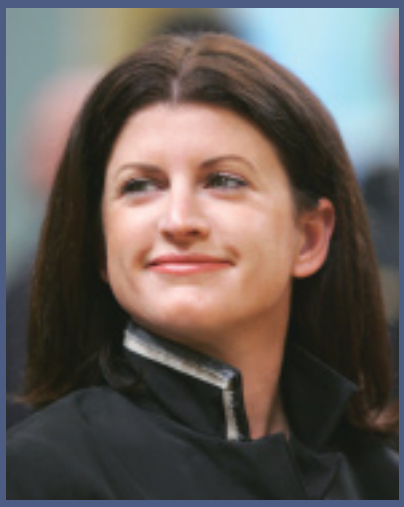
WHEN CANADA LED THE WAY: A SHORT HISTORY OF CLIMATE CHANGE

Elizabeth May



The 1988 climate change conference in Toronto was a seminal event, at which Canada was more than the host — it was a world leader on the environment. Elizabeth May, then an adviser to environment minister Tom McMillan, recalls those days when Canada's leadership resulted in the Montreal Protocol on Ozone Depletion in 1987, and the federal-provincial agreements on acid rain reduction, which later led to the 1991 Acid Rain Accord with the United States. In the consensus statement at the Toronto conference, scientists bluntly foretold the consequences of global warming: "Humanity is conducting an unintended, uncontrolled, globally pervasive experiment whose ultimate consequecnes are second only to global nuclear war." The Toronto conference reinforced the landmark report of the Brundtland Commission on sustainable development, leading ultimately to the Earth Summit at Rio in 1992. To Elizabeth May, now leader of the Green Party, it all seems long ago and far away.

La conférence sur les changements climatiques tenue à Toronto en 1988 a constitué un événement majeur. Le Canada en était l'hôte mais il était aussi un leader mondial en matière d'environnement. Alors conseillère du ministre de l'Environnement Tom McMillan, Elizabeth May revient sur cette période où le leadership canadien avait engendré dès 1987 le Protocole de Montréal sur l'appauvrissement de la couche d'ozone, puis l'Accord sur les pluies acides conclu en 1991 avec les États-Unis par suite des ententes fédérales sur leur réduction. Dans la déclaration issue de la conférence de Toronto, des scientifiques affirment que l'humanité mène une expérience incontrôlée dont les conséquences seront à peine moins graves qu'une guerre nucléaire mondiale. La conférence de Toronto avait renforcé les conclusions de l'important rapport de la Commission Brundtland sur le développement durable, qui avait donné lieu au Sommet de la Terre de Rio en 1992. Pour Elizabeth May, récemment élue à la tête du Parti vert, cette époque semble aujourd'hui bien lointaine.

My own history working in the field of climate policy began in 1986, when I was persuaded by a very persuasive environment minister, Tom McMillan, to join his staff. I had not worked in the area of climate change, nor much on fossil fuels at all. My primary focus has been on pesticides, forest policy and the threats posed by nuclear energy. In many ways the science was new to me, although it can hardly be said that the essential aspects of the science were new.

Nearly a century before, it occurred to Swedish chemist Svant Arrhenius that burning coal would release the stored carbon of millennia past, with the potential to disrupt the global carbon balance. Arrhenius stayed awake all one long dark Christmas Eve playing with calculations of how the trapped carbon from the fossil fuels, released as the industrial machine burned coal, might actually change concentrations of atmospheric carbon. By his calculations, humanity could double the concentration of atmospheric carbon in 3,000 years. Arrenhius can hardly be blamed for his estimate being off. That we are now closing in on a doubling less than 150 years from when he made his calculations has nothing to do with his grasp of chemistry or math and everything to do with the fact that he was basing estimates on what he knew. The internal combustion engine had not yet been invented. There were no cars, no traffic jams, and no drive-through windows. There were no oil

refineries, no tar sands operations and no airplanes.

Who could have imagined today's level of fossil fuel consumption more than 100 years ago?

Modern science began to catch up with Arrenhius in 1979 when the US National Academy of Sciences (NAS) prepared a report for then-President Jimmy Carter. The NAS warned of the impacts of climatic disruption from increased levels of burning fossil fuels. There was no real question of the basics of the science. The impact of adding greenhouse gases, well understood to be warming in their impact, to the atmosphere was about as straightforward as adding salt to water. In one case you get salt water. In another you get a warming atmosphere. All the uncertainty went to the question of what other factors might hasten or slow the impact of the warming? What impacts would occur that might be favourable? When would the theoretical warming be evident?

Meetings were occurring among scientists all around the world. There was, through the 1980s, an increasing sense of alarm that something as fundamental as the way we move ourselves around, heat and cool our homes, and run our economies could be destabilizing the very conditions that allowed civilization to flourish.

Nevertheless, through the 1980s, the Government of Canada was not primarily focused on climate. The most pressing environmental threats were, like climate change, problems that required actions by more than Canada to find solutions.

If the 1970s had been characterized by environmental issues that were primarily local in source and impact (ambient air pollution, water pollution, smokestacks belching visibly to the air, pipes disgorging into waterways), the 1980s had seen the shift to regional and global problems.

The 1970s had been a decade where regulators could actually believe that "dilution is the solution to pollution." To meet increased regulation to require clean air in local areas, in both Canada and the US, the immediate industrial response was to build taller smokestacks. As expected, the higher stacks emitted the pollution to where it moved away from local communities, improving air quality. Unexpectedly, the pollution moved thousands of kilometres to fall to earth as acid precipitation. Acid rain from both Canada and the US was moving cross-border, creating a regional North American problem of acidification, killing rivers, lakes and streams and implicated in forest die-off. Acid rain also was recognized as a regional threat in northern Europe.

The Canadian government recognized the threat. The first environment minister to put his stamp on the issue was John Fraser, in the short-lived government of Joe Clark. It was Fraser who insisted the bureaucracy cease addressing the issue as LRTAP (long range transport of acidic precipitation) and instead call it "acid rain." Back in opposition, it was Fraser who approached the newly minted Liberal environment minister, John Roberts, to urge that the federal government provide critical financial support to the Canadian Coalition on Acid Rain (CCAR). It was CCAR who took the story of dead Canadian lakes and rivers directly to our US neighbours, whose pollution was causing the damage. It was CCAR that lobbied effectively, building common cause with environmentally responsible members of the US Congress, like Senator George Mitchell of Maine, whose state was also experiencing acidification.

Brian Mulroney recognized that bringing the US government to a shared continental approach to acid rain would take more than hectoring. Canada decided to move with a "clean hands" policy — getting our own house in order before approaching the US for binding reductions in emissions of sulphur dioxide. The strategy worked and through the period from 1986-87, the federal government achieved binding reduction commitments (of 50 percent reductions of SO_2) from the seven eastern provinces. Prime Minister Mulroney took this to his friend US president Ronald Reagan and in 1991 got a reciprocal commitment from the first President Bush.

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Meanwhile, the first major threat to the global atmosphere had been recognized in ozone depletion. The Vienna Convention was the first multilateral treaty calling on nations to move towards global action to arrest a planetary threat. The saga of bringing Dupont, the world's largest manufacturer of ozone depleting chlorofluorocarbons (CFCs), from denial of the problem, to propaganda ridiculing the threat, to acceptance of the risk, to final support of global action was well documented by Paul Brodeur in a landmark

AP Photo

Gro Harlem Brundtland, as prime minister of Norway, also chaired the UN commission on the environment, which issued a landmark report on sustainable development. With Prime Minster Mulroney, she spoke to the 1988 Toronto conference on climate change, which predicted the dangers of global warming.

series of articles in the *New Yorker*. Progress toward global action on ozone had been in high-gear under President Carter, was shelved in the early Reagan years, only to be advanced by stealth by a truly heroic head of the US Environmental Protection Agency, Lee Thomas. Thomas worked in the on-going United Nations Environment Programme process within the Vienna Convention. By the time US secretary of the interior Don Hodell woke up to the reality that the US was part of a growing global diplomatic consensus that ozone depleters would have to be banned, he was too late to do more than utter threats. Hodell memorably urged that no action should take place, expressing a preference for broad-brimmed hats and sun-screen.

The Canadian government and our scientists were in the lead. Canadians were prime drafters of what was to become known as the Montreal Protocol. Our scientists were leading researchers and willing to be advocates. Canadian legal experts chaired the group drafting the text. On September 17, 1987, representatives of nearly every country on earth, gathered in Montreal through tense and often dead-locked negotiations, signed the most significant global treaty to protect life on earth since the 1962 treaty to end atmospheric nuclear weapons testing. The Montreal Protocol committed industrialized nations to reducing emissions, while allowing developing countries to increase use by 10 percent. It included a mechanism to address global poverty and inequity, laying the groundwork for full elimination of ozone-depleters through subsequent action.

It is in this context of regional and global success that the early government efforts to deal with the threat of climate change should be seen. Awareness of the threat of climate change was rising. In 1987, the World Commission of Environment and Development issued its report,

Our Common Future. The commission achieved a much higher profile than it might have otherwise, when the chair, an opposition leader from Norway, Gro Harlem Brundtland, became prime minister and held on to the job of chair. The Brundtland Commission had received a great deal of Canadian support. The Mulroney government provided key funding. A prominent Canadian business man and global diplomat, Maurice Strong, was a Canadian member of the commission, and its secretary general was Canadian and former head of environment at the OECD, Jim MacNeill.

The Brundtland Report focused extensively on the threat of climate change. It positioned climate as a critical issue for planetary survival, alongside poverty, species extinction and militarism. It also called for a major United Nations summit in 1992 to deal with these interlocking threats.

There was no sense of foreboding as the federal government set a course to host the world's first major scientific conference on climate change. I can recall the sense of optimism based on competence. The scientists at Environment Canada knew what they were doing. They were supported by their government, from the prime minister on down. Even serious vested interests, like Inco (on acid rain) and Dupont (on ozone depletion), had shifted from intransigence to enthusiasm as industry discovered that doing the environmentally responsible thing actually saved money and increased profits. No one suspected then that addressing the threat of climatic chaos by using fossil fuels more efficiently would prove to be so painful.

Canada served a key role as host. The head of the Atmospheric Environment Service (as it was then called), an assistant deputy minister within Environment Canada, Walter Ferguson, also played a senior role within the UN World Meteorological Organization, which he would go on to head. The WMO and the United Nations Environment Programme (UNEP), the agency that had overseen the successful Montreal Protocol negotiations, joined the Government of Canada in hosting the conference. McMillan sensed that a major scientific gathering in Toronto to review the state of science on the threat of climate change should include a public awareness component. He asked me to work on the conference to ensure that a gathering of several hundred of the world's leading scientists in Toronto in June 1988 would not go unnoticed.

In the months leading up to the conference, Environment Canada issued a series of news releases to increase the relevance to particular regions of Canada. I can remember some of them: the threat of rising sea levels to Prince Edward Island (becoming Prince Edward Islands), the economic menace to the ski industry of warmer winters and a lack of snow pack, the risk of persistent drought on the Prairies, glaciers in retreat. I also remember that the dates when we might start to see such impacts were around 2020. It has all happened much faster than we thought. The PEI press release led to a bizarre episode in which Charlottetown business and city council panicked about planned waterfront investments. McMillan, himself from PEI, tried to put it in perspective telling local media that if we did not act to arrest climate change we would have a lot more to worry about than the Charlottetown waterfront.

The conference opened in Toronto in the last week of June 1988, in the midst of a major heat wave. The late venerable Canadian scientist, Ken Hare, was the first to go out on a limb and pronounce that the June 1988 heat wave was an impact of climate change. One of the US leading climate scientists, Colorado's Stephen Schneider, whose monitoring of the Mina Lau, Hawaii greenhouse gas levels was a seminal piece of work, pronounced it a veritable "Woodstock" for climatologists.

Canada was acknowledged as the leader in hosting the first-ever international scientific conference on climate change, designed to give the issue a public face. No nation would be surprised to see Canada in the lead. After all, we had just successfully wrestled to the ground a huge regional problem, acid rain, and we had been champions of the Montreal Protocol to protect the ozone layer. We did not just run talk shops. The agreements negotiated actually worked.

The conference, "Our Changing Atmosphere: Implications for Global Security," was a landmark event. It was opened by Prime Minister Mulroney, who spoke then of the need for an international law of the atmosphere,

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citing our work on acid rain and ozone as the first planks in this growing area of international environmental governance of the atmosphere. The conference was also addressed by Brundtland, as prime minister of Norway.

The conference featured public sessions, so that Toronto residents and the media could learn more from experts like Jose Goldemberg of Brazil, now in charge of the State of Sao Paulo's successful GHG reduction strategy and a key architect of the shift to sugar cane-ethanol throughout Brazil. Canada's leading experts, like Jag Maini, spoke of the threat of climate change on Canadian forests. He warned of the reality that warmer winters might allow forest pests to survive and reach persistent epidemic levels. I cannot imagine that even he would have predicted that the forest industry in BC would have lost billions of dollars by 2006 due to the climatically induced pine beetle disaster.

The consensus statement from the assembled scientists was "Humanity is conducting an unintended, uncontrolled, globally pervasive experiment, whose ultimate consequences are second only to global nuclear war."

The conference did have impact. That same year, the United Nations established the Intergovernmental Panel on Climate Change (known as the IPCC) — setting up a process that is essentially the world's largest peer review. Over 2,000 scientists, appointed by their governments, began meeting regularly to provide a consensus view and a special report called "advice to policy makers."

By 1990, The United Nations General Assembly voted to accept the Brundtland Commission recommendations and hold a summit in June 1992. The countries of the world, through the UN, began negotiating a treaty to deal with the threat of climate change, with a deadline set for a legally binding treaty to be signed at the June 1992 Earth Summit.

Given the complexity of the issue and the increased opposition from the US government, that the United Nations Framework Convention on Climate Change (FCCC) was ever negotiated at all, much less within time for the Earth Summit in Rio, is something of a political miracle. The FCCC is the agreement within which the Kyoto Protocol was negotiated, designed on the winning architecture of the Montreal Protocol. The merging of equity issues, the industrialized nations taking larger commitments in the first round, made sense then and makes sense still. It just became harder and harder to explain over the rising noise of pro-carbon propaganda.

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In hindsight, perhaps we were naïve. The Canadian government and the public were, perhaps, more comfortable not only imagining us as the boy scouts of the planet, but acting like it. The civil service had a strong sense of mission and purpose. The public expected more of its politicians and, I daresay, politicians demanded more of themselves.

Our naiveté ended somewhat abruptly at the Earth Summit in Rio. It was Jim MacNeill who pointed out to me that Rio had accomplished something very sinister. It had awakened a sleeping giant, the Carbon Club. The global Carbon Club, once organized, has not let up in its efforts to deny the science, to threaten economic ruin, to delay action. It has been far less successful in Europe, where Kyoto nations will meet their targets. And even now it is weakening in its home base: the United States.

I will go out on a limb and make a prediction. Well before President George W. Bush leaves office, the US will have adopted a legally binding strategy to dramatically reduce greenhouse gases. It will involve either carbon taxes or a cap and trade system or both. It will bring federal policy more in line with many state governments, whether the New England group with its own carbon trading system or California, where Governor Arnold Schwarzenegger, a moderate Republican, has committed to 80 percent GHG reductions by 2050.

The other part of this prediction is less hopeful. Without a dramatic political shift, Canada will be on the sidelines. No longer a leader, we will be a nearly irrelevant player, struggling to catch up as our misguided government polices backed the economic losers and missed the opportunity to support technological innovation when it mattered.

Nineteen eighty-eight seems like more than 18 years ago. In terms of Canada's leadership on climate change, it was truly another century.

Elizabeth May, leader of the Green party of Canada, was executive director of the Sierra Club and a senior policy adviser to the minister of the environment in the first Mulroney government.