117th Meeting

of the

NATIONAL PETROLEUM COUNCIL

WEDNESDAY, JULY 18, 2007

9:00 a.m.

Salons E and F

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A G E N D A

I. **Call to Order and Introductory Remarks**
Lee R. Raymond, National Petroleum Council

II. **Consideration of the Proposed Final Report of The NPC Committee on Global Oil and Gas**
Lee R. Raymond, Chair, NPC Committee on Global Oil and Gas

III. **Remarks by the Honorable Samuel W. Bodman, Secretary of Energy**

IV. **Administrative Matters**
A. Report of the NPC Finance Committee
Claiborne P. Deming, Chair, NPC Finance Committee
B. Report of the NPC Nominating Committee
Ray L. Hunt, Chair, NPC Nominating Committee

V. **Discussion of Other Business Properly Brought Before the National Petroleum Council**

VI. **Memorial Tribute to Frederick R. Mayer**
Robert L. Parker, Sr.

VII. **Adjournment**

P R O C E E D I N G S

(Time Noted: 9:09 a.m.)

MR. RAYMOND: Good morning, ladies and gentlemen. Will the 117th meeting of the National Petroleum Council please come to order. I welcome to all of you, members of the council, honored guests, and members of the press and the public. We have what I hope will be an informative session scheduled for today.

For the members of the council with us today, if there is no objection, I will dispense with the calling of the roll. The check-in will serve as our official attendance record. Any member or observer for a member who has not checked in, please do so before you leave to ensure we have an accurate record of today's attendance.

We also have what has become familiar to many of us, but is a relatively new feature for an NPC meeting, an audience joining us via the web cast. The Internet audience will be able to follow along with our presentation today and will be able to download the draft report at the end of the meeting. The web cast is in response to the national interest in global oil and gas and partly to allow NPC members who are unable to attend today's meeting the opportunity to hear the

presentations and discussions live.

I know that a number of members are listening and I extend to them a special welcome.

Our primary business this morning is to review the work of the NPC Committee on Global Oil and Gas, discuss their findings and recommendations and vote on adoption of their proposed final report as the report of the Council. For this purpose, we have assembled the leadership of the study effort at our head table. I would like to introduce to you for the record the participants. On my immediate right is the Council's co-chair, the Honorable Samuel Bodman, Secretary of Energy. Mr. Secretary, we are pleased that you are here with us this morning for the Global Committee's presentation and we look forward to hearing your remarks later this morning.

Next is the Honorable Clay Sell, Deputy Secretary of Energy and the Committee's Government Co-chair.

Next to Clay is John Humre, Vice Chair for Geopolitics and Policy.

Next to John is Dan Yergin, Vice Chair for Demand.

And on my far right is Marshall Nichols, the Council's Executive Director.

Two vice chairs of the Global Committee are absent; Dave O'Riley our Vice Chair for Supply returned ill from an overseas trip, and Andrew Gould, Vice Chair of Technology has his board meeting today. These gentlemen worked extensively on the project and are as disappointed as we that they are not able to be with us here today.

At the table on my left are representatives from the study's coordinating subcommittee. They are the people who have done the work and they have worked almost non-stop for a year and a half to make this day possible. Alan Kelly chairs the coordinating subcommittee and Jim Slutz serves as the subcommittee's government co-chair.

Next, for demand, is Jim Burkhard, Don Paul for Supply, Ed Chow for Geopolitics and Policy and for Technology, Rod Nelson.

We now turn to the consideration of the proposed final report of the NPC Committee on Global Oil and Gas. Many members of the Council provided their outstanding leadership as well as significant commitments of their personal time and their organization's resources in response to the Secretary's request for this important study. And to those of you who responded to my personal request to make people

available and commitment of time for the study, my personal thanks to all of you for your support.

On behalf of the Committee I am most pleased this morning to present the results of this comprehensive study to the membership for your consideration and action. Alan Kelly will lead off the presentation. Alan.

MR. KELLY: Thank you, Lee, and good morning, ladies and gentlemen, and thank you for joining us this morning as key members of the National Petroleum Council's Study's Leadership Team present a summary of the 2007 report: Facing the Hard Truths About Energy.

I would also like to welcome all those joining us via web cast.

On behalf of our team, I want to start by thanking all the Global Committee members, government co-chairs, colleagues of the NPC, and the hundreds of participants who have supported this massive undertaking over the past 18 months.

Lee has already introduced the team on the stage. Also in the room are the key contributors from our leadership team. Adam Sieminski, David Bellman, Scott Hoyte, David

Seaton, Guy Caruso, and I hope Terry Callahan and Bill Sharpe, whom I haven't seen yet. My thanks to you and to the other leaders not present today who have put so much time and effort into this project.

The American people, indeed people all around the world, are very concerned about energy, its availability, reliability, cost, and environmental impact. In the United States energy is also the subject of urgent policy discussions. But energy is a complex subject touching every part of daily life and the overall economy, involving a wide variety of technologies and deeply affecting many aspects of international relations. And the facts about energy are not widely understood.

Within this context the NPC has completed a study which we hope will inform and shape the energy debate, enhance widespread understanding about the scale and significance of the industry's activities and propose sound, balanced strategies to meet today's challenges and to benefit future generations.

The study document is weighty. It really is weighty. There is a lot of meat in

this. And we hope that many of you have read or will read it in its entirety including the additional topic papers available on CDROM.

Our objective this morning is to provide you with a very brief summary of what we've done. We hope that this will stimulate you to explore further.

The study origins date back to June 2005 when the Secretary of Energy, Sam Bodman, delivered an insightful speech to this annual NPC gathering. He outlined his views on the considerable challenges facing the oil and gas sector, noting that perspectives on the future vary widely. At the conclusion of his remarks Secretary Bodman said, and I quote, "There are numerous areas where the NPC's expertise might be brought to bear."

The NPC has responded to the challenge and thanks to the efforts of many talented and diligent people, has completed a report that we believe provides a comprehensive view to 2030 of the energy future and we hope will be of long-lasting value to the nation.

We have divided this team-based presentation into three parts. First I'll

describe the approach taken by the group explaining what makes this study different. The team on stage will then explain what we learned on the journey sharing our principle findings which we have called "The Hard Truths." These findings recognize the global nature of the energy industry, the enormous scale of our activities, and the very long timelines involved in affecting material changes across the supply chain.

Finally, the team will zoom-in on the United States to explain our proposed integrated set of cost strategies that we believe are critical for the country to pursue.

The impetus of the global oil and gas study began with a letter sent by Secretary Bodman to the NPC in October of 2005. In that letter the Secretary suggested three questions that we might consider. What does the future hold for oil and natural gas supply around the world? Can addition supplies be brought on line, on time, and at a reasonable price to meet future demand without jeopardizing economic growth? And what strategies on the supply side and demand side would the Council

recommend the United States pursue to ensure greater economic stability and prosperity?

We considered these questions deeply in designing upfront an organization and methodology to handle energy subjects that are at once highly specialized but also interdependent. Two separate teams were set up to assess demand and supply. A third team focused on technology. And a fourth team, geopolitics and policy, considered what might be called above-ground issues.

No analysis of the future of oil and gas would be complete without consideration of the potential alternatives to oil and gas, biomass, other renewables, nuclear, coal. So we organized expert resources to address such topics through subgroups. In preparing our findings and recommendations we were at pains to consider all options through economic, environmental and security lenses creating a balanced set of outcomes not always obvious in other parallel studies.

The efforts undertaken to gather information and develop conclusions were truly open and transparent with ideas recycled

continuously across and among diverse teams and finally integrated into the report we present to you for approval today.

Participation in the study has been broad, over 350 participants have been engaged from within the National Petroleum Council and beyond. We were frankly overwhelmed by the time and efforts offered voluntarily by so many diverse organizations. Such is the general interest in rising to the challenges ahead. You will note about two-thirds of the participants come from outside the oil and gas industry bringing different and expert perspectives. In addition we reached out to over 1,000 third parties involved in the energy sector for their ideas and opinions. There has been an intense interest in this study and we greatly appreciate the efforts of so many talented people.

There are three reasons why we think this study is different from many others. First, we completed an in-depth analysis of all the relevant data we could find with over 100 studies incorporated, including both public and aggregated proprietary outlooks of demand and

supply. Let me stress that we did not attempt to provide another forecast of demand or supply or price. As you will see, our goal has been to test the assumptions behind a wide range of projections to understand why perspectives vary so widely. And then from a position of knowledge to suggest energy strategies that might succeed for the nation.

I've already referred to the second difference about this study, our team of 350 participants who come from backgrounds in all aspects of energy including efficiency, economics, geopolitics and the environment. This was an amazingly talented group of people.

What also makes this study different is the unique importance of our technology assessment which span the energy spectrum to consider in-depth the potential impact of new and emerging technologies.

Let me dive into technology a little deeper and show the range of subjects considered. It's a long list covering topics ranging from carbon capture and sequestration to deep-water exploration to biomass fuels to transportation efficiency. We asked more than

120 subject-matter experts in the technology task group to investigate and come to agreement on time horizons, research budgets, human resource requirements, and deployment in each specialist area. This task was achieved and topic papers covering the outstanding work of the technology teams are available on CDROM and will be released with the full approved report.

So the approach to the study enabled us to include a broad group of people assisting our understanding of the complex energy world summarized now in a set of findings. The findings we have called, "The Hard Truths About Energy."

There are six hard truths and the team leaders on the stage will explain each. You will hear about the hard truths relating to demand; to supply; to energy sources; energy security; the work force; and carbon emissions.

So let me begin by turning to the demand task group lead, Jim Burkhard to talk about the first hard truth.

MR. BURKHARD: Thank you, Alan. The hard truth about demand is that even with the development of biofuels and other nonfossil

fuel sources of energy, oil, gas, and coal will remain indispensable to meeting projected future demand growth.

The member countries of the Organization for Economic Cooperation and Development, the OECD, have historically been identified as developed countries. Countries outside of the OECD, the non-OECD countries, have historically been identified as developing countries. Whether those labels are still appropriate is a question, but in any case they do provide useful grouping when looking at energy demand trends. The blue shaded countries are OECD members, the yellow shaded areas are non-OECD countries. We use this color scheme in this presentation as appropriate.

Income and population are two of the most important variables that determine energy demand. As prosperity rises and hence as income rises, so does demand for energy. In the years to 2030 global GDP is projected to double with the highest percentage growth and much of the absolute growth occurring in non-OECD regions.

And as incomes rise so does demand for energy. The reference case projections for world energy demand show roughly a 50-60 percent increase in demand from 2005 to 2030. Very soon, and for the first time in history, non-OECD energy demand will exceed OECD energy demand. This has geopolitical implications as well which you will hear about in a few minutes.

There is a wide range of expectations about future energy demand levels. These outlooks are from the United States Energy Information Administration and the International Energy Agency which is a cooperative grouping of most OECD members. These projections show significant long-term growth in energy demand. Even at the low end of these projections there is still a 34 percent increase in global energy demand to 2030. In volume terms that represents a gain in global demand that is in excess of what the U.S. currently consumes. So even at the low end significant growth.

For some more context about what this means in terms of energy demand, if you look at

oil and take a mid-range case for oil, in 2030 the world could be consuming about 57,000 gallons of oil per second.

This is the IEA reference case outlook which is generally indicative of most of the outlooks that we reviewed. We have seen significant growth in non-fossil fuel energy sources and more is projected. But because of the total growth in global energy demand fossil fuels will have to play a significant role through 2030. This is the hard truth about demand that fossil fuels are indispensable to satisfy demand as global prosperity and incomes increase.

Now, let's turn to Don Paul to hear about supply.

MR. PAUL: Thank you, Jim.

The hard truth about supply is that the world is not running out of energy resources, but there are accumulating risks in continuing expansion of oil and natural gas production from the conventional sources relied upon historically.

These risks, in the view of the study, create significant challenges to meeting

projected total energy demand. I would like to touch on three aspects of this that sit behind this hard truth.

The first has to do with understanding the resource base. There is much debate and controversy about that today, but nonetheless in the long term the natural resource base ultimately derives the availability of production and supply.

What you see in front of you is a range of projections evolved over history based on the U.S. Geological Survey of fossil ultimate recoverable resources for oil. These tend to be conventional views and its important to understand that over time a couple of key observations. One, while there's a diversity of views, they tend to increase over time. This is due to both changes in methodology but certainly increases in geological knowledge and data as well as advances in technology. As you look at this ultimate recoverable resource, about a trillion barrels of it has been produced to date. These estimates naturally have a broad range of variability due to both geological uncertainty but importantly as well

to the lack of concrete data and information on a global scale. These represent from approximately a factor of two difference between the high and the low end estimates of what this conventional recoverable resource base might be. This kind of range of resource base is reflected often in some of the projected forecasts of how this resource gets converted into reserves in production.

Additionally for 2000 the USGS added a view of unconventional resources. Unconventional resources here shown in blue have even greater levels of uncertainty but include diversities such as tar sands and oil shales which obviously expand the overall resource base although they clearly represent challenges. What's not shown here and what was included in the study was a view of how one would consider coal as a resource potentially to be converted to liquid fuels and biomass which was an individual study commissioned and represents a new and perhaps significant source of liquid fuel production in the future.

Indeed, as Secretary Bodman said, views vary widely. What's represented in the plot is

a range of views -- a broad range of views of the forecasted production in 2030, this is total liquids production on a global scale. It ranges almost 50 million barrels from top to bottom, around 80 million barrels at the bottom in the most conservative cases all the way to the most aggressive cases to a little more than 130 million barrels. Why is this?

The key of the study and the approach of the study was not as Alan Kelly said to produce another dot, but rather to get behind this range of forecasts and understand what are the assumptions that drove the outcomes. And in that begin to understand what are the key drivers that would position us to address the risk that might be seen in these projections.

There were three data sets collected. And among the many used in this study, first and foremost were probably what we would call the integrated, standard datasets produced by the EIA and the IEA; integrated in the sense that supply and demand are connected together in those. And in fact the EIA reference case is shown here where the value in 2030 of approximately 116 million barrels a day is

actually a supply number tied to the demand numbers that Jim talked about a moment ago.

The second group of data was a very broad cast. We cast the net very broadly to collect information from all sources and treat them fully and respectfully in the study and included what many have referred to as the "peak oil community." What you see in blue here is actually from the Association for the Study of Peak Oil. These represented the most conservative representations of the forecast.

In addition we collected uniquely some proprietary data. Now, proprietary data was collected through a very careful controlled process which removed any identification or reference to specific inputs by individual organizations. These had two major components to them. One were the international oil companies who naturally had a direct interest in forecasting from a planning perspective as well as a wide range of consulting groups.

You see in the center in the yellow dot the IOC average. This is the average of the International Oil Companies. I believe it's significant, and the study shows it significant

that this number falls below the referenced number. It may be hard to tell from the scale but this is about 10 million barrels a day. Or to put that in perspective about equivalent to the current production of Saudi Arabia.

What underlies this distribution? It's a range of things. Number one, assumptions about the decline rates in the existing production base. Assumptions in assessments of the risk associated with the current reserve estimates and their conversion to production.

Third, assumptions about technology and the role it will play to enhance recovery from existing fields.

Fourth, the rate and timing of major investments including new discoveries in the development of those discoveries.

And fifth, importantly, and I'll touch on it later, the role that unconventional fuels, fuels from non-traditional and conventional oil, play in meeting the overall liquid production that we see in the future.

As you can see with this other point that was just added, the recent report from the IEA on meeting current projections to 2012

falls in the midrange of projections. The projections, of course, are much narrower since this is a 2012 near-term forecast.

What we see from that is generally reflected in the forecast with respect to gas. A broad range of forecasts, however, the story is slightly different. All lie above the yellow line which is the historical trend of growth for gas usage on a global basis. Mid-rang forecasts come in at around 450 billion cubic feet per day.

Unlike the case with oil, gas is less developed on a global scale. Our understanding of the range of these forecasts and the resource base indicates that we can meet these growth range to 2030 but two key aspects emerge.

umber one, to meet these mid-range forecasts we will consume approximately 50 percent of the existing reserve base. The implication for that is, a significant amount of additional finding and development needs to take place to replace those reserves.

The second issue which will come up again later, you will see, and an issue that

emerged broadly in the study, is the fact that the amount of infrastructure that must be added on a global basis, pipelines, LNG, et cetera, is significant and massive, in fact, to meet this level of growth in this time frame.

What we, the team, sees then is an accumulating set of risks both above ground and below ground that indicate to us that there are going to be significant challenges to meeting projected energy demand particularly and especially from conventional oil and gas resources.

This leads us to a second hard truth about energy sources. In order to mitigate these risks, expansion of all economic energy sources will be required. These include coal, nuclear, biomass and other renewables, as well as unconventional oil and natural gas. All of these sources face significant challenges, safety, environmental and political, economic and in particular infrastructure requirements that are necessary to connect the resource and deliver energy to the end user.

Let me touch a bit on these issues. This is a -- you've seen this data before. Jim

showed it, this is another representation. But what it really says is, whether it's petroleum, gas, coal, or other sources of energy, we are going to need them all. Given the anticipated and projected demand rates no one segment can be missing in order to meet them. So we are going to need all of them.

I would like to touch on one specific aspect of these and that has to do with liquid fuel production from unconventional sources.

The EIA forecasts in their reference case approximately 9.5 million barrels a day from what they call "unconventional liquids." You can see them listed here. One of the distinguishing differences between the EIA and the IEA forecasts is the amount of unconventional liquids produced. Indeed one of the significant differences across the entire spectrum of forecasts that we see is the differences in their views about the timing and level of the development of these unconventional fuels.

We have conducted in the course of this study a number of detailed topic papers, as Alan pointed out, particularly with respect to

all of these elements including biofuels and coal to liquids.

A final point, again, a point that came up in many aspects of the supply and demand studies is that what infrastructure -- and this is infrastructure at large which includes transportation, storage, manufacturing, and conversion. All of these elements are necessary to understand how supply and demand will connect. And, in fact, in many cases how supply will get into the market and how the demand markets will access them.

A comprehensive study was conducted with respect to this infrastructure. What we discovered in that study was in fact that infrastructure generally is not accounted for in a direction fashion in many of these forecasts. Those forecasts, of course, which do not connect supply and demand in many cases assume nothing directly about infrastructure, but even the integrated forecasts generally assume that infrastructure will show up.

What's implied by a combination of significant growth and supply needed to meet the demand projections, the shifts in those

demand centers as you will hear more about, but in particular with the growth of unconventional resources, much of which requires new infrastructure, all of these together point to a massive investment in the system forecasted by some such as the IEA to exceed $20 trillion that will need to take place over the next several years. So what while we see opportunities and we see resources, the hard truth is the challenges ahead of us to meet, to provide -- to meet the demand and provide the supply that we need in the future are going to be daunting.

MR. CHOW: The hard truth that we came to on energy security is energy independence should not be confused with strengthening energy security. The concept of energy independence is not realistic in the foreseeable future. Whereas U.S. energy security can be enhanced by moderating demand, expanding and diversifying domestic energy supplies and strengthening global energy trade and investment. There can be no U.S. energy security without global energy security.

Many of the risks to energy security

are above ground. For example, the geographic distribution of resources. As conventional oil production in traditional areas such as in North America continue to decline available resources will be increasingly concentrated in regions like the middle east and the former Soviet Union. That's not only where incremental argument come from emerging economies as Jim showed earlier, conventional oil production will also shift increasingly to a few major oil producing countries.

If we add unconventional resources such as oil sands, bitrimin or oil shale to the picture, the situation improves for North and South America. However, increasing unconventional production at scale requires long lead times and carries their own challenges including environmental ones.

Shifting demand and supply patterns will lead to shifting flows of oil and gas. If we compare oil flows today to what they might look like by 2030, a lot more long-haul cargos will be shipped out of the Persian Gulf, Russia and the Caspian region. The shift in demand and supply also raises the question of whether

the ruse of the international oil game will change or indeed may have already started to change with market-driven trade and investment no longer a lock key, universally held objective.

Issues like resource nationalism that limit access for development by the international industry has taken on renewed importance. The contrast is even more dramatic in the case of gas with a big jump in long-haul, interregional gas flows. If we look at what future liquefied natural gas flows might look like, tanker movements will be increased greatly from producing areas to the U.S. and major consumers in East Asia. This is another illustration of the challenges over building massive new infrastructure for liquefaction, transportation, receiving and regasification for expanded LNG trade to take place.

More than half of the international oil movements today go through half a dozen choke points. This vulnerability will likely increase over time. Without demand moderation and increasing domestic liquids production, net U.S. imports will continue to grow as it has in

the last 30 years.

Now we turn to the issues related to our capacity for meeting these future energy needs.

MR. NELSON: Thank you, Ed.

It's a hard truth that a majority of the U.S. energy sector work force including skilled scientists and engineers is eligible to retire within the next decade. The work force must be replenished and trained. The oil industry experienced a hiring surge in the late '70s and early '80s followed by an extended period of decline resulting in the peak you see on this graph of age distribution at around 50 years.

An influx in the last couple of years of new talent has not made up for decades of depressed activity. And we have a demographic result of over half of the work force 45 years of age or older and eligible for retirement within the next decade. In the industry we refer to this as the "big crew change." The work force must be replenished. But this challenge is exacerbated by an overall shortage of science and engineering graduates,

particularly women and minorities, the industry image and competition from other industries. This issue is not exclusive to the U.S. This map depicts one calculation of the net deficit or surplus of geosciences graduates by country for the next ten years. Those countries in green have either limited data or are near balance.

The U.S. could fill its deficit by importing talent. But we will be in competition with other countries who face similar needs. And immigration policies would have to be revisited.

Our last hard truth relates to carbon emissions. Policies aimed at curbing carbon dioxide emissions will alter the energy mix, increase energy-related costs and require reductions in demand growth. Carbon dioxide emissions from continuing use of fossil fuels are a growing concern. We took a pragmatic approach to carbon management including technical, environmental, and regulatory considerations with the help of a very distinguished team of diverse experts from within and outside the oil and gas industry.

Several factors combine to make this a long-term global challenge including the fact that atmospheric CO_2 concentrations are cumulative, long-lasting, and don't conform to geographic boundaries due to rapid mixing in the atmosphere. The scale and complexity of the challenge to meaningfully reduce carbon emissions is daunting. Let me try to put it in perspective for you.

The U.S. currently emits about six billion tons of CO_2 per year. To put it at a personal scale, that's a 115 pounds per person per day or 20 times the solid waste production of an average person. In terms of sequestration volumes or storing those volumes in the subsurface securely a one gigawatt coal-fired power plant produces 150,000 barrels of liquefied CO_2 per day. So it's a significant challenge. But this industry is used to overcoming large challenges and we deal with those kind of volumes every day.

This slide follows from what you have already seen in terms of energy demand growth accelerating in non-OECD countries. Obviously CO_2 emissions follow. In fact, they're

accelerated because the fossil fuel mix in non-OECD countries is higher than in developed countries.

Looking at the same data another way, we can see that the U.S. and China together make up 40 percent of the world's total CO_2 emissions going forward. So we can clearly see this is a global issue requiring global solutions. So while addressing carbon concerns we need to continue to enable the use of fossil fuels beyond this study time frame. A carbon-constrained world requires moderating demand by improving energy efficiency across the transportation, industrial and commercial sectors, accelerating development of low-carbon energy, and finally implementation of large-scale carbon capture and sequestration at large foreign sources, something the oil and gas industry is well-suited to do.

That's the six of our hard truths. Let me turn it back over to Alan.

MR. KELLY: Thank you, Rod. So you've had a brief summary from the team about our findings, the hard truths. As those of you who have studied the report will know, there is a

considerable amount of analysis to support these findings in the detailed study and topic papers. As I said earlier, the American people are very concerned about energy, it's availability, reliability, cost, and environmental impact. To address these concerns the team proposes five core strategies to assist markets in meeting the energy challenges to 2030 and beyond. All five are essential and we are confident that the prompt adoption of these strategies along with a sustained commitment to implementation will promote U.S. competitiveness by balancing economic, environmental and security goals.

The strategies are as follows:

First, moderating demand by increasing energy efficiency.

Second, expansion and diversification of domestic U.S. energy supply.

Third, strengthening global and U.S. energy security.

Fourth, reinforcing the capabilities to meet the new challenges.

Fifth, addressing carbon constraints.

All of these strategies will be

essential. There is no easy solution to the multiple challenges we face. So let me now turn to the team again to provide more background on each of these strategies.

MR. BURKHARD: For demand there are three pillars that support the objective of moderating demand. The first one is to improve the fuel efficiency of light-duty vehicles, cars and light trucks. If moderating oil demand growth is a key objective, then improving the efficiency of light-duty vehicles can have a big impact. Just under half of the 21 million barrels per day of oil that the U.S. consumes each day, just under half is used by light-duty vehicles.

The potential impact of a doubling of new vehicle fuel economy by 2030, in other words, of new vehicles in 2030 have doubled the fuel economy of today, the potential fuel savings is about three to five million barrels per day. Of our demand recommendations this one has the biggest potential energy savings.

The second pillar is to improve efficiency in the U.S. residential and commercial sectors. About 40 percent of U.S.

energy is consumed in the residential and commercial sectors. And to follow through on this objective of increasing efficiency, there are three steps. One is to update building codes, cost effective energy building technologies have outpaced most government standards.

Second, enforce building codes. Some jurisdictions report that one-third or more of new buildings do not comply with energy code requirements.

The third is, develop new energy efficiency standards for products that are not currently covered such as digital products which do not have energy efficiency standards.

The potential energy savings of improving the efficiency in the U.S. residential and commercial sector is about seven to nine quadrillion Btu's. Now, for context in 2005 the U.S. consumed about 100 million -- excuse me, 100 quadrillion Btu's.

The third pillar is to improve efficiency in the U.S. industrial sector. The industrial sector consumes about one-third of U.S. energy. In U.S. energy-intensive industry

the manufacturers rely on internationally competitive energy supplies to remain competitive. Across the industrial sector there are opportunities to increase energy efficiency by about 15 percent. The potential savings in the industrial sector is about four to seven quadrillion Btu's by 2030, about equal parts coal, gas and oil. Those are the three pillars that support the recommendation of moderating demands.

MR. PAUL: Let me continue to discuss the core strategies with respect to expanding and diversifying the U.S. energy supply. This has three key components as well.

First is to reduce the decline in the conventional U.S. oil and gas production base. The U.S. is the largest historical producer of oil and gas and remains the third largest producer in the world. At this level, all efforts that can retain as much of the U.S. conventional production base will contribute significantly to the stability of U.S. supply.

A couple of particular notes associated with the U.S. include the ability to maintain the production from marginal wells. These are

-- there are hundreds of thousands of them. They produce only a few barrels today, but in aggregate contribute 17 percent to the U.S. production base. In addition, because of the maturity of the U.S. production base and mini basins, the ability to advance and recover more hydrocarbons from the existing resource base through the application of advanced recovery technologies is essential as well.

The U.S. to expand and diversify supply needs to increase its access for new energy development. In particular the study team recommends that a national and regional oriented resource and market assessment be put together to identify the best opportunities, opportunities that beat economic energy security and environmental standards to add to U.S. production.

Finally, the third leg is to diversify the long-term energy production. In the slide that I showed about the EIA data or unconventional fuel production, the referenced forecast goes from three million to nine plus million barrels a day. To put that in context, that's the equivalent of adding the entirety of

another U.S. production base. This is a significant challenge.

The good new for the United States is that it has unique and material unconventional resources as Ed showed in his slide. One of them, as we have discovered from our study, is a significant biomass resource base. The study recommends the acceleration of the development of energy from biomass. This includes obviously facing the challenges of advancing the technology for both growing energy crops, converting energy crops, and of course, importantly, developing the infrastructure required to convert new biofuel production and bring it to market.

The second one also reflects the unique U.S. position with respect to the resource of coal. Coal, of course, today contributes significantly to the U.S. electrical production base. It can also in the view of the study and in many forecasts contribute substantially in the long term to fuel production. But to do this, coal must be enabled environmentally to be environmentally viable over the long-term for power fuel and feedstock.

As a practical matter, this means dealing with the carbon issue as Rod discussed earlier and will add comments later.

Coal is a special case for the United States. The U.S. is one of the largest producers. It has, by some measures, the largest reserve base. Clearly long-term environmental viability of coal is essential.

Surprising to some may be a recommendation with respect to expanding domestic nuclear capability. Note that the study did not recommend material expansion in the nuclear power plant fleet, but rather recommended reestablishing U.S. leadership capability. Historically the U.S. was the leader in technical and industrial capacity around nuclear energy several decades ago. In a world that's carbon constrained nuclear energy is going to play a role. The U.S. is currently the world's largest nuclear power producer. However, as nuclear energy future evolves, it's essential from both an energy point of view and from a national security point of view the U.S. regain its technical and industrial leadership.

MR. CHOW: As we said before, we cannot separate U.S. energy security from global energy security. The interdependent nature of this relationship as demonstrated in the aftermath of Hurricanes Katrina and Rita means that both the U.S. and the world depend on the stability and reliability of the international energy system. Therefore, the U.S. should elevate attention to our energy policy goals to the same level as traditional security foreign and trade policy objectives in order to avoid unintended consequences from other policies that impact our energy concerns; and to take advantage of opportunities to advance our energy security provided by trade and other bilateral and multilateral negotiations.

As the world's largest energy consumer and ourselves a major producer of oil, natural gas and coal, the U.S. is uniquely positioned to lead the dialogue between major producing and consuming countries for the purpose of seeking common ground to protect the legitimate interests of both sides. And the important part of that dialogue should promote market transparency and encourage open trade and

investment in energy. Given the long lead time and large capital requirements of the energy industry, one of the major uncertainties for large investments to go forward is the stability of the international system.

Another area where the U.S. can play a natural leadership role is in energy efficiency and the speedy adoption of new technologies. Especially to help developing countries and emerging economies where so much of demand growth is projected to improve their energy efficiency.

MR. NELSON: The U.S. has historically been the leader in energy technology and education. In the U.S. competitiveness will be enhanced by increasing the enrollment in science and engineering schools in general in energy curriculums in particular. The creation of research opportunities at U.S. universities and national labs will reinforce our capability and leadership. As you have seen through this presentation the scarcity of data from which parties make recommendations fuels diversity of opinion and uncertainty and is one of the reasons opinions vary widely.

As the supply and demand centers shift eastward without action, the current problem may get worse. The USGS should take the lead in developing a new inventory of global endowment and recoverable resources including unconventionals. Infrastructure, a critical piece of the energy chain, has historically been neglected and we can no longer afford to do so. A concerted effort to forecast the infrastructure needs going forward is critical to the U.S. particularly with respect to electrical demand and distribution in alternative fuels.

Lastly, let's address carbon constraints. The biggest hurdle to large-scale implementation of carbon capture and sequestration is the lack of a defined, legal, and regulatory environment. This must be resolved as soon as possible to allow industry to go to work. Reducing carbon emissions is a long-term, global issue and must be dealt with as such. It's also an opportunity for U.S. leadership. As policymakers consider carbon constraints we urge them to consider that a transparent, predictable, economy-wide cost for

CO_2 emissions will allow the market to find the most efficient means of addressing this complex challenge.

MR. KELLY: Thank you, Rod, and to all my other colleagues on the stage. In summary, the National Petroleum Council Study Team believes that all five of the strategies you just heard described must be addressed together to meet tomorrow's energy challenges. Global cooperation will be required with the United States playing a leading role in all aspects of the energy debate and actions must begin now for the plan for sustained commitment over the long term.

I'd like to close this presentation by providing an illustration of the potential effects in the United States for liquid fuels of implementing the recommended strategies using the latest U.S. Energy Information Administration reference case as a start point. The EIA base case projects liquid fuels demand growth to around 25 million barrels a day by the year 2030.

On the supply side domestic production of liquid fuels also grows over the period as

unconventional fuels and biofuels offset the decline in the conventional base. The growing gap between supply and demand is essentially net imports. And bridging that gap will depend upon U.S. interaction with global markets. Implementation of the NPC recommended strategies would have a dramatic impact on this outlet. The demand moderation effects reduce the slope of the upper curve as liquid volumes are reduced. On the other hand, the strategies to moderate the decline of conventional supplies and to further expand and diversify domestic supply changes the shape of the lower curve. The combined effect of the strategies will reduce the gap between domestic supply and demand by about one-third over the time period improving the outlook for energy availability, reliability, cost, and environmental impact.

So thank you for taking the time to listen to the team's presentation. Our report outlines more fully the challenges posed by the world's integrated energy system and the opportunities to secure a more reliable energy future. We look forward to sharing this study and its results with broader audiences in the

future. So thank you. Lee.

(Applause.)

MR. RAYMOND: Thank you, Alan, and all members of your team far and wide who participated. Before I open the meeting to questions and comments from the floor, I would like to ask my committee co-chair and the vice chairs for any comments they have. Clay.

DEPUTY SECRETARY SELL: Thank you, Lee. I would just like to thank the Secretary for asking me to serve as your government co-chair on the executive committee. It has been an important task and an enriching source of work. And I just want to add my voice on behalf of all of the members of the executive committee, my voice of thanks for the great work that Jim Slutz from the Department of Energy, Alan Kelly, Jim Burkhard, Don Paul, Ed Chow, Rod Nelson and their teams did in producing what I believe to be a comprehensive and outstanding study. Thank you.

MR. RAYMOND: John.

MR. HUMRE: Good morning, everybody. My name is John Humre, I'm the President of CSIS. We are not an energy concern, we are a

Washington think tank. We started off as a defense think tank during the cold war; that's only about 25 percent of our work now. The bulk of our work is regional studies, about 40 percent. And that's why we were brought in. We were brought in to help coordinate the above-ground problems associated with this question of oil/gas supply and demand.

And we were brought in to help coordinate the policy recommendations. Now, they wanted us in because they wanted us to reach out to a broader circle of people that are involved in all this. And I mention this very intentionally to say there's a stereotype in this town that the oil and gas guys are a bunch of secretive and manipulative guys. And I tell you, we do a lot of studies. I do about 130 studies with my think tank and this was the most open and transparent group that we've worked with. You know, they sat, they argued, they listened to each other and they changed their mind. And I just have to say that because I think that is not understood.

Now, one substantive comment. This is a town where everybody is talking about energy

independence and that's a slogan, that ain't a strategy. This is a strategy. This is something you could actually do. You could take these recommendations, you could implement it and it would make a difference. And it's coming from the community that reached out and brought in a very wide circle. There are 53 pages of the people that participated in the study effort, Mr. Secretary, you know, completely across the board, over 1,000 people.

And this is a study that America could implement and we really ought to pay attention. And it's coming from the oil and gas guys. And I think it's important to note that.

Thank you very much.

MR. RAYMOND: Thanks, John. Dan.

MR. YERGIN: Thank you. First I'm Dan Yergin. I would like to also really congratulate the team leaders and the teams for terrific work on this. I would like to confide something. There are many things that were hard about this report, but one of the hardest things was to write the executive summary. The reason for that was not because of wide discord, but because the subject itself, the

material, is so rich and so I really do urge you to look through the whole report. It contains an immense amount of learning.

I would like to just add a point on the energy efficiency side that really this report does make clear that energy efficiency conservation is one of the key parts of our energy mix and our energy strategy. There's a very solid foundation for it. The U.S. is twice as energy efficient today as it was last time we had energy crises and we have better tools today to become more efficient in the future. We recognize and the study recognizes that this is different because the investment patterns are different. They involve thousands and thousands and thousands of decisions rather than just sort of more focused decisions. I can say that the energy conservation, energy efficiency side had a very vigorous debate. There are a lot of viewpoints, a lot of perspectives, a lot of dialogue, a lot of learning, and I guess we would say a lot of discussion but came to a common ground. And I think it's a very powerful message that's reflected in the nature of the recommendations.

Significant energy savings potential is part of the mix, it's possible. Jim Burkhard pointed out to vehicle fuel efficiency. Just to give you one number and it goes back to what Alan was talking about, with the fuel efficiency standards we talk about in the study in terms of new vehicles by 2030, we would be saving three to five million barrels a day of oil compared to what would otherwise be the case. We can see the same on the others.

And I think to tie it together, what ties it together for me, Don Paul used a term and it's one that reoccurs in the study about accumulating risk to supply. But this study, it seems to me, set out to be comprehensive. As I read it, looking at it now, it's realistic, it's also optimistic because it talks about accumulating opportunities to meet the kind of challenge before us and greater energy efficiency is certainly part of that -- part of the accumulating opportunities and is an important part of this comprehensive picture that's being presented here today.

Thank you.

MR. RAYMOND: Thanks, Dan.

Don on behalf of Dave O'Riley?

MR. PAUL: Yes on behalf of Dave O'Riley who regrets that he returned ill from a trip and couldn't come today a couple of key things. Obviously thanking the team for their considerable effort that was made.

The breadth of the study Dave commented was essential. Even though the questions were directed at oil and gas, the world today is about fuel and power. And that means a broader study was essential and I think everyone would agree having taken that path we came to conclusions, we came up with strategies we would not have come up with otherwise.

In the end a number of things emerged that may have surprised some, didn't surprise Dave, but I think maybe surprised some who see a study from the NPC efficiency, diversification, infrastructure, technology, all of these things are the keys to achieving the -- to capturing opportunities that Dan mentioned.

And then finally something that's important that the magnitude of the effort facing us means you have to start now and

you've got to keep after it. Not just a year or two years, but for decades. Those are Dave's comments.

MR. RAYMOND: Rod, on behalf of Andy.

MR. NELSON: Just a quick comment. I think most of what Andrew actually told me this morning has already been said. But one addition and that is that he said he hopes that this excellent report will be used both within the U.S. and internationally to inform the energy debate. And he's quite confident that those countries we reached out to and actually were actively engaged in participating in this study will find this report useful as well.

MR. RAYMOND: Thank you. Do I have a motion that the NPC approve this report subject to final editing and approve the transmittal letter to Secretary Bodman.

PARTICIPANT: So moved.

MR. RAYMOND: Is there a second?

PARTICIPANT: Second.

MR. RAYMOND: Are there any council members who have questions or comments on the proposed final report?

(No response.)

MR. RAYMOND: We have a motion and a second to adopt the proposed final report of the NPC Committee on Global Oil and Gas. All in favor.

(Chorus of ayes.)

MR. RAYMOND: Opposed?

(No response.)

MR. RAYMOND: The report is adopted.

I want to thank the vice chairs of the committee, the chairs of the subcommittee, and the task groups and the multitude of volunteers who helped complete the work. All of you have done an excellent job. And I think that it will turn out to be a very important report.

Mr. Secretary, it is with great pleasure that the National Petroleum Council submits this report to you. The effort that went into this study was exhaustive and through and, as you have heard, involved over 350 participants. We are particularly grateful to you for the cooperation and support you provided from your department as well as from other governmental agencies here and around the world. We trust you and others in national, state, and local governments will find our

advice useful in addressing energy policy decisions. The Council looks forward to sharing these study results with you, the administration and the public.

Our next agenda item is to hear from the Secretary of Energy and we are honored to have him here with us this morning. He needs no introduction. So, Mr. Secretary, the floor is yours.

SECRETARY BODMAN: Thank you, Lee. I want to thank you for the extraordinary leadership you have provided for the NPC. I want to thank all the members of the NPC. I want to thank Marshall Nichols who has been the executive director of the NPC and done a terrific job. They are appreciated by me as well as I know by you.

(Applause.)

SECRETARY BODMAN: Now, I should tell you that I've had the benefit of some summary information, but I have not frankly read the report in detail for various reasons that relate to the conduct of this activity. But the thoroughness of the briefing that has been provided here today is very -- I find it very

impressive, and the commitment that is in this room I find very impressive. The fact that we have this quality, number, and capability of the people here and that you were as quiet as you were during and for as long, I find a very impressive thing.

(Laughter.)

SECRETARY BODMAN: This was clearly something that people wanted to listen to. I consider this having started this, this is truly a landmark effort, in my judgment. I asked you to accomplish some things, but you've gone far beyond that which I had expected and I thank you all for that. As you all are aware, as we all are aware, we are at a very critical stage in developing an energy policy for this country and for the globe. The projected increases in the demand for power and for fuel arise out of our belief that both the U.S. economy and the global economy will continue to grow, and that's a good thing. But our increasing needs here at home and the increasing needs around the world for more and more energy stock requires us to soberly assess what we will look like in the future and how to

play for how we will get to that future.

The President has been very keenly aware of this need for some time, from the very earliest days of his administration. The National Energy Policy which lead to the Energy Policy Act of 2005 were important steps forward, but they were the beginning of the journey and certainly not the end. In 2005 when I asked you all to study the future, I know that I was asking you to take on a big task and that we however had made the decision that to understand our energy system we needed to commission superior analytic work utilizing the expertise available to us only in the private sector as well as in academia and the scientific community of this country.

In the context of concerns over production and supply brought on by Hurricanes Katrina and Rita, over adequate energy investment, and because of the challenges that were starting to appear in larger energy projects I asked the National Petroleum Council to embark on what at least to my mind would be one of the most comprehensive studies of current and future global oil and natural gas

supplies every conducted. Specifically I asked you all to look at what the future holds for global oil and natural gas supplies. Whether incremental supplies can be brought on, on time and at a reasonable price to meet future demand without jeopardizing economic growth and to recommend both supply and demand sides strategies that the United States can pursue to ensure greater economic stability and prosperity.

The NPC took up my challenge and has completed this task in a way that as I said, I think is not just going to credit all of those who are involved in it, but I feel real responsibility to put this to the best possible use in the future.

As I said a moment ago, I appreciate the thoroughness of the briefing here this morning. I am very impressed by it and by the broad representation of sectors and interests that were asked to participate. The fact that we had over 350 participants from a variety of disciplines inside and outside the oil and gas industry as well as consultants and efficiency advocates, and the financial community,

academia, professional societies, as well as individuals from environmental groups, NGOs, as well as the government. And from what I can tell, you sought the best data, the best ideas, the best assessments no matter where they could be found. As I understand it, you even reached out to other countries. I know that we, for our part, to assist you in your efforts, we engaged energy ministers in some 19 countries, and I'm pleased to say that many of those individuals, as I understand it, provided constructive input and responses.

The study process included significant technology and geopolitical analysis as a part of its organization. And that goes beyond a typical supply and demand analysis. It included a significant international outreach and opportunity for participation and data input from international companies and global organizations.

You have created a product, in my view, that is different from other studies. It usefully identifies strategies for consideration by policy and decisionmakers at all levels of government and industry. It is

extraordinarily comprehensive in its analysis and its proposed path forward saying essentially that as demand grows all forms of energy traditional and alternative, fossil fuels and renewables will be needed to meet the world needs. It is based on a broad and deep analytic foundation encompassing more than 100 projections, I think I heard you say, including a unique system for compiling proprietary forecasts while protecting the confidentiality of the data.

The system is also transparent so that anyone who wishes to understand how the data were used can have access to the dataset. And you all know the importance that I place personally on transparency.

Let me assure you, the members of the NPC before me, that my interests in what you have produced will not end with this meeting. I will read the report thoroughly and consider its recommendations with great care. In fact, I have already begun to mull them over while I was listening to the reports this morning.

The breadth of the study, the comprehensive nature of both its analysis and

its recommendations makes it a useful and important tool as we move ahead and shape the future U.S. Energy policy.

In these times of rapid price fluctuations, shrinking production margins, global uncertainty and conflicting opinions on the state of the world's reserves we need and appreciate the collective global expertise represented in this report. Your input is a valuable part of our long-term strategic planning as we try to ensure America's current and future energy security as well as our economic prosperity while meeting the challenges that a growing global economy poses for the world's energy security.

These are hard facts and hard facts require us to plan for wise choices now and in the future. The need to do this is, as I think you know, central to our administration's energy policy. We understand full well and your report reflects this, that oil and gas, oil and natural gas will retain their preeminent position in the hierarchy of U.S. energy supplies for some time to come. But we must be mindful of both our environmental

responsibilities and the needs for future generations so that we have to aggressively pursue new energy options and alternatives.

By this I mean not only solar and wind power, but among other strategies the increased use of nuclear power, environmentally responsible electricity generation through coal-fired plants that utilize carbon capture and sequestration technology and greater reliance on biosciences and biofuels to produce fuels for use in the transportation sector.

Now, the President, as you know, has called for us to take steps to decrease domestic gasoline usage. The cornerstone of this proposal is an effort to reduce the projected consumption of gasoline by 20 percent in ten years, and that is a formidable undertaking. The 20 in ten plan calls for an increase in fuel economy standards for mortar fuels that should produce a savings of about 5 percent, with the other 15 percent coming from a new renewable energy standard that will supplement gasoline as a transportation fuel much as is suggested in this report. And we are doing that by an increase in the amount of

biofuels, with ethanol, E85, biodiesel and the like that will be used in the transportation sector.

Our goal was to do more with less rather than to force the American people to do less because the supplies are not available. It is my firm belief that America's business community, academia, and scientific world can and will lead in helping us to meet this challenge head on, but it is a very formidable challenge.

It is the role of the Department of Energy to see to it that research into technologies that hold great potential for ultra-clean and secure energy options is accelerated. Over the last year we have done considerable work in moving toward commercially competitive cellulosic ethanol, advanced hybrid vehicle technologies, hydrogen fuel cells, solar and wind energy, and cutting-edge technologies to burn coal for electricity production with near zero emissions, and we will continue to do so in the future.

Over time we expect this basic and applied research to fundamentally transform the

way we produce and use energy in this country and reduce our dependence on foreign energy sources. My time in business and my time in government at Commerce and at Treasury and now at the Department of Energy have convinced me that it is right for private markets and mature industries to take the lead in developing new technologies. While the government should focus more exclusively on what it can and should do to enable private capital to perform in the public interests.

Ultimately, I believe the transition to a more energy-efficient U.S. economy will happen as a result of changes that arise largely from the private sector, in some cases with government support. The marketplace can move faster than government. It can accommodate and absorb breakthroughs in technology more quickly and overall has better access to information. And we are seeking the advice and counsel of industry leaders, as you have provided me today, to tell us what we should be doing, what the best use of our efforts is as well as what the best use of taxpayer dollars should be.

This report represents a significant effort in that regard. I believe it would also be helpful if you would, as a second step, do all that you can do to ensure that policymakers, opinion leaders, academics, and business leaders are informed of your findings. The data that you have assembled and the conclusions you draw are very important contributions to the ongoing discussion of energy policy and in my opinion should be shared very widely.

I want to thank you for your time, for your effort, and your attention. I hope you agree with me that the President is correct when he says, "that America must move quickly down the road to greater energy efficiency, the diversification of energy supplies and suppliers and a reduced reliance on energy imports." If we act boldly, if we encourage reasonable risks within a stable policy framework, I think we can do all of these things. And I look to you, to the private markets, to profitably invest in our energy future and to make these changes possible.

The government should and will be

available to provide funding for the basic and applied research needed to develop new technologies needed to address critical national concerns. And I think we can be counted on to create incentives that will help push promising technologies into commercialization. And we will create through investment, legislation, and reasonable regulation a stable policy environment that reduces uncertainty and minimizes risk over the longer term. The best role for government is to provide private initiatives, maintain a stable legal and regulatory environment, and bringing people together as we have done through the NPC.

Once again, as has been the case so many times in the past, the National Petroleum Council has provided the American people with a necessary and a useful service. And for myself and on behalf of the President of the United States I thank all of you. Appreciate it. Thank you.

(Applause.)

MR. RAYMOND: Thank you, Sam, for your remarks and your interest in our work. I think

I can say without fear of contradiction that the NPC stands ready to do whatever we can to make sure that this report is disseminated to all the people who should have an interest in it and particularly to those people who provided a lot of information to us both in this country and outside of the country and tried to support the study. I think we have an obligation to go back to them and indicate what the results have been and hopefully discuss with them what the impact of the study can be.

So to that extent, Sam, we are just pleased you could be with us today and we are pleased of the support we've had from the Department for this whole effort. Thank you.

If I could now turn to a couple of administrative matters for the National Petroleum Council. But before we do that I have a couple of announcements. The first is to note for the benefit of the members of the press that about five minutes following the meeting's adjournment the study leaders will be available here at the head table to respond to your questions. And the second for our on-line audience, the web cast will pause now and then

resume with the press conference which will start in about 20 minutes.

Now I would like to turn to the Council's finances, Claiborne Deming, Chair of the NPC Finance Committee will present the Committee's report. Claiborne.

MR. DEMING: Thank you, Mr. Chairman. The Finance Committee met this morning to review the financial condition of the Council. A representative of Johnson Lambert Company, our independent outside auditors was at the meeting to review their draft audit report for calendar year 2006. Based on this review I am pleased to report that our accounting procedures and controls received high marks. I am also pleased to report to you that the two-year program to replenish the Council's contingency fund was successful and the financial condition of the Council is strong.

As you may recall, the Committee also met in late February and recommended a calendar year 2007 budget in the amount of $4,704,000.00 and recommended member contributions in the same amount to fully fund this budget. In March the Council membership unanimously

approved both recommendations. This morning we reviewed expenditures to date for 2007 and with the global oil and gas study coming to a close we do not recommend any changes to this budget.

In early June all members were sent a letter requesting financial support. To date the response has been excellent. However, if you have not yet responded, I encourage you to do so as soon as possible.

Thank you, Mr. Chairman, this completes my report. And I move that it be adopted by the Council.

MR. RAYMOND: Thanks, Claiborne. We do have a motion to adopt the report. Do I hear a second?

PARTICIPANT: Second.

MR. RAYMOND: Are there any questions or comments to the Finance Committee? I hope not.

(Laughter.)

MR. RAYMOND: All of those in favor, please.

(Chorus of ayes.)

MR. RAYMOND: Thanks, Claiborne, on behalf of the Council members we appreciate the

work of the committee.

The other administrative report we have this morning is from our other committee which is the Nominating Committee. Ray Hunt chairs the Nominating Committee and now will present the committee's report.

MR. HUNT: Thank you, Mr. Chairman. Before I submit the report of the committee, I would like to just make one comment both as a member of the NPC and just a citizen of this great country. I was not involved in this report in doing the work. I personally think this is the most important work of this nature. And a review and a study of the global energy and you can't consider the U.S. energy situation without the global energy situation of the last 50 years and probably the most important for the next 50 years. And to repeat what John Humre said of CSIS, this is a strategy. It's not a slogan, it's not a political tactic, it's not a sound byte. It is a strategy that policymakers can and hopefully will seriously embrace because it's critical.

Mr. Chairman, with respect to the Nominating Committee it met yesterday to

consider officers, chairs, and members of the Agenda and Appointment Committees as well as the five suggested members for the at-large positions on the co-chairs Coordinating Committee.

As the membership knows, Rich Kinder would have been in line to have been considered as the incoming chair at this time. Several months ago he notified the Council that because of time demands that really were not anticipatable earlier, he asked not to be considered. Accordingly, yesterday, the Nominating Committee met and we unanimously recommend that Lee Raymond be asked to serve a third year as chair of the NPC which makes a lot of sense given the fact that there's just been an unprecedented amount of interest in this report and there will be a lot of activity going forward in the next year responding to the interest in this report.

Further, the Nominating Committee unanimously recommends that Claiborne Deming be elected a vice chair of the NPC. And if history holds as to patterns in the past, a year from now Claiborne would be nominated to

become chair.

Further we would recommend for the Agenda Committee the following individuals, Bob Catell, Bob Frye, Ray Hunt, David Lazar, John Miller, Mike Morris, Jim Mulva, Dave O'Riley, Dan Yergin, with Larry Nichols serving as chair.

With respect to the Appointment Committee we would recommend George Alcorn, Bob Best, Bill Fisher, Jim Hackett, John Hess, Don Mason, Lou Ward, with Bob Palmer serving as chair.

With respect to the five at-large members of the Co-chairs Coordinating Committee we would recommend Andrew Gould, John Hess, Bob Keating, Andrew Lerus, and Bruce Smith.

Mr. Chairman, I would like to put that in the form of a nomination or a motion.

MR. RAYMOND: Thanks, Ray. Do I have a second?

PARTICIPANT: Second.

MR. RAYMOND: Are there any further nominations from the floor?

(No response.)

MR. RAYMOND: All those in favor say

aye.

(Chorus of ayes.)

MR. RAYMOND: I might vote no, but that's the way it goes.

(Laughter.)

MR. RAYMOND: Ladies and gentlemen, before the final item on our formal agenda, let me ask of any Council member has any matter that you would like to raise at this time?

(No response.)

MR. RAYMOND: Does any nonmember of the Council wish to be recognized?

(No response.)

MR. RAYMOND: Our last item is a sad one which marks the passing of Fred Mayer, a distinguished Council member for over 30 years. Bobby Parker will present a memorial resolution in Fred's honor. Bobby.

MR. PARKER: Mr. Secretary, we mentioned earlier in the report that our industry is losing a bunch of good guys, leaders, and doers that make things happen. Fred Mayer was one of those. So I tell you and all of you there, we will miss him. He was here, he did his part, he will be glad of this

report and he'll be watching what we do. So let's do our best. And I will present that on behalf of Fred. He was a good friend and he was a good competitor and a good member of the National Petroleum Council. May I present the resolution, please.

The members of the National Petroleum Council were deeply saddened by the death of their distinguished colleague Frederick R. Mayer on February 14th, 2007. Fred was born in Youngstown, Ohio, raised in Dallas, Texas. He graduated from Yale University in 1950. In 1953 he began Exeter Drilling Company and when it was sold in 1980 it held the distinction of being the largest privately owned drilling company in the United States. In 1982 he founded Captiva Corporation, an oil and gas resource company. In 1983 he was recognized as wildcatter of the year by the Independent Petroleum Association of Mountain States. He was also a member of the Colorado Business Hall of Fame. Fred served in the armed forces in the Korean War, he was a philanthropist and world class collector of art, coins, currency, stamps. A true renaissance man Fred served in

numerous leadership positions including three terms of chairman of the board of the Denver Art Museum. He was also a member of the Trustee's Council of the National Gallery of Art. Fred was an active and loyal alumnus chairing the governing board of Yale University Art Gallery, serving as trustee of his alma mater, the Philips Exeter Academy where he endowed the Frederick Mayer Art Center. He was active in many industry associations and served as a director of the American Petroleum Institute. Fred Mayer was an active member of this Council, the National Petroleum Council for over 30 years. And during his membership Fred involved himself in the work of numerous study committees and served on the Council's Finance Committee.

Thank you.

MR. RAYMOND: Ladies and gentlemen I propose that we signify our adoption of this resolution in memory of Fred by rising for a moment of silent reflection and prayer.

(Moment of silence observed.)

MR. RAYMOND: Let me once again thank Sam for all the time you spent here today. I

know you have a lot of other things to do. We support you in all the things you're trying to do. So, therefore, it's particularly noteful, I think, that you spent all the time that you did with us today. We thank you, Sam, for coming.

Do I have a motion for adjournment.

PARTICIPANT: So moved.

MR. RAYMOND: Second?

PARTICIPANT: Second.

MR. RAYMOND: The 117th meeting of the National Petroleum Council is hereby adjourned.

[Whereupon, at 10:45 a.m., the meeting was adjourned.]

REPORTER'S CERTIFICATE

This is to certify that the attached proceedings before:

UNITED STATES DEPARTMENT OF ENERGY

In the Matter of:

NATIONAL PETROLEUM COUNCIL

117TH MEETING

were held as herein appears and that this is the original transcript thereof for the file of the Department, Commission, Board, Administrative Law Judge or the Agency.

Further, I am neither counsel for or related to any party to the above proceedings.

Debra Derr
Official Reporter

Dated: July 23, 2007