

# OIL DIPLOMACY: FACTS AND MYTHS BEHIND FOREIGN OIL DEPENDENCY

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## HEARING BEFORE THE COMMITTEE ON INTERNATIONAL RELATIONS HOUSE OF REPRESENTATIVES ONE HUNDRED SEVENTH CONGRESS

SECOND SESSION

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## **OIL DIPLOMACY: FACTS AND MYTHS BEHIND FOREIGN OIL DEPENDENCY**

**THURSDAY, JUNE 20, 2002**

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON INTERNATIONAL RELATIONS,  
*Washington, DC.*

The Committee met, pursuant to call, at 10:52 a.m. in Room 2172, Rayburn House Office Building, Hon. Henry J. Hyde (Chairman of the Committee) presiding.

Chairman HYDE. The Committee will come to order.

Today, the Committee holds a hearing on Oil Diplomacy: The Facts and Myths Behind Foreign Oil Dependency. The national security of the United States depends on the reliable supply of energy to support our needs. Fluctuating oil prices and instability in the Middle East once again are prompting calls for energy independence for the United States.

The enticing prospect of freedom from the whims of foreign rulers has been held by every President since 1973 and its infamous Arab oil boycott. Our energy security is also directly linked with the voracity of OPEC's demands. OPEC, the Organization of Petroleum Exporting Countries, conspires to fix prices and restrict the supply of crude oil to the world market in order to maximize profits. We must devise alternate sources of energy and supplies to confront this threat. Yet barring radical changes in our lifestyles, the economy and technology, our domestic resources alone will continue to fall short of this goal.

As Americans, we count on energy to protect our security, to fuel our cars, to provide heat, air conditioning, and light for our homes, to manufacture goods, and to transport supplies. In all of these needs, we, as consumers, pay the price for fluctuations in the global energy market.

Gas prices are largely determined by the price of crude oil, which has fluctuated greatly in recent months. Recently, prices at the pump were as high as \$1.73 per gallon for regular unleaded gasoline in Hawaii. Currently, in Chicago the same type of gas sells for on average \$1.58 per gallon. The U.S. Department of Energy reports that this summer's gas prices are expected to reach the third highest on record.

The United States imports 52 percent of the oil it uses, and as an oil-importing nation, our energy security is inextricably linked with the political and economic security of our suppliers. Currently, the riskiest factors include: Instability in the Middle East and Venezuela; Iran's recent call to all Arab and Muslim nations to use oil as a weapon against the United States; and Iraq's recent suspen-

sion of oil exports to the U.S., currently amounting to one million barrels of oil per day.

U.S. energy security is not only affected by our imports, but our domestic supplies are an important part of the equation as well. We must examine why domestic production has been falling over the past 2 decades. Are regulations so overbearing that they place the energy security of the United States in jeopardy? By increasing our domestic production of energy in both fuel types and efficiency, we ensure our survival in the event of a catastrophic disruption of world oil supplies.

I believe this may be accomplished through new technology which is much more environmentally sound than in years past. I am pleased that the President's National Energy Plan calls for an increase in the Strategic Petroleum Reserve as a means to address an imminent disruption in supplies and as a national defense reserve.

Is energy independence possible or even advisable? Is diversification of suppliers and types of fuel the answer to the U.S. national energy security? Even if energy independence is not feasible in the short term, greater energy security certainly is. I believe that the means of achieving that lies close at hand in our own hemisphere, and I would like to suggest, here and now, the creation of the North American Energy Alliance.

Contrary to popular belief, a surprisingly large amount of our imported energy, from oil and natural gas to electricity, comes to us not from the volatile Middle East but from the Western Hemisphere, primarily Canada and Mexico, with other Latin American countries accounting for much of the rest. Canada is already our largest source of imported oil, including crude oil and refined petroleum. It also supplies 93 percent of our natural gas imports. Electricity from Canada comprises a significant portion of the U.S. supply and is projected to grow strongly over the next few years. Our imports of energy from Mexico are at a much lower level, but Mexico's potential export capacity is enormous, especially in the area of petroleum.

Thus, many of the pieces needed for our energy security are already in place, waiting to be assembled. There is no reason why we cannot work with our North American friends in the immediate future to share expertise and investment in creating an integrated energy market. With the adoption of a common vision of energy security, a commitment to removing the obstacles that hinder the development of the continent's vast energy resources, and the creation of an integrated energy infrastructure, energy resources can be used for the common good between Canada, Mexico, and the United States. This North American Energy Alliance would provide our three nations with energy security. Maybe in just 5 years' time we would be in a much better position than we are today.

Additionally as exciting, looking further afield, other countries in our hemisphere supply significant amounts of energy to the United States, including Venezuela, Colombia, Ecuador, and Trinidad. There is also tremendous potential for diversification in areas of Africa (which already accounts for 13 percent of U.S. imports), Russia and the Caspian region.

In a century likely to contain many unpleasant surprises and new challenges, the importance of U.S. energy security can only increase. In achieving energy security through diversification, however, we must be mindful of a few things. We must assist emerging energy suppliers in cultivating a responsible natural resource development program which supports sound economic and social development for the betterment of the population. This mutually beneficial partnership will enhance our energy security while providing sorely needed revenues for health care, education, and infrastructure abroad.

Because we have a great number of witnesses, I am going to ask that all Members except Mr. Lantos reserve their opening statements and have them placed in the record. Your cooperation with this request will help us move things along so we can benefit from the vast expertise of our panels.

We have an excellent lineup of witnesses. I believe they will illuminate all of these issues before us, and we surely look forward to their testimony. I now yield to the Ranking Member, Mr. Lantos, for his opening statement.

Mr. LANTOS. Thank you very much, Mr. Chairman. I shall be very brief.

Let me first express my appreciation for your holding this very important hearing. Since the horrific events of last September, we have held a number of important hearings to assess how we can most effectively defeat global terrorism. Until today, we have not examined how our reliance on Middle Eastern oil handicaps our ability to combat international terrorism.

Mr. Chairman, today America's dwindling oil reserves provide less than half of the oil our economy uses. This leaves us heavily dependent on the Middle Eastern regimes that control the vast majority of the world's known oil reserves. Many of these regimes are either actively hostile to the United States, as is the case with Iran, Iraq, and Lybia, or unsteady, autocratic regimes beholden to Islamic fundamentalists like Saudi Arabia.

Not surprisingly, many of these same regimes funnel oil revenues into support for global terrorist organizations. The Saudi royal family, for instance, pumps millions of dollars into radical religious schools and mosques across the Middle East that spread the puritanical teachings of the Wahabbi sect of Islam. These schools preach hate toward America. Many of these schools trained the very al Qaeda terrorists who struck America on September 11th.

Mr. Chairman, our dependence on Middle East oil severely undermines our ability to combat international terrorism. Fearing another Arab embargo, some of our diplomats kowtow to Middle East autocrats and permit their antidemocratic, anti-American practices to go unanswered. It is distressing that U.S. foreign policy in the Middle East is often held hostage to oil interests.

The question we must ask ourselves is how can we break free of this crippling dependence? The title of today's hearing is "The Facts and Myths Behind Foreign Oil Dependency." The fact is that we will remain beholden to these Middle Eastern suppliers until we scale back America's addiction to oil. The myth is that we can drill our way out of dependency.

The Administration's plan stresses decreasing our dependence on foreign oil. Underlying the logic of the plan's supply side approach is the fantasy that we can significantly reduce our reliance on imported oil simply by bringing more domestic production on line. But simply saying that increased domestic drilling will reduce our dependence on foreign oil does not make it so. According to the Department of Energy's own analysis, domestic oil production is in a steep and steady decline as the easily accessible sources of American oil have already been tapped. The Department of Energy estimates that Saudi Arabia, the other Gulf states, Iran and Iraq, combined hold about 65 percent of the world's proven oil reserves while our share amounts to no more than 3 percent.

The love affair with old-technology, gas-guzzling automobiles is the main reason we are becoming more and more dependent on Persian Gulf oil. The 217 million cars, buses, and trucks on our roads consume 67 percent of the oil we use.

The Administration's plan, in my judgment, lacks a program with firm timetables to utilize currently available technologies to make our gas-guzzling vehicles less dependent on oil. It also lacks a National Renewable Portfolio Standard to speed the replacement of fossil fuel with renewable energy sources, and the plan lacks effective incentives to conserve power use in both homes and businesses. These shortcomings in the Administration's energy plan will guarantee increased dependence on the regimes that bankroll terrorism.

Mr. Chairman, the Administration's energy plan was written before the events of September 11th. It is imperative, in my judgment, that we adapt our approach to support our war effort, not to undercut it. And although the Administration has yet to revisit its energy plan, I continue to hope that sooner or later common sense and logic will prevail. It is in this spirit of hope that I look forward to hearing our witnesses today. Thank you, Mr. Chairman.

Chairman HYDE. Thank you, Mr. Lantos. I would also like to thank the American Petroleum Institute for submitting a statement for the record of this hearing. Without objection, the record shall remain open for 7 days in order to receive further statements or comments.

I have entreated the membership not to give opening statements because we want to get to our witnesses. One Member has asked me fervently for some time to be permitted to make an opening statement, and I am inclined to make an exception if the rest of the Members will tolerate the exception.

Ms. BERKLEY. Mr. Chairman.

Chairman HYDE. Who is speaking?

Ms. BERKLEY. I appreciate having an exception made for somebody, but I have spent a considerable amount of time and effort on an opening statement, and I, too, would like to deliver one.

Chairman HYDE. Okay. The opening statements will be made a part of the record, and I am now pleased to introduce our distinguished witnesses on Panel 1. It is a pleasure to welcome today the Honorable Spencer Abraham, who was sworn in as the 10th Secretary of Energy, January 20, 2001, following his confirmation by the U.S. Senate. Secretary Abraham is well known to us as the former Senator from Michigan, who served the Congress for over



7 years prior to his appointment as Energy Secretary. A forceful voice for free enterprise, Senator Abraham endorsed policies that promote and enhance America's competitiveness and global leadership, and was a leader in the Senate in support of free trade and legal, regulatory, and tax reform.

Secretary Abraham has served as co-Chairman of the National Republican Congressional Committee, Chairman of the Michigan Republican Party, and Deputy Chief of Staff to Vice President Dan Quayle. He holds a law degree from Harvard University. A native of East Lansing, Michigan, Secretary Abraham and his wife, Jane, live in both Michigan and Virginia with their three children. We very much appreciate your appearance with us today, Mr. Secretary. We also welcome the Honorable Alan Larson, Under Secretary of State for Economic, Business and Agricultural Affairs at the U.S. Department of State. In a term of appointment beginning November 1999, Under Secretary Larson serves as the Senior Economic Adviser to Secretary Powell with responsibilities that include an entire range of international economic policy. Since joining the Department of State in 1973, Mr. Larson has served in senior positions dealing with economics, trade, finance, energy, sanctions, transportation, and telecommunications. He has been U.S. Ambassador to the Organization for Economic Cooperation and Development in Paris and has served in the U.S. embassies in Jamaica, Zaire, and Sierra Leone. He has a Ph.D. in economics from the University of Iowa, is married and has three children. We thank you for coming today, Mr. Larson.

I ask both of you to summarize your statements in around 5 minutes, give or take. We will be flexible, but we aim for that, and your full statement will be made a part of the record. Secretary Abraham.

**STATEMENT OF THE HONORABLE SPENCER ABRAHAM,  
SECRETARY, U.S. DEPARTMENT OF ENERGY**

Secretary ABRAHAM. Mr. Chairman, thank you very much, and I thank the Members of the Committee for having us here today. In the interest of time, I will try to briefly summarize my statement, but I want to just say up front that I am pleased to be here with Under Secretary of State Al Larson. Our Department enjoys a close and productive working relationship with the State Department on a number of international energy issues, and I very much welcome his participation with me at this panel.

Since Members may have some specific questions about some of the energy forecasts, which are included in the statement which we have issued, I would like to also acknowledge and introduce Mary Hutzler, who is here with me. She is the Acting Administrator of the Energy Information Administration, and she is available to respond to potential questions that might arise in her area.

Mr. Chairman, oil currently accounts for close to 40 percent of total U.S. energy consumption, and as our economy grows over the next few decades the demand for oil will also grow. According to the Energy Information Administration (EIA), U.S. demand is expected to rise from an annual average of 19.7 million barrels a day in 2002 to over 26 million barrels per day in the year 2020. At the same time, forecasts indicate, as was mentioned in some of the

opening statements, domestic oil production will likely see little, if any, growth.

Today, therefore, 52 percent of the oil we use in America is imported from foreign sources. Our most recent EIA forecast suggests, as again was acknowledged in some of the opening statements, that our dependence could grow to 62 percent by the year 2020.

Crude oil prices are determined by worldwide supply and demand and are obviously influenced by the Organization of Petroleum Exporting Countries' policies on production quotas. In recent years, as I think is well known, that organization, OPEC, has tried to keep world oil prices in a target price band of \$22 to \$28 per barrel. OPEC's ability to influence oil prices worldwide arises because its members possess a preponderance, over 90 percent, of the world's spare oil production capacity. There are currently around 7 million barrels per day of excess crude oil production capacity in the global oil market, and almost all of it is in the Middle East OPEC countries.

OPEC has attempted to keep the price of oil within its target by a series of production cuts. In total, those production quotas have been reduced by 5 million barrels per day, although leakage has resulted in an effective cut of about 4 million barrels per day during the time frame in which these reductions have occurred.

Our National Energy Policy recognizes that our significant dependence on imported oil has serious economic and national security implications. Our approach to international oil markets is based on the following principles. First, we must continue to champion free markets. Second, we believe the genius of American technology will allow us to dramatically increase our efficient and clean use of energy, including oil. And third, we must expand and diversify our sources of supply, both domestically and internationally, by expanding opportunities for increased investment, trade, exploration, and development beyond the traditional markets of the last 50 years.

Each of these principles is reflected in a variety of Administration initiatives and actions which have been taken over the last year to implement the President's National Energy Plan. First, it is important to note that the National Energy Plan places a priority on increased energy efficiency and conservation. For example, in January, our department and I announced the FreedomCar Program, which implements our long-term vision of a dramatic reduction in our dependence on petroleum through the development and deployment of hydrogen fuel cells in automobiles, literally taking us beyond the current approach to motor vehicle implementation and operation to a day in which hydrogen fuel cells, powered not by petroleum products, would penetrate the market significantly.

Second, we are working on a number of ways to increase domestic oil production. Advanced technology for exploration and development, for example, add to all our oil reserves from new and existing oil fields every year. And obviously, as I think everybody in Congress is well aware, our plan calls for the use of the most advanced exploration and drilling technologies in a tiny, remote portion of the Arctic National Wildlife Refuge, known as ANWR, to increase domestic production in the future.

The National Energy Plan also places great emphasis on identifying and developing energy opportunities around the world. With respect to the global market, we are moving in a variety of directions. We believe that while we must maintain and strengthen our friendships around the world, we must begin to work in the first instance, as the Chairman indicated in his remarks, with our neighbors here in our own hemisphere to build a stronger partnership.

The centerpiece of our hemispheric partnership is a new program with Canada and Mexico called the North American Energy Initiative or Working Group, which was launched by President Bush and quickly supported by President Fox and Prime Minister Chretien. This group has already begun to develop the policies needed to enhance North American energy trade and interconnections and, most of all, energy security. We are also working with our other partners in the hemisphere to advance integration and research development on a regional scale. Over the past year we have had the opportunity to meet with our counterparts from Mexico, Canada, Bolivia, Brazil, Ecuador, Colombia, Peru, and Venezuela, all of whom are determined to develop and expand their vast energy resources.

We also continue to be active in the International Energy Forum, IEF, a multilateral effort to enhance relationships between oil producing and consuming nations. This fall I intend to attend and participate in the next meetings of the IEF in Osaka. A key focus of those efforts and of the IEF is a joint effort to improve the transparency, timeliness, and accuracy of the data that guides global oil markets.

We are developing a strong, bilateral relationship with Russia, now the second largest world oil producer and exporter. As you know, Presidents Bush and Putin just signed a joint statement launching our Strategic Energy Initiative. I was in Russia last year helping to lay the foundation for this enhanced cooperation. In our view, rising Russian production significantly increases the supply diversity in the world oil market.

In addition, the United States has a strong interest in oil field and infrastructure development in the Caspian region. With the development of oil field and pipeline capacity and proven reserves equal to or exceeding those in the United States, the Caspian region could be producing three and a half to 4 million barrels per day by the year 2010.

We are also working closely with our other friends in major consuming countries to address our common energy challenges. Last month, as directed by the National Energy Plan, I hosted a meeting of energy ministers from the G-8 nations. To strengthen our joint insurance against the damage that oil supply problems can inflict, we reaffirmed our dedication to maintain a response readiness for supply emergencies, emphasizing the importance of emergency oil reserves and our commitment to coordinate on their use. We further agreed to work together to meet growing energy demand by encouraging the investment that would be needed in energy development, production, and infrastructure as well as in improved energy efficiency.

On another front, I just returned 2 weeks ago from cohosting the U.S.-African Energy Ministerial held in Morocco and attended by some 40 African energy ministers. Energy from Africa plays an increasingly important role in our energy security, accounting for nearly 15 percent of America's oil imports, and provides the basis for economic development in Africa. We are very encouraged by the resolve of African nations to allow for private sector investment in the development of energy resources and to streamline regulations so that resources can be developed more efficiently.

Next month we will be participating in the fifth Asia-Pacific Economic Cooperation, or APEC, energy ministers meeting in Mexico City. A major feature of this meeting on regional energy cooperation will be the endorsements of actions under APEC's Energy Security Initiative. Under the initiative we hope to include enhancing the transparency of the global oil market, and sharing ideas on energy emergency preparedness.

We also recognize the importance of providing strong insurance against the possibility that the flow of international oil could be interrupted. The Administration early on reaffirmed the importance of maintaining a strong Strategic Petroleum Reserve (SPR), and at the President's direction we recently began filling the SPR to its 700 million barrel capacity. Today, the SPR contains 571 million barrels of oil, and that oil can be released at a maximum rate of about 4.2 million barrels per day. We can, of course, make that happen in about 13 days from the point of a Presidential order.

Finally, on the international front, we continue to play a leadership role in the International Energy Agency (IEA). Together, IEA members' oil stocks total nearly 4 billion barrels, 1.2 billion of which are under direct control of member governments, and the remaining 2.6 billion or so from commercial stocks.

Mr. Chairman, I believe this Administration has made very strong progress in a short 18 months in formulating a long-needed National Energy Policy and in successfully implementing in full or in part nearly all of the 85 administrative or executive branch recommendations which were contained in it. To have a truly comprehensive plan, we need legislative action as well, and so I would like to take this opportunity to congratulate the House of Representatives for the prompt passage of a balanced and comprehensive energy bill by an overwhelming, bipartisan majority last year. With the Senate version complete, we are hopeful that the House-Senate conference will produce energy legislation for the President's signature before the end of this year, and when that occurs, we will have taken an important step toward ensuring America's energy security by providing reliable, affordable, and environmentally sound production and distribution of energy policies for the future.

Mr. Chairman, I want to thank you for giving me the opportunity to make this statement. I look forward to taking questions.

[The prepared statement of Mr. Abraham follows:]

PREPARED STATEMENT OF THE HONORABLE SPENCER ABRAHAM, SECRETARY, U.S.  
DEPARTMENT OF ENERGY

Mr. Chairman and Members of the Committee: I am pleased to appear before you this morning to discuss the important role that oil plays in our economy and the

Administration's efforts to ensure a secure and prosperous energy future for all Americans.

#### I. OUTLOOK

Energy is the lifeblood of our economy and, for over a century, oil has played a dominant role. Oil currently accounts for close to 40 percent of total U.S. energy consumption. However, while the U.S. economy grew significantly (63 percent) after 1985, oil consumption grew much more slowly (25 percent). Thus, our economy is far less dependent on oil than it was in 1973, the year of the Arab oil embargo.

Nonetheless, as our economy grows over the next few decades, our demand for oil will also grow. According to the Energy Information Administration (EIA), U.S. demand is expected to rise from an annual average of 19.7 million barrels per day (bpd) in 2002 to over 26 million bpd in 2020. At the same time, forecasts indicate U.S. domestic oil production will likely see little, if any, growth. Increasingly, therefore, the United States will rely on foreign sources to meet its oil needs. Today, 52 percent of the oil we use in America is imported from foreign sources. The most recent EIA forecast suggests that our dependence on imports could grow to 62 percent by 2020 (Figure 1 in the Appendix).

In 2001, the United States had net imports (total imports minus exports) of almost 10.9 million bpd of petroleum (which includes crude oil and refined products). More than one-fourth of the imports came from our North America Free Trade Agreement (NAFTA) partners, Canada and Mexico (Table 1). An additional 665,000 bpd came from North Sea producers. OPEC producers accounted for 47 percent of U.S. gross oil imports in 2001, with Saudi Arabia and Venezuela ranked as the second and third-largest foreign oil suppliers, respectively, to the United States.

Over the next two decades, U.S. petroleum net imports are expected to increase by more than 6 million bpd as U.S. oil consumption rises (Figure 2). U.S. imports of OPEC oil are expected to increase by almost 4 million bpd, with imports of Persian Gulf oil increasing by slightly over 2 million bpd. The expected growth in non-OPEC imports into the U.S. is projected to come from Canada, Mexico, West Africa (particularly Angola), Latin American producers, and Caribbean Basin refiners.

Table 1. Major Sources of U.S. Petroleum Imports, 2001\*

(all volumes in million barrels per day)

	Total Petroleum	Crude Oil	Refined Product
Canada	1.83	1.36	0.47
Saudi Arabia	1.66	1.61	0.05
Venezuela	1.55	1.29	0.26
Mexico	1.44	1.39	0.05
Nigeria	0.89	0.84	0.04
Iraq	0.80	0.80	0.00
Norway	0.34	0.28	0.06
Angola	0.33	0.32	0.01
United Kingdom	0.32	0.24	0.08
Algeria	0.28	0.01	0.27
U.S. Virgin Islands	0.27	0.00	0.27
Kuwait	0.25	0.23	0.01
Total Imports	11.87	9.33	2.54

Source: Energy Information Administration  
 \*Table includes all countries from which the U.S. imported more than 200,000 barrels per day in 2001. Totals may not add due to independent rounding.

Crude oil prices are determined by worldwide supply and demand, and are influenced by the Organization of Petroleum Exporting Countries' (OPEC) policies on production quotas. In recent years OPEC has tried to keep world oil prices in a target price band of \$22–28 per barrel for the OPEC crude oil basket, which corresponds to a \$24–\$30 price band for the U.S. benchmark, West Texas Intermediate (WTI) oil. OPEC's potential to influence oil prices worldwide arises because its members possess over 80 percent of the world's excess oil production capacity.

There is currently around 7 million bpd of excess crude oil production capacity in the global oil market (Figure 3), almost all of which is in the Middle East OPEC countries (Figure 4). In 2001, the Middle East (excluding North Africa) accounted for approximately two-thirds of the world's proven conventional oil reserves; 35 percent of world oil production capacity; 30 percent of world oil production; and about 83 percent of excess world oil production capacity (Figure 5). Middle Eastern oil also has the lowest production costs in the world (Figure 6).

In the past, crude oil price increases have occurred in response to crude oil shortages caused by, for example, the Arab oil embargo in 1973, the Iranian revolution in 1978, the Iran/Iraq war in 1980, and the Persian Gulf conflict in 1990. The price increases of 1999–2000 were due principally to OPEC crude oil production cuts that began in 1998. In addition, higher demand from recovering Asian economies caused more competitive bidding for crude oil supplies in the international market. With decreased petroleum demand following September 11th, and a weakened global economy, OPEC decided to cut crude oil production as of January 1, 2002 to forestall anticipated oil price declines. Since February 2002, oil prices have risen 25 percent. In total, OPEC has reduced its production quotas since the beginning of 2001 by 5 million bpd, although quota cheating has resulted in an effective cut of 4 million bpd.

Crude oil represents the largest share of the retail cost of gasoline, comprising 46 percent of the average price in 2000 and 38 percent in 2001 (Figure 7). The other components of gasoline price also vary over time and by region. For 2001, taxes (Federal and State) comprised almost 30 percent of the gasoline price, distribution and marketing costs comprised 13 percent, and refining costs and profits comprised 16 percent. Regional variations are due to local taxes, different formulations of gasoline due to environmental requirements, competition in local markets, and proximity of refineries to crude oil supplies.

Even when crude oil prices are relatively stable, gasoline prices normally fluctuate due to factors such as seasonality and local retail station competition. Additionally, gasoline prices can change rapidly due to crude oil supply disruptions stemming from world events or domestic problems, such as refinery or pipeline outages. Prices of basic energy (gasoline, electricity, natural gas, heating oil) are generally more volatile than prices of other commodities because consumers are limited in their ability to substitute between fuels when prices fluctuate.

The most recent EIA forecast projects the imported average crude oil price in 2002 to be \$23.66 per barrel, and the West Texas Intermediate (WTI) price to be \$26.14 (Figure 8). In the United States, gasoline is projected to average \$1.35 per gallon in 2002, with summer prices for regular grade averaging \$1.41 and peaking in September at \$1.43.

## II. PRINCIPLES GUIDING THE PRESIDENT'S NATIONAL ENERGY PLAN

Our growing reliance on imported oil was a major consideration in the development of the President's National Energy Policy (NEP). The NEP recognizes that our significant dependence on imported oil has serious economic and national security implications.

The Administration's National Energy Policy:

- Provides a long term, comprehensive strategy;
- Advances new, environmentally friendly technologies to increase energy supplies and encourage cleaner, more efficient energy use;
- Aims to raise the living standards of the American people by integrating our energy, environmental, and economic policies; and
- Recognizes that energy security is a fundamental component of national security and a prerequisite to continued economic growth.

Our approach to international oil markets is based on the following principles:

*We must champion free markets.* Free trade and free markets are at the heart of our vision of a healthy international energy system. Experience has shown that free markets are best at delivering the outcomes that are most favorable for producers and consumers. Issues of oil supply, demand, and price are thus best settled by the free market, with the government's role primarily limited to addressing market barriers and market failures. Finally, oil markets work best when coupled with transparent exchanges of information and equal opportunities for participation by all countries.

*We must balance increased production with a renewed focus on the clean and efficient use of energy.* The genius of American technology allows us to dramatically increase our efficient and clean use of energy, including oil. However, even the most aggressive energy efficiency and conservation programs will not be enough by them-

selves to eliminate entirely the use of imported oil. Thus, we must increase domestic production to reduce our reliance on imported oil and ultimately strengthen our energy security.

*We must expand and diversify our sources of supply.* To meet our long-range energy needs, we must expand and diversify our sources and types of energy. To assure energy security, we need to maintain a diversity of fuels from a multiplicity of sources.

*We must expand international engagement with consumer and producer nations.* Opportunities for increased investment, trade, exploration, and development are increasing every year, far beyond the traditional markets of the last 50 years. To promote greater diversity of supply from a multiplicity of sources, we must promote increased trade and investment. And we must continue to cooperate with other consumer nations regarding a coordinated response to potential major supply disruptions.

*We must promote energy development as a necessary condition for successful economic development.* Access to clean, reliable and affordable energy is important to economic development not simply for our nation, but for developing nations everywhere. We are working internationally to advance clean energy development in many venues, including the World Summit on Sustainable Development in August.

### III. IMPLEMENTING THE NATIONAL ENERGY PLAN

Each of these principles is reflected in a variety of Administration initiatives and actions taken over the last year to implement the President's National Energy Plan.

The National Energy Policy places a priority on increased energy efficiency and conservation to extend the use of our energy resources, to enhance our standard of living, and to advance our environmental objectives.

For example, the Department of Energy recently announced the FreedomCAR program, which implements our long-term vision of a dramatic reduction in our dependence on petroleum through the development and deployment of hydrogen fuel cells in automobiles. In addition, the Administration supports significant tax incentives to reduce the price of the highly efficient electric, gas/electric hybrid, and fuel-cell vehicles now coming to market. The Administration has also begun to develop new CAFE standards based on sound science and passenger safety.

To increase domestic oil production with improved exploration and drilling technology, the NEP calls for the development of domestic resources like the Arctic National Wildlife Refuge (ANWR). A small portion of ANWR could supply us with the equivalent of about 36 years of the annual imports we currently receive from Iraq. Failure by Congress to support ANWR may be seen by other countries, some of which do not wish us well, as an indication that we are not serious about reducing our dependence on imported oil.

To increase and diversify domestic supplies of oil and gas, the Administration, among other actions, has:

- Streamlined the process by which permits are granted for important energy projects, such as pipelines and refineries; and
- Accelerated the leasing of non-restricted Federal lands where environmentally appropriate.

To strengthen our energy security, the NEP also calls for identifying and developing energy opportunities around the world. We are working in every corner of the globe to encourage new cooperative trade arrangements and to develop new resources.

With respect to the global market, our Administration is moving in a new direction. We believe that while we must maintain and strengthen our friendships around the world, we must begin to work—in the first instance—with our neighbors here in our own hemisphere to build a stronger partnership. We do not believe that the United States has all the answers to the energy challenges that face us, but we do know that by working together with Canada, Mexico, and our other neighbors in the Hemisphere, we can achieve the kind of energy security needed to support a robust economy.

The centerpiece of our hemispheric partnership is a new program with Canada and Mexico, called the North American Energy Initiative, which was launched by President Bush and quickly supported by President Fox and Prime Minister Chretien. This group met recently to begin to develop the policies needed to enhance North American energy trade and interconnections, and most of all energy security. The members of this group all recognize this as an essential foundation for the stronger hemispheric friendships we see in the future.

We are also working with our other partners in the Hemisphere to advance integration and resource development on a regional scale. Over the past year, we have had the opportunity to meet with our counterparts from Mexico, Canada, Bolivia, Brazil, Ecuador, Colombia, Peru and Venezuela—all of whom are determined to develop and expand their vast energy resources. In order to expand this cooperation, we are reviewing a proposal from Florida International University to establish a center that offers an opportunity to advance our objective of significantly improving cooperation between the United States and the countries of this hemisphere on a broad range of energy issues.

We continue to be active in the International Energy Forum (IEF), a multilateral effort to enhance relationships between oil producing and consuming nations. I plan to attend and participate in the next IEF meeting in Osaka, Japan in September. A key focus of the IEF is a joint effort to improve the transparency, timeliness, and accuracy of the data that guides global oil markets. This initiative, begun by the United States, has garnered broad support from both producers and consumers.

We are developing a strong bilateral relationship with Russia, now the second largest world crude oil producer and exporter. As you know, Presidents Bush and Putin just signed joint statements launching our strategic energy initiative, and I was in Russia last year laying the foundation for this enhanced cooperation. We are working with the Russian government and oil companies to enhance our relationship by launching a commercial energy dialogue and holding a Commercial Energy Summit in Houston later this year. We are hopeful this cooperation with Russia will lead to increased investment opportunities and lasting results. In our view, rising Russian production significantly increases the supply diversity in the world oil market.

In addition, the United States has a strong interest in oil field and infrastructure development in the Caspian Sea region. The Caspian basin has proven reserves in the 17–33 billion barrel range (to put this in perspective, Persian Gulf proven reserves amount to approximately 679 billion barrels), with possible oil reserves of about 233 billion barrels. With investment in oil field and pipeline capacity and proven reserves equal to or exceeding those in the U.S., the Caspian Sea region could produce 3.5 to 4.0 million bpd by 2010. The United States has been a strong supporter of oil and gas development in the region, urging governments to provide the necessary legal, fiscal, and regulatory environments to safeguard the large investments required to develop these new resources.

The United States also has been a strong proponent of new pipeline capacity to transport oil in an east-west corridor to reach world markets. Late last year, I attended the inauguration ceremony for the Caspian Pipeline Consortium (CPC) that opened its pipeline from Kazakhstan to the Black Sea, providing direct access from Kazakhstan to export markets. We continue to support a new pipeline—the Baku-Tbilisi-Ceyhan pipeline—that will be able to carry 1 million bpd from the landlocked Caspian to world markets.

We are also working closely with our other friends in major consuming countries to address our common energy challenges. Last month, as recommended by the National Energy Policy, I co-chaired with my Canadian counterpart a meeting of energy ministers from the G–8 countries in Detroit. The meeting was a great success, establishing a strong foundation of cooperation on which we can build in the years ahead. To strengthen our joint insurance against the damage that oil supply problems can inflict, we reaffirmed our dedication to maintain our response readiness for supply emergencies, emphasizing the importance of emergency oil reserves and our commitment to coordinate their use. We agreed to work together to meet growing energy demand by encouraging the investment that will be needed in energy development, production and infrastructure, as well as in improved energy efficiency.

I have just returned from co-hosting the U.S.-African Energy Ministerial held in Morocco, attended by some 40 African energy ministers. President Bush highlighted the importance of this meeting and the U.S.-African Energy Ministerial process in the NEP. At that meeting, we met with government and industry to discuss ways to improve energy trade and facilitate energy sector development to better serve U.S. and African economic growth and development.

Energy from Africa plays an increasingly important role in our energy security (accounting for nearly 15 percent of America's oil imports) and is a key engine for economic development in Africa. We are very pleased with the resolve of African nations to facilitate private sector investment in the development of energy resources and to streamline regulations so that resources can be developed most efficiently. In Morocco, the U.S and African countries reaffirmed a commitment to good governance and stable regulatory structures and discussed additional steps to encourage private investment in the energy sector.



Next month, I will participate in the fifth Asia Pacific Economic Cooperation (APEC) Energy Ministers Meeting in Mexico City. A major feature of this meeting on regional energy cooperation will be the endorsement of actions under the APEC Energy Security Initiative, which the United States originally proposed in 2000 and which was endorsed by APEC Leaders last year in Shanghai in their Statement on Counter-terrorism. Shorter-term actions under the initiative include enhancing the transparency of the global oil market and sharing ideas on energy emergency preparedness. Longer-term actions include cooperation on energy efficiency, renewable energy, and alternative fuels.

All of these international activities ultimately promote our common goal of energy security. But, given our dependence on imported oil, we also recognize the importance of providing strong insurance against the possibility that the flow of international oil could be interrupted. The Administration early on reaffirmed the importance of maintaining a strong Strategic Petroleum Reserve (SPR). At the President's direction, we recently began filling the SPR to its 700 million barrel capacity. Today the SPR contains 571 million barrels of oil. This oil can be released at a maximum rate of 4.2 million bpd, and we can begin delivering oil to the market within 15 days of the President's order.

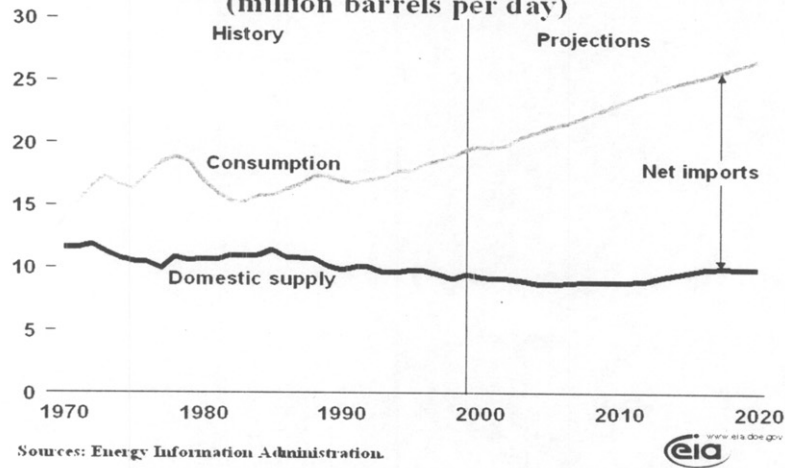
We continue to play a leadership role in the International Energy Agency (IEA). Created following the 1973 oil crisis, the IEA includes 26 member countries that are committed to holding emergency oil reserves and to taking common effective measures to meet oil supply emergencies. Together, IEA members' oil stocks total nearly 4 billion barrels, 1.2 billion barrels of which are under direct control of member governments, with the remaining 2.6 billion barrels from commercial stocks. IEA members have the ability to draw down these stocks at a rate of over 8 million bpd (including the SPR). At the G-8 Energy Ministerial in May, we agreed on the importance for net oil importing countries to maintain emergency stocks and to use them when necessary to respond to major physical supply disruptions. We also recognized the value to all of us when other countries, including those in Asia (whose demand is projected to increase sharply), build similar stocks.

### III. CONCLUSION

We are committed to ensuring that America's energy needs are not held hostage by politically unstable foreign suppliers. We are taking the necessary steps to encourage increased domestic production, while protecting the environment and diversifying our sources of energy. As our economy expands, however, demand for energy will increase, and our dependence on foreign suppliers will continue to rise. We are committed to protecting our economic well being and our national security through an emphasis on energy efficiency and conservation to reduce energy consumption, continued reliance on the efficiency of the free market, diversification of foreign suppliers, increased domestic production, and emergency preparedness for potential supply disruptions.

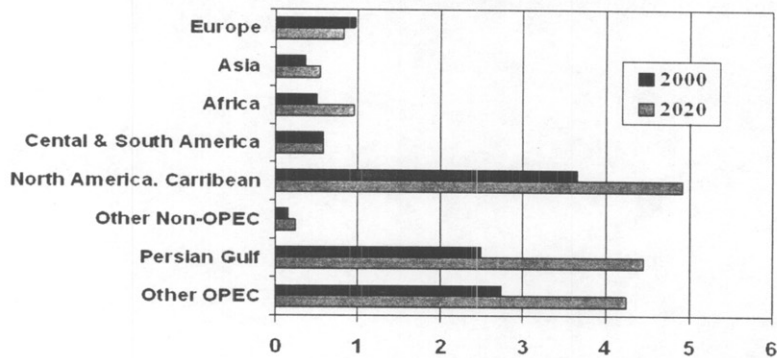
**Figure 1**

**Petroleum Supply, Consumption, and Imports, 1970-2020  
(million barrels per day)**



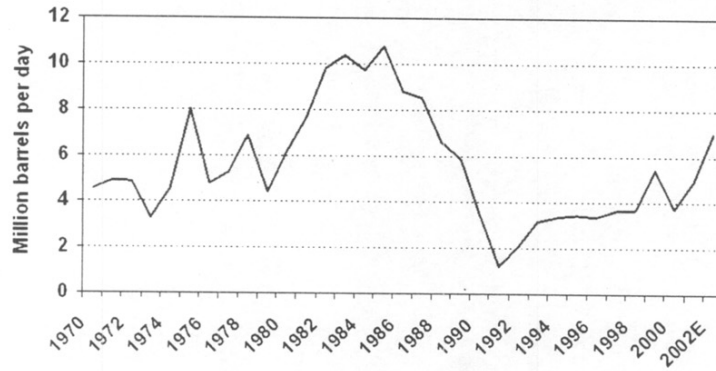
**Figure 2**

**Petroleum Imports into the U.S. by Source, 2000  
and 2020 (million barrels per day)**



**Figure 3**

**World Excess Oil Production Capacity  
1970-2002**

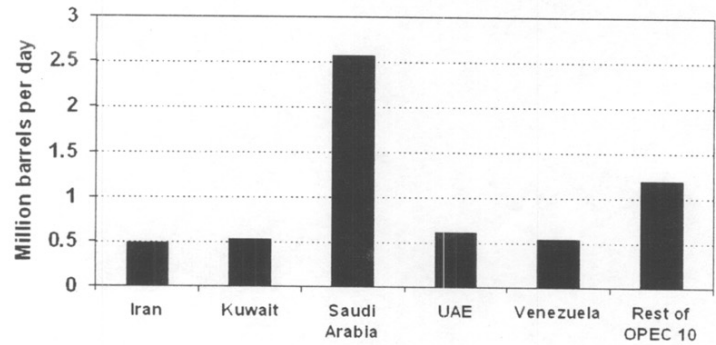


Source: Energy Information Administration



**Figure 4**

**Saudi Arabia and Other OPEC Members Hold the  
Bulk of World Excess Production Capacity**

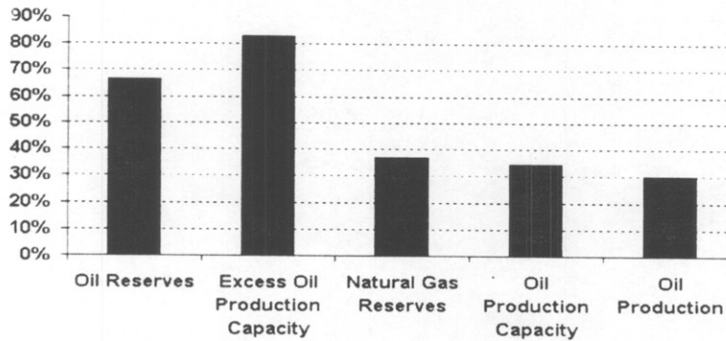


Source: Energy Information Administration



**Figure 5**

**Middle East as a Percent of World Energy Indicators – 2001**

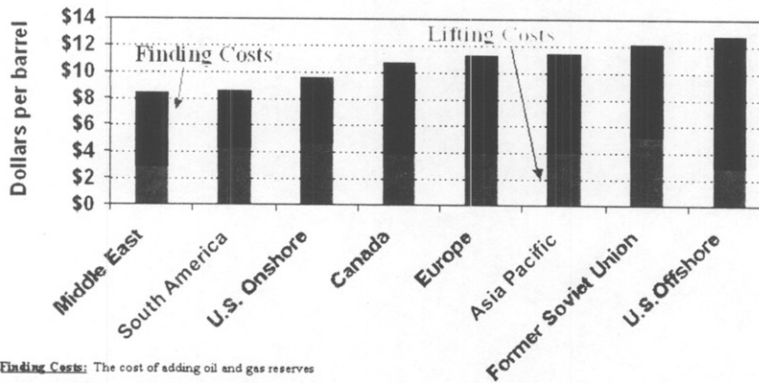


Source: Energy Information Administration



**Figure 6**

**Oil & Gas Lifting and Finding Costs for U.S. Major Energy Companies by Region, 2000**



**Finding Costs:** The cost of adding oil and gas reserves

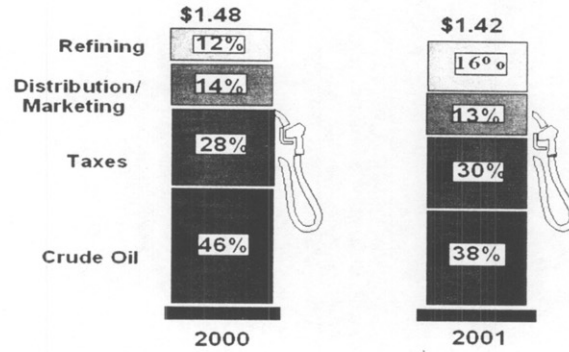
**Lifting Costs:** The cost associated with the extraction of oil or gas from a producing property.

Source: Energy Information Administration



**Figure 7**

**What We Pay For in a Gallon of Regular Gasoline**

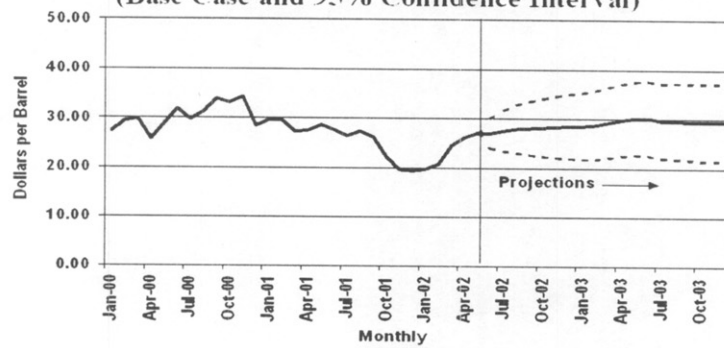


Sources: Energy Information Administration



**Figure 8**

**West Texas Intermediate Crude Oil Price  
(Base Case and 95% Confidence Interval)**



Sources: Energy Information Administration



Chairman HYDE. Thank you, Secretary Abraham. Secretary Larson.

**STATEMENT OF THE HONORABLE ALAN P. LARSON, UNDER SECRETARY FOR ECONOMIC, BUSINESS AND AGRICULTURAL AFFAIRS, U.S. DEPARTMENT OF STATE**

Mr. LARSON. Mr. Chairman, Mr. Lantos, and respected Members of the Committee, it is a great honor to be here with you and with Secretary Abraham.

Energy security policy has two main goals: First, to assure that reliable supplies of energy are available at reasonable prices so that we can foster the growth and prosperity of our economy; and secondly, to ensure that America's foreign policy cannot be held hostage by foreign threats to use control over oil supplies as a weapon. In formulating an international energy security policy, we need to deal with hard facts about international oil markets. First of all, as has been recognized, some two-thirds of proven world oil reserves are in the Middle East; and secondly, the United States, as well as our important allies in Europe and Japan, rely on imports to meet a large and growing part of their oil needs. Third, because oil markets are global, oil supply disruptions that initially affect other importing nations will have aftershocks. Sharp increases in oil prices can act as a tax on our economy, and in the past this has often led to recessions. And fourth, significant amounts of oil are controlled by problem states.

In order to address these realities, the Administration's National Energy Policy includes a robust international strategy with three broad elements. First, as has been mentioned, the United States must promote increased and diversified production of energy from a range of friendly and reliable producing countries. Mr. Chairman, as you pointed out, it is good news that Canada is our single most important energy supplier. And, in fact, roughly half of U.S. daily oil imports come from the Western Hemisphere.

Other new sources of oil can potentially bolster our energy security in the future. As the chart illustrates, forecasts for oil capacity growth show that the Caspian states, Africa and Russia, will be among the fastest growing sources of new oil production, and our diplomatic engagement reflects the importance of these countries in our energy future. We are making strong and successful efforts in the Caspian to develop multiple pipelines from this area to ensure that it can become a rapidly growing and reliable supplier to world markets. As Secretary Abraham mentioned, the President has also initiated a stronger energy relationship with Russia.

Cooperation with our partners and allies on energy preparedness is a second important part of our international policy. The sharp and unanticipated interruptions in oil supplies in the 1970s had severe economic consequences. The value of coordinated use of oil stocks was demonstrated in 1991 during Operation Desert Storm when the rapid, incredible response of the United States and our allies deprived Saddam Hussein's attempt to use oil as a political weapon.

As you can see from this chart, the United States, Japan, and Germany hold almost 90 percent of the total public stocks that would be available to use in a disruption, and they would make the

biggest part of a concerted effort on the part of the United States and our industrial country allies to respond to an interruption. Spare production capacity, especially in Saudi Arabia, is another factor that mitigates the risks associated with supply disruptions. And I think it is important to point out that in the last 2 years Iraq has either interrupted its supplies or threatened to on three occasions, and in each case a combination of the readiness of the United States and our partners to be able to respond through stocks and assurances from Saudi Arabia that it would use its spare oil production capacity to offset such disruptions has moderated very significantly the response of markets to these threats.

A third element of a successful international strategy is to work with major suppliers to foster responsible production policies that ensure that adequate supplies of oil are available to meet the needs of a growing world economy. Given the Middle East's huge reserve base, we are encouraging countries such as Kuwait, Algeria, Qatar, United Arab Emirates, and Saudi Arabia to open up sectors of their energy economies to foreign investment.

Mr. Chairman, with the present technology the United States cannot achieve total oil self-sufficiency at an acceptable economic price, and even if we could, the import reliance of our key allies would still make oil an important concern for the United States. What we can do through a strong domestic and international energy security policy is to ensure that the United States' economy and American foreign policy cannot be held hostage by foreign energy suppliers. That is the goal of our energy security policy, and I think it is a very important step toward energy independence. Thank you.

[The prepared statement of Mr. Larson follows:]

PREPARED STATEMENT OF THE HONORABLE ALAN P. LARSON, UNDER SECRETARY FOR ECONOMIC, BUSINESS AND AGRICULTURAL AFFAIRS, U.S. DEPARTMENT OF STATE

Chairman Hyde, Mr. Lantos, respected Committee members, I am delighted to be here today with Secretary Abraham to discuss the international aspects of U.S. energy security.

#### HARD FACTS ABOUT THE INTERNATIONAL OIL MARKET

A number of hard facts must be factored into the formulation of an energy security policy. These hard facts include:

- Two-thirds of proven world oil reserves are in the Middle East. In contrast, the United States has 2 percent of proven world oil reserves;
- The United States, as well as Europe and Japan, rely on imports to meet a large and growing portion of our oil needs;
- Because markets are global, energy market disturbances that initially affect others will transmit aftershocks to us through prices and other economic linkages;
- Significant amounts of oil are controlled by problem States.

Taken together, these facts mean that an effective energy security policy must have important international dimensions, including:

1. Policies to promote increased and diversified production of energy from a range of foreign suppliers, especially those in more secure areas.
2. Effective international measures to respond to physical oil supply disruptions, through the coordinated use of strategic stocks and the encouragement of spare oil production capacity.
3. Dialogue to encourage major oil producing countries to maintain responsible production policies that give full weight to their interest in preserving a growing world economy and a less volatile international oil market.

Energy security policy has two main goals. First, to ensure that our economy has access to energy on terms and conditions that support economic growth and prosperity. Second, to ensure that the United States and its foreign policy can never be held hostage by foreign oil suppliers.

Energy security is a timely and appropriate topic. Earlier this year Iraq made yet another futile attempt to damage the world economy through an oil production shutdown, its third embargo in less than two years. The Iraqi action overlapped with a short oil supply interruption caused by labor unrest in Venezuela. These two disruptions removed close to 3 million barrels per day from the market and remind us that the international oil market can be both volatile and unpredictable.

#### THE NATIONAL ENERGY POLICY (NEP) FRAMEWORK

Energy security must be a national priority. As one of its first priorities upon entering office, the Bush Administration addressed the energy challenges facing our country and the world. A little over a year ago, the Administration issued the National Energy Policy (NEP) report. In discussing the report, American Ambassadors conveyed to host government officials that energy security is a priority of U.S. trade and foreign policy, and that energy cooperation would be an important measurement of our overall relationship.

This morning, I want to share with you some of the key international aspects of our policy, particularly those dealing with our energy security strategy.

#### DIVERSE AND RELIABLE SUPPLIES ENHANCE U.S. ENERGY SECURITY

Energy policies that rely on market forces have made our economy more flexible and responsive. We use energy more efficiently; since 1970, America's energy intensity (the amount of energy it takes to produce one dollar of GDP) has declined by 40 percent.

New technologies, such as deep water drilling and enhanced oil recovery, are reducing the environmental effects and the economic costs of accessing technically challenging oil and gas reserves in the United States. For example, it is estimated that enhanced oil recovery techniques could add 60 billion barrels to existing fields nationwide. Deregulation of electricity markets, when implemented effectively, has brought a significant fall in electricity prices as a result of competition.

The U.S. is itself a leading energy producer. The United States produced 72 of the 98 quadrillion BTUs of energy that we consumed in 1999.

The United States is the world's second largest natural gas producer and its third largest oil producer.

We are virtually self-sufficient in all energy resources except oil, of which we import 52 percent of our needs. Estimates indicate that over the next 20 years, U.S. oil consumption will increase by 33 percent or more than 6 million barrels a day. Depending on many factors, including the policies we adopt, the Energy Information Administration estimates that imported oil could grow to 62 percent of our total oil consumption by 2020.

Other developed regions are also dependent on foreign oil. Europe currently imports 52 percent of its oil needs. Japan imports 98 percent of its oil needs. (Chart 1)

These high levels of imports by friends and allies, as well as by the United States, means that energy security cannot be defined as self-sufficiency. With 2 percent of the world's proven oil reserves, the United States is unlikely to ever again be self-sufficient in oil.

It is in our national interest to limit our import dependence through market-oriented policies to increase domestic efficiency, conservation, and production. However, oil imports will be an unavoidable component of the energy supply mix of the United States. Under current circumstances, significant reduction of oil imports could not be achieved without severe effects on our industries and a significant reduction in the buying power of American families. Through an effective energy security policy, however, we can do much to ensure that oil imports do not erode the independence of our foreign policy nor the security of our economy.

About half of our imported oil comes from four countries, Canada, Venezuela, Mexico and Saudi Arabia.

Canada is our leading supplier of imported natural gas, electricity and oil. All three flow across the border in both directions. The Canadian energy sector is harvesting the enormous potential of its heavy oil reserves, which are already on stream at close to 600,000 barrels per day and whose full potential anchors Canada as a pillar of North American energy security. World-scale oil and natural gas projects are also underway in Atlantic Canada, which is now the fastest growing source of natural gas, by pipeline, for New England. Canada's vast resources, mar-



ket based energy policies, and our interconnected energy infrastructures, contribute significantly to U.S. energy security and to the shared economic health of our two nations.

Managing such a large trading relationship is a top Administration priority. Next week the State Department will host the Energy Consultative Mechanism, which brings officials from both governments together to address trade, regulatory, and market developments.

Mexico is one of our leading energy and trading partners. The U.S. is by far the leading market for Mexican manufactured exports, which are now about 10 times the value of Mexico's oil exports. Mexico clearly understands the importance of a healthy U.S. and global economy to its economic well-being. Our energy trade is not a one-way street. We import crude oil and electricity from Mexico, and are a net exporter of refined petroleum products and natural gas to Mexico. The agenda of our Bi-National Commission meetings, an annual meeting led on our side by the Secretary of State, and including U.S. and Mexican cabinet-level representation, includes energy.

The two-way nature of North American energy trade highlights the importance of addressing energy cooperation trilaterally, which is why we participate in the North American Energy Working Group.

Venezuela historically has been a secure and reliable energy supplier to the United States. We have worked hard to build a more productive energy relationship with Venezuela. We participate in frequent consultations with Venezuelan energy officials. I met last week with the President of the Venezuelan state oil company PDVSA and the Vice Minister of Energy and Mines; they reaffirmed to me Venezuela's commitment as a reliable energy supplier to the United States. To meet its goal of expanding oil and gas production, Venezuela must take steps to improve its investment climate.

In recent years, dramatic improvements in exploration and production technology, notably through deepwater offshore exploration have opened up new sources in the Atlantic Basin, Canada, the Caribbean, Brazil and the entire western coast of Africa. Developments in the Caspian Basin and Russia also promise to open up significant amounts of new production for world oil markets.

Forecasts for oil capacity growth by country (provided in Chart 2) show that Caspian States, Nigeria, Canada and Russia will be among the fastest growing sources of new oil production capacity. Our diplomatic engagement on energy issues in each of these regions and countries is intense. Let me provide you with just a few concrete examples that demonstrate what we are doing to achieve these energy goals.

In light of its large possible oil reserves of about 233 billion barrels, we are making strong and successful efforts to develop multiple pipelines so that the Caspian Basin can become a rapidly growing area of new energy supplies that will be delivered reliably to the world market. Detailed engineering of the Baku-Tbilisi-Ceyhan oil pipeline is nearing completion. We expect that the consortium of companies will approve the development and award construction contracts this summer. Similarly, the Shah Deniz gas pipeline from Azerbaijan to Turkey is moving through the detailed engineering phase toward the corporate approval stage later this year.

At the recent U.S.-Russia Summit, the President initiated a stronger energy relationship with Russia, now the world's second largest crude oil producer. Russia is developing new oil and gas fields, including multi-billion dollar projects, with U.S. and other foreign investors. We welcome strengthened energy ties with Russia, and their new energy production in the coming years will enhance U.S. and global energy security. Our bilateral energy dialogue with Russia will focus on facilitating commercial cooperation both within and outside Russia and addressing bottlenecks that keep Russian energy from reaching world markets.

In other countries where energy production is likely to expand rapidly, such as Nigeria and Kazakhstan, we have negotiated bilateral energy cooperation framework agreements. These agreements will help promote development of the energy and related sectors in accordance with international standards of responsible economic, social, and environmental management, while helping to open new opportunities for American firms.

The Administration has recognized Africa's emerging role as a major energy supplier. We are seeking Congressional concurrence to reopen a diplomatic mission in Equatorial Guinea to support the growing presence of American citizens working in the energy sector and to better monitor human rights developments. I also participate in the Joint Economic Commission meetings with Nigeria, and we have expanded the focus of that mechanism to deal with the energy sector.

Part of our engagement in Africa is to encourage transparency. This is why we are supporting the World Bank's monitoring role in the Chad-Cameroon pipeline and elsewhere. We also strongly support the OECD Convention to prohibit bribery

in international business transactions, an agreement that internationalizes the main elements of the U.S. Foreign Corrupt Practices Act.

Part of our engagement in Africa is to encourage transparency. We have a strong policy interest in assisting oil-producing countries to channel their energy resources into solid and sustainable economic development that will benefit their populations. Unfortunately, the record shows that when this does not happen, there is conflict and rampant corruption. That is why we are supporting the World Bank's monitoring role in the Chad-Cameron pipeline and elsewhere.

We are also keenly focused on the protection of human rights. Together with the British and Dutch Governments, we have partnered with oil, gas and mining companies and human rights groups on a "Voluntary Principles on Security and Human Rights" process. These Principles are designed to provide practical guidance to strengthen human rights safeguards in company security in the extractive sector.

The Asia Pacific region is the world's fastest growing consumer of energy and a source of significant energy resources. The U.S. leads the Energy Security Initiative of the Asia Pacific Economic Cooperation (APEC) group, which is helping the region to diversify energy sources through the promotion of gas and renewable energy, to build new petroleum reserves, and to stabilize energy markets in cases of natural disasters or terrorist attacks.

The Middle East holds two-thirds of proven world oil reserves. (Chart 3). Given its huge reserve base, the Middle East will be among those regions adding sizeable new oil productive capacity to world markets, and we are encouraging initiatives by Saudi Arabia, Kuwait, Algeria, Qatar, the UAE and other suppliers to open up areas of their energy sectors to foreign investment.

For example, Saudi Arabia invited foreign companies to help develop its natural gas sector. Foreign investment is expected to exceed \$25 billion, and U.S. companies have won lead roles.

#### DEALING WITH OIL SUPPLY INTERRUPTIONS

The sharp, unanticipated interruptions in oil supplies in 1973 and in 1979 were followed by severe economic consequences for the U.S. and world economy. We learned from these painful experiences the value of strategic oil stocks.

The U.S., as the world's largest oil importer, has made major investments in strategic oil stocks. The value of these stocks was highlighted during "Operation Desert Storm." In the weeks before the "Desert Storm" military action, member governments of the International Energy Agency (IEA), announced that they would make available to the market 2.5 million barrels per day once fighting began. The United States contributed 1.125 million barrels per day, followed by large contributions from Japan and Germany. The IEA's credible commitment calmed the market and in concert with the advent of allied military action, oil prices actually declined sharply once Desert Storm began, depriving Saddam Hussein the oil weapon.

The National Energy Policy report sets out our policy that these strategic stocks are to be used in case of actual, physical shortfall. The President directed that the Strategic Petroleum Reserve (SPR) be filled up to its 700 million-barrel capacity, in a deliberate and cost-effective manner. The current fill rate is close to 150,000 b/d.

At a draw rate of 2 million barrels per day, the SPR alone could provide enough coverage to counter a disruption for 286 days. Privately held stocks would also be available to cushion a disruption.

International Energy Agency (IEA) member nations are required to hold stocks equal to 90 days or more of each nation's net imports. Presently, IEA countries hold some 3.7 billion barrels of oil stocks.

The United States, Germany, and Japan hold almost 90 percent of total IEA public stocks and would make up the biggest part of a sustained drawdown.

The maximum drawdown rate for IEA public crude oil stocks is up to 12 million barrels per day in the first month and around 8 million b/d in the following two months. (Chart 4).

The maximum drawdown rate of public oil stocks is made up of 4.2 million b/d from the SPR, 2.3 million b/d from Japan, 2.3 million barrels per day from Germany.

U.S. investment in oil stocks was made in partnership with the Congress. Combined with the stocks of our IEA allies, these strategic stocks send an important signal to global economic markets that we are prepared to manage the unexpected. Together, consuming governments are ready to do their part to provide stability and reliability to the market in the event of a major supply disruption.

Because of the credibility of our strategic oil stocks, we have the ability to deter some potential supply disruptions. For example, this April, with our IEA allies, we

sent clear signals to market participants that a sustained, or widened, Iraqi embargo could be countered by International Energy Agency member countries. Iraq's attempts to blackmail the international community did not work.

Both producers and consumers know that the use of oil as a political weapon is unacceptable, and the lesson from instances in the past is clear, it does not work.

Recent additions to Asian oil stockpiles, led by the newest International Energy Agency member, Korea, bolster world energy security. The IEA is working hard to encourage large non-IEA countries, such as China, to hold stocks and thereby, provide additional security to world oil markets.

Saudi Arabia, the world's largest oil producer, has pursued a policy of investing in spare oil production capacity, and diversifying its export routes to both of its coasts. These enormous investments allow Saudi Arabia to credibly assure markets that it has the spare production capacity to mitigate supply disruptions. Saudi Arabia has used this capability effectively.

#### IMPROVED GLOBAL MARKETS ENHANCE ENERGY SECURITY

We enhance our own global security by working cooperatively with key countries to expand the sources and types of global energy supplies.

The National Energy Policy underscores the need to deepen our dialogue with major oil producers on our shared interests in accurate information related to oil markets and in stable markets. This is consistent with Saudi Crown Prince Abdullah's call for deepened producer-consumer understanding.

This enhanced dialogue with oil producers can contribute toward a well-functioning oil market. Responsible producers and consumers have a shared interest in improving the transparency, timeliness, and accuracy of the data that guide global oil markets.

Responsible oil producers with large reserves also have a significant stake in stable markets. Unstable oil markets have dramatic roller coaster effects on the public finances of oil producers. And as history has shown, surges in oil prices tend to reduce economic growth, stimulate new production and lower prices and demand for OPEC oil in subsequent quarters.

The Administration believes that market forces should play a larger and larger role in determining oil prices.

Just as the world is emerging from a global slowdown, oil producers and consumers can best reinforce mutual interests by sending the market signals that the economic recovery—and the recovery in oil demand growth—will be sustained.

#### OPEN ENERGY SECTORS AND TRADE ENHANCE ENERGY SECURITY

A tremendous amount of capital will be needed to increase energy production and enhance our energy efficiency. The United States welcomes the benefits and contributions that large international investments have made in our energy sector.

Major foreign investors in our energy sector include a European based oil major, the largest energy producer in the U.S., and a leading Russian company that has moved to acquire a robust retailer network in the United States. State-owned firms from Saudi Arabia, Venezuela, and other major oil producers hold significant refinery and distribution ventures here as well, deepening our shared energy ties, and our interest in stability.

U.S. openness to foreign investment has made us one of the world's most competitive economies, and has provided us with capital and jobs for our people. Investments by major producers also enhance our security of supply and their security of demand.

American energy firms are world leaders, and their investments and services in energy producing countries enhance market linkages and energy security.

Promoting energy investments and trade is a core element of our engagement with major oil-producing countries. We will use our membership in multilateral organizations and negotiations such as the Asia-Pacific Economic Cooperation (APEC) forum, the World Trade Organization (WTO), the Organization for Economic Cooperation and Development (OECD), and the Free Trade Area of the Americas (FTAA), to reduce barriers to trade and investment.

Additionally, we vigorously support American trade and investment through a variety of programs offered by the Export-Import Bank, Trade and Development Agency (TDA) and Overseas Private Investment Corporation (OPIC).

#### PROBLEM COUNTRIES REQUIRE EXCEPTIONAL TREATMENT

While our general energy security approach is to actively support the global opening of trade and investment opportunities, there is a set of problem countries whose policies and actions are of such concern that we bar or restrict American firms from

most commercial activities with these states, including exploring for or developing energy resources, or, in most cases, buying or importing their oil. These countries include major oil producers such as Libya, Iran and Iraq, as well as Sudan, Cuba, and to a more limited extent, Burma. Libya, Iran, Iraq, Sudan and Cuba are designated State Sponsors of Terrorism.

In dealing with these nations, we balance our desire to diversify our energy sources with our very real concerns about the security threats that these nations pose to the international community.

With the Iran Libya Sanctions Act (ILSA), Congress set out a policy to discourage the development of petroleum resources in Iran and Libya that could be used to support international terrorism and to acquire Weapons of Mass Destruction (WMD).

The Secretary of State and other Administration officials have worked hard to sensitize our friends and allies about the depth of our concerns. While some of our allies don't agree with our focus on the energy sector, they share our goals of stopping terrorism and the spread of WMD.

I mentioned earlier that Iraq has periodically suspended its exports in a futile attempt to cause economic harm and to gain political advantages. We must anticipate that Iraq will continue to be a wild card in world oil markets.

An important component of our Iraq policy is working with friends, allies, and the UN Security Council. The UN recently passed a unanimous resolution (1409) that will simplify humanitarian imports for the Iraqi people under the Oil for Food Program and will tighten controls on military-related imports.

Revenues from the purchase of Iraqi oil do not go to the regime, but are used to buy humanitarian goods under the UN's oil-for-food program and to pay for damages caused by Iraq's invasion of Kuwait.

#### CONCLUSION

Energy security is a priority of U.S. policy. The National Energy Policy recognizes that energy security has both domestic and international components. On the international front, we seek to enhance cooperation with both consuming and producing governments to mitigate the impact of supply disruptions, to diversify sources and fuel mixes, to promote energy trade and investment, and to improve the functioning of the global energy market. Reliable, affordable, and environmentally sound energy supplies support U.S. and world economic growth. They are the result of a well-executed, market-based, forward-looking National Energy Policy.

Thank you for your attention.

CHART 1

Oil Import Dependence (US, Europe, Japan) -- 2001

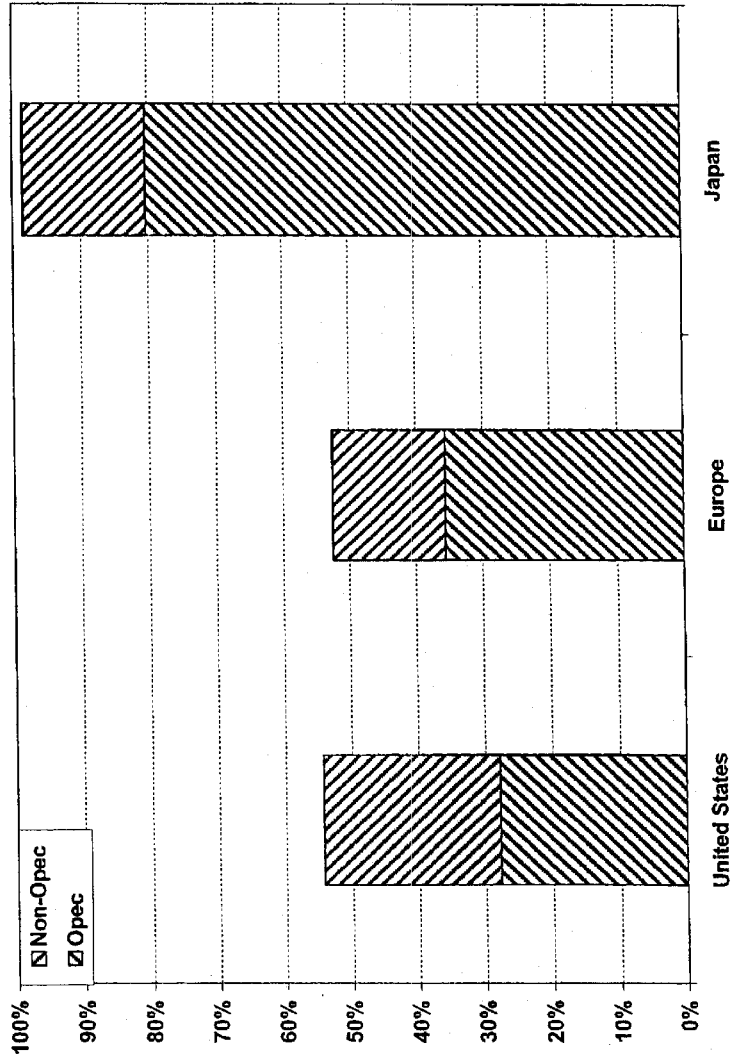
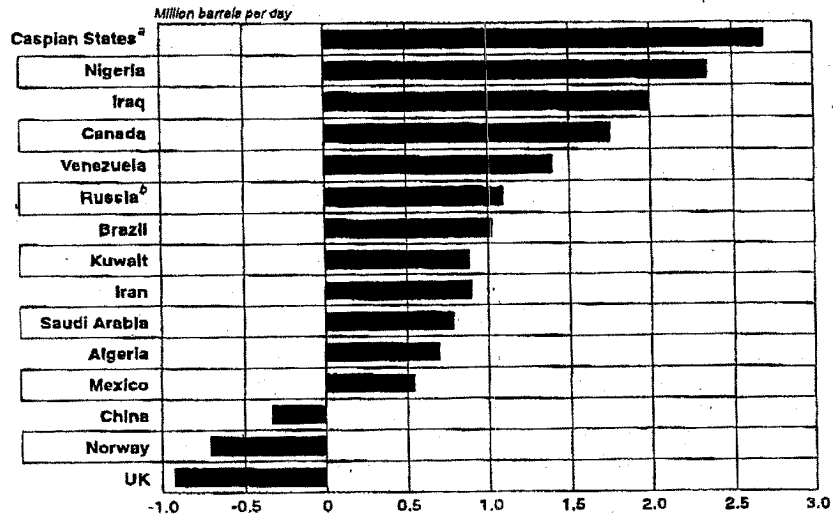


CHART 2

**Anticipated Oil Production Capacity Growth for Selected Countries Through 2010**



<sup>a</sup> Includes Kazakhstan, Azerbaijan, and Uzbekistan.

<sup>b</sup> Does not include Caspian part of Russia.

Note: CIA and State Department figures, based on oil industry forecasts.

CHART 3

**World Proved Oil Reserves by Region, 1/1/2002**

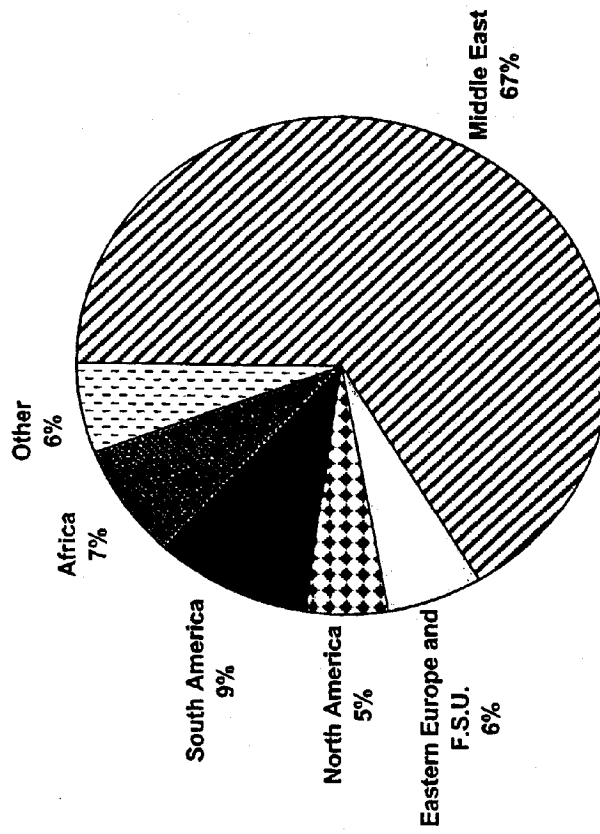
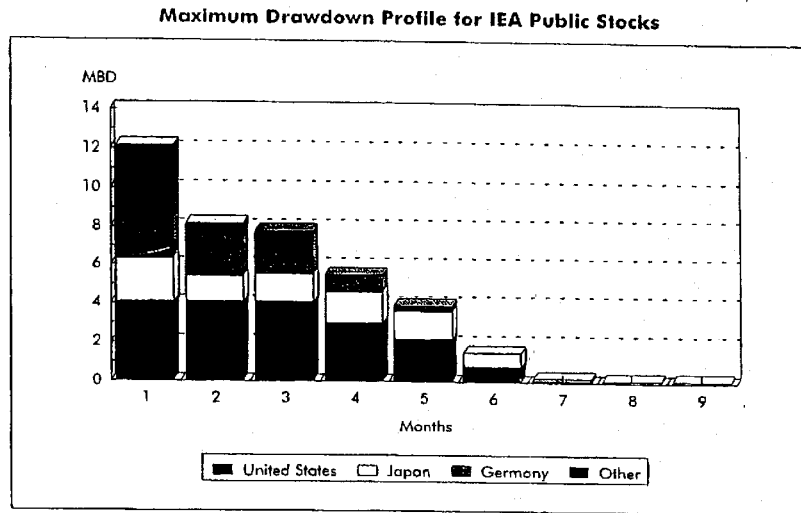


CHART 4



Chairman HYDE. Thank you very much, Secretary Larson. We will now have 5-minute question periods. I again entreat the Members to try to hold their questions to 5 minutes. Making a long statement and then asking a question as you are about to run out of time is not favored by the Chair. This does not apply to Mr. Lantos. The color of his hair permits him to do anything he wants in this room. Mr. Lantos.

Mr. BLUMENAUER. Mr. Chairman, I object to any discrimination on the basis of hair. [Laughter.]

Chairman HYDE. Well, you have a well-founded objection. Mr. Lantos.

Mr. LANTOS. Thank you, Mr. Chairman. Mr. Secretary, as you know, raising what we refer to as CAFE standards, corporate average fuel efficiency standards, could dramatically reduce our dependence on imported oil. Why has the Administration opposed calls for raising CAFE standards? Do you have any viable alternative that would save as much in our need to import as a modest increase in current CAFE standards?

Secretary ABRAHAM. Mr. Lantos, the Administration has not opposed raising CAFE standards. Actually, the position which we took—

Mr. LANTOS. That is news to me. Are you announcing a new policy? My impression has been that the Administration is adamantly opposed to raising CAFE standards.

Secretary ABRAHAM. That really is not the correct statement of our position. The position which we took in the National Energy



Plan and which we have adhered to since then is one that called actually for Congress to end the moratorium Congress had placed on the appropriation of funds to the Department of Treasury to carry out a new round of CAFE standards setting. We asked for that to be ended so that the Department of Transportation could, in fact, reexamine CAFE. We also were pleased that finally the National Academy of Sciences concluded its review that had been called for in a congressionally requested study in the 2000 congressional session to take into account such factors as the implications on safety of changing standards. And so it is my understanding that NTSA and the Department of Transportation now have the funds and are engaged in the process which is statutorily called for.

What we did oppose was the notion of having the Congress establish through legislative action a specific CAFE standard, and, as you know, there were calls both in the House and the Senate where, in fact, votes took place on that, and I would just note that both the House and the Senate rejected an approach in which we would set CAFE standards legislatively at a much higher level than they are today. So I do not think our position is either inconsistent with where the House and Senate came down, and, in fact, we have asked for the ability to move forward and to go through—

Mr. LANTOS. Do you personally favor increasing CAFE standards?

Secretary ABRAHAM. I believe that the Department of Transportation should set CAFE standards under the process that is set up for them to do so.

Mr. LANTOS. You have no personal view on whether it would be desirable to increase CAFE standards?

Secretary ABRAHAM. Every time this question is asked people also mention I come from the state of Michigan and suggest that perhaps—

Mr. LANTOS. I have not said that.

Secretary ABRAHAM. I know. I am waiting for that. I knew that would come in here sooner or later. But actually I supported the policy that called for an end of the moratorium to allow for the Department of Transportation to, in fact, bring about new standards. I think that we have gone a fairly lengthy period without a review of that. As long as the process includes considerations with respect to safety and the other factors the National Academy of Science raised as being considerations, I think it is an appropriate time to do so.

Mr. LANTOS. Mr. Secretary, I was waiting for a word to appear in your testimony, and unless I missed it, it did not, and the word is Enron. The Administration energy plan cited, I quote, rolling blackouts and brownouts in California as evidence for the need for more drilling in places like ANWR. Now we are learning that the California shortages may well have been manufactured by firms such as Enron. What do you think is the responsibility of Enron and other such outfits in creating artificial shortages and manipulating the market?

Secretary ABRAHAM. I do not think such behavior should be permitted.

Mr. LANTOS. Was it present during this period?

Secretary ABRAHAM. Pardon?

Mr. LANTOS. As the Administration observed brownouts and blackouts in California, it blamed it on many other factors. It did not blame it on the sickening, outrageous behavior of Enron and similar firms. Do you now see that they played a role in what happened in the California energy market?

Secretary ABRAHAM. First of all, I want to clarify one statement that was made. The Administration never argued that drilling in Alaska should be justified because of brownouts and blackouts in California. They relate to different energy issues. But as to the question that you are posing, I believe that if, in fact, the actions which have now been revealed after FERC's (Federal Energy Regulatory Commission) investigation and the memos that have been released took place, that these well could have contributed to the problems in California. I do not know the extent to which they were a part of that problem. We will find that out as FERC continues its investigation.

But I would note for the Committee's consideration that it was only after the appointees of President Bush took over as the Chairman and in one of the other positions on FERC that these investigations were, in fact, launched. Before we took office, it was the previous Administration's view that the blackouts and brownouts were not a function of behavior by these companies. The information, we are acting on it as the FERC has identified it. And I would say this, that it is important to note that, in fact, under the current FERC commission the very kinds of behaviors we now have identified were in large measure proscribed by new rules FERC adopted last year.

Mr. ISSA. Mr. Chairman, I would note that the gentleman's time has expired.

Chairman HYDE. Yes. The gentleman's time has expired, but we are very liberal with the Ranking Member.

Mr. ISSA. Then, Mr. Chairman, I would call to your attention Rule 11 in which this line of questioning is beyond, at the discretion of the Chair, this evidence and questioning is beyond the scope of our authority as the International Relations Committee, and I would ask the Chair to rule that this is an inappropriate question to be asked in that it is not pertinent to the discovery and oversight of this Committee.

Chairman HYDE. The court overrules the objection.

Mr. LANTOS. May I pursue one more item, Mr. Chairman?

Chairman HYDE. Surely.

Mr. LANTOS. Thank you very much, and I thank my colleague for his intervention.

Mr. Secretary, as you well know, this body overwhelmingly passed the Iran-Libya Sanctions Act (ILSA). Why hasn't the Administration used ILSA as it is supposed to do as a weapon in the war on terrorism? What is your timetable in deciding what, if any, sanctions will be imposed on European and Canadian energy firms that have clearly violated law?

Secretary ABRAHAM. Congressman, my agency does not have responsibility with regard to the decision making on the sanctions policies; the State Department does. I would say my understanding is that it is under consideration, so maybe—

Mr. LANTOS. I am addressing it to Mr. Larson.

Mr. LARSON. Thank you. We believe that the Iran-Libya Sanctions Act sets out a policy for the United States of opposing certain types of energy investments in Iran and Libya, and it gives the executive branch a range of tools to press our case with other countries about the ways in which these investments have the potential to strengthen the capabilities of these countries to acquire weapons of mass destruction, the tools to deliver those weapons, and possibly revenues to support terrorist activity.

During the last Administration when the SOUTHPARS case came to then-Secretary Albright, she made the determination, first of all, that there was no action that we could take under ILSA that was going to stop that investment from going forward, but she also believed that by using the leverage and the authority of ILSA that it should be possible to press our European partners to make even stronger commitments to address issues of weapons of mass destruction and counterterrorism in their conversations with the Iranians. That is an approach that this Administration has continued to pursue.

Mr. LANTOS. Since it is a failed approach, can you explain why you are pursuing the failed approach of the previous Administration?

Mr. LARSON. With great respect, Congressman, I do have a different opinion about whether it is a failed approach. We have pressed very strenuously, including in the most recent U.S.-EU summit meeting here in Washington in May, the view that the European Union should make counterterrorism and the fight against weapons of mass destruction a central element of their dialogue with Iran and condition future economic cooperation with Iran on satisfactory results.

Now, we have a different view than the Europeans about whether they should be facilitating or allowing investments by big oil companies in Iraq. Our national policy is that we should not. We believe they should not. They have a different opinion. But they have been working with us in pursuing this counterterrorism and WMD (weapons of mass destruction) agenda in their dealings with the Iranians.

Chairman HYDE. Mr. Paul of Texas.

Mr. PAUL. Thank you, Mr. Chairman. I have two questions, one for Mr. Abraham dealing with the market and one for Mr. Larson dealing with foreign policy. The question dealing with the market is I do not know why we do not move toward a freer market rather than a national planning board approach to energy. We do not have national planning for automobiles, PC computers, televisions, fiber-optics, and they are plentiful, and the price is low. In the seventies after government regulation and price controls really messed things up, instead of saying that we needed less planning, we developed this agency or department called the Department of Energy, and since then we are more dependent, not less dependent.

So I make the case for the marketplace, supply and demand, and that takes care of everything. It can take care of the environment if you have respect for property rights. It can take care of alternative fuels. Instead, we create problems that we have to subsidize the corporations to develop alternative fuels. So I just do not like

the words "free markets" applied to current policy because, quite frankly, it is not, and we should not accept that. And I think the free market could solve our energy problem just like it solves our other problems.

In dealing with foreign policy, because we mess up our energy policy, we have this so-called great need to defend our oil, and it drives our foreign policy. Whether it is in Colombia to protect a pipeline, whether it is in Venezuela to have our CIA involved, whether it is in the persistent occupation of the Persian Gulf (which does not serve our interests), whether it is in the expansion of our occupation of Central Asia, whether it is in our control of where and how the oil comes out of the Caspian Sea, and possibly our presence in Afghanistan, may all possibly be related to energy. So I see one mistake compounding another. In the eighties, when there was some deregulation, prices of oil went down to \$10, and I think that is what we need. We need deregulation. We need the market and that will take the pressure off our government to protect our oil and our oil companies and all of these special interests around the world. I would like your response.

Secretary ABRAHAM. Well, I would just comment in terms of the energy policy that as I said in our statement, I think any reflection on the National Energy Plan that has been offered by a lot of its critics is that it is too free market oriented, that it offers the arguments that we should pursue a more free market approach to energy policy. One of the things that characterizes virtually all of the meetings, at least that I have been having on an international basis in all of the discussions about these international energy issues, is that we need to let the free market work and that that will, in fact, be the surest mechanism by which newly emerging energy sources are going to be developed.

We stress, and I will leave it to Secretary Larson to comment on his meetings, but we always try to stress the argument that in the absence of transparency of market systems, countries who are asking us for help to get more investment are going to find that it does not happen. We try to remind people who appeal to our Department and say they want more American investment; we say it is not going to work if you do not have a free market, if you do not have predictable, transparent rules, and we try to stress that. And I am not saying that in every venue we have made progress on those fronts, but I think if you look just in the tone as well as the advocacy in our energy plan, that that is the thrust of what we tried to offer last year.

Mr. LARSON. I could give the Congressman a quick response to your points on foreign policy. First of all, I think that even if we did not import a drop of oil, we would still be very concerned about oil issues because of the effect of oil price spikes on our economy and the effect of oil disruptions on the economies and perhaps the policies of our major allies in Europe and Japan.

Secondly, what we have tried to do in some of the places you have cited are to pursue policies that we think do advance both economic and broader interests. Let me take the Caspian just as an example. There is a tremendous amount of oil and gas potential in that region. The real issue was could it be exploited, and could it be brought out to western markets. And given the geography of

the region, one of the possible approaches would be to have that energy come out primarily through Iran. There would be very serious and adverse consequence for us were that to happen, and that has been one of the reasons why the United States has worked very, very hard to provide the political foundation for the development of independent, multiple pipelines, including one that runs from Baku to Tbilisi to Ceyhan in Turkey, because it is a way of assuring that that energy can get out and that it does not have to transit a country that might try to use its control over the transportation network as a source of leverage.

So I think these are the sort of foreign policies that we would want and would be interested in pursuing even if we could reduce dramatically our reliance on imported oil.

Chairman HYDE. Mr. Sherman of California.

Mr. SHERMAN. Thank you, Mr. Chairman. Given the rule on opening statements, I have so many concepts I would like to bring to the attention of the Committee and our distinguished witnesses and then ask them to respond at the end. But with the Chairman's cautionary note of using that as a technique to exceed 5 minutes, I would ask that you and your staff prepare written responses to the many questions that will be embedded in the following. I do want to also associate myself with Mr. Lantos's opening statement.

We obviously need conservation, and we need new technology. I would hope that the Administration would not just be in favor of a process to give us CAFE standards but would come out immediately for the end to the discrimination against cars and in favor of trucks, SUVs, and vans. All commuters ought to make the same contribution to energy conservation. It is disappointing that at the beginning of the Administration you proposed a budget that would reduce expenditures on technology research designed to make us more energy independent, but after September 11th and other events I think the Administration realizes how important that technology is.

I think that we will be dependent upon imported oil for the next 30 to 50 years. There is, however, no world oil shortage. There is a world market for oil, and even if all of the safe oil was coming to us, safe like Mexico, Canada, or domestic production, the question would be how much do we have to pay for it because there will always be enough safe oil to furnish the U.S. market. The problem is that our friends in Canada, Mexico, and Texas want to charge us the same price that Kuwait is charging Japan, and at some point that oil price becomes so high as to disrupt our economy or even create shortages.

I would like to follow up on the Chairman's view but to add that we need to see long-term contracts at fixed prices in the mid-twenties as to the price per barrel of oil so that our friends in Canada and Mexico and we agree that in spite of changes in world prices we will have that stability. The Caspian Central Asian region is important, but I disagree with the Secretary when he lauds the Baku-Ceyhan pipeline. That pipeline is almost an act of hostility toward Armenia as it goes right around Armenia and creates what would be a military target in the event of new hostilities. Instead, in the absence of being able to solve the Nagorno Karabakh issue, and I hope we can, I would hope that we would be pushing

pipelines through Russia rather than those that come within just a few inches of Armenia or that we go with a peace pipeline directly through Armenia.

I join with Mr. Lantos in his concern that I would express is the absolutely pitiful approach that we have taken with Europe on the Iran issue. Europe has begun new trade talks with Iran. They are very important. Europe will force the World Bank to loan hundreds of millions of dollars to Iran. I brought that to the attention of the President last week and the Secretary last week as well. And all we will do is send a protest letter, we will vote no, and then we will have tea with the European diplomats. It is time for the Administration to have clear and explicit threats against Europe if they are going to finance the construction of nuclear weapons that would be smuggled into the United States and kill not 3,000 Americans but perhaps three million. You cannot just vote no, send a strong letter, and have tea.

The final issue I would like to bring up is the importance of massively expanding the Strategic Petroleum Reserve (SPR). Without objection, I would like to enter into the record at this point, I think, an excessively timid but at least first step research study by CRS in what it would take to have a SPR full with 1.4 billion barrels of oil. I think we have got to think of two, three, four billion barrels of oil as the only solution to what I expect will be 30 years of American dependency on imported oil and 30 years of disruption and warfare in the Middle East.

I talked to seniors in my district who wonder why the Social Security Trustees have invested only in paper assets. They envision the idea that Social Security Trustees perhaps need huge caverns of gold bars. Perhaps black gold would be the more credible investment for the 21st century. And if, as this study points out, it would cost us perhaps over \$4 a barrel to build the storage capacity, it would take us a while to do this. Obviously, we would have to pay for the oil. We would have to build pipelines.

Chairman HYDE. The gentleman's time has expired.

Mr. SHERMAN. I hope to get a written response not only on the idea of 1.4 billion barrels but perhaps even 3 billion barrels in the SPR, and I thank the Chairman for his indulgence.

Chairman HYDE. Do the witnesses wish to respond briefly to the questions, or would you rather do it in writing?

Secretary ABRAHAM. I would be happy to do it in writing.

Chairman HYDE. All right.

Secretary ABRAHAM. I do not know whether I will remember each of them.

Chairman HYDE. I do not like to leave a lot of questions hanging, but there was no time for your response. All right.

[The information referred to follows:]

RESPONSE SUBMITTED IN WRITING BY SECRETARY SPENCER ABRAHAM TO QUESTION ASKED BY THE HONORABLE HENRY J. HYDE, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS, AND CHAIRMAN, COMMITTEE ON INTERNATIONAL RELATIONS

#### EXPANSION OF THE STRATEGIC PETROLEUM RESERVE

The energy policy bill currently being considered by Congress (H.R. 4) directs that the Department of Energy conduct a study within 180 days of enactment on increasing the capacity of the Strategic Petroleum Reserve (SPR). The size of the reserve

currently is authorized up to one billion barrels and current capacity is about 700 million barrels. Inventory is about 580 million barrels and is increasing daily through an exchange agreement for transfer of offshore royalty-in-kind (RIK) oil from the Department of the Interior to the Department of Energy, then delivered to the SPR. Using this arrangement, the SPR expects to be filled to its 700 million barrel capacity in 2005.

In anticipation of direction from Congress or the Administration, the Department has begun the initial phase of a study to determine the optimal size of the Strategic Petroleum Reserve. This preliminary work is being done now in order to be able to complete the study, which would normally take about one year, on time. The initial phase includes preparing assumptions, i.e., reviewing the system model used on previous size studies, and development of a membership list for an interdepartmental study group. Completion of this phase, anticipated for the end of this fiscal year, will leave the Department in a position to proceed on a comprehensive size study.

Expansion studies of the SPR historically indicate an optimum Reserve size somewhere between the current inventory and one billion barrels. While much larger inventories would clearly improve our energy security posture, the cost of very large expansions would impose great burdens on the Treasury. Assuming a cost of \$30 per barrel of oil, an expansion to 1.4 billion barrels from the currently planned 700 million barrel size would require \$21 billion for oil, without the consideration of construction costs. In light of current demands on resources for homeland security, it is unlikely that a doubling of the Reserve size would be appropriate at this time.

Mr. LARSON. I could give a bullet response and respond in writing.

Chairman HYDE. Very well.

Mr. LARSON. On the pipelines, our policy is multiple pipelines. I was making reference to one, but we agree that there should be several opportunities, and I just wanted to underscore that point, sir.

Chairman HYDE. Mr. Smith of Michigan.

Mr. SMITH. Mr. Chairman, thank you very much, and I welcome the witnesses, especially Spence Abraham. I think our country is fortunate to have you tackling some really challenging goals in energy. I was Director of Energy during the Arab oil embargo for the United States Department of Agriculture and as such became a member of Nixon's oil policy commission. Since the 1970s we have increased our GDP by about 147 percent. The increase in energy use only went up 42 percent, so we are on the right track as far as increasing our efficiency in using energy. However, at that time, like Ron mentioned, we were nervous. We started setting prices. We were importing 35 percent of our petroleum energy, and so we decided to be more conservation minded. We went into tremendous expense in research to become less dependent. Now we are approaching 60 percent of our petroleum energy being imported.

I put language in the energy bill, and I think it is important that we move ahead with the energy bill, that emphasizes additional research. One of my questions is on nuclear energy, which we included as a priority for research as well as clean coal and other potential energy sources. What needs to be done, Secretary Abraham, in terms of developing and moving ahead with the construction of more nuclear-power plants, do we need evaluation of the safety? Do we need something passed by Congress that reduces the nervousness of those energy companies that might build a nuclear plant in terms of liability? Is this still a potential? What is your vision on this?

Secretary ABRAHAM. Well, I think that in terms of what government can do that we have tried to focus on three components in

the energy plan, one being the issue of the disposition of nuclear waste, which is, of course, one of the areas we have worked in.

The second, which I think clearly affects investment decisions, is the question of liability and the fact that we have not reauthorized the Price-Anderson legislation which has created an uncertainty that needs to be addressed. Now, the House has acted in a free-standing bill, I believe, to do so. The Senate incorporated Price-Anderson reauthorization in their energy bill. So I hope that when the energy bill is finished that that can be addressed because it will, I think, take much of the uncertainty and unpredictability out of the decision making.

Mr. SMITH. Are you suggesting the possibility of legislation to somehow limit liability in terms of the suits that would be brought against—

Secretary ABRAHAM. Well, to clarify liability, we have had Price-Anderson in place, but it has expired, and so I think the uncertainty is what will follow it. Will it be a reauthorization of the existing liability provisions or something new? I think until those who make investment decisions know what the new structure will be that that has been a factor. So I think finishing the energy bill is a key part of this.

The other thing we are doing in the Department is to focus research dollars, and we have this year in our budget submission advocated a new program we call Nuclear Power 2010. Our approach is to basically direct a fair amount of research toward addressing some of the issues that seem to be impediments to new plant construction: safety, siting issues, some of the licensing challenges.

Mr. SMITH. I need to interrupt you because I am sure—

Secretary ABRAHAM. The clock is running.

Mr. SMITH [continuing]. The Chairman is going to interrupt me. Secretary Larson, if we were to go into Iraq after Saddam Hussein or something, is it a given that other Arab countries would reduce their supply of oil to the world and to us?

Mr. LARSON. I do not think it is a given, no. I think that if this scenario that you outline were taking place, we would want to do two things in the energy area. One would be to make sure that our major oil-consuming country partners and friends were prepared to take any necessary action to put more oil stocks on the market if there was a threat of disruption. And, second, we would want to make sure that friendly suppliers were in a position to at least maintain, and hopefully to increase, their production.

Chairman HYDE. Mr. Blumenauer.

Mr. BLUMENAUER. Thank you, Mr. Chairman. I respectfully have a different view of the notion that we are achieving tremendous progress in the area of energy after 18 months. We continue to use more oil, and we continue to waste more oil than anybody in the world. And as you have mentioned in your presentations, it has severe implications for the economy and for national security. Something that has not been mentioned, but hopefully the Administration is starting to change its position on, is that our oil dependency may actually have implications for the future of the planet with global climate change.

It seems a little disingenuous to argue that somehow we are going to now study improving vehicle mile performance. I note that



the European Union is going to have fuel efficiency in the neighborhood of 42 miles per gallon, and American exports to the EU are going to meet that standard. The Japanese are somewhere in the neighborhood of 35 to 36 miles per gallon in a shorter time frame. I am also troubled that you have rolled back the energy efficiency, for example, for air conditioning appliances earlier.

Where is the leadership and the urgency from an Administration that is willing to say in many other cases stop studying things, move forward? Under the guise of urgency and threats to the national security we are doing all sorts of things that have severe implications. Why can't we get a little urgency behind an effort to have some leadership for improved vehicle efficiency to be able to at least meet the challenge that American producers are going to meet in Europe?

Secretary ABRAHAM. Well, let me begin by saying this. Remember, we inherited a government which had not had an energy plan of any sort for a decade or more. We came to office with no National Energy Plan, no policies in place.

Mr. BLUMENAUER. Reclaiming my time for a second, with due respect, I served here. I watched the Republican-controlled Congress that you were a part of put in place the moratorium on even studying improved vehicle mileage. You were a part of that, and the Republicans were in control.

Secretary ABRAHAM. You were part of the Congress, and it was passed on a bipartisan basis in the House and Senate. It was not a single-party vote, point one. Point two: We called for the end of that moratorium. We are prepared to move ahead. One does not pass CAFE standards or that rule-making process in 1 week. We are at least willing to go forward and do that, and at the same time we coupled it with two other provisions of our energy plan: Number one, our proposals for significant tax incentives for the purchase of hybrid and more fuel-efficient vehicles, and, number two, the program we announced in January, the Freedom Car Program, which is designed to look beyond fuel-efficiency standards to a day in which we would, in fact, utilize fuel cells, hydrogen fuel cells, we believe, as a replacement for the current operating system so that our dependency on oil would in the case of motor vehicles be dramatically reduced. So we are not sitting still, and I resent the implication that we are. We have been moving ahead on all of those fronts, and in most of those instances nothing had been happening.

Mr. BLUMENAUER. As I mentioned, under the leadership of the Republican-controlled Congress we had those moratoria imposed. But taking a lead from what Mr. Lantos was trying to coax from you, your personal opinion, do you think, as Secretary of Energy, as somebody who represented the great state of Michigan and saw the technological capacity, do you personally think the great efficiencies that we have seen in the last 10 years have made this equipment more efficient? Instead of being used to improve fuel efficiency, it has been used to increase the horsepower and the "get-up and go." Do you think that we can now move aggressively to have much higher fuel efficiency standards without a long, involved—

Secretary ABRAHAM. Well, as I pointed out, on a bipartisan basis the House and Senate rejected that approach, but let me just say this.

Mr. BLUMENAUER. I am asking your opinion as Secretary of—

Secretary ABRAHAM. My approach is as I have outlined. I support moving ahead for new standards. It is up to Transportation to set them, and I will support them when they are done. I believe that we need to go beyond the thinking of the current type of motor vehicle operating system, which is why we changed the approach that was being taken in terms of transportation research from the PNGV program that was headed toward really no significant, in my judgment, improvements, and instead have replaced it with the kind of concentration on fuel cell hydrogen technologies and the infrastructure to support it that will allow us to transcend the motor vehicle as we know it today and the dependency on petroleum products that it brings about.

Those are new initiatives from our Department, and I, as a Member of the Congress, supported and worked hard for the PNGV program, but I recognized when I became Secretary and looked at where we were that that was not going to get us to the kind of more fuel-efficient or, in fact, to transcend the petroleum-driven type of operating system that we are going to need in 30 or 40 years when, as a number of Members of the Committee have indicated, the dependency on oil would be even higher. So that is the approach we are trying to take.

Chairman HYDE. Mr. Rohrabacher.

Mr. ROHRABACHER. Thank you very much, Mr. Chairman. I feel compelled, as we have been seeing so much politics being played at this hearing, to jump into the fray.

Chairman HYDE. Unaccustomed as you are.

Mr. ROHRABACHER. Let me just note that the shortage of electricity in California was not caused by some conspiracy aimed at California. Otherwise, the conspiracy would have been aimed at other states, and other states would have suffered as well. It was due to the incompetence of our Governor, who is up for reelection this year, so we will leave it at that.

And let us note that there is a lot of playing of politics with energy, and you just cannot sit here and talk about gas-guzzling cars and call for some sort of restrictions on the American people's right to own a big car and then vote against ANWR and then say you are in favor of American independence from potential hostile oil-producing states in the Gulf region. I would commend the Administration for its courage in pushing the development of new oil and gas and energy resources in the United States, and I would suggest that the people listening to this debate today realize what we are really talking about on the other side are restrictions on the standard of living of the American people.

Look, if somebody is opposed, as the Governor of California and others, to the development of energy in their state or the development of energy in the United States, nuclear energy—they are opposed to that, opposed to oil, opposed to coal—you cannot just be opposed to all new energy sources that are currently available to us and expect us to be independent of those states that could be hostile to American interests in the Gulf.

I would suggest America's interest, Mr. Lantos, lies exactly with that, increasing domestic supply and increasing supply, and there is nothing wrong with that. Let us increase supply so we are not as dependent on, for example, the Saudi Arabians, who seem to be not only unstable but allied with some of the people who are—at least some of the people in Saudi Arabia seem to be allied with people who are hostile to our way of life to the point that a lot of the people who were involved in this attack on us on September 11th were Saudis.

Mr. LANTOS. Would my friend yield for a moment?

Mr. ROHRABACHER. I certainly would.

Mr. LANTOS. I appreciate it very much. Just to keep this issue of ANWR in some realistic framework, according to the Department of Energy, if we proceed with ANWR, it will reach its high point of its production cycle in 2027, at which time it would be able to provide 2 percent of our energy needs. So whether we favor it or do not favor it, it is a negligible portion of our anticipated energy requirements. I thank my friend.

Mr. ROHRABACHER. Reclaiming my time, ANWR would provide us, for example, 30 years of annual import that we are getting from Iraq today. Eventually we will get to that. And the reason why ANWR and other oil opportunities are not being utilized today is because of people playing politics 10 and 15 and 20 years ago. There was a big debate on whether we would have an oil pipeline in Alaska at all. People playing up to radical environmentalism and people playing politics in that way are not going to make this country any safer and any more oil independent.

So today I would like to just throw this to the Secretary. What about supply? Isn't supply an important part of the equation rather than just trying to put restrictions on the size of the automobiles Americans can drive?

Secretary ABRAHAM. As I said in my opening statement, our plan was based on both improvements in energy efficiency and conservation on the one hand and increasing supply on the other. Within the area of supply we need to diversify the sources. And just for the record I would just point out that if one looks ahead 20 years in terms of energy demand in this country, in the absence of structural and efficiency gains on the consumption side, our energy demand in this country would increase by 70 to 80 percent.

Our energy plan contemplates offsetting more than 60 percent of that increase with conservation, efficiency, and structural changes and less than 40 percent, in fact, about a third, through increases in production, part of which we believe has to come from within the United States. If you look backward over the past 10 years, what you see is almost no increase in the domestic production of energy, and that, in fact, is a troubling statistic.

Chairman HYDE. The gentleman's time has expired. The Chair notes that we have a second panel of very important witnesses that the Chair is anxious to get to. There is a 1 o'clock conference for Republicans on some important matter, which I think they will want to attend, and so I am going to arbitrarily limit the questioning of this panel to Ms. Berkley and Mr. Issa, with the indulgence of Mr. Royce and Mr. Chabot and Mr. Delahunt. We will go

to you two for questions, and then we will excuse this panel and get to our next panel. Ms. Berkley.

Ms. BERKLEY. Thank you, Mr. Chairman, for holding this very important hearing. Welcome, Secretary Abraham and Under Secretary Larson. It is a pleasure to have you. Five minutes, although I appreciate the 5 minutes, is simply not enough time to convey the concerns and fears that my constituents have about this Administration's energy policy. I would appreciate if you could respond to some questions that I have regarding the energy policy, a policy that, quite candidly, baffles me and poses major health, environmental, and economic hazards to the people that I represent in Nevada.

This Administration, and I think we are all in agreement that we need to get away from foreign energy sources, this Administration, of course, is well aware of the numerous problems in the Middle East. Nations with strong anti-American sentiment, undemocratic regimes, pervasive deadly terrorist activities—these are not nations obviously upon which we should be dependent for our energy needs. So I agree with the Administration's position and desire to get away from our dependence from foreign oil sources, energy sources.

Where I part company with the Administration is on the solution, and, of course, a key component of the Administration's energy policy is increasing reliance on nuclear power. I know that the Administration is well aware that nuclear power produces deadly nuclear waste. You are also well aware that al Qaeda and other terrorist groups are looking for dirty bomb material. Yet with all of that knowledge, this Administration is actively lobbying to ship 77,000 tons of deadly, high-level nuclear waste across this country to store at Yucca Mountain, Nevada, a location, I might add, that experienced an earthquake a week ago that registered 4.4 on the Richter scale. That is thousands of shipments of nuclear waste across 45 states near the homes, churches, synagogues, schools, hospitals that millions of Americans live near. These waste transports are exactly the type of target-rich environment al Qaeda is looking for. In the wake of 9/11 we cannot afford, and I am sure we are not that naive to believe that we are safe from people who would give up their lives to end ours.

Our government's own statistical models show we can expect between 50 and 300 accidents involving nuclear waste. People make mistakes. Accidents happen, but an accident involving nuclear waste can be catastrophic, exposing whole communities to radiation and utterly destroying the environment for nearly a quarter of a million years. And I might bring to your attention, although I am sure I do not have to, that on May 26th a barge crashed into Interstate 40. The bridge collapsed in eastern Oklahoma, knocking down more than 500 feet of roadway. That bridge was on a major transportation route for nuclear waste. Had instead of 10 cars gone in the river one truck carrying canisters of nuclear waste, those canisters would now be at the bottom of the river, unretrievable, I do believe.

Now, my concern, and the questions I would like you to answer for me, is exactly how much does this Administration plan to expand the nation's nuclear energy production over the next 10 to 20

years? What will we do with the continuing creation of nuclear waste? Even if we transport the 77,000 tons safely, which I do not believe we can, we will continue to generate nuclear waste at the nuclear reactor sites. What are we to do with that nuclear waste? Are we going to find another site? Are you going to expand Yucca Mountain to include this as well? And after all of this expenditure estimated by the Department of Energy's own numbers, \$50 billion to \$350 billion, to put this nuclear waste in a hole in the Nevada desert we will not have solved the problem of nuclear waste in this country because we will still have it, and we will have it for 250,000 years.

Ought we not be spending that money to put it into renewable energy sources? Let us harness the sun, harness the wind. Let us put more money, not the paltry 3 percent that has been proposed in Fiscal Year 2003 for renewable energy sources—why not instead of putting those billions into a hole in the Nevada desert, ought we not be spending that money searching for renewable energy sources? That is all I have to say.

Chairman HYDE. That calls for a yes or no.

Secretary ABRAHAM. We are for all of the above. Mr. Chairman, I would be happy to try to answer and comment. I do feel compelled to comment on several of the points that were made in addition to the specific issue that was raised by the congresswoman, if I could have a few minutes to do so—I know the time ran over—or I could do it in writing.

Chairman HYDE. Well, Mr. Secretary, they have just called a vote, so I do not think—

Secretary ABRAHAM. Could I submit in writing, then, a response?

Chairman HYDE. Absolutely.

Ms. BERKLEY. I would be pleased to accept these answers in writing, and I appreciate the fact that you called ahead of time and asked, but I wanted to hear your opening remarks before I submitted questions.

Chairman HYDE. We will run over and vote and then come back. Unless Mr. Issa would like to waive his question period, we could release this panel.

Mr. ISSA. Mr. Chairman, if I could have just 2 minutes, I would be that brief, that we could then adjourn.

Chairman HYDE. All right. Go ahead, and then we can release.

Mr. ISSA. Thank you, Mr. Chairman. I will submit my questions and ask for your answers in writing so that we waive that portion of it. I am pleased to know that the Committee on International Relations has broadened its jurisdiction to include such domestic issues as Yucca Mountain. I would like to disassociate myself with the gentlelady from Nevada for good and valid reasons. I would like to commend the Administration for their making the tough and often politically unpopular decision to take the waste products of 30 years of nuclear production plus the remainders of the Cold War and move them to places that are comparatively far safer.

I would like to ask just one question that I think needs to be asked. If the Administration's position has been that we need to have greater, both domestic and worldwide, production and greater energy alternatives and greater conservation, then, in fact, isn't it this body that has made the Under Secretary and Secretary Abra-

ham's job of international relations more difficult because every time we import more oil, need more of the world's supply, do not conserve, and do not find domestic sources and domestic alternatives to oil we, in fact, tie your hands in diplomacy?

Mr. LARSON. Thank you. As a person who has served in the Administrations of both parties and worked on this issue for a number of years, I think the hard realities we talked about at the beginning have been something that successive Administrations have faced. I think that all of the things you mentioned, Congressman, are things that we have to do, and there is no silver bullet to get energy security. We have to work on the domestic agenda, both production and conservation, and on the international agenda of diversified supply. We have to be prepared to deal with disruptions if they happen, and we do have to realize that this is a bipartisan national security issue. It is something that affects the ability of the United States to run an independent foreign policy. I think the sorts of policies that we have been pursuing do prevent us from being held hostage, but I think we have to continue to work on this if we are going to have an independent foreign policy.

Mr. ISSA. Thank you, and thank you for your indulgence, Mr. Chairman.

Ms. BERKLEY. Mr. Chairman.

Chairman HYDE. Very well. Before I yield to you, I just want to say that I think Yucca Mountain and the disposal of nuclear waste has a direct bearing on the international problem of energy. Nuclear energy is one solution to our dependence on foreign petroleum, and the consequences of nuclear energy domestically are inextricable from the overall problem, so I do not think it was far removed to permit discussion of Yucca Mountain.

And now Ms. Berkley has some three or four words to impart.

Ms. BERKLEY. Mr. Chairman, thank you for your graciousness. And, Mr. Issa, if you think this is so commendable, I would gladly let you keep this nuclear waste in San Diego and keep it out of the state of Nevada.

Chairman HYDE. Mr. Schiff?

Mr. SCHIFF. Mr. Chairman, thank you, and I will keep this very brief. I know we are rushing off to catch a vote. Mr. Secretary, Mr. Under Secretary, I appreciate your testimony today. I want to make a very brief point and then pose a question that maybe you can submit an answer in writing, and that point is this.

I believe in the technological capability of the American people, their entrepreneurial ability, and I know you have that same faith in our ingenuity, in our scientific prowess. I am concerned we are missing a great opportunity to set a goal of dramatic reduction in our dependence on fossil fuels over the next decade. This is a dramatically attainable goal that would reduce our dependence on foreign sources of oil. It would negate the need to even debate the rancorous issues of exploration of drilling in Alaska or elsewhere.

If we accept the same premise that we have with the star wars missile defense, that there is nothing technologically this country cannot do, then to incentivize to develop new technologies, renewable energy sources, hybrid vehicles, this is a win-win answer for this nation's future. It develops new industries, new profit centers. It reduces our dependence on oil. It cleans the air and the environ-

ment. It is such a winner for this country, and it is so technologically doable, I just want to add my voice to those that would urge, regardless of how the votes may line up at the moment in Congress, this is the best thing for this nation's future. And we can do this.

I would just ask in terms of your written response that you give me an indication of what role in terms of our future energy sources do you think in the next 10 or 20 years we can cultivate from alternative sources, and then if you would compare that with how much money in the current energy bill we are devoting to that new energy technology. I would like to see if there is a match there between where we are putting our resources and where we think our future is.

Secretary ABRAHAM. I would be happy to. I just would note for the record that the submission which our Administration made for this year's budget in the areas of energy efficiency and renewable energy is the largest request Congress has received from any Administration in over 20 years. And so we share that view that technology is the key. What we are trying to do is to look at those technologies that get us beyond the current debate, and I will be glad to share some of those ideas.

[The information referred to follows:]

RESPONSE SUBMITTED IN WRITING BY SECRETARY SPENCER ABRAHAM TO QUESTION ASKED BY THE HONORABLE ADAM B. SCHIFF, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

This Administration shares your interest in reducing U.S. dependence on imported oil. Our policy, as presented in the National Energy Policy, will increase and diversify our nation's sources of traditional and alternative fuels in order to furnish families and businesses with reliable and affordable energy, to enhance national security, and to improve the environment. As I stated for the record at the time of the hearing, the Department's Office of Energy Efficiency and Renewable Energy, in the President's FY03 Budget Request, is seeking more funding for these purposes than Congress has appropriated for any year in the past 20. Part of this budget is devoted to developing alternative energy supplies and transportation efficiency advances that will reduce our need for imported oil.

As is discussed in the National Energy Policy, natural gas and propane offer the greatest potential for market growth in the short term. Ethanol vehicles offer tremendous potential if ethanol production can be expanded. Electric vehicles could reach large numbers in the future if technology breakthroughs help bring costs down and increase driving distance. Fuel cell vehicles operating on compressed hydrogen offer long-term potential.

With an eye to the mid- to long-term, DOE's research focuses primarily on developing bio-resources to produce ethanol, hydrogen supply and fuel cell vehicles. In addition, our research on advanced engines and drive trains, such as hybrid electric vehicles, may double or triple the efficiency of current vehicles. This will give us the future tools needed to lessen our need for oil imports.

I look forward to working with you on the current energy bill to ensure that we are investing in new technologies that will lessen our future need for imported oil.

Chairman HYDE. The Committee stands in recess. The first panel is released from your imprisonment, and we thank you for your testimony. We will start with the second panel right after the vote. Thank you.

[Whereupon, at 12:17 p.m., a brief recess was taken.]

Chairman HYDE. The Committee will come to order. Our second panel today is led by Dr. Daniel Yergin, Chairman of Cambridge Energy Research Associates, who is a highly respected authority on energy policy and international politics and economics, having received the United States Energy Award for Lifelong Achievement

in energy and the promotion of international understanding. He has written several highly acclaimed books, the latest, receiving wide attention for its analysis and narrative of how the world is changing its mind about markets, has received the Pulitzer Prize for general nonfiction.

Dr. Yergin is a board member of the United States Energy Association, a member of the National Petroleum Council, and a member of the U.S. Secretary of Energy's Advisory Board. He is a trustee of the Brookings Institution, a commentator for Marketplace Radio. Dr. Yergin received a B.A. from Yale and a Ph.D. from Cambridge University, where he was a Marshall Scholar. He holds honorary degrees from the University of Houston and the University of Missouri.

Our second panelist is the Honorable Frank Gaffney, Jr., Founder, President, and Chief Executive Officer of the Center for Security Policy, a not-for-profit, nonpartisan, educational corporation established in Washington, DC under Mr. Gaffney's leadership, the Center has been nationally and internationally recognized as a resource for timely, informed, and penetrating analysis of foreign and defense policy matters.

Mr. Gaffney also contributes actively as a columnist or contributing editor for the Washington Times, Defense News, Investors Business Daily, National Review Online, American Spectator Online, and other online reviews. He is featured weekly on nationally syndicated radio and appears frequently on national and international television programs. His op-ed articles have appeared in the nation's leading newspapers, such as the Wall Street Journal, the Washington Post, the New York Times, and many others.

Mr. Gaffney was nominated by President Reagan to become Assistant Secretary of Defense for International Security Policy, in which capacity he served until the close of the Administration. He chaired the prestigious, high-level group, NATO Senior Political Military Committee, and represented the Secretary of Defense in key U.S.-Soviet negotiations. During his career he also served as Deputy Assistant Secretary of Defense for Nuclear Forces and Arms Control Policy, as a professional staff member on the Senate Armed Services Committee, and as an aide to the late Henry M. "Scoop" Jackson, the Senator from Washington. He holds a master of arts degree in international studies from Johns Hopkins University School of Advanced International Studies and a bachelor of science in foreign service from Georgetown University School of Foreign Service. We look forward to hearing from you, Mr. Gaffney.

As our final panelist, we welcome the former Deputy Secretary of the Treasury and former U.S. Ambassador to the European Union, the Honorable Stuart Eizenstat, now a partner of the law firm Covington & Burling. Ambassador Eizenstat's work focuses on international business transactions and regulations and on resolving international trade problems.

Ambassador Eizenstat has held a number of key positions during his 15 years of government service. He was President Carter's Chief Domestic Policy Adviser, Executive Director of the White House domestic policy staff. In addition to serving as Deputy Treasury Secretary, he was Under Secretary of State for Economic, Business, and Agricultural Affairs and Under Secretary of Com-



merce for International Trade. He received the highest departmental awards for his service from Secretary of State Christopher, Secretary of State Albright, and Secretary of the Treasury Summers. When he served as Ambassador to the European Union, Ambassador Eizenstat had a prominent role in the development of key international initiatives, including the negotiation of the trans-Atlantic agenda with the European Union, development of the trans-Atlantic business dialogue among European and U.S. CEOs, the negotiation of agreements with the European Union regarding the Helms-Burton Act and the Iran-Libya Sanctions Act, the negotiations of the Japan Port Agreement, and the negotiation of the Kyoto Protocol on Global Warming.

Ambassador Eizenstat earned a B.A. cum laude and phi beta kappa in political science from the University of North Carolina at Chapel Hill and received his J.D. from Harvard in '67. He has practiced law for 20 years in Atlanta and Washington, and we thank you for coming today, Mr. Ambassador.

I would ask you to each summarize, if you can, in give or take 5 minutes. Your full statement will be made a part of the record, and I am really grateful for your patience. We will start with Dr. Yergin.

**STATEMENT OF DANIEL YERGIN, Ph.D, CHAIRMAN,  
CAMBRIDGE ENERGY RESEARCH ASSOCIATES**

Mr. YERGIN. Mr. Chairman, Members, I am very pleased and honored to be here and be part of this distinguished panel on oil diplomacy. I think we can say that the era of energy security began when Winston Churchill converted the British Navy from coal to oil on the eve of the First World War. At that time, this meant shifting from dependence on Welsh coal to Persian, that is, Iranian oil. He gave a maxim that is still a maxim today, that "security and certainty in oil lie in variety and variety alone." That underpins this hearing today.

Energy security concerns are on the table again. It turns out that for a decade we had an exaggerated sense of security, including energy security, and we are coming to terms with the new reality. Why has energy security come to the fore? Again, we have heard some of the reasons today: the rise in U.S. oil imports, turmoil in the Middle East, market pressures. And there is something that we did not hear—that there is a new concern, in addition to the traditional concerns about the flow of oil—about the security of our energy infrastructure within our country, which is part of the overall focus on homeland security.

Although forgotten during the new economy mania, our \$10.3 trillion economy actually rests on an energy foundation. Some 93 percent of that foundation is provided by oil, natural gas, coal, and nuclear power. It is quite a range. Oil, at 20 million barrels a day, provides 40 percent of the total, natural gas is 23 percent. This goes right down to wind, though growing, and solar, which are between  $\frac{1}{10}$  and  $\frac{2}{10}$  of 1 percent. Overall, the U.S. consumes about a quarter of the world's oil, while we are about a third of the world's GDP.

The simple reason that U.S. oil imports are going up is that U.S. demand has been increasing for many years more rapidly than pro-

duction, which is increasing only modestly. Oil is a strategic commodity. The issue is not whether we should or should not import oil, but how to avoid being in a position that makes us vulnerable to disruption. Unless we are able to imagine some Draconian regulations or a series of technological breakthroughs that are not now apparent, the practical question does not revolve around substantial reductions in imports. Rather, the first challenge is simply to stabilize them. There is no simple answer or simple formula. Conservation has a significant role. Stabilizing or increasing domestic oil production is also important, and alternatives and new technologies are very important.

What I would like to do is just offer eight common-sense observations about energy security that I think are lessons of the last 25 or 30 years. Number one: Recognize there is only one oil market. We are part of it. Number two: Churchill's maxim about variety still holds true today. One of the key guarantors of security is diversification of supplies, which has been a major U.S. policy. Three, emergency stocks, such as the Strategic Petroleum Reserve, are a front-line defense against disruption, but it is important that their value not be undermined and devalued by turning them into market management schemes that confuse temporary price volatility with serious disruptions. And as part of that, too, spare capacity of the world oil market is very important.

Fourth, the oil market is much more flexible than it was in earlier decades. Intervention and controls can be highly counterproductive. Stu Eizenstat has lived through that experience. And after all, when we look back, we can see that the famous gas lines of the 1970s were largely home made, the result of controls that prevented moving gasoline to where it was needed from places where it was not needed. Fifth, we need to be pursuing cooperative energy relations with other importing countries.

Sixth, we have got to keep in mind that government can do a lot to allay panic—which is one of the threats of disruption—with good-quality information and also facilitating the exchange of information. Seventh, we ought to remember, and this is important to this Committee, that most oil exporting nations recognize the mutuality of interests between producers and consumers, and they are deeply interested in security of demand, and so good relations are a key element of energy security. And finally, a healthy, technologically driven domestic energy industry is part of energy security. So is a commitment to research and development and innovation across a broad spectrum that takes into account current and future environmental considerations.

What is the basic picture? The Middle East provides about 30 percent of total oil production. Sixty-six percent of reserves are concentrated there. When we look out at Cambridge Energy, we see world supplies over this decade growing by over 20 percent. Some of the most noteworthy growth will be in Eurasia, which means Russia and the Caspian, West Africa, Latin America. The deep water Gulf of Mexico is also important, and I would caution this Committee, given some of the things I have heard, about being too pessimistic about U.S. supplies. But at this point it still appears that the largest growth will be in the Middle East. This growing capacity around the world, over 20 percent—will be necessary to

meet growing demand, led by countries like China and India. China today is the world's third largest oil importer.

But we need to remember that prospects for future oil supplies are not fixed. They will be determined by economics, by politics, by public policy, and technology. Whatever part of the world one is talking about, one critical factor will be the stability and reasonableness of the investment environment and its openness to foreign investment.

The second thing that needs to be taken into account is the time frame. We have a \$10.3 trillion economy. There is no quick button to push on energy. An inevitable "law of long lead times" seems to govern when it comes to oil and gas development. Projects unfold over 10 or 15 years. This reinforces the need to shape the investment environment that meets the needs of both host governments and international companies over time.

Just to give a few key numbers, and then I will stop, one is, as we look out over the next 10 years, we see Middle East production, based upon what we know today, increasing by about 7 million barrels a day. Very significant is growth in Russian oil and Caspian oil production by about 50 percent—that is, by 4 million barrels a day. There is a conjunction of the modernization of the Russian oil industry and our new strategic relationship between Russia and the United States, and this is one of the important reasons to continue strengthening and broadening our political and economic relations with the Russian government and with Russia in a very important area where the U.S. Government can make a contribution.

West Africa, another key source of growth, can grow by almost 60 percent. Many issues are there to be dealt with, including helping to strengthen state institutions, improving political relations with West African countries, and developing domestic and regional gas markets.

Mr. Chairman, you spoke about Latin America and the hemisphere. We can see growth there, but there are important issues about this post-reform environment in Latin America, issues about investment in Venezuela in particular and how countries go about sorting out and balancing their needs.

I began my remarks by quoting a British Prime Minister, Winston Churchill. I would like to conclude by quoting another British Prime Minister. I was talking with Margaret Thatcher when we were doing our *Commanding Heights* project, and at the end of the conversation she said to me, "Do not forget Thatcher's Law." Since I did not know what Thatcher's Law was, I asked her, and she said, "Thatcher's Law is the unexpected happens. Prepare for it." And that seems to be pretty good advice when we are talking about energy security. Thank you.

[The prepared statement of Mr. Yergin follows:]

PREPARED STATEMENT OF DANIEL YERGIN, PH.D, CHAIRMAN, CAMBRIDGE ENERGY RESEARCH ASSOCIATES

#### I. INTRODUCTION

I am very pleased and honored to be invited by the Committee on International Relations to participate in this very important hearing on "Oil Diplomacy." I am here in my individual capacity as an analyst of these issues, and am not representing Cambridge Energy Research Associates or its views, nor those of any other organization with which I am affiliated. Energy security is a subject that has

much engaged me for over 25 years. It constitutes one of the major themes of *The Prize: the Epic Quest for Oil, Money, and Power*.

I would like to begin by observing that energy security has recurrently been an issue since the rise of industrial society more than a century ago. The precise beginnings may well have been when Winston Churchill, as First Lord of the Admiralty, converted the Royal Navy from coal to oil on the eve of the First World War. As a result, the Royal Navy moved from Welsh coal as the source of its propulsion to Persian-Iranian—oil. Confronted by this new risk, Churchill articulated a principle of energy security that is no less apt in the first decade of the twenty-first century: “Safety and certainty in oil lie in variety and variety alone.”

Over the century since Churchill’s decision, energy security has persistently come to the fore. It was a very critical dimension in World War II. In the decades after World War II, there were five Middle East crises that either disrupted or threatened to disrupt the world oil supply system.

Of course, we are not in a crisis situation today. But energy security is front and center again—for the first time since the Gulf Crisis a decade ago. At that time, the imminent threat was that the breadbasket of world oil production—the Persian Gulf—would fall under the sway of Saddam Hussein, enabling his regime to translate oil into political, economic, and military power—and into weapons of mass destruction.

A decade later, energy security concerns are once again on the table. Events demonstrate that, with the end of the Cold War and the resolution of the Gulf Crisis, we passed into a decade of exaggerated confidence about security. That includes energy security.

My objectives in today’s hearing are three-fold.

First—to provide the Committee with a clear framework for understanding our national energy position.

Second—to identify key axioms for thinking about energy security.

Third—to relate our international relations in various regions—including Russia, West Africa, and Latin America—to the future of oil supply.

We need to begin, however, by asking why energy security has come to the fore again:

*Rise in U.S. Oil imports.* A quarter century ago, at the time of the 1973 oil crisis, the United States imported 36 percent of its oil. Today, it’s 56 percent.

*Turmoil in the Middle East.* There is growing concern that the Middle East could be destabilized by a number of factors—Iraq, terrorism, al-Queda, demographic pressures, Israeli-Palestinian conflict, generational change.

*Market pressures.* Energy price spikes in recent years have—in this post-new economy world—reminded us of the importance of energy.

*Vulnerability.* To all this, add a new concern in addition to the traditional concerns about the flow of oil—the security of our energy infrastructure, part of the overall focus on homeland security.

## II. OUR ENERGY POSITION

Our \$10.3 trillion economy rests on an energy foundation. Some 93 percent of that foundation is provided by oil, natural gas, coal and nuclear power. (Oil—at about 20 million barrels per day—alone provides 40 percent of the total. Natural gas is 23 percent). Another 2 percent is hydropower; and biomass also provides 3 percent. Wind, though growing, and solar provide one-tenth of one percent—the equivalent of about 75,000 barrels per day. It is noteworthy that the United States consumes about a quarter of the world’s oil, while its GDP is about a third of total world GDP.

Imported oil meets over 50 percent of our total oil consumption. (See Table 1) Seventy percent of our imports come from the following six countries. Two are Middle Eastern; three, Western Hemisphere; one, West African.

Table 1—U.S. Oil Imports—1st Q 2002

(million barrels per day)

Canada	1.84 mbd
Saudi Arabia	1.50 mbd
Mexico	1.47 mbd
Venezuela	1.45 mbd
Iraq	.83 mbd
Nigeria	.53 mbd

Source: USDOE, *Monthly Energy Review*

The simple reason that United States oil imports are going up is that U.S. demand has for many years been increasing more rapidly than production, which is increasing only modestly.

The prospect of rising oil imports has caused concern in the United States ever since we became a net importer in the late 1940s. After all, the United States provided six out of seven of all barrels of oil used by the Allies in the Second World War. For 30 years, “energy independence” has been a recurrent cry. Yet, during these years, we have become more integrated in into the world economy in many ways that have contributed to higher standards of living and higher employment. This integration emerged as one of the major themes of our new PBS series, *Commanding Heights: the Battle for the World Economy*. Some of the more startling examples: U.S. foreign trade doubled during the 1990s and is now equivalent to 25 percent of GDP, compared to 10 percent a couple of decades ago. Americans made 200 million overseas phone calls in 1980. By the end of the 1990s, that number was over 5 billion. One out of seven U.S. manufacturing workers is employed by a non-U.S. owned firm.

Oil, however, is a strategic economy. The issue is not whether we should import oil, but, rather, how to avoid being in a position that makes us vulnerable to disruption. Unless we are able to imagine some draconian regulations or a series of technological breakthroughs that are not now apparent, the practical question does not revolve around substantial reductions in imports, but rather about stabilizing them.

But how to do that? There is no single answer or formula.

Conservation has a significant role. We have already made a good deal of progress. Today, the amount of oil used per unit of GDP is only half of what it was in the 1970s.

Stabilizing or increasing oil production is also important. Technology has meant extraordinary strides in the capabilities and efficiency of oil production within a strong environmental framework. The deepwater Gulf of Mexico is the major reason that U.S. is increasing—offsetting strong declines elsewhere. But the ability to continue to increase production will depend, more than anything else, on policy decisions made on access to resources.

New technologies, particularly in the transportation sector, will be important—although this will only unfold over time, as the U.S. vehicle fleet cannot quickly turn over. While there is much discussion about the fuel cell, it does not seem imminent as a competitive technology in transportation. It appears that we will see the biggest medium-term impact from hybrid vehicles—part internal combustion, part battery-driven.

### III. PRINCIPLES OF ENERGY SECURITY

Being that the United States will be a large oil importer—the world’s largest—for some years to come, what are key principles for thinking about energy security. Based upon the experience of the United States over the last 30 years, I would offer the following common-sense observations:

1. Recognize that there is really only one oil market. The United States is part of a global oil market, an extraordinarily huge logistical system that moves 77 million barrels of oil around the world every day. Our security resides in the stability of the overall market.
2. Churchill’s maxim of 90 years ago still holds true—diversification of supplies is one of the key guarantors of security and this has been an important element of United States policy since the 1970s.
3. Emergency stocks, such as our Strategic Petroleum Reserve, are a front-line defense against disruption. But their value should not be devalued and undercut by turning them into a market-management schemes that confuse temporary hikes—seasonally-induced or the result of regulatory-induced balkanization of the gasoline market—with a serious disruption.
4. The oil market is far more flexible than it was in earlier decades. Intervention and controls can be highly counter-productive, hindering the system from readjusting. As tough as it is, resisting the temptation to micro-manage markets can be one of the most significant contributions of public policy. After all, the famous gas lines of the 1970s were largely home-made—the result of controls that prevented moving gasoline to where it was needed from places where it was not needed.
5. Pursue cooperative energy relations with other importing nations, whether they be the other industrial nations, the new “globalizers” like China and India that will be the most rapidly-growing importers of oil, or the poor na-

tions. These can be pursued on a multilateral basis, as with the International Energy Agency, or bilaterally.

6. Government can allay the panic that creates self-fulfilling prophecy through quality information and by facilitating the exchange of information within the industry that makes possible more rapid adjustment.
7. Most oil exporting nations recognize the mutuality of interest and are deeply interested in “security of demand”—stable commercial relations with their customers, whose purchases often provide a significant part of their national revenues. Thus, we should be maintaining strong dialogues on a consistent basis with the exporting nations.
8. A healthy, technologically-driven, domestic energy industry is part of energy security. So is a commitment to research and development and innovation across a broad spectrum that takes into account current and future environmental considerations.

#### IV. TODAY’S OIL SUPPLY—AND TOMORROW’S

The following table provides the basic outline of share of world oil production and world oil reserves. (See Table 2) As is evident, the Middle East provides about 30 percent of total world liquids production. One of the most noteworthy features since the 1970s is the significant growth in non-OPEC production. Reserves is a different story. A far larger share of world oil reserves—66 percent—is concentrated in the Persian Gulf region.

Table 2—Regional Shares (per cent)

	World Liquids Production	Reserves
North America	17.6	5.4
U.S.	9.9	2.1
Canada	3.1	0.4
Mexico	4.5	2.8
Middle East	29.8	66.6
Saudi Arabia	11.6	25.5
Iran	4.9	8.7
Iraq	3.2	11.0
Kuwait	2.8	9.3
Africa	10.0	7.3
Asia/Pacific	9.5	4.3
Latin America	8.6	9.3
Europe	8.7	1.9
Eurasia	11.0	5.4
Russia	9.0	
Other	4.0	

Source: Cambridge Energy Research Associates and Sun Microsystems, *Global Oil Trends 2002*

We see significant growth in world oil supplies over the rest of this decade—measured in terms of additions to capacity, something on the order of a 22 percent increase. (See attached graphic/table “World Liquid Productive Capacity”). Some of the most noteworthy growth will occur in Eurasia (Russia and the Caspian), West Africa, and Latin America. The deepwater U.S. Gulf of Mexico is also very important. But the largest growth, at least this point, looks to be in the Middle East. (See attached graphics, “Shifts in World Productive Capacity” and “Shifts in World Liquid Capacity”)

The overall growth in capacity will be required to meet rising demand from developing countries, led by China and India. (China’s oil consumption has doubled since 1990, and today China is the world’s third largest oil consumer—and is rapidly moving up on Japan).

But we need to remember that the prospects for future oil supplies are not fixed. They will be determined by economics, politics, public policy, and technology. Whatever the part of the world one is talking, one critical factor will be the stability and reasonableness of the investment framework and its openness to foreign investment. The second thing that needs to be taken into account is time frame. There is no quick button to push. An ineluctable “law of long lead times” seems to govern when it comes to major oil and gas development. Projects unfold over five or ten or fifteen

years. At every stage, the investors are managing risks. This reinforces the need to shape investment environments that meet the needs of both host governments and international companies over time.

#### V. RUSSIA AND THE CASPIAN

Russia and the Caspian have taken on new significance for the world oil market over the last year. Waves of optimism and pessimism about the potential contribution of the former Soviet Union have swept over the world oil market in the last decade. At one point, there was expectation that the Caspian region might be a new “el dorado,” a new Persian Gulf. At other points, there was focus on the decline of output from the Russian Federation.

CERA’s forthcoming study—*The New Game: Russia, The Middle East, and World Oil*—identifies several factors that have come together to strengthen the confidence about potential sizable growth from this area.

- The Russian oil industry is going through considerable modernization, as it shifts from an industry that was the remnant of old Soviet ministries towards that of independent oil companies seeking to operate at world standards. New technology, new organization, and new attitudes are turning around the production outlook. Observers are noting a shift in the outlook of the industry toward an emphasis on efficiency and cost reduction. Transportation bottlenecks are in the process of being reduced, although they are still significant. The results can be seen in the sharp increase in production last year and this year, as well as an increasing appreciation in the scale of reserves.
- After years of frustration and disappointment, Russia is now a higher priority for significant investment on the part of Western companies that want to diversify their resources. As time goes on, world capital markets may well attribute higher value to Russian oil reserves than they do today.
- The August 1998 financial crash in Russia was a great shock to Western investors. Russia has had several years of solid economic growth since, however, combined with continuing market reform. This strengthens the confidence of western investors and creates a more solid basis for economic and political cooperation.
- The new strategic relationship between the United States and Russia provides a context for a growing energy relationship. And, in turn, the energy relationship is a significant dimension of the overall relation.

What does this add up to in terms of additional oil production? Based upon what is known today, we see strong oil growth coming out of Russia and the Caspian—from 9 million barrels per day today to 13.2 million barrels per day—a 50 percent increase. In addition, Russia has an enormous role as the “Saudi Arabia of natural gas,” supplying large volumes to Western Europe and, in the years ahead, to growing economies of East Asia.

Of course, there could be further surprises that throw either Russian or the Caspian off the new track. But it certainly has much stronger foundations than in the past. The growth of oil supplies from Russia and the Caspian can be one of the most important new contributions to stability in world oil markets—especially in the face of non-OPEC declines elsewhere. The United States has many reasons to pursue continued strengthening and broadening of our political and economic relations with Russia. By developing further those relations in general, and working with the Russian government to facilitate energy development, the U.S. government can make one of its most important contribution to energy security.

#### VI. WEST AFRICA: AT THE THRESHOLD

The upstream oil and gas industry in West Africa is at a threshold. After several years of steady, but unspectacular gains in oil output, West Africa is on the cusp of becoming a leader in global oil production growth. West Africa’s potential is manifested by large oil discoveries in recent years offshore Angola, Equatorial Guinea and Nigeria. Most new oil field developments are offshore, but not exclusively. Once the Chad-Cameroon pipeline is completed, a billion barrels of hitherto untapped oil reserves in southern Chad will begin to be exported to the global market. Many American oil companies hope to participate in West Africa’s growth.

How significant is West Africa’s potential? West African oil production capacity could increase from 4.3 million barrels per day (mbd) in 2002 to 6.8 mbd in 2010—an increase of 58 percent. Based on CERA’s projections, approximately one out of every seven barrels of global capacity growth could come from West Africa between 2002 and 2010. This growth could strengthen the diversification of United States

oil imports and thus improve US energy security. The US is a natural market for West African oil.

Angola and Nigeria account for the lion's share of regional production capacity—roughly 80 percent in 2002—but some of the smaller producers are likely to record significant gains to 2010. Equatorial Guinea, which produced no oil until the mid-1990s, could see production more than double from 0.25 mbd in 2002 to 0.55 mbd in 2010. Chad could see its production grow from nothing to roughly 0.25 mbd in the next several years. Oil has been discovered in Niger, but lack of an export pipeline is one of the factors preventing its reserves from being developed. Oil has yet to be discovered in the waters offshore São Tomé & Príncipe, but it is attracting strong interest from oil companies as it makes preparations to license acreage.

West Africa's potential is clear, but political and market factors could lead to reality falling short of potential. The only certainty is that West Africa has tremendous upstream growth prospects. If West Africa is to realize its potential for production growth, three risks need to be successfully managed. A new CERA study, *West African Oil & Gas to 2020: Opportunity, Potential and Risk*, identifies these risks:

- *OPEC quota/Government policy.* In all West African producers, government policy—such as domestic content rules—could lead to slower than expected growth.
- *Marketing natural gas.* Could the lack of market outlets for associated gas production create indefinite delays for new oil field developments? If the gas associated with an oil development can't be re-injected or marketed, it could threaten new oil field development. Developing outlets for gas production—LNG, domestic/regional markets, gas-to-liquids—is essential for West Africa to realize its growth potential. Gas could even spur real regional economic integration. A much discussed natural gas pipeline from Nigeria to Ghana would, if it is built, represent a true milestone in regional integration.
- *Political environment.* Political instability—unexpected changes of government or civil unrest or even war—could complicate exploration and development by injecting delays and increasing uncertainty about who in government makes the rules. Moreover, lack of political stability could result in simmering conflicts over control of oil revenue that would preclude the use of such revenue as an engine of economic growth and higher living standards.

The US government and international financial institutions could work together with West African governments and oil companies to diminish some of the risks that could lead to West Africa falling short of its potential for production growth. Such policies could be focused on:

- *Helping to strengthen state institutions.* Weak government institutions in West Africa often prevent oil revenue from being used as a catalyst of sustainable economic growth and rising living standards.
- *Improving political relations with West African countries.* Strong ties between US and West African governments can help expand oil company investments. Strong ties would benefit other endeavors as well, such as security cooperation.
- *Developing domestic and regional gas markets.* Given the large scale of natural gas reserves in West Africa-Nigeria's gas reserves match those for oil-gas could serve as the foundation for expansion of the region's modest industrial base. Abundant gas reserves also offer the possibility of rapid expansion of power generation capacity. Development of regional gas markets, such as the proposed Nigeria to Ghana gas pipeline, would lead to deeper economic integration between neighboring states. A growing industrial base and rising power supplies would create jobs and foster greater economic and social stability in West Africa's oil producing states.

## VII. THE WESTERN HEMISPHERE

A new decade for energy relations within the Western Hemisphere appears to be upon us—one defined less by broad commitment to reform and opening of markets, but rather more on tactical solutions. A number of factors are changing the perspective in Latin America—ranging from the economic collapse in Argentina, political uncertainty in several countries, and the questioning of reform, to the global economic slowdown and Latin perspectives on such problems as the California crisis.

Altogether, this adds up to a backlash against reform and market liberalization. This suggests a new approach on the part of the United States towards energy relations with its neighbors to the South and this approach should begin with understanding the key issues for each of the countries.



The US imports approximately 3.4 mbd of oil and oil products from Latin America. This represents approximately 30 percent of total oil and product imports. Among the top 4 suppliers of oil and products are Mexico and Venezuela. The United States also imports LNG from Trinidad and there are two LNG re-gasification projects being considered in Mexico that would send some gas to the United States. As importantly, there is a tremendous potential for new oil and gas supplies in several countries in the region including Mexico, Venezuela, Brazil, Bolivia, Colombia, Ecuador and Trinidad and Tobago. Venezuela alone has over 100 billion barrels of proved reserves if—the Orinoco extra heavy reserves are considered. Clearly Latin America represents an important future source of energy supply to the United States, particularly when one considers that this supply is in close proximity to the US; therefore transportation costs relative to Middle East supplies are lower. The development of such supplies adds stability to the market. From the viewpoint of the Latin American countries, energy exports constitute a very important source of earnings.

Yet the large potential of Latin America is being undermined by serious political, economic and regulatory issues in some of the key energy exporting countries. In 1999, CERA estimated that Latin America would produce upwards of 12.8 mbd by 2005. Its estimates have now dropped to about 11.3 mbd due to lower than expected investments and low success rates.

The most extreme case is Venezuela. It used to be the largest exporter of oil to the US but has now dropped to number four. Expectations are that liquid productive capacity in Venezuela, and consequently exports from Venezuela, will actually fall next year and remain flat in 2004. CERA estimates that capacity will average just under 3 mbd in 2002, falling to about 2.8 mbd in 2003. This is due to a precipitous decline in exploration and production investment both from the state owned oil company PDVSA and from the private sector. Rig counts, which were once as high as 110 have fallen below 40. Private sector investment has dried up due to the a combination of high political risk under the regime of Hugo Chávez and the introduction of draconian hydrocarbon law which some see as, effectively, a polite dismal of the private sector.

Another difficult country in Latin America is Colombia, where exports to the US have also declined due to drop off in liquid productive capacity from .7 mbd in 2000 to less than .55 mbd today. The security threat resulting from the guerilla attacks have prompted a dramatic decline in private sector investment, and a significant backing off by many large oil and gas companies in the face of this risk.

Mexico is a country that is committed to further reforms under President Vicente Fox. But oil and gas sector remains closed to private sector investment. Clearly this is constraining energy development. Of immediate concern, however, is the growing need for imported natural gas supplies from the United States into Mexico. Developing new gas supplies is a key ingredient for Mexico's future economic growth.

Another critical issue, beyond import/export issues, is the impact that inefficient or insufficient development of hydrocarbon resources in these countries has on the overall economic and political prospects. Mexico depends on hydrocarbons for over 35 percent of government revenues—for Venezuela, it's nearly 60 percent of government revenues. A decline in oil revenues means less money for education, health, and social services. Any major fall in oil prices would have severe economic effects on many of these countries, with significant political and social consequences. This is something the US wants to avoid particularly in Mexico where poor economic conditions lead to additional immigration pressures.

Realizing Latin America's energy potential will require new investment from the private sector. But that investment will be hindered by political, legal, and security concerns. Solutions may not be found on a "hemispheric basis," but on a basis that addresses the specific situation of each country and helps each country address its basic questions. Many of the energy-rich Latin American countries are grappling, in one way or another, with a fundamental issue: how to maximize the value of hydrocarbons in the ground in order to provide a reasonable income stream for the government and, at the same time, ensure the availability of reliable, reasonably-priced supplies required to meet domestic demand and to fuel economic growth.

Chairman HYDE. Thank you, Dr. Yergin. Secretary Gaffney.

**STATEMENT OF THE HONORABLE FRANK J. GAFFNEY, JR.,  
FORMER ASSISTANT SECRETARY OF DEFENSE FOR INTER-  
NATIONAL SECURITY POLICY, PRESIDENT AND CEO, CEN-  
TER FOR SECURITY POLICY**

Mr. GAFFNEY. Mr. Chairman, thank you. I am going to try to speak as quickly as I can in light of the time limits we are operating under. I would like to make four points about concerns that I have bearing on national security with an energy perspective and then five suggested areas that this Committee and American policymakers more generally might focus on to try to take corrective action.

The first is the obvious concern that has been mentioned several times this morning, and that is the distinct problem of our overdependence on foreign sources, particularly of oil and particularly from the Persian Gulf. I think it is clear our ability to wage effectively a global war on terror may be impinged upon, perhaps significantly so, if our enemies are able to disrupt or otherwise interfere with such energy flows.

Secondly, we are in the bizarre situation of relying among the sources of Persian Gulf oil on Saddam Hussein, who President Bush has, I think, properly determined must be replaced. It does seem to me that our efforts to bring about regime change in Iraq can only add urgency to the need to reduce the vulnerability of our economy and that of our principal western trading partners to probable, if we would hope, temporary disruptions of dislocations in energy supplies from that region.

Third, something that Dr. Yergin just mentioned, I think we have to keep our eye on China's growing appetite for energy. The fact of the matter is if you think about potential demand there, it is simply staggering. As I understand it, if the Chinese economy achieves per capita energy consumption levels comparable to those of Japan, which I am told is approximately 16 barrels per day per person, China alone would require some 70 percent of the world's current oil production. Should, on the other hand, the Chinese reach contemporary American consumption levels, roughly 40 barrels per person per day, the People's Republic alone would require more than the entire global production of oil. This is obviously a formula for a conflict with China, and, indeed, it is not surprising that the Chinese say, primarily for internal consumption, to be sure, that a conflict with the United States is inevitable, and I think that they are preparing for it.

It is also worth noting in that regard, as Dr. Yergin mentioned, that they are working assiduously to develop relationships with oil suppliers, most of them being what we call "rogue states." They call them "clients." They are trading oil for advanced weaponry, in some cases weapons of mass destruction-relevant technology.

Fourth, and finally in this respect, it has been mentioned, and I think it is of great concern, we are waging a war against those whose terrorist activities are made possible at least in part by the proceeds of American and western oil purchases from the Persian Gulf. Specifically, such purchases are clearly enabling Saudi support for our Islamist enemies. I would note that this is not a problem narrowly elsewhere in the world such as we have seen with Wahhabist madrassas in places like Pakistan, Indonesia, and Ma-

laysia. It is true here in the United States as well, where I understand that perhaps as many as 80 percent of the mosques in this country have their financing or their mortgages underwritten by Saudi institutions and members of the royal family and so on.

I think we can no longer adopt, as we have, the sort of see-no-evil attitude whereby we have tolerated the effort of the Saudi Kingdom to channel internal opposition elsewhere by encouraging virulent hostility toward America and her allies, most especially Israel.

What is to be done? Very quickly, Mr. Chairman, and my colleagues, frankly, are vastly more knowledgeable about this, but several things that I would commend to your attention. First, I think there are opportunities, and more importantly, a gentleman I would commend to your attention, Mr. John McCormack, an energy specialist in New York. There is an opportunity through shrewd use of the Strategic Petroleum Reserve under certain circumstances, notably efforts by the Iraqis in the course of a war to interrupt flows or perhaps the Saudis to manipulate prices, to translate releases from our SPR in the near term for future energy purchases at lower price levels. These so-called "oil time swaps" may enable us to do two things: one, keep prices down somewhat, but, more importantly, do precisely the kind of thing you are talking about doing in the North American Energy Alliance, as I think you called it, and Dr. Yergin has talked about and others have, diversifying supplies particularly by promoting exploration and development in places that are more reliable but at currently higher prices.

Secondly, I think we need to do what we can in areas where conservation makes sense. It is hard to do this voluntarily under normal circumstances in a democratic society. You all know that better than anybody. I think there are opportunities in a time of war for America's leaders to be asking their constituents to make sacrifices as part of the war effort, particularly where it can be made clear that the sums that we are now spending on energy in part are empowering the enemies we are now fighting. This is a no-brainer that I think the public would respond to.

Thirdly, Jim Woolsey, a man I know you know very well, Mr. Chairman, and others of the Committee, has done a lot of very interesting work with the biotech industry in the area of using biotechnology to greatly expand the potential of ethanol production, using specifically genetically altered devices, cellulosic biomass, I believe is the term, to get at the potential of using agricultural products well beyond corn and other starches and including, by the way, urban trash as sources of energy that can translate directly into transportation fuel as a substitute for oil that we currently have to import. I would commend his work and Senator Lugar's, by the way, in this field to you.

Fourth, it seems to me a no-brainer that we are going to have to exploit nuclear power much more effectively in the future than we have for the past 20 or 30 years. I commend personally the Committee and your colleagues for approving the Yucca Mountain repository, but I think we have got to move beyond that to a new generation of safer technologies. I hope that some of the research work that Secretary Abraham spoke about will, in fact, be brought

on line as quickly as possible. Congress has a role to play there, of course.

And finally, having spoken about energy steps that can be taken, I think we clearly need to be making use of other instruments as well to address the underlying problems I talked about a moment ago. In particular, I believe we should not hesitate to bring to bear on the Saudi government every form of pressure necessary to ensure that it ends officially sanctioned activities that incite and empower terrorism by its nationals and from its territory. An obvious example is the authorized use of government-controlled media to disseminate blood libels, fabrications, and other vicious, anti-American, anti-Israeli, and anti-western propaganda. In that regard, Mr. Chairman, I would commend to your attention a very good profile on Igal Carmone and the MEMRI organization, the Middle East Media Research Institute, that appears in today's *Washington Times*. It is a source of excellent information, timely translations of some of these materials from the Saudi government, Egyptian government, and other controlled press and other sources.

Naturally, we should also be insisting that the Saudi government perform far more comprehensively and effectively with respect to the terrorist-related activities of private Saudi citizens and others operating in and from Saudi Arabia.

You have your work cut out for you, Mr. Chairman. Thank you for accommodating this and getting the rest of it in the record.

[The prepared statement of Mr. Gaffney follows:]

PREPARED STATEMENT OF THE HONORABLE FRANK J. GAFFNEY, JR., FORMER ASSISTANT SECRETARY OF DEFENSE FOR INTERNATIONAL SECURITY POLICY, PRESIDENT AND CEO, CENTER FOR SECURITY POLICY

Mr. Chairman, I appreciate your courtesy in affording me an opportunity to contribute to the Committee's deliberations on the national security implications of U.S. energy-related policies commerce and diplomacy in the 21st Century. Rarely have such topics been more in need of your attention than at present.

#### ENERGY-RELATED CHALLENGES TO AMERICAN SECURITY

In the brief time available to me this morning, I would like to address four inter-related areas of special concern from a national security perspective.

1) *Over-reliance on the Persian Gulf*: First, we and our allies are today heavily dependent—in my view excessively so—upon foreign energy suppliers and, in particular, on oil from Persian Gulf sources. Our ability to wage effectively a global war on terror may be impinged upon, perhaps significantly so, if our enemies are able to disrupt or otherwise interfere with such energy flows.

2) *Relying on Saddam Hussein*: Second, incredible as it may seem, one of the largest of our Persian Gulf suppliers is none other than Saddam Hussein of Iraq. I am delighted that President Bush has determined that Saddam must be removed from power and that Mr. Bush is preparing, albeit I fear far too slowly, to accomplish that goal by force of U.S. arms. Obviously, American efforts to bring about regime change in Iraq adds urgency to the need to reduce the vulnerability of our economy and that of our principal Western trading partners to probable, if temporary, disruptions or dislocations in energy supplies from the region.

3) *China's Growing Appetite for Energy*: Third, even in the absence of such a vulnerability, the United States is likely to face increasing competition for energy from the People's Republic of China. The Chinese Communists have themselves increasingly turned to foreign sources of oil in the hope of sustaining the PRC's recent economic growth rate—and their claim on power.

The potential magnitude of this problem is staggering. I understand that, if the Chinese economy achieves per capita energy consumption levels comparable to those of Japan (approximately 16 barrels per day per person), China would require some 70% of the world's current oil production. Should the Chinese reach contemporary American consumption levels, moreover—that is, roughly 40 barrels per person per

day—the People’s Republic alone would require more than the entire current global production of oil. Obviously, that prospect is a formula for future conflict.

Of further concern is the fact that China has been securing supplier relationships with many of the world’s most odious governments (including Sudan, Libya, Iran, Iraq and Venezuela) by providing the latter with access to advanced conventional weaponry and weapons of mass destruction-relevant technology. Needless to say, these transactions are also likely to have significant repercussions for U.S. security interests.

4) *Underwriting Terror*: Finally, it has become increasingly apparent that we find ourselves waging a war against those whose terrorist activities are made possible, at least in part, by the proceeds of American and Western oil purchases from the Persian Gulf. Specifically, such purchases are clearly enabling Saudi support for our Islamist enemies. This is being accomplished through, among other techniques, the spread of radical Wahhabist pedagogy via madrassas bankrolled by the Saudis in places like Pakistan, Indonesia, Malaysia and even the United States. With respect to our own situation, according to some estimates, the mortgages for as many as 80% of American mosques are held by Saudi financial institutions, members of the royal family, etc.

Unfortunately, our dependence on relatively inexpensive Saudi oil has caused successive U.S. administrations to adopt what might be called a “see-no-evil” attitude toward the Kingdom’s efforts to manage and suppress potentially threatening internal opposition by encouraging virulent hostility towards America and her allies, most especially Israel. Clearly we can no longer afford to indulge in such a dangerous stance, any more than we can wisely refuse to address the strategic vulnerabilities associated with excessive reliance on foreign—and, in particular, unfriendly—energy suppliers.

#### WHAT IS TO BE DONE?

Mr. Chairman, this illustrative, but hardly exhaustive, list of national security-relevant energy challenges we face today and for the foreseeable future not only demands corrective action on the part of American policy-makers. It also leads inexorably to certain recommendations as to what that corrective action should entail. Permit me to suggest a few:

##### *Make Shrewd Strategic Use of the SPR:*

In the near term, the United States can simultaneously reduce its vulnerability to short-term disruptions in energy flows from the Persian Gulf (“shocks”) and encourage diversification of supply from outside that volatile region. This can be done by employing a technique John McCormack, a highly regarded New York-based energy industry specialist, has outlined in recent conversations with past and present executive branch officials and others.

According to Mr. McCormack, the United States is well positioned, under certain circumstances, to make use of oil “time swaps,” i.e., “selling oil from the Strategic Petroleum Reserve (SPR) and simultaneously buying larger volumes for delivery in the future.” Such swaps are permissible under existing legislation governing the SPR.

Thanks to a phenomenon known in the industry as “backwardation” (reflecting the fact that future prices of oil are almost always below spot prices), the U.S. could—if confronted, for example, with disruptions in energy flows as a result of war with Iraq or Saudi efforts to manipulate the market by briefly curtailing production—release oil from the SPR to cushion immediate consumer demand and use the proceeds to contract with other, more reliable suppliers for future energy purchases. If properly managed, it should be possible to net out a larger reserve at no additional cost to the taxpayer.

Mr. McCormack concludes that through this technique, the United States could simultaneously mitigate the economic effects in the United States of oil supply disruptions in the Islamic world and reduce our dependence upon oil produced there, turning even threats of supply cessation from the Islamic regimes into greater investment in North America and other suppliers, even though costs are higher in such places.

Mr. Chairman, I would urge that the Committee, as part of its present deliberations, review this strategy with Mr. McCormack and consider recommending its adoption by the Bush Administration. While such a step would assuredly be opposed by the Saudis, and probably by many in the oil industry who are comfortable with present supply arrangement, we must address reality: American national security interests demand a diversification of supply away from the Persian Gulf and towards places like Mexico, Western Canada, West Africa, the Arctic National Wildlife Reserve and deep water Gulf of Mexico, the Caspian Basin and potentially Russia.

The oil time swaps strategy appears to be a way to accomplish that, under appropriate circumstances, at minimal, if any, cost to the taxpayer.

*Increase Efforts to Conserve Energy in Ways That Make Sense:*

Ordinarily, it is very difficult to induce consumers in a democratic society voluntarily to decrease their energy consumption. Of course, *involuntary* adjustments can be imposed via higher prices induced by increased taxes—but not without significant costs to both the American quality of life and economy, and therefore, usually only with considerable political difficulty.

In time of war, however, mandatory reductions in energy consumption may be more easily imposed, albeit it again not without costs. Those costs—at least in terms of popular sentiment—can be mitigated somewhat were political leaders to ask the public to do its part for the war effort by voluntarily cutting back on energy usage. Such an appeal, and the American people's response to it, would likely be all the greater if it were made clear that the goal is to deny oil revenues to those who are using them to wage war against us.

In addition, the federal government—and especially the military—can be empowered to effect energy savings. If done properly, this need not interfere with the performance of critical wartime missions. For example, in the case of the military, energy savings from the application of “smart construction” techniques and greatly expanded retrofitting of existing infrastructure with energy efficient materials and controls, would more than offset the costs of such activities.

*Exploit Bio-tech Breakthroughs to Reduce Foreign Energy Dependency:*

In the medium-term, it appears that the United States may be able dramatically to reduce its requirement for oil used in transportation-related applications. In 1999, former CIA Director James Woolsey and Senator Richard Lugar recommended the use of genetically modified biocatalysts to transform agricultural wastes, grasses and even urban garbage into fuel. Mr. Woolsey believes that progress made in the interval in the relevant technologies makes the case for such an approach to increased energy independence still stronger than it was three years ago.

The so-called cellulosic biomass concept is not to be confused with grandiose plans to transform corn- or other starch-based ethanol into a major source of U.S. energy. Even with huge taxpayer-subsidies, the costs of the latter approach appear likely to ensure that it will never be economically viable. By contrast, according to Mr. Woolsey, the vastly larger quantities of source material for cellulosic biomass could make it competitive even if the price of petroleum were as low as \$10–13 per barrel.

Such cellulosic ethanol is compatible with the Nation's existing transportation infrastructure and could make up 85% of the fuel consumed by so-called Flexible Fuel Vehicles—an inexpensive option that should be made standard in all new U.S. vehicles. It also happens to be clean-burning, a boon to the environment and public health. If combined with more fuel-efficient “hybrid” engines, moreover, the resulting reductions in American demand for foreign oil could be quite significant.

I commend to the Committee the proposals made by Messrs. Lugar and Woolsey with respect to a coordinated government-wide support for private sector work in this field, including expanded federal research and development funding, and tax incentives for private investment that will help realize the potential of cellulosic biomass.

*Exploit Nuclear Power:*

Finally, over the longer-term, I believe the United States must bring on-line a new generation of “inherently safe” nuclear power reactors. Some years ago, the Department of Energy pursued several such designs as part of its New Production Reactor program to permit renewed production of the radioactive gas, tritium. One promising approach involved a gas-cooled reactor that would burn plutonium—a particularly attractive feature given the vast quantity of plutonium associated with the former Soviet Union's nuclear weapons program that is at risk of falling into the hands of would-be proliferators.

This Committee, and the Congress more generally, should make the approval and facilitation of construction of inherently safe reactors an integral part of an enduring solution to the national security challenges posed by our reliance on foreign energy supplies. In this connection, I would like to commend the House of Representatives for its recent favorable action on the Yucca Mountain long-term repository for nuclear wastes, which I consider to be indispensable to the ability of present generation reactors, let alone future ones, to make an important and safe contribution to our energy independence.

## CONCLUSION

In closing, Mr. Chairman, let me simply say that you have your work cut out for you. As a practical matter a country that requires energy as much as ours does has no choice but to make itself less reliant on foreign suppliers. At a time when we are properly taking a hard look at, and applying immense resources towards, homeland security, there are few threats that could be more detrimental to that security—to say nothing of our economic well-being—than serious and sustained interruptions in our energy supplies.

Accordingly, I applaud the Committee for engaging in today's assessment of the dangers associated with our present, vulnerable posture and hope that my suggestions for corrective actions will prove helpful to your efforts to rectify the situation.

Chairman HYDE. Thank you very much, Secretary Gaffney. Mr. Eizenstat.

**STATEMENT OF THE HONORABLE STUART E. EIZENSTAT,  
FORMER DEPUTY SECRETARY OF THE TREASURY, PARTNER,  
COVINGTON & BURLING**

Mr. EIZENSTAT. Mr. Chairman, Members of the Committee, as you will hear today and in the future, there is an endless flow of numbers when the question of oil dependency is raised. But one fundamental fact is clear, and that is that the U.S. lacks the oil reserves to sustain our growing appetite for oil consumption. Whether or not we drill in ANWR, whether or not we drill offshore, the inevitable increase in oil consumption will impose greater reliance on foreign sources of oil. And so an energy policy focusing only on supply that does not account for the ever increasing consumption levels will do much to increase dependence on foreign oil, no matter what measures we take to increase domestic sources of energy.

Measures to stimulate domestic energy production should be done, but they must be combined with efforts to reduce consumption as well, and it is here that it seems to me the energy bills, frankly, in the House and Senate are deficient. The chimera of energy dependence in the short and medium term is little more than just that. The truth is that at some level we will always be dependent on foreign suppliers of oil. The question is how can we reduce that dependence somewhat and diversify it.

Before I turn to solutions, let me briefly outline the consequences of that dependence, both from a national security and economic standpoint. From a national security standpoint, we have endured in the 70s—'73-'74 and then again '79-'80 when I was in the White House—two energy shocks which profoundly hit our economy, caused persistent inflation and high unemployment, high interest rates, and gasoline lines. Let me give you a personal confession, which I think Dan touched on. That is one of the worst pieces of advice I ever gave to President Carter was during the 1979-80 crisis to recommend that we maintain caps and controls on gasoline prices. It is that which led to the gasoline lines.

In addition to those two crises, we had a mini-tremor in Iran-Iraq war in '80 through '88, and, of course, the Gulf War in which we committed 500,000 troops with 600 deaths, again underlying the national security implications of our reliance on foreign oil.

The fact is we import today more than 51 percent of our oil. The Department of Energy has projected that by 2020 that number will increase to 64 percent, placing us in a precarious position. Each

year we import 16 percent of our oil from Saudi Arabia and another 9 percent from other states in the Persian Gulf. One hardly needs to be reminded from September 11th that this is the very region which produced many of the terrorists who plagued us during that time and will continue to do so. Our reliance on states that are unstable or, in the case of Iraq, even hostile presents a very real national security dilemma that has to be addressed immediately.

At present, we have more than 4,500 troops in Saudi Arabia and more than 12,500 Navy personnel at sea in the Persian Gulf. Their presence is intended to protect the governments in the region, but it is clear that it often leads to resentment in the region as well.

We remain dependent on oil, in short, from a region where in the past decade wars have been fought, there is a growing tide of anti-Americanism, and where tensions between modern and radical Islam threaten the ruling elites of the governing regimes.

In addition to the national security concerns, there are also economic impacts for our dependence. Oil is the biggest natural resource import and one of the largest contributors to our trade deficit. Last year, we imported \$110 billion in petroleum products out of a total trade deficit of \$350 billion, a third of our total trade deficit. The volatility of world oil markets leaves our economy vulnerable to price fluctuations.

There are environmental impacts as well. As one who negotiated the Kyoto Protocol and is concerned about global warming, we have 3 percent of the world's population, but we are responsible for 25 percent of the greenhouse gas emissions, and a reduction in oil consumption is essential to deal with that issue as well.

Let me suggest briefly a four-point program to deal with this dependence. The first has already been suggested, and that is a diversity of foreign oil sources. We cannot end our dependence, but we can diversify our dependence on any one area, in particular on the Persian Gulf. Russia certainly offers an opportunity in Siberia, but, frankly, Russia also presents a problem. It is an outstanding opportunity but a challenge because of ongoing concerns about the investment climate, the condition of pipelines, and other basic infrastructure problems which will impede in the short term our ability to tap into that enormous potential. That is, we cannot assume Russia is a sure-fire partner for future oil supply, although we should do as much as possible to make it so.

The best new source of oil reserves is in the Caspian Sea. It is 700 miles long. It contains six separate hydrocarbon basins. Just one, the East Kashagan field in the Caspian Sea off the Kazakhstan coast, Mr. Chairman and Members of the Committee, alone contain as much as 50 billion barrels. By comparison, our known reserves are 21 billion barrels.

However, there are major issues to work on here: border disputes, boundary disputes, and other legal issues as well as the difficulty of getting pipelines out of a very vulnerable area. All present problems. It is important that we continue, as our Administration, the Clinton Administration, did and the Bush Administration is doing, to help resolve these problems and to support the Baku-Ceyhan pipeline project while simultaneously looking at other pipelines in the region to fully exploit that potential. But I



would be remiss to say with all of this if we thought that somehow this was going to mean we will not be reliant on Middle East oil; we will be.

Second is increased domestic production. Here, I support the Administration's increased emphasis on nuclear power and improved domestic fossil fuel production. We need to rely heavily on natural gas, which is both plentiful and environmentally friendly. The U.S. is the single largest oil producer, at 9 million barrels per day. Only the Saudis and Russia produce comparable amounts, but again the problem is that our oil reserves are very limited.

Third is conservation, and here I have personal experience. When I was President Carter's Chief Domestic Advisor, we negotiated the first CAFE standards in 1977, raising mileage-per-gallon standards from 18 to 27 and a half miles per gallon from 1977 to 1985. We did so when the Big Three in the cabinet room said to the President, we cannot produce cars that make 27 and a half miles per gallon. They were proven incorrect.

I want to be very blunt. The Reagan Administration's roll back of CAFE standards was very ill advised and very shortsighted. Fleet-wide averages are now only 24 miles per gallon. Neither the House nor Senate bill will contain new standards, and, Mr. Chairman, permit me for being very direct, I do not see how the Congress can say it is really serious about reducing our oil dependence if we end up producing an energy bill that keeps our CAFE standards at the same level and that continues an SUV loophole, which if we reduced it, would save a million barrels of oil per day. The fact is that the CAFE standards are already saving us a tremendous amount, perhaps 2 million barrels per day, or more than the total amount of oil we import from Saudi Arabia.

It just amazes me how we can talk about our energy dependence and our energy reliance, and I say this with all respect, and allow the auto companies to influence decisions here which, in effect, have permitted no increase in standards. And I think that is shortsighted from an economic standpoint and from their own standpoint if you look at what the Germans are doing with diesel-powered cars, what the Japanese are doing in terms of improved standards. We are going to have the same situation we did after the Carter Administration, and that is we will be making autos that will produce far less in the way of fuel efficiency and will hurt our ability to compete with the Germans and Japanese.

Next is the production of alternative sources of technology, and here, may I say, I think both bills also are deficient. There is not sufficient emphasis on technological advances. We need a major push on hybrid fuel cells. I think the Administration has begun that, but we need to do much more. We also need to use and unleash the great American capacity to innovate. In light bulbs alone, for example, energy savings that could come from the installation of technologically advanced light bulbs in office buildings across the country could rival the benefits we derive from offshore drilling.

So, in sum, we have the capacity to at least reduce and diversify our dependence, but we have to get serious about it. There are national security costs and major economic and environmental costs to that dependence. We cannot simply rely on supply and certainly

not on conservation. All of the other pieces that I have mentioned also must be part of it. Thank you very much.

[The prepared statement of Mr. Eizenstat follows:]

PREPARED STATEMENT OF THE HONORABLE STUART E. EIZENSTAT,<sup>1</sup> FORMER DEPUTY SECRETARY OF THE TREASURY, PARTNER, COVINGTON & BURLING

Chairman Hyde, Representative Lantos and members of the Committee, good morning, I have been asked to speak today on the national security implications of America's dependence on foreign oil and potential solutions to reduce that dependence. I am honored that you have asked me to address these issues. The questions that you will be asking today will have repercussions long beyond our lifetimes. These issues will impact generations to come, in terms of the effects on our national security, our standard of living and our commitment to the environment. Thus, this Committee is engaged in a critical task as it considers the impact of our dependency on foreign oil.

The title of this hearing, "Oil Diplomacy: Facts and Myths Behind Foreign Oil Dependency," is uncannily appropriate. As you will no doubt hear today and have been hearing for months, a seemingly endless flow of numbers rushes out whenever the question of America's oil dependency is raised. We talk about production and consumption by the millions of barrels per day and oil reserves in the billions of barrels. Actual and potential reserves are discussed. And we look not only at actual reserves but at recoverable reserves. Whatever you make of the numbers you hear today, one fundamental point is clear: no matter how you look at it, the United States lacks the oil reserves to sustain its own growing rate of oil consumption. This is true whether we drill in ANWR or we do not; whether we drill offshore or we do not. Thus, it is inevitable that increased oil consumption will impose a greater reliance on foreign sources of oil. An energy policy that focuses only on supply and does not account for ever-increasing consumption levels will doom us to increased dependence on foreign oil, no matter what measures we may take to increase domestic sources of energy.

At the outset, I would like to commend the Bush Administration for compiling an energy plan that identifies many of the problems that our nation faces with regard to energy production. The administration's plan, which is largely reflected in H.R. 4, which was artfully titled the Securing America's Future Energy Act (SAFE) of 2001, aims to reduce our dependence on foreign oil by increasing domestic production through expanded nuclear power production, incentives for other energy producers, and drilling in the Arctic National Wildlife Refuge (ANWR). I support the administration's emphasis on increased capacity to harness nuclear power and encourage domestic fossil fuel producers to increase their capabilities.

But, for all of the attention that we lavish on the issue of drilling in Alaska, we lose sight of the overall mission—to reduce our dependence on foreign oil. And, on that issue, the myths of increased production often blind us to the facts of our growing demand for oil. Those facts make it clear that no amount of controversial drilling or even of incentives to other energy-producing industries will be sufficient to reduce our dependency on foreign oil. And measures to stimulate domestic energy production must be combined with efforts to reduce consumption. It is in this area that the Administration plan is deficient.

My overriding concern is that, while the Bush Administration has pinpointed the issues that we must address with regard to our energy policy, it has been unwilling to craft a policy that recognizes that increased production alone will not address our growing dependency on foreign oil. Indeed, the single biggest factor in our ever-increasing dependency on foreign oil is our seemingly endless capacity to consume oil. And, on this subject the facts are overwhelmingly clear: increased capacity to supply energy from domestic sources cannot match the increased demand that American consumers will have for oil.

The chimera of energy independence in the short- and medium-term is little more than just that. The truth is that, at some level, we will always be dependent on foreign suppliers for oil. The question, then is: how can we reduce our dependence? A

<sup>1</sup> Stuart E. Eizenstat heads the International Trade and Finance Group at Covington & Burling. This testimony reflects his personal views and not those of Covington & Burling or any of its clients. From 1977 to 1981 he served as President Jimmy Carter's Chief Domestic Policy Adviser and Executive Director of the White House Domestic Policy Staff. He has also served as Deputy Secretary of the Treasury, Ambassador to the European Union, Under Secretary of State for Economic, Business and Agricultural Affairs and Under Secretary of Commerce for International Trade. He has had a prominent role in the development of key international initiatives, including the negotiation of the Kyoto Protocol on global warming.

short-term answer is to increase domestic production and harness other domestic energy sources. But the benefit of increased oil production—even in the best case scenarios of potential reserves in ANWR and in offshore wells—is marginal at best. We have significant supplies of coal, but because of environmental concerns and the specter of global warming, coal is not presently a viable long-term energy solution, unless we can develop much cleaner, more emissions-friendly uses.

Over the longer term, our best hope for increased independence is three-fold. First, we must focus on oil conservation. Second, we must institute a major program for fuel cells and alternative sources of energy. To its credit, the Bush Administration has recognized the importance of technological advances in the automotive industry, but we need to increase the incentives for producers and consumers to move towards these alternative fuel technologies. And third, we must diversify our sources of foreign oil.

Before I turn to these additional solutions to our dependence on foreign oil, I would like to spend a brief time outlining the consequences of that dependence.

#### I. NATIONAL SECURITY IMPLICATIONS OF RELIANCE ON OIL IMPORTS.

The lessons of the impact of our dependence on foreign oil supplies were first taught to us back in 1973 and 1974, when the initial Arab oil embargo (the “Arab Embargo”) on the United States occurred. At that time, the federal government imposed domestic price and allocation controls on petroleum. The results of this policy, as many of you will remember, were widespread gasoline shortages and long gas lines, as well as rapid price increases. The economy as a whole suffered greatly as a result. One of the biggest mistakes I made during my tenure in the Carter Administration was agreeing to keep government price controls on gasoline, which created an artificial misallocation of resources and in turn led to the long lines at the pumps that so frustrated the American public.

At present, the United States imports more than 51% of its oil. The Department of Energy has projected that number to increase to 64% by 2020. Such heavy reliance on foreign oil places the United States in a precarious position. Already, oil has played a central role in one recent conflict—the Gulf War—and, over the past quarter century, it has been an influential ingredient of American foreign policy more broadly.

Each year, the United States imports 16% of its oil from Saudi Arabia and an additional 9% from other States in the Persian Gulf. As you all know, this is a consistently volatile region, and our dependence on oil from the Middle East is fraught with insecurity and danger. As we were so horribly reminded on September 11th, terrorist threats both at home and abroad have links, whether direct or indirect, with the oil-producing States in the Gulf region.

Our reliance on States that are unstable or, like Iraq, even hostile to the United States, presents a very real national security dilemma, a dilemma that must be addressed immediately. While we have a national security interest in the stability of these regimes, we must remain aware of the possibility that they will fall into hostile hands. I certainly can say that, given my experience with Iran during the Carter Administration, no one would have forecast that the Iranian Revolution would topple the Shah of Iran, given the military support he appeared to have.

Potential threats in Iran, Iraq, and elsewhere in the region constantly jeopardize the stability of the Persian Gulf. In 1972 the price of crude oil was about \$3.00 per barrel and, by the end of 1974, the price of oil had quadrupled to \$12.00. The price rise was almost exclusively the result of the embargo by Arab oil-producing states in response to Western support of Israel in the Yom Kippur War. The Yom Kippur War started with an attack on Israel by Syria and Egypt on October 5, 1973. The United States and many countries in the western world showed strong support for Israel. As a result of this support, Arab exporting nations imposed an embargo on any nations supporting Israel in the war. Arab nations curtailed production by 5 million barrels per day. Approximately 1 million barrels per day were recovered by increased production by other countries. The net loss of 4 million barrels per day extended through March of 1974 and represented 7 percent of the free-world production.

Our national security concerns are not restricted to regional action. Since the 1970s, Iran and Iraq have been involved in a number of cataclysmic events that have shaped not only their countries, but ours, as well. Indeed, our reliance on oil from Iran left us vulnerable to that nation’s problems at the end of the 1970s. I was serving in the Carter White House at that time and lived through the implications of the Iranian revolution on our economy and, more broadly, our society.

The rise to power of Ayatollah Khomeini altered our relationship with Iran and led to one of the most difficult events of the last 25 years, the Iranian hostage crisis.

At the time of the Iranian Revolution, oil production from Iran dropped precipitously and oil prices in the United States skyrocketed. The Iranian revolution resulted in the loss of 2 to 2.5 million barrels of oil per day between November of 1978 and June of 1979. Moreover, after the United States Embassy in Tehran was occupied in November 1979, President Carter halted all oil imports from Iran. During the one year period from the beginning of 1979 until the beginning of 1980, oil prices rose by 120%. That increase was a knockout blow to the U.S. economy, aggravating inflationary pressures and increasing unemployment at the same time. In fact, from 1978 to 1981, crude oil prices rose by two and a half times, from \$14 per barrel to \$35 per barrel.

The Carter Administration produced two major energy bills, one in 1977 and the other in 1979–80. We tried to address our problem of dependence by deregulating the price of natural gas, creating incentives for innovations in solar and alternative forms of energy, and establishing conservation programs (like CAFE). We also promoted a massive synthetic fuels program, which, unfortunately, was killed in the Reagan Administration. One important lesson I learned from this traumatic period was not to impose government controls but rather to allow the free market to control the allocation of resources in the energy sector. As I mentioned earlier, one of the worst mistakes that I made during my tenure in the Carter Administration was to oppose efforts to deregulate government controls of gasoline prices. It was those government controls that so aggravated the American people.

Another, smaller supply interruption occurred during the Iran-Iraq War from 1980 to 1988. During the Iran-Iraq War, Iraq's crude oil production fell by 2.7 million barrels per day, and Iran's production dropped by 600,000 barrels per day. The impact of this event was much milder, but still worrisome.

Iran presents a great policy dilemma for the United States, with its Janus-like policy towards us, with one part of the government advocating improved relations with the United States, while the other and more dominant faction supports positions that are inimical to America. In Iran, we are presented with a reformist president, Mohammad Khatami, who is supported by the majority of the people and appears to be sympathetic to some improved relations with the United States. However, he clearly does not have control of the security and defense apparatus in Iran, as well as other sectors of the Iranian government, which support terrorist organizations like Hezbollah, seek to destroy the Middle East Peace Process and are on a crash-course to develop medium-range missiles with potential chemical or nuclear warheads that will be able to reach Israel in a few years. There is no reason to think that the Iranians will stop there, and we must be concerned by the possibility that they will try to develop long-range missiles that can hit the United States. And, clearly, Iraq is not a reliable partner either. At present, we do not import any oil from Iran and, in 2001, we imported approximately 600,000 barrels per day from Iraq. To place these numbers in perspective, Iranian oil production capacity is estimated to amount to 3.9 million barrels per day and Iraqi production capacity is estimated to be 2.8 million barrels per day. In light of our relations with Iran and Iraq, we find ourselves largely dependent on others in the region for our oil.

Our dependence on oil from the Middle East profoundly influences our economy and our foreign policy. In fact, our decision to take military action against Iraq after the invasion of Kuwait was, at a minimum, heavily influenced by our dependence on oil from the Persian Gulf. The threat—not only to Kuwait but to others in the Gulf region—posed by Saddam Hussein's expansionist pretensions led us to commit more than 500,000 American service men and women during the Gulf War. More than 600 of our troops were killed or wounded in battle. Many more continue to suffer from a variety of illnesses since their return home.

At present, we have more than 4,500 troops stationed in Saudi Arabia, and more than 12,500 Navy personnel at sea in the Persian Gulf. The presence of these troops is intended to protect the governments in the region, but it also leads to resentment in the region. The United States now finds itself torn between its interest in supporting stable governments in the Persian Gulf and the hostility and danger attendant to the presence of American troops on foreign soil. In the end, our dependence on Persian Gulf oil in general and Saudi oil in particular leaves us vulnerable to attack, both abroad and at home.

The lesson of the past 25 years in the Persian Gulf is clear: regional instability there has real, tangible effects here, in the United States. If we do not take action at home to reduce our reliance on oil from abroad, we run the risk of falling prey to the very same problems we have lived through in the past. Indeed, we have seen fit to fight a war in effect to protect our oil interests. And, in placing the lives of American service men and women in harm's way in the Gulf War, we have signaled the dangers of our reliance on oil from that region.

Nonetheless, we remain dependent on a region where, in the past decade, we have fought two wars, where the tide of anti-Americanism continues to rise, and where the tension between modern and radical Islam threatens the ruling elites of the governing regimes. In spite of all of these risks—each in itself sufficient to threaten our oil supply from the region—we continue to import 25 percent of our daily supply of oil from the Persian Gulf. Strictly from a national security perspective, this policy does not make sense.

One further point bears mention: I do not mean to single out the Persian Gulf region as the only area where dependence on foreign oil renders the United States vulnerable. Obviously, that region has been, over the past quarter century, the primary source of national security concern with regard to foreign oil production. But other areas engender similar concerns. Nigeria, which boasts Africa's largest population and a wealth of religious and regional animosities, supplies the United States with 900,000 barrels of oil per day. The Caspian Sea region remains a relatively small producer, but its potential reserves make it one of the most anticipated oil resources worldwide. Indeed, the Caspian Sea region is generally considered to represent one of the largest untapped oil resources in the world. And yet, the region itself—and the surrounding areas that would be essential for extraction of the oil—like the Persian Gulf, has an uncertain future.

## II. IMPACT OF OIL DEPENDENCE ON THE U.S. TRADE DEFICIT.

In addition to the national security concerns that I have just discussed, a reduction on our dependence on foreign oil would have a substantial effect on our foreign trade deficit. Oil is the United States' biggest natural resource import and one of the single largest contributors to our trade deficit. According to the Department of Energy, in 2001, the United States imported an estimated \$110 billion in petroleum products. At the same time, our trade deficit last year was an estimated \$350 billion. One year earlier, in 2000, our trade deficit reached an all-time high of \$375 billion. Indeed, throughout the 1990s, our trade deficit rose each year, and our reliance on foreign oil was a primary cause of the rising deficit.

By way of example, I would point out that, in November 2001, our monthly trade deficit was \$1.4 billion lower than our trade deficit one month earlier. The largest single contributor to that drop was a 17 percent reduction in oil imports. Even with that reduction, oil represented more than six percent of U.S. total imports in the month of November.

The volatility of the world oil market leaves the U.S. economy vulnerable to price fluctuations. For example, world oil prices tripled between January 1999 and September 2000 due to strong demand, OPEC production cutbacks, and other factors, including weather and low oil stock levels. Our reliance on foreign oil challenged our economy and increased our trade deficit. Thus, by raising CAFE standards and reducing domestic oil consumption, not only would we be reducing our dependence on volatile areas of the world, but we also would be contributing to the reduction of our trade deficit.

## III. IMPACT OF OIL DEPENDENCE ON GLOBAL WARMING AND POLLUTION.

As the Chief U.S. Negotiator for the United States for the Kyoto Protocol on Global Warming, I have a particular interest in the environmental effects of our oil dependence. Therefore, I must also mention, at least briefly, the impact of our oil dependence on the environment. To the extent that we want to reduce the threat of greenhouse gases, a reduction in oil consumption is essential. Transportation is responsible for one-third of the release of greenhouse gases into the earth's atmosphere. And, although the United States accounts for three percent of the world's population, we are responsible for over 25% of greenhouse gases worldwide. Thus, by focusing on ways to reduce oil consumption, we will not only reduce our dependence on volatile foreign markets but we will be taking steps to reduce America's role in the decay of the environment. As I mentioned at the outset, our responsibility to tackle these difficult issues goes far beyond our own generation.

## IV. SOLUTIONS TO OUR DEPENDENCE ON FOREIGN OIL: PRODUCTION

### A. *Diversifying Sources of Oil.*

Our dependence on foreign oil is exacerbated by our reliance on particular countries or regions, such as the Persian Gulf, for our oil supplies. This reliance leaves us vulnerable to regional and national political instability. One way to address this issue is to diversify our sources of oil imports. H.R. 4 and the Administration's energy plan do not fully address the potential for diversification of supply.

As President Bush emphasized at the May summit in Moscow with Russian President Vladimir Putin, the United States and Russia have entered into a new era of partnership. Russian oil supplies in Siberia and elsewhere in the country, coupled with Caspian Sea reserves, offer opportunities for the United States to diversify its base of sources. Soon after the summit, Presidents Bush and Putin launched a “new energy dialogue” as a result of the negotiations in Moscow. The joint statement announcing the dialogue discussed increased U.S. investment in oil and gas prospecting and extraction in Western Siberia and in Russia’s Far East and Pacific coast regions. It also suggested that the United States would aid Russia in modernizing Russia’s refining and transportation structures and advocated the joint development of energy resources in the Caspian.

Today, Russia presents an outstanding opportunity for the United States to diversify its sources of oil. However, ongoing concerns about the investment climate and the condition of pipelines and other basic infrastructure will impede our ability to tap into the full potential of Russia’s resources. Thus, we cannot assume that Russia is a sure-fire partner for future oil supply.

The best new source of oil reserves is located in the Caspian Sea. The Caspian Sea is located in northwest Asia, landlocked between Azerbaijan, Iran, Kazakhstan, Russia and Turkmenistan. Since the breakup of the Soviet Union in 1991, the Caspian Sea—as well as the region surrounding it—has become the focus of much international attention due to its huge oil and gas reserves. The Caspian Sea, which is 700 miles long, contains six separate hydrocarbon basins, and most of the oil and gas reserves in the Caspian region have not been developed yet. Ongoing legal wrangling over rights to the oil continues to stunt the development of the reserves.

To give some sense of the potential importance of the Caspian oil fields, I would note that, in May 2001, oil industry officials reported sizable oil deposits in an area known as East Kashagan, in the Caspian Sea off the Kazakhstan coast. Initial estimates indicate that that field alone could contain as much as 50 billion barrels, and at least 20 billion barrels, of crude oil. By comparison, the United States has known reserves of 21 billion barrels.

Aside from ongoing issues over who retains the rights in the Caspian, U.S. national security is threatened by instability in the areas surrounding the Caspian. Getting the Caspian oil to international markets will require overcoming enormous obstacles since it must travel by pipeline through one of the most politically volatile areas of the world. Because the Caspian Sea is landlocked, oil and natural gas must be transported by pipeline to a terminal on the open sea, where it would be pumped into tankers and shipped to customers. Long distances over often inhospitable mountain and desert terrain, prone to earthquakes, and vulnerable to attack, would make pipeline construction and operation extremely difficult. Proposed pipelines might run through Chechnya, Georgia, Armenia and Iran, among other hot spots. Recent instability in those areas is only one concern. We must also consider the potential for upheaval after the pipeline has been constructed. As our reliance on particular oil deposits grows, our vulnerability to such upheaval grows apace.

Therefore, we need to continue to play an active role in resolving the ongoing disputes involving exploration, production and extraction of Caspian oil. In that vein, we should continue to seek a binding resolution to the boundary issues surrounding the Caspian Sea. The Caspian resources are a potential crucial new source of oil and natural gas for the United States. It would be wise to support a resolution of the boundary issues that have impeded full development of the Caspian resources. Similarly, we should continue to fully support the Baku-Tblisi-Ceyhan pipeline project, while simultaneously looking at other pipelines in the region to fully exploit the Caspian potential.

In addition to Russia and the Caspian region, increased efforts to collaborate with producers in Africa, Asia, and Latin America would allow the United States to reduce its dependence on a single region as the primary source of oil. Of course, whether we are talking about the Caspian Sea, Russia, Nigeria, Venezuela or any other oil-producing State or region, each presents foreign policy and other concerns to us, as well. But, the point of diversification is to reduce the impact that instability in any one country or region will have on our economy. By diversifying the sources of our oil imports, we are certain to attain greater independence.

I would be remiss if I did not point out that, at the end of the day, it would be folly to believe that we can somehow ignore our continued need for the oil resources of the Middle East. This, in turn, suggests a need for some creative thinking in dealing with Iran. However, the fundamental focus in terms of diversification is not to move all imports away from the Middle East but rather to provide a softer cushion to protect against price fluctuations that may result from regional or national insecurity in any one location.

### *B. Increasing Domestic Production*

As I mentioned at the outset, H.R. 4 and the Bush Administration's energy plan provide much needed incentives for increased domestic production through expanded nuclear power production and incentives for other energy producers. The simple fact, though, is that, even with increased nuclear power and improved domestic fossil fuel production, we will still not be able to address our increasing dependence on foreign oil. As it stands, the United States is already the world's single largest producer of oil (9 million barrels per day, according to the Department of Energy). Only Saudi Arabia and Russia produce comparable amounts of oil. But, unlike Saudi Arabia and many of its Persian Gulf neighbors, our oil resources are severely limited. Thus, the proposed solutions for increasing domestic fossil fuel production are stop-gap measures that do not provide a long-term solution to our current dependence dilemma. And the nuclear power measures by themselves are insufficient to meet many of the most basic energy demands.

Obviously, one of the major differences between the House and Senate energy bills involves the controversial drilling in the Arctic National Wildlife Refuge ("ANWR") in Alaska. The House version, in line with the Administration's energy policy, would open ANWR to drilling, while the Senate version would not. While the House bill proposal would not provide for drilling of the entire region, it is noteworthy that, even if drilling took place in the entire ANWR reserve, according to a Department of Energy report, there is a 95 percent probability that at least 5.7 billion barrels of oil are technically recoverable. At the other end, there is only a 5 percent probability that there are more than 16 billion barrels of oil that are recoverable. The mean estimate is that 10.3 billion barrels of oil are recoverable. To place those numbers in perspective, the United States consumes about 19.4 million barrels of oil per day, meaning that the ANWR reserves would only be able to supply full consumption for less than a year-and-a-half. Of course, the reserves would not be used to supply full consumption, but the fact is that ANWR would only add 0.3% to the world oil supply. Thus, the Administration's Plan with regard to ANWR simply does not itself resolve our dependence on foreign oil supplies, but it does come at a significant environmental cost.

## V. SOLUTIONS TO OUR DEPENDENCE ON FOREIGN OIL: CONSERVATION

### *A. Fuel Economy (CAFE Standards)*

I must tell you that, to my mind, both H.R. 4 and its counterpart legislation in the Senate, missed out on an ideal opportunity to reduce our dependency when they failed to adopt increased Corporate Average Fuel Economy ("CAFE") standards. Why are the CAFE standards so important? Because, according to the Department of Energy, 42 percent of the oil we consume in America goes straight into the gas tanks of the cars and trucks in our garages.

Just to give you a sense of the impact that increased fuel economy could have, according to the Union of Concerned Scientists, CAFE has already saved 60 billions of gasoline (3.9 million barrels per day). A rise in the minimum CAFE standards to 40 miles per gallon ("MPG") would save 125 billion gallons of gasoline by 2012. This represents approximately 1.9 million barrels per day, or more than the total amount of oil we import from Saudi Arabia. And, at the end of the day, by reducing our consumption of foreign oil, we will shield ourselves from many of the threats posed by our current level of dependency.

Opposition to conservation measures has been a constant feature of government efforts to encourage fuel efficiency. In 1975, in large measure spurred by the Arab Embargo, Congress passed the Energy Policy and Conservation Act ("EPCA"). The EPCA included provisions that established the CAFE standards for new passenger cars. Given the oil crisis at that time, it appeared that the CAFE standards would be quickly implemented. However, in spite of the obvious merits of the standards, the American automobile manufacturers were opposed to the regulations. I remember their opposition well. In my role as Domestic Policy Advisor to President Carter, I was part of the team that developed the first CAFE standards. Those standards set the necessary fuel economy levels for the period from 1977 to 1985, starting at 18 miles per gallon ("MPG") in 1977 and rising to 27.5 MPG in 1985. I specifically remember a meeting in the Cabinet office with President Carter and the heads of the big three automobile manufacturers—Ford, General Motors and Chrysler—in which all three strongly opposed the imposition of fuel economy standards. They claimed that their companies lacked the technology to reach the standards that the Administration had in mind. And yet, once the CAFE standards were implemented, all three companies met and exceeded the standards. The capacity exists to continue to raise the bar on fuel efficiency.

Simple steps to improve automotive fuel efficiency would pay enormous dividends. Closing the loophole under which SUVs are allowed to meet lower standards than other passenger cars would, by early in the next decade, save roughly one million barrels of oil per day, helping to provide clean air and protecting Americans from disruptions in oil supply. According to a recent study by the National Academy of Sciences, this advance could be accomplished with available technology and at no cost to consumers over the life of a car.

*B. Alternative Sources of Energy: Exploring New Technology*

I am not one who believes in an either/or proposition between conservation and production. I believe that we need conservation, increased domestic production, and increased research and development on new technologies. On this point, I should mention that I recently test drove the new Toyota Prius hybrid that gets 52 miles per gallon of gas in the city. The engine is part fuel cell and part internal combustion engine. I found the car to be very impressive. If you will allow me to mix transportation metaphors, U.S. automakers must jump on the hybrid-fuel train before it has left the station. Already Japanese automakers have begun developing the technology at a faster rate than their American counterparts. In addition, the Germans have revealed a diesel-powered car that will get 35–40 miles per gallon. Simply put, U.S. automakers must be able to compete with their foreign counterparts. Having a fleet that is more fuel efficient will allow our automakers to do just that.

The NAS has estimated that the introduction of a widespread fleet of gas-electric hybrid automobiles over the next decade would save, cumulatively, 590 billion gallons of gas by 2020. The NAS estimates that we would save 4.8 billion barrels in 2020 alone; that represents nearly double the amount of oil we import from the Persian Gulf annually. We are talking about real steps to gain a measure of independence from foreign oil dependence. Similarly, if we were to develop fuel cell technology over the next 25 years and market the technology to consumers in a meaningful way, the NAS has estimated that we would save as much as 2.5 billion barrels of oil per day in 2030 (40 billion gallons per year).

I believe that it is important to take into account the findings of the recent NAS report (issued in July 2001), particularly with regard to the long lead times that are required for technology changes to be implemented. The NAS report concluded that the widespread penetration of already-existing technologies will require 4 to 8 years. For emerging technologies that require additional research and development, the lag time could be considerably longer. Thus, while the Committee should move forward aggressively in its pursuit of new CAFE standards, it is important to maintain the long-term vision that new technology demands.

The Administration's energy plan and H.R. 4 back a step-by-step plan with firm time tables to reconfigure our vehicles with hybrid and other new technologies to make them substantially less dependent on oil. The Senate version—while still falling short of the ideal mark—at least provides a significant financial incentive plan to encourage the development of new fuel technologies for automobiles.

At the same time, both bills fail to recognize the potential of other technological advances. For example, much as the House and Senate bills include incentives for energy producers, the bills should incorporate more incentives for conservation. For example, innovations in the light bulb industry provide tremendous conservation potential. Some estimates have suggested that the energy savings that could come from the installation of technologically advanced light bulbs in office buildings across the country could rival the benefits that we derive from offshore drilling activities. This is just one example. The point is that we must not be afraid to invest the resources in longer term projects that may yield sustainable benefits down the road.

I would reiterate that we must learn the lessons of the past. In the 1970s and 80s, Japanese automakers succeeded in gaining a foothold in the U.S. auto market by providing a benefit to consumers that American auto manufacturers had simply overlooked. Starting in the 1970s, while American automakers stood on the sidelines, Japanese manufacturers introduced smaller, more economical vehicles to the U.S. market. By the time American manufacturers entered that market, the Japanese makers had already cornered it. The U.S. auto industry continues to suffer from the failure of American manufacturers to recognize the trend in the market before it happened. Cars that require less gas are the wave of the future. We must ride that wave. We should not wait until the next run-up in oil prices or until Japanese manufacturers have arrived before we take action. There is no lack of technology to meet higher standards. The issue is whether the will to implement change exists.



## VI. CONCLUSION

To sum up: America's reliance on foreign oil imports presents an ongoing threat to the stability of our economy and continues to exert undue influence on our foreign policy. The national security costs of our petroleum dependence have never been more clear. What I do advocate, however, is a reduced dependence on foreign oil, both for its effects on our economy and on our national security. The benefits of a reduced dependence will be felt not only by us but also by future generations. An energy policy that focuses only on supply will doom us to an ever-increasing dependence on foreign oil. Simply put, the benefits of fuel economy are too great to ignore.

Thank you very much. It is a pleasure to be here and to contribute to the Committee's work. I would be happy to answer your questions.

Chairman HYDE. Thank you, Mr. Secretary. I just want to comment and congratulate you as an outstanding panel which not only described the problem, which everybody does, but prescribed some answers, how to deal with it, and that is rare, and that is remarkable. I certainly appreciate it. Mr. Gilman.

Mr. GILMAN. Thank you, Mr. Chairman. I want to welcome our panelists and welcome the testimony you have given us. I think we all recognize we are paying way too much tribute to OPEC for supposed stability in the oil markets. I think we could establish systems of long-term contracts or futures markets to smooth some of the price variations, as those markets exist for wheat or other commodities. I think we ought to explore some of that. In fact, OPEC's market power allows it to threaten new marginal producers, and its extortionate rate undermines America's development aims around the world by taking money out of the hands of poor Africans, Asians, Latin Americans and putting that money into the hands of OPEC's amirs. And regrettably, September 11th brought home where some of the money seems to wind up, and that is funding the terrorists.

The Administration also should go to the Mexican government and make it a condition of any future expansion of access of Mexicans to the U.S. labor market that American oil investors get some access to Mexican oil.

I would welcome your thoughts about—our Canadian Parliamentary colleagues tell us—we meet with our parliamentarians on somewhat of a regular basis—they tell us they have got more oil up there than our nation needs in the sands area. Let me ask our panelists, why aren't we developing a relationship with Canada so that we can rely on our Canadian friends rather than the OPEC friends? Do any of our panelists want to say something? We are already importing a great deal of natural gas from Canada. Why can't we be doing the oil?

Mr. YERGIN. Well, we are importing—Canada is one of our largest suppliers. The cost of the oil sands has been going down quite dramatically, and so when you look out, you see that the sort of called nontraditional oils like oil sands will play an important role. So I think that we have a lot going on with the Canadians and a lot of cross-border investment.

Mr. GILMAN. But we are not importing their oil sands resources, it is my understanding. They are talking about it but not doing anything.

Mr. YERGIN. They export a substantial amount of oil to us. Canada, in fact, currently in the first quarter of this year was our largest source of imported oil, at 1.8 million barrels a day. Saudi Ara-

bia was next, then Mexico and Venezuela. Those are the Big Four, and, of course, three of them are hemispheric countries.

Mr. GILMAN. We may be importing it, but I do not think it is coming out of the oil sands area. Mr. Gaffney?

Mr. GAFFNEY. Well, I would defer to Daniel on this, but my understanding is, as yours is, that the marginal costs of getting oil out of that potentially vast pool in western Canada are still higher than what we are able to do by getting it out of other sources, conventional Canadian wells and the Persian Gulf and elsewhere. And I think you are right in saying that the game that we have seen OPEC play is to try to manipulate the market such as to keep such alternative sources from coming on stream, from being economic, and that is where, again, I would just commend to you this idea of under the appropriate circumstances these oil time swaps as being a way to perhaps forge precisely the kind of future purchases that you are alluding to in a way that makes these kinds of investments in Mexico and Canada and West Africa and in the Caspian and elsewhere very feasible, indeed.

Mr. GILMAN. Mr. Eizenstat, do you want to comment?

Mr. EIZENSTAT. [Nods no.]

Mr. GILMAN. What can we do to break up the OPEC? I have not heard any good thoughts about how we can try to break up that cartel.

Mr. GAFFNEY. Well, again, I think some of the things that I was just alluding to would have a very disruptive effect, and that is why you would doubtless see the Saudis and others in the Gulf presumably and maybe some of the oil companies who have a comfortable relationship with them opposing this kind of use of the SPR for this kind of purpose. I think what we have to be clear about is that it really is in our strategic interest to diminish the power of that cartel, especially given what you and I both alluded to in terms of where some of the proceeds of the money going into OPEC countries is winding up, and that is clearly in the hands of the terrorists we are waging war against.

Mr. GILMAN. We just met yesterday in one of our Committees with the oil minister from Qatar. He admitted that they are doing business with Iraq at the same time the President is putting some pressure on Iraq. The Minister is going to be the President of the OPEC nations starting in December. We again asked him what we can expect from OPEC for the coming year. Well, they are not going to increase production, and they are going to try to keep the prices up.

So again here we have the head of OPEC dealing with Iraq, and we still are at their beck and call, and I would welcome any other ideas we can all—

Mr. EIZENSTAT. I would like to make a couple of points. The first is we have all suggested the importance of diversifying supply to non-OPEC areas. To the extent that we can increase production in Russia, to the extent that we can increase production in the Caspian, we decrease the market power of OPEC, and already the Russians have aggravated OPEC by increasing production and selling oil at fairly low prices.

Second, I again come back to the fact of conservation. To the extent that we reduce our own demand, to the extent that we produce

a capacity for fuel cells and the like, it certainly reduces our own demand, it reduces the power of OPEC.

And third, and here I do think that there are some facts, I think that by and large in terms of pricing policy the Saudis have been fairly rational. They recognize if they drive up prices too high, it simply encourages the development of alternative sources and cuts their own throats. I think that the recognition that there are non-OPEC sources and that they will be hurting themselves has led the Saudis, who have, in a sense, the whip hand in OPEC—they can always increase their production quite easily—to fairly responsible pricing policies over the last several years.

Mr. GILMAN. Well, I would hope we can encourage the Administration to move into the alternative sources of energy. We talk about it when there is a shortage, but when the oil flows, we seem to get diverted.

Mr. YERGIN. A couple of years ago, I headed a task force for the Department of Energy on energy research and development. In fact, the DOE spends two, three, \$4 billion a year on energy research across a broad range. The DOE is also, in a sense, our department of science. So a lot of money has gone into alternatives, and we see improvements, but it goes back to the scale of what we are talking about. Forty percent of our energy comes from oil, something over  $\frac{1}{10}$  of 1 percent from wind and solar. Those relationships are not going to change overnight, but clearly continuing to spend money and continuing to make the effort on renewables and alternatives is part of a core energy strategy.

Mr. EIZENSTAT. I think, Chairman Gilman, just to reemphasize what Dan said and what I had said earlier, there is not what one would assume in either of these energy bills in the House or Senate or in the Administration's the kind of emphasis on major increases in R&D, whether it is fuel cells, light bulbs, biomass, or the like. The National Academy of Sciences reported last year that with regard to investments in R&D in the energy area, there are very long lead times, sometimes from 4 to 8 years, to be able to get even existing technologies to penetrate. I would really hope that either in this bill or in one that follows up there would be a much greater focus and amount of money for alternate energy development.

Mr. GILMAN. I think we have to explore some motivations as well, some tax breaks and financial incentives as we have done in the past with some of our alternative sources of energy. I thank the panelists for your thoughts. Thank you, Mr. Chairman.

Chairman HYDE. Mr. Delahunt.

Mr. DELAHUNT. Thank you. I would echo the sentiments of Chairman Hyde that this has been a very informative panel. Thank you for the education. I wish my colleagues could have stayed and listened. It universally happens that the second panel is always a marked improvement over the first panel.

Mr. EIZENSTAT. I used to be on the first panel, so I know the—

Mr. DELAHUNT. You know that. You got better with time, Mr. Eizenstat. As I hear you in terms of our foreign policy, stability is important, and stability and democracy are inextricably linked. And in terms of a long-term policy, the promotion of democracy and the nurturing of democratic institutions is really the ultimate answer. As we look around the world, I do not think there is any dis-

agreement with that. We hear a lot about our Canadian friends and our OPEC friends, but the point that really strikes me is this is a world market. You talk about disruption. That really has never happened. Maybe there are temporary disruptions, but those who have it want to sell it. So we are never going to have a total disruption because there are other sources of oil out there.

But I think we do confuse it with price volatility. You know, obviously we have spikes that occur for a variety of different reasons, whether it is the market power of OPEC or whether it is Enron and trading schemes, whatever, I do not know. But talking about OPEC for a minute, who is OPEC? It is my understanding that many of the OPEC nations have joint ventures, are dealing with American corporations or our allied countries, and I do not know what their business relationship is, but in many respects this is "OPEC are us." When we talk about OPEC, we seem to set up the straw man to find an answer that we hope is simple. Do you have any comment?

Mr. YERGIN. As you are saying that, I am thinking back, how in the 1970s, OPEC was much more an engine of confrontation. OPEC—it is Middle East countries, but it is also Nigeria, it is Indonesia, it is Venezuela, and in many of these countries, of course, as you say, it is a mutual interdependence. Nigeria looks to the United States for security of demand because the oil revenues for them are a very important part of their government revenues.

Mr. DELAHUNT. But even going back to the production, for example, in Venezuela PDVSA just signed an agreement with Shell. There are equity positions that are available. I think we tend to identify OPEC in national terms or regional terms, when it is much more expansive. Mr. Gaffney?

Mr. GAFFNEY. Well, you are hitting some themes that I tried to address, I think, in particular with Congressman Gilman in my opening remarks. I do think there is a bit of synergy, if you will, or conflict of interest, depending on how you look at it—

Mr. DELAHUNT. I mean, there are a lot of guys sitting around in board rooms having conversations, "How do we make money on this deal?" Some wear Middle Eastern garb; others wear suits like we have.

Mr. GAFFNEY. You bet, and this is where in part the resistance to some of the diversity would come from.

Mr. DELAHUNT. Exactly.

Mr. GAFFNEY. They either do not have the deals in the places you might go into—

Mr. DELAHUNT. Exactly.

Mr. GAFFNEY [continuing]. Or they like the deals that they have got in the places that we now are.

Mr. DELAHUNT. That is what is becoming apparent. Mr. Eizenstat, I agree with you on the CAFE standards. I was pleased to hear Secretary Abraham talk about the end of the moratorium, and now there is a process under way. I am not familiar with the details of the DOT moratorium, but given your experience, and I address this to all of you, can you give us a timeline in terms of the duration of the process? When can we reasonably expect a conclusion to that process, and any guess as to what the new mile-per-gallon standard would be?

Mr. EIZENSTAT. Well, it depends on where the Administration comes out, and there the signals certainly are not very convincing. The bill in the Senate, which got 38 votes unfortunately instead of 51, would have gone to 40 miles per gallon. They would have also closed the SUV loophole, which would—

Mr. DELAHUNT. You are not suggesting that this process is not going to be an honest, nonpolitical effort.

Mr. EIZENSTAT. I think it will be honest, but it will not be nonpolitical.

Mr. DELAHUNT. It will be an honest political effort.

Mr. EIZENSTAT. It will be an honest political process.

Mr. DELAHUNT. But will it be based on—

Mr. EIZENSTAT. I am very concerned that the power of the Big Three and the auto companies will be such that they will help blunt any significant increase in CAFE standards. And again, I have a vivid memory of a meeting in '77. Tom Murphy was then the Chairman of General Motors, and he spoke for the Big Three, and he said to the President, Mr. President, we cannot technologically get to 27 and a half miles per gallon in 1985. Well, once the Japanese started producing more fuel-efficient cars, and we had a mandate, they did go to 27 and a half. Then the roll back in the Reagan Administration and the moratorium meant that we now have an average mileage standard that is less than it was in 1985. That was 18 years ago.

Mr. DELAHUNT. But I mean—

Mr. YERGIN. Can I just add something?

Mr. DELAHUNT. Sure.

Mr. YERGIN. When you think back to it, it is just a good lesson to keep in mind that the two biggest things—I think, Stu, you would agree with this—that we did in the 1970s were the CAFE standards and the Alaska pipeline, and those two together were each worth about 2 million barrels a day either of new oil supplies or oil saved, and that was—

Mr. EIZENSTAT. Well, one other thing, Dan. We deregulated natural gas prices, and that was very important.

Mr. DELAHUNT. But the reality is—it is clear now—that we are going to have an increasing demand for oil. I think all of you have indicated it is so critical to adequately fund basic R&D, and I think the Administration, at least the statement by Secretary Abraham referenced that as we look down the line 15 or 20 years from now—

Mr. EIZENSTAT. Mr. Delahunt and Mr. Chairman, if we go 10 miles from here to Rockville, go to Jim Coleman Toyota, you can get a Prius, which is a fuel cell hybrid, that will get almost 60 miles a gallon in the city. It is a perfectly good car. There is no Maryland state tax on it to encourage it. It is a fuel cell. That is the kind of thing we will be going to. And if CAFE standards are increased, we will encourage our auto companies to go in that direction. That will make them more competitive with the Japanese and Germans rather than less competitive because that is the direction they are going. So we are not talking about some far out technology. It is here.

Mr. GAFFNEY. Another possibility, which I did not get into because of the shortness of the opening statements, is a point that

Jim Woolsey makes about this vastly expanded ethanol option. If you, in fact, make it mandatory, and this seems to me to be very easy to do, that all future typical production cars, not fuel cell hybrids, what have you, but just standard engine cars, have what is, I gather, a very inexpensive chip that makes them what is called "flexible fuel vehicles" installed in them, those vehicles can use 85 percent ethanol in their fuel. If every lawn cutting is a potential oil well, and I do not mean to exaggerate it, but if you could really get to the point where huge quantities of agricultural products, waste, what have you, becomes an alternative for transportation oil, even before you get to this new technology, this is a big deal.

Mr. DELAHUNT. I hear what you are saying. The answers are there. What you are suggesting is the political will is not.

Mr. GAFFNEY. I am not sure this is a big political will. Right now I am told this flexible fuel vehicle option is available at no cost if you just ask for it. Now, making that part and parcel of what we do might be a near-term step that could make a huge difference together with this other technology.

Mr. YERGIN. But we do need to remember some things like fuel efficiency standard is continuing down a track we have been on. What Stu describes, these hybrid vehicles may have a much bigger impact. But some of the other things—you know, we have about 300 million vehicles in this country. I want to go back to lead times. Things do not happen overnight.

Chairman HYDE. Mr. Lantos has returned, and if he has a question, we certainly welcome it.

Mr. LANTOS. Thank you, Mr. Chairman. Let me first apologize to this very distinguished panel. Tom Ridge testified in the Government Reform Committee for the first time, and I was the person to welcome him and question him on behalf of the Democrats, and that is why I was not here.

Let me first express my great respect for all three of you in your respective fields of expertise. I have learned a great deal from all of you. And I am very pleased that you are talking about CAFE standards because my question to the Secretary related to CAFE standards. I asked him why the Administration is opposed to CAFE standards, and he claimed that the Administration is not opposed to CAFE standards. That has not been my impression during the course of the last year and a half, but I welcome it if the Administration is now going to support raising CAFE standards.

Taking the Senate proposal, unsuccessful, of raising CAFE standards to 40 miles a gallon, Dr. Yergin, what would be your estimate as to the percentage of savings in our imports of petroleum products were that to be reached at whatever year it would be reached?

Mr. YERGIN. I am afraid I cannot do that in my head, so you had better go on to the next sentence. Maybe Stu has an answer.

Mr. EIZENSTAT. I have those figures when Dan finishes.

Mr. YERGIN. I have finished.

Mr. EIZENSTAT. The 40 miles a gallon would save 125 billion gallons of gas by 2012. That is approximately 1.9 million barrels per day, or more than the total amount of oil we import from Saudi Arabia.

Mr. LANTOS. That is a hell of a good answer, Stu, and I am deeply disturbed that we are not moving vigorously in that direction be-

cause it is important to keep orders of magnitude in mind. You pointed out earlier, 40 percent of our consumption is oil, and  $\frac{1}{10}$  of 1 percent is wind. Reducing oil consumption would result in a gigantic improvement in our national security position. But the second issue I explored with the Secretary that I would be grateful if all three of you would comment on relates to the failure of the Administration to use ILSA, which this body, the House, passed by 409 to 6 votes. It is about as bipartisan and almost as unanimous as we can get.

The various Europeans, Canadians, Japanese, others treat ILSA with disdain, with ridicule because they know that there is no intention on the part of the Administration to invoke ILSA. I would like to ask each of you, beginning with you, Dr. Yergin, what your view is on the possible implementation of ILSA.

Mr. YERGIN. I do not want to claim expertise on ILSA, and I think again I should defer particularly to Stu and Frank.

Mr. GAFFNEY. Well, I would just point out, Congressman, that I think the practice of communicating contempt for ILSA began in the Clinton Administration, which adopted this waiver practice.

Mr. LANTOS. I fully agree with you.

Mr. GAFFNEY. So it has been carried forward by this Administration, to my regret. Stu may be able to defend the previous practice better than I can. May I just add?

Mr. LANTOS. Please.

Mr. GAFFNEY. I think one other thing you need to keep your eye on, Congressman, because I think it is another front in this war. A colleague of mine at the Center for Security Policy, Roger Robinson, has been doing some very important work in the field, and that is monitoring what the Iranians, among others by the way, but the Iranians in the present context are doing to come to our capital markets or the European capital markets to raise funds, some of which, just as their oil proceeds, will inevitably wind up going into nuclear weapons buildup, other weapons of mass destruction and offensive weaponry, and, of course, support for terror. So this is another thing that I think the will of the Congress or the intention of the Congress to try to contain the danger posed by the radical Islamist theocrats in Iran is being circumvented, if not out and out defied.

Mr. EIZENSTAT. Since I negotiated the waiver with the Europeans, I have no doubt I can defend it better than Frank. Whether I can defend it well enough to satisfy you is quite another story.

Mr. GAFFNEY. I am willing to stipulate on that.

Mr. EIZENSTAT. Let me give you the thesis behind that waiver decision, not, frankly, substantially different than the one we did with Helms-Burton that, thankfully, President Bush has followed. In May 1988, I negotiated an agreement with the European Union to grant a waiver to the first major European investment in what was called the South Pars field—Total, Gasprom, and Petronos, European, Russian, and a South Asian company.

We did it for the following reasons, and I think it was, with all deference, the right policy. One, we did not believe that ILSA itself would have stopped the investment. It would have gone forward in any event. Second, I believe firmly that we used ILSA in the way it was intended. Congress was wise enough when they passed the

sanction to give the President two types of waiver authority, 4D and 9D waiver authority. One was a case-by-case waiver; the other was a broad-based waiver.

We used the leverage of the threat of sanctions as a way of getting the European Union to tighten their export controls on dual-use products to Iran, to be much more careful in supporting any development of weapons of mass destruction, and that continues today. I think had we not done so, there would have been much less incentive. In other words, these sanctions, Congressman Lantos, were much more important as a threat than a reality. If they had been imposed, I do not think they would have stopped the investment in any event, but they would have roiled relations between the U.S. and the EU for years to come.

And, indeed, I think, again, we have accomplished that result. The waiver authority was used as a lever, and I am glad we did it. I think it had a desirable impact. Had we not done it and tried to exact the sanctions, it would have had a negative impact on the EU relations, not stopped the investment, and not encouraged the Europeans to tighten up their export controls.

Chairman HYDE. I think we have imposed on this panel long enough. I am going to adjourn the hearing with deep thanks to all of you. Your contribution is real, and we appreciate it. Thank you, Mr. Lantos.

[Whereupon, at 1:45 p.m., the Committee was adjourned.]



## A P P E N D I X

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### MATERIAL SUBMITTED FOR THE HEARING RECORD

PREPARED STATEMENT OF THE HONORABLE BENJAMIN A. GILMAN, A REPRESENTATIVE  
IN CONGRESS FROM THE STATE OF NEW YORK

Mr. Chairman, thank you for holding this important hearing and we appreciate the appearance of our distinguished witnesses.

Mr. Chairman, oil is a commodity. It is clear that if it were produced by individual firms, it would be priced well below current prices. This could save ten or more dollars per barrel—permitting Americans to send billions upon billions less per year overseas.

Instead of taking decisive action to break up OPEC and return oil pricing to a truly free market in which oil producers would be “price takers” like the onion farmers of New York’s 20th District, and commodity producers everywhere, this Administration, like its predecessors, seems to be putting that effort on the back burner. But OPEC is in effect a criminal enterprise. Bringing about its demise should be explicit American policy.

Since we are addressing myths in this hearing, let me mention one. It is a myth that we need Saudi Arabian oil. That oil is actually sold to the United States at a small price concession off the extortionate OPEC-driven rate, to maintain market share and the illusion that we need Saudi Arabia and its oil. The WORLD needs Saudi oil, but we could do without it, ourselves. We would simply get our oil from elsewhere, probably in the Atlantic basin, and Saudi Arabia would sell its oil to the customers we would displace who now take Atlantic basin oil.

We are paying way too much by way of tribute to OPEC for supposed “stability” in the oil markets. We could easily establish systems of long term contracts or futures markets to smooth price variations, even as those markets exist for wheat or other commodities.

In fact, OPEC’s market power allows it to threaten new marginal producers. Its extortionate rates undermine America’s development aims around the world by taking money out of the hands of poor Africans, Asians, and Latin Americans and putting that money into the hands of OPEC’s emirs. Regrettably, September 11 brought home where some of that money seems to wind up—funding terror.

This Administration should go to the Mexican government and make it a condition of any future expansion of access of Mexicans to the US labor market that American oil investors get access to Mexican oil—in return for the payment of appropriate production-related fees. If Mexico wants an economy that is integrated with the United States’ it should realize that while cooperating with OPEC is an unfriendly act, allowing our investment, and freeing up oil production, is going to benefit both countries.

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PREPARED STATEMENT OF THE HONORABLE CHRISTOPHER H. SMITH, A  
REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY

Mr. Chairman, I thank you for calling this hearing today on this important matter of foreign relations that affects virtually every American here at home in some way. I thank Secretary Abraham and our other distinguished panelists for coming to present important testimony and listen to the Committee’s concerns.

The reasons for this hearing are clear. Nearly 60% of the oil we use comes from abroad and American consumers and businesses are responsible for 25% of the world’s daily consumption of oil.

The domestic implications of this topic are also very clear. No other foreign product can have such a great impact on the US economy. As members of the Inter-

national Relations Committee, we are challenged with helping to ensure that the flow of imported oil remains steady, and stable. However, this hearing also reminds us of the need to look inward with respect to our own domestic energy policy. We must continue to invest in the development of energy resources other than oil and strive for greater efficiency in areas where we use oil in large quantities so that we become less dependent on foreign oil.

Thankfully, a substantial portion of the oil we import comes from reliable allies. Over 25% of our oil imports come from Mexico and Canada. Other major importers include Saudi Arabia, Nigeria, and Venezuela who combined supply almost 40% of our imports. These are nations with whom we have good relations but are less reliable than Mexico and Canada and more likely to increase their prices. With the War against Terrorism continuing, the volatile situation in the Middle East, and OPEC controlling prices in a substantial portion of the market, it is imperative that we maintain good relations with our allies who supply so much of our oil.

Development into untapped resources throughout the world is a very important matter, but this must be done in a sound and environmentally responsible manner. We should promote and expect the same standards abroad that we use for environmental safety here at home. We share the same world and our nation must take leadership as a responsible steward.

With Russia exporting such a large percentage of the world's oil, I am interested to learn what the prospects might be of increasing our imports from them. I am also interested to hear about the prospects for oil development in other parts of the world. It is my hope that meaningful testimony will also be presented today on both Iran, who has openly threatened to use oil as a weapon against the United States, as well as Iraq, especially with respect to their recent freeze on exports to the United States and the impact of the oil for food program on the impoverished Iraqi people.

Mr. Chairman, I again thank you for calling this hearing today. By remaining engaged and on top of our foreign policy as it relates to oil, we can help ensure stability here at home.

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PREPARED STATEMENT OF THE HONORABLE DARRELL E. ISSA, A REPRESENTATIVE IN  
CONGRESS FROM THE STATE OF CALIFORNIA

Mr. Chairman, I want to thank you for holding this hearing on such an important issue to our country. Our dependency on foreign oil has become a major concern in recent months, particularly as the crisis in Israel and the Palestinian territories threatens to boil over into yet another regional conflict.

Our foreign oil dependency is a strategic Achilles heel. It warps our foreign policy, forcing us into a preoccupation with meeting our constant and urgent need for oil, when we should be focusing on long-term strategic partnerships with other countries.

OPEC has acted responsibly to control oil prices since September 11. Our strategic relationships with OPEC countries, and in particular, Saudi Arabia have never been more important, and we should continue to build on these relationships.

However, it is imperative that we pursue diverse sources of oil both in the United States and around the globe. Potential oil resources in the Caspian region, the North Sea, and the Gulf of Mexico are some of many promising new areas of the world that need to be further explored.

It is also particularly important for us to locate better domestic sources of oil, which could serve as a supplement to imported oil and as a strategic reserve in times of crisis. The Bush Administration has focused on locating and accessing domestic sources of oil, but it has been tough going. We have faced opposition in both houses of Congress. The Senate, in particular, has fought the effort to locate a domestic source and has thrown a wrench in the effort to establish a national energy policy.

Mr. Chairman, as soon as we stop using our foreign oil dependency to score partisan political points, we will be able to move a national energy policy that meets both our long and short term needs. Diversifying domestic and international oil exploration should be our top strategic priority, and it should not be subject to partisan politics.

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PREPARED STATEMENT OF THE HONORABLE NICK SMITH, A REPRESENTATIVE IN  
CONGRESS FROM THE STATE OF MICHIGAN

This hearing takes up an important topic. We need to be aware of our growing dependency on some very unstable nations, and the effect that could have on our economy and our foreign policy.

Our challenge is supplying energy for an expanding economy. Since 1970, our energy consumption rose 42.4% as GDP grew 147%. Another challenge is our expanding dependence on foreign petroleum and other foreign sources of energy. When I served on the Presidential Oil Policy Commission during the OPEC oil embargo in the early 1970s, we were importing approximately 35% of our petroleum energy. Today that figure is approaching 60%. Obviously our efforts in research, development and conservation have fallen behind increasing demand. Being this dependent on the OPEC countries is a threat, not only to our economy, but to national security. That group of countries has a history of shutting down their oil spigots for profit and power.

We need to work hard on finding new sources of energy. The energy bill encourages clean coal and promotes research for non-petroleum energy sources including nuclear, hydro, geothermal, biofuels and renewable resources. Science and research get substantial increases, from language I added to the bill, in order to develop and perfect emerging technologies, including fusion energy, neutron source power, hydrogen fuel cells, and improved clean coal technology.

Until we can reduce our energy dependence, we'll have to manage the Middle East. These countries have used oil as a weapon several times in the past and are likely to do so again. We should also be concerned with what seems to be a growing anti-Americanism in many of these countries.

I commend Chairman Hyde for holding this hearing, welcome our witnesses, and look forward to the discussion.

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PREPARED STATEMENT OF THE HONORABLE SHELLEY BERKLEY, A REPRESENTATIVE IN  
CONGRESS FROM THE STATE OF NEVADA

Thank you Mr. Chairman for holding this important hearing. Welcome, Secretary Abraham, I look forward to hearing your testimony.

I would like you to respond to some questions I have regarding this Administration's Energy Policy. A policy that completely baffles me.

This Administration is well aware of the numerous problems in the Middle East. Strong anti-American sentiment, a preponderance of undemocratic regimes, and pervasive deadly terrorist activities. In fact, our nation's war on terrorism has had to focus most of its attention on the Middle East.

This Administration is also aware that the Middle East holds the majority of the world's proven oil reserves. The Department of Energy projects that the Middle East will grow its share of the world oil market from 26% today to 41% by 2020 unless demand for oil is dramatically reduced. Yet, the Administration's National Energy Plan promotes the consumption of more oil.

The key component of the Administration's energy policy is increased reliance on nuclear power. This Administration is well aware that nuclear power produces deadly toxic waste. It is also well aware that Al-Qaida and other terrorist groups are looking for a "dirty bomb."

Yet, this Administration is actively lobbying to ship 77,000 tons of deadly high-level nuclear waste across this country to store at Yucca Mountain. That's 108,000 shipments of nuclear waste across 45 states near millions of people. These waste transports are exactly the type of target-rich environment they are looking for. In the wake of 9/11, we cannot afford to be naive and believe that we are safe from people who would give up their lives to end ours.

The government's own statistical models show we can expect between 50 and 300 accidents involving nuclear waste. People make mistakes; accidents happen. But an accident involving nuclear waste could be catastrophic, exposing whole communities to radiation and utterly destroying the environment for nearly a quarter of a million years.

Can you imagine what would have happened if nuclear waste was involved in the recent barge accident? On May 26, a barge crashed into the Interstate 40 bridge in eastern Oklahoma, knocking down more than 500 feet of roadway and sending 10 cars into the river. If this accident breached a nuclear waste canister, the result could have been disastrous and the cost of evacuation and remediation astronomical.

If we can't move the waste safely, then we shouldn't move it at all.

Yet, this Administration wishes to expand nuclear power production in this country, piling up more nuclear waste and creating greater risks to the environment and human life. The bottom line is that the United States' energy policy is backwards.

Just this week I met with a delegation from the German Federal Ministry of Environment and Nuclear Safety, headed by Germany's Secretary of the Environment Rainer Baake. Germany has recently chosen to phase out its reliance on polluting energy sources like nuclear energy, oil and gas, and instead increase its reliance on renewable energy sources and energy efficiency. Especially in light of the events of 9/11.

Secretary Baake was completely puzzled to learn that the U.S. Administration has called for expanding nuclear energy production and promoting the use of oil. He asked why the Administration was not pushing for higher CAF+ standards. He went on to talk about Germany's energy future.

Germany is the world's largest wind power market, making up 8,700 megawatts of a total 25,000 megawatts installed worldwide as of last year (2001). Around 35 percent of wind turbines worldwide are in Germany, making it the world's largest wind power consumer.

So Mr. Secretary, during the course of your testimony, I am hoping you can answer the question—exactly how much does this Administration want to expand the nation's nuclear energy production over the next 10–20 years? I would also like you to address why the Administration and your Department have chosen to ignore the overwhelming advantages to investing in renewable energy and energy efficiency?

The Administration has embarked upon a very dangerous road, Mr. Secretary, by ignoring the promise of renewable energy sources and energy efficiency. I believe we need to move in the opposite direction. The German model offers us a clear road map.

Your Department of Energy, Mr. Secretary, estimated that wind power alone could be expanded to serve the electricity needs of 10 million homes.<sup>1</sup> Further, 200,000 homes in the U.S. use some sort of solar technology and the market is expanding by 15 percent annually.<sup>2</sup>

In short, the promise of renewables is scientifically sound, cost-effective, and unquestionably safer for the American people. Yet, the administration has proposed a paltry 3 percent increase in renewables funding for FY 2003.<sup>3</sup>

In coming years, we will spend between \$56 billion and \$300 billion to create a nuclear waste dump. Wouldn't this funding be better used expanding renewables and energy efficiency?

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PREPARED STATEMENT OF THE HONORABLE W.J. "BILLY" TAUZIN, A REPRESENTATIVE  
IN CONGRESS FROM THE STATE OF LOUISIANA

Mr. Chairman, Ranking member Lantos, and members of the committee, thank you for holding this hearing entitled "Oil Diplomacy: Facts and Myths Behind Foreign Oil Dependency" and for the opportunity to present my statement for the record.

As Congress embarks on the road to enactment of the first comprehensive energy legislation in a decade, the economic realities of global crude oil supply and demand mean that the United States must consider this paradigm in a systematic way that does not seek to apologize for our country's need for a fossil fuel energy source that cannot be readily replaced by today's technology, nor seeks to placate extremists with unrealistic views of our economy or our constitutional framework.

Crude oil supply statistics are plentiful. While the statistics vary from report to report, generally speaking, the United States consumes almost a quarter of the world's total oil production, yet produces only about 40% of our crude oil needs domestically. Consequently, nearly 60% of our total oil needs must be met by sources beyond the United States.

I am sure that every American would prefer to have less reliance on foreign countries for our oil demands. However, there is considerable disagreement as to how to accomplish that goal, and the competing armies are waging an ideological war fought with the weapons of facts, myths, and propaganda. One such army advocates that the proper method to achieve less reliance on foreign oil is to governmentally mandate restrictions on the types of vehicles people can purchase and drive. Another army believes that the imposition of more taxes on fuels would discourage so-called wasteful driving habits of ordinary citizens. Both of these skewed views ig-

<sup>1</sup> <http://www.sierraclub.org/wildlands/energymap/report.asp>

<sup>2</sup> *Ibid.*

<sup>3</sup> Congressional Research Service (May 17, 2002)

nore the fundamental liberty Americans enjoy as a God-given right made manifest by our Constitution. Every United States citizen has the right to choose to consume legal products in commerce without the interference of government. Unfortunately, in today's society, the best we can hope for is to minimize government interference in the lives of Americans. Yet another army advocates the use of renewable fuels. Unfortunately, in several instances, the process of producing those fuels consumes more energy than the renewable fuels produce, and uses more fossil fuels than conventional methods. Another way to address the issue of oil dependence must be found.

One economic solution to global crude oil dependence is to search for new reservoirs to drill domestically in order to alleviate our dependence. This approach is vital to the growth of our economy. Not because we can drill our way to energy independence, but because many state and local governments depend on the severance taxes oil and gas production generates to keep significant revenues flowing without burdening the taxpayers, and because of the jobs created by oil and gas exploration. Not just drilling jobs, but a whole host of support jobs ranging from truck drivers to petroleum engineers to hotel workers to manufacturing jobs. At this critical juncture in the domestic energy industry, more effort needs to be utilized to increase production because of diminishing reserves and to develop more cost-effective ways to produce the oil and gas we now have.

Unfortunately, even as our domestic reservoirs become more and more depleted, and the costs of finding new reservoirs increases, domestic oil and gas development is encountering staunch opposition to finding more reservoirs, and that opposition grows daily. As the environmentalist army seamlessly moves from its battle over Arctic National Wildlife Refuge to the Powder River Basin and other areas in the Rockies, waging its feverish war against development needed to fuel a robust, 21st century economy, all the while using the very products it claims to abhor to further its campaign, the theory of America's dependence on foreign oil is becoming obsolete in favor of the theory of America's interdependence on global oil.

Given the roadblocks to development of a domestic oil supply, as well as the costs associated with exploring and producing it, the answer to America's dependence on foreign oil is the development of oil and gas reserves around the world to lessen our dependence on any one source of supply. In other words, interdependence through diversification.

As far back as 1974, in the aftermath of the 1973 Arab oil embargo, President Nixon's Project Independence task force concluded that it was imprudent for the United States to be independent of foreign sources of crude oil and recommended that we instead seek to diversify supply available to the world oil market as a whole. The world is a far different place today than it was in 1974, yet diversification of supply is as important today as it was then. The world's markets are increasingly globalized and integrated, thus making oil producing nations increasingly competitive. Demand for oil to supply energy needs around the globe continues to grow virtually unabated. Notwithstanding the many opportunities for upstream investment and the fact oil consuming countries are more energy efficient, world oil demand is expected to increase substantially over the next several years, thereby increasing tensions between countries that use more oil than they produce.

To meet such demand, it is important that the supply sources be ubiquitous as possible. This will go far in ensuring as balanced a global energy market as possible. In terms of reliable energy markets and national security, the price of crude oil is as equally important as our dependence on imported oil. Since crude oil prices are determined on the world markets by supply and demand, diversification and reliability of supply to the oil market is essential to prevent extreme volatility in prices and unexpected oil price shocks that come from such volatility. In today's integrated global market, a supply disruption anywhere leads to a price increase everywhere. Thus, the more diversified our oil supply sources, the less we will suffer from the consequences of a disruption of supplies, whether such disruption comes from the Persian Gulf or elsewhere.

The events of September 11 only serve to underscore the need to diversify reliable energy sources as much as practicable. This tragedy in our nation's history, together with recent threats from Iraq and political turmoil in Venezuela and the Middle East, have renewed concern about our dependence on crude oil from unstable regions of the world. Actual, and even potential, disruptions of imported crude and refined oil products pose the greatest threat to our energy needs and thus to our nation's economy and security.

Efforts to further diversify sources of crude oil worldwide will lead to a more secure energy future for the United States. A diverse world energy market brings stability to crude oil prices and serves to enhance American energy supplies, which are vital to protecting the world's strongest economy. In short, the more we diversify

supply to the oil market, the more secure we become. This does not mean that the United States should abandon its friends in current oil producing countries around the world; indeed, far from it! The United States should not only seek to maintain such friendships, but should seek to strengthen them as well, all the while seeking new sources of supply for what we know to be a precious depleting resource.

The House Energy and Commerce Committee sees the need to diversify sources of crude oil. To address this issue, the Committee has held two briefings addressing global crude oil supply and related threats. Just last this month, I, along with other members of Congress and officials from the Administration, participated in a news conference to draw attention to expanded development of oil production in sub-Saharan Africa. However, the Energy and Commerce Committee's interest in global oil supply diversification extends far beyond the confines of any one country or continent.

Our country's national comprehensive energy policy must encompass not only domestic energy concerns but also diverse sources of energy supply outside our borders. It is imperative that the United States develop a comprehensive, written plan to address our interdependence to preserve lasting prosperity and security for our nation. Such an imperative will require legislative participation. In the coming months, the House Energy and Commerce Committee will do its part to ensure a more diverse and stable world oil market in furtherance of the Administration's call for a sound and comprehensive national energy strategy.

The United States, in order to properly address our energy concerns and enhance our nation's energy security and reliability, must seek greater cooperation, trade, and integration with other oil producing nations. We must therefore seek reliable energy partners to explore and develop new sources of crude oil for the benefit of all, all the while being fully respectful of the sovereign authority of such nations. As the President's National Energy Policy recommends, Congress should seek every opportunity to identify and remove barriers to and expand trade in energy commodities, goods, and services as this will create more jobs in the U.S. and raise living standards worldwide.

Thank you for the opportunity to submit my statement for the record, and I look forward to working with the International Relations Committee to develop a framework to address the challenge of global oil diversification.

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PREPARED STATEMENT OF THE AMERICAN PETROLEUM INSTITUTE

U.S. ENERGY POLICY AND THE WORLD PETROLEUM MARKET

*Fact: U.S. will continue to rely on global markets to supply the bulk of its growing oil demand.*

As the U.S. takes a fresh look at its energy policy, it is essential to recognize that our current energy situation has two parts, one domestic and the other international, neither of which can be solved independently of the other. *Domestically*, our entire energy infrastructure is strained, both from the standpoint of the very limited domestic areas we can explore and produce U.S. oil and natural gas and from the standpoint of refinery capacity and delivery of the energy required by a growing U.S. economy. *Internationally*, the U.S. will continue to rely on global markets to supply the bulk of both our own growing oil demand and that of our major allies and trading partners.

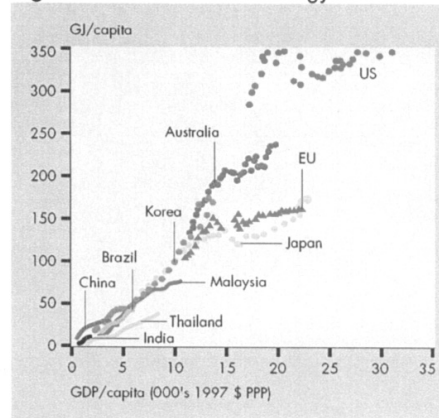
The U.S. faces three energy challenges. First, a massive volume of new global production capacity must be developed within the next two decades to sustain the world economy. Second, this capacity must be developed without recourse to the large volumes of readily available surplus capacity typical of global markets in the past two decades. Third, this development must occur in a setting where the market share of the OPEC cartel is expected to be rising. Despite a number of key uncertainties in this outlook, failure to develop such new supplies could have major long-term costs to both the U.S. and global economy. While the U.S. has influence over meeting these three international challenges, it has little direct control over any of them. Its greatest channel of influence is promoting free trade and investment in energy worldwide, and encouraging U.S. firms to participate in that trade and investment to the fullest extent possible.

*A growing world economy will require growing volumes of oil and gas*

The sustained growth in the world economy over the past two decades has been fueled by a steady growth in the use of oil and gas. In 2000, the world used 77 million barrels of oil per day (mmb/d). As seen in Figure 1, energy growth is required to sustain economic growth in virtually any country examined. Moreover, because

of the key role of transportation to such growth, and the key role of oil in fueling transport demand, there is a similarly close relation between economic growth and oil consumption. Global demand for oil grew by 13.1 million barrels per day (mmb/d) between 1985 and 2000. This was not an aberration. As the center of economic growth continues to shift from industrial to the developing countries, this growth is expected to accelerate, even with continued progress in conservation and aggressive development of alternative fuels. In the reference case scenario examined in the 2002 DOE International Energy Outlook, for example, nearly 42 mmb/d of new global oil supply is expected to be required by 2020.

Figure 1. Economic and Energy Growth

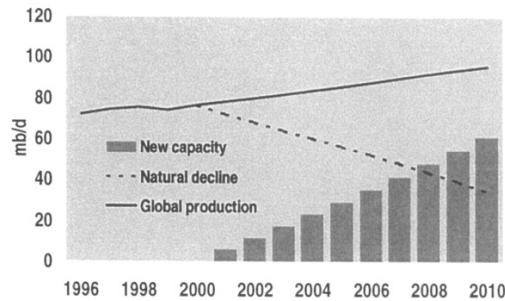


Source: Shell Oil

*Massive new oil and gas investments will be required to satisfy economic growth*

Supplying this worldwide growth will be especially difficult. Many of the traditional areas of expansion over the past several decades are already in decline or expected to be so. In Figure 2, demand growth between 2000 and 2010 is likely to be in the neighborhood of 20 mmb/d. But at the same time, production from existing reservoirs is in decline. Some of the major companies report decline rates as high as 10% per year. But even a decline at half this rate, shown here, would require replacement of 40 mmb/d of oil production capacity over ten years. This is double the amount required to satisfy demand growth, so that between satisfying demand growth and replacing lost supply, a conservative measure is that 60 mmb/d of capacity needs to be installed over the course of this decade. This increment is nearly eight times the current output of the world's largest producer, Saudi Arabia. The investment required to finance this oil and gas growth is estimated to exceed *one trillion dollars over the decade*.

Figure 2. Required Oil Capacity Additions

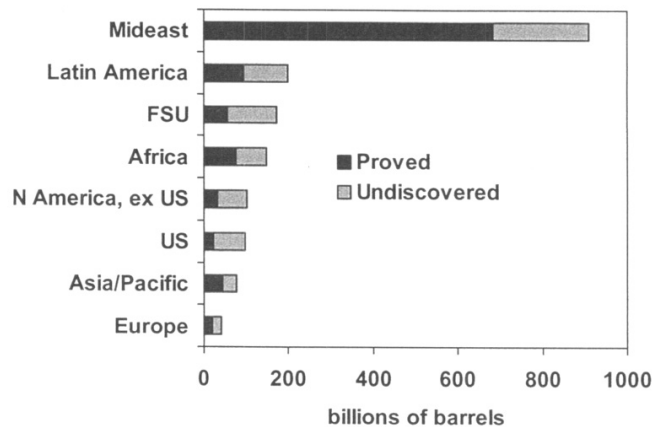


Source: International Energy Agency

*Meeting this challenge will require global expansion on old and new frontiers*

The world's oil and gas resources, unfortunately, are not always conveniently located. First, there is no escaping the fact that the bulk of remaining world oil resources is clearly concentrated in the Middle East, especially the Persian Gulf. The required growth in global supplies will not occur without a major expansion of supply from the Gulf. In the Department of Energy reference case scenario, supply from the Gulf nearly doubles over the next two decades. But this alone is not enough. In fact, the anticipated growth will require major expansion into new frontier areas as well. While half of the world's increased energy production from 1980 to 2000 came from OECD countries, over the next two decades the International Energy Agency estimates that over 95% of the increase will originate in non-OECD countries, with the Middle East and the transition economies (Russia and the Caspian region, primarily) accounting for half of this.

Figure 3. Location of world oil resources



*Failure to develop new supplies will have costs*

There are major challenges to be overcome in each of the geographic areas where new supply is projected. There is no inevitability that such supplies will be forthcoming. However, what is inevitable is that failure to develop the new supplies will have costs. If the estimated supply growth falls short of the levels suggested above,



prices will be higher, and economic growth lower, than in the DOE's reference case. In a hypothetical scenario constructed by DOE, in which supply by 2020 falls 5 mmb/d short of that estimated in the reference case, world oil price is over \$6 per barrel higher, causing an increase of over \$200 billion annually in the global cost of oil.

Beyond direct effects on oil markets, the role of oil in the world economy is sufficiently significant that such impacts may have consequences for broader economic growth. While there is a range of opinion as to the magnitude of these effects, there is broad consensus that higher oil prices damage economic growth. The reasons for this are clear. Oil, like capital and labor, is a productive input into a broad range of economic goods and services. If higher oil prices reduce oil use, economic growth will be reduced unless the lost contribution of oil can be offset by increased supplies of labor, capital, other energy, or by technical change. It is not easy to augment such factors, especially in the short run. The extent of the economic damage will depend on the magnitude and the duration of the increase. A recent paper by the International Monetary Fund estimates that a \$5 per barrel permanent increase in oil price would reduce world GDP by as much as 0.3% during the first several years following the increase, entailing a loss to the world economy of about \$100 billion annually.

*The role of U.S. energy policy is to manage these risks*

Since the early 1980s, the U.S. has generally pursued a domestic and foreign policy that has relied on markets, combined with the active promotion of free trade and investment, to ensure development of the necessary worldwide oil and gas supply capacity. The supply diversification that has resulted has proven to be a very effective tool for managing the risks associated with import dependence.

Sustaining this diversity in a growing global market will be challenging, and will require continuous diligence to encourage both the development of competitive world class domestic resources, and freedom of trade and investment to allow U.S. oil and gas firms to be competitive abroad. Relaxing domestic restrictions on federal land access, decreasing reliance on unilateral economic sanctions for foreign policy, and preserving the competitiveness of U.S. firms operating abroad via tax policy are all essential elements of a strategy designed to meet this challenge.

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QUESTIONS FOR THE RECORD SUBMITTED TO THE HONORABLE SPENCER ABRAHAM, SECRETARY OF ENERGY, BY THE HONORABLE ERIC CANTOR, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF VIRGINIA, TOGETHER WITH RESPONSES FROM THE DEPARTMENT OF ENERGY

OIL IMPORTS FROM THE PERSIAN GULF

*Question:*

*According to the Annual Energy Outlook 2002 issued by the DOE Energy Information Administration, oil imports from the Persian Gulf will almost double in the next two decades, rising from 2.2 million barrels per day in 2000 to 4.2 million barrels per day in 2020. Please provide a detailed estimation of imports from these countries for the years 2005, 2010, 2015, and 2020.*

*Answer:*

The following table shows petroleum imports to the U.S. from the Persian Gulf:

## Persian Gulf Exports to the United States: 2000–2020

(Million Barrels per Day)

	OPEC		Non-OPEC		Total
	Crude Oil	Refined Products	Crude Oil	Refined Products	
2000	2.41	0.08	0.03	0.0	2.52
2005	2.83	0.26	0.02	0.0	3.11
2010	3.12	0.44	0.02	0.0	3.58
2015	3.21	0.79	0.01	0.0	4.01
2020	3.31	1.15	0.01	0.01	4.48

Source: Reference Case results from the Annual Energy Outlook 2002. Excludes unfinished oils.

Although the Energy Information Administration does not forecast country-level sources of U.S. petroleum imports, historical trade flows in conjunction with anticipated expansion of production capacity indicate that a significant portion of the estimated increase in Persian Gulf imports over time would originate in Saudi Arabia and Iraq.

Note: The data and projections in the above table were published in the supplemental tables of the AEO2002. We are unable to determine the source of the data and projections stated in the question.

## NATIONAL SECURITY AND ENERGY SECURITY

*Question:*

*Do you believe that national security requires energy security?*

*Answer:*

Yes. Energy security is a critical element of national security. Since energy is the lifeblood of the U.S. economy, National security requires that we take steps to prevent enemies of the United States from inflicting harm by disrupting vital energy supplies. Making the United States more energy secure, whether through our efforts to use energy more efficiently, produce more of our own domestic energy needs, or ensure against the possible loss of energy supplies, is as essential to National security as is the maintenance of a strong military. The Strategic Petroleum Reserve is a case in point. The critical connection between energy security and the national security was the impetus for the establishment of the Reserve. The Reserve diminishes the vulnerability of the United States to the effects of a severe energy supply interruption. In the event of an oil supply emergency, the Reserve provides insurance that even significant supply disruptions will not severely damage the U.S. economy.

*Question:*

*If oil is used as a political weapon against the United States by Middle Eastern countries and there is a 10 percent reduction in oil exports to the U.S., please discuss the impact on the U.S. economy and the price per gallon at the gasoline pump. Please quantify the figures for 20, 50, and 75 percent reductions as well.*

*Answer:*

If these exports to the United States were taken off of the world oil market for a sustained period of time (and not simply re-exported elsewhere), they could have a significant impact on motor gasoline prices and the United States economy if the supply losses were not made up by oil from other sources.

Motor gasoline prices could rise by \$0.02–\$0.03 per gallon above the projected base level of \$1.44 per gallon during the 3rd quarter of 2002 (if 10% of Middle Eastern exports to the United States were lost to world oil supplies), and could rise as much as \$0.25 per gallon (if 75% of Middle Eastern exports to the United States were lost to world oil supplies). These estimates do not incorporate potential price effects from market fears that these disruptions could become worse.

If the supply losses were sustained, U.S. GDP growth could be reduced by \$1.6–\$5.5 billion if 10% of Middle Eastern exports were lost (or by 0.02–0.05 percentage points), and could be reduced by as much as \$40.9 billion if 75% of Middle Eastern exports were lost (or by 0.39 percentage points).

There are currently 1.4 million barrels per day of spare world oil production capacity outside of the Middle East. These supplies could come on-line within 30 days in response to world oil price increases and could offset up to one-half of the reduced exports. In addition, the United States Strategic Petroleum Reserve (SPR) alone could offset 2 million barrels per day (about 70% of the loss) for up to 9 months, which amounts to about 548 million barrels of the current 577 million barrel SPR. In the combined scenario of excess capacity coming on-line and SPR draw down, all losses could be offset for more than a year. In this scenario, the oil price and economic impacts would be minimal (outside of psychological impacts).

Impacts of Loss of Middle Eastern Oil Exports to the United States\*

	No Offsets		With Use of Spare Capacity		With Use of Spare Capacity + SPR	
	Increase in Motor Gasoline Price (\$/gal)	Impact on U.S. Economy (\$billion/percent)	Increase in Motor Gasoline Price (\$/gal)	Impact on U.S. Economy (\$billion/percent)	Increase in Motor Gasoline Price (\$/gal)	Impact on U.S. Economy (\$billion/percent)
10% Loss MidEast Exports to U.S.	\$0.02-\$0.03	\$1.6-\$5.5 (.02-.05)	minimal	minimal	minimal	minimal
20% Loss MidEast Exports to U.S.	\$0.04-\$0.07	\$3.3-\$10.9 (.03-.10)	minimal	minimal	minimal	minimal
50% Loss MidEast Exports to U.S.	\$0.10-\$0.17	\$8.2-\$27.3 (.08-.26)	minimal	minimal	minimal	minimal
75% Loss MidEast Exports to U.S.	\$0.15-\$0.25	\$12.3-\$40.9 (.12-.39)	\$0.05-\$0.08	\$3.9-\$12.9 (.04-.12)	minimal	minimal

\* These estimates do not incorporate potential price effects from market fears that these disruptions could become worse. Source: U.S. Energy Information Administration, July 18, 2002.

ROUGH ESTIMATE OF THE COST OF EXPANDING THE STRATEGIC PETROLEUM RESERVE TO 1.4 BILLION BARRELS, PROVIDED BY THE CONGRESSIONAL RESEARCH SERVICE AT THE REQUEST OF THE HONORABLE BRAD SHERMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Memorandum, June 1, 2002

TO: The Hon. Brad Sherman  
Attn.: Steve Hanft

FROM: Robert L. Bamberger  
Specialist in Energy Policy  
Resources, Science and Industry Division

SUBJECT: Rough Estimate of the Cost of Expanding the Strategic Petroleum Reserve to 1.4 Billion Barrels

You have requested an estimate of what it might cost to (1) increase the authorized level for the Strategic Petroleum Reserve (SPR) from 1.0 to at least 1.4 billion barrels, (2) double the storage capacity of the SPR from its current 710 million barrels to 1.4 billion barrels; and (3) increase fill from current levels of 570<sup>1</sup> million barrels to 1.4 billion barrels. You have asked us to provide some estimate of what costs this might entail.

The SPR is currently authorized at 1 billion barrels—simply meaning that the Department of Energy, subject to appropriations, can construct capacity and fill the SPR to 1 billion barrels. As noted above, the available storage capacity of the SPR and the amount of oil in storage are 30-40% below this authorized level. Though

<sup>1</sup>The current fill level of the SPR may be monitored at this URL under "Current Inventory": [http://www.fe.doe.gov/program\\_reserves.html](http://www.fe.doe.gov/program_reserves.html).

you are advocating that SPR capacity be increased and then filled to 1.4 billion barrels, you would also propose that the authorized level to which the SPR can be developed be increased to 2.0 billion barrels.

There is no conflict between these different objectives. Increasing the authorized level itself of the SPR does not necessarily entail any direct expense. It is Congress' prerogative to amend the authorization if it chooses without necessarily committing funds for construction and fill to the authorized level. However, your proposal would require that Congress increase the authorized level to at least 1.4 billion barrels, and then construct and fill to that capacity. As it is, expanding the SPR just to a capacity of 1.4 billion barrels would require acquiring significant new storage, possibly through the creation of additional caverns in salt domes, or through leasing or acquiring above-ground storage.<sup>2</sup>

DOE has prepared some rough estimates of the cost of expanding the SPR an additional 300 million barrels to its currently authorized level of 1 billion barrels. This particular expansion would occur in three stages as detailed in the following table:

Table 1—DOE Estimate of Expanding the SPR to 1.0 Billion Barrels

Location	Addition to Capacity	Cost	Schedule*	Comment
Bayou Choctaw [Louisiana]	20 million barrels	\$23 million (\$1.15/barrel)	3 years	Existing site. Environmental assessment would be required as well as purchase of two neighboring caverns not currently in use.
Big Hill [Texas]	80 million barrels	\$280 million (\$3.50/barrel)	7 years	Development of eight new caverns on existing site.
New sites	200 million barrels	\$984 million (\$4.92 barrel)	9 years	Requires site selection, acquisition and environmental impact statement
Total	300 million barrels	\$1.287 billion (\$4.29/barrel)		

\*This is the time for completion of each stage; however, these efforts could run concurrently rather sequentially.

Source: Department of Energy.

As can be seen from the above numbers, the cost to create a barrel of storage rises as new caverns need to be developed and additional land has to be acquired. Presumably, any further additions to storage capacity will require further acquisitions of land lying over salt domes and development of caverns in these domes. It seems reasonable to assume—based on DOE's calculation for new sites shown above—that additional capacity could cost approximately \$5/barrel to develop, including acquisition of land. Under this assumption, establishing a further 400 million barrels of capacity (to bring the total to 1.4 billion barrels) could cost another \$2 billion. We should note, too, that there could be other costs if it proves impractical to locate this additional capacity contiguous to current SPR sites so that the new sites could take advantage of distribution systems already in place.

Given the current fill level of the SPR of 570 million barrels, and assuming an increase in capacity to 1.4 billion barrels, the additional oil required to fill to capacity would be roughly 830 million barrels. Estimating the outlay that would be needed to fill this SPR is more difficult because—even assuming an aggressive fill rate of 300,000 barrels per day (b/d)<sup>3</sup>—it would take an aggregate time of more than 7.5 years to fill the Reserve. At a likelier fill rate of 100,000 b/d, it would take more

<sup>2</sup>DOE has estimated the costs of above-ground storage at a prohibitive \$15/barrel. Our calculations here assume, as does DOE, that any additional storage would be below-ground.

<sup>3</sup>For a brief time during the Reagan Administration, fill of the SPR reached this level.

than 22 years to fill the SPR to 1.4 billion barrels, and it is impossible to predict the course of oil prices over this period.<sup>4</sup>

- Assuming a nominal average price of \$22/bbl (a recent crude oil price) over the period, the cost of fill would be \$18.2 billion.
- Assuming a nominal average price of \$28/bbl over the period, the cost of fill would be \$23.2 billion.
- Assuming a nominal average price of \$40/bbl over the period, the cost of fill would be \$33.2 billion.

Summarizing the cost elements:

- \$1.29 billion, as estimated by DOE, to enlarge the SPR to the currently authorized one billion barrels;
- \$2 billion to increase the capacity of the SPR from 1.0 billion to 1.4 billion barrels; and
- fill costs ranging between \$18.2-\$33.2 billion.

Totaling these inputs, the estimated cost of doubling current SPR capacity and filling it to 1.4 billion barrels could fall somewhere between \$21.5-\$36.5 billion. It is worth noting that, to date, total appropriations for the SPR have been less than \$22 billion in nominal dollars.<sup>5</sup>

Please let me know if I can provide anything further (7-7240).




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<sup>4</sup>We use the term “aggregate” because policymakers could choose to fill the current spare capacity of roughly 140 million barrels before new additional capacity was completed. If several new SPR storage sites are created at one time, a higher fill rate would be possible. At 500,000 b/d, for example, fill would take about 4.5 years. However, the pressure of an additional 500,000 b/d on the market would itself sometimes exert upward pressure on prices, and during times of tight supply, it is imaginable that fill would be at least temporarily suspended as it has in the past.

<sup>5</sup>U.S. Department of Energy. *Strategic Petroleum Reserve: Annual Report for Calendar Year 2000*, p. 31.