## The Path Forward on Climate Change

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Climate change may appear as confusing as a maze — especially considering the economic and social consequences of climate policy proposals, the gaps in scientific understanding and the promise of future technology.

A responsible path forward must be marked by rational scientific, economic and technical analysis. And it must include actions now on several fronts:

- Continued research to understand the climate system
- Cost-benefit analyses of proposed responses
- Research on and development of promising technology
- Removal of regulatory and tax restrictions that hamper introduction of new technology and present barriers to its widespread application
- Promotion of energy efficiency.

Universities, industry, national laboratories and consumers can each contribute to this process.

The role of government should be to support and encourage research on climate science and private investment in technology, rather than to target programs that support particular views. In all cases, we must recognize the importance of eliminating regulations and other barriers that inhibit commercialization of cost-effective technologies.

All citizens have a right to know the consequences of suggested governmental policies. Proposals to address climate change issues must first be analyzed to assess their costs and benefits to society. Policy mistakes can be serious and may even limit our ability to respond effectively later.

Technologies such as fuel cells, hybrid (gasoline and electric) cars and advanced diesel vehicles and fuels all hold promise for transportation. Although battery technology appears to require major breakthroughs, sources such as solar, wind and biomass can satisfy some limited needs now, and possibly more later. Further in the future, hydrogen may play a role in nearly pollution-free power, but this technology faces enormous chal-

lenges.

Other research seeks ways to capture and store carbon dioxide emitted during the use of fossil fuels. Even lessconventional options, such as marine fertilization to absorb carbon dioxide, should be examined.

Successful companies have long recognized the importance of lowering costs. Reduced energy use helps meet this goal and lowers emissions, too. Recently, the U.S. Department of Energy announced that reductions by companies that voluntarily report their results tripled between 1994 and 1998. Private industry has also begun to share information on best industrial operating practices and to promote joint research on efficiency steps.

As gaps in climate science are being filled, these approaches can lead to real changes in emissions trends without harming economies and lifestyles. At ExxonMobil, we endorse these steps and conduct our own research and operations in ways that support them. We believe it's the responsible path forward.

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For a more-detailed Global Climate Change brochure, write ExxonMobil, Dept. E, 5959 Las Colinas Blvd., Irving, TX 75039-2298, or see our Web site, www.exxon.mobil.com.

## <u>A Better Path Forward</u>

For more than two decades, Exxon Mobil Corporation has carefully studied and worked to increase understanding of the issue of global climate change, often referred to as global warming. The company is committed to a course of action on this issue consistent with sound science, solid economics and high ethical standards.

As a science- and technology-based company, we apply the same rigor on global climate change as we do in running a 3-D seismic survey off West Africa, designing a world-scale petrochemical complex in China or developing cleaner high-performance fuels and other products for world markets.

We agree that the potential for climate change caused by increases in carbon dioxide and other greenhouse gases may pose a legitimate long-term risk. However, we do not now have a sufficient scientific understanding of climate change to make reasonable predictions and/or justify drastic measures.

Some reports in the media link climate change to extreme weather and harm to human health. Yet experts (page 13) see no such pattern.

Dr. James E. Hansen, a leading scientist instrumental in focusing national attention on global warming a decade ago, expressed scientific uncertainty in an article in *Proceedings of the National Academy of Sciences USA:* "The forcings that drive long-term climate change are not known with an accuracy sufficient to define future climate change."<sup>1</sup>

Although the science of climate change is uncertain, there's no doubt about the considerable economic harm to society that would result from reducing fuel availability to consumers by adopting the Kyoto Protocol or other mandatory measures that would significantly increase the cost of energy. Most economists tell us that such a step would damage our economy and almost certainly require large increases in taxes on gas and oil. It could also entail enormous transfers of wealth to other countries.

This does not mean we favor doing nothing. We have redoubled our efforts in energy conservation at our own operations around the world. We have established cooperative programs with auto companies and others to develop environmentally friendly, next-generation automotive systems and fuels with significantly lower emissions and improved efficiency.

We are also working on gasoline-powered fuel cells for automobiles. We support scientific and economic research at a number of leading institutions, such as the Massachusetts Institute of Technology and Carnegie-Mellon University.

We believe that there is a better path forward – one that will allow us both to protect our environment and to sustain economic prosperity. The whole history of our industry has been a demonstration that we can achieve both goals, and new technology will have to be the key enabler.



Lee Raymond

Satellite technologies enable us in the oil and gas industry to explore with great precision before we ever touch the earth. Horizontal drilling has revolutionized the extraction process, reducing the impact on surface areas. Fuels today are cleaner and more efficient than ever before, minimizing humans' impact on the air and the planet.

Over time, we are learning more and more about how to safeguard both Earth and the well-being of the people who live on it. Through responsible stewardship, we are finding this balance and making it a reality.

We believe that no one – now or in the future – should have to choose between an earth that sustains life itself and the tools that make modern life possible and prosperous. Through responsible use of energy, we believe we will not have to make this choice.

Climate change is an important issue. We have an obligation to ourselves and to future generations to make sure it's handled properly.

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