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ENERGY SECURITY: RESPONDING TO THE CHALLENGE

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P R O C E E D I N G S

MS. BRAINARD: Good morning, everybody. It is my pleasure on behalf of Strobe Talbott, president of the Brookings Institute, and John Thornton, chairman of our board, to welcome here today Lord John Browne, group chief executive of BP.

As many of the people in this room know, Lord Browne has a very distinctive reputation in the industry. He has been with BP for 40 years, and over the last seven years, since taking the helm at BP, has in many ways revolutionized the industry, leading a big wave of consolidations, but also at the same time leading on very controversial issues—prime among them, climate change, which is of great interest to us here. David Sandalow is here in the audience; he runs our program on climate change.

Today he is stepping out on another issue that is front and central in the news and also somewhat controversial—which is the issue of energy security—to talk about BP's plans to proactively address this area of increasing public interest.

So with that, I'd like to welcome Lord John Browne.

[Applause.]

LORD BROWNE: Ladies and gentlemen, good morning. It's a very great pleasure to be here and to have a chance to come and speak at the Brookings Institute, a very great institute. The institution has been at the heart of the debate on so many issues over the last 90

years that I can't think of a better place to come and speak at what we believe is a decisive and important moment in the debate on energy security.

The last two years have brought energy back to the top of the agenda in this country and around the world. There are at least four reasons why that is so.

First, global demand for energy is growing day by day. Demand now is nearly 50 percent higher than it was only 20 years ago. Demand is driven by the twin forces of population growth and the spread of prosperity. The world's population has risen by almost 10,000 in the last hour; so far this year, by around 80 million. More and more of those new citizens have the resources to buy the energy they need. They want the heat, the light, and the mobility which we all take for granted. As economic prosperity spreads and poverty recedes, more people can afford that energy. On some estimates there are perhaps 200 million new customers for commercial energy every year.

Growing demand has shaped the energy market over the last five years. Total demand for energy worldwide has risen by 15 percent during the five years of the current century. That demand has been concentrated on hydrocarbons and, in particular, on oil, gas, and coal. World oil demand has grown by 8 percent over the same period, gas demand by 15, and coal demand by 32 percent.

The demand has come from Asia, as China and India have grown rapidly. But it's also come from the more developed parts of the world. Last year, the world economy grew by more than 4 percent, the fastest rate in three decades. And growth is fueled by energy.

The growth in demand has outpaced the growth in supply. At times over the last 18 months, the margin of spare capacity in the oil market has fallen from the historic norm of 3 million barrels a day to around 1 million barrels a day. And, of course, 1 million barrels a day is less than the production which comes from some of the less secure producing regions—from Iraq or from Venezuela or from Nigeria.

That is why prices have risen.

But growth in demand is not the whole story. We've seen the impact of war and uncertainty in the Middle East and the impact of extreme weather conditions here in the United States and elsewhere. The storms and hurricanes of the summer destroyed life and property in a terrible way. But they also disrupted the supply systems—the product platforms in the Gulf of Mexico, the pipelines, the refining systems—which bring energy resources to those who need them.

The market system has responded remarkably well to all those disruptions. Very few consumers were denied resources for any significant period of time. Supply and demand were balanced.

But prices have risen, and that has raised the level of concern. Prices are lower now than at their peak a couple of months ago, but they're still more than twice the level of only three years ago.

So that's one fundamental cause of concern.

Another is the geography of the energy market and, in particular, the way in which the pattern of oil supply is moving. Today the world will use 85 million barrels of oil. Over half will be supplied through international trade. Looking ahead, that trade is growing as a proportion of the total and is concentrating to a very significant degree. The U.S. will require more imported supplies, and so will Europe, Japan, and China.

Almost 80 percent of that trade will come from just three areas: Russia, West Africa, and, most important of all, the Persian Gulf. By 2020, 25 million barrels a day—1 barrel in every 3—will, on these forecasts, come from Saudi Arabia, Iraq, and Iran. And that's assuming that everyone else is producing at, or very close to, full capacity.

So that's the second cause of concern.

And then there is the environmental impact of increased hydrocarbon consumption, particularly in terms of the impact of global climate change.

It is eight years this autumn since the Kyoto Protocol was signed. The objective of Kyoto was to reduce emissions by 5.2 percent from their 1990 level. In reality, by 2003 emissions had increased by

more than 9 percent above their 1990 level, and by 2010 the projected increase is expected to be almost 20 percent.

The science of climate change is unproven in absolute terms. There are things we still don't know. But as the eight scientific academies of the G8 countries declared in their statement before the summit meeting in July, there is sufficient evidence that human activity could affect the earth's climate in a serious way so as to justify precautionary action.

The fact that precautionary action is not being taken and that the concentration of carbon in the atmosphere is growing towards the level at which fundamental changes could occur is also a cause of worry and concern. And of course, this concern, and what might be done after 2012, will be discussed by the first meeting of the parties under Kyoto Protocol in Montreal next week.

So, for a mixture of different reasons, the energy outlook is uncomfortable. There is a worry that oil supplies are limited, a sense of growing dependence and concerns that those who rely on trade and imports may be vulnerable to ransom, and concern that continued growth in emissions will lead to an environmental challenge which, in the end, could only be answered by a dramatic slowdown of economic activity.

Some believe that these problems will escalate to the point of crisis and, in particular, that prices will rise and rise. You could call that the "peakist" view.

We believe that it is a mistaken view because it ignores a fundamental characteristic of human behavior, which is to respond to perceived risk by finding an alternative was forward. All the evidence suggests that people don't walk blindly towards risk. They take precautionary action. We believe that's what's happening now.

The primary agent of the response is the oil and gas industry. As an industry, we exist to respond to need—that's our fundamental purpose—the need for energy in all its forms at a price that people can afford, and now in these circumstances, the need to restore energy security.

That's the challenge. So what are we doing?

First, we're investing in the next generation of oil and gas resources around the world. Winston Churchill once said that security in oil came from a diversity of supply. That was right in 1915—when, incidentally, he was a shareholder in BP on behalf of the government, some 50 percent—and it is right right now.

So we've been investing in the development of oil in the Caspian, Russia, Angola, and of course here in the United States, in the development of new oil from the deep water of the Gulf of Mexico. We're also investing in new gas developments all over the world—in Trinidad, Indonesia, and, again, here in the United States.

After a period of very low prices through the 1990s, which squeezed revenues and limited investment, the increase in oil prices since

the turn of the century has produced a general increase in investment. In total, the industry's invested nearly $200 billion in new oil and gas developments since 2000, and we're beginning to see the fruits of that investment.

Oil from the Caspian, which will be on-stream from the Baku-Tblisi-Ceyhan pipeline by early next year, will supply an additional million barrels a day of oil to the world. New oil continues to come on-stream in Angola, in Russia, and here in the United States in the deep-water Gulf of Mexico. And those are just the increases that BP is responsible for. Across the industry, investment which has gone in over a period of years is leading to new production.

And beyond those projects which are already under way, there is more to come, not least here in the United States—the development of gas in the Rockies, where we announced a $2 billion investment plan a few weeks ago, and the major long-term development of the 35 trillion cubic feet of natural gas in Alaska, which will add a whole new source of supply to the U.S. market.

And that's why, despite continued growth in world demand, we see the prospect of prices stabilizing and perhaps even falling back to a lower level.

Of course, other things could happen. But the increase in output from diverse sources of supply begins to restore the cushion of capacity. Historically, supply capacity worldwide has exceeded demand

by around 3 million barrels a day. At times in the last couple of years, that fell back to a little more than 1 million barrels a day. Now we can see the margin of security beginning to increase once more.

That is the immediate, necessary, and appropriate response to energy insecurity. But there's something more which needs to be done. We have to think and plan ahead, to look at the needs of the world market not just this year and next year, but over the next 30 or 40 years. And that's the time scale on which this industry has to think and has to invest.

Forty years ago, we began to develop Prudhoe Bay and the resources in Alaska. Similarly 40 years ago, we began to develop the North Sea. Those developments have provided the resources to keep energy supplies flowing on both sides of the Atlantic.

Now we have to look ahead again and to invest to meet the needs of tomorrow, the needs of a rapidly changing, growing global energy market and the needs of a world where climate change will be a constant preoccupation.

We want to give people choices, including the choice of new alternative energies which are available at a reasonable cost, which don't lead to even further dependence on a small number of supply sources, and which are positive for the environment—producing less carbon and therefore reducing the risk of global warming.

And that's what we in BP are planning to do, by launching a new business called BP Alternative Energy. That business is going to

bring together and build upon the work we've been doing for a long time on alternatives and renewables.

It's going to include work on solar power, where we've built a business over the last 30 years that is one of the leaders in its industry and which, I'm delighted to say, is actually profitable. Eight years ago, we said we want to transfer our distinctive technologies into production, to increase manufacturing capacity and position this business to reach $1 billion of sales in the next decade. And we're exactly on track to do that.

The new business will also include our work on wind power, where we've begun with a series of wind farms on our own land. And it will include work on combined-cycle gas turbines and cogeneration technology, and work on the new and rapidly evolving technology of sequestration—taking carbon out of hydrocarbons and using the hydrogen to develop a carbon-free source of electric power.

All those elements are focused on the power sector, and that is deliberate. Over 40 percent of all emissions of carbon come from the power sector, compared to less than a quarter for transportation. These are global figures. So while we will continue our extensive work towards cleaner transportation fuels, we believe now is the time to take action in the area where we can make the greatest difference, in electricity generation.

Electricity demand is growing rapidly. Between now and 2020, more than 40 percent of all the power generation capacity in the

world will be replaced or built for the first time as stations come to the end of their lives and as new capacity is built to meet growing needs. So this is a moment of great opportunity.

We expect the installed generation capacity of renewable and alternative power to grow threefold by 2020. Worldwide, we anticipate a market to build around 230 gigawatts of new alternative generation. We also expect the installed capacity of gas-fired power stations to nearly double in the same time. The best estimate is that this market will be worth some $600 billion worldwide.

So we in BP see a business opportunity, and we are making plans to seize that opportunity. Over the next 10 years, we aim to invest around about $8 billion in those different technologies, on a step-by-step basis.

But this is not a business built on the assumption that public policy will change. All our plans are built on the basis of existing policy. Our only policy goal is a fair and transparent system which allows all forms of alternative energy to compete on an equal footing.

We have detailed plans for the next three years which more than double our current level of spending in this area. And over those three years, we will take products to the market, giving states, local utility commissions, and businesses a greater choice on how carbon intensive their electricity generation will be. We'll make it easier for households to utilize solar energy through innovative offers such as Solar

Home Solutions with The Home Depot, and with our BP Solar Energy Tile for residential roofing.

Our aim is to become the leading player in alternative energy in the power sector on a global basis.

For BP, this is a further step in the journey we began eight years ago, when we were the first major oil company publicly to acknowledge the challenge of climate change. We accepted the need for precautionary action on the basis of the growing weight of scientific evidence about global warming. We set a target to reduce emissions from our own operations by 10 percent from a base below 1990 levels, and we met that target well ahead of schedule. We have an established commitment to stabilize emissions while growing the business.

All those were important steps. But this is different because we're responding to the new business opportunity of climate change by creating a new business unit to satisfy the new demand for lower carbon power. Our aim is not to make a statement or to add further to the policy debate. Our aim is as a business to make money and, by giving our customers new choices, to make a difference.

We believe that a business in this area can make a difference. Going back to the figures I just quoted, if just half of the new power generation capacity required by 2020 were to come from alternative and renewable energies, that would reduce carbon emissions by perhaps 12 percent from the level they would otherwise reach. That

doesn't solve the issue of global warming, but it certainly is a very big start. It would take us a very long way towards the long-term goal of stabilizing the amount of carbon in the atmosphere at around 550 parts per million.

All of this, of course, is a long-term process. For the foreseeable future, the world will need hydrocarbons and we will continue to invest, as the industry will, in order to produce and sell oil and gas in the cleanest, most efficient way possible, and will invest across a range of areas in order to maximize the diversity of supplies which are available.

But this is not business as usual. Things have changed. Technology is making it possible now to supply alternative energy at highly competitive prices. At the same time, some of our customers want energy supplied in ways which reduce the risks of dependence on a very narrow range of suppliers. And some of our customers want their energy supplied in a way which reduces the risk of emissions altering the sensitive balance of the world's climate. People want to use energy in a way which is sustainable.

Put these changes together and you have the business case for alternative energy. We aim to use modern technology to create a new business which makes money by responding to the wishes of our customers for secure and clean energy.

This is not an instant, magical solution. But it is a very realistic, practical step in a new direction, a step beyond our traditional business—if you will, beyond petroleum—to meet the energy needs of the world over the next half century.

Thank you very much. [Applause.]

MS. BRAINARD: I would like to open the floor up to questions. Before doing that, I would just ask that you wait for the microphone, which should be circulating, and identify yourself and identify your institute.

I also wanted to introduce Vivienne Cox, who is currently at the helm of BP's efforts in the area of renewables as chief executive of gas power and renewables, and integrated supply and trading, who I think will join Lord Browne in discussing some of these issues with you.

So with that...

QUESTION: Thank you. Roger Ballantine. I'm with Green Strategies.

I'm wondering if your company's emphasis on investment and alternative energies on the electricity side, as well as your conclusion, if I heard it right, that global petroleum supplies will rebound to a certain extent and we'll again have some sort of supply cushion as we have in the past, whether all of that suggests that therefore you're not particularly optimistic about the future of alternative transportation fuels.

LORD BROWNE: No. Simply because I haven't discussed it doesn't mean to say we're not interested in it, and we see possibilities.

I think alternative transportation fuels, there's a lot of work going on at the moment. It divides into things like biofuels, into the use of hydrogen, and indeed into the use of synthetic products which are made from gas in one or more stages to make a liquid. This really covers, I think, the waterfront.

Each one of these areas is still—I think I put it—under debate, under consideration, and no one's quite sure where to go, what are the objectives? And I think, depending on the objectives you hold—should it be to reduce total lifetime cycle of carbon dioxide emissions; should it be to reduce low-level pollution; should it be to improve the efficiency of the internal combustion engine?—you get a slightly different answer. And overlaid on that there are other considerations to do with biofuels, notably the growing of them and the interaction globally on land use and the change in the pattern of behavior of populations.

So these are things which I think are presently under debate. So a company like BP is obviously involved in the debate and involved in the experimentation. We are the largest provider of hydrogen for fleet transportation in the world. This is a statistic which is true but misleading, because the amount involved is really very small, very small. But we're doing it as an experiment. We're involved in an array of

biofuels. We're very cautious about thinking through the real implications of different biofuels.

For example, ethanol made from corn, I think on most analysis, is shown to be damaging to the carbon dioxide balance of the world, whereas ethanol made from sugar cane is beneficial. But yet, sugar cane is often planted in areas which are cleared of tropical forest.

So it's where do you want to balance all these risks. I think my answer is uncertain at the moment and I believe it should remain uncertain until a real debate has taken place about where the balances actually lie. We, however, are doing a lot of work and experimentation in this area.

QUESTION: I'm Fred Singer from the University of Virginia and the Science and Environmental Policy Project.

I will forego the opportunity to express my doubts about human-caused global warming. But instead, Lord Browne, I'd like to ask you energy security, a different aspect of energy security—not the one that you mentioned, which consists of the gradual depletion of oil and the inevitable rise in the price, but energy security relating to the sudden cutoff in supply, and particularly, whether the cutoff is caused by planned or unplanned means or whether it's caused by governments or by terrorists, it can have catastrophic effects on our economy.

I'd like you to contrast, if you would, please, the situation of crude oil with liquefied natural gas. The impression one has is that the

crude oil is fungible and therefore more easily replaced if it is cut off, whereas LNG is more like having a pipeline to a supply source. What is your opinion on that?

LORD BROWNE: Thank you. I think we could just look over this extraordinary year that's now coming to a close, 2005, and think about what happened here in America with hurricanes Katrina, Rita, and all the predecessor weather events. What happened there was really extraordinarily dramatic in terms of our industry—setting aside for a moment the extraordinary problems to do with dislocated people, families, and helping and working with them.

It of course took out a vast amount of oil and gas from the United States, and refining capacity, indeed, as well. And it still remains shut in. We still have some 3 billion cubic feet of gas per day missing from the market, some 1 million barrels a day of crude oil production, and several million barrels a day of refining capacity. These are not available to be used by the market here in the United States.

What has actually happened? Well, something really quite remarkable happened. So this very, very large outage—this is an enormous outage in the world supply—has been accommodated by the global supply system. In other words, if you will, the market has responded and worked.

In fact, today if you look at the data-driven rather than assertion-driven, if you look at global inventories of crude oil or

products or natural gas in storage, even if you look at regional ones here in the United States, surprisingly, in spite of all these outages, they're all at least at historic-norm levels, five-year averages, and many times higher than those levels.

So you see the world responding in a way where people are able to work, the market is relatively transparent—certainly on a global basis is transparent—and there's a tremendous interconnectivity in transportation. And indeed, of course, all markets are responsive to price, and so if prices get too high, something happens to demand—certainly in the case of natural gas.

So it does mean that I think we've run. And would it were that we hadn't had to have done this, but we have actually seen now a case which says the system works.

Now, anyone can ask me a question, well, suppose it's twice as big, or three times as big. At some point when I start answering the question the market can take care of it, there must be a point where the market can't. So in catastrophe planning, you can certainly think of cases where the world would have a real problem. But actually, for remarkable events which are unexpected, the world has an extraordinary capacity of making accommodation, and supplies flow.

LNG is nothing really that different. The market for natural gas globally is comprised of two things. One is a contract market, where people commit to buy LNG for many, many years on certain terms. So

the LNG has to go from A, where it's produced, to B, where the contract is let. There is another sort of LNG. Because everything—production, very often, produces a little more than you need or there's a bit of spare capacity or people decide not to take their contract quantities—there's spot LNG. And so that moves around the world according to the actual present pricing of natural gas.

And again, we could just look over the last few months to see this happening. So gas is moving to the United States, the gas price is high here. BP is moving, I may say, over half the LNG. The total LNG coming into the United States is BP's LNG. But it's also moving to the United Kingdom—cargoes are being delivered there—and to Spain. And these cargoes are moving around according to the supply and demand on pricing in a very efficient and pretty transparent way. So it's really no different from any other energy supply.

So I think the market works very well. If I could just use this question just to make one point. The market works very well. And I know we may have a different view of climate change and carbon, but if for a moment you had our view, then you would say, But energies still need to be priced more appropriately according to the externalities they create. This means that carbon, which is emitted from energies, needs to be priced. So there's a price for using the atmosphere and there's a price for not using the atmosphere. And this is something which is reflected in

Europe, at least in the European trading system, which puts a price on carbon.

QUESTION: I'm Alan Hoffman with the U.S. Department of Energy.

You've made a very strong statement about the supply side of energy security. But energy security ultimately rests on two principles. One is the supply side, which your company is committed to. The second is using the least amount of energy to provide needed services. I was wondering if you would like to offer any comments on the efficiency side of energy security. Perhaps that would be a future business for BP.

LORD BROWNE: Thank you. I'd add three things, if I may. First is clearly it is the supply side from overseas sources and domestic liquid sources. Secondly, it is more choices. Alternative energies, actually, improve security because alternative energy tends to be domestic—it is domestic—and it adds to the sense that things are secure.

Now, I am—I think no discussion can just be on the supply side. It has to be on the demand side. We obviously look to where we think demand is going to go in the world. I'm particularly struck, for example, having just been the China, as I often go, that I think it's the second statement in the Chinese five-year plan, the 11th five-year plan of China—and these five-year plans tend to be done—that they intend to reduce energy consumption per unit of GDP by 20 percent. And I expect that they will take steps in a whole variety of ways, not least putting a

clamp on the number of miles per gallon which need to be the efficiency of cars in miles per gallon—which is probably a very good thing.

It seems to me that we as an industry—certainly I can only speak for BP—are right behind energy efficiency. There is no point in our industry to support irresponsible use of energy, that actually we do believe that cars should become much more efficient, that energy should be captured in all our plants, that no heat should be lost and therefore we should use cogeneration—that everything should be done to the maximum of efficiency. There is no point in squandering resources.

And I believe, actually, that the statements, again, made by the Chinese in their five-year plan to say that this is a nation of frugality is actually something that we might want to listen to widely in the rest of the world.

QUESTION: Gary Mitchell from The Mitchell Report.

Lord Browne, I want to ask you if you could move from the question of energy security to energy industry credibility. As you know, in this country Big Oil doesn't enjoy a wonderful reputation in that regard, not helped much by the recent appearance of some chief executive officers at some Senate hearings.

BP has clearly made a significant investment, as I understand it, in that realm of corporate communications designed to build credibility. To the extent that you can share some of the learning from that, what can you tell us about what you've been learning about what

communicates with your customers and the public generally and how you see the question of energy industry credibility moving in the next few years?

LORD BROWNE: Well, thank you. This is a very, very big question, so I'm probably going to stand and just try and fill a small corner of this picture up. But I think it's a very, very big tapestry indeed.

The more, I suppose, I'm in business generally—and in particular I'm in big business; this is what I do for a living—the more actually think that people generally and widely find it difficult to understand what big business does. Making sense of big business is, I think, something which has not necessarily been attended to.

It is really quite easy, and all of us probably have family members or friends or somewhere, it's easy to make sense of small business. You can see it all happening very quickly—you know, someone buys some apples from a farmer, takes them to market and sells them and makes a profit, and we all applaud. We think this is terrific. It's great stuff. We see small businesses being created. We all feel we understand them.

Big business is very different. These are very, very large enterprises involving vast numbers of people both internally and externally. I always think about BP, for example, in our statements, where 100,000 people are counted as BP employees. And actually it's far more than that. You know, we have suppliers, we have—actually, we

have families. We don't employ families, but we affect families. And so I shall think about them as at least some circle of influence that you have. And we have partners, we have co-venturers. We have companies which, according to the accounting rules, we don't count the staff because they're somewhere else.

If we add all those up, truly BP is the size of—I mean, I think, in U.S. terms a medium-size city, in the U.K. terms a giant city. It's a million people, probably. So people can't quite see their way round that and they can't see their way round big numbers, whether that is in the farmer business, whether it's in banking, whether it's in oil and gas. These are truly very big numbers, and they appear very abstract. I think all of us can—we can understand many times the amount of dollar bills we have in a wallet, but when it's something which, if you made it into dollar bills you'd fill this building up, it's very unclear any of us can really actually attach to these sorts of numbers.

And so I observe that, first, I think, making sense of big business is the challenge, and I don't think that challenge has yet been met. I notice that people, for example, don't inquire where does the money go. It's easy for me to lecture—and I find lecturing is not very effective in this area—but it is remarkable that many people do not think that the money made by companies does go elsewhere. And after all the investment for the future and paying for our staff and looking after our

staff in the best way we possibly can, paying all the expenses, there is a large amount of money left.

Now, where does it go? Many people, I think, would have the concept it sort of stays somehow in the firm. It sort of stays here. It doesn't, actually. What happens is it's distributed to investors. And then people say, well, investors, what are investors? Investors are perhaps not like people thought of them, you know, when I first joined industry, where there was quite a lot of hot money going around and people would just work for a few hours a day and direct the fortunes of firms. These are highly professional people who invest and they invest primarily for beneficiaries, which is to do with pensions.

So I always say that in BP's case it's easy because we look at the U.K. and say half our shares are held there. We support 1 pound out of every 6 pounds in every single private pension plan in the whole of the United Kingdom.

That's quite important. And I always am led to the case of saying that in a very big firm, the leadership must regard itself, at least in one dimension, as purely looking after the future of people. Purely that, whether they are the beneficiaries that come from the investment in the firm and their pensions for the future or whether it is the people who are employed in the firm and the people who are related to them. This actually is the vast bulk of much activity that people should think through, and their purpose.

As to the oil industry, it's certainly true that it's very complex. It's perhaps as complex as the pharmaceutical industry and even some parts of banking. People, I think, are unaware of, you know, how can you make the amount of money that oil and gas companies make; how can you do that without actually doing something which we don't like—abusing power, abusing power either in the market or elsewhere? And in fact, our studies seem to show that this is a shared belief by the, if you will—I don't like the word, but the elites of the world as well as the general public. People do think that there's something wrong in what happens.

I firmly believe—I can speak on behalf of BP—that there's nothing wrong. I think we need to do better at engaging people in why it is we do our business and what we do. We are in the end a business, and business is about goods and services. This is what good business does. It's not about money in the first instance, only in the second. It's goods and services. We should provide great goods and services to people on a continuous basis, and then we should make a lot of money that then goes to the service of our investors, who then can make further choices. And we need to do it in line with all regulation and all prohibition against bad use of power, and we should stretch ourselves always to be part of the society that we're in.

I believe these are very, very high challenges, but they are a description, if you will, of trying to make business once more perhaps a more noble pursuit than it is presently regarded.

QUESTION: My name is Joel Southern from Alaska Public Radio [inaudible]. I have a question relating to your comment about—your passing reference and your comments to the Alaska North Slope gas supplies.

I was just over a year ago that Congress approved fiscal incentives and regulatory streamlining measures aimed at getting the project built. And there's some degree of frustration now about how long it's taken for the negotiations between Alaska and your company and other North Slope companies to take place.

How do you view the status of those talks? What are the big hangups for BP at this point about the gas line? And do you anticipate anytime soon that BP will be in a position to agree to the base terms, just as ConocoPhillips has recently?

LORD BROWNE: Well, I share with you frustration about how long it's taking to make a decision on Alaska gas. You should know that I started my career in Alaska. My very first job was to work there for two years, between 1969 and 1971.

I worked on Alaskan problems for quite a long time, and I was involved with the final agreement between the many, many parties involved in developing Prudhoe Bay. And that was signed in 1975, I

think—you can never quite get the years right unless you look at a timeline—1975, when it was determined that gas would be sold in 1986. So that was the first determination of when gas would be sold from Alaska, and here we are 19 years later.

Now, I believe that the negotiations and discussions between the private parties and the State of Alaska are going very well. I think they're very complicated, and I believe that—I believe and I hope that they will be completed very soon and that they will be put before the legislature of the state in due course, perhaps after the turn of the year sometime.

These are all about getting conditions which are right for all the parties involved in what is a great enterprise and a great investment. This will be a $30 billion investment, which is quite a lot of money even for the parties involved. And of course it's a great investment that will take a lot of time to see the fruits of that investment come forward. So there's a very big time scale. It's an enormous engineering project. Many, many firsts will have to be met. And then, when it's producing gas for the United States, probably in 2014, it will take many, many years after that to pay out any cash return to the investors.

So quite a lot of things have to be put in place to make people feel comfortable about going forward on a project which will take so many years. But of course, on the other hand, it will last perhaps 50

years or more for the State of Alaska and will provide a great substitute, if you will, for the oil production that is declining. So I'm very hopeful.

MS. BRAINARD: I think we only have time for one more. Antoine?

QUESTION: Antoine van Agtmael, Emerging Markets Management.

There's one huge alternative source of energy that you touched on very briefly but didn't say very much about, and it's coal. As you know, Sasol, for example, has made coal into liquids. And there's huge amounts of coal reserves in China, in India, in the United States—in other words, in places that need it—and there seem to be some efforts underway to use these, and it's possible now at a price well under $30 barrel-of-oil equivalent. And it seems to be working after all, let's say, the improvements that have been made over the years in an environmentally sensitive way.

Could you comment on how you see the potential for this?

LORD BROWNE: Coal is, of course, simply a solid form of hydrocarbon. That's all it is. It's no different, therefore, from any other hydrocarbon. And it can be used for direct burning or it can be gasified into syn-gas and the hydrogen can be taken from the carbon, or it can be gasified another way to make other forms of hydrocarbon gas which then, with different catalysts, can be potentially made into different forms of

liquid. And so many people, BP included, are doing a lot of research and development in this area, a lot of really quite advanced development.

The challenge, I think, as always, is what to do with the residual carbon. Now, for those who have a taste to believe that global warming is not a problem—with which we fundamentally disagree—they would say pump it into the atmosphere. For those who worry about precautionary action, they want to capture the carbon and store it away. And that's probably the only way to do this because there's no technology yet available to sort of keep it in place, if you will—no real technology, just extract the hydrogen and leave the carbon there.

So the carbon capture and storage is a question. So where will the carbon go after the processing? And it can go into ancient oil and gas reservoirs. In some cases it can be also reinjected into coal-bearing strata, but only under certain geological conditions.

So all of this is possible, and it depends on taste and the swing of the world. We would say that actually coal needs to be charged for the amount of carbon it puts into the atmosphere. Otherwise, it should bury it. And on that basis, then, all the energies become very possible and can all compete on a level playing field. So if you charge people roughly, very roughly, $30 a ton for carbon, then the economics of coal, wind, hydrogen power, solar all begin to become rather equal. And that means the choice can be made on a level playing field.

Without this, then, there would be a lot of—if people believe there are no externalities, then indeed a lot of activity can take place here, but there will be damage. It will be limited, I think, to certain places where coal doesn't need to be transported for too many reasons. So China and the United States will be very powerful users of coal—I hope responsible users of coal.

MS. BRAINARD: I think that wraps up our time. Please join me in thanking Lord Browne for his remarks today.

[END OF BRIEFING.]