

Keynote Speech by Senator Vivienne Poy

**Beyond Kyoto:
or what kind of world will our grandchildren live in?**

**Canadian Club
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Honoured guests, ladies and gentlemen:

The title of my talk sounds somewhat daunting, but it actually isn't. When I first read about Kyoto Protocol, I wasn't sure what it meant. Now that I have learnt something about it, I would like to share my knowledge with you.

In December, 2002, the Canadian Government ratified the Kyoto Protocol. The Protocol was developed because people, and governments, around the world recognized that business as usual was no longer possible. We have now reached a crisis point in the history of the human race when there is compelling political, economic, environmental, and health related reasons why we must find viable alternatives to the way we live.

The ratification of this agreement commits Canada and other signatories to reducing greenhouse gas emissions to 6 per cent below that of 1990 levels by 2012. In practical terms, that means each of us must cut his or her production of greenhouse gases by about 20 per cent from current levels, so we need to change our concept of the energy we consume everyday. By doing so, we will not only improve the environment, but we will also contribute to a sustainable economy based on greater opportunity for industry and for individuals.

At the moment, we are still very dependent on fossil fuels – primarily gas, oil, coal and uranium. I'm sure many of you know that energy and matter can only be transformed from one state to another, and every transformation results in losses. For example, when we burn coal or oil, it's gone. On the basis of the world's present annual energy consumption,

oil, which provides approximately 40% of the world's energy supply, will run out in 40 years. This means our global economy based on fossil fuels is doomed to extinction.

We all know that the emission caused by the consumption of fossil fuels has led to a global ecological crisis that is intensifying year after year, and even the combustion of current fossil reserves is endangering mankind's basis for life on the planet, and climate protection is our moral obligation for the survival of future generations.

The production of greenhouse gases has a direct link to carbon dioxide (CO₂), global warming and extreme weather change. In Canada, this change will affect fishing, farming, forestry, lakes, rivers, coastal communities and our North. In breathing in smog on a daily basis in our cities, our elderly and our children are paying the price for our energy consumption. Our health system, which is already overburdened, is struggling to meet the new demands because of our use of fossil fuel.

The situation is only going to get worse as more and more developing countries expand their industries in the way we have in the Western world. Fossil fuel is not the answer to our needs, and we must recognize that ecological disasters are also economic disasters, and the greatest price paid would be in health care and in the quality of life for future generations.

Now, we should look at the political implications. Reserves of fossil resources are found in only a limited number of locations around the world, but they are needed where people live and work. Extraction of these resources is carried out in a centralized manner and consumption is decentralized, and in between, there is transportation, transformation and distribution. For these reasons, the industry is compelled to undergo ever-increasing concentration, monopolization and globalization.

Oil is also shipped across vast-oceans in huge tankers, and oil spills have devastating long term effects on our oceans and eco-systems. Aside from this, shipping oil from one corner of the earth to the other creates dependent relationships between nations.

Since 1991, in its "New Alliance Strategy," NATO has stated that its future duties should include worldwide security of access to resources.

So, the need for fossil fuel can and does lead to political tensions and energy wars, as the world has witnessed repeatedly since the “fossil economy” began.

So, where does Canada stand? In 2001, we imported about 30 of total crude oil consumption. Given the current political crisis in the Middle East, it is no longer viable or sustainable for Canada to rely on overseas sources of oil. We need to look to other sources of energy that are readily available here in Canada, which do not involve processes that destroy our environment. As the British government recently stated, “The best way of maintaining energy reliability will be through energy diversity. We need many energy sources, suppliers, and supply routes. Renewables will help us avoid over-dependence on imports and can make us less vulnerable to security threats.” I believe renewable energy is the way of the future.

The United Nations has estimated that industrialized countries can become 25-35% more efficient over the next 20 years at no net cost. Improving energy efficiency will make Canadian industries more competitive, not less.

Canada has the potential of becoming an industry leader, if it is willing to do what is necessary now to ensure its place in the world. As well, Canada’s investment in the renewable energy industry could have spin-off benefits for other areas, particularly agriculture and I’ll explain this later. But if renewable energy is to get off the ground, it will need a receptive market. That’s where you and I come in. We all have to reevaluate the ways we live, and work. We cannot continue to invest heavily in an energy industry that is fundamentally damaging to our planet.

So, what are the renewable energy resources available to us at present? There is a wide variety that have been around for a long time, and the question is, why haven’t they become popular? What’s holding them back? Why don’t we all use solar energy in our homes? When I attended a series of meetings on renewable energy resources, chaired by M.P. Julien Reed, he asked each workshop presenter, if their energy source was so great, why weren’t they rich yet? And here’s why.

One of the reasons is that up until recently, it has been relatively expensive to use renewable energy, especially since North Americans

have never paid the full cost for our fossil fuels, so the industry has tended to neglect the development of other potential sources.

However, there has been a virtual revolution in recent years in the industry, and many more types of renewable energy can now be harnessed more easily and cheaply than ever before. Solar, wind, small-scale hydro, geothermal/earth, bioenergy, and fuel cell technology are some examples of technologies that promise long-term sustainable energy production. I will briefly go over some of these potential sources.

The sun's energy is the most freely available everywhere, and in developing countries where the sun is plentiful, harnessing the sun could offer a real economic benefit. Solar energy, which is most widely used for water and space heating, represents a potential far exceeding that of fossil fuels. Consider that in one year the sun provides the planet earth with 15,000 times more energy than the total annual consumption of fossil energies combined.

Wind is an important source of power. The Canadian wind energy producers now have the capacity to generate well over 200 megawatts of power which will power 60,000 homes per year, and at the same time, reduce CO2 emissions by 600,000 tonnes.

Hydroelectric power is dependent upon the flow of water, and as we all know, Canada has abundant water resources. Geothermal or Earth energy is found just below the surface of the earth. Energy can also be produced from plant materials, or municipal waste, known as bioenergy, and the one promising form of bioenergy you may have heard of recently is ethanol, which is produced from corn husks or other vegetable material such as weeds, and is being mixed with oil as fuel for cars, so this can be a good way to support our farmers. Another potential fuel for automobiles is fuel cell technology, which acts like a battery, but never needs recharging. Right now, all of the major automakers are working to commercialize a fuel cell car.

One of the reasons renewable energy technology has not caught on is because our government hasn't done enough to promote these technologies in Canada, partly because of the lobbying of the oil industry and partly because oil is still relatively inexpensive.

Our government needs to put in regulations that require new houses, buildings, and cars to be more energy efficient. We should also legislate the use of renewable energy. Consider that in June, 2002, Saskatchewan passed the Ethanol Fuel Act in mandating the use of ethanol in gasoline, and the bill called on the federal government to legislate a mandatory blending of ethanol in gasoline, and to promise to provide incentives and develop markets. So far, only one new ethanol plant has been built in Canada in the last 10 years, and there is no national requirement for ethanol content in gasoline.

Our government has put in place some incentives such as the Wind Power Production Incentive Program; but more incentives are needed throughout the industry. Tax incentives are necessary. There should be target setting to commit Canadians to renewable energy usage, and timetables for phasing out old technologies. We need more public investment in alternatives and further research and development. The renewable energy industry has been calling for the same financial subsidies provided to conventional energy sources for many years. Finally, and perhaps most importantly, public education about renewable energy is necessary to create demand as well as open new markets for private investments.

Other countries are well ahead of Canada in getting the renewable energy industry up and running. Japan has launched a national program for fuel cell technology. In the United States, even though they didn't ratify the Kyoto Protocol, the Clean Air Act was amended in 1990 to include a mandated oxygen level in fuels, on top of an aggressive incentive program, and over 900 million gallons of ethanol have been added to fuel, leading to the creation of 35,000 jobs in the ethanol industry.

Germany has called for specific actions. In 2000, its climate change plan called for "the doubling the proportion of renewable energies" by 2010. The German government passed a Renewable Energy Act and set specific targets for the industry while increasing the use of wind-power by 4 times since 1998.

Businesses such as Ballard Power and Shell are moving ahead with changes. Ballard Power Systems is a leader in fuel cell technology with Daimler Chrysler and Ford being the major shareholders. However,

Canadian fuel cell technology could fall behind without sufficient support from our government. Another business is Shell's investment in Iogen Energy Corporation, a world leader in bioethanol production.

Canada, can, and must, do more to promote renewable energy.

You might wonder what would happen to the fossil fuel industry. Would it be hard hit by Kyoto? It is well known that Alberta was opposed to Canada's ratification of the Kyoto Protocol. I'll tell you how retired Senator Nick Taylor of Alberta, a mining engineer who has a long history with the oil industry, argued in favour of the Kyoto Protocol.

The Honourable Nick Taylor claimed that Alberta will become even richer as a result of Kyoto Protocol. Although the industry will be responsible for capturing carbon dioxide, carbon dioxide can be reused, and sold, as a source of revenue. He maintained that CO₂ is a good solvent for cleaning out oil wells that are nearly dead and there is a great demand for it. It can be pumped into deep coal beds to increase the production of methane gas. CO₂ can also be frozen for sale as dry ice. And if CO₂ turns out to be like methane gas, it can be sold for as much as \$10 per ton or higher. As for the job losses mentioned in the media, he said the number 300,000 was based on a projected increase in jobs over the next 10 years, and not jobs already being held. So, to solve that problem, he suggested that we should bring in fewer immigrants in 10 years time. Interesting arguments, aren't they?

In conclusion, I believe development of renewable energies are absolutely necessary for environmental, political and economic reasons.

Environmentally speaking, without a reduction of the emissions of greenhouse gases, the earth's temperature will likely rise faster than at any time in the past 10,000 years. Sea levels will rise, which means coastal settlements worldwide will have to be moved to higher grounds, and there is greater risks of droughts and flooding. If we are to have cleaner air, the emissions of CO₂ must be reduced drastically, while our fossil fuel will have to be used more efficiently.

Politically, a strong argument for developing renewable energies is that they are wholly or partially available everywhere, and they can be extracted in a decentralized and regional manner as in solar energy, wind

and tidal power. The fact that the harnessing of these resources tends to be more regional and smaller in scale will free us from the dependencies of regions of resource consumption, as in North America, to the region of resource extraction of fossil fuel, as in the Middle East. This is viewed increasingly as a way to reduce the dependency on oil-rich, unstable countries in the world. Also, don't forget that, renewable energy, such as that from the sun and the wind are, in the foreseeable future, infinite resources that cannot be privatized by international conglomerates. This will mean an increase in individual, social and economic freedom that will not impinge on the liberties of others across national borders.

Economically, new industries can be developed. One example is the International Thermal Experimental Reactor (ITER) which is a fusion energy research and development centre. Fusion is what powers the sun and the stars, virtually inexhaustible and is greenhouse gas free. In this particular case, if Canada wins the bid to set up the project against Spain, France and Japan, the Canadian government stands to gain substantially. According to the financial impact chart, the cost will be \$1.6 billion over a thirty-year period, but the benefits will amount to \$10.9 billion over the same period. Canada will not only be a world leader in safe sources of energy, we will also benefit from the spin-off technology developments and innovations.

Now, back to what you and I can do. I think the most important thing is to change the way we think. Public education is the key to acceptance of new ways of doing things, such as not wasting energy. We need government regulations as well as subsidies that will require better insulation as well as the wide spread use of solar panels in buildings. Windmills will become part of our landscape, and products such as hydrogen cars will become popular items for consumers. In an article in the Toronto Star, Tyler Hamilton quoted Ron Britton, President of Fuel Cells of Canada, by saying that the industry should focus on the automotive market because if they could meet the market objective, they could make it in any market.

We need to look to European countries such as Iceland that is working towards a "Hydrogen Society" by the year 2040, when the country will be totally free from the use of fossil fuels. Incidentally, Iceland recently showcased their hydrogen cars on Canadian T.V.

My friends, renewable energy must become part of our popular culture because it is the future for our grandchildren. Thank you.