy Information Administration once again and present our Winter Fuels Outlook which we released last Wednesday.

It has now been 53 days since hurricane Katrina made landfall, and since that time, we have had about 60 million barrels of oil from our Gulf of Mexico shut in. That is averaging more than 1 million barrels a day; more than 300 million cubic feet of gas shut in and continuing.

The practical implications of that for the winter and for the world oil and gas industry is that we are operating in a world oil industry at about 84 million barrels a day today, with almost no unused capacity. What little there is is in Saudi Arabia and most of that is heavier sour crudes not really in demand. So we have this shut-in capacity fully used up. Our refineries are operating at high rates of utilization in this country and in the world, and many of our refineries have been shut in as a result of the hurricanes. So we go into the winter with considerable uncertainty about the supply of oil, gas and refined crude oil, natural gas and refined products.

Our Winter Fuels Outlook reflects a baseline scenario for recovery of energy operations in the Gulf of Mexico based on information available to EIA as of last week. On the demand side, our projections are based on the latest weather forecasts from the National Oceanic and Atmospheric Administration's Climate Prediction Center.

This winter expenditures for residential space heating are projected to increase for all fuel types compared to year-ago levels. The

average U.S. household can expect to pay about $260 more for heating this winter, and on average, we expect households heating primarily with natural gas to spend about $350 more this winter. That is about a 48 percent increase over last winter. For those heating with heating oil, about $380, or 32 percent more, and for propane, about $325, or 30 percent more.

Electricity, which has a substantial amount generated by coal and nuclear, will have a much lower price impact, with only $38 above last year's average cost. However, expenditures for individual households will differ widely based on local weather conditions, the size, and energy efficiency of individual homes and their heating equipment. And then, as you mentioned, thermostat settings are very important.

We expect natural gas and petroleum prices to remain high. Henry Hub spot natural gas prices are expected to average about $11.40 per thousand cubic feet this winter. For residential heating oil, prices are expected to average $2.54 per gallon this winter season.

And for the transportation fuels, which continue to have relatively high prices, retail gasoline prices are expected to average close to $2.56 per gallon. That compares with this week's average in the United States of $2.74. So we do see a trend down there. Retail diesel fuel prices are projected to average $2.71 per gallon.

On the demand side, we expect total petroleum demand in the United States to be down a bit, about 1 percent this year.

The CHAIRMAN. To be what?

Mr. CARUSO. To be down about 1 percent this year compared with last, but to have some recovery in 2006, back to about 21 million barrels a day.

Natural gas demand will also be down as a result of the direct impact of the hurricane, as well as high prices on industrial consumers. We do anticipate with the return to normal weather and the recovery in industrial consumption next year, natural gas demand will recover by about 3 percent in 2006.

On the supply side, natural gas production, of course, is down directly as a result of the hurricanes and we expect a decline of 3 percent this year compared with last, but an increase next year as we expect most of the Gulf of Mexico production to be back on stream by the end of first quarter 2006.

Hurricanes have reduced our ability to inject natural gas in storage for the winter season. However, we do think that by November 1 we will be at 3.1 trillion cubic feet, which is a normal storage level for the winter season.

The CHAIRMAN. How do we store that?

Mr. CARUSO. Mostly in salt domes and in old oil and gas fields that have been fully depleted.

So we do anticipate there will be enough gas in storage to meet even a 10 percent colder-than-normal winter, Mr. Chairman. However, as you pointed out, the prices will be higher, as projected in our Winter Fuels Outlook. The full report is in the record. Thank you, Mr. Chairman.

[The prepared statement of Mr. Caruso follows:]

PREPARED STATEMENT OF GUY CARUSO, ADMINISTRATOR,
ENERGY INFORMATION ADMINISTRATION

Mr. Chairman and Members of the Committee: I appreciate the opportunity to appear before you today to discuss the Energy Information Administration's (EIA) *Short-Term Energy and Winter Fuels Outlook*, which we released on October 12. The text of this Outlook and some of the figures are attached to my testimony; the complete Outlook is available on our website at *www.eia.doe.gov.**

EIA is the independent statistical and analytical agency in the Department of Energy. We do not promote, formulate, or take positions on policy issues, but we do produce data, analyses, and forecasts that are meant to assist policymakers, help markets function efficiently, and inform the public. Our views are strictly those of EIA and should not be construed as representing those of the Department of Energy or the Administration.

Even before Hurricane Katrina struck, crude oil and petroleum product prices were setting records. On August 26, the near-month price of crude oil on the New York Mercantile Exchange closed at over $66 per barrel, which was $23 per barrel, or more than 50 percent, higher than a year earlier. On August 29, as the hurricane made landfall, average gasoline prices stood at $2.61 per gallon, 74 cents higher than one year earlier, and diesel prices were $2.59, or 72 cents higher. Oil prices worldwide had been rising steadily since 2002, due in large part to growth in global demand, which has used up much of the world's surplus production capacity. Refineries have been running at increasingly high levels of utilization in many parts of the world, including the United States. High production of distillate fuels and higher-than-average refinery outages this summer added to tightness in gasoline markets.

Throughout the summer months, EIA warned about the potential adverse impacts of an active hurricane season on domestic energy supply and prices. These warnings unfortunately are being reflected in the challenging realities brought about by Hurricanes Katrina and Rita. The impact on oil and natural gas production, oil refining, natural gas processing, and pipeline systems have further strained already-tight markets on the eve of the 2005-2006 heating season.

Projections are subject to considerable uncertainty. Price projections are particularly uncertain, because small shifts in either supply or demand, which are both relatively insensitive to price changes in the current market environment, can necessitate large price movements to restore balance between supply and demand. On the supply side, our *Winter Fuels Outlook* reflects a "Medium Recovery" or baseline scenario for recovery of energy operations in the Gulf of Mexico based on information available to EIA as of the end of the first week of October. On the demand side, the baseline projections incorporate the mean values for heating degree-days by Census Division as provided by the National Oceanic and Atmospheric Administration's Climate Prediction Center. EIA also examines 10-percent colder and 10-percent warmer winter cases to provide a range of heating fuel market outcomes.

This winter, residential space-heating expenditures are projected to increase for all fuel types compared to year-ago levels. On average, households heating primarily with natural gas are expected to spend about $350 (48 percent) more this winter in fuel expenditures. Households heating primarily with heating oil can expect to pay, on average, $378 (32 percent) more this winter. Households heating primarily with propane can expect to pay, on average, $325 (30 percent) more this winter. Households heating primarily with electricity can expect, on average, to pay $38 (5 percent) more. Should colder weather prevail, expenditures will be significantly higher. These averages provide a broad guide to changes from last winter, but fuel expenditures for individual households are highly dependent on local weather conditions, the size and energy efficiency of individual homes and their heating equipment, and thermostat settings.

Several factors are driving up winter prices and expenditures: first, international factors such as low spare crude oil capacity and political tensions contribute to uncertainty and low supply growth for crude oil and high crude prices; second, recent hurricanes and associated disruptions exacerbate already tight markets in oil, petroleum products, and natural gas; and, finally, winter weather affects consumption and consequently household expenditures. This winter, we are likely to have a slightly colder weather, as measured by population-weighted heating degree-days, relative to last winter.

Overall, prices for petroleum products and natural gas are expected to remain high due to tight international supplies of crude and hurricane-induced supply losses. Under the baseline weather case, Henry Hub natural gas prices are expected

*The Outlook has been retained in committee files.

to average around $9.00 per thousand cubic feet (mcf) in 2005 and around $8.70 per mcf in 2006. Retail gasoline prices are expected to average close to $2.35 per gallon in 2005 and about $2.45 in 2006. Retail diesel fuel prices are projected to remain high throughout the forecast period, averaging $2.45 in 2005 and $2.58 in 2006. Residential retail heating oil prices are expected to be $2.54 per gallon this winter season, a 32-percent increase over last winter, reflecting not only high crude oil prices, but also strong demand in the international market for distillate fuels. Residential electricity prices are expected to average 9.3 cents per kilowatt hour (kwh) in 2005 and about 9.5 cents per kwh in 2006, with significant regional differences depending on the fuel mix used to generate electricity in each region of the country. Under a colder weather scenario, prices for natural gas and all petroleum products are projected to be somewhat higher.

Worldwide petroleum demand growth is projected to slow from 2004 levels, but still remain strong during 2005 and 2006, averaging 1.8 percent per year over the 2-year period, compared with 3.2 percent in 2004. Moreover, only weak production growth in countries outside of the Organization of Petroleum Exporting Countries (OPEC) is expected. With the loss of production in the Gulf of Mexico from the hurricanes, production declines in the North Sea, and the slowdown in growth in Russian oil production, non-OPEC supply is projected to increase by an annual average of only 0.1 million barrels per day during 2005 before increasing by 0.9 million barrels per day in 2006. In addition, worldwide spare production capacity is at its lowest level in 3 decades.

Total petroleum demand in the United States in 2005 is projected to average 20.5 million barrels per day, or 0.9 percent less than in 2004. Average demand for the first half of 2005 was at about the same level as during the first half of 2004 because rapidly rising prices constrained motor gasoline demand growth, weather factors depressed heating oil demand, and relative price factors lowered residual fuel oil and propane demand. Hurricane-related disruptions combined with increased prices result in a lower projected demand for petroleum products relative to pre-hurricane predictions. Petroleum demand in 2006 is expected to average 21 million barrels per day, or 2.2 percent higher than in 2005.

Total natural gas demand is projected to fall by 1.2 percent from 2004 to 2005 due mainly to higher prices, but recover by 3.0 percent in 2006 due to an assumed return to normal weather (early 2005 was a relatively mild heating season in the Midwest) and a recovery in consumption by the industrial sector, which is projected to increase by about 6 percent over 2005 levels. Residential demand is projected to decline slightly from 2004 to 2005 mostly because of relatively weak heating-related demand during the first quarter, while industrial demand is estimated to decline by nearly 8 percent over the same period due to the much higher prices for natural gas as a fuel or feedstock. By 2006, both end-use sectors recover somewhat with residential demand estimated to increase 2.6 percent from 2005 levels and industrial demand increasing by 6 percent. The industrial rebound in 2006 is partly because of assumed reactivation of damaged industrial plants in the Gulf of Mexico region but also reflects renewed fuel demand growth as domestic industrial plants adjust to higher prices. Power sector demand growth continues through the forecast period along with electricity demand growth. The pace is slower that the 5.7-percent rate projected for 2005 because an unusually hot summer and high cooling demand boosted 2005 growth significantly.

Domestic dry natural gas production in 2005 is expected to decline by 3.0 percent, due in large part to the major disruptions to infrastructure in the Gulf of Mexico from both Hurricanes Katrina and Rita, but increase by 4.2 percent in 2006. Working gas in storage as of October 7 was estimated at 2.99 trillion cubic feet, a level 162 billion cubic feet (bcf) below 1 year ago but still 1.2 percent above the 5-year average. Although natural gas storage remains above the 5-year average, the double blows of Hurricanes Katrina and Rita reduced the peak storage achievable over the remainder of the injection season from what was expected previously. Expected working gas in storage at the end of the fourth quarter is expected to be about 2.5 trillion cubic feet, 200 bcf below year-ago levels and about 50 bcf above the 5-year average. Hurricane recovery profiles that differ from the scenario used for this month's baseline forecast would significantly affect the storage forecast.

In conclusion, due to continued tight crude oil markets, hurricane-related supply disruption, and slightly colder weather, the average U.S. household can expect to pay about $260 more for heating this winter, mostly due to already tight supplies and the effects of the Gulf coast hurricanes. Our projections are subject to considerable uncertainty, as noted, depending in part on the rate of recovery in the Gulf of Mexico and on the weather. A winter that is colder than expected could substantially raise estimated expenditure increases; milder weather, of course, would lower estimated expenditures.

This completes my testimony, Mr. Chairman. I would be glad to answer any questions that you and the other members of the Committee may have.

The CHAIRMAN. Thank you very much. Was that your entire statement?

Mr. CARUSO. The full statement will be submitted for the record.

The CHAIRMAN. All right. Thank you.

Mr. Tom Kuhn, president of Edison Electric, it is good to have you before us again. Thank you for giving us your time.

STATEMENT OF TOM KUHN, PRESIDENT, EDISON ELECTRIC INSTITUTE

Mr. KUHN. Thank you very much, Mr. Chairman and members of the committee. I very much appreciate the opportunity to testify at this very important hearing regarding the fuels outlook and ways to help consumers deal with higher energy prices.

As Guy indicated, we are expecting a significant increase in fuel costs for home heating this winter, and this comes on the heels of extremely high prices for gasoline and other transportation fuels. The ripple effects of these higher prices are being felt throughout the economy and affecting all classes of customers, residential, commercial, and industrial.

Many utilities are also being squeezed between high fuel costs and regulatory limits on electricity rates. Like consumers, these utilities are seeking to use natural gas as efficiently as possible and switching to more economical fuels wherever it is feasible.

I would like to briefly address five key issues that are covered in depth in my testimony.

First, LIHEAP. To help address significantly higher energy prices this winter, EEI strongly supports full funding for the Low-Income Home Energy Assistance Program in fiscal year 2006. LIHEAP helps pay the winter heating bills or summer cooling bills of low-income and elderly people, and unfortunately, the present funding level serves only 20 percent of the eligible population. The increased funding for the LIHEAP program is the most immediate and direct way that those in need may receive assistance this winter. The Energy Policy Act of 2005 authorizes LIHEAP funding at $5.1 billion. An increase in the base funding for LIHEAP would assure the States would receive the funds necessary to provide heating assistance this winter.

Second, efficiency. And I am glad that you brought that up, Mr. Chairman. That is an extremely important part of the equation that we can address in the near term. America's electric utility companies are leaders in encouraging energy efficiency. Over the past 3 years, we have invested more than $4 billion in numerous energy efficiency programs. Congress also should fully fund energy efficiency and conservation public information and outreach efforts. The energy bill authorized $90 million per year for 5 years for public education. Unfortunately, a major public education campaign now underway, supported by DOE, the Alliance to Save Energy, and a number of business and consumer groups, including a major contribution that we made from Edison Electric Institute, is severely underfunded. So to the extent that we can get greater funding for energy education and efficiency programs, I think that would be extremely helpful.

Third, natural gas supply. We welcome recent legislation to natural gas supply in the long term via the Alaska pipeline and LNG sites, among others, but in the near term, we urge Congress to work with the administration and the States to increase natural gas supplies from our vast onshore and offshore resources including, as you mentioned, Mr. Chairman, from the unleased portions of leasehold 181 in the Gulf of Mexico. It is extremely important and I fully agree with you that that would have major psychological implications on the natural gas markets and affect the pricing.

Fourth, fuel diversity. We commend you, Mr. Chairman, and the committee for recognizing the importance of fuel diversity as one of the guiding principles behind the energy bill that Congress passed last year. Low-cost, reliable electricity results, in part, from our ability to utilize a variety of readily available energy resources, coal, nuclear, natural gas, hydropower and renewable energy resources such as wind, biomass, and solar. And as the chart accompanying my testimony demonstrates, different regions of the country rely on some resources more heavily than others.

When it comes to switching fuels in the short term, electric power plants are subject to economic engineering and environmental realities and constraints. For example, power plants built to use natural gas or oil cannot burn coal directly. Power plants with long-term fuel contracts may not be able to switch to another fuel or procure new supplies in a tight spot market. There are challenges to transporting enough coal to some plants. Nuclear power plants are operating at very high capacity factors, and upgrading applications and reviews are complex and require review and approval by the NRC. Environmental permits can limit the specific types of coal and oil that can be consumed.

That said, there is some limited potential to reduce natural gas use by power plants. However, these opportunities often tend to be plant-specific and, where feasible, economics already are driving these actions to occur. Regulatory flexibility can help to maximize alternatives to natural gas in the short term, and our companies stand ready to work with regulators and policymakers to pursue reasonable opportunities.

Finally, fuel mandates. EEI strongly opposes any efforts to ration fuel supply or dictate fuel choices for the electric utility industry. Both the Power Plant and Industrial Fuel Use Act of 1978 and the Public Utility Regulatory Policies Act, or PURPA, which dictated fuel choices and energy purchases to utilities adversely distorted electricity markets and impacted customers. This is among the reasons why EEI opposes any effort to limit utility access to natural gas for electric generation, to dictate what fuels should be used to generate electricity, or to federally mandate efficient dispatch. Further raising customers' electricity bills is not a solution to higher natural gas prices.

I thank you again for allowing me the opportunity to testify today, and I certainly would be pleased to answer any questions you might have.

[The prepared statement of Mr. Kuhn follows:]

PREPARED STATEMENT OF TOM KUHN, PRESIDENT, EDISON ELECTRIC INSTITUTE

Mr. Chairman and Members of the Committee: My name is Tom Kuhn, and I am President of the Edison Electric Institute (EEI). EEI is the premier trade association for U.S. shareholder-owned electric companies and serves international affiliates and industry associates worldwide. Our U.S. members serve 97 percent of the ultimate customers in the shareholder-owned segment of the industry and 71 percent of all electric utility ultimate customers in the nation. We appreciate the opportunity to testify on the upcoming winter fuels outlook and ways to help consumers deal with high energy prices.

EIA 2005-2006 WINTER FUELS OUTLOOK

The latest forecast from the U.S. Energy Information Administration's (EIA's) Short Term Energy Outlook, which was released last week, is predicting significant increases in fuel costs for home heating this winter. This comes on the heels of extremely high prices for gasoline and other transportation fuels.

Customers who are part of the nation's largest home heating sector—the 60 million households that use natural gas—could see their home heating bills go up by an average of almost 50 percent. The average natural gas household spent about $750 last winter to stay warm. This winter, it should expect to spend about $1,100.

The price for heating oil, which is used by about eight-and-a-half million homes and is the dominant fuel source in the Northeast, is expected to increase about 32 percent. The typical oil-heated home last year spent about $1,200 on heating bills. This year that cost could be as high as $1,577.

The average cost of using electricity to heat homes is expected to be about 5 percent more this winter nationwide, affecting about 31 million households in the country, with higher costs in some regions. The average spent on electricity for heating last year was about $717, which would mean this year it will be about $755. This sounds relatively low, but the majority of electrically heated homes in the U.S. are in the South, which has a relatively short heating season, and southern homes also are more likely to use heat pumps, an efficient form of electric heating.

Residential electricity prices are expected to average 9.3 cents per kilowatt hour (kWh) in 2005 and about 9.5 cents per kWh in 2006, with significant regional differences depending on the fuel mix used to generate electricity in each region of the country.

Of course, consumers' heating bills will depend largely on temperatures this winter. EIA's estimates also are somewhat sensitive to how fast the oil and natural gas infrastructure in the Gulf of Mexico recovers from the two recent hurricanes. As of October 13, about sixty percent of the daily gas production in the Gulf of Mexico remained offline. By the end of the year, it is estimated that about one-fifth of natural gas production will still be offline, and EIA estimates that production will not return to pre-hurricane levels until March 2006. The hurricanes aggravated an already tight supply and demand situation. The wholesale price for natural gas is now trading between $13 and $14 per thousand cubic feet, which is roughly twice as high as a year ago.

All classes of consumers—industrial, commercial and residential—are feeling the effects of high energy prices. High prices for natural gas, heating oil and transportation fuels are having a ripple effect throughout the economy. Utilities that use natural gas to generate electricity also are feeling the pinch. Electric utilities do not benefit from higher energy prices, since they are often "caught" between high fuel costs and regulatory limitations on electricity rates. Like consumers, these utilities are seeking to use natural gas as efficiently as possible and are switching to more economical fuels whenever it is feasible.

ELECTRIC UTILITIES ARE HELPING ENERGY CONSUMERS

There are no quick and easy answers to our energy policy challenges. Increasing the supply and diversity of our nation's available energy resources involves long-term solutions, many of which were included in the Energy Policy Act of 2005 (EPAct 2005). We commend the Committee's leadership in getting that legislation enacted. But there are additional steps that can be taken to reduce energy demand and help ease prices in the near term. Electric utilities are actively working with their customers, state and federal governments, and others to help consumers manage their heating bills through direct assistance and other programs to reduce demand and increase energy efficiency.

Special Focus on Low-Income Consumers

Low-income consumers are a special focus of the industry's energy conservation efforts because they are especially vulnerable to high energy prices. According to the

Department of Energy (DOE), low-income households spend 14 percent of their annual income on energy, while non-low-income households spend 3.5 percent.

EEI strongly supports full funding for the Low-Income Home Energy Assistance Program (LIHEAP), which Congress authorized at $5.1 billion a year in EPAct 2005. LIHEAP helps pay the winter heating bills or summer cooling bills of low-income and elderly people. Increased funding for the LIHEAP program is the most immediate and direct way that those in need may receive assistance this winter. An increase in the base funding for LIHEAP ensures that states will receive the funds necessary to provide heating assistance this winter, as well as cooling assistance next summer.

During extreme weather conditions, low-income consumers often are forced to choose between buying fuel to heat or cool their homes and buying food or medicine for themselves and their families. Since two-thirds of the families receiving LIHEAP assistance have incomes of less than $8,000 a year, the program clearly helps the people who need help the most.

Unfortunately, funding shortages in the LIHEAP program threaten to disproportionately affect America's poor, especially the elderly, whose health and well-being depend on a comfortable living environment, and who are more likely to suffer during brutal weather conditions. The present program of approximately $2 billion serves only 20 percent of the eligible population with average payments of $311 per family.

An EEI survey shows that nationwide there are more than 800 programs available for low-income customers, including billing assistance, weatherization help, community development and outreach, and more. For many years, EEI member companies have established fuel funds to provide low-income households assistance with their utility bills, weatherization repairs and other programs, totaling over $1 billion annually. This year, companies are redoubling their efforts, pledging millions more dollars for assistance and energy efficiency efforts, and working with state officials to implement energy savings education programs.

Proactive Initiatives Benefit Consumers, the Environment, and the Nation's Electricity System

America's electric utilities are among the nation's leaders in encouraging the efficient use of energy. Since the early 1970s, electric utility programs and services have helped residential, commercial, and industrial customers take control of their energy bills.

These efficiency efforts are making a difference. Over the past 15 years, electric utility efficiency programs have saved about 700 billion kilowatt hours (kWh) of electricity. That is enough to power almost 65 million homes for one year. Electric utilities invested more than $4.55 billion in energy-efficiency efforts between 2001 and 2003 alone. Many of these activities are accelerating. In California alone, between 2006 and 2008, shareholder-owned utilities will be spending nearly $2 billion on efficiency programs and activities.

These utility efficiency efforts are helping customers lower their electric bills, but that is just the beginning. Electric utility efficiency efforts also lead to fewer emissions, result in the more efficient use of generation and transmission assets, and reduce demand during peak periods, ultimately deferring the cost of building additional generation, and thus reducing consumer bills over the long term.

Electric utilities around the country offer energy-saving tips and advice. Most also have special conservation and energy-management programs and incentives. These can include:

- Energy-efficiency rebates to make purchasing high-efficiency appliances, including lighting, heating, air conditioning and refrigeration, and industrial equipment, more affordable.
- Low-interest loans to help consumers finance the purchase of high-efficiency equipment.
- Online energy audits to enable consumers to analyze their energy use and get recommended adjustments from their own computer.
- Home and commercial construction programs to offer incentives and training to encourage energy-saving designs and the installation of high-efficiency appliances, equipment, and lighting.
- Advanced metering, variable pricing, direct load control and demand response programs to encourage industrial, commercial, and residential customers to reduce their electricity use during peak periods. Load control programs give customers a bill credit in exchange for allowing the utility to cycle their large energy-consuming appliances and equipment on-and-off, and demand response programs offer innovative rate options to shift electricity use to non-peak periods.

EEI and its members also have twice yearly workshops with major national customers where we compare notes on energy efficiency practices, experiences, and new ideas. EEI also offers a brochure, "More Than 100 Ways to Improve Your Electric Bill," to help residential customers control their electric bills.

Consumers support the industry's energy-efficiency efforts. Two out of three Americans now say they are hearing more about the need to use energy efficiently and to conserve energy. The vast majority of Americans (80 percent) also say they are taking extra steps to conserve electricity in their homes.

Coalitions Expand the Industry's Effectiveness

EEI and its member company utilities are involved in a variety of energy-saving coalitions at the national, state, and regional level. For example, EEI currently is working with DOE, the Alliance to Save Energy, and a coalition of manufacturers, trade groups and consumer groups to implement an energy efficiency and conservation public information and outreach campaign.

The campaign will educate consumers to use energy wisely by providing tools to help them control costs, teach consumers about available energy efficiency tax incentives for homes and appliances, and increase consumer awareness that wise energy use is good for the country. This campaign will run through the heating season and likely will become part of a long-term public-private effort to change public opinion about the value of energy efficient behavior.

However, this campaign is severely underfunded. In order to be effective, much more money is needed. Changing consumer behavior requires a long-term, sustained effort. EPAct 2005 authorizes $90 million per year for five years for public education. However, even with private matching funds, including a major contribution from EEI, the program will have only about $2 million to spend this winter.

The electricity industry supports many coalitions focused on energy use. Descriptions of many of the major coalitions appear at the end of this testimony (Appendix 1).

EEI's website [*www.eei.org/wiseuse*] includes: specific tips on how consumers can "take charge of their home heating bills" through simple, money-saving steps; brief descriptions of the many available individual utility-based conservation and efficiency programs; and information on the hundreds of low-income assistance programs available through our member companies.

NATURAL GAS

Supply and Demand for Natural Gas-Fired Electricity Generation

The reality is that the U.S. market for natural gas is a regional market, in contrast to the global oil market. We draw our natural gas supplies almost exclusively from a North American resource base, supplemented with some liquefied natural gas imports from foreign sources.

Our supplies from that resource base are currently constrained by two factors: declining production from existing open fields and a public policy decision to place off limit for development substantial areas within the U.S. that have natural gas reserves. This resource constraint is exacerbated further by a geographic concentration in the location of our developed gas reserves and related infrastructure. The resulting supply shortfall, potential for disruption, and related high prices are a drag on the economy and are incompatible with the growing, job-producing economy that Americans have come to expect.

EEI and its member companies have testified in the past that Congress needs to take steps to increase supply from every available resource that can be recovered consistent with environmental protections. This includes onshore and offshore domestic development, the construction of the infrastructure needed to deliver that product to market and access to foreign sources of international liquefied natural gas resources. EEI continues to support this position. The Minerals Management Service conservatively projects undiscovered and technically recoverable natural gas reserves of 128 trillion cubic feet (TCF) in Alaska and 284 TCF offshore. In comparison, the United States currently consumes 22 TCF per year.

We encourage Congress and the Administration to take the necessary steps to obtain oil and gas production from the unleased portions of Leasehold 181 in the Gulf of Mexico and extend the drilling season for selected onshore areas. We applaud the beginning of serious discussions of how to address domestic development issues, and we believe there can be a solution that addresses the concerns of the coastal states and the needs of our national economy.

"Efficient Dispatch" Proposals

Concern about high natural gas prices has brought about renewed interest in legislative proposals to require the "efficient dispatch" of electric generating plants.

While the goal sounds laudable, these proposals raise serious practical and policy concerns about consumer electricity prices and operation of the electricity system.

Advocates of efficient dispatch are seeking to require greater use of non-utility gas-fired generation, which they claim will reduce overall consumption of natural gas because these plants tend to be newer and burn gas more efficiently. Both the Power Plant and Industrial Fuel Use of 1978 and the Public Utility Regulatory Policies Act (PURPA) were attempts to dictate fuel choices and energy purchases to utilities. Both bills adversely distorted electricity markets, which impacted consumers. This is a major reason why EEI opposes federally mandated "efficient dispatch" proposals. Raising consumers' electricity bills is not a solution to higher natural gas prices.

"Efficient" dispatch is not the same as "economic" dispatch. In fact, efficient dispatch can often result in uneconomic dispatch that leads to higher electricity prices for consumers. The most efficient gas-fired generating plants do not necessarily provide the lowest-cost power to consumers. Different types of gas-fired plants have different operating features that are important in determining when they are used. These include thermal efficiency, short-term fuel costs, fixed capital costs, emission rates, plant location and interconnection with the grid, and start-up times, among others. It is not possible to decide which plant is the best to operate by looking only at thermal efficiency, and it is often the case that the goals of dispatching plants with the greatest level of thermal efficiency and dispatching the lowest-cost available power to consumers are incompatible.

For example, utilities use their less efficient single-cycle gas turbine, gas-fired power plants at times of peak demand because these single-cycle plants have the ability to start up very quickly, are operationally very flexible and are used for reliability purposes. In addition, older steam turbine plants are generally fully depreciated. Also, their fuel is often supplied under stable, long-term contracts that serve to mitigate the price volatility found in the natural gas spot markets. Under such circumstances, from a consumer perspective, these plants are the best choice to run and have the lowest cost, despite having lower thermal efficiencies than other gas-fired plants that may be available.

Decisions about which plants to run also can affect congestion on the transmission system. Running a more efficient plant in one part of the grid instead of a less efficient plant elsewhere on the grid can increase transmission congestion and create a situation where some consumers on the "downstream" side of the congestion point actually pay more.

Nationally, utilities routinely operate their generation units in a manner that benefits electricity customers, in an effort to dispatch the lowest cost unit available to serve the next increment of load, recognizing any generation or transmission operational constraints.

In addition to dispatching their own generation units on an economic dispatch basis, utilities, on a daily basis, seek out alternative non-utility generation sources from which to purchase energy that is available at a lower cost than their own generation. This routine inclusion of non-utility generation in their economic dispatch process enables utilities to provide energy to their customers at an even lower cost than if they relied exclusively on their own generation portfolio.

Many regions of the country are served by regional transmission organizations (RTOs) or independent transmission organizations (ISOs), which have Federal Energy Regulatory Commission (FERC)-approved dispatch procedures in place that are designed to optimize the use of the mix of energy resources available in each respective region. The RTOs and ISOs dispatch generating facilities according to comprehensive dispatch plans that balance a number of important factors, including efficiency, lowest-cost available power, reliability, fuel diversity, environmental goals and transmission constraints.

The dispatch systems used by utilities that are not in RTOs or ISOs are subject to regulatory oversight by state regulatory commissions. State commissions ensure that short-term costs are minimized, subject to operational, contractual and environmental constraints, and that other objectives are met, such as maintaining reliability, long-term rate stability, fuel diversity, promotion of renewable resources and other important criteria.

Congress should not disturb generation dispatch plans already in place, whether they are plans administered by RTOs or ISOs, or utility plans subject to state regulatory oversight.

During consideration of EPAct 2005, an "efficient dispatch" amendment was offered in the Senate Energy and Natural Resources Committee, where it was defeated by a 17-5 vote. EPAct 2005 requires two federal studies of economic dispatch, one to be conducted by DOE and the other by FERC-state joint boards. Congress

should refrain from moving forward with more dispatch legislation until it receives the results of these studies and any policy recommendations they might propose.

FUEL DIVERSITY

The Importance of Fuel Diversity

Low-cost, reliable electricity results, in part, from our ability to utilize a variety of readily available energy resources—coal, nuclear energy, natural gas, hydropower, and emerging renewable energy resources, such as wind, biomass and solar. Fuel diversity is key to affordable and reliable electricity. This Committee recognized this important fact in crafting EPAct 2005, which includes many provisions that will promote long-term fuel diversity. A diverse fuel mix helps protect consumers, our economy and our national security from contingencies such as fuel shortages or disruptions, price fluctuations and changes in regulatory practices. A diverse fuel mix takes advantage of regional differences in fuel availability that have evolved over many decades.

Coal and electricity are inextricably linked to the economic health of the nation. Coal is the fuel for more than half of our country's electric generation, and electric generation drives economic growth. Electric demand, coal-fired generation and GDP growth are all projected to grow at a steady pace to 2025 and beyond.

While coal fuels slightly more than 50 percent of the generation produced in the U.S., it fuels upwards of 80 percent of the electric generation in many specific states. These coal-fueled plants help to keep the price of electricity stable and affordable for consumers and businesses. The map* at the end of our testimony shows how different regions of the country rely on different fuel mixes to generate electricity. Interestingly, roughly 40 percent of coal used for power generation in 2004 came from the Powder River Basin region in Wyoming.

Coal will continue to play a key role in electric generation due to its reliability, affordability and fuel source security. New baseload generation is projected to come from coal and nuclear energy in 2025 and beyond. Between 2004 and 2025, EIA projects that 87 gigawatts (GW) of new coal-fired generation will be built.

EEI member companies are already planning for substantial investment in new, large, baseload coal and nuclear generating plants to respond efficiently to growth demands, environmental requirements, and the expected limited availability and relatively high cost of natural gas. Public databases indicate that there are currently at least 38 large-scale (500 megawatts (MW) or more) coal projects totaling 30,197 MW being planned. Twenty-two projects (or 18,247 MW) have been announced, while 16 projects (or 11,950 MW) are undergoing feasibility studies. They all have scheduled online dates between 2006 and 2013.

EEI believes that many more such projects are under study but have not yet been announced. These new plants promise to be much cleaner than the ones in today's coal-fired fleet, and they will provide opportunities for new advanced clean coal technologies such as super-critical pulverized coal and integrated gasification combined cycle plants. Some of these projects may present above-market costs initially, but costs will come down and risks will diminish as new plants are built and improved designs become standardized.

Nuclear energy uprates are estimated to account for an additional 3.5 GW of electric generation. However, EEI does not agree with EIA's projection that no new nuclear plants will become operational between 2003 and 2025, as several consortia are working on new plants. Nuclear energy is critical to meeting our country's growing demand for new baseload generation and is a top-rated option now available for reducing greenhouse gas emissions.

Natural gas plants, which provide baseload generation in some regions, will continue to be well-suited for peaking. Generation from non-hydroelectric renewables—particularly wind energy—is expected to increase as these technologies become more economically competitive and as reliability and transmission issues are addressed. Renewables are a growing part of many utilities' generation portfolio, and EEI supports measures to promote their expansion through tax credits and increased funding for research and development, as well as renewable programs in the states. However, because of their intermittent nature and the concomitant need for backup generation, renewable resources such as wind and solar energy will be limited in their ability to displace coal plants, nuclear energy and hydroelectric plants in baseload generation.

And, while no new hydroelectric generation is expected, the challenge will be to maintain the nation's hydropower resource through relicensing. In short, it is important to recognize that different regions of the country rely on different fuel mixes

*The map has been retained in committee files.

for their electric generation. Secure and diverse electric generation sources are critical to the economy and national security.

The Need for Environmental Certainty

Due in part to the complexity, cost and uncertainty of existing clean air regulation, over 90 percent of new power plants built over the past decade have relied on natural gas to produce electricity. However, given the unpredictability of natural gas supply and price, federal clean air policy must not force increases in the use of natural gas for electric generation. Federal energy and clean air policy goals can be better met, and consumer price increases kept to a minimum, through properly crafted "multi-emission" legislation, along the lines of Clear Skies. The regulatory certainty provided by multi-emission legislation would promote continued use of the nation's abundant and low-cost coal resources, require continuing environmental progress, and alleviate pressure on the natural gas supply.

The U.S. electric power sector has reduced air emissions substantially under existing programs. Since 1980, the industry has cut sulfur dioxide (SO_2) and nitrogen oxide (NO_X) emissions by over 40 percent, while increasing net generation from coal by nearly 70 percent. Multi-emissions legislation would require SO_2 and NO_X and mercury emissions to be reduced by an additional 70 percent.

In addition, power plants could take new steps to increase their efficiency if EPA's 2003 NSR rule were codified. Increased efficiency at existing plants leads to lower fuel consumption, greater fuel availability to the market, and lower average fuel prices due to lower overall demand. Because the electric power industry's emissions of SO_2 and NO_X are capped, and the regulations require state-of-the-art emission controls for all new plants, such improved NSR policy would not increase emissions.

It also is important to exercise caution to assure that proposals for addressing climate change and greenhouse gas emissions do not increase the pressure to shift from coal to natural gas, thus exacerbating the current shortage and price volatility of natural gas. Rather, we need to emphasize the development and deployment of technologies that will reduce or avoid greenhouse gas emissions. Again, we commend the Committee for your attention to technology advancement in EPAct 2005 and encourage continuing emphasis in this area.

Challenges and Possibilities for Near-Term Reductions in Natural Gas Usage for Electricity Generation

Electric power plants are subject to economic, engineering and environmental realities and constraints. For example, power plants built to use natural gas or oil cannot burn coal directly. Power plants with long-term fuel contracts may not be able to switch to another fuel or procure new supplies in a tight spot market. There are challenges to transporting enough coal or oil to some plants; in fact, there are cases now where utilities are burning natural gas because of the problems associated with transporting coal out of the Powder River Basin. Nuclear power plants are operating at high capacity factors. To increase output at our nation's nuclear plants, companies could upgrade some existing facilities to improve efficiency and employ new instrumentation technologies. However, uprate applications and reviews are complex and require careful review and approval by the Nuclear Regulatory Commission.

In addition, environmental permits can limit the specific types of coal and oil that can be consumed at individual plants. When power plants switch from natural gas to oil or use more coal, SO_2 and NO_X emissions increase, often substantially. Such emissions are regulated by the Clean Air Act, state law and local regulations. While in many. situations power plants could increase emissions by using more emission credits, doing so would come at a steep price (e.g., approaching $1,000 per ton of SO_2 and $2,500 per ton for NO_X).

That said, there is limited promise that some existing coal-based plants could increase their electric production, or that retired or mothballed plants could be started up again. And, although oil prices have increased significantly, the price of oil has increased less than that of natural gas, so some natural, gas-based plants potentially could switch to using oil.

These opportunities often tend to be plant specific and, where feasible, economics already are driving these actions to occur. However, regulatory flexibility can help to maximize the potential for alternatives to natural gas in the short-term, and our companies stand ready to work with regulatory and policymakers to pursue reasonable opportunities.

CONCLUSION

Depending on the weather and what fuels they use, American consumers are facing significantly higher bills for heating and other energy uses this winter, due

largely to tight supplies of oil and especially natural gas. Electric utilities across the country are actively engaged in programs and coalitions to promote conservation and to help customers use electricity more efficiently. They also support full funding of the federal LIHEAP program for low-income households.

Natural gas will remain an important part of the electricity generation fuel mix for the foreseeable future, so Congress should take action to increase gas supplies, while resisting calls for a return to failed or misguided demand-side restrictions on natural gas-fired generation. Fuel diversity must remain a fundamental part of our national energy policy, including (but not limited to) environmental and transportation policies to promote the use of affordable domestic coal supplies for baseload generation; and to facilitate the development and use of hydropower and other renewables.

APPENDIX 1

ENERGY EFFICIENCY AND CONSERVATION COALITIONS SUPPORTED BY THE ELECTRIC UTILITY INDUSTRY

Examples of National Coalitions

- Alliance to Save Energy—Educates decision-makers, opinion leaders, and the public about the many benefits of energy efficiency. [*www.ase.org*]
- DOE Motor Challenge—Increases the market penetration of energy-efficient electric motors, where 20 percent of all electricity is consumed. By 2010, the potential savings are over 100 billion kWh/year energy savings and $3 billion (U.S.) annual energy cost savings. [*www.oit.doe.gov/bestpractices/motors*]
- EPA ENERGY STAR—Voluntary rating system to label appliances and products that are 10-25 percent more efficient than the federal standard. [*www.energystar.gov*]
- International Utility Efficiency Partnerships—Expands the development of international, environmentally friendly, energy-development projects. [*www.ji.org*]
- Geothermal Heat Pump Consortium—Reduces home heating and cooling energy use through the expanded use of geoexchange heat pumps. Homeowners enjoy utility bills from 25 to 50 percent lower than with conventional systems. [*www. geo exchange. org*]
- Peak Load Management Alliance—Promotes the concepts and technologies of reducing demand for electricity during peak periods in response to pricing signals in the marketplace. [*www.peaklma.com*]
- Utility Hybrid Truck Working Group—Establishes the user requirements and performance specifications for a cleaner and more efficient hybrid utility "bucket" truck. H-TUF's goal is to meet 2010 emissions standards while improving fuel economy up to 50 percent and with it, a 50-percent reduction in greenhouse gas emissions. [*www.weststart.org*]

Examples of State and Regional Coalitions

- The Midwest Energy Efficiency Alliance (MEEA)—Advances energy efficiency in the Midwest to support sustainable economic development and environmental preservation. [*www.mwalliance.org*]
- New England Energy Efficiency Partnership (NEEP)—Promotes energy efficiency in homes, buildings and industry in the Northeast United States. [*www.neep.org*]
- New York State Energy Research and Development Authority (NYSERDA)—Administers the New York Energy $mart^{SM} program during the transition to a more competitive electricity market. Some 2,700 projects in 40 programs are funded by a charge on the electricity transmitted and distributed by the state's shareholder-owned utilities. [*www.nyserda.org*]
- Northwest Energy Efficiency Alliance (NEEA, or NWEEA)—By 2010, the Alliance and related utility efforts are expected to save the region over 500 megawatts. Reduction in carbon dioxide emission from the energy savings is estimated at over 2 million tons. [*www.nwalliance.org*]
- Southwest Energy Efficiency Project (SWEEP)—Collaborates with utilities, state agencies, environmental groups, universities, and other energy efficiency specialists on conserving electricity [*www.swenergy.org*]

The CHAIRMAN. Thank you very much.

Mr. Larry Downes, chairman of the American Gas Association. Thank you very much, Mr. Downes, for coming. We are glad you are here today.

STATEMENT OF LAURENCE M. DOWNES, CHAIRMAN, AMERICAN GAS ASSOCIATION

Mr. DOWNES. Thank you, Senator. I appreciate the opportunity. As you said, I am here in my role as chairman of the American Gas Association. We represent 195 local distribution companies that provide service to more than 50 million customers throughout the United States.

I am also chairman and chief executive officer of New Jersey Natural Gas Company. We are a local distribution company.

I am here today to share some thoughts with you on what is perhaps the most pressing issue facing our Nation today, and that is ensuring reasonably priced natural gas for our customers.

Today we are witnessing firsthand the impact of higher natural gas prices, the vulnerability of our energy security, and the need for increased natural gas supplies. The effects of growing demand without adequate supply and other strategies are raising the cost of heating our homes and have driven U.S. manufacturing jobs overseas. The combination of warm weather during the summer, which increased electricity demand, and the catastrophes of hurricanes Rita and Katrina will lead to unprecedented costs to our customers this winter.

Now, as the face to the customer, which we as local distribution companies are, we are doing everything that we can to help our customers. I think the first thing I need to point out to the committee is what we really are is lifeline service providers. We are really in the business of providing quality of life to our customers, and it is our mandate to serve our customers safely and reliably no matter what that takes. We have never failed in that regard, and we can tell you that we do not expect any supply shortfalls for our firm customers for American households this year.

However, if it is an unusually cold winter, which is certainly beyond the control of all of us here today, some of our industrial and commercial customers that have chosen to receive a discount to allow their service to be interrupted may see temporary interruptions. However, I can assure you on behalf of our membership that we will do our part to keep Americans warm this winter, just as we have always done.

Now, to serve our customers, we build a supply portfolio that is based upon natural gas placed in storage and supply contracts that have varying terms and prices. One important note I would like to make to the committee here today is that our members, natural gas utilities, and our customers do not benefit in any way from higher prices. We make our money based upon the delivery, not the production, of natural gas, and those prices that we charge for delivery are regulated by the various States that we serve.

Our companies are also working to help our customers help themselves. First of all, customers can avail themselves of levelized billing plans to smooth out their prices through the year. They can help weatherize their homes and implement other energy efficiency and conservation measures. We have increased our efforts to reach

out to our customers to communicate exactly what is going on in the industry so that we can help them further.

Now, the Energy Policy Act enacted earlier this year was an important first step in addressing the Nation's energy challenges. What we need now is additional urgent action to reduce the economic burden of record-high energy cost to our customers. I think first and foremost what we need to do is to help those who are most in need. LIHEAP funding, as Mr. Kuhn mentioned, should be increased to the $5.1 billion appropriated level, and we believe that we need an emergency appropriation of an additional $1 billion.

But that said, in addition to an increased emphasis on efficiency and conservation, natural gas supplies must be increased. AGA supports policies that would increase the supply of natural gas in environmentally responsible ways. Among our many recommendations, we have urged Congress to open restricted offshore areas for the production of natural gas while giving States the choice as to whether to participate in those programs.

Second, we believe that providing adequate funding and staffing to expedite the issuance of permits and facilitate access for natural gas exploration and production is very important.

Congress should also accelerate all Federal energy efficiency rulemakings and make sure that we are promoting fuel diversity for new electric generation facilities.

Finally—and this is an initiative I think that we can all participate in—we need to increase the amount of customer education and outreach programs.

In summary, I can assure you that we will provide safe and reliable service to keep our customers warm this winter. We obviously have a challenge in dealing with the impact of higher prices on our customers. I think the hurricanes showed the vulnerabilities that we have and the need for appropriate government policies which include not only increasing natural gas supply and production, but also locating LNG import terminals outside of the gulf coast. But I think when we look at these entire issues, what we really need is a multi-faceted approach that will meet our growing demand for energy in the most environmentally responsible way. These are policies that have to be enacted now that will put us in the best position to help our customers.

Again, on behalf of our membership, we will do everything we can to help you, just as we have always done. Thank you very much.

[The prepared statement of Mr. Downes follows:]

PREPARED STATEMENT OF LAURENCE M. DOWNES, CHAIRMAN, AMERICAN GAS ASSOCIATION

EXECUTIVE SUMMARY

The American Gas Association (AGA) represents the nation's local gas utilities. AGA member companies acquire gas supply for, and distribute it to, their residential and commercial customers. Energy is the lifeblood of our economy and natural gas supplies about one-fourth of this country's energy. Natural gas also is America's most popular home-heating fuel, heating 52 percent of America's homes.

By law the local gas utility cannot make a profit on the cost of natural gas, it is required to pass through to customers what it pays for the natural gas commodity—without any mark-up. The Department of Energy's Energy Information Administration has projected that natural gas households will see their winter fuel bills rise from about 30 percent to about 67 percent, depending on the winter weath-

er. Clearly, the natural gas prices that are projected for this winter in the wake of Hurricanes Katrina and Rita will be a tremendous burden to our customers.

Our role as a lifeline business infuses the natural gas utility with a mandate to serve our customers safely and reliably—we do not fail in this regard. We build a supply portfolio that rests on a foundation of natural gas placed in storage during the summer months, well in advance of winter cold, when the prices generally are lower. To this we add a portfolio of natural gas supply contracts with varying terms and prices, and we are, as a whole, increasingly hedging our supply portfolio to promote some degree of price stability.

Natural gas distribution utilities also help our customers help themselves. To this end, customer education is critical. Customers can avail themselves of levelized billing plans and seek help to weatherize their homes and implement other energy efficiency measures. For those who must decide between paying their heating bills or paying their medical bills, the Low Income Home Energy Assistance Program (LIHEAP) has been designed. Funds must be accessed and accessible. Congress must do its part to see that the fully authorized level for LIHEAP of $5.1 billion is funded. Emergency appropriations of an additional $1 billion are also needed.

All of these tools will help this winter. But we cannot as a nation forever mask increasing natural gas prices with demand measures targeted at the home heating consumer alone. We must begin to take steps to diversify fuels for electricity generation. And we must take action to increase natural gas supply. Without these measures, the upward spiral will continue, and we will, winter after winter, face the same scenario—where one fall hurricane, or one winter cold snap can tilt the supply/demand balance against the consumer.

TESTIMONY

Thank you for the opportunity to testify before this committee again. My name is Larry Downes, and I am Chairman and CEO of New Jersey Resources, which operates a natural gas utility in New Jersey that provides service to more than 455,000 customers. I am also the chairman of the American Gas Association (AGA), which represents 195 local energy utility companies that deliver natural gas to more than 56 million homes, businesses and industries throughout the United States.

Energy is the lifeblood of our economy and natural gas supplies about one-fourth of this country's energy. Natural gas also is America's most popular home-heating fuel, heating 52% of America's homes. As the purveyor of this home-heating fuel, natural gas utilities are a lifeline business—it is a responsibility we take seriously and, as you will see, it guides our actions.

Given the recent run up in natural gas prices in the wake of the warmer than normal summer and the Katrina and Rita hurricanes, this winter natural gas customers will likely face significantly higher energy bills. Local natural gas utilities as a whole have been consumed by planning for the winter heating season and seeking means to ease the burden that high gas prices will place on our customers.

Accordingly, our focus as a national organization is to pursue policies that will help mitigate the high cost of natural gas for our customers this winter and, longer term, increase supply. It is shocking to think that the $13 prices projected in the American Gas Foundation, "Natural Gas Outlook to 2020," published in February of this year, have already been exceeded for short periods. That study concluded that if public policy makers and industry decision makers did not immediately address critical issues that will have a significant impact on the availability and price of natural gas, such as diversifying our electric generating mix and increasing access to domestic supplies, then prices could go as high as $13 by 2020. No one imagined that a mere 7 months later those prices would already be a reality. These higher natural gas prices will lead to much higher bills for consumers.

Higher bills are bad for customers, bad for the economy and bad for the natural gas utilities that the American Gas Association represents. More than 63 million Americans rely upon natural gas to heat their homes—unexpectedly high prices are a serious drain on their pocketbooks. High prices also put our industrial sector at a distinct competitive disadvantage, cause plant closings and idle workers.

Most observers quickly understand why higher prices are bad for customers and the economy but are not aware why they are bad for natural gas distribution utilities. By law, natural gas utilities are not allowed to mark-up the price of natural gas and must sell the gas to consumers at exactly the same price they pay for it. Natural gas distribution utilities make their money by delivering natural to our customers. Higher natural gas prices mean that our customers will purchase less natural gas. So natural gas utilities want what their customers—lower natural gas prices and reliable natural gas supply.

Last week the Department of Energy's Energy Information Administration (EIA) issued its *Short-Term Energy Outlook and Winter Fuels Outlook* (October 12, 2005). The American Gas Association does not issue its own natural gas price projections, so in my testimony I will be discussing the EIA projected prices. As has been widely reported, EIA projects that the average natural gas household's winter fuel expenditures will be 47.6 percent. Don't let the decimal point fool you. If history is any guide, this EIA predicted percentage surely will change next month both to the right and the left of the decimal point. It is important to remember, as EIA carefully notes, that the EIA projections are based on modeling results that depend on assumptions regarding some critical variables. A significant assumption is that there will be a "medium recovery" of energy operations in the Gulf of Mexico. In other words, EIA does not assume either a best-case or worst-case scenario in projecting the recovery of natural gas production, gas processing and pipeline facilities in the Gulf. Another significant assumption is that the winter weather will be normal. A "normal" winter means weather somewhat colder than most parts of the US have seen in recent years. What if we do not have a normal winter? EIA projects that a ten percent warmer than normal winter would cause average residential natural gas prices to rise 29.8 percent, while a ten percent colder than normal winter would lead to a 67.3 percent price increase. This is quite a price range without considering best-case or worst-case Gulf of Mexico recovery scenarios. So that is what we are facing nationally—significantly higher natural gas prices in the best of cases and extraordinarily higher prices in the worst of cases.

What are natural gas distribution utilities doing to help their customers this winter? Natural gas utilities are doing what we always do—that which is necessary to serve our customers reliably this winter. That means that we are pursuing purchasing strategies that, while tried and true, have also evolved over the past five years with ever-rising natural gas prices. It is a building block process that begins months ahead of the winter heating season as utilities begin purchasing natural gas during the summer months and putting it into underground storage. Usually summer and early fall natural gas prices are lower than winter prices and purchasing storage gas in the summer and early fall provides a natural hedge.

On top of the foundation block of storage, natural gas utilities layer other supply and transportation services. Companies build and manage a portfolio of supply, storage and transportation services, which may include a diverse set of contractual arrangements to meet anticipated peak-day and peak-month gas requirements.

Layered on top of that is an increasing use of financial tools to hedge natural gas costs and promote some degree of price stability. Financial hedging tools may include options, fixed-price contracts, swaps, and futures. These hedging tools are helpful in reducing price volatility, and while natural gas distribution utilities have grown increasingly savvy in their use of these tools over the past few years, they still do not always guarantee a lower natural gas price, nor are they designed to, quite frankly. Lower prices and price stability can sometimes be competing objectives.

Natural gas distribution utilities also must help our customers help themselves. To this end, customer education is critical for a number of reasons. First, customers need to be aware of higher natural gas prices to have an opportunity to take action today to reduce this winter's bills. That is why the American Gas Association and individual natural gas distribution utilities are working to communicate to customers regarding the anticipated higher winter bills and to offer consumers some tools to protect themselves.

One important tool is the use of budget or levelized bill plans that allow utility customers to spread out their natural gas bills so that they pay about the same amount each month year round. Enrollees in fixed bill programs are charged the same total bill each month for 11 months, regardless of weather extremes and unpredictable commodity prices. Usually there is an adjustment during the twelfth month to reflect differences in actual versus projected costs.

Another important tool is assisting customers to take steps to increase their homes' energy efficiency and better conserve energy. Energy efficiency and conservation can do much to reduce individual energy consumption and lower customer bills. Indeed, one recent study indicated that aggressive energy efficiency measures could reduce natural gas prices by up to 25 percent.[1] While analysts may quarrel with

[1] *Impacts of Energy Efficiency and Renewable Energy on Natural Gas Markets: Updated and Expanded Analysis*, R. Neal Elliott and Anna Monis Shipley, American Council for an Energy-Efficient Economy, Report No. E052 (April 2005) *http://aceee.org/pubs/e052full.pdf* (adoption of a portfolio of energy efficiency measures could reduce natural gas prices by 25 percent in the first year).

the likely impact of an increased application of energy efficiency measures on natural gas prices, we know that appropriate customer energy efficiency measures can benefit customers and these benefits will be more immediate in today's high-priced environment.

The American Gas Association thanks this committee for its work in encouraging greater consumer energy efficiency and AGA and its members will continue to encourage improved customer energy efficiency and conservation to help reduce the sting of higher natural gas prices.

Another significant utility effort to help customers struggling to pay high natural gas bills is found in utility programs that provide low-income customer assistance. Each year utility programs and rate structures provide about $1.7 billion in low-income customer assistance.[2] These programs are designed to augment the federal government's Low Income Home Energy Assistance Program (LIHEAP), which in recent years has been funded at around $2 billion per year. Much of the utility low-income assistance comes in the form of rate assistance, which may involve reduced rates for low-income households, waivers of fees, and arrearage forgiveness. Other utility programs include energy efficiency and weatherization programs that help reduce customer natural gas consumption.

What we seek from all of these approaches is to flatten out the highest peak of natural gas prices and somewhat dampen the impact on customers of high and volatile natural gas prices. In the long term, however, these tools cannot forever mask the impact of higher natural gas prices on our customers. Other actions are necessary. They were necessary five years ago, they were necessary last year, and, even with enactment of the Energy Policy Act, they remain necessary today.

Accordingly, AGA recommends the following multifaceted actions be taken to address both ends of the delivery chain—supply and demand.

First and foremost, LIHEAP funding should be increased to the full $5.1 billion appropriated level and an additional emergency appropriation of $1 billion should be made. Without an increase in funding, the purchasing power of LIHEAP could be reduced by up to 50% this winter. The expected rise in home energy costs hits low-and fixed-income individuals particularly hard. The National Energy Assistance Directors' Association (NEADA) just released its second annual survey of the effect of rising energy costs on poor families. Among the study's findings: 32 percent of families in the survey sacrificed medical care; 24 percent failed to make a rent or mortgage payment; 20 percent went without food for at least a day; and 44 percent said that they skipped paying or paid less than their full home energy bill in the past year. Furthermore, the number of households receiving LIHEAP assistance has increased from about 4.2 million in FY 2002 to more than 5 million this year, the highest level in a decade. LIHEAP applications are expected to increase significantly this winter. The nation should help customers who will be hit hardest by energy price increases for home heating and cooling.

Natural gas supplies must be increased. AGA supports policies that would increase the supply of natural gas in environmentally responsible ways. Demand responses can only go so far toward the goal of lower natural gas prices. And while a demand response will help us through this winter, long-term Increasing supplies of natural gas must occur if we are to reduce customers' bills meaningfully. Accordingly, Congress should support appropriate incentives and legislative changes that would increase the production of natural gas. These priorities have not changed since I testified before this Committee in January of this year, so let me briefly reiterate a few of the most important access issues:

- Opening restricted off-shore areas for the environmentally responsible production of natural gas;
- Providing adequate funding and staff for the federal offices principally involved in the issuance of permits for natural gas and production;
- Further expanding and expediting procedures for producers to access lands and production areas; and
- Taking steps to increase the U.S. capacity to receive liquid natural gas (LNG) shipments.

Energy efficiency programs should be supported that encourage the most efficient utilization of all energy forms through the matching of each energy task with the most appropriate fuel (e.g., running computers with electricity and heating homes and businesses with natural gas). Additionally, incentives should be incorporated for more efficient energy use through tax credits for the purchase of energy efficient appliances and the construction of energy-efficient homes and commercial buildings.

[2] *The Growing Need to Help Low-Income Energy Consumers: Government, Charitable, and Utility Programs*, American Gas Association Energy Analysis, EA 2005-3, (September 14, 2005)

Congress should further accelerate the effective date of energy efficiency tax incentives in the Energy Policy Act and fund energy awareness programs at the Department of Energy.

Diversity should be the goal for fuels for new electricity generation facilities. In recent years, due to its lesser impact on the environment, natural gas has been the dominant fuel for new electricity generation. Electricity generation remains the fastest growing sector of natural gas demand. This increase in demand has occurred while production has remained stable, driving prices higher. AGA supports the direct use of natural gas and encourages electricity generators to seek greater fuel diversity, such as clean coal, nuclear, alternative and renewable fuels. AGA urges Congress to provide incentives for and reduce regulatory barriers to electricity generation facilities that use clean coal, nuclear energy and alternative and renewable fuels.

Consumer education should be the goal not just of natural gas distribution utilities but of all policy makers. We in the utility sector will continue our efforts to educate our customers—we urge Congress to also educate our customers, their constituents, so that every avenue to the customer is blanketed with information that will ease the potential cost burden that will be imposed this winter by natural gas bills.

CONCLUSION

For the past five years the natural gas distribution utility and our customers have been operating in challenging times—this winter will be no exception. While natural gas customers can do their part by embracing energy efficiency solutions, policy makers in Washington must do their part to balance supply and demand.

PREPARED STATEMENT OF AMERICAN GAS ASSOCIATION

FEDERAL ENERGY PRIORITIES OF NATURAL GAS UTILITIES

The Energy Policy Act of 2005 was a good first step in meeting the nation's long-term energy needs. However, the federal government has not adequately addressed the need for more and diverse energy supplies, or more relief for those most at risk. Urgent action is needed now to reduce the economic burden of record-high energy costs on consumers. The federal government should take action to:

- Increase the funding for the Low Income Home Energy Assistance Program (LIHEAP)
- Increase natural gas supply for consumers
- Diversify the portfolio of fuels for electricity generation
- Support energy efficiency programs

Increase The Funding for Low Income Energy Assistance Program (LIHEAP)

The nation should help customers who are hit hardest by the recent dramatic energy price increases for home heating and cooling by increasing the appropriation for LIHEAP. AGA urges Congress to:

- Increase the annual LIHEAP appropriation to $5.1 billion
- Appropriate $1 billion for emergency assistance

Increase Natural Gas Supply

AGA supports policies that would increase the supply of natural gas in environmentally responsible ways because additional supplies typically mean energy lower bills for consumers. AGA urges Congress to:

- Open restricted off-shore areas for the environmentally responsible production of natural gas, including in the eastern Gulf of Mexico and on the outer continental shelf (OCS)
- Provide adequate funding and staffing for the federal offices principally involved in the issuance of permits for natural gas exploration and production
- Reform the National Environmental Protection Act (NEPA) process so that it works to protect the environment and allows for responsible natural gas production
- Adopt streamlined and expedited procedures for producers to access lands and ensure that year-round production can occur in the intermountain west
- Take steps to increase the U.S. capacity to receive liquefied natural gas (LNG) shipments
- Codify into law Executive Order 13211 and a Federal Office of Energy Project Coordination

Diversify The Fuel Portfolio for Electricity Generation Facilities

Natural gas is now the predominant choice as a primary fuel for new electricity generation. Electricity generation has been the fastest growing sector of natural gas demand. This increase in demand has not been matched by production increases, driving prices higher for all consumers. AGA supports the direct use of natural gas and encourages electricity generators to seek greater fuel diversity. AGA urges Congress to:

- Provide incentives for, and reduce regulatory barriers to, electricity generation facilities that use clean coal, nuclear energy, and alternative and renewable fuels, and dual-fuel capability

Support Energy Efficiency Programs

AGA supports policies that encourage the most efficient utilization of all energy forms through the matching of each energy task with the most appropriate fuel (e.g. running computers with electricity and heating homes and businesses with natural gas). AGA urges Congress to:

- Accelerate the effective date of the energy efficiency tax incentives in the Energy Policy Act
- Fund energy awareness effort by DOE

The CHAIRMAN. Thank you very much, Mr. Downes.

Mr. Peter Smith, chairman of the National Association of State Energy Officials from Alexandria, Virginia. Thank you for joining us.

STATEMENT OF PETER R. SMITH, CHAIRMAN, NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS

Mr. SMITH. Thank you, Mr. Chairman. It is a pleasure to be here today. Mr. Bingaman, members of the committee. Thank you for the opportunity to testify on the critical energy situation we are facing this winter. My name is Peter Smith and I am chairman of the National Association of State Energy Officials, NASEO, which represents the energy offices within the States, territories, and the District of Columbia. NASEO members serve as energy policy advisors to our respective Governors and implement a variety of energy programs targeted to all sectors of the economy. We are also responsible for dealing with energy emergency responses.

I am also president of the New York State Energy Research and Development Authority, NYSERDA, and I have worked on energy issues for the State of New York for almost 30 years.

Guy Caruso has done a great job describing the difficult situation we are facing. We believe that high prices will continue for an extended period of time, well beyond this winter.

At the State level, as soon as the scope of the problem associated with hurricane Katrina became apparent, NASEO convened all the State energy offices by conference call to share situation reports and response procedures. What we found over the years is that it is critical to coordinate our responses so that adjoining States do not take dramatically different actions than their neighbors thereby exacerbating the situation.

In addition to conference calls, which occurred on a daily basis in the immediate aftermath of Katrina, we shared model energy emergency declarations, executive orders, public service announcements, emergency response plans, and accelerated energy conservation measures. We then arranged for regional conference calls that have continued on an as-needed basis.

We have had good cooperation from the Department of Energy's Office of Electricity Delivery and Energy Reliability. Representa-

tives from that office, headed by Kevin Kolevar, have worked closely with the States.

The States also initiated price-gouging investigations on a coordinated basis with cooperation between multiple State agencies and our States' attorney generals.

States have also initiated public information campaigns to reduce usage and take certain steps that can help, such as: one, using the most efficient family car; taking advantage of State and utility programs to implement energy efficiency measures; increasing car pooling, van pooling, telecommuting; encouraging homeowners to add insulation, caulk, weather strip, replace furnace filters, and car tune-ups; also lowering thermostats and insulating water heaters; and installing programmable thermostats. In New York State, we have directed people to our *getenergysmart.org* Web site, and we are encouraging the use of Energy Star products and appliances. Most States have call-in numbers and Web sites for consumers. My written testimony includes our efforts in New York, and we can supply specific examples from all the other States at your request.

In New York, as in many States, we have updated our energy emergency response plans to coordinate State and local energy agency actions.

On September 15, 2005, NASEO joined with the other State associations to write both the President and the congressional leaders urging additional Federal funds for a set of programs that provide a near-term opportunity to reduce peak energy uses immediately. I will not repeat the contents of the letter here. I am attaching it to my testimony. We urge this committee to support efforts to fund key elements of the Energy Policy Act of 2005, which is generally the thrust of the letter from the State groups.

We also support the efforts that Chairman Domenici has taken to encourage DOE interest in a number of programs. Chairman Domenici wrote to Energy Secretary Bodman in September asking whether the Department could release funding quickly if funds were provided by Congress for certain key programs. These programs include: the State Energy Program; the Weatherization Assistance Program; and sections 126 and 140 of the Energy Policy Act of 2005, which provides for pilot energy efficiency measures for low-income communities and States. NASEO believes that if sections 126 and 140 were funded and targeted to the far Gulf Coast States—Alabama, Louisiana, Mississippi, and Texas—that were severely impacted by the hurricanes Katrina and Rita, that reconstruction could proceed in an energy efficient manner. Last week Governors Barbour, Blanco and Riley sent a letter to Senator Domenici requesting funding for section 126 and section 140.

Senator Bingaman has taken a similar approach in a series of letters to the congressional leadership and the President recommending a number of creative measures, many of which were included in the Energy Policy Act of 2005. On a bipartisan basis, 35 Senators wrote to Chairman Domenici and Ranking Member Reid of the Energy and Water Development Appropriations Subcommittee urging immediate expansion of funding to the authorized levels for the State Energy Program, for the Low-Income Weatherization Program, and the energy efficiency public education initiative. A number of Senators on this committee endorsed this

effort. A similar letter was delivered to the House Energy and Water Subcommittee.

If the State Energy Program was funded at the authorized level of $100 million, the States could implement a dramatically expanded program to reduce energy consumption for residential consumers, schools, hospitals, businesses, and the agricultural sector. For every Federal dollar invested in the program, over $7 is saved in energy costs.

If the Weatherization Assistance Program was funded at the authorized level of $500 million, approximately 230,000 homes could be weatherized in the coming year. Every home that is weatherized reduces energy usage by approximately 25 percent.

We support additional LIHEAP funds of approximately $3.1 billion to bring funding for fiscal year 2006 to the authorized level of $5.1 billion.

The CHAIRMAN. What was that one, sir?

Mr. SMITH. We would increase LIHEAP to $5.1 billion from $3.1 billion in emergency funds.

As noted previously, with increasing heating costs of several hundred dollars per household, this level of funding would only keep pace with the increases for the same 15 percent of the targeted population. This is not, in fact, a program expansion.

Thank you very much for the opportunity. I look forward to your questions.

[The prepared statement of Mr. Smith follows:]

PREPARED STATEMENT OF PETER R. SMITH, CHAIRMAN, NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS, AND PRESIDENT, NEW YORK STATE ENERGY RESEARCH AND DEVELOPMENT AUTHORITY

Good morning. My name is Peter R. Smith. Chairman Domenici and Ranking Member Bingaman, thank you for the opportunity to testify today on the critical energy situation we are facing this winter. We believe high prices will continue for an extended period of time, well beyond this winter. I am Chairman of the National Association of State Energy Officials (NASEO), which represents the energy offices within the states, territories and District of Columbia. NASEO members serve as energy policy advisors to our respective Governors and implement a variety of energy programs targeted to all sectors of the economy. We are also responsible for dealing with energy emergency responses. I am also President of the New York State Energy Research and Development Authority (NYSERDA). I have worked on energy issues for New York State for almost thirty years.

Last week, NASEO hosted the Winter Fuels Outlook sponsored by DOE's Energy Information Administration and Office of Electricity Delivery and Energy Reliability. We have conducted this Winter Fuels Outlook for many years, but this year the media and public attention was striking, largely due to the significant increases in a broad range of energy prices. Both the Chairman and Ranking Member of this Committee have spent many years trying to get the public's attention to focus on important energy problems. These energy problems have not been created overnight and they will not be solved overnight.

Today I will discuss the winter fuels outlook, the impact of these high prices, what we are doing about it at the state level and what can be done about it at the federal level.

HIGH PRICES AND CONSUMER IMPACTS

Guy Caruso has done a good job describing the difficult situation we are facing, including the almost 50% increase in natural gas prices (approximately 70% in the Midwest), increases of approximately one-third for heating oil (mostly impacting the northeast and mid-Atlantic regions), increases of approximately 30% for propane (impacting rural areas throughout the nation) and lesser increases of 5% in electricity costs. Even this smaller increase in direct electricity costs is misleading be-

cause of significant price spikes in states and for individual utility companies where natural gas prices set the marginal cost of electricity.

I will not repeat Guy Caruso's statement, but I want to illuminate some critical facts. First of all, this winter's projected price increases are on top of significant price increases last winter. This means that lower-income Americans, including those who are elderly and disabled, will be at far greater risk. It is well known that the poor pay a far greater percentage of their income for energy costs than do more affluent Americans. Further, many households in the middle income category will be significantly affected as well. In addition, for those households that both heat and drive, the double whammy of high heating fuel costs and high gasoline costs, is a huge burden.

A number of the state energy offices also operate the Low-Income Home Energy Assistance Programs (LIHEAP). In those states, where the energy offices do not actually operate the program, we work very closely with the LIHEAP offices in our respective states. With the FY'05 federal funding of approximately $2 billion, 15.6% of eligible households (federal eligibility is 60% of median income) were served, which equates to approximately 5 million families. The average benefit was approximately $313. States supplement these funds with state public benefit funds, in addition to other resources provided through private or utility networks. With winter energy prices escalating at hundreds of dollars per household we expect an enormous number of people to face stark choices as they choose between heating and eating, or other necessities. I want to stress that this is not simply a cold weather state problem. Next summer, with high prices expected to continue, the costs of air conditioning will likely increase dramatically, with similar impacts on low and middle income Americans. In addition, rural America is facing a crisis with escalating propane prices.

Another key issue is the concern regarding instability in energy prices. Clearly, prices have not only escalated but have been extremely volatile. A number of factors have contributed to the volatility, but "just-in-time" inventories have a role to play. Again, while many upper income Americans select budget billing plans, where they pay an equal amount each month, individuals that live paycheck-to-paycheck generally do not participate in these plans.

STATE ACTIONS

At the state level, as soon as the scope of the problem associated with Hurricane Katrina became apparent, NASEO convened all the state energy offices by conference call to share situation reports and response procedures. What we have found over the years is that it is critical to coordinate our responses so that adjoining states do not take dramatically different actions than their neighbors, thereby exacerbating the situation. In addition to conference calls, which occurred on a daily basis in the immediate aftermath of Katrina, we shared model energy emergency declarations, executive orders, public service announcements, emergency response plans and accelerated energy conservation measures, etc. We then arranged for regional conference calls. These calls have continued on an as-needed basis. We have had good cooperation from DOE's Office of Electricity Delivery and Energy Reliability. Representatives from that office, headed by Kevin Kolevar, have worked closely with the states.

Approximately one-half of the states are involved in the State Heating Oil and Propane Program (SHOPP), which involves real-time surveys of prices and supplies for heating oil and propane during the winter months. In this activity, we have worked closely with EIA.

The states also initiated "price gouging" investigations on a coordinated basis with cooperation between multiple state agencies and the state attorneys general. We applaud efforts to expand the Federal Trade Commission's investigatory efforts in this regard, as well as penalty provisions. Obviously, in a largely decontrolled energy market "price gouging" is harder to define. Each state has different consumer fraud statutes, but cooperation is expanding. As in any business, individual dealers may attempt to take advantage of a difficult situation, especially where panic buying is occurring. This is an area where we have encouraged the public to remain calm but to also report unusual prices. In the area of consumer fraud, our offices, in conjunction with the state attorneys general and consumer protection offices, are closely tracking any efforts by individual dealers to break fuel contracts. In some instances, even when supplies are available, some companies will attempt to claim "force majeure" in order to take advantage of higher prices. At this point, we have not identified a trend. This appears to be individual bad actors.

States have also initiated public information campaigns to reduce usage and take certain steps that can help, such as: 1) utilizing the most fuel-efficient family car;

2) taking advantage of state and utility programs to implement energy efficiency measures; 3) increasing carpooling, vanpooling and telecommuting; 4) encouraging homeowners to add insulation, caulk, weather strip, replace furnace filters, and car tune-ups, etc.; 5) lowering the thermostat and insulating water heaters; and 6) installing programmable thermostats. In New York, we have directed people to our *www.getenergysmart.org* web site and we are encouraging the use of Energy Star products and appliances. Most states have call-in numbers and web sites for consumers.

Again, New York has taken steps similar to other states. We have instituted a "Have an Energy Smart Winter" public outreach campaign that is multi-agency and multi-media, with the express purpose of making consumers aware of what they can do immediately to reduce their energy bills this winter. The campaign provides both energy savings tips and gives consumers information about other assistance programs that can help with their winter heating costs. Our grass roots public relations program is underway with spokespersons from agencies and authorities throughout the State doing radio and television talk shows, as well as providing opinion pieces to newspapers across the State. Governor Pataki has also proposed the following additional actions:

1) Home Heating Tax Credit for the elderly—State would offer a refundable personal income tax credit of 25% of home heating expenses when those expenses exceed 7.5% of income. Residents 65 or older with incomes up to $75,000 would be eligible and the tax credit maximum would be $500.

2) Home Energy Assistance for the elderly and low-income—The State will provide additional funds of up to $25 million, and will encourage expanded federal LIHEAP emergency funds.

3) Small Business and Farm Energy Assistance—Small businesses and farmers would be provided a refundable credit equal to 25% of heating costs (up to $3,000), if their energy costs exceed 10% (small business) or 5% (farms) of their overall operating costs.

4) Tax Credit for Home Heating Systems—A personal income tax credit, up to $500, would be offered to homeowners for 50% of the costs related to the upgrade or renovation of a residential home heating system.

5) Sales Tax Free Week for Energy Star—In order to encourage home energy conservation, two sales tax free weeks would be offered for the purchase of Energy Star appliances, weather stripping, caulk or insulation (this is similar to the effort undertaken in Georgia).

In New York, as in many other states, we have updated our energy emergency response plans to coordinate state and local agency actions. The state energy offices and the state utility commissions have expanded cooperative activities. For example, in New York, customers who hold interruptible gas contracts must have either alternative supplies, such as distillate fuel, in place or in designated storage or must have contractual rights to alternative supplies. This will hopefully avoid more significant market dislocations. A number of states have initiated innovative actions in this regard.

As part of our state energy emergency plans, depending on the energy situation this winter, the state energy offices we will be prepared to institute other measures. These actions include possible implementation of "set-aside" programs, where available supplies are targeted to high priority uses, such as police, fire and hospital services. NASEO's Energy Data and Security Committee, chaired by Jeff Pillon of Michigan, has prepared Energy Emergency Response Guidelines, for use by the states. These are proving quite helpful, especially to those energy officials who have not been through a few crises.

FEDERAL ACTIONS

On September 15, 2005, NASEO joined with the National Association of Regulatory Utility Commissioners (NARUC), the National Energy Assistance Directors Association (NEADA—state officials in charge of the LIHEAP program) and the National Association for State Community Service Programs (NASCSP—state officials in charge of the Low-Income Weatherization Assistance Program), to write both the President and the congressional leadership urging additional federal funds for a set of programs that would provide a near-term opportunity to reduce peak energy usage immediately. I will not repeat the contents of that letter in its entirety, but I am attaching it to my testimony.* We urge this Committee to support efforts to

*The letter has been retained in committee files.

fund key elements of the Energy Policy Act of 2005, which is generally the thrust of the letter from the state groups.

We urge continuing support for the efforts of the Energy Information Administration and the Office of Electricity Delivery and Energy Reliability at DOE. These offices have been critical during this emergency. We will continue our close cooperation with these two DOE offices through our Energy Emergency Assurance Coordinators (EEAC) list, to monitor markets on a state, regional and national level, and to accelerate our efforts to reduce the vulnerability of critical infrastructure. In our opinion, these offices have not received sufficient funds, especially with the limited involvement of the Department of Homeland Security in energy emergency response.

NASEO supports the specific federal actions that have been taken thus far: 1) releasing oil from the Strategic Petroleum Reserve; 2) temporarily waiving environmental requirements for gasoline types; 3) waiver of the Jones Act to permit domestic transfers of petroleum products on non-U.S. flagged tankers; 4) waiver of driver hour limitations to permit tanker truck drivers to deliver needed supplies; and 5) coordinated release of oil from IEA participating countries. We believe that we should also examine the role of expanded strategic inventories of natural gas and other products. Proposals, such as the one to expand the Northeast Heating Oil Reserve, is a good start, but may not be sufficient. Opportunities for expanded natural gas storage should be developed and consideration should be given to primary and secondary distillate storage. When this issue was raised over a decade ago it appeared that it might simply raise prices, but with increasing volatility and "just-in-time" inventories, we should address this issue together. NASEO is also concerned about diversity of supplies and refining capacity. We should examine opportunities for expansion and development of new refineries, not only including traditional refineries but also bio-refineries and alternative fuel supplies. Distributed generation utilizing alternative fuel supplies should be an element of this examination.

NASEO is pleased that Energy Secretary Bodman has joined with Kateri Callahan and the Alliance to Save Energy to promote a more aggressive public information campaign. We support funding for that program. Twelve NASEO members, led by the Colorado Energy Office and its former Director, Rick Grice, worked with the Ad Council to develop this public information campaign over a year ago. DOE also joined the states in providing funding.

As noted previously, public information efforts are critical and can lead to reductions in energy use. During the California electricity crisis in 2001, a far-reaching public information campaign, led by the California Energy Commission (the state energy office in California), produced a dramatic reduction in energy use at peak periods. We support significantly expanded funding for the Energy Star efforts at both EPA and DOE. Again, this will make a difference.

We also support the efforts that Chairman Domenici has taken to encourage DOE interest in a number of programs. Chairman Domenici wrote to Energy Secretary Bodman in September asking whether the Department could release funding quickly if funds were provided by Congress for certain key programs. These programs include: 1) the State Energy Program (SEP); 2) the Weatherization Assistance Program; and 3) Sections 126 and 140 of the Energy Policy Act of 2005, which provides for pilot energy efficiency measures for low-income communities and states. NASEO believes that if Sections 126 and 140 were funded and targeted to the four Gulf Coast states (Alabama, Louisiana, Mississippi and Texas) severely impacted by both Hurricanes Katrina and Rita, that reconstruction could proceed in an energy efficient manner. Last week Governors Barbour, Blanco and Riley sent a joint letter to Chairman Domenici requesting funding for Sections 126 and 140.

Senator Bingaman has taken a similar approach in a series of letters to the congressional leadership and the President recommending a number of creative measures, many of which were included in the Energy Policy Act of 2005. On a bipartisan basis, 35 Senators wrote to Chairman Domenici and Ranking Member Reid of the Energy and Water Development Appropriations Subcommittee, urging an immediate expansion of funding to authorized levels for the State Energy Program ($100 million) (Energy Policy Act of 2005—Section 123), the Low-Income Weatherization Assistance Program ($500 million) (Energy Policy Act of 2005—Section 122) and an energy efficiency public education initiative ($90 million) (Energy Policy Act of 2005—Sections 131 (Energy Star) and 134). A number of Senators on this Committee endorsed this effort. A similar letter was delivered to the House Energy and Water Subcommittee.

If the State Energy Program was funded at the authorized level of $100 million, the states could implement a dramatically expanded program to reduce energy consumption for residential consumers, schools, hospitals, businesses and the agricul-

tural sector. For every federal dollar invested in the program, over $7 is saved in direct energy costs.

If the Weatherization Assistance Program was funded at the authorized level of $500 million, approximately 230,000 homes could be weatherized in the coming year. Every home that is weatherized reduces its energy usage by approximately 25%. In a time of increased energy costs those reductions are significantly more valuable, and are long-lived. These investments will continue to help consumers meet their energy needs for years to come.

Similar letters signed by even more Senators and House members endorsed additional funding for LIHEAP. We support additional emergency LIHEAP funds of approximately $3.1 billion, to bring funding for FY'06 to the authorized level of $5.1 billion. As noted previously, with increases in heating costs of several hundred dollars per household, this level of funding would only keep pace with the increases for the same 15% of the targeted population. This is not, in fact, a program expansion. With the level of prices expected, even where there are winter shut-off moratoriums in effect, we can predict significant numbers of shut-offs in the coming months through next spring. In the case of heating oil and propane users, where there is no comparable shut-off moratorium, we should expect significant hardship. While attempting not to be inflammatory; without additional resources people are in jeopardy of freezing to death this winter.

Congress should also accelerate the relevant tax credits contained in the Energy Policy Act of 2005 to October 1, 2005, from the present date of January 1, 2006. While the IRS has not completed its guidance documents, if Congress accelerated these credits then consumers could make use of them immediately. Section 1333 of the Energy Policy Act provides homeowners a credit of up to $500 for installing energy efficient improvements to their homes, such as insulation, windows and HVAC equipment. Section 1332 of the Bill would provide credits of $1000—$2000 to builders and manufacturers of energy-efficient homes. New construction should set the pace for reduced energy usage. The energy efficient commercial buildings deduction (Section 1331) and the credit for residential energy efficient property (Section 1335) could also be accelerated to great positive effect. In light of our excessive reliance on oil-based fuel in the transportation sector, we also support expansion of the credit for hybrid vehicles.

In addition, separate letters have been sent by a variety of groups to the Administration and congressional leaders encouraging acceleration of the tax credits (Sections 1332 and 1333), full funding of the public information initiative and support for the State Energy Program, the Weatherization Assistance Program, the state energy efficiency pilot program (Section 140 of the Energy Policy Act) and the Appliance Rebate Program (Section 124 of the Energy Policy Act). Signatories of these letters include both the American Gas Association and the Edison Electric Institute, who are with me on the panel today, as well as the American Chemistry Council, NASEO and others.

Funding of Section 9006 of the 2002 Farm Bill, is the only short-term measure that could be implemented which is not included in the Energy Policy Act of 2005. FY'05 funding was $23 million. If funding could be dramatically expanded it could help reduce costs for farmers and rural small businesses immediately.

In summary form, the proposed federal emergency funding request for FY'06 is a follows:

1) LIHEAP—$5.1 billion ($3.1 billion in emergency funds above FY'05 funding levels);

2) State Energy Program—$100 million ($56 million above FY'05 funding levels);

3) Weatherization—$500 million ($273 million above FY'05 funding levels);

4) Energy Efficient Appliance Rebate Program—$50 million (new program);

5) Energy Star Program—$105 million ($95 million for EPA, which is $45 million over FY'06 appropriated funding and $10 million for DOE, which is $5.5 million over FY'05 funding levels);

6) Energy Efficient Public Information Initiative—$90 million (new program);

7) State Building Energy Efficiency Codes—$34 million ($29.5 million above FY'05 funding levels);

8) Heating, Ventilation and Air Conditioning maintenance program—$5 million (new program);

9) Energy Efficiency Pilot Program for the Gulf Coast states—$5 million (new program—targeted to Alabama, Louisiana, Mississippi and Texas);

10) Low-Income Community Energy Efficiency Pilot Program for the Gulf Coast states—$20 million (new program—targeted to New Orleans, Gulfport, Biloxi, Mobile, Port Arthur and Beaumont);

11) Energy Efficient Public Buildings Program—$30 million (new program);
12) State Technologies Advancement Collaborative—$20 million ($13.5 million above FY'05 funding level); and
13) Section 9006 of the 2002 Farm Bill—$46 million ($23 million above FY'05 funding levels).

As stated previously, this would simply fund the key elements of the Energy Policy Act of 2005 (other than item 13 above), which would have an immediate and positive impact.

In order for these programs to provide this relief, the funds must be distributed within two weeks of appropriation, and no later than mid-November. DOE's history in releasing funds, at least for Weatherization and the State Energy Program, is that if funding is appropriated in October, the states don't receive it until June of the following year. This is unacceptable. DOE procurement processes must be accelerated.

We are also deeply concerned with the impact of high prices on domestic manufacturing and jobs in this sector, such as the chemical industry. The Nation should expand funding for industrial energy efficiency. NASEO supports Secretary Bodman's announcement to work with the 200 largest industrial facilities on energy use. Unfortunately, funding for the industrial energy efficiency program has been cut from over $140 million a few years ago to the FY'06 Budget proposal of $58 million. This effort is inconsistent and counter-productive.

One additional matter is of serious concern, and should be noted. This is not the time to eliminate the six regional offices operated by the Department of Energy. As we are attempting to deal with an energy emergency, we should not be eliminating the Department's outreach arm to the states, businesses and others.

CONCLUSION

We have attempted to address both the short-term impacts and both state and federal responses. Immediate congressional action is imperative. We deeply appreciate the opportunity to testify and thank you for your long-term interest in a balanced national energy policy.

I am prepared to answer any questions that you might have.

The CHAIRMAN. Thank you very much.

Mr. Jack Sullivan, executive vice president and CEO of the New England Fuel Institute.

STATEMENT OF JACK SULLIVAN, EXECUTIVE VICE PRESIDENT AND CEO, NEW ENGLAND FUEL INSTITUTE, WATERTOWN, MA

Mr. SULLIVAN. Good morning, Mr. Chairman, and thank you, Senator Bingaman.

New England Fuel Institute is a 50-year-old oil heat trade association of small businesses, to say the least, oftentimes second, third generation, and in some cases third and fourth generation businesses. But today I am here to represent the heating oil industry in the 22 States that actually support heating oil.

Before I get on with my testimony, I just want to compliment this august body in the passage of the Energy Policy Act of 2005. One of the items that was passed in that policy act was the reauthorization of the National Oil Heat Research Alliance, NOHRA, very important. And what that has done is to give this industry an opportunity that allows these independent businesses to start to look at different things that can improve the quality of life for consumers. And we have done so.

Over the period of the last 2 years' time and continuing on in the future, we are looking at things such as improving the quality of our fuel, upgrading the types of equipment that we offer to consumers, higher efficiency standards for equipment, and on top of that, technical training and education. We have over 9,900 certified technicians that service reliability and performance. So it is be-

cause of you, because of your judiciousness that this process is in place, and consumers are going to benefit.

Today I want to provide the heating oil industry's outlook from the perspective of a small retailer serving homeowners.

Supply and price increases. For the past year, the prices of crude oil and correspondingly refined petroleum products, including home heating oil, have been rising. Moreover, with the onset of hurricane Katrina and Rita, the Nation faces a worse situation. The production of refined petroleum products is well below normal.

Fortunately, home heating oil stocks were at reasonably good levels before the hurricanes. Today inventories on the east coast, the area of greatest consumption, are at approximately 38.3 million barrels. This volume is about 24 percent greater than the 30.9 million barrels held 1 year ago, and it is 21 percent greater than the average inventories of 31.6 million barrels held from 2002 through 2004. Storage facilities are generally filled, and the mild weather to date has resulted in a very limited draw-down on this product.

We do not foresee any product shortages. Consumers will be well served. However, anticipated slightly colder-than-normal weather and the continuing impact of the hurricanes on energy production will, of course, affect this price.

Impacts on consumers. Heating oil prices are predicted to increase as much as one-third over a year ago. Such an increase will adversely affect all consumers. To minimize this impact, the heating oil industry works aggressively to inform consumers of ways in which they can conserve energy.

However, in many instances, consumers simply lower their thermostats, close off portions of their homes, and live essentially in the family room and kitchen. Further, consumers often have no choice but to pay their heating bills more slowly than in prior years.

Low-income families. In contrast, higher heating bills will have a far more significant impact on low-income families. These consumers are already living at a very basic level and have nothing to cut back. Particularly in the Northeast and the Midwest, low-income individuals often must choose among essentials: heat, food, or medicine. These families will be put at great risk this winter.

Home heating oil dealers. High heating oil prices also will have a devastating effect on the small businesses that supply fuel to homeowners. We estimate that dealers will need approximately three times the credit lines that they needed last year to purchase the same amount of fuel. Without substantially increasing their lines of credit, dealers will not be able to meet their customers' demands. In the past, traditional lending institutions have been unwilling to make additional loans to dealers because they cannot demonstrate a steady stream of revenue to repay the loan rapidly.

To address this problem, many dealers will have to take second mortgages on their homes or borrow from family and friends. This is the real world, gentlemen. These dealers are facing anywhere between 50 to 70 percent increases in their credit lines or the needs for credit lines. It is not uncommon for consumers to take the necessary time to pay their bills, but retail fuel oil dealers themselves have to pay their bills within 10 days to their supplier and many

of them are on electronic funds transfer that pay it between 3 and 5. You can see the strain. It is enormous.

Recommendations. Increase funding for the Low-Income Home Energy Assistance Program, LIHEAP. Each of my counterparts here at the table fully understands the implications and the necessary needs for this particular issue. However, the regular appropriation of $2 billion per year is terribly inadequate for this heating season. We recommend that Congress substantially increase the appropriation closer to the $5.1 billion authorized in the energy act enacted this August, and include at least $1.3 billion of emergency funding in a supplemental appropriation.

Two, include in the final Commerce, Justice, and Science Appropriations bill for fiscal year 2006 a measure from the Senate version of the bill to provide small business disaster loans to heating oil dealers. In the alternative, because the credit crunch we have discussed is largely due to escalated prices resulting from the hurricanes, Congress could include these SBA disaster loans in a supplemental appropriation.

Conclusion. The heating oil industry recognizes there is no magic bullet to deal with these problems, but increasing LIHEAP funding and providing SBA disaster loans for small dealers will go a long way to alleviate the pain.

Thank you very much, and I would be happy to answer any of your questions.

[The prepared statement of Mr. Sullivan follows:]

PREPARED STATEMENT OF JACK SULLIVAN, EXECUTIVE VICE PRESIDENT AND CEO, NEW ENGLAND FUEL INSTITUTE, WATERTOWN, MA

Good morning. I am Jack Sullivan, Executive Vice President and CEO of the New England Fuel Institute ("NEFI"). NEFI is an association of more than 1,000 companies that market home heating oil to consumers throughout the six New England states. Most of the member companies are small businesses, family-owned—third or fourth generation. I am here today representing the heating oil industry, operating in 22 states, and to provide our outlook for the winter—not simply a recitation of heating oil stocks held in inventory, projected demand and prices, but the view from the small retailer serving homeowners.

In the winter, consumers do not focus particularly on gasoline prices at the pump. They are concerned about heating their homes and the amount of their paychecks that must be allocated for this essential commodity. The heating oil dealer interacts directly with homeowners and understands their problems. Dealers respond at 2:00 a.m. to a call from a homeowner to repair equipment or make a special delivery on a weekend when a consumer needs it. The industry takes pride in making sure that no one goes without heat.

I. SUPPLY AND PRICE INCREASES

We feel certain that this winter is going to be very difficult for consumers. For the past year, the prices of crude oil and correspondingly refined petroleum products, including home heating oil, have been rising. Market conditions seem to justify crude at more than $50 per barrel, and the U.S. refinery capacity is limited. The U.S., for that matter, the world, has little or no back-up capacity or product inventories to draw on.

Moreover, with the onset of Hurricanes Katrina and Rita, the nation faces a worse situation. Crude oil production in the Gulf has been shut in and several refineries are closed while others are not yet operating at full capacity. At its peak, more than 4 million barrels of refining capacity were idle. Today, more than 2 million remain out of commission. Thus, the production of refined petroleum products is well below normal. All this is occurring as the heating season begins.

Fortunately, home heating oil stocks were at reasonably good levels before the hurricanes. Today, inventories on the East Coast—the area of greatest consump-

tion—are at approximately 38.3 million barrels.[1] This volume is about 24% greater than the 30.9 million barrels held a year ago, and 21% greater than the average inventories of 31.6 million barrels held from 2002 through 2004.[2] Storage facilities are generally filled, and the mild weather to date has resulted in a very limited draw on this product. We do not foresee any product shortages. Consumers will be served. However, anticipated slightly colder-than-normal weather and the continuing impact of the hurricanes on energy production will, of course, affect the price.

II. IMPACTS

A. Consumers

Heating oil prices are predicted to increase as much as one-third over a year ago. Such an increase will adversely affect all consumers. To minimize this impact, the heating oil industry works aggressively to inform consumers of ways in which they can *conserve* energy. The industry provides consumers with detailed recommendations, including improvements to insulation, sealing sources of heat leakage, energy-saving practices, low-cost improvements to efficiency of existing heating systems, and the upgrading of heating oil equipment. Such measures can result in significant savings, from 5% to 30%, on a homeowner's heating bill.[3]

However, in many instances, consumers simply lower their thermostats, close off portions of their homes and live essentially in the family room and kitchen. They forego discretionary spending—they eat out less, stay home instead of going to a movie, and limit their shopping to the basics. While not life-threatening, these circumstances are uncomfortable and difficult. Moreover, consumers often have no choice but to pay their heating bills more slowly than in prior years.

B. Low-Income Families

In contrast, higher heating bills will have a far more significant impact on low-income families. These consumers are already living at a very basic level and have nothing to cut back. Particularly in the Northeast and Midwest, low-income individuals often must choose among essentials—heat, food or medicine. These families will be put at great risk this winter.

C. Home Heating Oil Dealers

High heating oil prices also will have a devastating effect on the small businesses that supply the fuel to homeowners. We estimate that dealers will need approximately 3 times the credit they needed last year to purchase the *same* amount of fuel. Without this substantial increase in their lines of credit, dealers will not be able to meet their customers' demand. In the past, traditional lending institutions have been unwilling to make additional loans to dealers because they cannot demonstrate a steady stream of revenue to repay the loan rapidly. We anticipate that these same circumstances will occur this winter.

To address this problem, many dealers will have to take second mortgages on their homes or borrow from family and friends. The heating oil industry is very resilient. Despite this fact, we are concerned that some dealers will experience a great deal of difficulty this winter.

III. RECOMMENDATIONS

We understand that this Committee and the Congress have the same concerns as the heating oil industry. No one wants consumers and small businesses to suffer. Therefore, we recommend that Congress adopt two measures that will address some of the problems likely to occur this winter:

1. Increase funding for the Low-Income Home Energy Assistance Program ("LIHEAP"). This program, through state grants, benefits the most vulnerable of our society. However, the regular appropriation of about $2 billion per year is terribly inadequate for the 2005-2006 heating season. We recommend that——

(a) Congress substantially increase the appropriation to a number closer to the $5.1 billion authorized in the Comprehensive Energy Policy Act of 2005 enacted this August; and/or

(b) Include at least $1.3 billion of emergency funding for LIHEAP in a supplemental appropriation; and

---

[1] "U.S. Distillate Fuel Oil Update—October 13, 2005," American Petroleum Institute Statistics; most recent data from the week ended October 7, 2005.

[2] *Ibid.*

[3] Attached are NEFI's Energy Conservation Recommendations for Consumers, which have been retained in committee files.

2. Include in the final Commerce, Justice, Science Appropriations Bill for Fiscal Year 2006, a measure from the Senate version of the bill, to provide small business disaster loans to heating oil dealers. Such loans from the Federal Government will enable small dealers to obtain the capital they need to stay in business and remain viable. These loans are temporary "bridge loans" that provide just enough money for the dealer to maintain operations while waiting for consumers to pay their bills.

In the alternative, because the "credit crunch" that we discussed is largely due to escalated prices resulting from the hurricanes, Congress could include these SBA disaster loans in a supplemental appropriation.

IV. CONCLUSION

Home heating oil retailers will make every effort this winter, as they have in the past, to meet consumer requirements. However, this year the odds of problems occurring are much greater than in prior years. The heating oil industry recognizes that there is no magic bullet to deal with those problems, but increasing LIHEAP funding and providing SBA disaster loans for small dealers will go a long way to alleviate the pain.

Thank you. I would be happy to answer any questions the Committee may have.

The CHAIRMAN. Well, Mr. Sullivan, even though your comments were not so pleasing, we are very glad you came and shared it with us.

Mr. SULLIVAN. Thank you, Mr. Chairman.

The CHAIRMAN. And I am also glad that you can smile when you are saying it. Not bad.

Mr. SULLIVAN. Thank you, Mr. Chairman.

The CHAIRMAN. Now, we are going to go with questions. There are a lot of members interested here today, so we are going to try to move ahead quickly. I have two or three, and then I am going to quickly go to you, Senator Bingaman.

Mr. Caruso, what would happen to the price of gasoline if a strategic gasoline reserve were created? How much gasoline would be required for such a reserve to support 30 days of consumption, and what would the effect be on prices if the reserve mandated 2 million gallons a day of storage? Would this have any serious effect on the inventory practices? I raise this because some have been talking about it, and I do not think we have heard any expert tell us about it.

Mr. CARUSO. Well, of course, it is unclear exactly what the impact a strategic gasoline reserve would have. But to put some numbers on the table, 30 days of gasoline consumption in this country is about 27 million barrels. For every 10 million barrels of gasoline that you would have to purchase, it would be about a $1 billion expenditure. So it would be quite an expensive program.

Second, of course, it would depend on the pace at which you filled it. To use the SPR as an example, it took a number of years, of course, to build the storage capacity in the Strategic Petroleum Reserve, which was utilizing crude oil.

So, again, it would be rather expensive and it would take time. Of course, the storage itself of gasoline would most likely be in steel tanks. Our best estimate for gasoline storage above ground would be about $20 per barrel of storage capacity initially. So you would have to add that to the cost of the purchase and the time.

Third, there would be some impact on the market, depending on when the program was started and the pace at which it achieved that.

So those are some of the thoughts that I would share on just the facts of the situation.

The CHAIRMAN. I know you are not a policymaker, but I have not heard you saying anything about this being a good idea or something we should do, all things being considered. Would you answer that question, or do you think that is out of your domain?

Mr. CARUSO. I think that would be more usefully answered by one of the policy-level witnesses perhaps at future hearings.

Certainly I would say this. It is certainly worthy of studying if this issue were to be contemplated by this committee or others within Congress. It definitely would merit a study.

The CHAIRMAN. Before you could do it, it ought to be studied. Is that what you are saying?

Mr. CARUSO. Exactly.

The CHAIRMAN. How about natural gas? We have heard about the idea of setting up some kind of natural gas reserve. You spoke of the reserve that is the one we have now. Is there another natural gas reserve that is being spoken of where we would put more natural gas in different kinds of reserves, or what is being spoken of in that regard, do you know?

Mr. CARUSO. Well, the industry itself, particularly local distribution companies and other gas companies, do have working gas in storage, which is a critical element in meeting winter natural gas demand. As I mentioned, we are going into this winter with about 3.1 trillion cubic feet in working gas in storage. So the industry itself does a very good job of having working gas to meet peak demands. On a typical peak month in January and February, about one-third of the gas in this country comes out of that working gas in storage. So it is critically important.

So I think, again, if a strategic natural gas reserve were to be contemplated, I would again think it would merit a study because of not only the expenses, which ultimately would be borne by consumers, but also the practical aspects of it as well.

The CHAIRMAN. Mr. Smith, you said that you had submitted a long list—and I have it in front of me—led by LIHEAP.

Mr. SMITH. Yes, sir.

The CHAIRMAN. I just was going to ask you, have you and your association put some numbers to this? If all of them were done, what would it do?

Mr. SMITH. Yes, sir. We put all of the things together. The first thing that we would stress would be that energy efficiency is the most cost effective resource we have to address the situation we are facing right now.

The increase in LIHEAP funding is a band aid. It is something to allow low-income consumers right now to address the heating bills they are going to see this winter. What we find is that for every dollar we invest in the States, we get a $7 return in investment. We think that is a very, very good investment.

The CHAIRMAN. I heard that. I am asking not about the LIHEAP, but the rest of the programs here. Have you attached a conservation number to them?

Mr. SMITH. Senator, we are working on that right now. We can make that available to the committee and to you.

The CHAIRMAN. Could you put them line by line while you are at it?

Mr. SMITH. Yes, sir, absolutely.

The CHAIRMAN. Thank you very much.

Senator Bingaman.

Senator BINGAMAN. Thank you very much.

I wanted to ask about the subject of conservation tariffs. As I understand the way that utility rates are structured in most States, in most utilities, gas utility rates discourage utilities from promoting energy efficiency and helping their customers to use less natural gas; that the revenue of the utility increases, the more natural gas is used.

I also understand that there are some exceptions to that. One exception is in the State of Oregon. Northwest Natural, which is the gas utility serving Portland, and the Oregon Public Utility Commission, in 2002, did a 3-year pilot program under which they imposed a conservation tariff that would break the link between the energy utility's sales and its profitability so that there would be a financial incentive for the utility to go ahead and encourage conservation by its customers.

If I understand this correctly, it seems a no-brainer that every public utility commission in the country ought to be implementing conservation tariffs immediately so that this additional incentive is there for the utilities under their jurisdiction to encourage conservation. Am I missing something? Mr. Downes, maybe you are the right witness. Maybe Mr. Smith would like to respond.

Mr. DOWNES. Senator, the way you have generally described the way our rate structure works is correct. We basically are throughput-based right now.

Now, having said that, and as you heard me describe our business as being a lifeline service provider, we still do quite a bit in the area of efficiency.

You described correctly what has happened with Northwest Natural. I think that the industry would tell you that that particular tariff structure has worked very well, and what you are seeing right now is that local distribution companies throughout the United States are filing for these decoupling tariffs because, as you suggest, if there is a separation of throughout from our rates, the way we actually recover our costs, that does create an even greater incentive for our companies, as far as focusing on efficiency and conservation.

As I said, as you look throughout the United States right now—and there are different forms of the conservation tariff—you see that our companies are being more aggressive in doing that. And I expect that you will see, because of the situation that we face right now, increasing receptivity on the part of local utility commissions.

Senator BINGAMAN. Mr. Smith, is there a reason why the group that you represent is not out there beating the drums in favor of these conservation tariffs? It seems to me to be a very good thing to be doing.

Mr. SMITH. Mr. Bingaman, we are in policy rather than a regulatory aspect of the National Association of Regulatory Utility Commissions, NARUC. We work very closely with NARUC and we are looking at these options in order to decouple ratepayer and shareholder interests so that we get more efficiency involved in this. Each individual State has to make their own decisions on their

each individual regulatory structure. I think if you go across the United States, you will find that from the west coast to the east coast, commissions are looking at this, and we are, in fact, working with them to make these more palatable and make these so that they balance shareholder and ratepayer equity.

Senator BINGAMAN. Well, let me just say that I think the public utility commission there in Oregon adopted this in 2002, and I guess the rest of the country has been looking at it ever since. At some point, they ought to get busy and do it if industry and the regulators and the customers all say it makes sense. It aligns the incentives of the utility with the incentives of their customers, as I understand it.

Let me ask about one other issue, and that is roughly described as this efficient dispatch. I do not know whose chart this is we have up here. Is that yours, Mr. Caruso?

Mr. CARUSO. No, sir.

Senator BINGAMAN. Whose is that? Oh, it is our chart. Well, it is a very good chart.

[Laughter.]

Senator BINGAMAN. Generating capacity brought on line by fuel type. If you look at the red bars on the right, that leads me to believe that in the last 10 years, something north of 95 percent of the generating capacity brought on line has been gas-generated. Is that the way you read it, Mr. Caruso?

Mr. CARUSO. About 98 percent.

Senator BINGAMAN. 98 percent.

Mr. Kuhn, you talked about how we should not get in the business of dictating the choice of fuels, and I understand that point of view. I guess what occurs to me, though, is if we do all these things, open area 181, do all these other things to try to get more gas—my understanding is 23 percent of our gas today is used to generate electricity. If this trend that is reflected on this chart continues, the more gas we bring on line, the more that goes into generating electricity. I wonder if that is the most efficient use of the incremental natural gas we have. So that is one part of the efficient dispatch issue.

But the other part is even if a utility is going to use natural gas to generate 23 percent of the power that they provide, do we not have some interest in seeing to it that they use the most efficient plants available to generate that power where possible? I understand there has to be some balancing within the system, but it seems to me we have a lot of new, efficient plants which are combined cycle plants, efficient combustion turbine plants that are not being utilized while older, inefficient plants are being utilized. Maybe, Mr. Kuhn, you could respond to that.

Mr. KUHN. Senator, you asked two very, very important questions, and they are very different questions. The first relates to the chart up here that shows that the majority of plants built over the last decade have been natural gas, not the majority, but as Mr. Caruso indicated, 98 percent.

The energy bill certainly tried to address our issue by addressing the question of fuel diversity which we feel very strongly about. Fuel diversity is the strength of the electricity system, and to the

extent that we can make use of all fuels, that is going to be the absolute best situation for us.

You recognized the importance of clean coal technology so we can burn clean coal environmentally and use our 300-plus year supply of coal. That is going to be extremely important.

It recognized the importance of a new generation of nuclear power plants. We recently had a meeting with CEOs all over the world from Europe, Japan, and North America. Every one of them said that the only way we are going to meet energy and environmental goals in the future is with more new nuclear power plants.

The bill addressed hydro relicensing, which is extremely important so we can keep our hydro capacity.

It addressed renewable technologies and the expansion of renewable technologies.

All of these provisions are going to be extremely important so that in the future we do not build such an incredibly high percentage of power plants with natural gas because it cannot continue in that regard.

Similarly, I think it is extremely important for us to get environmental regulations right so that they do not encourage movement from coal to natural gas. We are very strong proponents of a multi-emissions legislation that would allow us to address environmental concerns in a way that would allow us to achieve some 70 percent reductions in emissions at the same time in the most economic way to our consumers and not encourage switching to natural gas. So I think all of these policies are extremely important.

With respect to the second part of your question on the efficient dispatch of natural gas, we do have very serious concerns that that could cause an increase in electricity prices to consumers, as well as interfere with the efficient operation of our electric system. In the past, Congress did dictate fuel supply and purchase choices twice before with respect to PURPA and the Fuel Use Act and years later had to rescind them.

Let me make sure you understand that efficient dispatch does not equate to economic dispatch, and economic dispatch does not equate to efficient dispatch. Often the most efficient power plants are not the most economic power plants.

When regional transmission organizations or States or utilities dispatch power plants, they take into account a number of different factors. They take into account the lowest cost to the consumer as probably the primary thing they are thinking about, but in addition to that, they take into account efficiency. They take into account fuel diversity. They take into account environmental constraints and they take into account transmission considerations. And all of those things, not just one, are a very, very important part of the equation in the dispatch of power plants because if you take out any one and demand that one be considered at the expense of the others, it will seriously disrupt the system.

As you know, different gas plants are built to operate in different capacities. For example, a peaking unit. A utility might want to dispatch a less efficient but more economic peaking unit to meet reliability concerns, and so they could have a very fast startup situation. Similarly, a large gas generating plant might have a situation where it has lower fuel supply contracts.

So I think all of these considerations are important and I think it is important that Congress not get into the business of interfering with the regional transmission organizations and the States on generation dispatch because it may have unintended consequences for consumers and for the operation of the system.

Senator BINGAMAN. Thank you very much.

Mr. Chairman, if I could just ask Guy on this same line. Do we have a figure as to how much natural gas could be saved if we were using our most efficient natural gas plants rather than our least efficient?

Mr. CARUSO. We have asked, as part of our questionnaire to electric power utilities, for them to indicate the efficiency aspect of it. Now, this differs a bit from Tom's answer. We did not ask them about the economics of it, just the efficiency. If you assume that the most efficient combined cycle turbine units were utilized, we think we could probably use about 20 to 30 billion cubic feet less this winter than not using—in other words, using the old steam turbines.

Senator BINGAMAN. Thank you.

The CHAIRMAN. Senator Alexander.

Senator ALEXANDER. Thank you, Mr. Chairman.

I would like to follow up Senator Bingaman's question. What we are facing here—we have all heard it many times—is this. When we were debating the energy bill and before that, when Senator Johnson and I first introduced the Natural Gas Price Reduction Act, we were lamenting the fact that gas prices were $5 or $6 in an economy that was geared to $2 or $3, and today they are $13 or $14.

As Chairman Domenici, Mr. Bingaman, and others have pointed out, with just the chemical industry with 900,000 jobs, blue collar jobs in this country, heading overseas because of that, that is of paramount concern. And we all are aware of the gasoline price problems. But the price of natural gas is an even bigger problem for homeowners, as we are talking about today, for blue collar workers, and for farmers. So it seems to me we should be taking extraordinary steps today, in addition to what we did in July with the energy bill, to try to make a difference today.

Now, as I listen and study and hear, the only things that I see that could make a big difference are conservation, turning the thermostat down, which would make a big difference, Lease 181 which, as the chairman has said, I believe the President has the authority to draw that line today. And if he were to do that, that would not lower the price of natural gas today, but it would tend to stabilize that because it would be a signal that there would be more supply later.

A third is the provisions we have already adopted for liquified natural gas terminal plants. If we knew there were three or four more plants about to go up, that would be another stabilizing signal.

One other thing that would be both a stabilizing signal and a reduction in prices would be the more efficient dispatch of natural gas.

Now, Mr. Kuhn, I have heard what you said. I understand there are some problems, but the legislation which we introduced last

year did not say that Congress would make all these decisions. It simply would have the States evaluate whether we could do a better job more efficiently dispatching natural gas. The information I have is that a new natural gas plant—we saw how many of them are being built—will use half the amount of natural gas than an old one uses. And we have got these new ones all over the place now, which means we have got a lot of old ones too. The Entergy Corporation was up here last week. They have done a Herculean, really an admirable job in Louisiana responding, and they are asking us to help them rebuild and to deal with those problems.

Should we not be looking for ways to encourage the States to make a more efficient use of natural gas? Over the past decade, our natural gas demand has grown by 7 trillion cubic feet. That does not mean much to anybody, but if you put it in effect, it is estimated that the efficient dispatch of natural gas could result in a savings of 10 percent of that growth over the last 10 years.

Mr. Downes, let me ask you. I noticed in your recommendations that no one seems to mention the more efficient dispatch of natural gas. Common sense would tell us that if we have got a whole bunch of old plants sitting around and they use twice as much gas as new plants, that even though there are other factors to consider like economic dispatch, environmental, other issues, that we could do a better job of that.

Mr. Smith, I would like to ask you after Mr. Downes. Is New York not already doing a better job of the more efficient dispatch of natural gas than, say, Louisiana?

Mr. Downes, what would your comment be?

Mr. DOWNES. Senator, earlier this year, as we were in this really escalating price environment and before the hurricanes, back in, I would say, the April-May timeframe, our membership understood what the impact of growing demand for natural gas for electric generation was doing. We came forth with a very specific plan and comment as to how that can be handled.

First of all, we said that the highest and best use of natural gas is the direct use of natural gas. Use it for heating homes. Use it for supporting our businesses.

Senator ALEXANDER. That is a different issue.

Mr. DOWNES. Yes, but I think it is all——

Senator ALEXANDER. Yes, I know, but I want to talk about if all of these old gas plants, which use twice as much natural gas as the new gas plants, why should we not, in an emergency when we have hundreds of thousands of good jobs going overseas, insist that States do something about it? We do not have to do it here, but why should we not insist that you do something about it?

Mr. DOWNES. That was the second point I was going to get to. We got to the issue of fuel diversity and making sure part of that is efficiency, making sure that for every mcf of natural gas that we are using, that that is being used in the most efficient way. You made the point about how much natural gas was used for electric generation and what potentially could have been saved. Quite honestly, the support I think that we received from our colleagues on the electric side has been good. But you are absolutely right. We are in a position right now where efficiency has to drive the process because natural gas is a premium fuel right now.

The other point that you make—and I just want to follow up on it—is conservation this winter, absolutely important in the short term. But this is not a tradeoff between conservation and the need for more production or the need for more LNG, as you point out. This is a long-term strategy here where we are going to need really everything we can, not only in terms of new supplies and conservation and efficiency, but we think that natural gas can be a bridge to that future. Efficiency is going to be a critical part of that, and I think quite frankly, unfortunately, it has taken prices at these levels to really increase the awareness of the importance of what you are suggesting on the efficiency side.

Senator ALEXANDER. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Wyden.

Senator WYDEN. Thank you, Mr. Chairman.

I was interested. My friend from Tennessee talked about the extraordinary measures that ought to be taken and the like. I still want Congress to go out and pick the low-hanging fruit. Mr. Caruso, my figures are that if Congress increased CAFE standards by just 2 miles a gallon—just 2 miles a gallon—that would more than exceed peak ANWR production of 1 million barrels a day. Could you tell me if you think those figures are correct? That is our information.

Mr. CARUSO. I would have to double-check on that, but it does not sound unreasonable. 2 miles per gallon. I think the average automobile in this country is achieving about 25. So it is about 10 percent.

[The following information was received from Mr. Caruso:]

An increase in CAFE standards would not bring about a short-term reduction of motor-fuel use. The rulemaking process takes a certain amount of time. The industry must receive a reasonable lead time to implement changes to their product plans (an additional 2-5 year period). However, the longest delay occurs because of slow capital-stock turnover. Only a fraction of the total vehicle fleet is affected by improvements in a single model year. It therefore takes about 20 years to realize the full impact of a CAFE change. ANWR development also takes time. The EIA estimates that under the mean USGS resource scenario, the ANWR region, including the state offshore area and native lands, would begin to produce about 40 thousand barrels per day 9 years following a decision to open the area to exploration and development. In this scenario, production would peak at about 875 thousand barrels per day 20 years after the decision to open the area. Production would be lower in a low-resource scenario and higher in a high-resource scenario—the actual level of resources will only become known over time if exploration and development are allowed.

A 2 miles-per-gallon (mpg) increase in the CAFE standard for light trucks, a category that includes pickups, sport utility vehicles, and minivans, is projected to reduce motor fuel use by 40 thousand barrels per day 3 years after it takes effect, with the impact growing to 200 thousand barrels per day 12 years after implementation. An increase of 2 mpg in the CAFE standard for cars, which would require new legislation, is expected to have little if any impact on motor fuel consumption, since fuel economy is likely to exceed the current standards by that amount given the outlook for gasoline prices.

Senator WYDEN. I would just say to colleagues I hope we can get back at this. Nobody is talking about 20 miles or anything like that, but to not take a baby step. I asked for 1 mile a gallon in the conference committee. I said let us just raise mileage standards 1 mile a gallon, just 1 mile, and you would have thought western civilization was going to end. Senator Wyden is going to put all these people out of work. I hope we can come back to that.

I would like you to furnish that for the record, Mr. Caruso, because I think there are some baby steps that can be taken here.

Mr. Smith, a question with respect to what we could do to help people this winter. I am concerned that the Federal Government is not using its purchasing power out in the marketplace to get a better deal for programs like the Low-Income Home Energy Assistance Program. Contracts between the natural gas suppliers and private companies allow these businesses to purchase cheaper natural gas when they buy in bulk. The Federal Government is the largest consumer of energy in the United States. Why should the Federal Government not go out and bargain, on behalf of low-income people and taxpayers, for programs like the Low-Income Home Energy Assistance Program?

As far as I can tell, the Federal Government buying energy for low-income people this winter is like a guy going to Costco and buying toilet paper one roll at a time. Nobody would shop that way, but the Federal Government will not be a smart shopper, and I think they ought to do it this winter. What do you think?

Mr. SMITH. Senator, I believe that is a good idea. States such as New York and States in New England have programs that use the purchasing power that we have for the Low-Income Home Energy Assistance Program to go to the marketplace. For example, in New York we spend $60 million a year on heating oil for our low-income consumers. In the past, we usually buy at the worst part of the year, in the wintertime when the prices are highest. This year we have worked with our heating oil distributors in New York State to, say, give us a break for the first truckload of oil that goes to a home heating oil dealer and we will guarantee you a certain percentage over your marginal price of oil. And what we promise you is that if you do that, we will promptly pay you because we hear the oil dealers saying that we need to wait for when we get paid by government. So the States are taking those efforts across the Nation because we have the purchasing power of using our dollars in our States to make a difference. I think it would be wise for the Federal Government to look at that program as well and to make those kinds of efforts in the Federal Government.

Senator WYDEN. So you support the idea. Any idea of what kind of savings that the Federal Government could make? Everything that I hear is we are going to run way, way short of funds for low-income folks this winter, and this would be a chance to do something quickly to make better use of those dollars. Any idea of what kind of savings?

Mr. SMITH. Mr. Wyden, I cannot speak to the Federal Government, but I know in New York State last year we had a pilot program and we saved consumers 12 percent on their home heating oil costs for low-income consumers, which is significant if you are a low-income consumer and you are living paycheck to paycheck.

Senator WYDEN. Well, the chairman and the ranking minority member have gone, which is the story of my life I guess. But the chance to save, colleagues, upwards of 10 percent by making sure the Federal Government is a smart shopper for low-income people just strikes me again as low-hanging fruit. It is one thing to talk about complicated, difficult kinds of things. This is something we can do. We can do it this winter.

One last question, if I could, for you, Mr. Caruso. Yesterday the price of crude went up by $1 a barrel just as a result of the threat of tropical storm Wilma. Now, NOAA, the atmospheric agency, expects that tropical storm Wilma could intensify into a hurricane and enter the gulf region. What are your projections at this point? I realize that this is a difficult science to prosecute, but what are your judgments about what would happen to energy costs if there was another storm in the gulf at this point?

Mr. CARUSO. Well, as you correctly point out, we have not actually analyzed the impact of Wilma, but clearly because we are almost fully utilized now in terms of crude productive capacity on a world basis—still 10 percent of our refinery capacity is down—there would have to be a substantial spike in prices if there was a further disruption. I think what we have learned in this experience and in previous experiences is that because of the very low elasticity of supply and demand, it takes very high prices to rebalance the market when it is as tight as it is today. So I would say a significant price increase if, indeed, there were a further significant disruption.

Senator WYDEN. One last question for EIA. As I understand it, the estimates of winter fuel costs are based on a household metric, which includes multi-family units. And I also understand if the estimates were revised to reflect a homeowner basis instead, the estimated increase in fuel costs would be much, much higher. Some analysts have suggested it could be as high as a $600 increase versus the $350 increase that you indicated for natural gas. So what I am concerned about is that the Government is low-balling the estimates here and we could be talking about almost double the estimate.

Would you like to comment on this?

Mr. CARUSO. Just to say that that is accurate, that our household metric includes both single family and multiple family housing. I spoke with Mr. Sullivan before the hearing and asked him, in terms of New England, what is the average single household user, and it is about 800 gallons per winter, and our metric is about 700 gallons. So the numbers you cited sound higher than I would estimate, but I do not really have those in front of me right now.

[The following information was received from Mr. Caruso:]

For the upcoming winter, the November 2005 Short-Term Energy Outlook (STEO) projects that on average, all households (includes both single family households and households in multi-unit buildings) can expect to pay an additional $221 or 28.1 percent more for heating costs this winter compared to last winter. For those households that use natural gas as their primary heating fuel, expenditures for natural gas use (including heating and other uses) are expected to increase by $306 or 41.2 percent.

Single family households that use natural gas as their primary heating fuel can be expected to pay $99 more for natural gas this winter than the average for all households that use natural gas as their primary heating fuel (due to their larger average housing unit size).

Senator WYDEN. My time is up, but why do you not get back to me on that? I would like to get that clear.

Mr. CARUSO. I will.

Senator WYDEN. Thank you, Mr. Chairman.

Senator THOMAS [presiding]. Thank you.

I guess it is my turn next here.

Mr. Caruso, you mentioned, in terms of the hurricane recovery and so on, that now there is normal storage. What do you mean by normal storage?

Mr. CARUSO. Based on a 5-year average of where natural gas in storage, as we prepare for the winter, has been over the last 5 years. We are now right about in the middle or to the upper end of that band.

Senator THOMAS. I understand that all of you here today are not producers, that you are distributors and other kinds of things. But if we do not have a difficulty in reduced storage, why do you see this big talk about price increases and all this concern about it? How do you justify that, Mr. Caruso?

Mr. CARUSO. Well, the main pressure on natural gas prices has been the lack of ability to meet demand on a regular basis. We are not finding enough natural gas to meet——

Senator THOMAS. Have we ever had a shortage? Has anybody not been able to go with their services?

Mr. CARUSO. Well, we have had spot shortages in the past.

Senator THOMAS. Where?

Mr. CARUSO. In the Northeast during times of severe winters.

Senator THOMAS. We had them before. The price was not as high. I guess I am a little concerned as to the justification. If we are in the marketplace and we have storage, we have production, why is the price doubled or tripled?

Mr. CARUSO. It is exactly what you pointed out. It is the supply/demand fundamentals which are driving it.

Senator THOMAS. But you have already said there is storage. You said we are going to have normal storage this winter. No one here has said we are going to have a shortage.

Mr. CARUSO. That is correct. We have enough gas in working gas in storage to assure the local distribution companies——

Senator THOMAS. I guess you begin to wonder whether this is a speculative kind of a stock market kind of a fluctuation or whether it really has to do with production.

Of course, we are not going to be able to do much about this winter except consumption. Is that not true?

Mr. CARUSO. That is the most likely short-term response, yes, sir.

Senator THOMAS. Yes, the really short-term response.

I am a little interested, as you talked, Mr. Kuhn, about LNG and increasing that. Our policy that we are talking about in energy is to reduce our dependence on foreign production. So why then do we push for more foreign production in gas?

Mr. KUHN. Well, Senator, I think that is a very good question. Utilities all over the world right now are turning more toward natural gas, and I believe that when we have additional LNG sites, that certainly is going to be helpful to us in terms of increasing the supply, but it is certainly not going to be any guarantee that we are going to have lower natural gas prices.

Senator THOMAS. If we are looking for less dependence on the world supply and the world supply is growing, it looks like we ought to be looking at ways, even though they may not be immediate. And you are looking at very technical changes in the costs. After all, coal is our largest supply of fossil fuel and the generators have not used coal at all. Now, I know there is a number of reasons

for that. Part of it is transmission. Gas generators, the small ones closer to the market, are easier to build with gas. But should we not be making some longer-term changes so that we can use domestic fuels?

Mr. KUHN. Senator, I fully agree with you. That is just the point that we made in our testimony, that we need to return to building some baseload power plants, namely coal and nuclear power plants, to use our 300-year supply of coal. I think that is going to be extremely important. It certainly would alleviate the natural gas problem.

Senator THOMAS. We do not seem to have any difficulty in producing coal. Has there been a transportation problem for you to get it from, say, the West?

Mr. KUHN. In the past year, there has been a transportation problem. About 40 percent of our coal comes from the Powder River basin. There have been accidents out there that have caused damage to the tracks. That has caused a situation where coal supplies and deliveries have been impeded in some situations. Utilities have had to draw down their stockpiles of coal for the wintertime.

That, I think, leads you again to the fundamental principles that we probably ought to increase alternative routes out of the Powder River basin. The Minnesota and Dakota and Eastern Railroad has a proposal for an alternative line.

Senator THOMAS. Even though we have immediate problems, we ought to be looking at a longer-term policy.

One more short question. Mr. Smith, you indicated a study in price gouging results. What was the result of your study?

Mr. SMITH. In New York State, we have elicited the Consumer Protection Board and our State attorney general to have an energy hotline, as well as an investigation. Right now we have on the order of 300 instances of purported price gouging that are being investigated by the attorney general. That investigation is ongoing. What we are doing is if it appears prices are out of line, we are directing consumers to call the attorney general or call the Consumer Protection Board and we are going to investigate.

Senator THOMAS. The consumers are pretty much dependent on the price that you all set in the State. When we really look at the base price, is there any reason—it just sometimes makes me think that there is more speculation going on here in the price of energy than there is a real market thing. I do not suppose you look at that.

Mr. SMITH. We have not, sir.

Senator THOMAS. Okay. I have taken my time. Thank you, Mr. Chairman.

The CHAIRMAN [presiding]. I think, Senator Salazar, you are next.

Senator SALAZAR. Thank you very much, Senator Domenici and Senator Bingaman, and thank you for holding this hearing.

I have a question for Guy Caruso. If we were to move up the incentives that we created for energy efficiency in the bill that this committee put together, could we have an immediate impact on what is happening this year with respect to the high fuel prices that we are dealing with?

I have spoken very positively about the bipartisan work of this committee and the Senate on the energy bill. I think one of the most important cornerstones of that bill is the fact that we embrace conservation. When I look at the conference report where we have the residential and business credits for energy-efficient equipment and materials relating to heating, windows, furnaces, hot water heaters and the like, it seems to me that that was a very important part of this energy bill. I think it was Chairman Domenici who said, if we had done that maybe 4 or 5 years ago, we might be in better shape today.

If we were to move up the time line for the implementation of those efficiency programs to make it effective upon a bill that might be passed by the Congress and signed by the President, say, by November 1 or December 1, could we see an impact with respect to prices for this next year alone?

Mr. CARUSO. I would have to look at that in much more detail, but my recollection is that most of those energy efficiency provisions do require a longer lead time than this winter. So I think it would probably take a bit longer for them to actually have an impact on a short-term supply or demand. But clearly moving them up would improve our situation, but probably not dramatically in terms of this winter. Most of them have 3- to 5-year lead times.

Senator SALAZAR. Let me ask you this question as a follow-up. It seems to me as a homeowner that when I started looking, as most Americans are, at the cost of gas and heating oil for this next winter, having to pay 36 percent more, that maybe this is an opportunity for me, as well as many Americans, to put in a new furnace before the height of winter. So maybe it is just targeted at a furnace or maybe windows. But I think it would create an incentive for people to bring in these much more efficient furnaces and perhaps windows than we had 30-40 years ago. I do not know what the average is in the United States of America today, but I would bet you that most furnaces in homes have been there for 20 to 30 years. The industry, I think, with the new more efficient producing, could have a major impact on that.

So I am just trying to figure out what the short-term action is. Most of what we did in our energy bill is long-term, but is there something that we could do to incentivize homeowners for short-term action and conservation by maybe adding new concepts on the energy bill?

Mr. CARUSO. Well, I think there are. The energy efficiency technology is there. If we took the best available and we are able to utilize it more effectively, I think the opportunity is there. So I think you are absolutely right, that if we could provide those incentives, the technology is there and particularly in the residential and commercial sectors where the tendency is for consumers not to take advantage of some of the efficient technologies because they do not understand or do not have sufficient information to understand that the return on that investment could be utilized in a relatively short period of time. So I do think the opportunity is there.

With respect to your specifics, I would require more detail to look at it.

Senator SALAZAR. Let me ask another question related to the Federal Government and the Federal Government's use of energy

whether that is in fuel for vehicles or heating our buildings. We have heard the President make statements to the Nation about the importance of energy conservation for this year, and it seems to me that what the President is calling for is immediate action that we take as a Nation with respect to conservation. If there were a requirement that we would impose on our own Federal Government to reduce the consumption of energy by, say, 2 percent, would we see an impact at all in terms of fuel prices for this next year if we were to make that kind of requirement effective immediately?

Mr. CARUSO. Well, I think the President has ordered that all Federal agencies do reduce their use of energy. And there is this Federal Energy Management Program, so-called FEMP, which is in place. So I do think it could have an impact. For the actual price impact, I would need to provide specifics for the record, but it can have an impact. But the Federal Government is not a large consumer relative to the whole country, but it would have an impact.

[The following information was received from Mr. Caruso:]

What is the difference between the Federal Government cutting its energy use 1 percent, 10 percent, or 20 percent?

In fiscal year 2004, the Federal government's primary energy consumption was about 1.6 quadrillion British thermal units (Btu) of energy, of which almost 1.2 quadrillion Btu were used by the Defense Department. About 0.7 quadrillion Btu were used for military fuel.

The total Federal primary energy consumption of 1.6 quadrillion Btu is minor compared to an annual U.S. primary energy consumption figure of 99.7 quadrillion Btu. Therefore, saving 1, 10 or 20 percent of Federal energy use would have little impact on U.S. aggregate energy consumption. For example, if total Federal energy use were reduced by 20 percent, aggregate U.S. primary energy consumption would decline by 0.3 percent, and would have a negligible short-term impact on energy markets.

Federal adoption of energy efficient technologies and practices can, however, serve to demonstrate approaches that can be usefully applied in other parts of the economy, while also using Federal funds wisely.

Senator SALAZAR. If I may, Mr. Chairman, just one more question on that. In terms of the cutback with respect to fuel supply usage by the Federal Government, is there a significant difference between, say, a 1 percent reduction in energy over a 10 percent, over a 20 percent? When does it become meaningful enough that it starts having an impact on the market, or is the Federal Government such a small player in all this that it does not really matter?

Mr. CARUSO. Well, as I mentioned, the specific numbers I certainly could provide for the record. But clearly, when you start getting into numbers like 10 or more percent, even though relative to the whole country it is not huge, it can make a difference. So I think every component of our energy economy can contribute to this. Most importantly, of course, the calls for conservation that the chairman has mentioned even today and that the President has mentioned and that Secretary Bodman is initiating in the energy efficiency programs all can make a huge difference.

Senator SALAZAR. Thank you, Mr. Caruso. Just as a follow-up request, to repeat I think what the chairman asked. It would be useful for us as a committee to have all these conservation measures that people are talking about as a short-term thing that we can do that also would have a quantification of what that means relative to energy savings. Would it have an impact with respect to the fuel prices that we are expecting for this coming winter?

The CHAIRMAN. Thank you very much, Senator.

Senator Burns.

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

Building on the conversation with Senator Salazar and Mr. Caruso, I would say this administration should turn it up as far as conservation. There should be Presidential leadership here. Nobody has a better bullhorn than the President does as far as taking some steps, reminding people about conservation.

By the way, we will be having a hearing on the 25th with regard to procedures and the process of opening up new leases on public lands as far as natural gas is concerned. We know we have tremendous reserves in natural gas in this country and particularly in the West. It is accessible and the infrastructure is there to get it on line as fast as any other place that we could think about right now. We are going to be listening on that, and that is at 9 o'clock on the 25th.

When we look at these numbers right here, they are pretty staggering.

Also, this committee did Fuels for Schools with the Forest Service. We have conversions now going on in our schools of burning slash and using what comes off of our forest that cannot be used for anything else being given now to the schools in areas where they are next to a national forest. That has been fairly successful. We see it happening every day in sawmills, and, of course, even with the Forest Service and what is left on the ground after a logging operation or whatever is there. And that is saving thousands and thousands of dollars for fuels in schools.

But I also note by looking at the chart—and, Mr. Kuhn, you can bring us up to date on this, if you would—we do not see any real push. We put a lot of money in clean coal technology. We know that we can burn coal cleaner now than we have ever burned it before, but yet there is no real push to put coal back in the mix. Maybe our policy has not been one that would drive things to coal. Our policy took us to natural gas. That was a policy set by this Government. We need a policy now that takes us into the most efficient part and the low-cost part of producing electricity. Would you agree with that?

Mr. KUHN. I do agree, Senator, and I think that, once again, the Energy Policy Act of 2005 helps us to get there. But people are becoming more interested in coal I think, obviously, because of the higher natural gas prices. There are some 28 coal plants now that are being planned, another 22 plants are being planned, another 16 that are under consideration. Some of them are IGCC plants. That would be the integrated gasification combined cycle plants that would be extremely clean coal plants. I think that the future for coal has to be a major part of our planning for the future. It represents more than 50 percent of our current generation and it is absolutely key and critical to the major supply of coal that we have in this country.

Senator BURNS. Also, I see nowhere in the plans where we are looking—and I just met with the Bureau of Reclamation just a second ago. They are now looking for more hydro. We do not know what is out there as far as hydro is concerned and how it interfaces with irrigation and everything else. We may have some possibilities

there. Would you agree that maybe we should be looking in that direction too?

Mr. KUHN. I think you have to be looking in all directions, Senator. To the extent that we can take particularly existing hydro facilities and find out whether or not it is possible to increase their capacity, I think that would be the most promising situation.

Senator BURNS. Now, Mr. Caruso, whenever you say we store and we put in salt domes natural gas, what is our shrinkage on recovery?

Mr. CARUSO. It is quite low, Senator. I do not have the specific, but it is certainly less than 1 percent.

Senator BURNS. Would that be about the same as the crude that we store in salt domes also?

Mr. CARUSO. We have very little shrinkage in the crude salt domes in the SPR. It is extremely low, the actual loss in the storage facilities in the salt domes.

Senator BURNS. You think it is down to around 1 percent.

Mr. CARUSO. It is less than that.

Senator BURNS. Less than that.

Mr. CARUSO. Less than that, yes, sir.

Senator BURNS. I did not know what our shrinkage was when we recovered it and started to use it.

Now, I would ask anybody that wants to tackle this one. How do we change that energy bill to make you more efficient and to improve it for the consumers?

I want to congratulate New York. I do not congratulate New York every day, you know.

[Laughter.]

Senator BURNS. This is a high point of my career, and I will probably lose my image here. But I want to congratulate New York because I think they have got a handle on conservation and have taken the right steps and have reacted.

What can we change in that bill to make it better for consumers and still keep some profitability and energy production and make sure that investment happens and we continue to produce? Does anybody want to tackle that? Mr. Kuhn, do you want to start off?

Mr. KUHN. One of the most important things here for us in the future is the long-term outlook with respect to environmental issues, and that is why we feel so very strongly about the multi-missions legislation that would give us a certainty to plan for the 70 percent reductions in emissions that we plan to achieve over the next 15 years. Understand that we have already reduced emissions by 40 percent in this country while we have more than doubled the use of electricity. We plan on doing a lot more, but the multi-missions legislation would give us a great deal of certainty in the future and would be the best economic cost for the consumer and it would be a great assist to us in terms of utilizing the coal that you just mentioned.

Senator BURNS. Mr. Downes.

Mr. DOWNES. Senator, I think the point that I was trying to make earlier is that I would love to be here today to tell you we just have to do these one or two things and that will take care of everything. Unfortunately, that is not the reality.

Senator BURNS. We could at least tinker a little.

Mr. DOWNES. We have made great progress on conservation. I would say to you that is something that we should do whether prices are high or low because it is good for efficiency, it is good for the economy, and it is good for the environment. But the reality is we have got to make progress on production and supply. Those are tough issues and we all realize that, but we have got to make progress on that if we are really going to tackle this in the long term. But having said that, that has got to be part of an overall strategy that looks at not only increasing the supply side, but also focuses on increasing the efficient use of natural gas.

Senator BURNS. Mr. Smith.

Mr. SMITH. Mr. Burns, first of all, thank you very much. I will be sure that Governor Pataki understands and receives your congratulations on the work that we are doing in New York.

I think from our perspective, from the State's perspective, there is an opportunity here, and I think the opportunity is we have authorized in the energy bill a lot of programs that will make a lot of sense to consumers. I think there is an opportunity to put appropriations behind those authorizations.

The first thing is in New York, what we are trying to do is we are spending $1 million right now in a public information campaign to educate consumers on what they can do this winter. They can take advantage of the programs that we offer through NYSERDA, through our public utility commission, to save energy because we think we have to arm consumers with information. That is the first thing, is making consumers aware.

The second thing the Federal Government can do is make the money available to the States. The States are the best place. They are on the front line of making sure that things happen because we deal with our industries. We deal with our schools. We deal with our hospitals. We deal with our consumers one to one, face to face to make sure that they make cost effective energy efficiency investments that pay back better than passbook savings, better than the stock market.

Senator BURNS. Well, when you start talking about money from the Federal Government and the States, the States have some responsibility also in this. Working together, maybe we can come up with an awareness program that would probably pay off.

Thank you, Mr. Chairman. I appreciate that.

The CHAIRMAN. Thank you for waiting and being so patient, Senator. I am sorry that it takes so long.

We are going to move now to Senator Dorgan. The same to you, Senator. Thanks for your patience.

Senator DORGAN. Mr. Chairman, thank you.

I am going to ask most of my questions of Mr. Caruso, but let me say that I think the witnesses have all provided some important and useful information today and I thank all of them for being here.

Mr. Caruso, the first 3 pages of your EIA talking points or, I guess, the publication really deal with hurricane Katrina. And I do not disagree at all that that caused some pretty substantial disruption. But the price of oil and the price of natural gas and the price of gasoline the day before Katrina hit or the month before Katrina hit all were at very substantial levels. Was that not the case?

Mr. CARUSO. That is correct. We had a very tight oil and natural gas market this summer.

Senator DORGAN. And tight market means what? It means that there is greater demand than there is supply, or does it mean higher price?

Mr. CARUSO. Yes. The crude oil spare capacity in the world was already down below 2 million barrels a day in August before Katrina hit.

Senator DORGAN. So the price of a barrel of oil was roughly in the mid-60's before Katrina hit.

Mr. CARUSO. That is correct.

Senator DORGAN. And mcf of natural gas was——

Mr. CARUSO. About $10.

Senator DORGAN. $9-$10 an mcf.

Mr. CARUSO. Yes, on the spot market.

Senator DORGAN. The price of a gallon of gasoline was?

Mr. CARUSO. $2.61.

Senator DORGAN. The reason I mention this, Mr. Chairman, is there is this notion somehow that Katrina has caused all this price issue. It has not. This price issue was occurring well before Katrina formed as a hurricane.

I want to ask a little about the subject that was explored by my colleague from Wyoming. You indicated that as we go into this winter, natural gas storage is about average, not below average, about average. Is that correct?

Mr. CARUSO. That is correct.

Senator DORGAN. If natural gas storage is at about average levels and in the EIA submission for this month, you say that demand for natural gas is expected to fall by 1.2 percent, I do not understand the construct of how a market system works in which you have average storage and projected less demand in the year and therefore record prices. Can you describe how that works?

Mr. CARUSO. Sure. I think one of the reasons storage is average or close to average is that the local distribution companies and other gas companies have been buying gas over the summer in order to get to this point and they are willing to pay a price premium to ensure that their customers have enough gas. So that has been part of this upward pressure on price in order to get the storage to where we are.

The other part is that during the summer we had a warmer than normal July and August putting increasing demand for air conditioning and electric power, and the peak units which supply that incremental demand, as was shown in the chart by the committee, has been these gas peaking units. But they are putting pressure on gas demand in the summertime.

Senator DORGAN. But are you not projecting a 1.2 percent decrease in natural gas use this year in America?

Mr. CARUSO. That is correct. And what has happened since the summer are two things. One, the price elasticity of demand for gas is low, but it is not zero, and particularly industrial consumers of natural gas have reduced their utilization of natural gas. And second, the infrastructure that was devastated by both Katrina and Rita have had a direct impact both in the refineries which utilize natural gas in some instances, in petrochemical plants. All, of

course, are now demanding less. So there is going to be a direct impact on demand and there is going to be a price impact and there will be an income effect as well.

Senator DORGAN. Mr. Caruso, the last time you appeared before our committee, we had a chance to talk a little about free markets. I made the point that the market for, particularly, oil—let me talk about oil just for a moment—is made by having, first and foremost, the OPEC country oil ministers sitting around a table somewhere in a room that we are probably unaware of making decisions about production, supply, and price. And second, the major integrated oil companies are much bigger as a result of block buster mergers in recent years, having greater muscle in the marketplace. And third, by a futures market that has now become much more than a market that provides simply for liquidity, but in fact has become a speculative bazaar. In the framework of these three events, we still talk about the free market. In fact, in my judgment, there is not much of a free market here. But that deals with a whole range of issues, oil, gas prices, natural gas prices.

You talk about on average the average homeowner in this country will see a cost increase of about $350 to heat their home this winter. Of course, you probably would expect me to say that we do not live on average in this country. We live, for example, in Minot, North Dakota, or perhaps Alaska. We have different climates, different amounts of consumption of home heating fuel and natural gas to heat our homes. What do you expect will happen in the Northern Great Plains? You say $350 on average. What should we expect in the Northern Great Plains with respect to price increases for natural gas inasmuch as a substantial portion of our people heat their homes with natural gas?

Mr. CARUSO. We do have a regional breakdown of our model, but it is not on a State-by-State basis but it is a regional basis. For your region, we are expecting a larger increase, as you might imagine, because of the increased number of heating degree days in that climate, plus the price increase I have already mentioned. So we are looking at, for that region, about a 61 percent increase over last year's heating bill. In some instances, it would substantially exceed that $350 national average that you have mentioned. So you are absolutely correct. It varies considerably by region, by the type of home you live in, the square footage, as well as your insulation and other technical factors.

Senator DORGAN. Well, we are pretty well insulated in the Northern Great Plains. We are not insulated against 61 percent price increases or 61 percent cost increases, I should say.

Let me just finally say I think all of you have talked about the dislocations this is going to cause. This is not going to go away. The reason I mentioned the Katrina references on the first three pages, I think, yes, there is a set of issues here that deal with Katrina and ought to make us aware of our responsibilities to deal with the next emergency of that type or, rather, disaster of that type. But I think energy pricing is now changing and may be changing in a permanent way, in a way that in my judgment is going to enrich some and impoverish others in this country. I think we, as a matter of public policy, have to take a good, hard look at what all this means.

I mentioned at the other hearing where you appeared—just to give you an idea of where we are headed here. You say we use 84 million barrels a year, generally on the planet here. We use a quarter of that in this country. China, 1.4 billion people roughly, has 20 million cars on the road. They expect in the next 15 years to increase that by 100 million automobiles. Plug that new demand against 84 million barrels and the expected increase and where the increase in production might come from, and then ask yourself what the price of a barrel of oil will be in the future, and who is going to benefit, whose treasuries will be full, even as people are pained when they go to the gas pumps or when they try to buy natural gas to heat their homes. I think there are some real serious problems here, very serious problems. We are just beginning to scratch the surface. I think it begs for action by the Congress. I will talk more about the specifics later.

Let me again thank all of you for being here and presenting testimony today.

Mr. Chairman, thank you.

The CHAIRMAN. Thank you, Senator.

Senator Allen.

Senator ALLEN. Thank you, Mr. Chairman, for once again holding a very important hearing which is so vital for jobs in this country, competitiveness, as well as our national security.

I do want to associate myself with the comments of Senator Dorgan. This Katrina and Rita disaster has caused a spike, but these were conditions precedent before Katrina hit. There are many things that we need to do, and I think these hearings you have held, Mr. Chairman, are helping us coalesce behind ideas that can work short-term as well as long-term. I think action does need to be taken. The passage of the energy bill I think was finally, after many years of delays and obstruction and so forth, very positive.

Senator Burns and I have a measure. It has to do with gasoline. I know we are focused on natural gas here and electricity. But there are 100 different fuel blends. We ought to harmonize them. It will help with our limited refinery capacity, just as you saw a big increase in the number of permittings of natural gas, electricity generation, you have seen virtually no new refineries in this country. And so if you harmonize them to a few blends, it will help refinery capacity, reduce costs, and it will help in the pipelines.

We also need to be looking at new technologies, conservation ideas, biofuels. What Senator Dorgan was talking about with India and China, no question. It even makes economic sense, great economic sense, for these biofuels for the future, as well as coal for different types of fuels.

Efficiencies and conservation, absolutely essential. Good incentives.

One thing I want to add to the mix is telecommuting. With the broad band and the Internet, there is no reason why people have to all the time—and there is about 60 percent of the jobs in this country that are conducive to telecommuting, which reduces the number of gallons being purchased, reduces air pollution, and also gives people a better quality of life. That is an efficiency that I am going to be proposing there as well.

The CHAIRMAN. What is that, Senator?

Senator ALLEN. Well, it would be a tax credit for telecommuting, say, $500 or some amount, because they are going to have to set up that office with the computers and supplies. If they do that, whoever pays for it, whether it is the individual or the employer——

The CHAIRMAN. Instead of commuting, they telecommute.

Senator ALLEN. Telecommute, and they have to do it at least 1 day a week. Really just reducing the congestion by a few percentage points every day is good for air quality. It also reduces congestion, and it has been something that has been proven out. You see it on Fridays around here. There is less congestion on Friday because there are fewer people here. Telecommuting can have that impact just, say, in the D.C. area every day while also saving fuel.

Now, we did not get into electricity other than how much is used for electricity. Natural gas production needs to be increased. We need electricity, though, as a national policy incented toward clean coal, since we are the Saudi Arabia of the world in coal, and advanced nuclear rather than using natural gas for baseload. I can understand why it is done for peak power. 23 percent was apparently the evidence here of natural gas for electricity. What percentage is used for baseload electricity? Do any of you all have an answer to that?

Mr. KUHN. Well, that is a hard number to clarify, Senator, and we can get you the exact number. But most of the power plants that have been built over the last decade that you saw in that chart were fairly large combined cycle plants that, in many case, do serve the baseload.

Senator ALLEN. All right. Here is what people have to do. People are sitting here building a new house. What should I use for heat or for a heat pump? I would generally say use electricity these days rather than natural gas. However, if you look at this—and this is in Mr. Caruso's outstanding testimony and evidence—you break the country down by regions, and the South Atlantic which is where Virginia is, the Mason Dixon Line south to Florida, we use for our electricity 25 percent nuclear, 52 percent coal, 13 percent gas. Then you take New England, though, it is 47 percent gas, 14 percent coal, which is low, 27 percent nuclear, and then another 9 percent oil. So you have 47 percent of the electricity generated in New England is from oil and natural gas. In certain regions of the country, by their decisions, however they were made, to generate electricity by oil or natural gas, as opposed to coal and nuclear, their electricity costs are undoubtedly going to have to go up this winter, even if they were relying on electricity as opposed to natural gas for heating their homes.

So my concern is, as a country, while we are concerned about individuals—we heard from Mr. Liveris with Dow Chemical—and this has to do with jobs, manufacturing jobs in everything from plastics to masonry products to chemicals to fertilizers to tires. So many of these jobs are going overseas. It looks very dismal for those jobs to stay here where they can get more affordable and more reliable natural gas.

Mr. Downes, what will you all be able to do? I know your No. 1 concern is consumers in their homes, but these jobs matter a lot to this country. What can you do, as best you can, to answer these

concerns in manufacturing jobs because ultimately people who have homes do need jobs as well?

Mr. DOWNES. No question. I think, Senator, that goes back to the point that I made earlier, that there is no single answer here because the reality is that energy demand is going to continue to grow and we are going to need as much new sources of supply and energy strategies to deal with that.

As I said, I would love to be able to say to the panel here today just do this one thing and it will be taken care of, but when we are talking about manufacturing and the impact that it has had—certainly Dow Chemical can give us all the statistics in the world, which we have all heard, and the devastating impact and the hundreds of thousands of jobs that have been lost already—we have to address the supply and production issue. There is just no way around that.

Again, as I said earlier, I will be the first one to tell you that even though I am not in the production business, I recognize that those issues are challenging and that there are many different stakeholders in the process. But until we take that issue on to increase supply and combine that with the other steps that we are taking in terms of conservation, efficiency, what you are talking about in terms of investment in technology, we are going to have a problem.

What I would suggest to you is as we look longer term and we look at, hopefully, our energy mix changing and look at things like biofuels and renewables, that we could view natural gas as a bridge to get us there. But we cannot do that with prices where they are right now, and the way that we have to address that is through this combination of initiatives in the short term, whether they be supply, production-based, efficiency, and conservation.

Senator ALLEN. Thank you.

Mr. Kuhn, you mentioned how many power plants were coal. Do you see any new nuclear power plants on the horizon? I have talked to some companies. Do you have an aggregate number since we passed this measure for advanced nuclear plants?

Mr. KUHN. Senator, I believe that there are some very, very serious consortia right now considering building new nuclear power plants. This is one area where I disagree with the projection that Mr. Caruso has and the Energy Information Administration data that talks about that no new additional nuclear plants would be there before 2025. We do believe that because of the legislation you passed and because of the increase in interest and necessity for nuclear power plants in the future, that there will be several new nuclear power plants ordered in the next several years.

Senator ALLEN. Thank you. Thank you, Mr. Chairman.

The CHAIRMAN. Now, Senator Murkowski, first I want to say I commend you for all the work you do on this committee, and I know tomorrow might be your exciting day with ANWR.

Senator MURKOWSKI. Hopefully it will be a good and positive day, Mr. Chairman.

The CHAIRMAN. That is what I say. I will be here and smiling, if I can, if I have got the numbers right.

But I think we should set the record here. Now, there is going to be a vote called at 10 after, but that gives us 15 minutes. You

proceed. I will ask some questions and if you want a second round, we will come to you.

Senator Allen, you are finished for the day?

Senator ALLEN. Yes, I am.

The CHAIRMAN. I want to thank you also. To stay around, Senators, means that we are getting something done. Most of the time Senators do not wait on these hearings, but these are important and I very much appreciate your genuine interest.

Senator Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman, and I too want to thank you for continuing to highlight this issue. We are not just having one quick hearing and saying we are done with the discussion. I think the American public deserves more and I appreciate the time from the very distinguished panel here this afternoon.

I also want to comment on Senator Dorgan's comments and those made by Senator Allen. I am so concerned, I am so troubled with the direction that this country is taking when it comes to natural gas. We know what the picture is in this country with our reliance on foreign sources of oil. We talk about the numbers and we argue whether it is 57 percent or 58 percent or close to 60 percent, but the fact of the matter is this puts this Nation in a very vulnerable spot. And we are going in that direction with our natural gas as well.

I am looking through the analysis here, the Short-Term Energy Outlook, and discussing the U.S. natural gas markets where the impact that the domestic supply here has without much real discussion about China, about India, about the development in terms of these countries as a consuming nation where we just simply have not had them factored into the energy equation in the past and how that is going to affect us. And can we accurately predict the pressures that we are going to see from these developing countries out there? It troubles me a great deal as we compete.

We are trying to do our part up north. I appreciate the chairman mentioning ANWR. As you know, we are still trying to get a natural gas pipeline authorized and move forward, but there is a lot of uncertainty. There are a lot of unknowns out here.

Mr. Caruso, just a very quick parochial question to you. I was just up in the State this past week, and the No. 1 question and concern in every community I went to was, what is the price of home heating fuel going to be? Some of our villages are paying about $6 a gallon right now. It is tough, and they are panicking in anticipation of what they are going to be paying. Villages are already saying we are going to have to shut down the doors. We are not going to be able to operate. And when it is as cold up there as it is, we do not know what to do.

I know that when you do your analysis, it is basically the Western market. Do you isolate out the Alaskan market at all? Is there anything that I can tell my Alaskan constituency?

Mr. CARUSO. You are correct. We do it on a regional basis. So Alaska is included in the Western region, so it is not isolated. But we do collect data on the prices of fuels on a monthly basis, but we do not project by State.

Senator MURKOWSKI. I think our numbers would just throw your averages out anyway.

Mr. CARUSO. It sounds like it. Our average heating oil forecast price for the winter is $2.54, so it is much lower than you are mentioning.

Senator MURKOWSKI. Yes. The figure that I have given you is, again, for very remote villages, very small villages, but it is the reality that they are operating in.

Mr. CARUSO. And we do rate them by population, so that also has an impact.

Senator MURKOWSKI. Let me ask you one more question. In your testimony and your comments today, I think we are all expecting that most of the shut-in oil and gas production down in the gulf is going to be back in the very short term here. If we do not get most of that back, for one reason or another—say it is Wilma. Who knows what can happen down there? But if we do not get most of that production back by January, what does that do to your price forecasts?

Mr. CARUSO. Our assumption is that the full recovery will not occur until the end of the first quarter of 2006. So we do have built in a relatively modest recovery. We do continue to expect shut-in capacity through the end of this year and into next year. So it would not change the projections that much, but if you had a further disruption, because the world is operating so close to full capacity, clearly we would have another price increase.

Senator MURKOWSKI. And let me ask for your comments on China, on India, as major consumers in the natural gas market worldwide. I guess I am asking you to stand behind your numbers, but do you feel that the numbers we are using can accurately predict or predict with a level of accuracy what we can anticipate on the world market out there?

Mr. CARUSO. Well, I think there is a particularly wide range of uncertainty when it comes to demand in countries like China and India, mainly because it can be influenced so much by the actual pace of economic growth.

The reason China has had such a strong impact on oil markets in the last 2 years is they have been experiencing double-digit GDP expansion. Any country that large, as mentioned, over a billion people, growing that fast just outstrips most models' capabilities of accurately predicting. And so I would say those are probably the most uncertain components of the longer-term outlook for oil and, to a lesser extent, natural gas because China is only a very small consumer of natural gas, although it will grow, as you point out, particularly from LNG and will be competing for that LNG, if our outlook is close to being accurate. So I would agree with your supposition that the growth in developing countries, particularly those in Asia, can make a huge difference in the outlook for both oil and natural gas in the longer term.

Senator MURKOWSKI. Mr. Smith, I have got just one quick question for you. I appreciated your kind of laundry list in your testimony as to the various conservation items, I guess, that we can do. Recognizing that we have got some very legitimate funding and fiscal constraints that we are faced with, is this list prioritized in any way? Where would you start? What would your top, say, three to five be out of your dozen?

Mr. SMITH. My top three, Senator, would be, first of all, LIHEAP. We have to address the low-income consumers right off, those least able to afford the coming heating season.

The second I will address is weatherization assistance. We have to make some long-term savings to consumers.

And most importantly, a sustained energy program whereby the States are on the front line, and if we can make funding available to State energy offices that deal directly with customers, can provide them with technical assistance, can provide them with the opportunities to understand how they use energy and the opportunities that they have to undertake measures to improve the way they use energy.

So I think my top three would be LIHEAP, weatherization assistance, and State energy program. If I had a fourth, it would be putting money into public awareness and public campaigns so that consumers understand that they have options. I think the best thing we have to do is to educate consumers that there are things they do. There are low-cost/no-cost things they can do, caulking, weather stripping, having your furnace or boiler tuned up by a professional, changing your filters, having a programmable thermostat. There are things consumers can do today to help them address their concerns for this coming winter season. And I think it is a partnership with the States, a partnership with the Federal Government, and I think, working together, we can make a difference and we can help people perhaps not alleviate that price increase, but help them perhaps address that price increase.

Senator MURKOWSKI. It is not only a partnership there, but I know that the gas utilities in my State put a little stuffer in your monthly utility statement saying this is how you can save energy. If everybody is doing that—and maybe we as consumers should be reading it, but I think that there is an effort from Federal, State, and local, as well as the private in education.

Mr. SMITH. I did not mean to leave my colleagues out. We work very closely with the natural gas utilities, electric utilities across the Nation. They are great colleagues, as well as our oil dealers and distributors. We work very closely with all of those.

Senator MURKOWSKI [presiding]. Thank you.

Senator Salazar.

Senator SALAZAR. Thank you, Senator Murkowski.

Let me ask a question for Mr. Downes. One of the things that I think most of us on this committee who serve in the Senate hear a lot as we travel around our home States and meet with our constituents is there is price gouging that has been going on at incredible levels. The facts are that we have oil and gas companies that are making record profits. The concern is, why are you not doing something about it? Why are you not calling the oil and gas companies into the White House, Mr. President, and telling those oil and gas companies to stop price gouging?

I know that the utilities that you represent essentially are regulated, so you essentially just pass on the costs from the producer.

What is your sense of whether or not there is price gouging that has occurred in the context of the prelude to Katrina and Rita and then also in the aftermath?

Mr. DOWNES. Well, remember—and let us go back into, say, the late spring when natural gas was in the $6 to $6.50 range. I think we were all familiar with the reasons as to how we got to that level. We came to the summer and we saw weather that was 16 percent warmer than normal, which led to a 25 percent increase in natural gas demand. That is the leg that took us from $6.50 up to the roughly $9-$10 range that Mr. Caruso mentioned.

Then along comes Katrina. 9 bcf, 15 percent of our total daily supply is taken out. That recovers to about 3 bcf and now I think is in the 6 to 7 bcf range.

I think the point that has been made here today by a number of the Senators is what we have is a situation where we cannot lose focus, that there are issues here to begin with.

Quite frankly, Senator, it is impossible for me to speculate on whether there has been price gouging or not in that short period of time. What I do know, though, is that going into this situation, what we did have was a very, very tight balance between the productive capacity for natural gas and the actual demand. What that means——

Senator SALAZAR. Mr. Downes, excuse me. Let me just say, in the interest of time—I know we have a vote—I just want to again commend the chairman for holding this hearing on fuel prices, and I hope that in the days ahead we might look at passing an emergency fuel conservation act of 2005 because I think this is the only way in which we are going to deal with the short-term issue. But thank you for holding the hearing.

The CHAIRMAN [presiding]. Thank you very much.

I understand Senator Murkowski is finished, and we have a vote. And I have some New Mexico customers over here. They do not charge, so they are really free.

But I want to say, Mr. Sullivan, I have a concern. You have an established policy in your home heating oil reserve where there is a triggering mechanism, but your reserve only has 10 days of supply. The trigger would probably go in currently. I really think you ought to look at it. I am not your policymaker, but boy, we should not eat all that up in times like this. This is not really the kind of thing that I would have thought would be a crisis, but you defined it with numbers, as I understand it.

Mr. SULLIVAN. I do not disagree with you, Senator.

The CHAIRMAN. Okay, fine.

Now, let me just do one other thing that is very, very worrisome to me. Mr. Caruso, we have been working on the premise that we are going to absolutely need LNG in the next 25 years, if you look at the makeup of what we are going to need, and yet, from what I understand, there is not an increase in the importing of LNG. It has actually stalled out and going down in the United States. Is that correct?

Mr. CARUSO. I think the first 6 months' data is pretty flat for year-on-year change. That is correct.

The CHAIRMAN. So it is below our capacity level.

Mr. CARUSO. Yes. It is about one-half of capacity right now.

The CHAIRMAN. So we are out saying we need more, but the truth of the matter is, we have not used what we have got. I am not saying we do not need more. We absolutely do.

But I am wondering now, are we not getting in the same position that those who are eating up our crude oil supply like China are out there buying up LNG because it is much more economic to them than fuel oil. What do you see as to that? Is there going to be enough LNG? Are we going to get some of it, or are we whistling Dixie?

Mr. CARUSO. One of the problems right now is the supply is not available. There is no world market for LNG. You cannot go out and buy a spot cargo except under exceptional circumstances because Asia, Europe, and others are basically demanding it all. So it is going to take time, and those producers are bringing on stream new capacity, but that is going to take at least 2 to 3 years before we see it.

The CHAIRMAN. It seems to me—and I am not in this field, and I know every time we have something that is simple, there is another thing. But it seems to me that the United States, whatever that means, business-wise, country-wise, ought to be getting into that market and making some commitments to buy it so that they will expedite their production at their liquefication facilities.

Are there enough liquefication facilities to meet demand?

Mr. CARUSO. There are enough new gasification facilities—capacity in this country right now. But, indeed, we will need, on a global basis, significant expansion of capacity, and that is happening in places like Qatar.

The CHAIRMAN. Qatar came in before we passed our bill, and of course, they are talking about a gigantic investment. They have a huge supply. But they are getting a lot of pressure to sell elsewhere. Europe is starting to use LNG. Spain is a great demand, right, from what we know now?

Mr. CARUSO. Yes, Spain and other European consumers are using significant amounts.

The CHAIRMAN. I wish I had enough time, but I do not. You know, the American people and certainly constituents in my State meet me and their principal question and how they greet me is they grab my hand and say, Senator, why do you not reduce the price of crude oil? Or Senator, why do you not reduce the price of natural gas? Of course, we have to go through a long scenario. So I do not wait for the question anymore. I have a speech that I start off with the question and try to answer it.

Mr. Caruso, I would like you in writing—you are answering that question instead of me. Why can we not just go out and stop the price increase of crude oil, but conversely, why does it go up? And the same with natural gas. Could you do that?

Mr. CARUSO. I would be happy to do that, Senator.

[The following information was received from Mr. Caruso:]

Natural gas prices change as a result of the market forces of supply and demand—an increase or decrease in either may cause prices to increase or to decrease. Both consumers and producers face significant constraints in changing the amount of gas consumed or produced in the short run when markets are tight. This leads to disproportionately large price swings in response to changing market conditions.

There are a number of factors that recently have contributed to high natural gas prices. Supply disruptions owing to the recent hurricane activity in the Gulf of Mexico contributed to an already tight market resulting from factors such as stagnant production and high demand. Despite a 16 percent increase in natural gas well completions, natural gas production in 2005 is forecast in the November *EIA Short Term Energy Outlook* to be about 3 percent lower than the 2004 production level.

While primarily due to the impact of the recent hurricanes, the limited response in natural gas production to recent increases in drilling activity suggests the limited availability of high-yield conventional sources of natural gas. In an unregulated environment, producers invest in exploration to identify reserves that are economically producible. When the price is higher, this means relatively greater investment for exploration and production is warranted. Producers are increasingly exploring and producing from lower-yield non-conventional sources such as coal-bed methane and shale.

At the same time, the demand for natural gas this year has remained strong owing to the continued strong performance of the economy and warmer-than-normal summer temperatures across the country during the summer of 2005. Higher temperatures increased air conditioning demand, adding to the natural gas used by electric power generators. High oil prices are another factor contributing to the high natural gas prices, as some large-volume customers can switch between fuels depending on their prices, putting an upward pressure on natural gas prices when the petroleum and petroleum products prices are at high levels.

Higher natural gas prices allow the market to clear, balancing the quantity of natural gas demanded by consumers with that supplied by producers. Historically, efforts to control natural gas prices have had unintended adverse consequences, because a binding constraint on prices prevents the natural gas market from clearing.

One illustration of the impact of price controls in the natural gas market can be seen in the aftermath of the United States Supreme Court decision in *Phillips Petroleum Co.* v. *Wisconsin*, 347 US. 672. With this decision, the Federal Power Commission (FPC), the predecessor to the Federal Energy Regulatory Commission (FERC), was given authority to regulate prices at which producers sold natural gas to interstate gas pipeline companies for resale. Previously, the FPC regulated the prices at which interstate pipeline companies sold gas but not the wellhead price at which they purchased it from producers. The impact of the regulation of wellhead prices for gas sold in interstate commerce following the Supreme Court's decision in *Phillips Petroleum Co.* v. *Wisconsin*, 347 U.S. 672, which did not provide sufficient incentives to explore or develop new fields, was pervasive and far-reaching, ultimately culminating in the natural gas shortages of the 1970's.

To relieve gas shortages, Congress enacted the Natural Gas Policy Act of 1978 (NGPA), which granted FERC authority over intrastate as well as interstate natural gas production. The NGPA established price ceilings for wellhead first sales of gas that varied with the applicable gas category and gradually increased over time. The increased wellhead prices encouraged producers to seek and develop new sources of natural gas supply. However, the price controls under the NGPA themselves led to market imbalances that became problematic by the late 1980's. With complete decontrol of wellhead prices in 1993, as required by the Natural Gas Wellhead Decontrol Act of 1989, the natural gas spot market and transportation markets steadily expanded.

The CHAIRMAN. It is much like you have an audience, instead of me, and you are telling them that. Would you do that for the record?

Mr. CARUSO. I will, Senator.

The CHAIRMAN. It can be long. If it is long, summarize it. It would be better if you would not have it so long.

Any other questions that Senators have, they have 10 days to ask them.

I appreciate your coming. Be safe. We will see you soon.

[Whereupon, at 12:20 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

EDISON ELECTRIC INSTITUTE,
Washington, DC, November 2, 2005.

Hon. PETE V. DOMENICI,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: Thank you again for the opportunity to testify before the Energy and Natural Resources Committee on the winter fuel outlook. Enclosed are responses to the questions that the Committee submitted to me.

EEI's member companies share your concerns about high energy prices, particularly for natural gas this winter. Our member companies are committed to doing everything they can to use the diverse range of fuel sources available to produce electricity as cost-effectively as possible and to help our consumers manage their energy use wisely.

I want to reiterate our strong opposition, though, to any congressional effort to dictate fuel choices and energy purchases to electric utilities, such as federally mandating "efficient dispatch." Even if EIA's assumption that efficient dispatch could save 20 to 30 billion cubic feet (bcf) of natural gas is accurate, those possible savings amount to less than one-half of a day's worth of natural gas consumption in the U.S. during the heating months. However, we are deeply concerned that a federal "efficient dispatch" mandate would actually *increase* the electric industry's use of natural gas and have the perverse effect of encouraging the construction of even more gas-fired generating facilities for baseload demand, at the expense of coal-based, nuclear and hydroelectric generating facilities.

Proponents of "efficient dispatch" advocate replacing utilities' use of single-cycle, gas-fired generating facilities with combined-cycle gas-fired power plants. However, these facilities have very different operating characteristics, so that combined-cycle plants are not necessarily viable substitutes for single-cycle plants. For example, these single-cycle plants have the ability to go to full power production in about 30 minutes and are operationally very flexible so they can run for only a few hours if needed. By contrast, combined-cycle plants are designed to cover the baseload or intermediate needs of the electric load curve. And, it can take as long as a day to bring combined-cycle plants to full power. Because of these characteristics, a utility that needed power for only a few hours may be forced to back off other types of generation in order to accommodate the requirements of a longer-running combined-cycle power plant, thereby utilizing gas-fired generation for a longer period of time than necessary.

Perhaps more importantly, a federally mandated dispatch preference for more efficient gas-fired power plants could perversely distort generation markets, making it more attractive to developers to build more gas-fired power plants as baseload and intermediate facilities. Developers would have an incentive to build new gas-fired power plants, even near ones that are only a few years old, if the new plant would be even slightly more efficient. A dispatch preference for more gas-fired power plants to serve as baseload and intermediate facilities will discourage investment in a more diverse generation portfolio, including future coal-based, nuclear and hydroelectric generating facilities.

Finally, as we noted in our testimony, the most efficient gas-fired generating facilities do not necessarily provide the lowest cost power to consumers. In fact, efficient dispatch can often result in uneconomic dispatch that leads to higher elec-

tricity prices for consumers. We do not believe that higher electricity prices are the answer to the natural gas situation.

Thank you again for the opportunity to testify before the Committee. We look forward to continuing to work with you on our nation's energy policy.

Sincerely,

THOMAS R. KUHN,
President.

[Enclosure.]

RESPONSE OF EEI TO QUESTION FROM SENATOR TALENT

Question 1. Mr. Kuhn, you note that 90% of the new power plants built in the last decade were natural gas-fired units. Had there been greater regulatory certainty with respect to emissions of pollutants over that period, what percentage of the new power plants would have been fueled by coal instead of natural gas? Shouldn't we be using this coal gasification technology to make use of this existing investment? What is preventing that from happening?

Answer. While it is not possible to estimate what percentage of new power plants over the past decade would have been built to use coal instead of natural gas, we believe more coal-based generation would have been built if there had been greater regulatory certainty regarding emissions of sulfur dioxide (SO_2), nitrogen oxides (NO_X) and mercury. It is clear that the multiple challenges for new coal plants were evident from the mid-1990s.

For example, there is a long history of overlapping regulations and regulatory uncertainty for coal plants. EPA initiated its Clean Air Power Initiative discussion in 1996, even though Phase 1 of the acid rain program had only started for SO_2 in 1995 and was only starting for NO_X in 1996. EPA finalized its decisions to update its ozone and particulate matter National Ambient Air Quality Standards in 1997 and the NO_X SIP Call in 1998, both of which were litigated. In 1997 EPA kicked off its coal-based plant enforcement initiative, which led to numerous notices of violation and eventually lawsuits, some of which are still playing out. In 2000, EPA concluded that mercury regulation was warranted.

EPA's recent Clean Air Interstate Rule (CAIR), Clean Air Mercury Rule (CAMR), and Clean Air Visibility Rule—plus two rulemakings on new source review (NSR)—have provided a limited measure of regulatory certainty. However, even that certainty is eroded because all these rules are being litigated. The only way to end this cycle of uncertainty is for Congress to pass properly crafted "multi-emission" legislation, along the lines of the Clear Skies bill. The regulatory certainty provided by sensible multi-emission legislation would promote continued use of the nation's abundant and low-cost coal resources, require continuing environmental progress, and alleviate pressure on the natural gas supply.

The U.S. electric power sector has reduced air emissions substantially under existing programs. Since 1980, the industry has cut sulfur dioxide (SO_2) and nitrogen oxide (NO_X) emissions by over 40 percent, while increasing net generation from coal by nearly 70 percent. Multi-emissions legislation would require SO_2 and NO_X and mercury emissions to be reduced by an additional 70 percent.

In addition, coal-based power plants could take new steps to increase their efficiency if EPA's 2003 NSR rule were codified. Increased efficiency at existing plants leads to lower fuel consumption, greater fuel availability to the market, and lower average fuel prices due to lower overall demand. Because the electric power industry's emissions of SO_2 and NO_X are capped, and the regulations require state-of-the-art emission controls for all new plants, such improved NSR policy would not increase emissions.

It also is important to exercise caution to assure that proposals for addressing climate change and greenhouse gas emissions do not increase the pressure to shift from coal to natural gas. Rather, we need to emphasize the development and deployment of technologies that will reduce or avoid greenhouse gas emissions while still maintaining plant efficiency. Again, we commend the Committee for its attention to technology advancement in EPAct 2005 and encourage continuing emphasis in this area.

Regarding future new coal technologies, EEI member companies are already planning for substantial investment in new, baseload coal (and nuclear) generating plants to respond efficiently to increasing electricity demand, environmental requirements, and the relatively high cost of natural gas. Among the technological improvements that are most important to pursue are: 1) super-critical pulverized coal and 2) integrated gasification combined cycle (IGCC). Furthermore, work is underway, in programs such as FutureGen, to develop and commercialize technologies

that are expected to achieve ultralow/net-zero emissions from new coal-based generating plants.

These new plants promise to be much cleaner than the ones in today's coal-based fleet. The environmental advantages of advanced clean coal technologies, such as super-critical pulverized coal, integrated gasification combined cycle and FutureGen, are clear, and costs will come down and financial risks will diminish as new plants are built and improved designs become standardized. Achieving continual improvement in the environmental performance of our coal-based generating fleet will require that the nation pursue an aggressive and sustained technology development program. This will require billions of dollars in new investments shared by the public and private sector.

With regard to financial and tax mechanisms necessary to bring technological improvements such as combustion-based advanced pulverized coal and gasification to market, EEI supports tax credits, enhanced accelerated depreciation and loan guarantees. These incentives would encourage deployment of IGCC technology and other advanced coal-based generation technology by addressing cost and other issues that have inhibited deployment of these technologies. EPAct 2005 provides some of those incentives, but they must be fully funded in order to accomplish our energy and environmental objectives.

RESPONSE OF EEI TO QUESTION FROM SENATOR BINGAMAN

Question 1. Emergency planning/Natural gas generation—Last week, the New England-ISO reported that the loss of Gulf of Mexico natural gas production will likely lead to the chronic shortages this winter in New England and would disproportionately affect electricity generators in the region (Platts-Hurricane Fact Sheet, 10/13/05) At a meeting on natural gas infrastructure issues, FERC staff warned that the Northeast gas markets are at a greater risk for supply disruptions and high prices because the area is served by fewer pipelines and uses natural gas for both heating and electricity. At that meeting a gas utility executive said he was surprised that many large generators had not taken firm transportation of a transmission pipeline. (Energy Daily 10/13/05) What are electric generators, natural gas utilities and regulators in New England doing to guarantee reliable electricity and natural gas supply this winter? Are other regions in the country at risk for supply disruptions?

Answer. Electric generators and the New England Independent System Operator (NEISO) are engaged in ongoing discussions about the winter heating season and how to meet customer needs as economically and efficiently as possible, both through regional generation as well as imports from neighboring regions. Some, though not all, natural gas power generators in New England have transportation contracts for firm service. The region is also examining the availability and potential of burning both Fuel Oil Number 2 and Fuel Oil Number 6 in other natural gas-fired units. Those options may be limited because of the higher emissions generated by the combustion of oil and the need for different permits under the Clean Air Act. In addition, the necessary tanks in which to store oil are not available to every gas-fired generator.

New England faces potential energy difficulties this winter because both the natural gas distribution system and the electric systems peak simultaneously, which happens in only two other regions of the country: Florida and the Pacific Northwest. In neither of these regions does natural gas play as important a role as it does in New England, because those two regions have greater diversity in their generation of electricity. In most other parts of the country, the role of natural gas is more limited as a peaking resource.

NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS,
Alexandria, VA, November 4, 2005.

Hon. JEFF BINGAMAN,
Ranking Member, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR SENATOR BINGAMAN: With respect to your question regarding emergency planning and natural gas generation, the state energy directors remain very concerned about supply issues in the northeast as well as potential supply and price issues throughout the country.

In my own State of New York, the Department of Public Service staff has met with the local distribution companies and generators, as well as the State Department of Environmental Conservation (DEC) to assess the gas supply situation in New York City. Generators indicated that they expect to have an adequate gas sup-

ply, however, natural gas prices will remain high. The New York State Energy Research and Development Authority (NYSERDA), the Department of Public Service and the DEC will continue to monitor the situation.

Again, in New York, we have substantial generation resources from coal, nuclear and hydroelectric power. The New York Independent System Operator (NYISO) implements reliability-based demand response programs which can help alleviate shortages of electric supplies. This has certainly been more common in the summer months, but programs are in place for the winter. In addition, the NYISO is working closely with the New England Independent System Operator (NEISO) and PJM to better coordinate natural gas and electric issues through the Northeast ISO/RTO Natural Gas and Electricity Interdependency Coordination Committee. The Committee has contracted with Levitan Associates to perform an extensive analysis of fuel supply risks and expects the results to be available in the near future.

In New York City most generating units can bum either natural gas or residual oil. NYSERDA is tracking the availability of residual oil on a daily basis. In Massachusetts officials are considering permitting generators to bum up to 50% more oil in order to avoid problems with natural gas supply. NYSERDA also participates in a program with over twenty states and the Energy Information Administration (EIA), known as the State Heating Oil and Propane Program (SHOPP), which tracks price and availability of these commodities.

Throughout New York and New England, the state public utility commissions and state energy offices have worked with the utilities to encourage gas storage. Substantial amounts of winter natural gas needs are covered by storage. We encourage the Committee to work with the states in examining the advisability of expanded strategic storage opportunities for natural gas, as well as an expansion of the Northeast Heating Oil Reserve.

The New York Public Service Commission has had a program in place to require interruptible natural gas customers to have alternative supplies in storage or under contract. This program has been helpful in past winters though we do expect a strain this winter. We are carefully monitoring the situation.

In addition, the states have generally all implemented expanded outreach and education programs to encourage consumers to reduce consumption and take steps to weatherize their homes, as well as a variety of other measures. In New York we have established a statewide "Have and Energy Smart Winter" campaign. We are focusing on peak load reduction in the winter in the same way that our successful summer Energy Smart campaign has been a model.

As I discussed at the hearing on October 18th, the states have taken significant actions to reduce demand by promoting energy efficiency and increasing public education efforts. As evidenced by the public's response to new programs initiated by the California Energy Commission in the wake of the 2001 energy crisis, substantial reductions in usage can be achieved by a concerted effort to combine rebates and other incentives with public education. We have previously provided those studies to your staff.

As also noted in my testimony, funding and implementing a number of provisions in the Energy Policy Act of 2005 could help a great deal, both in the short-term and long-term. The September 15, 2005, letter sent by NASEO, as well as NARUC, NASCSP and NEADA, explains in great detail short-term actions that the federal government could take to help the situation. Both you and Chairman Domenici have communicated with the Administration in support of some of these initiatives, especially on the appropriations front. Secretary Bodman's announcement this week that the Administration's plan will be forthcoming in several weeks raises concerns in our mind in terms of timing.

Thank you for your question and your leadership. We hope we have been responsive. We stand ready to work with the Committee in addressing our serious energy problems.

Sincerely,

PETER R. SMITH,
Chairman.

RESPONSE OF ROB IDE, STATE ENERGY DIRECTOR, STATE OF VERMONT, TO QUESTION FROM SENATOR BINGAMAN

Question 1. Emergency planning/Natural gas generation—Last week, the New England-ISO reported that the loss of Gulf of Mexico natural gas production will likely lead to the chronic shortages this winter in New England and would disproportionately affect electricity generators in the region (Platts-Hurricane Fact Sheet, 10/13/05) At a meeting on natural gas infrastructure issues, FERC staff

warned that the Northeast gas markets are at a greater risk for supply disruptions and high prices because the area is served by fewer pipelines and uses natural gas for both heating and electricity. At that meeting a gas utility executive said he was surprised that many large generators had not taken firm transportation of a transmission pipeline. (Energy Daily 10/13/05) What are electric generators, natural gas utilities and regulators in New England doing to guarantee reliable electricity and natural gas supply this winter? Are other regions in the country at risk for supply disruptions?

Answer. Vermont's situation is unique to New England. We are susceptible to ISO New England electrical pricing on the margins.

Our flow of natural gas for heating, and industrial uses is through Vermont Gas System. The product is produced in Canada, delivered over the only distribution pipeline from Canada into the Northwest corner of our state. Because of our Canadian connection we are mostly separated from the effects of the storms in the Gulf Coast states.

DEPARTMENT OF ENERGY,
CONGRESSIONAL AND INTERGOVERNMENTAL AFFAIRS,
Washington, DC, December 12, 2005.

Hon. PETE V. DOMENICI,
Chairman, Committee on Energy and Natural Resources, U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: On October 18, 2005, Guy Caruso, Administrator, Energy Information Administration, testified regarding our national capacity for producing innovation in energy technologies and the importance of this innovation to our global economic competitiveness.

Enclosed are answers to six questions that were submitted by Senators Talent and Bingaman to complete the hearing record.

If we can be of further assistance, please have your staff contact our Congressional Hearing Coordinator, Lillian Owen, at (202) 586-2031.

Sincerely,

JILL L. SIGAL,
Assistant Secretary.

[Enclosures.]

QUESTION FROM SENATOR TALENT

Question 1. Mr. Caruso, I know that this hearing was primarily designed to look at supply and price issues for this coming winter. But, can you tell me how the natural gas supply and price forecast might change over the next 3 to 5, or even 10, years if we were to provide the coal industry with certainty regarding emissions, say along the lines of the Clear Skies proposal? Under this scenario, we'd be producing electricity through clean coal gasification technology as well as diesel and other transportation fuels using the most abundant energy resource this nation has.

Answer. Emission control policies that offer some degree of regulatory certainty, such as that called for under Clear Skies, make more capital intensive strategies for meeting multipollutant emissions reduction requirements more economic. Furthermore, where there are co-benefits—reducing one pollutant contributes to reducing the others—a multipollutant approach should lower the overall costs of the program. However, our May 2004 analysis of the Clear Skies proposal found that power companies would reduce their emissions by adding emissions control equipment to existing generators. Fuel switching from coal to natural gas was projected to play a relatively small role in their compliance strategies. For example, we found that projected natural gas consumption was 1 percent higher in 2025 as a result of the Clear Skies proposal. As a result, we would not expect legislation along the lines of Clear Skies to have a large impact on natural gas markets.

QUESTIONS FROM SENATOR BINGAMAN

Question 1. We have heard from Mr. Kuhn and others that for the most part gas plants are dispatched in the most cost effective or efficient manner, given transmission constraints and the need to provide power to support the transmission system. Do you have information that could help us understand how many plants that are older and less efficient are in areas where they must be run in order to provide reliability for the transmission system? How many could be displaced today without reconfiguring the transmission system? How many could be displaced with only minor modifications to the transmission system? (Note: the questions have been

combined and, in some cases, rephrased pursuant to EIA discussion with the Senator's staff.)

Answer. As noted in the answer to another question, significant amounts of steam-electric generating capacity were used during the past winter even though, in aggregate, there are enough underutilized combined cycle plants available to replace this generation using significantly less gas. However, operational factors can limit the potential for displacement of steam-electric plants. The two most important factors are transmission system capacity constraints and the related issue of units which have "reliability must run" (RMR) status. The operation of RMR units is mandatory at times to maintain the reliability of the transmission grid and to protect against the possibility of blackouts. However, EIA does not collect information that identifies RMR plants. We are therefore unable to provide specific information about which gas-fired steam plants can be displaced to save natural gas without impacting the reliability of the transmission system.

Question 2. Some witnesses at last week's hearing suggested that requiring consideration of the efficiency of natural gas plants in the systems for determining which power plants are dispatched to serve customers' loads would provide enormous savings in the use of natural gas for the generation of electricity. Do you have information as to how many older, less efficient steam generation plants with high heat rates are currently in use? How many of those plants could be displaced by newer, more efficient combustion turbines or combined cycle plants? If these newer, more efficient plants were dispatched, how much natural gas could be saved? Over the long term, how much effect could these savings have on the price of natural gas? (Note: the original 4 separate questions were combined into one, pursuant to EIA discussion with the Senator's staff.)

Answer. During the recent winter period December 2004 through March 2005, EIA estimates that about 244 steam-electric plants using natural gas as a fuel were in operation (see attached list). All of these plants are less efficient than newer combined-cycle plants. The efficiency of power plants is typically measured by the "heat rate," which is the quantity of fuel (expressed in British thermal units, or Btu) needed to produce one kilowatt-hour of electricity. Steam-electric gas plants will typically have heat rates in the range of 10,000 to 15,000 Btu per kilowatt-hour (Btu per Kwh) while a modem combined-cycle plant will have a heat rate in the range of about 7,000 to 8,000 Btu per Kwh.

The 244 gas-fired steam-electric plants generated about 20 billion Kwh of electricity during the period December 2004 through March 2005, and consumed about 225 billion cubic feet (bcf) of natural gas. In theory, there are enough underutilized combined-cycle plants to replace all of this generation. Replacing all of the steam-electric generation with more efficient combined-cycle generation would have saved on the order of 70 bcf of natural gas over this four-month period, although this amount could have been higher or lower depending on weather conditions.

In practice, not all of the steam-electric generation could be replaced by electricity from underutilized combined-cycle plants. This is because of operational factors that limit the potential for displacement of steam-electric plants. The two most important factors are transmission system capacity constraints, which limit the ability of grid operators to move power across systems, and the related issue of units which have "reliability must-run" (RMR) status. The operation of these RMR units is mandatory at times to maintain the security of the transmission grid and to protect against the possibility of blackouts. However, EIA does not have the information needed to determine which specific steam-electric plants cannot be displaced due to transmission limits and reliability requirements.

More than half of steam-electric generation using natural gas occurs in regions with competitive wholesale markets. Where competitive wholesale markets exist, there are strong profit incentives (made stronger by high natural gas prices) to displace generation from old, much less efficient, gas-fired STs in regions with capacity surplus. However, in states where traditional regulation still hold sway, utilities may choose to operate their old gas-fired STs no matter how high gas prices get, since fuel costs can be passed through in regulated rates. This may be true even if power from CCTs could be bought at a lower cost and used to meet customer loads.

Assuming that 20 to 30 bcf, roughly one-third to one-half of the gas burned in steam-electric plants, could be saved in future winters, the impact on the price of natural gas would likely be modest. This is because such a reduction in natural gas would represent a very small portion of total gas demand during the winter. For example, during the period December 2004 through March 2005, residential gas demand was 3,047 bcf and total gas demand from all consuming sectors was 9,408 bcf.

Question 8. Canadian Oil and Gas imports—The Canadian Association of Petroleum Producers said this week that Canadian energy companies may be able to

boost their natural gas output by up to 200 million cubic feet per day in a relatively short time frame and that this gas could provide some relief to US markets this winter. Is this a realistic scenario? Is there adequate pipeline capacity from Canada to the US to provide additional gas to meet winter peak demand? Which regions of the US could receive Canadian gas? Would this additional supply have any impact on spot prices under the EIA forecast?

Answer. A review of natural gas capacity data and monthly flow data by region indicates that, on average, there is sufficient cross-border capacity to handle an incremental 200 million cubic feet per day (MMcVd). However, given variation in capacity utilization rates, specific pipeline segments may not be available. Additionally, already contracted flows may not allow for additional volumes on peak days. However, temporary parking of the incremental supplies either in storage or as line packing should allow for average flow equal to the incremental volume to be delivered across the border. Under these conditions, capacity is available to all regions of the United States.

An increment of this magnitude by itself likely would not impact prices greatly. Additional supply of 200 million cubic feet per day on a sustained basis translates into 6 billion cubic feet per month, less than the continuing *daily* loss of production in the Federal Gulf Mexico and Louisiana as of October 28.

Question 9. Liquefied Natural Gas imports—The curious decline in LNG imports to the US in a very high price environment was briefly discussed at the hearing. (October 17, 2005 Wall Street Journal article reports that LNG imports have been about 3% of US supply, but that LNG imports fell by 27% in August 2005 versus August 2004.) Please provide your analysis of the current LNG import situation and the potential to increase our imports of LNG in the short term for the winter heating season. Over the long term, will the EIA forecast for LNG imports and the need for regasification capacity in the US change as a result of higher natural gas prices?

Answer. There are several reasons why August 2005 imports of LNG were so low. Prior to the price run-up caused in part by Hurricanes Katrina and Rita, global price competition, particularly from Spain, had limited spot shipments to the United States. In addition, outages at LNG production facilities overseas reduced available supply to the U.S. There was a temporary suspension of LNG production in Nigeria as a result of pipeline fire and in August there was maintenance at the Atlantic LNG plant in Trinidad and Tobago which currently provides over 70 percent of LNG imports to the U.S.

LNG supplies should increase for the heating season as production at the Atlantic LNG plant in Trinidad has been restored. Moreover, productive capacity at this plant is expected to be further expanded before the end of the year. In addition, two liquefaction projects in Egypt have recently started production.

Over the long term, projected LNG imports are expected to increase in response to higher domestic natural gas prices, all else being equal. However, higher world oil prices are expected to increase the demand for LNG and stranded gas in the world (e.g., for gas-to-liquids applications), therefore increasing the price necessary to attract LNG shipments to the United States.

Question 10. Emergency planning/Natural gas generation—Last week, the New England-ISO reported that the loss of Gulf of Mexico natural gas production will likely lead to the chronic shortages this winter in New England and would disproportionately affect electricity generators in the region (Platts-Hurricane Fact Sheet, 10/31/05). At a meeting on natural gas infrastructure issues, FERC staff warned that the Northeast gas markets are at a greater risk for supply disruptions and high prices because the area is served by fewer pipelines and uses natural gas for both heating and electricity. At that meeting a gas utility executive said he was surprised that many large generators had not taken firm transportation of a transmission pipeline. (Energy Daily 10/13/05) What are electric generators, natural gas utilities and regulators in New England doing to guarantee reliable electricity and natural gas supply this winter? Are other regions in the country at risk for supply disruptions?

Answer. With respect to emergency planning and preparations for the upcoming heating season, the Department of Energy has actively engaged State and industry groups. The Department of Energy's Office of Electricity Delivery and Energy Reliability (OE) works very closely with States and State associations such as National Association of Regulatory Utility Commissioners, (NARUC), National Association of State Energy Officials (NASEO), National Governors Association (NGA), and National Conference of State Legislators (NCSL) and has sponsored a number of projects to aid states in dealing with energy emergencies. Recently, NASEO and NARUC released the State Energy Assurance Guidelines, which are designed for State use to prepare their energy emergency preparedness plans. NARUC has also conducted an assessment of State's Natural Gas Curtailment plans and authorities.

From this, NARUC and DOE are working with States to examine the effectiveness of the curtailment plans should individual states needs to implement them. In addition, DOE has established the Energy Emergency Assurance Coordinators (EEAC) system, a communications protocol, to coordinate information among states should a supply disruption or energy emergency occur.

Many organizations are involved in monitoring and tracking fuel supplies across the country. With respect to the New England region, the New England Governors Conference holds weekly conference calls with DOE, States, Coast Guard, and industry officials to assess the winter fuels situation. Participants are apprised of current heating fuels inventories, prices, as well as logistical problems impacting specific states or the region. States share and coordinate information which is invaluable to the effort to remain informed and to respond to a supply disruption. In addition, various states in the New England region have held winter fuels meetings with state officials as well as natural gas and petroleum industry representatives to assess supply conditions for the upcoming winter. Other regions of the country, such as the Midwest, have conducted similar activities.

Industry and industry associations have prepared reports and conducted analyses to assess the natural gas impacts from the recent Gulf Coast hurricanes. As noted, the New England ISO recently released a report entitled "ISO New England Assesses Hurricane Impact on Region's Electricity Supply." The report highlights that the New England area can expect high fuel costs, particularly for natural gas and oil, to continue from November through March if Gulf of Mexico supplies remain uncertain. The report can be found at: *http://www.iso-ne.com/pubs/spcl_*rpts/2005/wntr_assess/index.html. In response to possible natural gas supply problems, the New England ISO plans to conduct an energy exercise with federal and state agencies, and industry at the end of November to address the necessary actions in the event of a supply disruption.

DOE has also sponsored a study to analyze natural gas disruptions across the country. The results of this study, while considered official use only, will be shared with key State and utility regulators, particularly in the Northeast, to better understand natural gas disruptions and supply issues and how State regulators can use the information to address energy reliability and security in their area.

Finally, the Interstate Natural Gas Association of American (INGAA) has conducted an assessment of the impact of the recent hurricanes on the US natural gas markets for the upcoming winter. The report highlights various scenarios based upon different weather inputs. Given the different scenarios, results reinforce the concern that areas east of the Mississippi, in particular the Northeast, are likely to experience curtailments of natural gas should Gulf Coast systems continue to experience recovery delays.

APPENDIX II

Additional Material Submitted for the Record

STATEMENT OF HON. JIM DOYLE, GOVERNOR, STATE OF WISCONSIN

Mr. Chairman, Senator Bingaman, and members of the Committee, I appreciate the opportunity to submit this written testimony on the subject of today's committee hearing, "Winter Fuels Outlook."

As you know, energy prices in this country have recently reached dramatic and dangerous heights. Today the price of foreign oil is near record levels, and gasoline costs have spiked to over $3.00 per gallon. High gas prices drive up transportation costs and harm virtually every sector of our economy, from aviation to trucking to tourism. The spike in energy prices has depressed consumers' spending power and led to a twenty-five year high in inflation rates.

The hit to the pocket-books of average Americans will be exacerbated as we move into the winter months, when families are expected to face huge increases in home heating costs. Industry experts forecast that bills for natural gas, the most popular home heating fuel, will rise by $611 this winter—more than the total amount of aid that most low-income families receive through the Low Income Home Energy Assistance Program (LIHEAP). In the Midwest, where 75 percent of households heat their homes with natural gas, citizens are bracing to pay nearly 61 percent more in home heating costs this year, according to the U.S. Energy Information Administration.

Moreover, high home heating costs disproportionately affect the neediest Americans. According to the National Energy Assistance Directors' Association's (NEADA) second annual survey, 82 percent of LIHEAP recipients reported an annual income of less than $20,000. For these Americans, high heating costs means sacrificing other basic needs: 20 percent of households kept their homes at unsafe temperature levels, 20 percent went without food for at least one day, and 32 percent were unable to afford proper medical care, between 2003 and 2005. It is unacceptable to force Americans to choose between basic needs. As a consequence, our nation's governors are taking steps to protect consumers from artificially high energy prices and the resulting economic ripple effects.

In late September, 28 governors sent a letter to the Senate urging it to pass emergency legislation to help mitigate this extra cost on the neediest Americans. At the time, we said, "The high cost of home heating fuel is one of the most pressing issues facing families today, and it demands a national response." That is true now more than ever. While we are gratified by the federal government's release of $1.3 billion in federal funds to help low-income families pay their heating bills this winter, LIHEAP funding levels have not changed since 1982.

Governors are also implementing innovative energy-savings ideas in our states. For example, in my home state of Wisconsin, we have implemented the Energy Help Initiative. We know it is important to not only help our most vulnerable citizens pay their heating bills, but also to make sure Wisconsin is taking the necessary steps to increase energy conservation and efficiency in our homes and businesses. The Energy Help Initiative, launched on October 1, would more than double the state's commitment to low-income heating assistance—providing an additional $16 million for the state's program to assist with heating bills. With this funding, Wisconsin is more than doubling its commitment to energy assistance for low-income families, and the federal government should do the same.

Led by Wisconsin, eight Midwest states have joined an agreement to reduce natural gas consumption by one percent a year for five years. Not only will this lower bills for consumers, but, according to a recent study from the American Council for an Energy-Efficient Economy, it will also reduce the cost of natural gas by as much as 13 percent nationally after five years.

The Energy Help Initiative encourages homeowners to have an energy audit to identify ways to make their homes more efficient and reduce their utility bills and energy demand. The Focus on Energy program, one part of the initiative, will in-

crease the rebate they offer on energy audits to $100, and will continue to offer a $150 rebate on energy-efficient furnaces. Last year, homeowners who had an audit and implemented the most cost-effective measures saved an average of $450 on their utility bills in the first year.

Energy costs affect economic development as well. I asked the state's Public Service Commission and my Department of Administration to identify and report back in 30 days any natural gas efficiency projects that are stalled because of regulatory red tape or other hurdles. We will do everything within our power to expedite the process and, in time, conserve enough natural gas to heat thousands of homes, save businesses millions of dollars, and keep good, high-paying jobs in Wisconsin.

My fellow Democratic governors have also put forth innovative ideas for dealing with high energy costs:

- Pennsylvania Governor Ed Rendell announced a comprehensive Stay Warm PA program to make sure Pennsylvania's most vulnerable citizens are warm and protected as cold weather approaches. With increased state funding and increased support from energy companies and utilities, an additional $30 million will be available this winter for low-income energy assistance. Additionally, Governor Rendell will meet with CEOs of the state's major utilities in the next two weeks and will challenge them to meet their required participation rates under the Consumer Assistance Program. Governor Rendell believes, like me, that large energy companies need to "step up to the plate" to help needy citizens cover their heating expenses.

  Several Pennsylvania utilities have responded to the governor's call. The Stay Warm PA program has brought together organizations like the United Way, Red Cross, Salvation Army, AFL-CIO, the Pennsylvania Council of Churches as well as Jewish and Muslim organizations to weatherize homes. And in a unique agreement with the Commonwealth, the home improvement store Lowe's will conduct weekly weatherization workshops at their sixty Commonwealth stores, at senior centers, and other locations. This Fortune 50 company is providing plastic sheeting, caulking, door guards and other weatherization materials at no cost to volunteer groups helping to winterize homes of seniors and needy families.
- New Mexico Governor Bill Richardson called a special session of the state legislature to provide immediate relief for high home heating and gas costs. As a result of the rebate legislation supported by the governor, every New Mexican taxpayer will be mailed a rebate check within the next few weeks averaging $125. Home Heating Assistance legislation will speed relief from high heating costs to 60,000 lower income and elderly New Mexicans. The bill provides $23 million in home heating relief and addresses long term heating costs by repairing and insulating homes to be more cold-weather proof It also provides funding to supplement public safety fuel costs, and assistance for public schools for gas and heating costs.
- In Maine, Governor John Baldacci has launched Operation Keep ME Warm, a public private partnership using volunteer teams to winterize the homes of Maine's most vulnerable senior citizens. He is also leading an effort to bring Northeastern governors together to collectively address energy conservation.
- Illinois Governor Rod Blagojevich successfully urged Illinois' major utility companies to waive reconnection fees and suspend deposit requirements for customers receiving benefits through LIHEAP. As a result, one large utility company has already agreed to waive deposits for LIHEAP customers living in buildings heated entirely by electricity.

This is just a small sample of what governors are doing to protect Americans from artificially high energy prices and start down the path of energy independence. Recent events have revealed what should have been obvious long ago—that our nation stands at a crossroads on energy issues and that we must act now to plan for our future. As you deliberate on this important issue, I encourage you to involve governors. Across the country, governors have demonstrated leadership and resolve in helping our nation address this pressing energy problem. I think I speak for all of us when I say that we are ready, able, and willing to partner with you and share our experiences.

Again, I thank you for the opportunity to present this testimony. I look forward to working with you to find innovative energy policies that protect our economy as well as our energy supply.

STATEMENT OF JOY DITTO, LEGISLATIVE DIRECTOR, AMERICAN PUBLIC POWER ASSOCIATION

The American Public Power Association (APPA) is pleased to submit the following statement for the record to the Committee in relation to its hearing on the winter fuels outlook for 2005-2006 that was held on Tuesday, October 18, 2005. APPA represents the interests of more than 2,000 publicly-owned electric utility systems across the country, serving approximately 43 million citizens. APPA member utilities include state public power agencies and municipal electric utilities that serve some of the nation's largest cities. However, the vast majority of these publicly-owned electric utilities serve small and medium-sized communities in 49 states, all but Hawaii. In fact, 75 percent of our members are located in cities with populations of 10,000 people or less. Further, most publicly owned utilities depend on wholesale power purchases to meet all or some of the retail loads for the communities they serve.

APPA concurs with Chairman Domenici that this year's enactment of the Energy Policy Act of 2005 (EPAct 2005) provides the regulatory certainty for electric utilities and other stakeholders that is essential for an industry that requires long-term planning and as much predictability as possible. Although the electric utility industry continues to face significant challenges—including volatile natural gas prices that will be discussed below—EPAct 2005 has satisfactorily addressed many of the complex issues that have arisen since passage of the Energy Policy Act of 1992. Therefore, APPA strongly discourages the Committee from taking any additional action on electricity restructuring or regulation matters in the context of hurricane relief or in response to high natural gas prices.

THE ELECTRIC UTILITY INDUSTRY AND NATURAL GAS

A diverse portfolio of fuel options is vitally important to the electric utility industry in order to maintain a reliable supply of affordable electricity to consumers throughout the nation. Natural gas remains an extremely important fuel for the electric utility industry, and must remain an option in the future in order to maintain portfolio diversity. However, natural gas prices have increased steadily over the last several years, and the supply disruption triggered by the hurricanes has accelerated the climb in prices. APPA defers to the natural gas industry for their analysis of ways to bring supply and demand back into a more normal balance after the devastation created by the hurricanes.

However, over and above the disruption caused by the hurricanes, supply of natural gas has not kept up with demand. APPA believes that demand side management is a central component to increasing the supply (thereby decreasing the price) of natural gas. Over the last 25 years, much of the problem with sufficient supply can be linked to a lack of coordination between the nation's environmental and energy policies. As Clean Air Act regulations have become more stringent in relation to the use of coal as a source for electric generation, an increasing number of electric utilities have turned to natural gas-fired power plants. Although that trend may be changing as clean coal technologies become commercially viable, there is still a need to harmonize efforts to overcome the current natural gas crisis with common sense environmental policy. Regulatory timelines must be used to allow for the research and development of new generating technologies that expand the nation's fuel diversity in an environmentally sensitive manner. New regulations and legislation must avoid regimes that result in an additional increase in fuel switching from coal to natural gas in order to prevent a further decrease in natural gas supply.

Unfortunately, all recent combustion related regulations in the Clean Air Act have worked to drive the industry away from the use of coal and have forced the industry to depend very heavily on natural gas as the most frequently used fuel choice for new electricity generating stations. Natural gas is favored because its emissions contain a significantly lower level of SO_2 and mercury emissions. Even though natural gas combustion can increase the level of NO_X in a community, many manufacturers and utilities have been forced to increase the use of natural gas in the electricity industry since the mid 1980s. Because regulatory regimes have failed to allow for proper planning time, the electricity industry has made a business decision to move to natural gas in many cases which has exacerbated the gas supply problems, instead of seeking new technologies, such as coal gasification, to address environmental challenges.

While there are some legitimate combustion energy uses for gas (where the manufacturer or utility virtually sits atop a gas pipeline or is co-mingled with a refinery), this regulatory push for natural gas over coal and oil will continue to put pressure on natural gas supplies. Also the Clean Air Act's "anti-backsliding" provisions make

it hard for a manufacturer or utility to return to coal or oil once the transition to gas has been made.

It will be very important for regulators and legislators alike to meet the challenges of keeping energy supply needs and environmental requirements in sync with one another. The development of new clean coal technologies, encouraged under EPAct 2005, will go a long way toward helping the electric industry decrease its dependence on natural gas as a fuel for electric power in an environmentally sound manner.

CONCERNS WITH MANDATING ECONOMIC OR EFFICIENT DISPATCH

As is mentioned above, APPA does not support new efforts to address broad electricity industry provisions. During the hearing, a few members of the Committee expressed particular interest in the issue of "economic" or "efficient" dispatch, with the implication that legislation should be enacted to direct the most efficient natural gas plants to be deployed in a given market before less efficient natural gas plants. While this is a seemingly simple proposal, like most issues in the electric utility industry, deciding when and why a given generating plant is deployed is a complex decision, with efficiency and cost being only two of the variables affecting the decision. Other variables include available transmission, environmental constraints, and maintenance schedules.

Also, the term "economic" or "efficient" dispatch has been used loosely and is subject to varying interpretations. Section 1234 of the Energy Policy Act of 2005 mandates a Department of Energy study on economic dispatch, the outcome of which we believe should be analyzed before any additional legislation on this issue is even considered. In Section 1234, the definition of economic dispatch is quite generic, and hence subject to varying interpretations—an issue that is being evaluated at DOE as part of the study process. The definition refers to the operation of generation facilities "at the lowest cost." But it is not clear whether the word "cost" means the cost of production of each unit dispatched (in other words, what is referred to in the industry as a "cost-based dispatch") or a dispatch regime under which each generation unit is bid by its operator into a centralized market at a price that the owner sets at its discretion (subject only to any applicable market rules), which is generally known as a "bid-based dispatch."

The former type of dispatch was a central feature of a number of regional power pools that the electric utility industry operated prior to restructuring, with utilities bidding in their generation at cost, resulting in savings from such joint operations that were shared among the members, often under a "split the savings" convention. The latter type of dispatch is now in use in a number of organized markets run by Regional Transmission Organizations (RTOs) and Independent Systems Operators (ISOs), including ISO New England, the PJM Interconnection, the New York ISO and the Midwest ISO. These ISOs run day-ahead and real-time markets using a security-constrained, bid-based economic dispatch and a single-clearing price mechanism. Under the single-clearing price convention, all generators bidding into the market for a particular time interval are paid the price necessary to clear the market in that time interval, even if the bid an individual generator made was much lower than that clearing price. This has resulted in higher prices for generation of all kinds in ISO/RTO regions, not just natural gas. This phenomenon, known as "dark spread" in the industry, has resulted in windfall profits for merchant generators of coal and nuclear in these bid-based markets.

APPA members have also discovered that the high clearing prices set in ISO-run day-ahead and real-time markets (which are often set based on the high fuel cost of natural gas-fired generation units) are having a "ripple effect" on longer-term bilateral markets. At APPA's June 2005 National Conference in Anaheim, California, the membership passed Resolution 05-18, entitled "Unjust and Unreasonable Prices for Long Term Bilateral Power Supplies" (copy enclosed as Attachment 1*). That resolution notes that:

> "APPA members in RTO regions that attempt to procure power under long-term bilateral arrangements now find that generators are often willing to enter into such agreements only on terms that reflect the (higher) "market clearing prices" they can obtain in RTO-run spot markets, even when their own (lower) cost structures bear little relationship to spot market clearing prices.
>
> Because such APPA members rely on bilateral power supply contracts to avoid the even higher risk and price volatility of spot markets, this perverse pricing "feedback loop" has caused steep retail rate increases in some public power communities."

*All attachments have been retained in committee files.

As is implied above, even a "pure" cost-based economic dispatch of generation across a region can raise difficult questions. For example, some generation resources, such as storage-limited hydroelectric resources or environmentally limited fossil fuel plants, incur opportunity costs if they are required to run at a time not of their own choosing. These costs can be quite difficult to value. Operators must also account for regulatory and contractual limitations on unit operations, level of fuel inventories, transmission constraints, low load stability risk, ramp requirements, weather conditions, and other factors.

But these pricing and operational issues with cost-based dispatch are dwarfed by the problems APPA members are experiencing with ISO-run, bid-based, single-clearing price markets. APPA understands the economic theory underpinning this market model, and its attraction to policy makers. But for this model to work, the bids of generators must reflect the true marginal cost of producing the last unit of electric power. For many reasons, including substantial transmission constraints, unanticipated increases in natural gas prices that have weakened new generation entrants heavily dependent on that fuel, convoluted market rules and associated exceptions, generation market power, and concomitant economic withholding, the actual results in bid-based markets have diverged markedly from the theory of how a competitive market should work, to the detriment of retail electric consumers.

For these reasons, APPA does not support the further extension of ISO-run, bid-based single-clearing price markets to regions of the country that do not now have them, and we are concerned that a federal mandate on efficient or economic dispatch with the definitional context of "cost" being a bid-based market could move non-RTO regions toward RTOs. As is explained above, even cost-based dispatch has its challenges, and we think that those challenges are best met at the local and regional levels so that variables like environmental regulations, transmission constraints, etc., can be taken into consideration. Further explanation of APPA's general position on RTOs may be found in APPA's December 2004 policy paper, "Restructuring at the Crossroads: FERC Electric Policy Reconsidered," which is enclosed as Attachment 2.

COAL-FIRED GENERATION

During the hearing, Senators Burns and Thomas both expressed concerns that the vast majority of new electricity generation built in the last 10 years in this country has been natural gas-fired generation. Although the trends delineated above provide the answer as to why natural gas has been an attractive investment to utilities in the last decade or so, we agree with their concerns with these trends and believe that coal-fired generation is and must continue to be a vital and viable part of our electric generation mix. Coal is abundant domestically, is inexpensive relative to other fossil-fuel sources like natural gas, and is an increasingly clean fuel source due to the technological innovations achieved in recent years, like integrated gasification combined cycle (IGCC), that minimize emissions of air pollutants.

According to Energy Information Administration (EIA) data, coal currently accounts for approximately 50% of the electric generation produced in the United States, far exceeding the proportion of other primary fuels like natural gas, nuclear, hydropower, oil, and non-hydro renewable energy. By the year 2025, it is predicted that this high percentage will remain relatively unchanged. Also according to EIA data, the public power sector provides approximately 16.6% of all kilowatt-hour sales to ultimate consumers in the nation. Public power systems own 9.8% of the generating capacity compared to the investor owned utilities (IOUs) at 40.9%, nonutility generators at 37.9%, and the rural electric cooperatives at 4.1%. Although public power systems have less coal capacity and more natural gas and hydropower capacity in their mix than other utility sectors, coal is still a crucial part of their generation mix, accounting for 30.1% of nameplate capacity. Furthermore, given the price volatility of natural gas, and the uncertainty and high costs we have experienced in ISO/RTO markets in particular, many public power systems are interested in building more of their own generation close to their load. This has resulted in a heightened interest in siting new coal-fired generation in the last couple of years, despite the regulatory constraints and expenses imposed by the Clean Air Act. Several public power communities are in the advanced stages of proposing coal-fired generation projects, and we are likely to see continued interest in this area by our members.

Another issue that was mentioned cursorily in the hearing last week was the issue of coal transportation. Coal must be transported from the mine to the generator via rail, and from the generator to the end-use customer via high voltage electric transmission lines. Increased reliance on coal requires greater attention to both of these areas. To that end, APPA supports legislation that encourages structural

and policy changes to promote competitive transportation alternatives for rail customers and improvements in the rail customer protection mechanisms that are implemented by the Surface Transportation Board (STB). This issue has become increasingly acute in the last two years for "captive rail" customers that are served by only one railroad. As long-term contracts for coal shipping have come up for renewal, public power systems, along with many other captive rail stakeholders, have faced exorbitant rate increases from the railroads. They have had little or no ability to negotiate these rates and as a practical matter, little relief is available from the STB. These disproportionate costs for rail shipping in some areas of the country are driving the cost of coal-fired electric generation up unnecessarily at a time when the last thing the industry and the economy needs is more high fuel costs.

Regarding electricity transmission, the industry badly needs new transmission infrastructure, and public power represents an untapped resource for the development of such new facilities. Public power systems are willing and able to invest in transmission facilities provided they receive the concomitant long-term firm transmission rights. APPA is anxious to encourage joint ownership of new transmission facilities by all load-serving entities in a region, be they public or private—in fact, two public power systems in the Gulf States have sent the enclosed (Attachment 3) letter to Entergy proposing to aid in the rebuilding of Entergy facilities destroyed by recent hurricanes through joint financing and ownership. A white paper on this subject is also enclosed (Attachment 4).

LAFAYETTE CONSOLIDATED GOVERNMENT,
LAFAYETTE UTILITIES SYSTEM,
Lafayette, LA, October 6, 2005.

Mr. J. WAYNE LEONARD,
Chief Executive Officer, Entergy Corporation, Clinton, MS.

DEAR MR. LEONARD: The recent devastation wrought by hurricanes Katrina and Rita throughout much of Louisiana, Mississippi and Texas has destroyed much of the electric system owned by investor owned utilities. municipal systems and electric cooperatives. The costs to repair these systems, while still largely undetermined, may well be in the billions of dollars.

It has occurred to us that this may also he a time of unique opportunity .for the power consumers of this region. The Entergy transmission grid is a vital component of not only Entergy's system but of ours as well. We are therefore vitally interested in seeing transmission system rebuilt that will better serve all electric consumers, stronger and more reliable than before. And we think this is a time when a new approach could redistribute costs in a tray that could reduce the need to seek support. from the nations taxpayers to share in the cost of reconstruction.

The changes in our industry have led to much debate concerning the rights of transmission dependent utilities such as ours. We agree that those who expect some certainty from the transmission system should be willing to invest in that system, although we do not think that the so-called participant funding approach will work. As we work to restore the grid we have the opportunity to resolve a number of divisive issues and share the burden of improving the transmission system together.

We write on behalf of a number of transmission dependent utilities who would be willing to invest our own funds to help rebuild Entergy's transmission system to the point where it is capable of serving all consumers better, including investment in needed facilities not necessarily affected by the storms in order to free up Entergy's capital for restoration. We believe such an investment would ease Entergy's search for funds to repair its system and result in an improved system overall.

We would be interested in seeking solutions that would allow our organizations to build and own segments of the grid that would improve the system and cost share with Entergy where it makes sense. We would he willing to contract with Entergy to manage and maintain these segments. or participate in an RTO if Entergy should choose to join one. We think that Section 30.9 of your transmission OATT, or in some cases, a like provision in an existing grandfathered contract, offers a good way for our costs to be recovered, and it appears that this method of ownership and operation would be cheaper for all of your transmission customers than if Entergy were to be forced to own and finance all of the facilities that are required. We understand that when you were at Cinergy, you had a Joint Transmission System arrangement with IMPA and Wabash Valley, which we understand worked well, and which might serve as at least a partial model.

If you are at all interested in this approach, please let us know. We recognize that time is of the essence in getting the system rebuilt, but we see this as a unique

opportunity to build a stronger and less expensive system that better serves all electric customers in the region. Together we can turn this disaster into a positive for all concerned.

Sincerely,

TERRY HUVAL,
Director, Lafayette Utilities System,
ROBERT D. PRIEST,
General Manager, Clarksdale Public Utilities.

STATEMENT OF AMERICAN PUBLIC POWER ASSOCIATION

JOINT OWNERSHIP OF TRANSMISSION

Joint ownership of transmission facilities is a structural solution that can address many of the access-related issues that Regional Transmission Organizations ("RTOs") were intended to address. Proportional ownership by those load-serving entities providing service in the region is an effective means to mitigate the transmission market power of utilities seeking market-based rate authority from the Federal Energy Regulatory Commission ("FERC"). If the responsibility for building and owning the transmission grid is spread more broadly among entities serving loads in a region, then joint transmission planning will be facilitated, simply because there are more participants at the planning table. If network customers of a dominant regional transmission provider are encouraged to buy in to their load ratio share of the transmission system, transmission usage and ownership will be more closely aligned, and the frictions between transmission-dependent utilities and transmission owners can be reduced.

Public power utilities have participated in jointly-owned transmission arrangements for many years. One model of joint ownership that has worked for public power is investment in a transmission-only company. A second model is ownership in a shared system.

INVESTMENT IN A TRANSMISSION-ONLY COMPANY

There are two transmission-only companies that are partially owned by public power utilities. These are the American Transmission Company and the Vermont Electric Power Company.

American Transmission Company

American Transmission Co. LLC ("ATC") was organized in 2000 and assumed ownership and operation of transmission assets on Jan. 1, 2001. Four investor-owned utilities—Wisconsin Electric Power Company, Madison Gas & Electric Co., Wisconsin Public Service Corp. and Wisconsin Power & Light Co.—transferred their transmission assets to ATC at net book value. In return, the utilities received 50 percent of the assets' value in cash and the remainder as ownership interests in ATC. The fifth founding member, Wisconsin Public Power Inc. ("WPPI"), a public power utility that owned no transmission, purchased a 5.7 percent ownership interest in ATC for $17 million. The percentage amount was based on WPPI's proportionate share of electric load in Wisconsin, and the purchase price was based on the net book value of the transmission facilities transferred to ATC by the other owners. WPPI is a municipal joint action agency that provides full requirements power and energy and other services to its 39 member cities and towns in Wisconsin.

Currently, ATC has 28 members who have contributed some combination of transmission assets or cash to the system. These members include the Upper Peninsula Public Power Agency, which was created to facilitate the participation of seven Michigan municipal utilities in ATC, as well as four electric cooperatives in Wisconsin and Michigan.

ATC owns approximately $1 billion in transmission assets, including 8,900 circuit miles of transmission lines and 450 substations. The company is governed by a Board of Directors, which includes four independent directors and a director representing each of the five founding members. The company raises capital by selling bonds and by equity contributions from its members. Its bonds are rated by all three major credit rating agencies: currently ATC's long-term debt is rated "A" by both Fitch and Standard & Poor's, and "A1" by Moody's.

ATC was created in response to the Reliability 2000 legislation signed into law in October 1999 as part of Wisconsin's 1999 budget bill. The legislation represented a compromise: it raised the cap on investor-owned utility investments in non-regulated businesses to 25 percent of utility assets, if the utility voluntarily transferred

its transmission assets to a separate transmission-only company that would in turn improve system planning, construct needed transmission facilities, and ensure a more reliable system. The legislation addressed regulatory jurisdiction over the new company, to be structured as a utility subject to state jurisdiction for issues including certification of transmission projects but ceding rate jurisdiction to FERC.

A June 2000 filing with the Wisconsin Department of Financial Institutions established ATC as a limited liability company. This structure was selected in part to facilitate the participation of a diverse mix of utility owners. Next, ATC filed with FERC for approval of its Open Access Transmission Tariff (OATT); the tariff created a single-zone transmission rate, phased-in over a 5-year period.

In August 2000, ATC and the five member companies filed with the Wisconsin Public Service Commission for certification of ATC as a transmission company and for approval to transfer transmission assets with a book value of more than $545 million from the member companies to ATC. ATC filed for and received necessary approvals from FERC, as well as state regulators in Wisconsin, Michigan and Illinois, in time to meet the January 1, 2001 launch date.

ATC is a member of the Midwest Independent Transmission System Operator (MISO), transferring operational control of its transmission facilities to MISO in December 2001. ATC transmission customers began taking transmission service under the MISO OATT in February 2002.

Each year ATC conducts a transmission system assessment, including public input in system-wide meetings, which results in recommendations for system upgrades and expansion. In its most recent 10-year transmission expansion plan, ATC projects new investment of up to $2.8 billion. Since operations began in 2001, ATC has invested over $500 million in transmission infrastructure.

Vermont Electric Power Company

ATC was created just a few years ago, but the idea of a jointly owned transmission-only company is not new. Vermont's investor-owned utilities established Vermont Electric Power Company (VELCO) in 1956 to develop an integrated transmission system in the state. The Burlington municipal utility became a shareholder in the 1960s through conditions placed on nuclear plant licenses to address situations inconsistent with the antitrust laws. However it wasn't until the late 1970s that agreement was reached to allow all of Vermont's municipal and cooperative utilities to acquire shares in VELCO; the agreement forestalled a legislative proposal directing the State of Vermont to take over VELCO.

Vermont's 15 municipal and two cooperative utilities have increased their shares in VELCO over time, finally achieving a load ratio ownership share in 2001. Today, municipal utilities have two seats on the VELCO Board, and cooperative utilities have one.

When VELCO needs new equity for its capital program, each shareholder is allowed to invest a proportionate amount based on its load ratio. Shares are owned by the individual municipal utilities, and many obtain financing from Vermont Public Power Supply Authority, the joint action agency in the state.

OWNERSHIP IN A SHARED TRANSMISSION SYSTEM

In shared or joint transmission systems, two or more load-serving utilities combine their transmission facilities into a single system. Examples of public power participation in shared transmission systems are found in Indiana, Georgia, Minnesota, and the upper Midwest region.

Indiana

Cinergy Corp., Wabash Valley Power Association ("WVPA"), and Indiana Municipal Power Agency ("IMPA") own a Joint Transmission System ("JTS"), an integrated transmission system covering two-thirds of Indiana, part of Ohio and a small part of Kentucky. IMPA, a joint action agency that now serves the power supply needs of 40 Indiana Municipal utilities, acquired its interest in the JTS in 1985 through the purchase of transmission facilities from Public Service Company of Indiana ("PSI"). (PSI has since been acquired by Cinergy.) WVPA has had a similar arrangement with PSI since 1983.

IMPA's participation in transmission ownership and the establishment of the JTS followed several years of negotiations between the parties. At the time, PSI was constructing the Marble Hill nuclear plant and had severe financial problems. PSI was looking for co-investors in Marble Hill and invited IMPA to participate. IMPA declined, and countered with the suggestion of investing in PSI's transmission assets.

In November 1985 IMPA executed ownership and licensing agreements with WVPA and PSI. These agreements provide that each utility owns specific lines and substations in the system, but has all rights, as tenants in common, to the use, out-

put and capacity of the entire JTS. IMPA issued $31.6 million in revenue bonds to purchase about seven percent of PSI's transmission assets. If a joint owner's use of the system is more than its investment share, the utility makes payments to one or both of the other owners. This arrangement—owning specific assets, but operating as if the entire system were jointly owned—was used rather than a partnership arrangement, because IMPA is a political subdivision of Indiana, and state law prohibits it from entering into partnership agreements with private entities. IMPA also signed an operating agreement with PSI, providing for IMPA to pay PSI (now Cinergy) a monthly fee for the operation and maintenance of the IMPA assets.

Cinergy, WVPA and IMPA jointly plan for JTS system upgrades and expansions. The planning group uses forecasts of total load growth to determine where the need for new transmission is greatest. The planners assign ownership of specific capacity additions among the three utilities in proportion to each utility's percent of total load, and each utility then provides the investment money for its assigned portion. The goal is to keep each utility's investment in proportion to its use of the system. IMPA currently owns 4.6 percent of the JTS.

The JTS is directly connected with eight other electric utilities in or adjacent to Indiana, and is under the operational control of MISO. MISO treats the JTS as a single entity, and pays Cinergy revenues collected for the use of the system. Cinergy, in turn, pays WVPA and IMPA their portion of the revenue.

The other three jointly-owned systems described below have very similar arrangements to the Cinergy/WVPA/IMPA JTS model. Brief descriptions are provided for each of the three.

Georgia

Georgia's Integrated Transmission System ("ITS") is jointly owned by four Georgia electric utilities: Georgia Power Co., a subsidiary of Southern Company; Georgia Transmission Corp., an affiliate of Oglethorpe Power Corp., which is a generation and transmission cooperative; MEAG Power, a municipal joint action agency; and Dalton Utilities, a municipally-owned utility. A 1975 Georgia statute authorized the creation of MEAG Power, and in 1976 the agency began purchasing transmission assets and ownership interests in generating facilities from Georgia Power to serve the needs of its 49 municipal utility members.

Georgia Power has separate, two-party agreements with each of the other three joint owners, and also has supplemental agreements regarding operations and maintenance of the transmission system. Each utility owns individual transmission assets, but may use all transmission facilities in the system, regardless of ownership, to serve its customers.

Georgia Power operates the transmission network, and each utility is responsible for the operation and maintenance costs of the lines it owns. Through a joint planning process each owner maintains an investment in transmission that is in parity with the investments of the other joint owners. The parity formula is generally determined each year based on each system's five-year rolling average peak demand. MEAG Power currently owns more transmission than its parity amount, and so receives parity payments from Georgia Power.

Minnesota

In the 1980s utilities in Minnesota signed a series of agreements for sharing of transmission systems ("STS agreements") that generally provide for investment in transmission assets in proportion to each utility's load and use of the shared system. By the end of 1983, Southern Minnesota Municipal Power Agency ("SMMPA"), for example, had signed STS agreements with two investor-owned utilities (Interstate Power and Northern States Power) and with two cooperative utilities (Dairyland Power Cooperative and United Power Association).

SMMPA's transmission assets are generally operated and maintained by the agency's partners in the STS agreements. The agreements with the investor-owned utilities ("IOUs") were terminated and converted to network transmission service as part of the two IOUs' merger activities. However, the IOUs continue to operate SMMPA's transmission in their service areas, and SMMPA receives a credit reflecting its investment in each system. SMMPA's joint ownership arrangements with the cooperative systems remain in effect.

Upper Midwest Region (Missouri River Energy Services)

Otter Tail Power ("OTP"), an investor-owned utility that serves customers in Minnesota, North Dakota and South Dakota, has separate transmission system agreements with Great River Energy ("GRE"), a cooperative in Minnesota, and with Missouri River Energy Services ("MRES"), a joint action agency serving public power utilities in Iowa, Minnesota, North Dakota and South Dakota.

The OTP/MRES integrated transmission system began in 1986 when MRES, then known as Missouri Basin Municipal Power Agency, purchased (via its financing agent, Western Minnesota Municipal Power Agency) eleven percent of OTP's transmission system. Otter Tail Power is responsible for the operation and maintenance of the transmission system, and the two utilities jointly plan for system expansions and upgrades.

Under the OTP/MRES agreement, each utility owns specific transmission assets, generally in proportion to its share of load in the system's service area, and each utility has use rights on the system. The OTP/GRE agreement works in a similar way. The two integrated systems partially overlap one another, and the effect of the two agreements is that each of the three utilities has the right to use the overlapping portions of the integrated transmission systems as if they were its own.

○