ExxonMobil
Taking on the world's toughest energy challenges.™

strengthening global energy security

Remarks by Rex W. Tillerson[1]
Chairman and CEO, Exxon Mobil Corporation
Woodrow Wilson International Center for Scholars
Washington, D.C.
January 8, 2009

Thank you for the warm introduction. It is a privilege to speak to the Woodrow Wilson International Center for Scholars.

President Wilson once said, "One cool judgment is worth a thousand hasty counsels. The thing to do is to supply light and not heat."

For decades the Wilson Center has been a source of cool judgments and a supplier of light. In the years ahead, the United States and the world will need such wise counsel and informed expertise. Americans face the challenges of an increasingly complex and competitive world — and to surmount those challenges we will need open minds, open dialogue, and a willingness to work together.

In that spirit, today I would like to address the challenge of strengthening our nation's global energy security.

I will discuss the importance of building energy policies that support long-range thinking, encourage long-term investment and exploration into new supplies and technologies and policies that allow our industry to develop an integrated set of solutions that are our best hope for increasing energy diversity, energy efficiency, and environmental performance.

We meet at an historic time. November's elections marked the beginning of a new chapter in our nation's history. In choosing new leaders, the American people broke down old barriers and again showed the world the power and promise of our democracy.

Now we must move forward together to take on some of the most significant economic challenges in generations. To turn our economy around and lay the groundwork for sustained growth, we will need cool judgments, not hasty counsels.

We must meet the urgent challenge of stimulating economic growth, to be sure. But in doing so, we must also address the long-term challenge of sustaining economic growth for the generations of Americans that will follow us. In the next 100 days, our leaders will likely craft policy that will have ramifications for the next 100 months, if not for decades. For this reason it is imperative that, as we confront the issues we see immediately before us, we also look beyond the horizon. True leadership at this pivotal moment in our nation's economic history requires long-range thinking.

The energy industry is a long-term enterprise, and decisions made today can have consequences for years to come. While elected officials understandably tend to think in terms of two, four or six years, based on election cycles, energy companies must necessarily think in terms of two, four and six decades, consistent with the lifecycle of our resource-development projects.

Even in the midst of our current economic downturn, which includes a return to more historic levels of crude oil prices, my company remains committed to investing in projects and technologies to meet tomorrow's needs. Our business model is based on rigorous and realistic long-term planning. We try to look through near-term events. As part of this planning, we work to recognize risk factors that we know about today and can manage with the acknowledgement that there will be unforeseen risk factors that we will also have to manage in the future.

Our approach enables us to manage the risks inherent in the energy business and in the broader business cycle. As a result, for more than 125 years we have helped fuel the American economy – during good times and during bad times.

We look forward to bringing this long-term perspective to bear on the workings with the new Congress and new

Administration on the key energy challenges we face.

Understanding Global Energy Markets

Fortunately, our new leaders begin the work of addressing these long-term energy challenges with a firm foundation of public support in place — a foundation of support that has gone somewhat unnoticed.

Through the vigorous debates on energy policy during the recent election campaign, prompted by the extraordinarily high energy prices this past year, Americans have become much more informed about the nature of the energy challenge. And as they have become more informed, an important consensus has begun to emerge.

Americans increasingly understand that we face not one energy challenge, but multiple energy challenges. They understand that there is no single answer to our energy, efficiency, and environmental needs. Indeed, they recognize that we must pursue an integrated set of solutions — solutions that, when taken together, and over the long term, will help us develop new supplies of energy from all sources, accelerate gains in the efficient use of energy and develop and deploy new technologies to curb greenhouse-gas emissions.

This broad consensus was reflected in the public and Congressional support for lifting the moratorium on development of the United States' vast offshore oil and natural gas resources.

This consensus also reflects the realities that govern the global market for energy to which the U.S. economy is inextricably linked. Understanding these realities, including the dimensions and the dynamics of the international energy industry, is crucial to developing an effective policy framework for U.S. and global energy security. You cannot have one without the other.

To help with this understanding, ExxonMobil prepares a forward-looking document each year, called the Outlook for Energy[2], a copy of which we are making available to each of you today. To develop this forecast, we bring together the best thinking of our scientists, engineers, and business people in assessing global energy supply-and-demand trends and challenges.

The message of the Outlook for Energy is quite clear: Despite current economic conditions, we will continue to experience ongoing growth in energy demand around the world and in the decades to come, and this demand will be driven primarily by economic expansion — especially in the developing world.

This simple and undeniable fact is echoed by detailed analysis from many other sources. Both the U.S. Energy Information Administration and the International Energy Agency forecast higher energy demand worldwide.

Energy demand is not just set to grow. It is set to grow significantly. By the year 2030, we forecast that the world's energy needs will be about 35 percent higher than they were in 2005 — even with substantial future gains in efficiency and taking into consideration the current economic slowdown.

Most of this demand growth will occur in developing countries, where populations and economies are growing most rapidly. China and India will account for more than 40 percent of the world's incremental energy demand going forward. The Middle East has also become a substantial new consumer of energy.

This fundamental fact means that we must produce more energy from all available and commercially viable resources.

Doing so will require us to increase the use of alternative sources. Many have made progress in recent years. Nuclear, hydroelectric, geothermal, wind and solar energy already contribute, and they will increasingly help our economy as they become more efficient and more competitive.

Developing all our energy resources, though, will also require us to find and produce more oil and natural gas. Fossil fuels currently provide the vast majority of the world's energy — and due to their availability, their affordability and their versatility, they will continue to do so in the years to come. Oil and natural gas alone will supply nearly 60 percent of the world's energy needs through 2030.

The continued abundance of oil is another reason it will remain a vital energy source for the foreseeable future. The United States Geological Survey estimates that the earth was endowed with about three trillion barrels of conventional oil — of which only about one trillion has been produced and consumed to date.

However, these conventional supplies of petroleum are often found in hard-to-reach places. For the sake of U.S. and global energy security, we will need to put in place sound, long-range policies so the energy industry can find and develop these resources. These new energy projects will demand new technologies, massive capital investment and greater cooperation and trade among the nations of the world.

As we plan for the future we must remember that it is not just the tremendous growth rate in energy demand that should guide our policies — we must also be guided by an understanding of the magnitude and the timescale required to meet the challenges of growing energy demand.

Americans currently consume almost 20 million barrels of oil a day. With significant improvements in energy efficiency, we expect U.S. demand will actually be lower by the year 2030 at approximately 17 million barrels a day — a reduction of almost 18 percent. The efficiency gains outlined in our Outlook are challenging, but we believe are achievable.

However, even with these gains, we expect total worldwide oil demand to grow from the current 85 million barrels per day to about 105 million barrels per day in by the year 2030. We expect the current downturn to be temporary. And when economic growth returns we will see strong energy demand return — especially from the developing world.

With this new energy demand, we also foresee an increase in greenhouse-gas emissions associated with energy use. Globally, the Outlook for Energy expects energy-related carbon-dioxide emissions to rise by an average of one percent per year through the year 2030.

These two fundamental realities — meeting enormous demand growth and managing the risk of greenhouse-gas emissions — are the twin challenges of our time.

While the United States is likely to reduce its demand for oil by 2030, in the years ahead we will face stiffer competition for energy resources from growing economies elsewhere — global economies that will be vital to the U.S. economic recovery and growth as well. It is this future that compels us to lay the groundwork today for a long-term, global energy strategy that will meet not just U.S. energy needs, but those of the global economies as well.

Integrated Solutions for New Supplies

Meeting our many energy challenges requires a multidimensional approach. We must formulate and put in place long-term policies that support an integrated set of solutions that help us find new energy supplies, increase energy efficiency and discover innovations that can address climate risks in the most effective manner.

By combining energy, efficiency, and environmental goals, integrated solutions help us develop and deploy new technologies at every point in the energy supply-and-consumption chain. In this way, we can meet our multiple energy challenges with multiple solutions. Integrated solutions will increase energy diversity by improving and advancing the efficient use of all economically viable energy sources. The outcome will be to provide flexibility and resiliency to market participants, who seek the most effective and efficient sources of energy to meet their needs.

Unleashing the potential of these integrated solutions should begin right here at home. The United States is endowed with enormous oil and natural gas resources.

It is estimated that there is enough oil and natural gas offshore and in non-wilderness and non-park lands to fuel 50 million cars and heat nearly 100 million homes for the next 25 years, providing an important link of time and resources as we work toward future energy solutions.

Technology advances have not stood still in the petroleum industry. We have the technology to explore for, develop, produce, and transport to consumers the energy from these domestic reserves — safely, reliably, and responsibly — just as we are in countries the world over.

For example, a technology recently developed by ExxonMobil has made it economically possible to produce natural gas “trapped” in extremely tight rock formations far below the earth’s surface. In Colorado, the amount of gas from one field alone will be enough to heat 50 million U.S. homes for the next decade.

By increasing the availability and affordability of natural gas here at home and elsewhere in the world, we diversify the world’s energy portfolio and we strengthen global energy security. Increased natural gas production is especially helpful in meeting the enormous demand for power generation.

And because natural gas is relatively clean-burning when compared to than other conventional sources, it has important environmental advantages as well.

Developing new supplies of energy will also require us to develop integrated solutions beyond our borders. As an example, my company is working with others to develop new technologies to provide the economies of the world with greater access to natural gas resources by delivering it in liquid form, or LNG.

The new Q-Max ships that we have developed in conjunction with our partner Qatar Petroleum can transport 80 percent more LNG cargo than current conventional-size ships, yet they require approximately 40 percent less energy per unit of cargo thanks to improved economies of scale and new, more efficient propulsion systems. This technology gives us the capability to economically and efficiently deliver natural gas to markets essentially anywhere in the world, most particularly Europe and North America.

The creation of this vast global infrastructure and the deployment of Q-Max vessels are a reminder of the power of technology applied through global partnerships with resource owners to meet growing energy needs.

Integrated Solutions for Efficiency

While increasing global energy supplies to meet growing demand, we must also encourage the wise use of these energy resources. Energy efficiency will be an essential element in the world's ability to manage its energy challenges in the decades to come.

For those who might doubt the potential contributions of energy efficiency, consider this fact: Here in the United States, since 1970, reductions in energy intensity — or the energy input required per unit of GDP output — effectively met well over half of Americans' growth in energy demand.

Efficient energy use extends the life of the world's resource endowment. It reduces greenhouse-gas emissions. It supports stable, affordable energy for consumers.

And it strengthens our energy security. Over the past 25 years, worldwide gains in energy efficiency have helped lower global energy intensity by about one percent annually.

As a result, the global economy is growing more resilient to energy demand and supply shocks.

The effects of sudden changes in energy prices have a dampened economic impact because energy, while still vital, is a relatively smaller input to the goods and services the world produces today than it was a quarter century ago.

Many of the most promising opportunities for efficiency gains are in the transportation sector where both incremental and breakthrough innovations can have a big impact.

At ExxonMobil, we have been engaged for many years in on-going collaborations with automakers and engine manufacturers to develop new, energy-saving technologies that can power a new generation of vehicles.

One is a new engine technology called Homogeneous Charge Compression Ignition, or HCCI, which combines the best features of gasoline- and diesel-powered engines. The results could be up to 30 percent better fuel economy and lower emissions.

We are also working with major tire manufacturers, where together, we have developed a new tire-lining technology that uses up to 80 percent less material in the manufacturing process, making tires lighter and keeping them properly inflated. A car with under-inflated tires burns up to an extra tank of gasoline every year.

One particularly productive partnership of ours has been in the area of vehicle-battery technologies. In 2007, we unveiled new separator films, developed by our petrochemical company, for lithium-ion batteries. These films have the potential to improve the energy efficiency and affordability of next generation hybrid electric vehicles. If just 10 percent of the light-duty vehicle fleet were hybrids, carbon-dioxide reductions would be the equivalent of taking five million cars off the road.

And finally, our scientists and engineers are working with those from other industries on breakthrough technology that could advance the use of hydrogen fuel cells. This new technology, which has been under development for more than a decade, will be applied first to industrial vehicles, such as forklifts. Our approach — quite different than most — converts

traditional hydrocarbon fuels, such as gasoline, into hydrogen directly on-board a vehicle, eliminating the need for separate facilities for producing and distributing hydrogen. Measured on a “well-to-wheels” basis, this on-vehicle hydrogen fuel system could be up to 80 percent more fuel-efficient, and emit 45 percent less carbon dioxide, than today’s internal-combustion engine.

I have given you these few examples to make the point that there is much that can still be done with the energy resources and systems we have today. And they will be important to a comprehensive set of solutions.

Integrated Solutions to Lower Emissions

Integrated solutions also hold the promise of helping reduce greenhouse-gas emissions. The first and most significant step is to continue the energy-efficiency gains mentioned earlier.

Businesses of all types, including my own, must systematically work to improve efficiency and environmental performance throughout our facilities the world over. Since 2004, ExxonMobil has invested more than $1.5 billion in activities that improve energy efficiency with a companion reduction in greenhouse-gas emissions, and we will be spending about half-a-billion dollars over the next few years.

Through efficiency actions taken in 2006 and 2007 alone, we reduced our greenhouse-gas emissions by about five million metric tons.

Notwithstanding these types of improvements, with rising energy demand, especially in developing nations, we expect an increase in greenhouse-gas emissions. For example, by the year 2030 China’s emissions will be comparable to the combined emissions of the United States and Europe.

With a new Congress and a new Administration, we have an opportunity to expand the dialogue about how America can best make an impact on this important global issue.

As this dialogue goes forward, we must be mindful that sound public policy must not impede innovation, inhibit competition or add market uncertainties by picking winners and losers. Good policy sets aspirational goals that represent the needs of the people and then provides the broad framework for entrepreneurs and innovative thinkers to achieve these goals.

In my view, we can develop long-term policies that will achieve our shared goals for providing the energy necessary to economic growth, sustained quality of life, as well as to protect the environment.

One element of the policy debate that seems to separate us is a difference of opinion about the timeframes involved to achieve these aspirational goals. As an active participant in technology research and development, we understand the timeframes required to identify and develop new solutions, commercialize them and deploy them in a meaningful way through this vast and enormous energy system that is so vital to people’s everyday lives.

My greatest concern is that policymakers will attempt to mandate or ordain solutions that are doomed to fail, and we will be set back even further from necessary and viable solutions.

One policy option that is intended to reduce emissions and which has received much attention is a cap-and-trade system. But before we rush to enact such a system, we must ask whether it can best achieve our shared goal of actually reducing greenhouse-gas emissions.

Such a system was put in place in the European Union. Unfortunately, the European scheme is struggling to achieve the overall reductions that its supporters had hoped for.

One of the reasons for this is that cap-and-trade systems inevitably introduce unnecessary cost and complexity that undercut their effectiveness.

It is important to remember that a cap-and-trade system requires a new market infrastructure for traders to trade emissions allowances. This new “Wall Street” of emissions brokers will take the emphasis away from the goal of reducing carbon emissions and focus its attention on trading on price volatility. For businesses and consumers, these market gatekeepers and resultant price swings add cost and they create uncertainty.

Also, cap-and-trade systems, because of their complexity, have inherent problems with verification and accountability.

They require a vast expansion of administrative and regulatory officials to ensure emissions allowances are not exceeded. This is another cost for businesses and consumers to bear.

There is another policy option that should be considered, and that is a carbon tax.

As a businessman it is hard to speak favorably about any new tax. But a carbon tax strikes me as a more direct, a more transparent and a more effective approach. It avoids the costs and complexity of having to build a new market for securities traders or the necessity of adding a new layer of regulators and administrators to police companies and consumers. And a carbon tax can be more easily implemented. It could be levied under the current tax code without requiring significant new infrastructure or enforcement bureaucracies.

A carbon tax is also the most efficient means of reflecting the cost of carbon in all economic decisions — from investments made by companies to fuel their requirements to the product choices made by consumers.

In addition, such a tax should be made revenue neutral. In other words, the size of government need not increase due to the imposition of a carbon tax. There should be reductions or changes to other taxes — such as income or excise taxes — to offset the impacts of the carbon tax on the economy.

Finally, there is another potential advantage to the direct-tax, market-cost approach. A carbon tax may be better suited for setting a uniform standard to hold all nations accountable. This last point is important! Given the global nature of the challenge, and the fact that the economic growth in developing economies will account for a significant portion of future greenhouse-gas emission increases, policy options must encourage and support global engagement.

Risk Management and the Government's Role

Whether we are developing new energy supplies or reducing greenhouse-gas emissions, our integrated solutions flow from our dedication to effective risk management — finding the best way to balance cost and benefits through careful analysis and long-term planning.

As government looks to our industry to provide the energy our economy needs, we look forward to being part of the discussion. Government cooperation can help minimize the outside risk variables that come from fundamental policy shifts. By committing to stable and sound policy, government can help energy companies engage in long-term thinking and find new ways to provide fuel and power for economic growth.

The American people have made clear they want to make energy a national priority. Our government must play an important role in this effort. First, our country's tax and regulatory framework should be stable and consistent to promote the long-term investments that are required. Second, our country should continue to allow more access to domestic reserves. And, third, our country should press forward with free trade.

Stable Policies

The energy industry is built on disciplined investing, operational excellence, and long time horizons.

As oil and natural gas are found in harder-to-reach environments, it is vital that the energy industry be able to invest in the technologies that ensure that we can develop reserves in an affordable, secure, and environmentally responsible way.

Price volatility is inherent in the commodity business and we are accustomed to managing it. Recently, we have all seen firsthand how challenging and extreme that volatility can be.

Over the last six months we have seen the price of oil swing from $147 a barrel in July to less than $40 a barrel in December. But our industry prepares for these uncertainties with long-term planning and by saving in the good times.

As more nations join the ranks of developed economies, America's best hope for re-energizing growth, increasing energy security, and creating new jobs is to put in place a stable policy framework that supports investment, research and development and the international competitiveness of American companies.

Access to New Supplies

This long-term, growth-oriented policy approach, coupled with the American people's support for increased access to domestic energy supplies, would enable the energy sector to contribute even more to the American economy.

Congress deserves great credit for its recent moves to open up domestic access.

Now that Congress has acted, we must work together to take practical steps to turn this action into reality — by working to facilitate access to these domestic energy resources for new exploration activity. According to a recent study, developing the areas of the United States that have been kept off limits would generate more than $1.7 trillion in new government revenue and create more than 160,000 jobs. Opening up U.S. supplies of oil and natural gas would boost our economy by simultaneously lowering the cost of energy, increasing employment, and providing a new source of government revenue.

Yet, the access challenges we face are not just a domestic political challenge. There are global challenges.

In the years ahead, access to energy resources around the world will affect America's energy security.

We will need international cooperation and free trade to ensure we can bring the energy industry's know-how, financial strength, and innovative technologies to the task of accessing energy resources in hard-to-reach places — regardless of borders or barriers.

Fostering Free Trade

The need for international cooperation provides another opportunity for government to exercise a unique and positive role — by fostering free trade. We know from history that innovation and economic progress depend on the free flow of goods, services, capital and expertise across borders.

By enabling advanced economies and innovative companies to create partnerships, work across borders, and train local populations, government can support the most efficient use of resources and human capital. And as we confront our current economic challenges, Congress must resist the urge to turn its back on these proven policies. The United States cannot afford to raise barriers to trade.

History reminds us that governmental policies that limit free markets and free trade can lead to a prolonged stagnation and substantial job losses — especially during times of economic weakness and recession.

Conclusion

The decades ahead will hold many challenges for the American people. One of the most important will be how we get the energy to power our economy and sustain prosperity.

For more than a century, the men and women of America's energy industry have been dedicated and disciplined in finding ways to meet America's energy needs. And we are committed to continuing that work. We will work together to invest, invent, and build integrated solutions that keep America's access to energy secure and our economy flexible and resilient.

And in this time of economic challenge, the entire U.S. oil and natural gas industry is already working to re-ignite growth as quickly as possible.

Our industry supports nearly six million jobs — and with our hard-won experience dealing with business downturns, we look forward to acting as an ongoing source of strength, confidence, and wise investment.

We have many policy decisions to make in the weeks and months ahead – decisions that will shape the years and decades to come. At ExxonMobil, we look forward to doing our part to contribute to our nation's great and enduring national dialogue about energy, and to supply the light to make the sound decisions that will ensure a brighter future for all.

I thank you for your kind attention.

Links

1. http://www.exxonmobil.com/Corporate/about_who_mgmt_rwt.aspx
2. http://www.exxonmobil.com/Corporate/energy_outlook.aspx