

Canada - Climate Change and the New Economy

**submitted to the
Standing Committee on Finance
House of Commons**

**by
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“We in Canada understand the seriousness of global warming. It already has an important impact on the northern region of our country, threatening wildlife and infrastructure. We also feel its effects in the South, with the lower water levels of the Great Lakes and disruptions to our shipping routes.”

“I am confident that the agreement reached this weekend in Bonn opens the way for Canada’s ratification of the Kyoto Protocol next year, following full consultations with the provinces, the territories, stakeholders and other Canadians.”

Right Honourable Jean Chretien, Prime Minister
July 23, 2001

The objectives of the Standing Committee on Finance in this pre-budget consultation are to develop a budget plan which:

1. Ensures that Canada remains a major player in the New Economy;
2. Provides Canadians with equal opportunity to succeed; and
3. Creates a socio-economic environment where Canadians can enjoy the best quality of life and standard of living.

The David Suzuki Foundation wishes to address the Committee’s three objectives in light of the Government of Canada’s commitment to ratify and implement the Kyoto Protocol. Implementing the Protocol can provide a foundation for the new economy, improve our standard of living, and provide equal opportunity for Canadians in all regions to succeed. We also believe that our recommendations are even more relevant in light of the global instability arising from the horrific events of September 11th.

Kyoto: the Plan for Implementation

Today the “Old Economy” is being infused with significant investment. Right now, in Canada, massive expansion of fossil fuel projects is occurring in the areas of tar sands development, coal fired electricity, and natural gas exploration and processing. At the same time throughout the world renewable energy sources, such as wind power, are growing at a rate of 40 per cent per year.

The tar sands expansion, which involves some of the most energy intensive petroleum production in the world, will only serve to hinder our transition into the New Economy while increasing our carbon dioxide liability and creating enormous economic risk. In fact, according to our projections, current plans to expand the traditional fossil fuel industry will see our national greenhouse gas emissions rise to 44 per cent higher than the Kyoto target (see attachment, *Fuelling the Climate Crisis*).

However, there is an alternative approach that builds upon emerging technologies, innovation and intellectual capital, meets our energy needs, improves air quality and public health and contributes to meeting our commitments under the Kyoto Protocol. This occurs by increasing our energy efficiency, encouraging energy conservation and promoting sustainable renewable energy production. By following this approach we can reduce energy demand, save consumers

money, distribute the benefits throughout Canada and reduce emissions. This is not only necessary for climate protection and regional air quality improvements, it is also good for the economy, as earlier energy crises have demonstrated (see attachments).

Due to energy price increases in the 1970's, the energy intensity of the economy actually decreased. Increased fuel prices forced companies to become more energy efficient and government regulations led manufacturers and home builders to produce more efficient products. As a result, between 1973 and the present, economic productivity outpaced growth in energy consumption by 25 per cent. Energy consumption per dollar of GDP fell from 16.57 megajoules in 1973 to 12.41 megajoules in 1997.¹ No doubt, moving away from a resource based economy towards a service and information based economy has contributed to this efficiency increase.

Without that efficiency gain, Canada's total energy consumption would have been 35 per cent higher for the same level of economic activity. More energy was saved over that period than all of the new energy supply from new oil, gas, coal, nuclear and hydro resources combined.² The US Department of Energy estimates that energy savings resulting from efficiency gains embedded in the US during this same period are currently saving that country between \$US150 and \$US200 billion per year.

Broad-based policies for Energy Efficiency, Cleaner Air, and Climate Protection

In order to build an energy strategy that meets all three stated goals, and in the process takes the climate into account, new and bold leadership initiatives are required from Canadian governments and industries. These range from implementing economic instruments, to improving air quality standards which safeguard public health. History shows that, in almost every instance, innovation and technological advances in energy-related fields have strengthened the economy, increased energy security (both price stability and supply access) and, most importantly, reduced air pollution of almost all forms, including greenhouse gases.

In an official 1998 submission to the US Environmental Protection Agency, the Government of Canada stated that up to 16,000 Canadians die prematurely each year due to air pollution. Environment Canada and other agencies estimate the annual medical costs are in the billions of dollars.³ These health impacts and costs alone require a public policy response that, by definition, must alter our approach to energy production and use. More of the same, with the only variable being a constant increase in energy volumes, is not sustainable, does not meet our international commitments or financial goals, and directly threatens the health and quality of life of Canadians.

The following are some key areas that will help Canada begin the process of meeting our international commitments and at the same time increase our economic and social security:

Economic Instruments

As a means of promoting the efficient use of energy resources, and in order to achieve the Kyoto Protocol target in a cost effective manner, the federal government should implement economy-wide economic instruments such as a carbon tax on coal fired electricity, and a domestic carbon trading system with an enforced national cap on overall emissions. These steps would begin the process of integrating the environmental cost of fossil fuel emissions into the market price for energy and would curb the use of the atmosphere as a free repository for pollution. Such a move will allow a price signal to emerge which alerts consumers to the environmental consequences of a particular purchase. With an emissions trading system, market mechanisms can be brought to bear which promote the efficient allocation of resources. In short we believe that polluters must pay, not society as a whole.

There are many examples of both carbon tax and ‘cap and trade’ systems in industrialized nations that can inform the development and implementation of either or both policies in Canada. Many incorporate revenue recycling features that utilize new energy-related revenues to fund efficiency improvements and cost savings that, in turn, balance new energy prices and/or taxes. The challenge for Canadians is to move forward gradually now with these approaches, so as to avoid more difficult ‘shocks’ in energy costs later. While actions on climate change and sustainable energy policies can obviously be delayed further, they are inevitable and our society can more easily handle these changes on a planned, gradual basis.

Transportation Initiatives

There is overwhelming agreement among the majority of urbanized, industrial countries that alternatives to automobile transportation need national government incentives and that a national presence in this critical sector is pivotal to address climate change and air pollution – approximately 30% of Canada's carbon dioxide emissions come from transportation. The federal government generates about \$4 billion from vehicle fuel taxes, while expenditures on transportation are less than \$400 million. Canada is the only OECD country which provides no federal support for public transit systems.

We want to strongly support federal investment in sustainable urban transportation infrastructure, in collaboration with provincial and regional authorities. We welcome the new initiative from the Province of Ontario in that vein. We also welcome the initiatives in support of federal investments from the Federation of Canadian Municipalities and from the Canadian Urban Transit Association.

Community Transportation Improvements

A community transportation improvement fund should be established by dedicating 25 percent (\$1 billion) of annual federal fuel tax revenue, to be matched by provincial governments, and collectively managed along with municipal and regional governments.

The U.S. Transportation Equity Act for the 21st Century is based on this theory as well as broader pollution abatement strategies. The Canadian fund would be aimed at upgrading and expanding transit infrastructure. A portion of the fund should be allocated on a cost-shared basis for alternative transportation infrastructure such as intra-urban bicycle routes, commuter ride matching services, as well as encouraging the expansion of high-occupancy vehicle lanes for buses and car pools.

A Case Study: Motor Vehicles and the Potential for Efficiency and Cost Savings

A key cause of increased fossil fuel consumption and greenhouse gas emissions is transportation. There are many measures that have the proven potential to reduce the number of vehicles and trips, and the distances of those trips: public transit, cycling and other alternatives, car pooling, home-based work, and a renewed emphasis upon sustainable community and neighbourhood planning. With all of these policy improvements, different, more efficient vehicles are also required.

The most successful tool for promoting the development of more fuel efficient vehicles is the adoption of updated corporate fuel efficiency standards. A recent report by the American Council for an Energy Efficient Economy found that by implementing progressively improved fuel efficiency standards for automobiles, the US could reduce its dependency on oil by nearly 5 million barrels per day. This goal, which is two and a half times as much oil as the proposed tar sands expansion, could be achieved by applying the technically proven and available technologies outlined below.

Technologies for Passenger Vehicle Fuel Economy Improvement⁴

Technology	Fuel Economy Improvement (Per cent)
Weight Reduction	10-30
Aerodynamics	4-10
Variable valve control	12-16
Direct injection spark ignition	5-23
Other engine refinements	5-10
Improved transmissions	6-14
Hybrid powertrain	40-80

It is imperative that Canada move forward with updated vehicle fuel efficiency standards, as committed to in the October 2000 Climate Action Plan.

Moving More Freight More Efficiently: by Rail Instead of Road

Rail already moves 60% of overland freight in Canada, yet accounts for less than 15% of greenhouse gas emissions in the overland freight sector. This is because moving an item by truck over a given distance requires about 6 times more energy compared to moving it by rail.⁵ Canada's railways have the ability to increase their freight capacity and also have exceptionally competitive freight rates – the lowest per ton mile of all railways in the industrial world.

This mode shift would substantially reduce the amount of diesel fuel being used in Canada today and help reduce the cost of road repairs, while also reducing greenhouse gas emissions and common air pollutants such as particulates and smog-forming compounds. Such a shift must be encouraged by pricing and taxation changes that include in the price of moving freight by truck all of the 'external' costs such as those associated with highway damage, air pollution, public health, and climate change. As well, public policies must encourage local commerce, and alternatives to 'just in time delivery' in order to reduce overall demands to move more freight more kilometres more frequently.

Current tax policies that are more advantageous to trucks than rail are encouraging the environmental subsidy of trucking at the expense of air quality and climate stability.

Improving the Energy Efficiency of Residential and Commercial Buildings

Canada's R-2000 and C-2000 programs for building efficiency should be adopted as residential and commercial building standards. If these standards are beyond the jurisdiction of federal statute, then a federal financing program which eliminates the difference in price between R-2000 or C-2000 and a regular building should be implemented. With government incentives or a revolving fund, this program could ensure that Canada's housing and building stock becomes 35-40 per cent more energy efficient than today's conventional buildings, resulting in major, ongoing economic savings as well as environmental savings.

This will not only help reduce the need for coal fired power plants, but will also reduce demand for natural gas, which in turn helps natural gas compete with coal for utility power projects. In addition, Canada can assist the residential, commercial and institutional building sector by providing funds for retrofit projects throughout the country, thereby providing real security against the higher energy prices that result from the overheated continental energy market.

At the same time, building retrofit projects are significant sources of new employment and, in commercial and industrial settings, often result in productivity gains that flow from improved lighting, ventilation, and indoor air quality.⁶ Studies have shown that there are more jobs in such energy efficiency actions, in comparison to developing more traditional energy supply and that these jobs are distributed throughout the country, not just at a few megaproject sites. Given the current recession and overall economic instability, there is a need for federal leadership on a program such as this, in order to maximize new job opportunities that fit with sustainable energy and climate goals.

Review and Update Standards for Major Appliances and Industrial Equipment

Standards create the economies of scale which transform the market for high efficiency equipment. As the market changes and more efficient equipment is developed, standards must be implemented which raise the basic level of energy efficiency. This allows for, and encourages, continuous improvement. Without such improvements in standards, newly designed equipment is less price competitive, even though consumers save money over the long run due to reduced operating costs. Within the existing supply of appliances and equipment most of the manufacturers' capital costs have been recovered. Therefore, the poorest performing equipment continues to be priced lower than newer designed, more efficient equipment.

Updated standards remove that disadvantage against innovation and technological improvement and encourage constant upgrading, thereby cutting energy waste and the costs of that waste. For example, the \$12 billion that the US Department of Energy has invested in energy efficiency since 1978 is estimated to have saved US consumers \$100 billion in avoided energy expenditures.⁷ By reducing energy demand through improved standards, the financial and ecological costs of energy development and use are likewise reduced. We would like to see a renewed commitment to updated standards, with budgetary provisions to allow speedy implementation.

Promote and Encourage Renewable Energy Sources

In order to create a level playing field for renewable energy, the federal government must provide incentives for the development of low impact renewable sources of electricity such as wind, solar and micro-hydro, as well as removing current fossil fuel subsidies and advantageous tax provisions. These incentives may be used to encourage utilities to purchase renewable energy, or to encourage producers to build new projects, from which the electricity can be marketed. This would help curtail the growth in fossil fuel electricity generation and reduce greenhouse gas emissions and smog. These "external costs" must also be considered in determining energy production policies, which is not the situation today. Proper incentives, coupled with renewable energy mandates for utilities from provincial regulatory agencies, are critical elements of a successful strategy to develop cleaner energy sources.

It is worth noting that wind power is increasingly competitive with new natural gas-fired sources of electricity and is now the fastest growing source of new energy in the world, sparking major new industries and technological development. Rapid growth is also underway in the solar, biomass (wood and agricultural waste), micro-hydro, ground source, and geothermal energy sectors. Research also promises more advances in wave, tidal and hydrogen-based energy. Again, these are areas for economic opportunity and energy security that Canada can compete in while meeting its responsibility for climate protection and clean air.

For your reference, I have included the summary of a just-released analysis by the Union of Concerned Scientists (*Clean Energy Blueprint*) which outlines how the US can profitably develop renewables and energy efficiency applications. Many of these policies can be utilized with similar benefits in Canada.

Conclusion: Canada's Energy Choices and Climate Responsibilities

Canada is at an important point in the determination of climate protection policy. Public policies must be developed and implemented that support the move to energy efficiency and renewable energy sources.

As noted, the current drive towards greater fossil fuel production and consumption is rapidly increasing Canada's greenhouse gas emissions and our economic dependence on fossil fuels. By so doing, we are allowing our economy to be entrenched in yesterday's energy technologies. As such we are moving towards *de facto* violation of international treaties and commitments made by Canada as part of our responsibilities as global citizens and in line with the expectations of Canadian citizens. In addition, we are moving away from opportunities to make significant gains in regard to the three budget planning objectives outlined by this committee.

Despite the windfall of royalty payments and the often short term benefits of regional economic growth which some governments are currently enjoying from the policy choices made to date, Canadians are clearly paying a high price for fossil fuel expansion. Whether through continuing increases in fuel bills as a result of the intense continental demand for natural gas and electricity, or through health impacts caused by poor air quality from fossil fuel pollution, the costs will be significant and will be borne by Canadians across the country, most of whom gain little or no benefit from increased energy production. As the impacts and costs of global warming and climate change become more apparent, the need for action will become extremely costly. Recent weather and climate related events demonstrate just how serious these impacts can be, whether it's the increasingly severe smog episodes in Central and Eastern Canada, massive drought in the Prairies or the enormous beetle infestation in Northern BC.

As a developed nation with the economic power to invest in energy efficiency and the technological capabilities to develop new and renewable sources of power, Canada has a major opportunity to be one of the leaders in the coming energy transition and its associated business opportunities, job creation and quality of life benefits.

Following the successful UN climate negotiations in July, we recognized the positive contribution that Canada made in reaching that compromise agreement and in committing to ratification of the Kyoto Protocol in 2002. We are also encouraged by recent efforts by Prime Minister Blair and others, to encourage more active US participation in the Kyoto process.

We appreciate this opportunity to submit our views and recognize that many other organizations, including the Green Budget Coalition which we participate in, have made worthwhile and innovative contributions to your deliberations. In many ways, the budget process is one of the most important aspects of federal decision making and we believe that it must more fully reflect the deep desire of Canadians to link economic policies with the need for stable natural ecosystems, including the atmosphere and climate. The next federal budget is a critical point in the transition process and must reflect both the positive climate and air quality commitments made by cabinet in recent months and the public desire to see those commitments fully realized.

Attachments

Fuelling the Climate Crisis, The David Suzuki Foundation, June, 2001

Executive Summary, *Clean Energy Blueprint*, The Union of Concerned Scientists, October, 2001

"The Economic Benefits of the Kyoto Protocol", by G.A. De Leo, L. Rizzi, A. Caizzi, M. Gatto, in *Nature*, October 4, 2001

¹ *Human Activity and the Environment 2000*, Statistics Canada, p. 167

² Torrie, Ralph,. *Business Strategies for Sustainable Development in the Canadian Energy Sector*, National Round Table on the Environment and the Economy, 1996, p. 10

³ *Canada's Response to US EPA Proposal on Transboundary Air Pollution*, Government of Canada, March 16, 1998; and *1996 Progress Report*, Canada-US Air Quality Accord, p. 21.

⁴ Geller, Howard, *Strategies for Reducing Oil Imports; Expanding Oil Production Vs. Increasing Fuel Efficiency*, American Council for an Energy Efficient Economy, April 2001

⁵ *Sustainable Transportation: Reflections on the Movement of People and Freight*, Centre for Sustainable Transportation, April, 1998

⁶ Romm, Joseph, *Cool Companies*, Island Press, Washington, D.C., 1999; Appendix

⁷ "Don't Write Off Energy Conservation, Mr. Cheney," *Business Week*, May 14, 2001