

Promoting a long-term outlook in the search for energy solutions

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In 2011, the World Petroleum Congress is taking place in the Middle East for the very first time in its 74-year history. At ExxonMobil, we are proud to support Qatar as the event's first regional host. After more than fifteen years of partnership with the State of Qatar, it is an honour to play a continuing role in Qatar's impressive economic growth. Under the leadership of His Highness the Emir, Qatar has become an example of what can be achieved through cooperation, innovation and investment. Thanks to the Emir's long-term vision, the State of Qatar has laid a strong foundation for future generations.

Seventy-four years may be too broad a frame of reference in many industries, but given the technical, financial and market challenges that characterise the energy industry, it can measure the lifespan of a single project. When the World Petroleum Council was founded in 1933, the world was in the midst of the worst economic crisis of its generation. In May of that year, a surplus of East Texas crude caused prices to fall below the cost of production – to just 4 cents a barrel. This occurred despite the fact that, just 10 years earlier, warnings had been issued about the threat of rapidly depleting US oil reserves.

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Today, our industry is dealing with similar challenges. The global economic downturn has temporarily reduced energy demand. Regulators and governments have questioned whether it is possible to meet long-term global energy demand while at the same time protecting the environment. As was the case in the 1920s and again in the 1970s, there are those who believe that our children will inherit a world with insufficient energy supplies. As a result, many in our industry are re-evaluating their near-term business plans. Many outside our industry are suggesting it is a time to worry, a time to abandon long-term plans, and a time to dismiss fundamentals.

The visionaries who founded the World Energy Council in 1933 did not know the specific challenges our industry would face in the century to follow. To a certain extent, nor do we. What we do know, however, is that the key to thriving in challenging times is to maintain a long-term view and focus on the fundamentals. History tells us that now is not the time to lose focus, but rather an opportunity to strengthen and prepare for the future.

Over the next 20 years, the International Energy Agency and many others estimate that the world's total energy demand will increase by almost 35 per cent, as compared to 2005. Today, approximately 2.5 billion (bn) people around the world live without access to modern cooking or heating fuels. Increasing energy supplies in the years ahead will be critical to ensuring

that these populations have the opportunity to achieve higher standards of living.

With this outlook in mind, our industry must re-affirm our commitment to the long term by making disciplined investments to increase energy supplies, by advancing technologies to support future growth, and by developing people and organisational capabilities. We must do so while maintaining an unwavering focus on safety and protection of the environment. The energy industry is truly a commodity business. As such, we are subject to the ups and downs of the marketplace. We expect it, we plan for it, and we have experienced it before. We know firsthand that the energy we use today is the product of investment decisions and technical work that were undertaken decades ago. Similarly, the energy we use tomorrow will be the result of decisions that we make today.

Within ExxonMobil, we are demonstrating our commitment to a long-term focus by pursuing plans to invest US\$25-\$30 bn annually on energy projects over the next five years. These are record investment levels for us. We are able to confidently pursue these plans based on our long-term view of industry fundamentals and our commitment to financial discipline, in good times and bad. Our investment comes in the context of broader necessary expenditures. The International Energy Agency predicts that the total investment needed in the world's energy sector from 2007-30 is about US\$26 trillion. Spending devoted to oil and gas is estimated to be about 45 per cent of the total or close to US\$500 bn per year alone.

However, the investment needed to meet long-term global demand cannot occur without the right policies and leaders who shape them. In order to feed economic growth, the world will need leaders willing to commit to stable fiscal and regulatory frameworks that will encourage long-term energy investments. We will also need policymakers with the conviction to ensure

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Photo: Getty Images



that sound energy policies are implemented efficiently and remain stable over time.

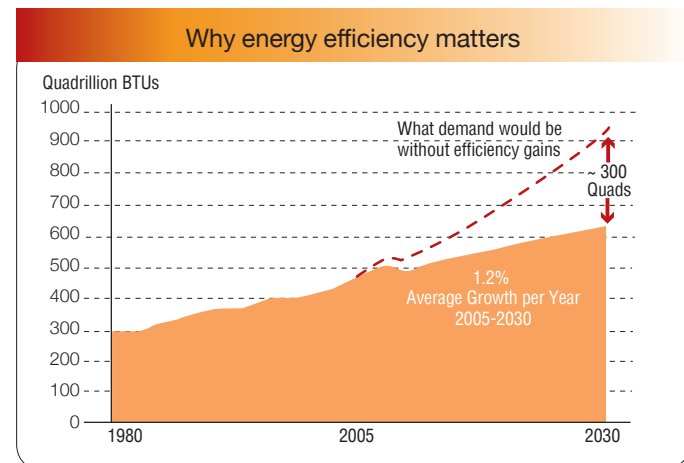
We know that with time, stronger economic growth will return and energy demand will rise. It is important that we collectively continue a long-term approach by investing capital and human ingenuity into developing future energy supplies.

Meeting the energy demand challenge is closely linked to the environmental challenge. Because we want to ensure that today's progress does not come at the expense of future generations, we need to manage risks to our climate and environment. Protecting the environment while meeting demand will require the industry to develop all sources of energy – from traditional hydrocarbons to wind, solar and biofuels – when and where they are economically competitive. The best way for us to meet future demand while protecting the environment is to continue to research, develop and implement new technologies.

The energy industry is one of the most technologically-advanced industries in the world. Supplying the world's energy requires a vast, complex infrastructure. New supplies of energy are increasingly being discovered in extreme conditions – originating deep below the ocean's surface, the arctic reaches of the globe, or drawn from layers of rock once thought unviable. Because this infrastructure can take decades to develop, the time to bolster our commitment to technology is now. Technology holds the key to integrated solutions that address the energy supply, security, efficiency and environmental goals we all share.

ExxonMobil is committed to technology. Over the past five years, we have invested more than US\$3.7 bn in research and development. Worldwide, we employ more than 16,000 engineers and scientists working to develop energy solutions. They are focused on increasing energy efficiency in the short term, advancing proven emissions-reducing technologies in the medium term, and developing breakthrough, game-changing technologies in the long term.

Technologies to increase energy efficiency are a critical piece of the solution. Increased efficiency is effectively the single greatest 'new supply' of energy available to us today. We estimate that by 2030, the amount of energy 'saved' through future efficiency gains will be equivalent to more than 100 million barrels of oil a day. The development and deployment of new technologies can also help us bring greater amounts of energy supplies to market, while reducing environmental impacts. One particularly promising technology that could mitigate the environmental impact of energy consumption is carbon capture and storage, or CCS. When the three phases of CCS – capture, transportation, and sequestration – are fully integrated into power plants and industrial facilities, we



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can achieve substantial emission reductions.

Advancements in CCS have the potential to make an impact on a global scale. However, current technologies to separate and capture CO₂ are cumbersome and expensive. Our scientists and engineers have spent more than three decades researching, developing, and applying technologies to make CCS more viable. Their progress is apparent through the recent introduction of ExxonMobil's CFZ™ technology, a fundamentally different approach to removing CO₂ from natural gas that may make CCS more efficient and affordable in reducing greenhouse gas emissions. We recently invested over US\$100 million to demonstrate this technology at our LaBarge, Wyoming, USA gas processing and injection facility. Combined with other advances in technology, CFZ could become a viable option to make CCS a commercial reality.

As we advance new technologies such as CFZ, it is important to remember that energy solutions depend upon the combination of complex variables, such as size, scope, and cost. The industry is challenged to balance long-term, global thinking with the short-term, incremental advances necessary to move confidently in the right direction.

Just as we look back and reflect on the world at the time of the World Petroleum Council's founding in 1933, future generations will look back on our time and will evaluate the decisions we made in the light of the challenges we faced. Future generations will depend upon our investment, innovation and cooperation to solve the dual challenge of satisfying energy demand while protecting the environment. Our future success in this challenge will be determined by how well industries, governments and people from all over the world work together to pursue a long-term approach to a brighter energy future. □