

Response to the British Columbia Energy Council: AN ENERGY STRATEGY FOR BRITISH COLUMBIA



by

**Linda Nowlan
Barrister & Solicitor**

West Coast Environmental Law Association September 30, 1994

SECTION 1: INTRODUCTION -- A SUSTAINABLE ENERGY STRATEGY

Energy and Sustainability

Not only is the current "business as usual" approach not sustainable, it is drastically deficient in responding to the threats to ecological stability posed by climate change.

Public Involvement

West Coast Environmental Law Association (WCELA) commends the B.C. Energy Council for its extensive public involvement process. The consultative groups were a good idea, and the sections of the Strategy resulting from their work contain helpful, detailed recommendations. The government should follow the Council's leadership in involving the public with whatever process or institution is used to continue with the development of energy policy.

SECTION 2: ENERGY AND SUSTAINABILITY

Energy is a Critical Area for Sustainability

While we agree that Canada's "ecological footprint" is far too large, it is important to note that high energy consumption in Canada is also a result of a cold climate, low population density, long distances, large land area and not just wastefulness.

Energy and Lifestyle

A low energy lifestyle does not mean deprivation, and concrete examples are needed to prove this point. Reference to the B.C. Collaborative on Conservation Potential would be helpful here. The scenarios addressed by the Collaborative illustrate the potential energy saving results of specific lifestyle changes.

Amory Lovins has based much of his work on the premise that energy efficiency does not mean you have to freeze in the dark. His Rocky Mountain Institute in Snowmass, Colorado is a prime example of a building that uses minimal amounts of outside energy, yet comfortably supports a greenhouse even in a harsh winter climate. Examples from B.C. of efficient buildings or modes of transportation that do not cause deprivation would be useful here. For example, this section could highlight the hydrogen fueled transit bus from Ballard Power Systems.

Energy Sustainability and Municipal Planning

Some municipalities have made strides in considering energy in their planning processes. Both major urban centers in B.C. have reported on climate change. The City of Vancouver's 1990 Clouds of Change report could serve as a model for incorporating energy considerations into municipal planning. As with many such studies, the problem has been mustering the political will required to implement the report's recommendations.

The Energy Strategy should point out the work that has been done in Vancouver and Victoria on this issue and recommend that both centres implement the recommendations from their reports, and that other regional or local governments use these reports as models for municipal energy planning.

Energy Sustainability and Interjurisdictional Co-ordination

Interjurisdictional co-ordination is essential to address energy sustainability. However, all it takes is one politically committed government to force others to act. When California introduced its revolutionary ideas for requiring a certain percentage of vehicles sold in California by 1998 to be zero emission, it acted alone. Now other jurisdictions have followed its lead.

Sustainability and the Structure of Energy Supply Markets

The first sentence of the last paragraph in this section is confusing, and perhaps should be changed to : "Some people **think** that changes made for sustainability will lead to job loss and cost a lot of money." (emphasis added).

The next sentence which states that energy sustainability may actually mean more jobs than would otherwise be created under traditional energy planning appears to be contradicted (or at least not explained as well as it could be) later in the report in the section on energy and economic development which states that energy investments generally create few jobs (page 21) . This should be clarified.

Energy Strategy Goals and Objectives

It is not clear why this subheading is found under this heading and not in the introductory section on a Sustainable Energy Strategy for B.C.

SECTION 3: GREENHOUSE GAS REDUCTION: A GOAL OR AN OBJECTIVE?

This is the most critical section of the Strategy. The description of the problem of climate change is good, and the point that greenhouse gas reduction and a sustainable energy strategy entail similar actions is worth emphasizing.

The importance of greenhouse gas reduction cannot be overstated. B.C.'s current target of stabilizing B.C.'s net greenhouse gas emissions at 1990 levels by the year 2000 is untenable for two different reasons: the goal does not go far enough and the goal is not attached to any concrete implementation measures. WCELA recommends that the Energy Strategy strongly recommend fixing these two problems. A more widely agreed target for greenhouse gas reduction is to reduce carbon dioxide levels by 20 percent from 1988 levels by the year 2005. The goal should be reduction of already historical levels rather than stabilization of current levels.

Although the Strategy does clearly say that the proposed recommendations for greenhouse gas reduction are found throughout the report, it would be helpful to list them all here for ease of reference.

The distinction between stabilizing concentrations and reducing emissions of greenhouse gases must be made at the beginning of this section of the Strategy. The fact that the United Nations Framework Convention on Climate Change commits signatories to the former rather than the latter should be criticized. The report thoroughly documents the contribution of fossil fuel combustion to greenhouse gas emissions, but does not place enough emphasis on the lack of action to control energy sector greenhouse gas emissions.

How might climate change affect B.C.?

Although it is impossible to predict now what the environmental effects of climate change will be, the Strategy could go further in describing some likely or potential effects for B.C. The effects now listed are not immediate enough to show the public the urgency of the problem and to demonstrate how climate change might affect their daily lives. For example:

- Forest workers should know that climate change will likely lead to increases in forest damage from pests and disease, increased fire frequency and severity as well as negative impacts on both artificial and natural regeneration. The effects may also be synergistic, compounding the magnitude of change as "Fires kill trees, creating habitat and food for bark beetles, which also kill trees, creating the

dead wood that fuels fires." [(4) -- 1. Lee Harding "Threats to Diversity of Forest Ecosystems in British Columbia" in *Biodiversity in British Columbia*, Environment Canada, Canadian Wildlife Service, 1994 at p.271-2.

- Coastal dwellers may be inspired to take more action to combat climate change if they realized that the increased risk of floods and consequent erosion could affect their own homes. □2. There are many scenarios about the possible effects of climate change ranging from extreme to minimal. This example is from the moderate report from the Government of Canada, *Canada's National Report on Climate Change - Actions to Meet Commitments Under the United Nations Framework Convention on Climate Change*, 1994 at p. 10-12.
- All residents of the province should be aware of the potential disruption of food supply. Rapid warming of the planet is expected to lead to climatic instability that could disrupt precipitation and agricultural patterns and increase the probability and severity of droughts, hurricanes and floods. Food supplies in British Columbia and elsewhere will be affected. Unless agricultural techniques are able to adapt extremely quickly to changing conditions, massive food shortages could be experienced.□3. Ann Hillyer, "Global Warming and Climate Change" in *Law Reform for Sustainable Development in British Columbia*, Canadian Bar Association, British Columbia Branch, 1990.

The Cost of Compliance

An important topic not covered in the Strategy are the enormous costs associated with climate change. It may cost a lot to reduce greenhouse gas emissions, but it also costs a lot **not** to make the reductions. A study of the costs and benefits of reducing emissions of a variety of pollutants in the GVRD under the Air Quality Management Plan projects that implementing the plan will avert over its life 2,800 premature deaths, 33,000 hospital emergency room visits, 13 million restricted activity days and 5 million symptoms such as chest discomfort. Other effects would be reduced crop losses, less material and property damage, and improved visibility. Implementing the Air Quality Management Plan for the GVRD will have a projected net benefit of \$1.6 billion . The benefits from reducing carbon dioxide emissions have been calculated as \$101 million over the years 1985 to 2020.□4. ARA Consulting Group, Bovar-Concord Environmental, *Clean Air Benefits and Costs in the GVRD*, Draft, April 1994 at p. 4-17.]

The Need for a New Reduction Target

WCELA urges the Energy Council to strongly recommend that the B.C. government revise its greenhouse gas reduction objective. The internationally agreed upon objective of a reduction of 1988 levels by 20 percent by the year 2005 would be a good starting point. This goal was set at the 1988 World Conference on the Changing Atmosphere in Toronto and has been adopted by other governments. The existing target of the B.C. government is far too weak. If the Energy Council strongly believes in sustainability, it has an obligation to recommend a more stringent target for greenhouse gas reduction.

Also, the Council should recommend that the government should undertake a study of policies for greenhouse gas reduction, similar to the work currently underway by the

Ontario CO₂ Collaborative. A recently released discussion paper describes 43 policy options and instruments to meet Ontario's reduction goal. [(5) -- 5. *Carbon Dioxide Reduction Options for Ontario: A Discussion Paper* (Toronto: Canadian Institute for Environmental Law and Policy, 1994).] The report provides concrete examples of how an individual policy option will contribute to the overall reduction goal and also which combination of actions will achieve which level of reduction. For example, higher fuel costs can contribute between 46 and 69% of the stabilization goal of reducing Ontario's CO₂ emissions by 8751 kilotonnes by the year 2000. Reducing the kilometres driven by the vehicle stock by 5% would represent 18% of the reduction needed to meet the 2000 stabilization target. This type of concrete analysis is essential if B.C. is to meet its greenhouse gas reduction goal.

The Council should recommend in this section of the Strategy that the B.C. government:

1. Undertake a study of which specific policy options and instruments will achieve which level of reduction of carbon dioxide and other greenhouse gas emissions;
2. Convene a multistakeholder group to prepare a consensus stabilization and reduction strategy based on the results of the study; and
3. Implement the results of the multistakeholder groups' work as soon as possible.

No Joint Implementation

WCELA strongly disagrees that with the Council's conclusion that it is appropriate for B.C. to reduce greenhouse gas emissions through action in other jurisdictions. The concept of "joint implementation" is complicated, and should either be dropped from the report or explained more thoroughly. The B.C. government should concentrate on getting its own house in order before addressing the world's greenhouse gas emissions. There is no type of global administration now in existence that could monitor reductions of emissions in other parts of the world with any degree of accuracy so as to give a "credit" for that reduction. If the B.C. government's policy of exporting sustainable energy technology does result in greenhouse gas reductions in China, that is to be welcomed, but should not be taken into account under any circumstances in calculating whether or not B.C. has met its targeted reductions.

SECTION 4: JUMP-STARTING SUSTAINABLE ENERGY SUPPLY IN B.C.

This section is also very good since it emphasizes that action must be taken now. The phrase "jump starting" conveys the urgency of making policy changes to move towards sustainability. If we keep studying the problem without acting, we won't make any progress. As with the previous section, it would be helpful for the reader to find all the recommendations on "jump starting" in one place, rather than searching through the rest of the report to see what this section really means.

SECTION 5: ENERGY PRICING AND FINANCING

Need for a Carbon Tax

The Council should forcefully recommend that a carbon tax be introduced in B.C. Raising taxes on fossil fuels is one step that must be taken to move towards sustainability. The Strategy currently supports raising energy prices but does not clearly support any particular form or amount of tax. Current figures that are being debated for the cost of carbon dioxide range from \$35.00 to \$250.00 per tonne of carbon dioxide. In fact those figures may be very low in terms of calculating the damage done by carbon dioxide emissions. A current figure being used by the Ministry of Transport in British Columbia is \$700.00 per tonne of carbon dioxide. Sweden has based its carbon tax on the rate of \$250.00 per tonne which is only charged against residential fuels and is lower for industrial fuels.

The need for action in raising energy prices is clear. Countries know what action must be taken, but are afraid to act alone on this issue due to the fear of trade repercussions. The Council should also recommend that the federal government take a lead role in international discussions on carbon taxes at GATT negotiations and at Climate Change Convention negotiations.

Energy Program Financing - The Federal Role

Any discussion of energy program financing should also recognize the federal role. The *Income Tax Act* treats investment in fossil fuel exploration more favourably than investment in renewable technology.

The federal government has convened a Task Force on Economic Instruments and Disincentives to Sound Environmental Practice which will be making recommendations on some energy issues which are disincentives to sound environmental practice, are within the federal jurisdiction, and are fiscal measures, such as :

- Redesigning tax benefits for self-employed individuals to encourage the use of energy efficient cars or mass transit;
- Extending the availability of flow through shares (now available to resource exploration companies) to create incentives for capital investment in environmental industries; and
- Ensuring that tax provisions do not create economic preferences for the use of electrical generating equipment over energy conservation equipment.

Recommendations are also being made by the Climate Change Task Group of the National Air Issues Coordinating Committee which is a group convened under the Climate Change Convention to advise the government on how best to implement the Convention. Since these initiatives are intricately involved with B.C. provincial policy on energy and greenhouse gas reduction, it is important that they be mentioned. Measures under consideration include:

- Providing subsidies and incentives for alternative transportation fuels;
- Switching federal research and development funds from fossil fuels to renewable energy sources such as bioenergy, active solar, hydraulic energy, wind, hydrogen, fuel cells and electric vehicles; and
- Providing a tax incentive for energy efficient industrial process investments.

Energy Taxes, International Trade and Greenhouse Gas Emissions

The discussion on closed circuit taxation and financing is confusing. The Council's recommendation should clearly support raising energy prices without necessarily being tied to returning this increased revenue to energy service markets.

SECTION 6: ENERGY AND ECONOMIC DEVELOPMENT

Energy Investment and Job Creation

This section does not place enough emphasis on the potential that energy efficiency has for job creation. Energy efficiency retrofits for homes and commercial buildings would create many new jobs. Increased government support for renewable energy and energy efficiency research and development also has job creation potential.

SECTION 7: ENERGY AND MUNICIPAL PLANNING

This section is also very comprehensive and useful. It may not give enough credit for the work already being done by municipalities in this area, for example, the City of Vancouver *Clouds of Change* report and the Capital Regional District *Final Report of the Task Group on Atmospheric Change*. These reports should perhaps be mentioned with a gentle admonition that the two largest urban areas in B.C. should start to make the required changes that their own reports recommend.

Energy Planning for Communities not Connected to Electricity and/or Natural Gas Grids

Another point for this section is that it is probably cheaper to buy a photovoltaic kit, for example, and even give it to customers rather than spending \$15,000 or more to extend transmission lines an extra mile. [(6) -- 6. "Dead Elephants in the Living Room - Why We Needn't Build Many More Power Plants", *Rocky Mountain Institute Newsletter*, vol. X, No. 2, Summer 1994 at p. 4.] Using power sources other than extension of transmission lines also means cutting less "paths into the forest".

SECTION 8: ENERGY AND TRANSPORTATION

In this section, the relationship between the Council's views and the recommendations from the consultative group is not clear and in some cases the two sets of statements conflict. For example, the Council states that it prefers performance oriented measures rather than prescriptive ones (top of page 27) , but Recommendation 21 is a prescription for changing the government fleet to certain vehicle standards. This conflict should be clarified. It would also be helpful to have the difference between "Views of the Council" and "Proposed Recommendations" explained for all the sections. If the Recommendations are from a Consultative Group, but are not endorsed by the Council, that should be clearly stated. It is difficult at times to discern exactly what the Council is recommending.

The concrete recommendations in this section should be a model for all other sections of the report which do not now contain numbered recommendations.

Zero Emission Vehicles

All possible measures should be taken to reduce the use of the private automobile, but the Council also must be realistic in its vision. The automobile dependency of B.C. residents is not likely to change overnight. The public will continue to rely on private vehicles for transportation. Cars are just too convenient. What must be done now is to switch the types of cars and fuels that are being used. We need to establish a paradigm shift from the internal combustion engine to electric vehicles. Changing consumer habits from the gas guzzling, polluting and greenhouse gas emitting car to zero emission vehicles (ZEVs) is a very positive step that can be taken. The whole focus of the transportation section should reflect the developments that are being made in the U.S. on this issue. If B.C. is to meet its greenhouse gas reduction target, changing the types of cars that are used is essential. The Council has recommended jump starting sustainable energy supply in B.C. Requiring the sale of ZEVs by law is one way that jump start can be achieved.

The Ministry of Environment, Lands and Parks is considering requiring a percentage of vehicles sold in the province to be ZEVs. Since vehicle transportation plays such a pivotal role in energy consumption, air pollution and especially greenhouse gas emissions in B.C., the Council's recommendations about how transportation policy should be changed to foster sustainability should reflect consideration of the proposed policies of the Ministry of Environment, Lands and Parks.

Regulating that a certain percentage of ZEVs be sold in British Columbia by a specified date such as the year 2000 will also force technology to change by giving the major automobile and vehicle manufacturers an incentive to switch their production to this type of vehicle. Institutional barriers, heavy investment in the status quo and myopic vision are preventing car manufacturers from acting as quickly as they could. The government has a duty to intervene to provide the impetus for change. The technology is well developed already. The California Air Resources Board determined in hearings earlier this year that technology development has accelerated and it will be possible for car manufacturers to meet the legal standard requiring two percent of all new cars sold in California by 1998 to be ZEVs.

It is also likely that low emission vehicles (LEVs) will become the industry standard as discussed by the United States Environmental Protection Agency after their proposed ruling on the Ozone Transportation Commission's petition for California emission standards in the northeastern U.S. states. LEVs have emission standards that are higher than transitional low emission vehicles (TLEVs) but lower than ZEVs.

It is essential that the Council call for more action in moving towards zero emission vehicles, rather than its current lukewarm support (Recommendation 21) for having a small portion of cars driven in B.C. (provincial government cars) meet the already outdated standard of transitional low emission vehicles (TLEVs).

Therefore, WCELA recommends that:

1. The provincial government require that a high percentage of vehicles sold in the province by the year 2000 be ZEVs or their equivalent. A regulated percentage of the automobile market should also be set aside for LEVs by the same year. Fixing these percentages will move the public out of their current outmoded forms of transportation and into the cars of the future.
2. The provincial government should show leadership in this field by buying ZEVs immediately. The current Recommendation 21 should be changed so that thirty percent of the government fleet including those vehicles operated by crown corporations achieve ZEV standards by the year 2000.

Air Care

Not only should the provincial government tighten the Air Care standards on light duty vehicles (Recommendation 22) but there should be a sharp increase in the current \$200.00 repair limit. If a vehicle now fails the air care test and it costs more than \$200.00 to bring the vehicle up to standard, the owner must spend only \$200.00. This is clearly inadequate. If a person can afford to operate a vehicle and insure that vehicle, they should also be able to afford a clean running vehicle.

Adding heavy duty vehicles to the Air Care program is long overdue (Recommendation 23). The government should be asked to close this loophole immediately.

Alternative Fuels

B.C. has a unique opportunity to move quickly towards using natural gas and propane powered vehicles because of the highly developed infrastructure for these fuels that already exists in the province. Given the size of the market, B.C. has the most well developed infrastructure in North America for alternative fuels. The government should require a certain percentage of consumer sales to be vehicles made specifically to burn these alternative fuels.

In addition, the Ministry should show its support for alternatively fueled vehicles by buying that type of vehicle itself.. The vehicles should be designed to burn natural gas

and propane, rather than be converted from an existing internal combustion gasoline powered engine. This is because there has been a much higher failure rate for propane and natural gas conversions than for gasoline powered cars. Cars that are designed to run on alternative fuels will work better than those that are converted to alternative fuel.

We must tap into the potential that natural gas and propane powered vehicles have to vastly decrease current air emissions. B.C. has the opportunity to become a world leader in switching from outmoded cars to cleaner cars.

New Vehicle Fuel Efficiency Standards

Establishing new fuel efficiency standards is not as high a priority as requiring a certain percentage of zero emission vehicles to be sold and used in the province. The Canadian fleet currently operates below the corporate average fuel economy (CAFE) standards from the United States. Canadians tend to buy smaller cars than those used in the United States. Rather than requiring efficiency standards which are already being met in most cases, to effectively combat pollution and climate change, the switch to ZEVs must be made.

Gas Guzzler Tax

Introducing a gas guzzler tax (recommendation 18) is a great idea.

SECTION 9: SUSTAINABLE ENERGY FOR BUILDINGS

Involving the Design Professionals

This chapter is also useful due to the specificity of the recommendations. A host of additional opportunities exist to remove the barriers to energy efficient buildings. Amory Lovins has said that what is required is to reinvent the design process, including educating developers and financiers about the link between a building's energy efficiency and financial performance stressing the importance of the role better maintenance plays in maintaining efficiency, and "unleashing the latent creativity of many design professionals and rewarding them for money and energy saving choices." [(7) -- 7. "Golden Opportunities", *Rocky Mountain Institute Newsletter*, Vol. X, No. 2 at p.7.] While this topic is addressed in Recommendation 11 "Creating a Building Technology Centre of Excellence", the Council could also recommend that the architecture and engineering professions emphasize energy efficiency in their training, accreditation, and continuing education programs.

Enhancing Financing Mechanisms for Home Energy Retrofit

Buildings last for a long time, and use large quantities of energy over their life span for heating, ventilation, hot water and appliances. Yet as the Council has noted, energy

efficiency in buildings has little perceived value for builders and buyers. Including a home energy rating system "sticker" on houses (Recommendation 12), now a common practice with appliances and cars, would go a long way towards educating home buyers and motivating builders.

Mandatory energy efficient building standards are urgently needed to ensure that B.C.'s mushrooming new communities will not be constructed using the unsustainable wasteful energy standards of current house construction.

Old houses should also be brought up to standard. The expense of retrofitting can be economically justified using proper financial incentives. Retrofitting also makes sense environmentally since a large portion of buildings are old and will not be replaced that soon. The behavioral changes required to meet greenhouse gas reduction targets are enormous: every change that can be made in our institutional structure that can educate the public, reduce energy use and promote sustainable energy efficient ways of living should be introduced.

WCELA recommends that the Energy Council include enhancement of financing mechanisms for home energy retrofits in its recommendations. [(8) -- 8. The Climate Change Task Group of the National Air Issues Coordinating Committee and the Federal Task Force on Economic Instruments and Barriers to Sound Environmental Practice are both considering this issue. B.C. should also be encouraged to make this change since jurisdiction over lending institutions is shared by the provinces and the federal government .] The potential for energy savings is large, since the residential sector accounts for 17% of B.C.'s energy use. The government could act as guarantor of loans at preferential interest rates and term conditions to home owners and the renovation industry. Financial institutions do not currently account for the cost savings from retrofits when making lending decisions.

Energy efficient mortgages should also be developed to reward homebuyers of R-2000 homes, or retrofit financed at the resale of homes. Currently, lower monthly operating costs of energy efficient homes are not taken into account by mortgage companies. The inducement for mortgage companies to offer this type of incentive is the reduced risk of loan default associated with reduced life-cycle costs of energy efficient buildings. The programs would have to be promoted by realtors and banks, since similar programs in the U.S. are not well known and are taken advantage of by only one in 10,000 buyers. [(9) -- 9. Arthur Rosenfeld and Ellen Ward "Energy Use in Buildings" in *The Energy-Environment Connection* (Washington D.C.: Island Press, 1992) at p.235.]

SECTION 11: SOCIAL COSTING AND INTEGRATED RESOURCE PLANNING

Monetization

WCELA believes that there is some merit to monetization of environmental effects, where possible, based on the best reliable and scientifically justified information. If an

environmental impact lends itself to monetization, it is useful for regulators or public utilities to have that information when making energy decisions. For example, there are well developed methodologies for calculating the cost of air emissions. Not expressing the monetary value of an environmental effect means that the effect will not be given as much weight as it should when regulators are considering the numbers involved for other aspects of the decision such as capital costs or rate of return. If the environmental effects are the only part of the equation to which no monetary value is assigned, it is likely they will be undervalued.

Where it is not feasible to monetize an environmental effect, there are alternatives for evaluation other than the purely qualitative opinions that will flow from focus groups or multistakeholder consensus groups. It is possible to set environmental performance targets as the basis for action. In the case of greenhouse gas emissions, no law currently obligates utilities to achieve specific reductions, but performance targets could be set based on the international and national agreements in this area, for example, each individual utility could set a target to reduce emissions by 20% of 1988 levels by the year 2005.

Utilities have been paying inadequate attention to greenhouse gas emission costs associated with their proposed options. [(10) -- 10. Thanks to Carol Reardon, counsel for the Energy Coalition for this information and contributing this paragraph.] In the IRPs filed to date, West Kootenay Power ignored air emissions. BC Gas used a subjective "value based" measure. BC Hydro has proposed using the cost of planting trees on the basis that trees absorb carbon dioxide. Environmental costs are consequently undervalued and thermal power options such as Burrard Thermal appear more attractive than they should. The Energy Coalition is arguing in its current intervention in the BC Hydro IRP hearing that a more technically sound methodology for measuring the environmental costs of air emissions based on the cost of controlling those emissions should be used.

SECTION 14: THE ENERGY PLANNING PROCESS

WCELA regrets the government's decision to wind up the Energy Council. The Utilities Commission and the Ministry of Energy, Mines and Petroleum Resources should be directed to undertake comprehensive public planning for energy sustainability in B.C.

End of Response to the British Columbia Energy Council: AN ENERGY STRATEGY FOR BRITISH COLUMBIA