International Business Leaders Programme Address

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Thank you, Dr Niblett. For over 80 years, the Royal Institute of International Affairs here at Chatham House has led informed debate about pressing issues facing our world. I appreciate the opportunity to become a participant in that tradition today.

But I have to say, it’s a little unfair. The previous speaker in Chatham House’s International Business Leader Programme series, I understand, was the Chairman of Nestle, a company best known for chocolate. That’s a hard act for an energy executive to follow. I can only hope to leave as good a taste in your mouths. But perhaps our discussion today will be none the less satisfying.

Earlier this year, I spoke to the Royal Institute’s sister organization in the United States, the Council on Foreign Relations, about the importance of taking a global approach to the challenge of energy security.
Today, I would like to continue to build upon some of those remarks and focus on two additional energy challenges – meeting the energy needs of a growing world economy and addressing the risks of climate change.

The challenges of energy security, economic growth and environmental protection are increasingly merging in the minds of many, leading to an unusual confluence of public policy issues. Accelerating this trend have been the persistent high energy prices of the past few years, which have given rise to changing political dynamics. Producing countries have risen in prominence, which has in turn led to fresh concerns about energy import dependence in the United States, Europe, and elsewhere giving rise to more nationalistic posturing from both producing countries and consuming countries. Adding to the mix are legitimate concerns about the risks of climate change due to rising greenhouse gas emissions resulting from the world's enormous requirements for fossil fuels and changes in land use around the planet, both of which are associated with global economic growth.

Positioned at the three-way intersection of these challenges are energy companies like ExxonMobil, which have become the focus of much public policy debate. Unfortunately, however, this debate has been coloured by misinformation and misunderstandings.

There is all too often a tendency, for example, to underestimate the size and scope of the energy demand challenge ahead... overestimate the ability of alternative energy sources to meet this demand... and underestimate the role petroleum-based technologies can play in solving the energy security, economic and environmental challenges we face.

To advance this important debate, and to provide some factual foundation for it, I would like to share our understanding of the economic and environmental challenges, and the specific actions we at ExxonMobil are taking to address them in partnership with others. I would also like to suggest important elements for policymaking going forward that I believe can best enable us as a society to balance the goals of economic prosperity and environmental protection.

And then I would like to answer your questions. My remarks are meant only to provide context.
First, let's broaden the conversation. In addition to those of you within these walls, and those beyond them, there is another group we cannot exclude – those who will walk these halls and occupy these chairs forty or fifty years from now. Frankly, this conversation is not so much about us, as it is about our grandchildren.

How we choose to respond to the world’s growing economic needs and to climate change risks will have an enormous impact on future generations. They have the greatest stake in our success in meeting these challenges, and for that reason, we have a responsibility to take their interests into account.

How can they enjoy the same economic opportunities and prosperity we do? How can they enjoy clean air, clean water, and a healthy environment? Will the economic and environmental priorities we set today be the same that they set tomorrow? How can we preserve for them the freedom to make choices among desired options, not dire ones?

As a citizen of the world, as a member of the international business community, and as a father, I take the responsibility of asking and answering these questions seriously, as I know you do.

The Economic Development Challenge

Let us turn first to the challenge of economic development. In prosperous societies with high standards of living and secure quality of life such as ours, it may not seem as acute as the environmental challenge we face. In a global context, however, economic development is of critical importance.

Eighty percent of the world’s 6.5 billion people live in the developing world – and this proportion is growing. Of these, about 1.2 billion live on less than one pound sterling a day.

One billion people currently lack safe drinking water… 1.6 billion lack electricity… and 2.6 billion lack proper sanitation. Worse still, far too many lack something perhaps more fundamental – hope of a better life for their children.
Meeting the economic and social needs of mankind, including helping the least fortunate among us, remains one of the foremost challenges of our age. And if basic economic and social progress is sacrificed in the pursuit of environmental goals, efforts to meet the environmental challenge are likely to be ineffective.

This global economic development challenge is not a new one. One could say that it began right here.

Over 200 years ago, on this island, the Industrial Revolution was born, sparked by technological breakthroughs, spread by the free enterprise system, and secured by advances in the rule of law. It brought with it the promise of higher living standards, but also the risk of dislocation and hardship.

How did our forefathers handle this risk? Some, like the legendary Ned Ludd, inspired the Luddite movement to destroy the wide-frame looms and other innovations that people feared would cost them their livelihoods.

Others, like Edward Lloyd, had begun more than a century before to help manage the risk that comes with economic progress by founding the modern insurance industry. Lloyd’s of London is a testament to the combination of courage and caution at the heart of the entrepreneurial spirit.

Thankfully, society followed Lloyd’s lead – not Ludd’s – and embraced change while managing risks to drive progress forward.

The system of innovation and risk management that emerged from the Industrial Revolution not only buoyed Europe’s fortunes, it helped over time to lift living standards the world over. In just the last 30 years, the number of people who have achieved what the United Nations calls ‘medium development’, a classification based on several health, education and income measures, has more than doubled, from 1.6 billion to 3.5 billion.

This development followed an uneven path, of course. And we are far from our final destination – as I mentioned earlier, billions in the developing world demand and deserve better. But the economic progress achieved since the Industrial Revolution began is undeniable.
Energy has played and continues to play an essential role in this progress. It is a fundamental good on which so many other goods depend, but something we often take for granted. There is barely a product today that is not either made from or dependent on oil or natural gas – such is the extent to which hydrocarbons pervade every aspect modern life.

Limiting access to clean, safe and reliable fuels also limits access to critical social services, including food and water supplies, sanitation, health care and education. In the hierarchy of human needs, energy ranks high.

In the years ahead, this need will only grow. Driven by population growth, and a growing desire in developing countries to achieve standards of living similar to ours, the International Energy Agency estimates that, by 2030, it is likely world energy demand will increase by 45%. That growth equates to about 100 million barrels of oil equivalent a day – on top of the 240 million barrels oil equivalent a day currently consumed.

At the dawn of the Industrial Revolution, hydraulic power fueled the machines that drove progress. Today, hydrocarbons meet the majority of the world’s energy needs. Tomorrow, new competitive energy sources are likely to emerge.

But tomorrow is not today, and as we prepare for the future, we must also provide for the present.

Fossil fuels – including petroleum, natural gas and coal – are currently the only energy sources of sufficient scale, adaptability and affordability to meet the predominant share of the world’s growing needs. Abundant quantities exist – the U.S. Geological Survey estimates 2 trillion barrels of conventional oil resources remain to be tapped, twice the amount consumed in all of human history to date. Beyond that, significant frontier resources exist, including heavy oil and shale oil. Developing these plentiful resources in a safe, reliable and environmentally-responsible way is essential to continued economic progress.

As a producer of energy, ExxonMobil plays an important role in this global progress. This is not so much because of our size. Some might be surprised to learn that, although ExxonMobil is the largest of the publicly-traded international energy companies, we account for no more than two percent of the world’s daily energy
needs. But we do make a vital contribution, I believe, in the areas of technology and operations integrity.

Technology is the lifeblood of our industry, infusing the entire supply chain, from the producing reservoirs to the service station. This fact is not always readily grasped by consumers who tend to take our end-products for granted.

With an annual spend on technology applications and R&D of over $1 billion, we consistently invest in innovation. These investments have led to such breakthroughs as seismic mapping, directional drilling, safer liquefied natural gas shipping vessels, and catalytic refining to reduce pollutants from the consumption of our products.

Operations integrity has also been a high priority. Safety and environmental performance are key leading indicators of our overall business and financial performance and we are proud of our performance in these areas. It is clear to me that the dedication and discipline required to prevent incidents are the same qualities required to deliver superior operational and financial results.

Moving beyond energy, two other critical enablers to economic and social development are health care and education.

Recognizing this, and reflecting our long-term interest in building strong host country partners, we invest in community health and education where we operate. Examples are our Africa Health Initiative to combat malaria and our program to help educate women and girls in developing countries.

So the economic development challenge is of enormous dimensions, in terms of time and scale. It spans decades and encompasses billions of people, in this generation and future ones. And it is exceedingly complex. In providing for the world’s needs, we constantly confront changes in our economic, political and natural resource circumstances that require us to manage risk effectively. Fundamentally that’s the business we are in. We are in the risk management business.
The Climate Change Challenge

Now, I would like to turn to another of the three intersecting challenges I mentioned earlier; energy security, economic growth, environmental protection – more particularly – the risk of climate change due to rising greenhouse gas emissions.

This challenge is also of immense duration and scope. It is decades in the making – and likely decades in the managing. It is worldwide in its extent, with potential impacts touching all corners of the globe. And it, too, involves enormous complexity. The variables are nearly countless, and the cause-and-effect chains convoluted.

But at least this much is clear.

Without question, evidence shows that the earth’s average temperature has warmed approximately 0.7 degrees Celsius in the last century.

Without question, many global ecosystems, especially polar ones, are showing signs of warming.

Without question, emissions and concentrations of carbon dioxide – one of several greenhouse gases – have increased during this same time period. The burning of fossil fuels and changes in land use are significant sources of CO2 emissions.

These questions have been addressed by the Intergovernmental Panel on Climate Change – an effort we support through the participation of our scientists. Many more questions remain, and require continued research.

But it has become increasingly clear that climate change poses risks to society and ecosystems that are serious enough to warrant action – by individuals, by businesses, and by governments.

ExxonMobil: Taking Action

As individuals, each of us can take immediate action to use energy more efficiently. About 40% of all energy-related CO2 emissions in the United States, for example, come from consumers using energy at home or on the road. Being smart about
electricity use, heating homes more efficiently, improving vehicle fuel efficiency – these simple energy-saving, emission-reducing steps can make a dramatic impact in the aggregate.

Companies, too, have a responsibility to take action to combat the rise of greenhouse gas emissions. ExxonMobil is doing so in several substantive ways, consistent with our strategy of increasing efficiency our own energy efficiency in the short-term... advancing current proven emission-reducing technologies in the medium-term... and developing breakthrough, game-changing technologies for the long term.

The steps we have taken since 1999 to improve energy efficiency at our own facilities resulted in the avoidance of 12 million tonnes of greenhouse gas emissions last year alone – the equivalent of taking about two million U.S. cars off the road.

We are partnering with automobile and commercial engine manufacturers on R&D programs that could yield fuel economy improvements in internal combustion engines of up to 30%, with lower corresponding emissions.

Additionally, I am pleased with progress ExxonMobil is making to report that ExxonMobil, working with partners in industry and to research community, to develop an innovative fuel system that will generate hydrogen onboard a vehicle as needed.

By using liquid hydrocarbon fuels to produce hydrogen, this system is expected to be significantly more fuel efficient than today’s internal combustion engines, and also promises reduced emissions without the need for a dedicated hydrogen distribution infrastructure.

This onboard vehicle hydrogen fuel system will likely be first applied to warehouse distribution vehicles, but could ultimately apply to passenger vehicles as well. While we have covered a lot of ground on this technology over the past several years we still have a long road ahead but our progress in making hydrogen-fueled vehicles commercially viable is encouraging.

Our partners in addressing climate change include governments, too. ExxonMobil is teaming up along with others with the European Commission to assess the viability of geological carbon storage, based on our experience in the North Sea Sleipner gas field, where we have sequestered one million tonnes of CO2 each year since 1998.
This initiative is helping advance carbon capture and storage technologies which hold
great promise in becoming major contributor to reducing emissions over the coming
decades.

And we are partnering with the scientific community as well. For almost two decades
we have funded programs such as the Joint Program on Science and Policy of
Global Change at the Massachusetts Institute of Technology. This program brings
together a wide variety of scientific, economic, technology and policy experts and
integrates the input of a broad spectrum of research to develop comprehensive
analyses of climate science and policy. It has made, and continues to make, a vital
contribution to our understanding of climate change and the implications for
policymaking in this area.

And a final example is our role as principal founding sponsor of the Global Climate
and Energy Project, based at Stanford University and involving research institutions
worldwide, including here in Europe. It is a pioneering research effort to identify
fundamental leads for technologies that can meet energy demand with dramatically
lower greenhouse gas emissions. Study areas at GCEP include solar power,
hydrogen, biofuels, energy storage, carbon capture and storage, and advanced
transportation.

A Framework for Policymaking

Are these individual and corporate actions enough? Is stronger government action
needed? Policymakers in the United States and Europe increasingly believe more
must be done and are seeking ways through legislation to curb the risks of climate
change.

Any effective and sustainable approach to addressing climate risk must incorporate
commonsense, proven risk management principles – assessing costs and benefits
and taking the actions most likely to achieve benefits at the lowest cost. To maximize
the likelihood of success, sound risk management approaches demand a focus on
the most meaningful and lowest-cost options to achieve real emissions reduction.

Let me give an example of what I mean. With China’s continued economic growth will
come a rapid rise in its carbon emissions – in fact, China is currently projected to be
the world’s largest CO2 emitter by 2008 or 2009. According to a recent study,\(^1\) if China had adopted existing Japanese-level technology for all investments starting in 2000, it could reduce its anticipated 2025 carbon emissions by over 35 percent. Such an upgrade comes at a cost and faces other barriers, but it illustrates that existing best practice technologies, more broadly applied, can have dramatic impacts.

This is the essence of principled and pragmatic policymaking based on sound risk management. It focuses on the sensible centre of the debate, balancing the important need to address climate risks and the continual need to meet the energy requirements of economic development. It adopts a holistic approach, understanding the context of reducing greenhouse gas emissions among other important policy priorities, such as economic development, poverty eradication and public health. But, at the same time, it affirms the need to take action, both in the developed and the developing world.

**Climate Policy Principles and Proposals**

Many thoughtful policy proposals have been put forward in Europe and the United States aimed at reducing greenhouse gas emissions. ExxonMobil has been and will continue to be a constructive participant in these dialogues, lending what insights and expertise we have under consideration…

There are a number of principles which guide our thinking on the different policy options that governments can consider.

In general, we believe that maximizing the use of markets to select and deploy technologies will best serve society’s interests in the long term and meet future energy needs.

And we believe achieving a uniform and predictable cost for carbon across the economy will enable market mechanisms to work effectively to this end.

Much debate in policymaking circles is focused on how to create a market price for carbon and how best to use this market signal to drive change globally.

This last point is critical. Given the global nature of the challenge and the fact that developing countries’ economic growth will account for a significant portion of future greenhouse gas emission increases, any policy framework must encourage and support global engagement.

Administrative simplicity and transparency for companies and consumers are also essential characteristics of an effective policy framework to ensure market signals and market responses to in fact result in a lowering of greenhouse gas emissions.

Of course, Europe has designed and is operating a cap-and-trade system in an effort to control greenhouse gas emissions from large sources. Indeed, it is a system that our businesses in Europe have and continue to operate under with success - although the challenge will increase in the future. And while we recognize that this is seen by many as an effective means of harnessing market mechanisms to achieve policy objectives, we believe that it does not measure well against the challenge of delivering a uniform and predictable cost for carbon.

Because the energy industry makes very long term, highly capital intensive investments, these characteristics are important when seeking to manage risk. In addition, the process of managing a cap-and-trade system inevitably introduces significant administrative complexity, through determining and changing rules in areas such as calculating installation allocations and verifying site emissions.

As further policy frameworks are developed, we believe that other policy mechanisms might be more effective – and these alternative approaches should be equally analyzed and debated.

For example, an upstream cap-and-trade system – that is, a system placing a limit on carbon at the point where the fuel enters the commercial world rather than at the point of emission – offers potential advantages in terms of efficiency and simplicity. It reduces the number of regulated entities and provides a cost of carbon to the entire economy.
Similarly, a carbon tax could enable the cost of carbon to be spread across the economy as a whole in a uniform and predictable way. Of course, all these policy options carry significant challenges as well as potential benefits, and the devil is very much in the details.

My purpose in sharing these thoughts with you is not to make a definitive case for any one system. I do so to show that decisions of this kind are complex, that policy options need to be given careful consideration, and that constructive dialogue is crucial to meeting the climate change challenge.

We all must engage in the search for solutions if we are to succeed. ExxonMobil has been and is committed to doing so by continuing to participate actively in this dialogue. We will not all share the same perspectives or views, of course. However, I believe that diversity of opinion ultimately enriches public discourse -- although I have observed that, regrettably, this view is not universally shared. But we do all share a commitment to addressing the risks of climate change in meaningful ways.

Conclusion

The British philosopher and social activist Bertrand Russell once said, ‘We must care about the world of our children and grandchildren, a world we may never see.’

Indeed, we cannot yet see our grandchildren’s world, its economy or its climate. But we must care about it. We must care enough to treat the risks of global poverty and global warming seriously. We must care enough to take actions to address them. And we must care enough, as a society, to manage the risks effectively to maximize the economic and environmental benefits available to our grandchildren, and theirs.

And with leadership such as from those of you in this room – I know we can.

Thank you for your kind attention.