



for a living planet[®]

Avoiding Dangerous Climate Change A Five-Point Framework for Action in Ontario

The global warming problem:

Burning fossil fuels – coal, oil and natural gas – releases carbon dioxide (CO₂) into the atmosphere. Since the Industrial Revolution, the CO₂ concentration in the atmosphere has risen dramatically, acting like a blanket over the Earth which traps in heat. Other greenhouse gases include methane, nitrous oxides and some ozone-depleting chemicals. Because of this pollution, the global temperature is rising more rapidly than ever in Earth's history. The planet has already warmed significantly, and Canada, particularly our northern regions, is warming faster than most other parts of the world.

Ontario's role and opportunity:

Canada is one of the least energy-efficient countries in the world, and Canadians are amongst the highest per capita greenhouse gas polluters. Canada's greenhouse gas emissions have increased by 27 per cent in the 1990 to 2004 period, despite Kyoto Protocol obligations of 6 per cent reduction by 2012. Ontario's emissions grew by 15 per cent over the same period.

Ontario can and must make a significant contribution to avoiding dangerous climate change commensurate with the province's current and historical contribution to the problem. Many of the policy and fiscal tools required to address climate change are within provincial jurisdiction. The province has a range of legitimate legal and financial capacities to address climate change and implement the changes needed to truly institute a culture of conservation. In this respect, the McGuinty government's commitment to end coal-fired power generation represents a world-class entry in the fight against global warming. Leadership from Ontario could also help leverage action from other provinces and the federal government, which is why it is so important to get it right.

Scale of Ontario's effort:

Industrialized jurisdictions like Canada and Ontario have the greatest responsibility, having contributed the most to the problem. The nature and level of Ontario's climate change plan should be geared to achieving the levels of reductions that the latest science says are necessary if there is to be any hope of stabilizing atmospheric concentrations of GHGs at a level which will keep global temperatures from increasing more than an average of 2-degrees Celsius. Beyond this, dangerous and irreversible consequences can be expected. This implies Kyoto-level reductions of 6 per cent by 2012, a medium term target of 25 – 30 per cent reductions by 2020, and greenhouse gas emission reductions in the order of 80 per cent by mid-century.



WWF *for a living planet*[®]

Simple in principle, challenging in practice:

Industrialized countries, including Canada, must rapidly become more energy efficient and deploy clean, less carbon-intensive energy sources. To dramatically cut CO₂ emissions we must transform the way we supply and use energy and raw materials. There are no insurmountable technological barriers – what is needed is political will, corporate responsibility and a genuine spirit of innovation which together can seize the climate stabilizing opportunities before us.

Tinkering won't do it:

Much has been written and discussed regarding 'measures' to tackle greenhouse gas emissions. As Dr. Suzuki reminded us recently, diversity is the key to a healthy and resilient system; there is no magic bullet. Simply adding some new requirements and tightening up others is inadequate – it is not possible to achieve the level of reductions required without fundamental directional and philosophical change. De-carbonization is the 'makeover' of the century and must be embraced as such.

Public opinion favours action:

Recent polling indicates Canadians are very concerned about the state of the planet, particularly regarding global warming. Not only are we anxious for action from governments, but frustrated with endless debate. Ontarians strongly support a 'green' agenda – biodiversity protection, energy conservation, renewable power, pollution prevention – but remain somewhat skeptical regarding government's capacity to deliver. This is indeed the government's opportunity and challenge.

A framework for achieving GHG reduction targets:

Conditions in Ontario could not be more opportune for embarking on a transformative 'de-carbonization' journey. The province's energy efficiency/energy productivity is distressingly low. The 1970s era electricity system is no longer tenable. We are blessed with vast natural wealth – water, forests, fertile lands – but are eating into the capital, not living on the interest. And the growing population is straining the available space and infrastructure.

WWF-Canada's framework addresses these problems and opportunities in an integrated and inter-connected way, with the aim of creating a more efficient, healthier and sustainable society, while doing our part to fight global warming by addressing the key sources of greenhouse gas emissions in Ontario.

Sources of greenhouse gas emissions	2004 (kt CO₂e)	% of total
Transportation	63,000	31%
Industry (fossil fuel processing, mining, metal and mineral products, chemicals, manufacturing and construction sectors)	51,400	25%
Electricity	35,100	17%
Homes	19,000	9%
Buildings (commercial and institutional)	14,100	7%
Agriculture and Forestry	11,000	5%
Waste (ie: methane from landfills)	7,400	4%



WWF *for a living planet*[®]

First, dramatically increase Ontario's energy efficiency:

At 0.22 tonnes of oil equivalent per US\$1000 GDP Canada is at the bottom of the OECD energy productivity heap. Ontario's electricity productivity is also low in comparison to other jurisdictions. For the past 30 plus years, Canada's energy efficiency has improved at a modest rate of approximately 1 per cent per year, attributable to innovation, tightening of regulations to bring up the rear, and obsolescence/stock turnover (cars, equipment, etc.). In Ontario, without the 23 per cent increase in energy efficiency since 1990, economic and population growth would have sent energy demand and GHG emissions through the roof.

But the climate crisis demands that we set our sights beyond this business-as-usual trend and embark on a deliberate campaign to dramatically increase energy efficiency. Given continuing economic and population growth, business-as-usual efficiency improvements barely dampen energy demand. A 2 per cent improvement per year, economy-wide and consistent for 10 plus years, could flat-line energy use. At 3 per cent, Ontario's energy use and reliance on fossil fuels could actually be reduced.

To achieve this level of efficiency improvement requires multiple measures including regulatory standards, financial incentives/disincentives, support for research and innovation. The must be applied to all energy sources – natural gas, coal, gasoline/diesel, electricity – throughout all sectors of the economy – appliances, energy-using equipment, buildings, transportation, industrial processes – with clear, unwavering resolve and in a spirit of continuous improvement.

One model to explore will be the European Union's (EU) recently-approved Energy Efficiency Plan (EEP) which, notwithstanding their already higher efficiency baseline, aims for a 20 per cent reduction in primary energy use by 2020. A full briefing on the EU's EEP and various related energy efficiency directives is available from WWF-Canada. Similarly, WWF's corporate Climate Savers partners and other leading-edge companies can demonstrate how to dramatically reduce greenhouse gas emissions through efficiency.

Second, make Ontario a clean energy superpower:

Electricity is, arguably, the easiest energy system to de-carbonize since there are low-carbon alternatives available. The fact that Ontario's power system is being rebuilt – in one of the largest peace-time investments in Canadian history according to the Minister of Energy – means that decisions made in the next couple of years will shape our electricity system for the next generation and beyond. Of key importance is the commitment to phase out coal-fired electricity generation: it can be honoured by 2009 and should be a priority in the context of Canada's Kyoto Protocol obligation. How this can be achieved is the focus of intense debate which WWF-Canada's response to the Ontario Power Authority Preliminary Plan addresses in detail (attached).



WWF *for a living planet*[®]

In summary, to ensure Ontario has the clean, low-carbon, equitable and sustainable electricity to meet Ontario's needs, we must:

- dramatically reduce energy waste (as above);
- favour a diverse mix of renewable energy sources;
- use fossil fuels intelligently (eg: co-generation) and in declining amounts; and
- de-centralize the system.

WWF-Canada's position also challenges and rejects the proposed role for nuclear power in fighting global warming. Replacing a very dirty, centralized, 1950s technology (coal) with a highly toxic, un-reliable, expensive and dangerous 1970s technology (nuclear) simply creates another set of problems and blocks adoption of better options. In short, Ontario needs to transform, not tweak, the electricity sector in order to achieve the significant GHG emission reductions that life on earth demands.

Options for reducing emissions from the transportation sector follow the same lines. Notwithstanding the division of federal/provincial authorities, the province must maximize the use of its financial and purchasing powers to leverage improvements in fleet-wide energy performance. The leadership Ontario has demonstrated in advancing ethanol must be taken to the next level with a focus on higher volumes of lower-impact and more sustainable biofuels than corn-based ethanol. Over longer timeframes, it will be through structural changes -- the availability of efficient public transportation and rail networks allowing people and goods to shift off carbon-intensive roads -- that GHG targets can be met.

Third, let's use one planet worth of resources, not four:

WWF's Living Planet Index calculates that if every person lived in the manner Canadians do, we'd need more than four planets worth of resources. Energy use accounts for half of this excess. In response, WWF and our partner BioRegional developed 10 principles -- zero carbon, zero waste, sustainable transport, sustainable materials, local and sustainable food, sustainable water, natural habitats and wildlife, culture and heritage, equity and fair trade, health and happiness -- which are quantified/formulated for the relevant region, and which when implemented at a community level will limit an individual's footprint to a 'one planet' level.

The amendment of Ontario's Building Code scheduled to come into force in a few weeks is an important step to curb GHG emissions. What must be recognized is that much of Ontario's 'planetary overspending' can be traced to urban form, specifically sprawling development and inefficient infrastructure which demands intensive use of cars, water, energy, forests and other resources. Incremental tightening of energy performance requirements and individual low-carbon technologies cannot compensate for this design flaw.



for a living planet®

The declaration of the Toronto Greenbelt, which protects an impressive and important swath of nature and agricultural land, provides even greater motivation to meet the needs of a growing population in a sustainable and low-carbon manner. Intensification policies, resource use performance standards, infrastructure to reduce personal vehicle use, policies that favour local food, and other practical measures in keeping with the One Planet Living principles will significantly and permanently reduce greenhouse gas emissions, and improve the quality of life in Ontario.

The UK Government has embraced One Planet Living in principle and is moving to practical implementation. For instance, the Minister of Environment has adopted One Planet Living as his department's mission and WWF's campaign for one million sustainable homes is being delivered through amendments to their planning law, building code and house tax breaks. WWF and BioRegional experts can provide background and detailed briefings on how Ontario could move to One Planet Living and extract large greenhouse gas reductions.

Without blaming individuals and beyond simply asking people to do their part, it is essential to build citizens' understanding of the climate crisis, indicate the roles and responsibilities of all the players, explicitly identify which aspects of the problem is in their control, and provide clear paths to participation with expectations.

Fourth, expand Ontario's biological carbon sink:

Ontario's wild forests represent an important reservoir of carbon that naturally absorbs CO₂ from the atmosphere. Well-managed forests can minimize the loss of carbon associated with deforestation. WWF-Canada works with leading forestry and forest product companies to advance the environmental standards of the Forest Stewardship Council (FSC) for the benefit of biodiversity and the bottom-line. Under the Kyoto Protocol, gain or loss of carbon from forests is counted against GHG obligations, and Ontario's forests should not be allowed to be a source of GHG to the atmosphere. Notwithstanding the federal government's ultimate responsibility yet current absence in the field, Ontario should proactively track changes in forest carbon, including benefits that accrue from adopting FSC standards for woodland operations and expanding the area of established forest under permanent protection.

Ontario's agricultural lands also have similar important carbon-sequestration potential, both on the working landscape through building soil fertility and by planting marginal areas with deep-rooted plants that prevent erosion and potentially provide sustainable and perennial sources of biomass.

Fifth, plan for some inevitable climate change:

Ignoring global warming will not make it go away. In fact, Ontario is already feeling the effects of a warming planet. Modelling by WWF-Canada and the Sage Centre indicates the downward trend in river and lake levels has vicious-cycle implications for our ability to generate clean hydroelectricity. A recent report by the Ministry of Natural Resources shows Ontario's polar bears are skinnier than ever, correlated with the decline in sea ice on which they hunt, with serious implications



WWF *for a living planet*[®]

for their survival. Urban areas are suffering more extreme weather, including heat waves and rain events that are overwhelming existing infrastructure. WWF-Canada modelling also indicates Ontario's forests cannot migrate fast enough to keep up with the changing habitat, and will succumb from lack of moisture and fires.

In addition to stepping up the GHG reduction effort, the implications of a warming world must be taken into account in all aspects of Ontario's economic, social and ecological activity. WWF-Canada particularly recommends that Ontario identify and protect natural areas that can be expected to be most resilient to the impacts of warming. This so-called resiliency planning is urgently needed in a warming world.

Leadership on global warming will be recognized:

The Canadian public has not allowed the Harper government to abandon responsibility for protecting the climate. While Canada is still a Party to the Kyoto Protocol, the lack of federal leadership in setting national GHG reduction targets and regulating emissions has clearly stalled action, investment and outcomes. This is frustrating and unconscionable. What is needed is motivation. Provincial action, both despite and because of this gap, should be strategically positioned as leadership and leverage; leadership in doing what the planet needs and that provinces can deliver, leverage in demonstrating the federal avoidance of legitimate, necessary and achievable engagement in addressing global warming.

Ontario: do what we can to avoid dangerous climate change!

WWF-Canada offers these ideas in the interest of advancing an ambitious plan of action to reduce greenhouse gases in keeping with Ontario's specific sources and opportunities. Ambitious does not mean unachievable. We can reduce the energy-intensity of our economy overall, eliminate coal-fired power (without trading smoggy coal for radiotoxic nuclear), increase the sustainability of our urban areas and lifestyles, and maximize the biological carbon storage potential of our forests and agricultural lands. For the effort and investment, Ontarians will reap the benefits – in economic, ecological, and livability terms -- and know that we are helping the world fight dangerous climate change.

WWF-Canada welcomes the opportunity to submit these comments and stands ready to provide additional information, access to the WWF network's expertise, and other assistance which may advance action go dramatically reduce greenhouse gases. Contact: Julia Langer, Director, Global Threats Programme, WWF-Canada, jlanger@wwfcanada.org or phone: 416-484-7709