



# **Climate Change: Global Challenge, Business Opportunity**

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Clive Mather was appointed President & CEO of Shell Canada Limited effective August 1, 2004. Shell Canada Limited is one of the largest integrated petroleum companies in Canada with its headquarters in Calgary. It has three major businesses: Exploration & Production with extensive onshore and offshore operations producing natural gas, natural gas liquids and bitumen; Oil Sands which has developed a major integrated mining and upgrading operation, and Oil Products, which manufactures, distributes and markets refined petroleum products across Canada.

Clive writes and speaks on business, leadership and corporate social responsibility (CSR) internationally. He is a Director of Placer Dome Inc. and on the Board of Directors of the C.D. Howe Institute. He is Chairman of the CSR Academy in the U.K. and Chairman of the IMD Business Advisory Council in Switzerland. His career of 36 years with Shell has spanned all its major businesses, including assignments in Brunei, Gabon, South Africa, the Netherlands and the U.K. His last position was Chairman of Shell U.K. Limited and Head of Global Learning in Shell International, based in London, England.

**I can't think of a more important and relevant topic for business discussion than climate change. Hardly a day passes without some new evidence that mankind's footprint on the earth is creating lasting damage to our environment, our communities and economics. We are on notice that, to quote author and naturalist Robert M. Pyle: "Nature bats last<sup>1</sup>."**

**A recent report by the International Climate Change Taskforce<sup>2</sup> notes the impact of rising global temperatures. If they continue on their current trajectory, the risks to human societies and ecosystems are very disturbing – agricultural losses, widespread disease and, paradoxically, both flooding and water shortages. Take note, all ten of the warmest years in the past 140 have occurred since 1990.**

Biologists say the global environment is changing so fast that the slow evolutionary processes of species adaptation cannot keep up. In fact, last year the World Conservation Union (IUCN) reported more than 15,000 threatened species, a 26 per cent increase over just one year<sup>3</sup>. The loss of habitat and diversity threatens many communities, not least here in Canada, where part of our national identity is defined by landscape and weather.

I accept that the science of climate change is not proven and others, including some in my own industry, continue to push back on the evidence. However, I contend that the precautionary principle demands our attention and action. Although we may not fully understand the causes and effects, it is hard to refute the challenge of climate change or its global impact. The ocean currents, jet streams and river systems of mother earth connect everyone in one complex, but integrated system. Air emissions and water effluents know no national borders.

But if a global challenge, why not a business challenge or business threat? Certainly the

responsibility to respond rests squarely on us all. We are in this together, whether business people or activists, legislators, educators or individual consumers. But there is one big difference. Business exists to turn challenge into opportunity, driven by the forces of competition and innovation. Unless we can harness these, the outlook is gloomy. But the good news is that we can and it is already happening.

Shell Canada recognized the need for action more than 15 years ago when we embraced a commitment to sustainable development in every aspect of our operations. That commitment motivates people to think afresh about the way they do their work. It fosters a culture that promotes ingenuity and technological improvement. We first set voluntary greenhouse gas (GHG) emissions reduction targets a decade ago - to stabilize GHG emissions at our 1990 level in our base businesses. By the end of 2000, we had met this and are now on track to meet a further emissions reduction target of six percent below the 1990 baseline by 2008.

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supply needed for continued economic growth, while meeting the challenge of climate change. The world's dependence on fossil fuels is not going to diminish any time soon. The upheaval resulting from the interruption to supply caused by the hurricanes in the Gulf is evidence of our continued reliance on oil and gas. Experts predict that energy demand will double or even triple by 2050, mainly from exploding demand in the developing world. The fact is, no other energy resource is as affordable, convenient and available.

So here is the first opportunity for business – to develop new fuels and new markets. Around the world, Shell is working hard on this, with massive investment in liquid natural gas, in gas-to-liquids, in oil sands, oil shale and renewable energy sources like wind, biomass and hydrogen. It takes courage, because the dollars are big and the prospects uncertain. Fossil fuels will have a dominant role until well into the middle of this century and it will need tax incentives and policy directives to give renewable energy sources like wind and biomass, even a fighting chance. I would like to stand here and say in a few years we will all be heating our homes and driving our cars with green fuels, but simple economics says the transition will happen only very slowly - at best they will supply no more than ten per cent of the global demand by 2025. Nevertheless, Shell's commitment is real and right here in Ottawa Royal Dutch Shell is investing in Iogen, a company that has developed enzymes to convert waste straw into ethanol. This 'cellulosic' ethanol process creates a net zero GHG profile and is

at the leading edge of this technology worldwide.

Another new business opportunity is carbon trading which is fast developing in the post-Kyoto world. "The carbon market is an opportunity not only to generate global efficiency gains, but also to contribute to sustainable development by bringing new public and private investment in clean technologies to economies in transition and to developing countries"<sup>4</sup>. Such trading releases the commercial motive to harness technology. Building on Shell's experience in Europe and the USA, Shell Canada is an active member of the International Emissions Trading Association and intends to take advantage of emerging carbon trading markets both to reduce emissions and develop business opportunities.

Our interests and investments go beyond our own research laboratories. We partner with leading universities and technical schools right across Canada.<sup>5</sup> This broadens our research impact and engages a wider community in finding sustainable solutions. Here is a small example but an important one. Through the Yves Landry Foundation, we sponsor the Progress Toward Sustainable Development Academic Award. This year's winner is the University of Waterloo Alternative Fuels Team, a student organization that researches, designs and implements vehicle modifications for use with alternative fuels, such as ethanol, propane and hydrogen. Team members, from a variety of academic backgrounds, represent Canada at various alternative fuel competitions around the world.

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Secondly, there is the opportunity to improve our existing businesses and reduce costs. Ironically the very changes we implement to meet the larger environmental agenda, like reduced sulphur in gasoline and diesel fuel, require a more energy intensive process, and produce more greenhouse gases. But here is where innovation and technology come into their own. At our Sarnia refinery, for example, our engineers didn't just design a new hydrotreater. They looked for ways to reduce energy use and GHG emissions and built an ingenious system of new heat exchangers to recover heat from existing refinery sources. Called the warm water loop, the system recovers enough energy to lower projected greenhouse gas emissions by 10,000 tonnes per year. That is a great achievement – but even better it yields a net energy saving worth \$1.5 million per year. And so it must. Meeting the challenge of climate change requires an economic stimulus to ensure adequate investment in technologies that offer significant environmental benefit. Carbon sequestration, more efficient oil sands extraction, ever-higher energy efficiency, gasification and recycling must yield both economic as well as environmental rewards if they are to become mainstream quickly. Altruism is excellent but not enough.

And the third opportunity is enhanced reputation. Pioneering research for new technologies and new fuels helps develop new businesses and improve existing

ones, but it also sustains our reputation. That is why we focus our corporate advertising on sustainable development. It honours our corporate commitment and it helps us engage key stakeholders in society – like the regulators who adjudicate our exploration drilling proposals; customers who buy our products and students who provide the future talent stream for our company. Reputation is indeed a key corporate asset, vital for our survival, and sustainable development is increasingly at its core.

Finally, there is the opportunity to participate in the wider policy debate. I cannot stress enough the importance of setting a sound policy framework that encourages sustainable solutions – at the local, provincial, federal and yes, international level too. Misguided incentives or misplaced constraints damage Canada's competitiveness as a nation and divert precious resources to the wrong ends. That is why Shell Canada seeks to be an active leader in industry associations, policy initiatives and public education. It is vital that we lay the foundation for reducing GHG emissions in an equitable and economically responsible way. Kyoto is a good example and we support the government's commitment to intensity-based targets for large emitters, limiting industry's exposure to price risk through the \$15/tonne price assurance mechanism and creation of a domestic offset system that will create domestic carbon credits.

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The key to any lasting progress must lie in partnerships – between business people, academics, environmentalists, all levels of government, suppliers and customers. As Churchill said: “If we are together nothing is impossible. If we are divided all will fail<sup>6</sup>.” If ever there was a time for all of us to focus on the problem, the priorities and the potential solutions, it is now.

In Shell I believe we have the people, the ideas, the capital, the technology, the experience and the will to take a leadership role – that’s why I am here today. The challenges for business may be great, but so are the opportunities. With clear vision, stable market-based policies and strong partnerships, we can make a big impact.

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- <sup>1</sup> Attributed to Pyle, Robert M.
- <sup>2</sup> International Climate Change Taskforce. *Meeting the Climate Challenge: Recommendations of the International Climate Change Taskforce*, January 2005
- <sup>3</sup> The World Conservation Union (IUCN). *2004 Red List of Threatened Species*.
- <sup>4</sup> International Emissions Trading Association. *State and Trends of the Carbon Market 2005*, p. 9
- <sup>5</sup> Examples:
  - The Institute for Sustainable Energy, Environment and Economy (ISEEE) at the University of Calgary is founded on collaboration, partnership and a multidisciplinary approach. Shell has become the founding industry member of the ISEEE's Alberta Ingenuity Centre for In Situ Energy. This partnership will generate new research on producing oil, natural gas and bitumen in a safe, responsible, sustainable way. (ISEEE website: [www.iseee.ca](http://www.iseee.ca))
  - Researchers at Natural Resources Canada's CANMET Energy Technology Centre in Ottawa were engaged by Shell Canada to research refinery heat transfer. The CANMET Shell collaboration focused on improving existing refinery furnaces. But as these systems age, new designs based on this work could mean the science to design more energy-efficient refinery furnaces may be around the corner. (Natural Resources Canada, Canadian Industry Program for Energy Conservation. *Heads Up* vol.VIII, no. 15 August 2004)
  - Canadian Oil Sands Network for Research and Development (CONRAD) is a network of companies, including Shell Canada, universities, and government agencies organized to facilitate collaborative research in science and technology for the Alberta oil sands. The CONRAD Environmental Research Group is improving the competitiveness, growth, and sustainability of the oil sands industry through enhanced environmental understanding and performance and improved research efficiency and quality. (CONRAD website: [www.conrad.ab.ca](http://www.conrad.ab.ca))
  - Shell Canada supports York University's Institute for Research and Innovation in Sustainability (IRIS), an interdisciplinary initiative aimed at seeking sustainable solutions to a broad array of political, economic, scientific, social and environmental challenges. (IRIS website: [www.iris.yorku.ca](http://www.iris.yorku.ca))
- <sup>6</sup> Churchill, Winston. *The Price of Greatness is Responsibility*. Harvard 1943.

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