Climate Change Speech
By John Browne, Group Chief Executive, British Petroleum (BP America)
Stanford University
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Dean Spence, Ladies and Gentlemen, good morning.

It is always marvelous to come back to Stanford… and it is a pleasure and a privilege to be here to speak to you today on a subject which I believe is of the utmost importance.

I can't think of anywhere better than Stanford to discuss in a calm and rational way a subject which raises great emotion and which requires both analysis and action.

I think it's right to start by setting my comments in context.

Following the collapse of Communism in Europe and the fall of the Soviet Empire at the end of the 1980s, two alternative views of the consequences for the rest of the world were put forward.

Francis Fukuyama wrote a book with the ironic title "The End of History". Jacques Delors, then President of the European Commission, talked about the "Acceleration of History".

In the event, history has neither accelerated nor stopped. But it has changed.

The world in which we now live is one no longer defined by ideology. Of course, the old spectrums are still with us …. of left to right … of radical to conservative, but ideology is no longer the ultimate arbiter of analysis and action.

Governments, corporations and individual citizens have all had to redefine their roles in a society no longer divided by an Iron Curtain separating Capitalism from Communism.

A new age demands a fresh perspective of the nature of society and responsibility.

The passing of some of the old divisions reminds us we are all citizens of one world, and we must take shared responsibility for its future, and for its sustainable development.

We must do that in all our various roles… as students and teachers, as

business people with capital to invest, as legislators with the power to make law... as individual citizens with the right to vote … and as consumers with the power of choice.

These roles overlap, of course. The people who work in BP are certainly business people, but they're also people with beliefs and convictions… individuals concerned with the quality of life for themselves and for their children.

When they come through the door into work every morning they don't leave behind their convictions and their sense of responsibility.

And the same applies to our consumers. Their choices determine our success as a company. And they too have beliefs and convictions.

Now that brings us to my subject today - the global environment.

That is a subject which concerns us all - in all our various roles and capacities.

I believe we've now come to an important moment in our consideration of the environment.

It is a moment when because of the shared interest I talked about, we need to go beyond analysis to seek solutions and to take action. It is a moment for change and for a rethinking of corporate responsibility.

A year ago, the Second Report of the Inter-Governmental Panel on Climate Change was published. That report and the discussion which has continued since its publication, shows that there is mounting concern about two stark facts.

The concentration of carbon dioxide in the atmosphere is rising,and the temperature of the earth's surface is increasing.

Karl Popper once described all science as being provisional. What he meant by that was that all science is open to refutation, to amendment and to development.

That view is certainly confirmed by the debate around climate change.

There's a lot of noise in the data. It is hard to isolate cause and effect. But there is now an effective consensus among the world's leading scientists and serious and well informed people outside the scientific community that there is a discernible human influence on the climate, and a link between the concentration of carbon dioxide and the

increase in temperature.

The prediction of the IPCC is that over the next century temperatures might rise by a further 1 to 3.5 degrees centigrade, and that sea levels might rise by between 15 and 95 centimetres. Some of that impact is probably unavoidable, because it results from current emissions.

Those are wide margins of error, and there remain large elements of uncertainty - about cause and effect ….and even more importantly about the consequences.

But it would be unwise and potentially dangerous to ignore the mounting concern.

The time to consider the policy dimensions of climate change is not when the link between greenhouse gases and climate change is conclusively proven … but when the possibility cannot be discounted and is taken seriously by the society of which we are part.

We in BP have reached that point.

It is an important moment for us. A moment when analysis demonstrates the need for action and solutions.

To be absolutely clear - we must now focus on what can and what should be done, not because we can be certain climate change is happening, but because the possibility can't be ignored.

If we are all to take responsibility for the future of our planet, then it falls to us to begin to take precautionary action now.

But what sort of action? How should we respond to this mixture of concern and uncertainty?

I think the right metaphor for the process is a journey.

Governments have started on that journey. The Rio Conference marked an important point on that journey. So was the Berlin review meeting. The Kyoto Conference scheduled for the end of this year marks another staging post.

It will be a long journey because the responsibilities faced by governments are complex, and the interests of their economies and peoples are diverse, and sometimes contradictory. But the journey has begun, and has to continue.

The private sector has also embarked upon the journey… but now that involvement needs to be accelerated.

This too will be long and complex, with different people taking different approaches. But it is a journey that must proceed.

As I see it, there are two kinds of actions that can be taken in response to the challenge of climate change.

The first kind of action would be dramatic, sudden and surely wrong. Actions which sought, at a stroke, drastically to restrict carbon emissions or even to ban the use of fossil fuels would be unsustainable because they would crash into the realities of economic growth. They would also be seen as discriminatory - above all in the developing world.

The second kind of action is that of a journey taken in partnership by all those involved. A step by step process involving both action to develop solutions and continuing research that will build knowledge through experience.

BP is committed to this second approach, which matches the agreement reached at Rio based on a balance between the needs of development and environmental protection. The Rio agreements recognise the need for economic development in the developing world. We believe we can contribute to achievement of the right balance by ensuring that we apply the technical innovations we're making on a common basis - everywhere in the world.

What we propose to do is substantial, real and measurable . I believe it will make a difference.

Before defining that action I think it is worth establishing a factual basis from which we can work.

Of the world's total carbon dioxide emissions only a small fraction comes from the activities of human beings, but it is that small fraction which might threaten the equilibrium between the much greater flows.

You could think of it as the impact of placing even a small weight on a weighscale which is precisely balanced.

But in preserving the balance we have to be clear where the problem actually lies.

Of the total carbon dioxide emissions caused by burning fossil fuels

only 20 % comes from transportation.

80 % comes from static uses of energy - the energy used in our homes, in industry and in power generation. Of the total 43 per cent comes from petroleum.

We've looked carefully using the best available data at the precise impact of our own activities.

Our operations - in exploration and in refining - produce around 8 megatonnes of carbon.

On top of that a further 1 megatonne is produced by our Chemical operations . If you add to that the carbon produced by the consumption of the products we produce - the total goes up to around 95 megatonnes.

That is just one per cent of the total carbon dioxide emissions which come from all human activity.

Let me put that another way - to be clear.

Human activity accounts for a small part of the total volume of emissions of carbon - but it is that part which could cause disequilibrium.

Only a fraction of the total emissions come from the transportation sector - so the problem is not just caused by vehicles. Any response which is going to have a real impact has to look at all the sources.

As a company, our contribution is small , and our actions alone could not resolve the problem.

But that does not mean we should do nothing.

We have to look at both the way we use energy … to ensure we are working with maximum efficiency.. and at how our products are used.

That means ensuring our own house is in order. It also means contributing to the wider analysis of the problem - through research, technology and through engagement in the search for the best public policy mechanisms - the actions which can produce the right solutions for the long term common interest.

We have a responsibility to act, and I hope that through our actions we can contribute to the much wider process which is desirable and

necessary.

BP accepts that responsibility and we're therefore taking some specific steps.

To control our own emissions.

To fund continuing scientific research.

To take initiatives for joint implementation.

To develop alternative fuels for the long term.

And to contribute to the public policy debate in search of the wider global

nswers to the problem.

First we will monitor and control our own carbon dioxide emissions.

This follows the commitment we've made in relation to other environmental issues. Our overall goal is to do no harm or damage to the natural environment. That's an ambitious goal which we approach systematically.

Nobody can do everything at once. Companies work by prioritising what they do. They take the easiest steps first - picking the low hanging fruit - and then they move on to tackle the more difficult and complex problems. That is the natural business process.

Our method has been to focus on one item at a time, to identify what can be delivered, and to establish monitoring processes and targets as part of our internal management system and to put in place an external confirmation of delivery.

In most cases the approach has meant that we've been able to go well beyond the regulatory requirements.

That's what we've done with emissions to water and to air.

In the North Sea, for instance, we've gone well beyond the legal requirements in reducing oil discharges to the sea.

And now at our crude oil export terminal in Scotland - at Hound Point - which handles 10 % of Europe's oil supplies - we're investing $ 100 m to eliminate emissions of volatile organic compounds.

These VOCs would themselves produce carbon dioxide by oxidation in the atmosphere.

No legislation has compelled us to take that step - we're doing it because we believe it is the right thing to do.

Now, as well as continuing our efforts in relation to the other greenhouse gases, it is time to establish a similar process for carbon dioxide.

Our carbon dioxide emissions result from burning hydrocarbon fuels to produce heat and power, from flaring feed and product gases, and directly from the process of separation or transformation.

So far our approach to carbon dioxide has been indirect and has mainly come through improvements in the energy efficiency of our production processes. Over the last decade, efficiency in our major manufacturing activities has improved by 20 %.

Now we want to go further.

We have to continue to improve the efficiency with which we use energy.

And in addition we need a better understanding of how our own emissions of carbon can be monitored and controlled, using a variety of measures including sequestration. It is a very simple business lesson that what gets measured gets managed.

It is a learning process - just as it has been with the other emissions we've targeted but the learning is cumulative and I think it will have a substantial impact.

We have already taken some steps in the right direction.

In Norway, for example, we've reduced flaring to less than 20% of 1991 levels, primarily as a result of very simple, low cost measures .

The operation there is now close to the technical minimum flare rate which is dictated by safety considerations.

Our experience in Norway is being transferred elsewhere - starting with fields in the UK sector of the North Sea and that should produce further progressive reductions in emissions.

Our goal is to eliminate flaring except in emergencies.

That is one specific goal within the set of targets which we will establish.

Some are straightforward matters of efficient operation - such as the reduction of flaring and venting.

Others require the use of advanced technology in the form of improved manufacturing and separation processes that produce less waste and demand less energy.

Other steps will require investment to make existing facilities more energy efficient. For instance we're researching ways in which we can remove the carbon dioxide from large compressors and reinject it to improve oil recovery. That would bring a double benefit - a cut in emissions and an improvement in production efficiency.

The task is particularly challenging in the refining sector where the production of cleaner products require more extensive processing and a higher energy demand for each unit of output.

That means that to make gasoline cleaner, with lower sulphur levels, takes more energy at the manufacturing stage. That's the trade off.

In each case our aim will be to establish a data base, including benchmark data; to create a monitoring process, and then to develop targets for improvement through operational line management.

Monitoring and controlling emissions is one step.

The second is to increase the level of support we give to the continuing scientific work which is necessary.

As I said a few moments ago, there are still areas of significant uncertainty around the subject of climate change. Those who tell you they know all the answers are fools or knaves.

More research is needed - on the detail of cause and effect; on the consequences of what appears to be happening, and on the effectiveness of the various actions which can be taken.

We will increase our support for that work.

That support will be focused on finding solutions and will be directed to work of high quality which we believe can address the key outstanding

questions.

Specifically, we've joined a partnership to design the right technology strategy to deal with climate change. That partnership which will work through the Batelle Institute includes the Electric Power Research Institute and the US Department of Energy. We're also supporting work being done at MIT in Cambridge and through the Royal Society in London.

We're also joining the Greenhouse gas programme of the International Energy Agency which is analysing technologies for reducing and offsetting greenhouse gas emissions from fossil fuels.

The third area is the transfer of technology and the process of joint implementation which is the technical term for projects which bring different parties together to limit and reduce net emission levels of greenhouse gases.

Joint implementation is only in its infancy, but we believe it has great potential to contribute to the resolution of the climate change problem. It can increase the impact of reduction technology by lowering the overall cost of abatement actions.

We need to experiment and to learn… and we'd welcome further partners in the process. The aim of the learning process must be to make joint implementation a viable and legally creditable concept that can be included in international commitments.

We've begun by entering into some specific programmes of reforestation and forest conservation programmes in Turkey and now in Bolivia, and we're in discussion on a number of other technology based joint implementation projects.

The Bolivian example I think shows what can be done.

Its a programme to conserve 1.5 million hectares of forests in the province of Santa Cruz . It is sponsored by the Nature Conservancy and American Electric Power and sanctioned by the US Government.

We're delighted to be involved, and to have the chance to transfer the learning from this project to others in which we are involved. Forest conservation projects are not easy or simple, and that learning process is very important.

Technology transfer is part of the joint implementation process but it should go wider and we're prepared to engage in an open dialogue

with all the parties who are seeking answers to the climate change problem.

So those are three steps we can take - monitoring and controlling our own emissions, supporting the existing scientific work and encouraging new work, and developing experiments in joint implementation and technology transfer.

Why are we doing all those things? Simply because the oil industry is going to remain the worlds predominant supplier of energy for the foreseeable future.

Given that role we have to play a positive and responsible part in identifying solutions to a problem which is potentially very serious.

The fourth step - the development of alternative energy - is related but distinct.

Looking ahead it seems clear that the combination of markets and technology will shift the energy mix.

The world's population is growing by 100 million every year . By 10,000 just since I started speaking.

Prosperity is spreading. By the end of the century 60 per cent of the world's economic activity will be taking place in the South - in areas which ten years ago we thought of as Third World countries.

Both these factors will shape a growing level of demand for energy.

At the same time technology moves on.

The sort of changes we've seen in computing - with continuing expansion of semiconductor capacity is exceptional but not unique.

I think it is a reasonable assumption that the technology of alternative energy supplies will also continue to move forward.

One or more of those alternatives will take a greater share of the energy market as we go into the next century.

But let me be clear. That is not instead of oil and gas. It is additional.

We've been looking at alternative energies for a long time, and our conclusion is that one source which is likely to make a significant contribution is solar power.

At the moment solar is not commercially viable for either peak or base load power generation. The best technology produces electricity at something like double the cost of conventional sources for peak demand.

But technology is advancing, and with appropriate public support and investment I'm convinced that we can make solar competitive in supplying peak electricity demand within the next 10 years. That means, taking the whole period from the time we began research work, that 25 to 30 years will have elapsed.

For this industry that is the appropriate timescale on which to work.

We explore for oil and gas in a number of areas where production today wouldn't be commercially viable at the moment.

Thirty years ago we did that in Alaska.

We take that approach because we believe that markets and technology do move, and that the frontier of commercial viability is always changing.

We've been in solar power for a number of years and we have a 10 per cent share of the world market.

The business operates across the world - with operations in 16 countries.

Our aim now is to extend that reach - not least in the developing world, where energy demand is growing rapidly.

We also want to transfer our distinctive technologies into production, to increase manufacturing capacity and to position the business to reach $1bn in sales over the next decade.

I am happy to report that there will be significant investment in the USA and we'll be commissioning a new solar manufacturing facility here in California before the end of this year.

The result of all is that gradually but progressively solar will make a contribution to the resolution of the problem of carbon dioxide emissions and climate change.

So a series of steps on the journey. These are the initial steps. We're examining what else we should do, and I hope to be able to announce

some further steps later in the year.

Of course, as I said at the beginning, nothing we can do alone will resolve the concern about climate change. We can contribute, and over time we can move towards the elimination of emissions from our own operations and a substantial reduction in the emissions which come from the use of our products.

The subject of climate change, however, is a matter of wider public policy.

We believe that policy debate is important. We support that debate , and we're engaged in it, through the World Business Council on Sustainable Development … through the President's own Council here in the United States …. and in the UK where the Government is committed to making significant progress on the subject.

Knowledge in this area is not proprietary, and we will share our expertise openly and freely.

Our instinct is that once clear objectives have been agreed, market based solutions are more likely to produce innovative and creative responses than an approach based on regulation alone.

Those market based solutions need to be as wide ranging in scope as possible because this is a global problem which has to be resolved without discrimination and without denying the peoples of the developing world the right to improve their living standards.

To try to do that would be arrogant and untenable - when we need are solutions which are inclusive, and which work through cooperation across national and industry boundaries.

There have been a number of experiments - all of them partial, but many of them interesting because they show the way in which effective markets can change behaviour.

We're working, for instance, with the Environmental Defence Fund to develop a voluntary emissions trading system for greenhouse gases, modelled on the system already in place in respect of sulphur.

Of course, a system which just operates here in the United States is only a part of the solution. Ideally such structures should be much wider.

But change begins with the first step and the development of

successful systems here will set a standard which will spread.

Ladies and Gentlemen, I began with the issue of corporate responsibility. The need for rethinking in a new context.

No company can be really successful unless it is sustainable. - unless it has capacity to keep using its skills and to keep growing its business.

Of course, that requires a competitive financial performance .

But it does require something more, perhaps particularly in the oil industry.

The whole industry is growing because world demand is growing. The world now uses almost 73 million barrels of oil a day - 16 % more than it did 10 years ago.

In another ten years because of the growth of population and prosperity that figure is likely to be over 85 mbd, and that is a cautious estimate. Some people say it will be more.

For efficient, competitive companies that growth will be very profitable.

But sustainability is about more than profits. High profitability is necessary but not sufficient.

Real sustainability is about simultaneously being profitable and responding to the reality and the concerns of the world in which you operate. We're not separate from the world. It's our world as well.

I disagree with some members of the environmental movement who say we have to abandon the use of oil and gas. They think it is the oil and gas industry which has reached the end of history .

I disagree because I think that view underestimates the potential for creative and positive action.

But that disagreement doesn't mean that we can ignore the mounting evidence about climate change and the growing concern.

As businessmen, when our customers are concerned, we'd better take notice.

To be sustainable, companies need a sustainable world. That means a world where the environmental equilibrium is maintained but also a world whose population can all enjoy the heat, light and mobility which

we take for granted and which the oil industry helps to provide.

I don't believe those are incompatible goals.

Everything I've said today - all the actions we're taking and will take are directed to ensuring that they are not incompatible.

There are no easy answers. No silver bullets. Just steps on a journey which we should take together because we all have a vital interest in finding the answers.

The cultures of politics .. and of science … and of enterprise, must work together if we are to match and master the challenges we all face.

I started by talking about the end of history. Of course it hasn't ended. It's moved on.

Francis Fukuyama who coined that phrase describes the future in terms of the need for a social order - a network of interdependence which goes beyond the contractual. An order driven by the sense of common human interest. Where that exists, societies thrive.

Nowhere is the need for that sort of social order - at the global level - more important than in this area.

The achievement of that has to be our common goal.

Thank you very much.