

SCAN

SIERRA CLUB ACTIVIST NEWS

**SPECIAL ISSUE:
NUCLEAR ENERGY**

**Federal
Election Action
Alert**

\$2.00



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As the debate over nuclear energy heats up, our members have different views. Most, but not all, members oppose nuclear energy—we decided this issue of SCAN should air the different points of view.

ENERGY ALTERNATIVES

CONTRARY TO POPULAR BELIEF, ENERGY ALTERNATIVES ARE CHEAPER AND MORE reliable. Nuclear power is extremely expensive, with a long lead time and a history of cost over-runs (see below). The cost of alternatives is within reach. When oil hit \$30 a barrel, wind power became competitive. With oil now hovering at over \$50 a barrel, wind is coming on strong. The most cost effective way to reduce greenhouse gas and develop greater energy security is by improving energy productivity—getting more energy service by reducing waste and inefficiency. Since 1970, the amount of energy saved in Canada through improvements in energy productivity far exceeds new energy brought on stream by all sources. As energy analyst Ralph Torrie points out, these savings were made without really trying, through a natural process of economically driven modernization. Imagine what could happen if we tried! Torrie has calculated that by maximizing our energy productivity options—by focusing on a demand-side approach to energy instead of a supply-side approach—Canada could reduce greenhouse gas emissions in half, and without building any new hydro, be able to shut down all coal plants and nuclear reactors. (This study, "Kyoto and Beyond," can be found at www.climateactionnetwork.ca. Torrie built economic and population growth into his assumptions.)

FINANCIAL BENEFITS VERSUS FINANCIAL COSTS

This is the Achilles' heel of nuclear power. Even if the threat of climate change legitimately has led many people to take another look at nuclear energy, it simply makes no economic sense. Look at the record of Atomic Energy of Canada Ltd (AECL) and its CANDU reactor. The Darlington Nuclear Station (four reactors, each 881 MW) was estimated in 1978 to have a price tag of \$3.95 billion. By 1993, the cost totaled \$14 billion—an increase of over 250 percent. The Darlington experience is fairly typical. Point Lepreau in New Brunswick was estimated at \$500 million, but cost nearly three times that much. The huge costs of nuclear start with the capital costs of construction, but remain a hugely expensive energy option in operation and maintenance. CANDU reactors

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IN JULY 2004, JAMES LOVELOCK, THE BRITISH ECOLOGIST AND ORIGINATOR OF THE Gaia Theory (the idea that the Earth is one giant living organism that regulates itself in order to sustain life), proclaimed his support for nuclear energy as the best way of combating global warming. "We cannot continue drawing energy from fossil fuels, and there is no chance that the renewables, wind, tide and water power can provide enough energy and in time," he said. "If we had 50 years or more, we might make these our main sources. But we do not have 50 years ... Even if we stop all fossil fuel burning immediately, the consequences of what we have already done will last for 1000 years. By all means, let us use the small input from renewables sensibly, but only one immediately available source does not cause global warming and that is nuclear energy."

Lovelock is only one example of a recent trend: attitudes to nuclear power are rapidly changing. The British Government is now considering building a new generation of nuclear power stations. Here in Canada the time seems ripe to embark on constructing new nuclear power stations using state-of-the-art Advanced CANDU Reactors (ACRs). These are the outcome of over 50 years of research and development by Atomic Energy of Canada Ltd. (AECL). Yet despite the growing need for new carbon-free sources of energy, opposition to nuclear power from the environmental community remains strong. Its main concerns are safety, cost and the disposal of radioactive waste.

SAFE AND RELIABLE

The catastrophic explosion at Chernobyl in 1986 showed the dark side of what has been called "the Faustian bargain of nuclear power." From an operational point of view, Chernobyl should never have happened. When operators simply ignore all the extreme warning signals and proceed mindlessly with a requisitioned "experiment," the matter goes far beyond human error. Apart from that one disaster, the nuclear safety record has been amazingly good. With well-trained and responsible operators, backed up by appropriate government regulation, nuclear power has proved to be reliable and safe.

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ATTENTION ONTARIO MEMBERS

On December 9th, 2005, the Ontario Power Authority (OPA) released its recommendations for energy generation over the next 20 years. It contains action plans to investigate refurbishing old nuclear plants, and to initiate new nuclear projects.

NOW IS THE TIME TO LET PREMIER MCGUINITY KNOW LOUD AND CLEAR THAT ONTARIO DESERVES A GREEN ENERGY FUTURE!

PLEASE TAKE A MOMENT TO LET THE PROVINCE KNOW YOU DO NOT WANT NUCLEAR. WE DO WANT BETTER ENERGY EFFICIENCY, MORE SOLAR, MICRO-HYDRO, WIND AND CO-GENERATION!!

The Environmental Bill of Rights (EBR) link to send comments on OPA report is www.ene.gov.on.ca/envregistry/026852ep.htm. The deadline is February 12, 2006. EBR Registry Number PO05E0001

You can also write to Premier Dalton McGuinty
Legislative Building
Queen's Park, Toronto ON M7A 1A1
Fax: (416) 325-3745



A WORD FROM THE PRESIDENT

Amelia Clarke

PREMIÈREMENT, J'AIMERAI FÉLICITER ELIZABETH MAY QUI A ÉTÉ NOMMÉE OFFICIER DE l'Ordre du Canada. Deuxièmement, je tiens à remercier les cinquante canadiens et trente américains qui sont venus à Montréal dans le cadre des réunions des Nations Unies sur le changement climatique; aux gens qui ont aidé à l'ouverture de notre nouveau bureau à Montréal; aux membres du Sierra Club du Canada (SCC) qui ont contribué des fonds à notre travail sur le changement climatique; et aux donateurs qui ont offert de l'argent durant notre réception pour les prix pour l'œuvre de toute une vie à Ottawa. Vos contributions individuelles représentent notre fond le plus stable (et le plus grand). Si vous n'êtes pas déjà un donateur mensuel à notre programme national, au programme jeunesse ou programme régional, s'il vous plait considérez le : les dons mensuels aident à assurer un financement plus stable.

D'un autre côté, la réunion de notre conseil canadien en novembre s'est très bien passée. Au cours des trois dernières années, nous avons fait beaucoup de progrès avec la professionnalisation du SCC. Le but est de renforcer toutes nos entités par une meilleure collaboration aux programmes. Finalement, je veux vous inviter à la prochaine conférence *Peuple et planète* (qui comprend une section *Enfants et planète*), qui aura lieu à Ottawa du 9 au 11 juin 2006. Nous en profiterons pour célébrer le dixième anniversaire de la Coalition Jeunesse Sierra! Nous avons besoin de la participation des francophones pour réclamer encore plus de services en français.

FIRST, SOME CONGRATULATIONS AND THANKS ARE IN ORDER. CONGRATULATIONS TO Elizabeth May for being honored as an Officer of the Order of Canada (O.C.). Thanks to the fifty Canadian and thirty American Sierra Clubbers who came to Montreal for the UN climate change meetings; to those who helped with the opening of our new Montreal office; to SCC members who responded to the November appeal for funds for our climate change work; and to those who made donations at the time of our Lifetime Achievement Awards event in Ottawa. Your individual donations are our most stable (and largest) source of financing. If you are not already a monthly donor to the national office, to the Sierra Youth Coalition and/or to your chapter, please consider it, as it really helps with our financial stability.

On another note, we had an excellent board meeting in November. During the last few years we have made significant progress in professionalizing the Sierra Club of Canada. The current goal is to strengthen all our entities by working collaboratively on programs. In closing, I would like to invite you all to come to the next *People and Planet Conference* (which includes a *Kids and the Planet* section) to be held in Ottawa from June 9-11, 2006. It will also be a 10-year anniversary celebration for the Sierra Youth Coalition and promises to be a great event. We hope more francophones will attend so as to encourage more services in French.



NOTES FROM THE EXECUTIVE DIRECTOR

Elizabeth May

THE NEW YEAR ALWAYS LEADS TO GOOD INTENTIONS FOR TURNING OVER A NEW leaf, FOR taking on board resolutions, for losing weight, exercising, saving more, spending less, reading more, finding love, losing guilt, keeping the house cleaner, the laundry room tidier, while drinking less, and kicking bad habits of all kinds.

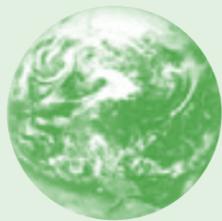
I don't know about you, but I tend to make the same resolutions every year and know the same resolutions will be made next year. For 2006, the list of critical resolutions is long! Top of the list is losing at least a tonne. A tonne of carbon, that is.

The Montreal negotiations have succeeded in launching a new round of global talks to a second phase of Kyoto. We need to move towards a 30 percent reduction in greenhouse gases (GHG) globally below 1990 levels by 2020. This is urgent. If we fail to make this kind of steep reduction, we cannot expect to avoid tipping points in the atmosphere. Ultimately we need reductions of 80 percent below 1990 levels by 2050 if we are to avoid a global average temperature increase of two degrees Celsius. At two degrees Celsius, scientists worry that we could lose the Western Antarctic Ice Sheet. The Western Antarctic Ice Sheet is enormous. It contains a mind-boggling 3.2 million cubic kilometres of ice, about ten percent of the world's total ice. It appears to be weakening as warmer water is eroding its base. No one knows why the warmer water is there, or where it is coming from. It is not expected, but it is possible that the Western Antarctic Ice Sheet could collapse. If it does, the International Panel on Climate Change estimate of sea level rise (so far based on the increased volume of warmer water in a world containing twice the concentration of carbon dioxide) would increase from 0.88 metres, by 2100, to four or five metres. The other tipping point worries are losing the Gulf Stream and/or the Greenland Ice sheet.

In early 2004, a surprising source began to publicize the risk of one such event. The US Department of Defence released to *Fortune* magazine its analysis of the security implications of "a plausible scenario for abrupt climate change."

It suggested that it was plausible that the Gulf Stream could stall by 2010. This would be caused by rapidly melting polar ice changing the salinity of the ocean. The ice is fresh water and its release would push down on the more saline currents, slowing and potentially stopping the vast ocean conveyor belt of currents. If the Gulf Stream were to stall, the study anticipates widespread social and institutional collapse as droughts lead to collapses in food production, displaced environmental refugees press on other borders for resources, soil erosion increases and wind speeds across Texas pick up. The study concluded that the risks of climate change are more significant than the risk of terrorism.

There's not a lot of time. Humanity has lost any margin for error. So get out of your car and into the bus or metro. If no mass transit is available, forge a carpool group. Bike and walk. Replace your energy-guzzling refrigerator with an energy miser. Change all your bulbs to compact fluorescents. And in the election, make sure you put your vote where it will do the most to support candidates who will work to meet Kyoto targets.



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have proved to be very unreliable, with seven shut down in Ontario in recent years. All CANDU reactors have proven to have their reliability drop off sharply after the first ten years of operation.

On top of all this, Canadian taxpayers keep subsidizing AECL. From 1953-2000, AECL received over \$16 billion in subsidies (figure is in year 2000 dollars). AECL receives about \$200 million a year in a direct subsidy. Imagine if we had invested in energy efficiency and conservation with those dollars!

WHAT ABOUT NUCLEAR WASTE?

No one claims to know how to "dispose" of nuclear waste, although some claim to know how to best manage wastes for the long term. High-level nuclear wastes (the spent reactor fuel rods) are initially stored in swimming pool like facilities next to nuclear reactors. They are so hot that if the water were to drain away, they could melt through the cement floor of the building. Over time, the spent fuel cools but is still highly radioactive. In fact, it remains so radioactive that it must be contained from the biosphere for 250,000 years. As a technical matter, engineers think the waste can be placed in lots of concrete and held in huge underground caverns in the Canadian Shield. This is called Deep Geological Storage. The notion that we, in 2005, can count on anything 250,000 years from now is absurd. One of the tragic lessons of Hurricane Katrina was that even relatively inexpensive repairs to levees around New Orleans were dismissed as unimportant. I find it hard to believe that generations from now, the constant costs of maintenance for underground nuclear waste can be reliably counted upon—especially if nothing has gone wrong for the first 40-50 years. The threat of high level waste being mismanaged or (worse) targeted by terrorists, means it should be moved into long-term storage in a condition that puts it out of reach of the nuclear industry for re-processing for more reactors. There is a strong sense that no nuclear waste management option should be chosen while society is still creating more nuclear waste. The first step to long-term management of nuclear waste is a commitment to shut down reactors and stop producing the waste.

If Canadian society insisted that our climate change actions must be judged by the cost per tonne of avoided carbon emissions, nuclear would rank last, with energy conservation a clear winner.

CAN THE NUCLEAR INDUSTRY HELP BATTLE CLIMATE CHANGE?

The nuclear industry always leaves out the GHG emissions from mining and trucking uranium, building those concrete nuclear encapsulations, and the on-going shipment of fuel. Nevertheless, the main reason that nukes are not GHG friendly is that the costs of nuclear rob the treasury at the very time we need to deploy those measures that we know are cost-effective and reduce GHG very efficiently. If Canadian society insisted that our climate change actions must be judged by the cost per tonne of avoided carbon emissions, nuclear would rank last, with energy conservation a clear winner. The worst part of nuclear as a climate change response is that it diverts funds from better options.

RELYING ON GOVERNMENT REGULATIONS

Federal law protects the industry from the real costs of a nuclear accident. Regulation of nuclear reactors is not sufficient to guard against accidents, although, clearly the risk of a catastrophic nuclear accident is much less (statistically) than the risks of climate change impacts. The nuclear industry routinely releases radioactive nuclides. The debate over whether there is any safe dose of ionizing radiation is largely over. Increasingly the medical research concludes there is no such thing as a safe level. Clusters of cancers are reported near nuclear reactors, while the industry touts nuclear energy as "safe."

The Advisory Council on Environmental Standards advised that the allowable levels of radioactive pollutants from reactors should be reduced for health reasons to the European Union's standard of 100 becquerels per litre for drinking water. This was rejected by the government of Ontario, whose standard is 7000 becquerels per litre!

Elizabeth May

Elizabeth May is a former member of the Board of the International Institute of Sustainable Development and is former vice-chair of the National Round Table on the Environment and the Economy. She has received numerous rewards, including the United Nations Global 500 award and 2 honorary doctorates. In 2005 she was appointed as an Officer to the Order of Canada.

WEIGHING THE COSTS

The question of cost is more difficult to assess. At present when the cost of electricity in Ontario is only five cents per kilowatt hour (excluding the cost of delivery, etc.), wind-generated electricity, at about twice the price, is at a huge cost disadvantage. However, as coal-fired generating plants are phased out, Ontario and other provinces will very likely decide to build new nuclear power stations. The cost is unknown at present but may well increase to that of wind-generated energy. The big difference is that one 700-megawatt (MW) nuclear reactor generates electricity equivalent to about 400 large 1.75 MW wind turbines. Think of the different land requirements!

The big difference is that one 700-megawatt (MW) nuclear reactor generates electricity equivalent to about 400 large 1.75 MW wind turbines. Think of the different land requirements!

DISPOSING OF NUCLEAR WASTE

Turning to the disposal of radioactive waste from the spent fuel elements, I believe the Nuclear Waste Management Organization has recently put forward a program that is straightforward and reasonable. The NWMO report (available at www.nwmo.ca) recommends securely storing the spent fuel for 30 years at the reactor sites, then transferring it to a central facility for another 30 years. Finally, it would be placed in a repository some 500 to 1000 metres below the surface in a geologically stable region such as the Canadian Shield. By using corrosion-resistant containers designed to last at least 100,000 years, the radioactive material would be prevented from getting into groundwater flows that might eventually carry it to the surface. It is noteworthy that several other countries, including Finland, Sweden, France and the United States are considering similar methods of disposal. The NWMO proposal carries a steep price tag—\$24 billion spread over many years. This should be regarded as a cost of doing business, as should the cost of decommissioning reactors after their useful life has come to an end. Although expensive, the disposal of radioactive waste is not the insoluble problem it is often made out to be.

ENERGY CONSERVATION AND FUTURE DEMAND

As a society I believe we should be making a major effort to scale back our use of energy through conservation and improved energy efficiency. We should also be moving full-speed ahead with installing renewable energy sources such as wind turbines and photovoltaic panels, both of which can make a valuable contribution. But, as these programs will not come close to meeting future demand over the next 10 to 20 years, we should also be ramping up the construction of a new generation of nuclear reactors such as AECL's 700 MW ACR-700s. As the supply of oil and gas diminishes over the next generation, the need for abundant sources of electrical energy will be greater than ever.

David Goodings

David Goodings is emeritus professor of physics at McMaster University. His research has been in condensed matter physics and in chaos theory. Although he counts several nuclear physicists among his friends, he has no ties to the nuclear industry. He has been a member of Sierra Club of Canada for over 30 years.

ACTION ALERT!

A COMPARISON OF THE OFFICIAL PARTY PLATFORMS ON THE ENVIRONMENT

AS THIS ELECTION MOVES INTO HIGH GEAR, WE WANTED TO share the 2006 election platforms with our members and supporters. Unfortunately, as we go to press, the party environmental platforms are not yet available. As our last analysis was prepared only 18 months ago, with the same leaders in place, we are re-publishing it now. If you have access to email, check our website for the 2006 updates (www.sierraclub.ca).

From conversations with the Green Party, we expect its platform to have improved this year, with more specifics. We also note that the Liberals delivered on a number of campaign promises from 2004, significantly delivering a panel review of the proposed Sydney Tar Ponds clean up and a revised and improved Kyoto plan. Recent performance by Environment Minister Stéphane Dion at the Montreal climate conference is deserving of praise. Jack Layton and the NDP have consistently promoted the goals they set out in the 2004 platform. During the climate conference, Layton added a few new key promises for 2006: that the NDP would set a target of reducing greenhouse gases to 25 percent below 1990 levels by 2020, pass a Clean Air Act to achieve it and a Clean Water Act as well.

No other significant announcements by other federal parties have been made at the time of this writing.

HERE IS OUR 2004 ELECTION ANALYSIS:

Overall, the major parties have a number of issues of commonality, but some very striking differences. In common are the following commitments and/or gaps found in the party platforms:

The parties seem to see the environmental agenda as essentially urban issues. None of them commit to completing the national park system. Most of the major parties neglect the issue of protected areas, national parks, the national wildlife areas, and marine protected areas.

All of the parties are supportive of recent spending announcements of the Martin government of \$4 billion to address the toxic legacy of federal waste sites and those of mixed jurisdiction, such as the Sydney Tar Ponds.

To one degree or another, all the parties speak favourably about renewable energy. The Liberals, NDP, Bloc Québécois and Greens all commit to investments in wind power.

The areas of divergence are much more striking. The galvanizing issue is climate change and support for the Kyoto Protocol. Of the major parties, only the Harper Conservatives oppose implementation of Kyoto, doubt the science demonstrating human interference is already destabilizing the global climate system, and call for repudiating Canada's 2002 ratification of the treaty.

The other parties have differing positions on how to implement Kyoto, but only Harper wants to take Canada out of the Protocol siding with US President George Bush.

SUMMARY

The Conservative Party has some commitments for the environment that are worth supporting. The Conservatives support the approach to brownfield remediation set out by the National Round Table on Environment and Economy. The unspecified approach of Harper to fighting smog would be good, but the repudiation of Kyoto undermines any credible approach to smog.

The Green Party has a strong environmental commitment, but, whether through lack of experience in government or through a shortage of policy experts, the Green Platform is not as specific and does not make as many detailed commitments on as many topics as either the New Democrats or the Bloc Québécois.

The Bloc Québécois and the New Democratic Party Platforms are clearly the strongest. In terms of climate change, the language of the Bloc Québécois platform is the most forceful of any party platform, including the Green platform. The policy prescriptions to meet Kyoto are quite similar. The NDP, the Bloc and the Greens all propose an emissions trading system for carbon dioxide within a cap. The NDP and the Bloc both favour regulating fuel economy standards for automobiles. The Liberal plan calls for the same level of improvement, but relies on voluntary methods. The NDP and the Bloc have strong commitments to improving urban public transit. The Bloc would fund this through a 1.5 cent/litre tax on gasoline. The NDP would fund it through sharing the existing federal gas tax, allocating half of the tax revenue to municipalities for promoting sustainable transportation, urban public transit, bicycle paths in cities, and a shift to rail on rural roads for freight.

On a range of other issues, the Bloc and the NDP have very similar promises. Along with the Greens, the Bloc and NDP would place a moratorium on the commercialization of genetically engineered organisms (GMO), require mandatory labeling

of GMOs, a more effective regime to deal with pesticides and other toxic substances. Both the Bloc and the NDP would end subsidies to nuclear energy. The NDP has the most complete set of commitments to protecting clean water in Canada and banning bulk water exports.

Once the answers to the questionnaire are factored into the analysis, the strongest set of environmental promises comes from the NDP. The Bloc lost points for its support for the asbestos industry and for reluctance to complete the national park system and protect endangered species due to jurisdictional concerns. The Liberals picked up points for strong commitments to completing the national park system, but provided status quo answers on support for the nuclear industry, biotechnology, and asbestos.

On some questions, the Conservative answers were clearly not the environmentally appropriate choices. On Kyoto, once again the party has stated "we would not proceed with Kyoto." The Conservatives also replied "NO" to the question about renegotiating Chapter 11 of NAFTA.

On key questions related to protection of nature, the Conservative response is unclear. In response to the question: "If elected will you complete the national parks system and protect the ecological integrity of existing national parks?" the Conservative Party response was "we must first commit to getting the infrastructure of our existing parks up to date."

In response to the question about the willingness of the Party to utilize the emergency listing provisions of the Species at Risk Act, the Conservative response was "This act needs to include compensation and mens rea provisions."

On Oceans, in response to the question: "If your party forms government, will you commit to implementation of the Oceans Act and the amendment of the petroleum board legislation to allow ecosystem based decisions and the precautionary approach to be respected?" the Conservative response was "Experts tell us our offshore regulatory structure in Canada is the worst in the world. It is fragmented, redundant, uncertain and costly." These answers are somewhat unclear and did not result in extra points.

FEDERAL PARTY REPORT CARD

The following grades are allocated to assist voters who want to consider the promises of the Liberals, Conservatives, NDP, Bloc Québécois and Green Party on the environment.

New Democratic Party	A+
Bloc Québécois	A
Green Party	A
Liberal Party	B
Conservative Party	D-

Report on the World Climate Conference

Climate 10

Bush 0

FROM NOVEMBER 28 TO DECEMBER 9, 2005, THE WORLD CAME TO MONTREAL FOR the 11th Conference of the Parties of the United Nations Framework Convention on Climate Change and the First Meeting of the Parties of the Kyoto Protocol or, as known in short-hand to veteran activists from previous negotiations, COP11 and COP/MOP1. Actually, as the scheduled end of the conference arrived in the afternoon of December 9, key goals of the conference had still not been reached. Talks were deadlocked and went on right through the night. It was not until 6:17 A.M. on December 10 that the President of the Conference, Canada's Environment Minister Stéphane Dion, brought down the gavel on a historic set of agreements.

WHAT WAS ACCOMPLISHED?

In a nutshell, we achieved the high end of every single decision we had hoped for.

- 1) The goal of the Bush Administration was to kill Kyoto. They wanted a headstone for the world-saving treaty reading "Born February 16, 2005, Died December 31, 2012" (the end of the first commitment period.)

Instead, we launched Kyoto Phase Two. Under Kyoto's Article 3.9, parties to Kyoto

(157 nations, not including the US and Australia) were required to launch a review of their commitments at the 2005 meeting. It could have been a weak review.

Instead, the parties agreed to the strongest and most aggressive kind of negotiation. Although the words "ad hoc working group" may not sound exciting, it is the best way to get cuts to kick in when the first commitment period ends. The goal of the "ad hoc working group" is to complete negotiations for a new round of binding emission reduction targets for industrialized countries to ensure "no gap" between the end of the first commitment period (2008-2012) and the new one. That means concluding negotiations by 2008-9, in order to be sure of ratification to start a new commitment period on January 1, 2013.

THIS IS HUGE!! It means climate negotiators will be working between now and the next COP to make real progress. The US did agree to a very weak set of actions on the other side of the ledger, decisions under the Framework Convention. But the key action, the meaningful steps were taken within Kyoto, where the US had no (direct) way to block progress.

- 2) We passed all the rules to make Kyoto work (the COP7 decisions from Marrakech).
- 3) We enhanced the Clean Development Mechanism (CDM) and countries in attendance contributed US\$8 million to help the CDM Executive Board and secretariat. We made progress on the challenge of adapting to climate change we can no longer avoid.

- 4) A decision was also made to prepare well for the discussions at the next COP-MOP, December 2006 in Nairobi, under Article 9. It deals with both industrialized AND developing countries in looking at the future Kyoto contributions ALL can make.
- 5) For the first time, the issue of stopping tropical deforestation was put on the agenda for targets for developing countries (at the request of Papua New Guinea).

On top of the actual decisions reached through the Kyoto Protocol, the fact that the Montreal conference was the first-ever climate negotiation in North America allowed us to make headway in increasing public awareness in the US. Sierra Club of Canada brought 50 of our volunteers to the conference, of which 20 were youth, and about 30 US Sierra Club volunteers. We also succeeded in the coup of the meeting. Former president Bill Clinton came to Montreal at our invitation!

You can find both Clinton's speech and Prime Minister Paul Martin's on our website. (If you do not have email and want to read the speeches, let us know and we'll mail them to you.)

The COP11-COP/MOP1 conference in Montreal really shone a spotlight on the progressive elements within the US, beyond the regressive and dangerous Bush administration. Mayors committed to Kyoto, 190 in the US alone, received attention. The role of labour in the US supporting Kyoto was also highlighted. Faith groups, including US evangelicals concerned about climate, also participated.

Business leaders from the US who are calling for climate action were also in attendance. And the youth of the US really participated strongly. In one meeting between US youth and the US delegation, the youth call to protect their future led one (male) US official to cry.

Thanks to Clinton's visit, the US media may finally have figured out that Kyoto did not die when Bush pulled out.

Now we must stay focused on the progress of the negotiations we have launched. For the next year, whoever is Canada's Minister of Environment will be the President of COP11, guiding the negotiations forward. The federal election will thus have an impact on these international negotiations. No review of the climate conference can conclude without a large vote of thanks to Stéphane Dion. When the government fell on the opening day of the conference, November 28, he promised he would not even think about the campaign until December 10. He was as good as his word. He worked tirelessly, guiding the negotiations through some very treacherous shoals, including threats and walkouts by the US delegation, to a successful conclusion. Had it not been for his laser-like focus, his refusal to campaign in his riding, we could not have succeeded.

Elizabeth May

For a blow by blow account of the conference, see Elizabeth's blog at www.sierraclub.ca.



"We are called here to protect our planet. We are called here by our citizens. We must find the will and the way to live up to what they have every right to expect from us."

Paul Martin

"I think it's crazy for us to play games with our children's future by not agreeing to do what manifestly we know will drastically enhance the economy as well as protect the environment. And give us a chance to share this planet together."

Bill Clinton

Planet by the Numbers...

Energy Consumption in Canada

222 — Gigajoules of energy Canadians consumed per capita in 1967.¹

353 — Gigajoules of energy Canadians consumed per capita in 2002.²

1957 — The last year since total energy consumption has NOT been on the rise (excluding the recessions in 1982 and 1991).³

9% — The total percent increase per year in residential energy consumption from 1990 to 2002. This is largely due to the increase in the size of homes and the use of more home electrical appliances.⁴

13% — The percentage shaved off of total end-use energy consumption between 1990 and 2002 due to improvements in energy efficiency.⁵

\$1.3 billion — The amount of money spent on research and development related to energy issues in 1983.⁶

\$900 million — The amount of money spent on research and development related to energy issues in 2001.⁷

45% — The percent of energy Canada produced more than it consumed in 2002. Note that during this time, Canada's energy consumption per capita reached national record breaking levels.⁸

\$55.1 billion — The monetary value of Canada's exported energy products in 2001; equaling 14% of total exports.⁹

18% — The percent increase of GHG emissions from 1990 to 2001 principally attributed to energy production and consumption methods.¹⁰

1/2 — Of Canada's GHG emissions in 2001 were generated from the production of heat and electricity, and the fossil fuel industry.¹¹

90% — The percent of Canada's carbon dioxide and nitrogen oxide emissions produced from energy use.¹²

55% — The percent of Canada's sulphur dioxide and volatile organic compound emissions produced from energy use.¹³

6th — Canada's ranking in the world's largest users of primary energy.¹⁴

27th — Canada's ranking out of 29 OECD nations in energy use per capita — just behind Iceland and Luxembourg.¹⁵

2.5% — Canada's percentage of the total global energy consumption in 1999.¹⁶

Canada's energy comes from the following sources:¹⁷

41% from natural gas

30% from oil

12% from coal

7% from hydro-electric generation

6% from nuclear power

4% from renewable energy sources

11th — Canada's ranking in nuclear energy consumption per capita in 2002.¹⁸

A gigajoule is a Canadian unit of heating value equivalent to 943,213.3 Btu.

One GJ is equal to

277.8 kWh of electricity

26.9 m³ of natural gas

25.9 litres of heating oil

A gigajoule of electricity will keep a 60-watt bulb continuously lit for six months.¹⁹

1. Statistics Canada. 2004. "Human activity and the environment." Available online at www.statcan.ca/Daily/English/041027/d041027a.htm.

2.-7. Ibid.

8. Centre for Energy. 2005. Available online at www.centreforenergy.com/silos/ET-EnergyStatistics.asp.

9. Statistics Canada. 2004. "Human activity and the environment." Available online at www.statcan.ca/Daily/English/041027/d041027a.htm.

10.-11. Ibid.

12. Canada vs. The OECD An Environmental Comparison. "Energy Use: Energy Consumption." Available online at www.environmentalindicators.com/htdocs/indicators/8ener.htm.

13. Ibid.

14. Environment Canada. 2005. "Canada's National Environmental Indicator Series 2003." Available online at www.ec.gc.ca/soer-ree/English/Indicator_series/new_issues.cfm?issue_id=11&tech_id=45#bio_pic.

15. Canada vs. the OECD: An Environmental Comparison. "Energy Use: Energy Consumption." Available online at www.environmentalindicators.com/htdocs/indicators/8ener.htm.

16. Environment Canada. 2005. "Canada's National Environmental Indicator Series 2003." Available online at www.ec.gc.ca/soer-ree/English/Indicator_series/new_issues.cfm?issue_id=11&tech_id=45#bio_pic.

17. Environmental Defense. "Enlighten Canada With Green Power." Available online at www.environmentaldefence.ca/aveda/action.htm.

18. Nation Master. "Nuclear Energy Consumption (per capita)." Available online at www.nationmaster.com/graph/T/ene_nuc_ene_con_cap.

19. Natural Resources Canada

MAKING MONTHLY DONATIONS

As a supporter of our monthly giving program, your monthly donation makes you a partner in Sierra Club of Canada's important environmental protection work.

Every day of the year, you will be helping to preserve and protect our natural environment. Here are some reasons why monthly giving is an option many of our supporters choose...

How monthly giving benefits our environment:

It provides a consistent and reliable source of funding, allowing Sierra Club of Canada to respond immediately to urgent environmental issues the moment they arise.

It's cost effective. Pre-authorized donations can be processed more efficiently than single gifts, leaving even more money for the important environment saving programs we support.

It's environmentally friendly. Much less paper and energy are used in the processing of pre-authorized gifts.

HOW MONTHLY GIVING BENEFITS YOU:

IT'S EASY. Just tell us whether you would prefer to use your credit card or your bank account, and we'll take care of the rest.

IT'S FLEXIBLE. You can increase, decrease, pause or stop your donations at any time.

IT'S CONVENIENT. And if you decide to donate to Sierra Club of Canada Foundation, you'll receive a single, consolidated tax receipt for all your monthly donations from the previous year, early in each new year.

IT'S REWARDING. You will receive all the benefits of supporting the work of the Sierra Club of Canada, including Sierra Club of Canada Activist News (SCAN).

Your support is important and allows us to sustain a grassroots movement advocating for the protection of global ecosystems.

If you would like to find out more about making monthly donations to Sierra Club of Canada or Sierra Club of Canada Foundation:

Please call us at 1-888-810-4204 or visit us at www.sierraclub.ca/donate

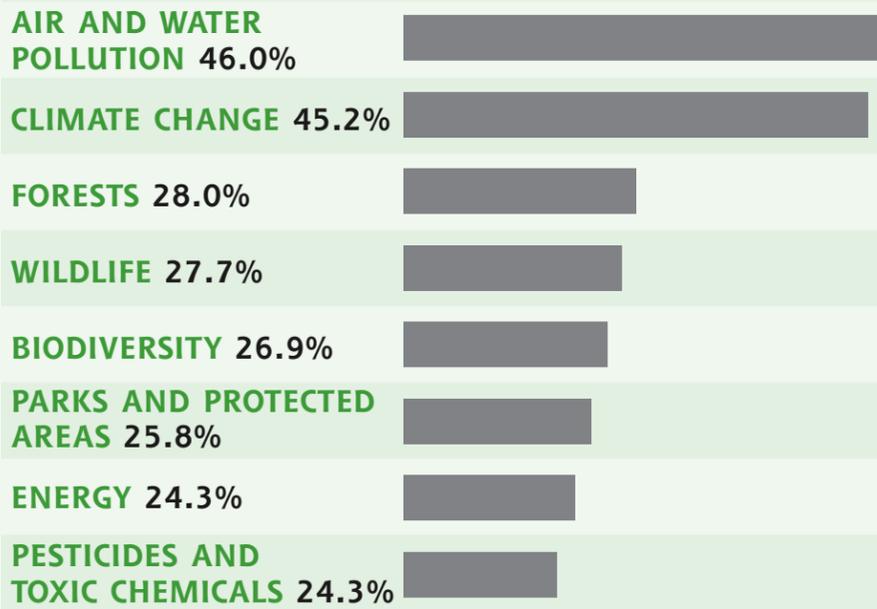
WE ASKED . . . YOU ANSWERED!

We'd like to report back to you, our members, about our membership survey. Here are some comments we'd like to share:

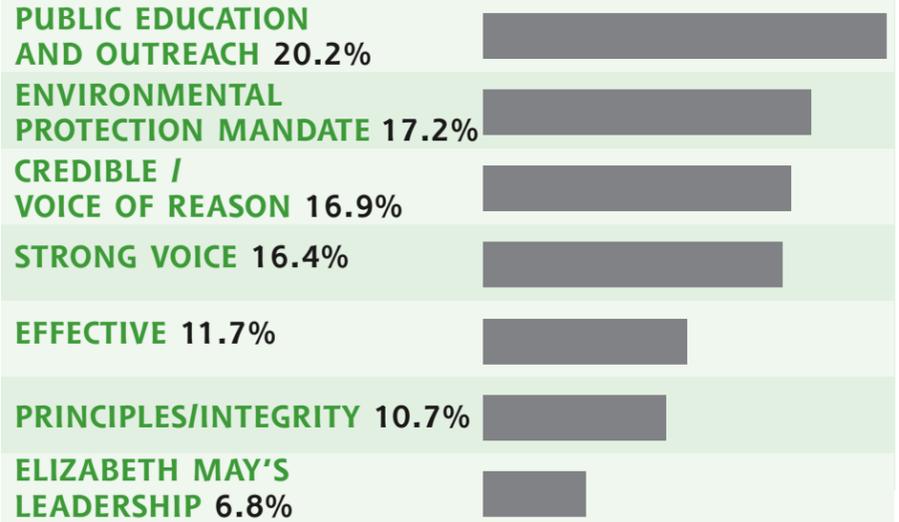
"I appreciate everything Sierra Club does to promote the idea that environment should be our top priority. A healthy economy will serve us little if the environment is making us all sick."

"I would like to complement you on your work, on your press releases, on your efforts to include your members in votes and in events that happen. I think Sierra Club is doing a terrific job at creating a strong voice in the public domain for environmental concerns."

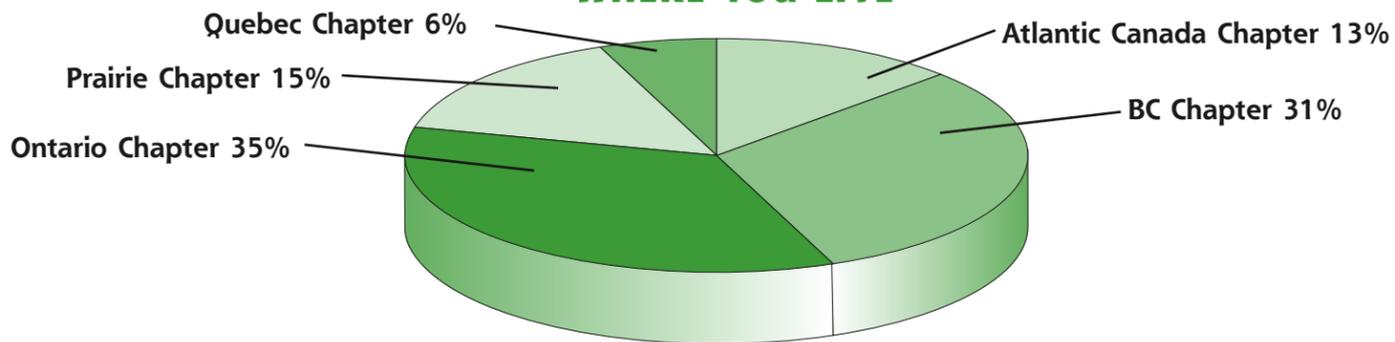
WHAT ISSUES ARE IMPORTANT TO YOU?



WHAT DO YOU LIKE MOST ABOUT SIERRA CLUB OF CANADA?



WHERE YOU LIVE



TAR NATION or KYOTO COUNTRY?

We can't have it both ways.

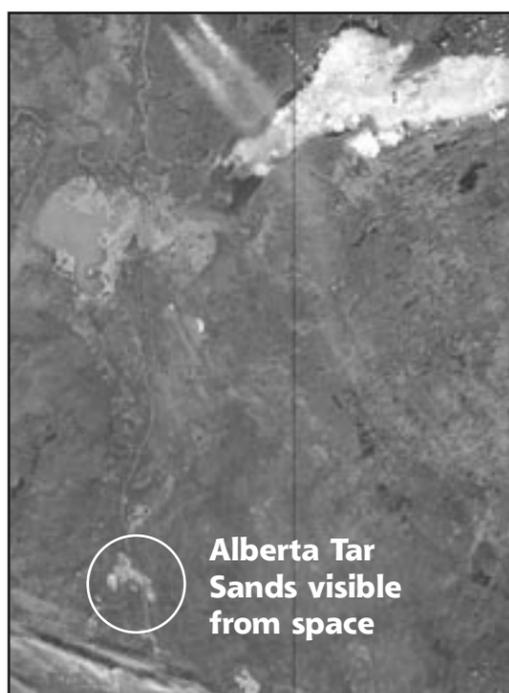
ON THE ONE HAND, CANADA APPEARS COMMITTED TO MEETING its Kyoto Protocol targets for reducing greenhouse gas emissions and played a key role in Montreal launching negotiations for an effective post-Kyoto international regime. But Canada cannot be a Kyoto country and the world's tar nation as well.

To Bay Street, Alberta's tar sands appear to be Canada's economic salvation with oil reserves second only to Saudi Arabia, and an estimated value of \$1.4 trillion. Canada already exports more oil to the U.S. than any other country. Total Canadian oil production is projected to increase by 50 per cent to 3.9 million barrels per day by 2015. By then, three out of every four barrels of oil produced in Canada will come from the tar sands.

This could make Canada a global tar baby. Tar sands oil is the worst type of oil for the atmosphere. A barrel of tar sands oil produces more than three times as much greenhouse gases as a barrel of conventionally produced oil because so much energy is required to separate the tar from the sand and upgrade the tar to oil. Greenhouse gas emissions from tar sands oil production are expected to more than triple from 25.2 megatonnes in 2003 to at least 83.6 megatonnes in 2012, and quintuple to at least 113.1 megatonnes by 2020. This at a time when Canadians and other Canadian industries are trying to dramatically reduce their emissions.

Tar sands development is a ravenous consumer of water and natural gas, destroyer of boreal forests, and one of Canada's biggest air polluters. The \$7 billion Mackenzie Gas Project—which would transform the North from wilderness to petro-industrial landscape—would provide the natural gas to fuel the growth of tar sands oil production.

Federal environment minister Stéphane Dion recognizes the tar sands challenge: "They are sending out a lot of greenhouse gas emissions. But there is no minister



Jacques Desloires, MODIS Land Rapid Response Team, NASA/GSFC

Alberta Tar Sands visible from space

of the environment on Earth who can stop this from going forward, because there is too much money in it"

In December, Pembina Institute, Sierra Club of Canada, World Wildlife Fund Canada and other environmental groups issued a declaration for addressing the unsustainable growth and environmental impacts of tar sands development. The declaration urges that:

- Tar sands operations become carbon neutral (zero net greenhouse gas emissions) by 2020 through a combination of on-site emission reductions and genuine emissions offsets;
- An ecologically representative interconnected network of protected areas and corridors be established;
- Subsidies to the tar sands industry be eliminated; and
- Precautionary limits for water use and release, air contaminants such as sulphur dioxide and volatile organic compounds, watershed integrity and wildlife habitat be prescribed.

The interests of Canada, Alberta and northern communities will be best served by development that is planned and minimizes GHG emissions and other environmental damage. Let's not trash the ecology of northern Alberta and the Mackenzie Valley and make achievement of Canada's Kyoto Protocol commitments impossible to achieve just to please big oil and the U.S. administration. As Prime Minister Paul Martin said at the Montreal global climate negotiations in December, it's time for Canada to pull up its socks and reduce our greenhouse gas emissions.

Tar nation or Kyoto country, its our choice.

Stephen Hazell is SCC's National Conservation Director.

Stephen Hazell

SUPPORT SIERRA CLUB OF CANADA



Yes, I want to join and make a difference!

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Contributing	<input type="checkbox"/> \$150	<input type="checkbox"/> \$175	Limited Income	<input type="checkbox"/> \$20	<input type="checkbox"/> \$30
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Please do not share my name with other organizations.

Please send me information about.....

- naming the Sierra Club of Canada Foundation in my will or living trust.
- gifts that provide me with income for life.
- SCC monthly giving plan

Thank you for your support!

For more information please call us at 1-888-810-4204 or (613) 241-4611 or visit our website at www.sierraclub.ca



People and the Planet 2006

Changing Values for a Sustainable Future

**June 9 -11
at Saint Paul University, Ottawa**

Sierra Club of Canada's People & the Planet conference is an exciting and empowering opportunity for activists. Join us to learn more about the issues, examine our values and change the world.

Come hear Maude Barlow, Elizabeth May, Michael Moore*, Wangari Maathai*, Ray Anderson* and more.

There will be plenary sessions, workshops, social events, a children's program, an environmental fair and great opportunities for learning and networking about environmental issues.

Be sure to put SCC's successful biannual conference in your schedule for 2006!

*invited yet not confirmed

Thank you for giving to Sierra Club of Canada! Your contribution will help support our campaigns across Canada at the national and chapter levels. For more information, please call 1-888-810-4204.



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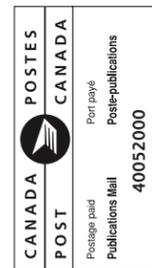
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