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The University of Ottawa's Institute of the Environment celebrated the 20<sup>th</sup> anniversary of the Brundtland World Commission on Environment and Development Report entitled "*Our Common Future*" released in 1987. Jim MacNeill, former Secretary General of this Commission (Geneva, 1984-87) as well as the chief architect and lead author of the report, delivered the first of two talks entitled "*Sustainable Development - A new Urgency*" to explore achievements, setbacks and failures in the decades that followed the Brundtland report. *For more information please contact 613-562-5800 ext. 1041 or E-mail [ieuo@uOttawa.ca](mailto:ieuo@uOttawa.ca)*

## OUR COMMON FUTURE: ADVANCE OR RETREAT? SUSTAINABLE DEVELOPMENT: A NEW URGENCY

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First of all, I would like to thank Charles for that very kind introduction. If you didn't know it before, Ladies and Gentlemen, you now know that Charles Caccia and I are very good friends.

I would also like to thank Scott Findlay and his colleagues for inviting me to lead off this lecture series celebrating the 20<sup>th</sup> anniversary of *Our Common Future*. [1]

I find it hard to believe that it was 20 years last April that we in the 22-member Brundtland Commission completed *Our Common Future*. We had been working for three years -- probably the most fascinating three years of my life. We met literally thousands of people from all ranks of life in every region of the globe. Some of them participated in our public hearings, including the series of eight consultations we held in Canada in May 1986, traveling from Port Moresby to James Bay. I called them breakthrough hearings, because of their impact on Commissioners and our later consensus. Some of you may have attended.

A lot of things have happened since then and Charles asked me to spend a few minutes this afternoon looking back to where it all started, a few moments on our report and recommendations, and the progress -- or lack of it -- we've made since 1987. He also wanted me to look ahead -- always a very dangerous thing to do. It was recently drawn to my attention, for example, that on the back cover of the paperback version of our report we had written "*most of today's decision makers will be dead before the planet suffers the full consequences of acid rain, global warming, ozone depletion, widespread decertification, and species loss.*" [2] Well, as you can see, Charles and I and many others still count ourselves among the non-dead, so we were clearly wrong. Events have moved much more swiftly than we anticipated.

Given what I'm going to say, I would like to begin with a few minutes on what I believe to be the basis for some hope that governments may act -- I say may -- in time to head off the worst of the consequences of the growing climate crisis and other creeping environmental problems. So I have to take you back, at least briefly, to where it all started, at least for me.

Winston Churchill once said that "*The further we look back, the further forward we can see.*" I would like to think he was right. I am one of the few antiques -- some of my friends would say relics -- who was there at the very beginning of the modern environment movement in the mid-sixties, so I can look back a fair distance.

You are all familiar with Rachel Carson's great book *Silent Spring* which came out in 1962. It probably did more to galvanize the modern environment movement than any event in history. I was then a senior official in the Tommy Douglas Government of Saskatchewan responsible for managing the province's water resources. The book affected me profoundly and before long I was one of the first few environmentalists in

the Canadian public service. At least one of the few who had "come out"; how many were in the closet, I cannot say.

That was just 45 years ago and, hard to believe, perhaps, it was a time when few people had heard the word "environment." Fewer yet had the foggiest notion what it meant. When I compare the state of awareness today with that a short 4 ½ decades ago, I can't help but feel a bit hopeful about the future. I must admit, however, that as I watch the succession of Bush-Harpers and their clones in high places, my hope is increasingly tinged with raw fear that human-induced environmental destruction will continue to outstrip the capacity of our political leadership to adopt the changes needed to halt and reverse it.

We all know that politicians can provide courageous leadership and we all have our favorite examples -- Churchill during the 1930s is one of mine. I have known a few such politicians personally and in most cases I would say the leadership they provided was on one or two issues about which they felt very strongly.

Most politicians, however, don't lead, they follow. That has certainly been the case on environmental issues since the sixties. And on these issues, with a few notable exceptions, our leaders have followed only when there has been a surging train of public opinion demanding action and forcing them to try to run ahead of the lead engine shouting "*follow me, I am your leader.*"

Since the sixties, we have had two such trains. Each has taken the form of a rising pressure wave of public concern or what I have long called an "environmental cycle" because they remind me of the economic cycles with which we are more familiar. In my view, these two waves were the principal drivers of, first, the environmental agenda and, second, the concept of sustainable development. Today, in my view, we are experiencing a third wave which may already be pushing -- although it's certainly not yet driving -- some long overdue changes in certain energy, economic and budgetary policies.

The first wave mounted very slowly in the wake of *Silent Spring*. By 1967, five years after *Silent Spring*, environmental concerns had reached a point where Olaf Palme, then Foreign Minister of Sweden, proposed that the United Nations convene a global conference on the environment. Little Sweden was leading then, as it is today.

It was in Sweden in 1967 that I attended my first international environment conference, a small gathering of the world's top scientists on lake eutrophication. Thousands of lakes were suffering from eutrophication, at the time. Lake Erie had been pronounced dead, as had Boston's harbour, England's Thames and water bodies in many other countries.

Just three years later, in 1970, US Senator Gaylord Nelson called for an Earth Day on behalf of the environment. It met with an overwhelming response and, on April 22<sup>nd</sup> of

that year, which just happened to be my birthday, over 20 million people participated in the world's first Earth Day.

Looking back, it's clear that at some point in those years after Rachel Carson, between 1962 and 1970, the demand for action on the environment passed a tipping point of public concern. And I have often wondered what triggered it. Some believe it was the famous "**blue marble**" picture of Earth from outer space. No one can be sure, of course, but a friend of mine, Bill Ruckelshaus, the first head of Nixon's new Environmental Protection Agency and, later, a member of the Commission, argues that the tipping point, at least in the US, came when the Cuyahoga River in Cleveland caught fire in August of 1969. The event got wall-to-wall coverage from the then new medium of color television. In Bill's view, it was color television that did it. With color television informing public opinion, the politically impossible became the politically inevitable almost overnight.

By then, Canada also had a strong case of environmental fever. Greenpeace was founded in Vancouver in 1971 but two years earlier, in 1969, Prime Minister Trudeau was caught up in his first constitutional review and he signaled that he wanted to see the environment reflected somehow in the constitution. Looking for a senior official who was outspoken on the environment, his advisors found me and I joined his office to write the background paper on the "Constitution and the Environment." That paper became a book called *Environmental Management* [3], the first book of its kind, I believe.

The first wave peaked around June of 1972 when the first global conference on the environment was held in Stockholm. I was privileged to be on the "road to Stockholm" working with that remarkable Canadian, Maurice Strong, who 20 years later also organized the Rio Earth Summit, and I can vividly recall the debates, battles and excitement as we adopted an action plan, created UNEP, and launched a number of international treaties.

Shortly after Stockholm, the wave began to decline and it disappeared completely after the second oil shock of 1978. But as it subsided, its dying ripples were strong enough to force through the creation of a raft of environmental agencies worldwide, and a flood of environmental legislation and regulations.

Stockholm was a remarkable achievement for its time -- at least for those in the richer countries -- as I learned after 1978 when I joined the OECD, the rich man's United Nations in Paris, as Director of Environment. We chalked up a number of successes. We reduced premature deaths from air and water pollution, protected species, established new parks and protected areas, and so on.

But Stockholm and the approaches we adopted there did little or nothing for the vast majority of humankind living in poor countries. Ten years after Stockholm, in 1982, UNEP documented a decade of rapid deterioration in global environmental trends. In spite of all our efforts, things were getting much worse, not better. The measures put in place after Stockholm were insufficient and had failed.

There are many reasons why we failed then and why we continue to fail. Let me mention one, a major reason, which we took up in *Our Common Future*. We found that the institutions and policies we put in place to address these issues were not only weak but they had been directed one way or another to tackle the symptoms of environmental degradation and to ignore its sources. The sources, of course, are to be found in government (and corporate) fiscal, tax, budget, trade, energy, agriculture and other policies and in the values underlying them.

After Stockholm virtually every government made it clear that these policies were off limits to their new environment agencies. In a number of countries, in fact, including the US and Japan, the legislation establishing their agencies expressly said as much, and even in those countries where the legislation didn't so state, the new environment agencies were so bureaucratically weak and politically marginalized it didn't matter.

The new environmental agencies were given a simple mandate: clean up the mess but don't mess with the sources of the mess. Don't even think about tinkering with the form or direction of growth -- or what we now call business-as-usual development. Yes, unrestricted growth created the mess in the first place and, yes, it was continuing to do so at an ever increasing pace. But it is also the foundation of our prosperity so, for god's sake, don't get in its way. That's not your mandate.

And so in the 1970s we were left largely with end-of-pipe measures to clean up pollution and technical fixes to retrofit and rehabilitate and restore. These measures were above all politically safe. They didn't threaten companies or the rising levels of resource consumption that were needed to feed our growing economic system. They didn't require changes in the policies supporting unrestricted growth. And they didn't raise questions about the distribution of wealth and power between rich and poor groups and rich and poor countries. Which is not to say that many in civil society didn't do so; they did. But they didn't make the decisions that counted.

And so, in the decade after Stockholm, we not only failed to catch up with the legacy of the past, we could not keep up with the steady day-by-day increase in pollution, degradation and loss of resource and environmental capital.

Einstein once said that we can't solve problems using the same kind of thinking we used when we created them. I'm sure the UN General Assembly wasn't thinking about Einstein but in 1983, after a year-long debate, it did establish an independent commission to take a fresh look at the issues, ask questions and come up with some new answers.

The World Commission on Environment and Development, now commonly referred to as the Brundtland Commission after our Chair, Dr. Gro Harlem Brundtland, first met in Geneva in October of 1984. At that meeting, I asked the other Commissioners how they felt our report might be received three years later. Everything suggested that it

would get a frigid reception. The first environmental cycle was still declining -- I called it at the time an environmental recession -- and it showed no signs of reaching bottom.

As it turned out, however, we were very lucky. In late 1984 the cycle turned and following a series of high-profile environmental disasters, a second pressure wave began to build. It grew through 1985 and 1986 and, when we launched *Our Common Future* at a major event in London in April of 1987, we found ourselves on a rising wave of environmental excitement.

At that time, of course, no one realized the strength of this second wave. And as I looked over the large audience we had assembled in the Queen Elizabeth II Conference Center, I never expected -- nor did any of the other Commissioners -- that within a year our recommendations would be endorsed by the UN system and by virtually every other international body and all the multilateral banks. Nor did I expect that within two years, they would begin to reshape curricula in universities and graduate schools and become a preoccupation of a growing number of leading companies worldwide, including a number in Canada who helped frame the Canadian response to our recommendations. Nor did I expect that within three years many governments in Europe, Asia and elsewhere, including Canada, would not only respond officially to our recommendations but would also commit themselves to policy reform and various measures to institutionalize sustainable development. And I certainly never expected that during the nineties the two words "*sustainable development*" would become part of the common everyday lexicon of humankind.

Throughout the long "environmental recession" leading up to 1984, most politicians and corporate leaders had ignored environmental issues with impunity. Most, I say; by no means all. During the first wave, a number of leaders emerged with vision and conviction. Some of them achieved political office. They fought throughout the recession to guard the gains we had made and also to seize opportunities that came along to advance the agenda -- on acid rain, for example. Charles Caccia was one of them and, as an OECD Director, I had the pleasure of working with many others in Europe, Japan and the US.

By 1988, heads of government around the world were feeling the heat and running to catch the wave. The pressure became so intense that a number found it necessary to undergo a very public baptism as a "*born-again environmentalist*." Margaret Thatcher was the first and she was followed by George Bush Sr., Kohl, Mitterrand, Mulroney and others. I was personally delighted to watch each of them beat their chest and announce their own environmental Damascus, usually in a wonderful speech that would -- and in fact did -- excite even the courageous leader of Canada's Green Party, Elizabeth May.

People were not only pressing for change, they were looking for a new direction and many found it in *Our Common Future*. It went on to become the most widely read UN report in history, selling over a million copies in some 25 languages. It provoked a global debate about the need for deep reform of the policies that were at the source of continuing environmental destruction.

Let me take a few minutes on the report before coming to the present situation.

Twenty years ago, in Chapter 1, we described a world threatened by interlocking crises. We spoke of rising levels of population and a spiraling growth of megacities in the Third World along with massive projected increases in consumption in the First; of increasing levels of poverty and inequity within and between nations; of continuing huge transfers of wealth from the poor to the rich built into grossly inequitable trading relations; of unsustainable increases in the consumption of our natural capital, our soils, waters, and forests; of the destruction of species; and of the growing menace of climate change. We pointed out that these environmental syndromes presented a threat to national security and even survival greater than any military threats then on the horizon.

If that doesn't sound familiar, look at yesterday's headlines -- or even today's -- or at today's best seller lists?

We pointed out that *"most efforts to maintain human progress [to] meet human needs and [to] realize human ambitions are simply unsustainable in both rich and poor nations"* and if we continued on these paths we would *"threaten ecological collapse."*

Just a few other quotes. Current forms of development, we said, drew too heavily *"on already overdrawn accounts of ecological capital."* They could not be extended into the future without *"bankrupting those accounts"... We borrow environmental capital from future generations"* we said, *"with no intention or prospect of repaying."* And, we added, this *"may show profits on the balance sheets of our generation,"* but *"our children will inherit the losses... They may damn us for our spendthrift ways but they can never collect on our debt to them."*

One final quote that I find equally germane 20 years later. *"We act as we do."* we said, *"because we can get away with it: future generations do not vote; they have no political or financial power; they cannot challenge our decisions. ... "we are ...rapidly closing the options for future generations."*

We recognized that the poor developing world needed to grow by several multiples -- five to ten times perhaps -- in order to reduce mass poverty, improve inequity and minimize conflict, and in order to reduce strains on the environment -- all interrelated goals. We also recognized that if future growth in both the rich and poor world was simply a continuation of business-as-usual, we would surely end up where we were headed -- societies marked by increased conflict over ever-scarcer resources and life-threatening ecological collapse, initially in the South perhaps, but eventually in the North as well.

And so, after much debate and analysis, we concluded that we must change course. *"Humanity,"* we said, *"has the ability to make development sustainable,"* but we don't have much time -- some decades at the most. And so, we called for an urgent and rapid change worldwide to more sustainable forms of development.[4]

We said that this would require a series of rapid transitions. They included: achieving a level of population in harmony with the ecosystem; reducing mass poverty; increasing equity within and between nations; increasing efficiency in the use of energy and other resources; re-orienting technology; and merging environment and economics in decision-making. We argued that these transitions would be facilitated by political systems open to citizen participation and by greater democracy in international decision-making. These transitions, we said, were “*imperative*” to any overall transition to sustainability. In fact, we called them the “*imperatives of sustainable development.*” [5]

Apropos the last imperative I just mentioned, I can’t resist one more quote from the back of the paperback edition of *Our Common Future*. “*Our Common Future serves notice that the time has come for a marriage of economy and ecology, so that governments and their people can take responsibility not just for environmental damage, but for the policies that caused the damage. Some of these policies threaten the survival of the human race. They can be changed. But we must act now.*”

In order to move forward, we called for an international conference within five years to develop and agree on concrete plans for these transitions. To be frank, none of us at our London launch in April 1987 expected that this recommendation would be realized so quickly. But the second pressure wave continued to rise through 1988, '89, '90 and '91 and, in June 1992 we gathered in Rio for the largest political Summit in history -- the Earth Summit -- again under the inspired leadership of Maurice Strong.

Rising waves of public concern can drive leaders to act in ways they never thought they could. Falling waves, on the other hand, allow them to act in ways they always thought they would. Unfortunately, the second pressure wave reached its peak just before Rio, and by the time we got there it had begun to fall away in descending ripples.

Nevertheless, Rio was a political success producing, as you know, several major agreements, principally the conventions on Climate Change and Biodiversity and the now forgotten Agenda 21.

But Rio's bottom line was written in red ink. Nowhere in these agreements will you find a single word in which the assembled governments committed themselves to actually do something to reform the policies highlighted by the Commission that were driving the destructive trends that had brought them to Rio. They did agree that national governments “*should*” or “*may*” take certain actions on a voluntary basis but that’s vastly different from agreeing that nations “*will*” do something. The second wave wasn’t strong enough to drive leadership from “*aspirational goals*” -- dear to the hearts of Bush and Harper -- to commitments to real action.

I was with Maurice Strong at the end of the Conference and I thought he looked a little disappointed when in his final remarks he observed that the Road from Rio will be

longer and more challenging than the Road to Rio. Just about everything that needs to be done remains to be agreed and implemented, he said. It still does.

So, 20 years after London and 15 years after Rio, what has happened to the Commission's call for an urgent global transition to more sustainable forms of development? As my Grandkids say, "*Are we there yet?*" Better they should ask, "*Granddad, when are we going to get started?*"

In my view, the journey to a more sustainable world is barely underway. Many say we have lost two decades in endless talk and virtually no action, time we can never recapture. That may be true.

Sustainable or not, we are in a totally different world today than 20 years ago, economically, socially, ecologically, politically.

In 1987, the Gross World Product stood at US\$ 33 trillion. Today, 20 years later, it has almost doubled to US\$ 60 trillion. That is an historically unparalleled pace of growth. It is hailed almost universally as good news and, of course, from many perspectives it is. It has resulted in rising incomes with all they can buy, and in many countries in Latin America and South and East Asia, it has resulted in a significant reduction in levels of poverty.

China, India, Brazil and many other countries in the still-called developing world have now found the key to rapid growth and ever higher levels of consumption. China is growing faster than any nation in history with enormous benefits to its population. And it is choking on its own success. One example: the levels of pollution-related deaths are orders-of-magnitude higher proportionately than we experienced prior to the first wave, 750,000 a year according to the World Bank. Nevertheless, China's leaders, along with those of India and Brazil, have made it clear that they are determined to pursue ever higher levels of growth until their populations enjoy North American levels of consumption, on a per capita basis.

Who dares blame them? Not we in Ontario surely, as we march to the polls today to vote for candidates who have spent the last six weeks promising to keep us, who are already comparatively very rich, on a solid track to ever greater growth.

Well, you might ask, didn't we in the Commission say that a large increase in global income would be needed to lift billions in the Third World out of poverty? Yes, as a matter of fact, we did -- but -- and it is a critical "*but*" -- we insisted that future growth must be based on forms of development that were sustainable -- economically, socially and ecologically sustainable. If not, we said, our future would be in peril. We spelled out quite clearly what we meant. And we described in some detail the policy changes needed to put energy, agriculture, industry, urban and other sectors on a more sustainable path. Moreover, most of these policy reforms were elaborated more fully, by governments themselves, in the negotiations on Agenda 21, which they adopted at Rio. No one in a position of power, therefore, can plead ignorance about the changes

needed to put the world on a more sustainable path. If they didn't act, and most of them didn't, it wasn't because they didn't know and hadn't agreed on what needed to be done.

They didn't act largely because when they returned from Rio, the pressure was off. Camillien Houde, the long-time Mayor of Montreal used to say, *"if you want to lead people, you have to know where they're going."* Well, they wanted to lead and their people's concerns had shifted to other priorities. So, with a few exceptions, they promptly forgot the commitments they had made.

As a result, the past 20 years has not seen much of the type of growth we said and, in Rio, our leaders agreed, was imperative. Instead, in both the rich and poor worlds, we have seen a huge surge in business-as-usual forms of unsustainable energy, agriculture, industry, urban and other development. With two important results.

The first result is that the proportion of poor people is rising fast. For every rich person on the planet, there were two poor people in 1950, today there are four, and in 20 years when we hit 8 billion, there will be six poor persons for every rich one.[6] Therein lies the potential for decades of potential conflict.

The second result is that Earth's economic and life support systems are degrading at an increasingly dangerous rate. According to the UN's 2005 Millennium Ecosystem Assessment, 15 of the 24 major ecosystem services that support the human economy -- services such as providing freshwater, purifying air, protecting against disasters and regulating the climate -- have already been or are being pushed beyond their sustainable limits. The Assessment points out that this *"represents a significant barrier to achieving the Millennium Development Goals to reduce poverty, hunger, and disease."* And, echoing *Our Common Future*, they add that the future *"productivity of ecosystems depends on policy choices on investment, trade, subsidies, taxation, and regulation, among others."*

The need for a rapid transition to more sustainable forms of economic development is much more urgent and pressing today than it was 20 years ago in 1987.

What will it take? Well, if the past is any guide, it will take a huge pressure wave of public concern to drive political leaders to make the fundamental changes in policies and institutions that the nature and scale of the crises demands. Perhaps it will take more than one? Perhaps it will take a series of waves, each strong enough to threaten the reelection of governments. After all, if history since the 1960s is clear on anything, it's clear on this: when it comes to environmental issues, the only good governments are bad governments in a hell of a fright.

And what about the BRICs -- Brazil, Russia, India, China -- whose impact on the global environment will soon be as great or greater than the rich West. By 2010 they could be emitting 20 percent more carbon dioxide than developed countries. Their participation in any global effort is crucial? But what will it take to get them to join in? Brazil and

India are giant democracies but can we really expect Russia and China to go green before they become more open and more democratic societies?

The good news is that we are riding a third wave now. It was triggered, I believe, by the science and rapidly advancing public perception of climate change and it is being driven by the almost daily reports of the consequences of continued warming of the planet.

Some believe that this third wave began on the road to Kyoto prior to December 1997 and they believe it grew through the protests at the 1999 WTO Ministerial in Seattle, only to be sunk by 9/11. Perhaps. What seems clear today is that since Katrina in North America and well before that in Europe, climate change has pushed public concern beyond a new political tipping point, forcing more and more political and corporate leaders to embrace the cause. Europe leads -- Sweden, of course, going way back -- Germany, France and others. In Britain, Tony Blair and now Gordon Brown, who commissioned the Stern Report, are among the leading figures.

The US? Well, in my view, the US gets a bit of a bum rap in Canada. In fact, there has been a potentially significant US response to growing public concern in that country by a number of governors and over 600 mayors. Many of these governors, led by the movie star from California, Arnold Schwarzenegger, are beginning to address the issue through significant regulatory reforms. And a number of cities, led by Seattle, will meet their self-imposed Kyoto targets.

Large segments of the US private sector are also getting on board. Dell Computer, I believe, is the latest in a long series of corporations to announce that it's going green. There seems to be a new one every week. Major investment funds are also moving into green technologies.

As for George Bush and his Administration, well, most of my friends in Washington feel that he will go down in history as the worst tragedy that America ever inflicted on itself or on the world; and his recent greenwashing climate summit in Washington simply confirmed the fact that any meaningful US federal commitment to cut greenhouse gases will have to await a new Administration. I will be interested to hear what my good friend George Woodwell has to say about that next month.

But let's remember that we in Canada are in no position to throw stones at the United States. On the contrary, it is we who should be dodging them. And, by the way, contrary to a popular Canadian myth, that's been true on most environmental issues since the sixties.

Our record since we signed the Climate Convention in 1992 has been shameful. And our record since Prime Minister Jean Chrétien finally agreed to ratify Kyoto in 2002 with, according to his senior political advisor Eddie Goldenberg, absolutely no intention of implementing it, has been an international embarrassment. We're now 32.7 percent above our Kyoto commitment and rising. It's a disgrace. We all know that -- there is no need for me to elaborate.

This third wave of public concern is climbing very rapidly in Canada. According to a September 5th poll, more Canadians are more alarmed about climate change than the citizens of any developed nation except France. Two-thirds of us now rate climate change as a "very serious" problem, up from 57 per cent last year.

And we're beginning to see a response, although we are still a long way -- a very long way, in my view -- from any serious action.

Fortunately, we're not starting from scratch. The second wave, like the first before it, left us with a strong legacy. Among other things, it left us with more people worldwide than ever before aware of the seriousness of the issues. And it left us with more leaders than ever before convinced of the need to act.

Canada's private sector today contains a number of such leaders. After Rio, one of them, Jack McLeod, a former CEO of Shell Canada, became a friend and colleague on the Board of IISD. He often heard me talk about environmental cycles and the coming pressure waves, and during the dismal mid-nineties when Chrétien and Martin were busy slashing our budgets, he would often ask me in frustration, "*Jim, when are we going to see the next one? We can't wait much longer.*" Unfortunately, Jack is no longer with us but he would take heart from what is happening today.

Last week, I was a bit surprised -- perhaps you were too -- when the Canadian Council of Chief Executives declared that climate change was today's "*most pressing and daunting issue,*" and acknowledged the need for "*aggressive*" action including "*absolute*" emission cuts, albeit as a long term goal. They clearly favoured a "*tech fix*" but they accepted the need for market-based mechanisms such as emissions trading and environmental taxes "*aimed at changing behavior.*"

There is nothing like the power of a mounting pressure wave of public concern. The last time Tom d'Aquino and his Council made a similarly dramatic statement was in 1989 at the peak of the second wave, in response to *Our Common Future*. On that occasion they said that "*Reversing the deterioration of the environment on a global basis was the most pressing challenge facing Canadians and the world.*" They laid out what they viewed as a vigorous response to this challenge -- and then proceeded with another nearly two decades of business-as-usual, aided and abetted by government policies, tax breaks and subsidies that continue to underwrite unsustainable forms of development.

How should we view this declaration? Is it just more green positioning, a new somewhat forward defensive position in the face of rising public demands for action? Or is it a signal that this group of corporate leaders wish to get off the track that most of them have been on for the past decade or more, thwarting any action that would move Canada toward its targets under what they called the "*straightjacket*" of Kyoto. We'll have to wait and see.

A few provinces have also moved -- BC, Manitoba and, of course, Quebec come to mind. Last week Quebec introduced our first carbon tax. One cent a liter is a mere token in a week when pump prices went up 8 cents -- but I guess it's a start.

And then there's Stephen Harper. During the past 18 months, Canadians have watched his successive epiphanies with open mouths. I have personally lost count of the number. But he has gone from a climate science denier to cool skeptic, to skeptical convert in support of a "*made in Canada solution*" involving meaningless intensity targets, to full convert in favor of a "*more comprehensive approach*" and, finally, to someone with a declared ambition to be a "*world leader*" in the fight against global warming. That's six conversions with, I am sure, if the polls continue to rise, more to come. Saul on the road to Damascus only required one.

But we have to give him credit. He's nothing if not consistent. This now aspiring "*world leader*" in the fight against global warming has at the same time moved from rabid defender of Alberta's oil patch to champion of all of Canada as an "*energy superpower*."

I'm sure he sees no contradiction in that and, of course, he has a lot of company. If they gave out Nobel Prizes for environmental rhetoric, Chrétien and Martin would each have one. Remember, it was Mr. Chrétien who in 1994 ruled out a carbon tax and who in 1995 rolled in a range of tax incentives for development of the tar sands, the most climate-destroying form of fossil fuels. And it was Mr. Martin who as Finance Minister, and contrary to Red Book promises, cut our environment budgets by 40 percent, gutting our science and monitoring programs and virtually eliminating our legal enforcement programs. The need to balance the budget was a false excuse. As Finance Minister and later as Prime Minister, he continued to pore billions into the tar sands.

With the polls down and the pressure off, Messrs. Chrétien and Martin not only excelled in doing as little as possible for as long as possible but also, unlike their predecessors during the environmental recession of '73-84, they took actions that were quite destructive. They rolled back the gains we had made during the two pressure waves of the sixties and eighties and they increased subsidies for patently unsustainable forms of development. Both, it seems, were convinced they could desert the environment at home while defending it abroad. Nature doesn't recognize such distinctions, of course, so they ended up deserting it abroad as well.

Canada has a long way to go and with Harper now in charge, I suspect we'll get more of the same unless and until the third wave rises to unprecedented heights and threatens his grip on power.

For some strange reason, it seems to take a lot more public pressure to force action in Canada and the US than it does in Europe. Perhaps they have more leaders in office with a genuine conviction that we face -- to borrow a quote from Tony Blair -- "*a challenge so far-reaching in its impact and irreversible in its destructive power, that it radically alters human existence*" or one "*more serious even than the threat of terrorism,*" to quote his Science Advisor, David King. By the way, does anyone know

the name of Harper's science advisor? Or who ordered the erasure of Environment Canada's web site on climate science?

If we are to move forward, in my view, we in Canada must stop cheering the current auction in future targets. *"My party offers a 50 percent reduction by 2050."* *"Well, my party will do better. We offer a 20 percent reduction by 2020 and a 60 percent reduction by 2050."* And so on. This is the cheapest environmental politics I know. Why should anyone believe that a Prime Minister assuming office in 2020 or 2030 will accept the targets promised by his predecessor in 2008, when that predecessor was clearly afraid to take any action himself to cut carbon emissions? Hell, Chrétien had six years to start to reach the targets he himself dictated in Kyoto and he refused to anything. Sure we need internationally agreed targets for 2012, 2020 and beyond. But there is only one meaningful question to ask in the next election, and the next one, and the one after that: will you, the leader of your party, cut carbon emissions starting the day after you are elected? What targets do you plan to reach during your term of office, and how do you plan to reach them? The rest is faith, hope and not much charity.

Which raises the question: will this third pressure wave be broad enough, high enough and sustained enough to persuade our Prime Minister, whoever he is after the next election, to adopt the measures needed to reverse rising levels of CO<sub>2</sub> emissions -- not after 2012 or 2020 -- but during his expected term of office? So far Dion, Harper and their predecessors have found the measures needed to be politically terrifying and they've done everything they can to avoid them.

Instead, they invoke exhortation measures, such as the ill-fated one tonne challenge, which we know are a waste of breath. Or they appeal for voluntary actions, which we know are a waste of time. Or they ply us with subsidies, which we know are largely a waste of our own money. Or they don pointed hats and turn to neo-alchemy to change the political lead of real cuts into the political gold of imaginary ones by subsidizing the purchase of hot air from Russia, the Ukraine or elsewhere, which we know is pure deception.

Both research and experience elsewhere have clearly established that in order to reduce levels of CO<sub>2</sub> emissions, governments will have to undertake a systematic and progressive reform and redeployment of the fiscal system, the tax system and the regulatory system. And it will hurt. It is silly to pretend otherwise. But it will hurt a lot less than continuing to do nothing.

We in Canada should ask why it is that so many European leaders were able to adopt the measures needed to meet and, in some cases, surpass their Kyoto targets and we could not even try before it was too late? Why have some of them been able to advance the process of shifting the burden of taxation from public goods to public bads, from income and payrolls and savings to polluting processes and emissions, while we haven't been able to make even a start? Why have they been able to introduce significant carbon taxes (Europeans pay twice as much for gasoline as we do), and a cap and trade system, and a range of other measures, and we haven't? Even banking

giants like Citibank, Morgan Stanley and Deutsche Bank are urging Bush and Harper to do so. Why have we seen new energy and environmentally related technologies become leaders in job creation in Scandinavia and Germany, while we endure two decades of unending talk about becoming a world leader in green technologies?

Is it the water we drink? Or is it, as some claim, that our leaders fear Saudi Alberta, and now our other Saudi provinces -- Saskatchewan, Newfoundland, and Nova Scotia? But Europe also has oil states -- Norway, which adopted a carbon tax in 1991 -- the Netherlands, the UK -- whose government and opposition leaders are currently engaged in a leap-frog competition to prove that their post-Kyoto credentials are the best -- and who have quite frankly put forward some very tough and innovative policy proposals, just before an expected election.

Is it because of our proximity to the US, as some claim, and the deep conviction of our Finance and Trade ministries since the sixties that to lag behind the US on environmental measures is necessary to give our industry a needed competitive advantage over our largest trading partner?

But other nations sit beside large and competing trading partners. Sweden's leaders, for example, preside over a nation with a climate and an economy very similar to ours. Why can they adopt measures that have enabled them to gradually but steadily reduce their fossil fuel use from the 1970s, when oil made up 77% of their energy consumption, to today when it represents only 31% of their energy use? These measures, by the way, included not only a steady and sustained increase in carbon taxes but also significant fines on polluters who failed to achieve mandated emission reductions and, of course, the opposite, reduced taxes on industries that overachieve on increasing efficiency and other goals.

Last November, at a dinner in Stockholm, I sat beside Maud Olofsson, the new Deputy Prime Minister of Sweden and leader of the Center party in Sweden's then new conservative coalition government. In the course of an animated conversation, she told me she was looking forward to maintaining and strengthening policies that would enable Sweden to become the first carbon neutral economy in the world. She was (she is also Minister of Enterprise and Energy) equally determined to maintain and strengthen Sweden's gains in productivity and competitiveness. And, although she didn't say so, I presume she expects the support of Sweden's corporate leaders in pursuing these goals.

Our leader, Mr. Harper, echoing Bush, is convinced that such measures would destroy the economy and put millions of Canadians out of work. Sweden proves the opposite. Societies can prosper while they engineer a gradual shift from unsustainable to more sustainable forms of development, including a shift from a fossil fuel to a low-carbon economy. I have visited Sweden at least twice a year since the mid-seventies and, for as long as I can remember, Sweden has been at or near the top of two major world leagues, the OECD league on environmental performance and the World Economic Forum's league on productivity and competitiveness.

So it can be done. Nations can move their economies steadily in the direction of greater sustainability, when there is a broad consensus amongst the population and sustained leadership to marshal the national will.

To come down to the micro level, we all know that there are literally thousands of examples worldwide where professionals of all kinds, and individuals, have innovated and created technologies, buildings, forests and communities that come very close to being sustainable. I am Chair of the Jury of the Volvo Environment Prize and we are honoring one such individual next month in Stockholm, Amory Lovins. Also next month you'll hear George Woodwell, former President of the Woods Hole Research Center, on whose Board I sit. He, with the help of the great architect William McDonough, has built an almost carbon neutral campus for the Center in Cape Cod. One can point to thousands of such examples. Renewables currently enjoy double-digit growth, if on a small base.

These are all terribly important in that they demonstrate what can be done. But when you add them all up, their overall scale remains miniscule compared to the increase in emissions generated by the colossal and unsustainable growth of our economies, driven by perverse public policies. We should be under no illusions about that. We can buy a hybrid car but when Chrétien, Martin and now Harper refuse to impose higher mileage standards on the auto industry, they swamp any difference it makes. We can change our light bulbs but it is only when our leaders change the rules governing energy markets that we will get the scale change across the whole marketplace that is required to make a difference. Without scale, all we have is a personal demonstration project.

Things could change rather quickly. The only thing we know about the future is that it will be full of surprises, positive and negative. One example. A number of professionals believe we are approaching peak oil, the point when global oil production begins an irreversible decline. Some investment firms are betting on it. They believe that economists who predict \$100 oil are being optimistic: that there will soon come a time when \$200 seems cheap. Imagine what a climb to \$100, \$150, \$200 oil would do to drive efficiency, alternative energy sources, building standards, you name it. As well as public opinion which, in Canada, still has a long way to go.

I would have thought the loss of 1.2 million square kilometres of Arctic sea ice this summer -- an area larger than Ontario -- would have been the mother of all wake-up calls, and would have brought Canadians out on the street and onto Parliament Hill demanding immediate action. But the third wave isn't there yet.

If Ottawa's power ministries received a wake-up call, it concerned how we turn the melting Arctic into an opportunity to exploit its long hidden oil and gas reserves, larger some official hyped than Saudi Arabia's. Incidentally, of course, this would produce even more warming, but not to worry. I suspect these guys lie awake at night wondering what fantastic reserves may be hidden under Greenland and Antarctica!

With such ecologically-blind mind-sets continuing to drive our policies, our children may one day find out.

Scientists tell us that a doubling of atmospheric CO<sub>2</sub> levels, over pre-industrial levels, could result in an increase in temperatures of around 2.0 to 2.5°C. And they have warned that, when the system becomes committed to that, we could pass the tipping point into an ever warming future. Irreversibly.

I was at a meeting in France last week where I was told that in a forthcoming report the IEA will assert that we have now passed the point where we can hope to hold the increase in global temperatures to less than 2 degrees centigrade. So we are on our way toward 2.5 to 3 degrees -- and even that may be optimistic. The IPCC tells us that at 2.4 degrees Greenland's ice sheet could tip into irreversible melt.

Some of you may have seen the latest issue of Foreign Policy and an article in which the chief international officer at the AAAS (American Association for the Advancement of Science) and the Executive Director of the Nixon Center argue that "*mounting scientific evidence, coupled with economic and political realities, increasingly suggests that humanity's opportunity to prevent, stop or reverse the long-term impacts of climate change has slipped away.*" While we should continue efforts to reduce emissions, they believe it's time to change the debate and prepare to adapt to a new and warmer world of increasing climate disasters.

With two degrees plus now built into the system, or into the system's momentum, our children will have no choice but to adapt. And it won't be easy for them. Think of what two or three degrees means for the other issues we dealt with in *Our Common Future* and that I haven't mentioned. The growing water crisis alone could combine with other environmental, urban, social, and security syndromes to shake the planet from South to North and East to West.

If we don't soon begin to harness all the power we can muster in civil society, in the business and corporate world and most of all in the political world, we could well end up where in the very first chapter of *Our Common Future* we said we were headed -- societies more and more vulnerable to catastrophic ecological, social, economic and political collapse.

Well, every crisis brings its opportunities and this one is no different. After all, there is no heaven without a hell and there are no optimists without pessimists. An optimist, you know, is someone who believes we live in the best of all possible worlds. A pessimist is someone who fears the optimist may be right.

We know what needs to be done. Some countries are doing it; others are beginning. But, in my view, we will not get there unless, following her/his election a year from now, the new President of the world's only superpower takes his country and the world into a stronger post-2012 agreement than anyone has yet envisaged. I don't like putting my hope in superpowers. But I do believe that later if not sooner, a new US President will

find the political resources and courage to act and, as we've seen in the past, when a US President decides to move and throws all of America's political, diplomatic and other resources behind it, Canada and much of the rest of the world will follow.

For now, we in Canada must hope that this third wave continues to climb to ever higher peaks and is broad enough, high enough and sustained enough to persuade our election-bound leaders to promise and then, when elected, to actually adopt and implement the measures needed, and to do so during their first term of office.

If the required political action is not driven by this current third wave, then it will be by a fourth or fifth, provoked -- perhaps very quickly -- by ever-more visible threats. The longer we take, the more people will be hurt but progressive disasters can also shatter the forces blocking the changes needed. And it may take that. Sooner or later, a wave will be strong enough to threaten governments hold on office and then they will have to act.

We must hope that, long before that, politicians will emerge with the courage and vision to marshal the national, will and that Canadians will support the strong measures needed.

As my friend Barbara Ward used to say, we all have a duty to hope. We also have a duty to act.

### Endnotes

1. World Commission on Environment and Development, *Our Common Future*, Oxford University Press (UK) Ltd., 1987.
2. Also found in *Our Common Future*, op. cit. p. 8.
3. J. W. MacNeill, *Environmental Management*, Information Canada, Ottawa, 1971.
4. Above quotes, *Our Common Future*, op. cit., pp. 4-8.
5. Op. cit., *Our Common Future*, p. 48.
6. Thomas Homer-Dixon, *The Upside of Down: Catastrophe, Creativity and the Renewal of Civilization*. Vintage Canada. 2007, p. 65.