

December 14, 2007

Nova Scotia Department of Energy
PO Box 2664
Halifax, NS
B3J 3P7

Dear Sir/Madam:

The ***Engineers Nova Scotia Energy Committee*** is responding to the Nova Scotia Department of Energy's request for citizen participation in the development of a new provincial energy strategy and an approach to addressing climate change in Nova Scotia. Engineers Nova Scotia regulates the 4,700 professional engineers in Nova Scotia. The Engineers Nova Scotia Energy Committee advises the Association on energy matters in the Province.

First of all, we congratulate the Government of Nova Scotia for preparing the two background papers and for inviting input from the general public on these critical, related issues. Furthermore, we are offering our assistance with additional development of the strategy and we look forward to determining with you how we can participate most effectively.

The Energy Committee makes the following comments and recommendations:

COMMENTS:

- 1) Sustainability in Nova Scotia related to the development and use of energy and the addressing of climate change and its effects will require fundamental shifts in the way we see ourselves, our families and our Province. The attainment of sustainability will require transformational change for all 960,000 Nova Scotians. Transformational change will only be achieved with appropriate education and incentives provided by government and its agencies.

To make informed choices Nova Scotians need to know where we stand as individuals and households on energy use. We also need further education on energy generation, conservation, costs and usage to allow us to gain a real understanding of the changes that we must make to enable the Province to reach objectives on sustainability.

- 2) The role of government in any form should be to develop the rules and rigorously apply them, and then allow market forces to encourage or discourage participants. By analogy, the provincial government should be a rules making and refereeing body, not a player in the game except regarding its own operations.
- 3) Conservation must be a key component of the strategy, particularly at times of peak usage. If the incremental cost of the last generation capacity brought on stream by NSPI to meet peak demands is higher than the selling price, the economics of conserving energy at peak times are positive for the utility. Peak time energy reductions should therefore result in lower unit costs as well as lower total costs for consumers, at least initially. Furthermore, conservation, particularly at times of peak consumption, can save investment costs for new generation.

- 4) The second largest source of green house gases in Nova Scotia is transportation. As a result, more emphasis should be placed on transportation related policies.

RECOMMENDATIONS:

Measurement: Throughout the document, there is a need for quantification of assumptions, objectives, rewards for compliance and penalties for failure to comply. Specifically:

- 1) Assumed rates of growth for both population and energy consumption as applied to the Consultation Paper must be specified.
- 2) Nova Scotia's Renewed Energy Strategy and Climate Change Action Plan must lead to quantified rewards and penalties for compliance or non-compliance.
- 3) A realistic goal is complete sustainability, with no reliance on exhaustible energy sources such as fossil fuels. Stating the time frame for a long-term objective will allow placement of support for interim measures such as natural gas in the proper context. Consider investing offshore revenues into renewable energy research or directly to offset the higher energy costs of renewable energy.
- 4) Objectives for renewable sources such as tidal, solar and geothermal can be established, particularly in terms of clearing of government roadblocks (tidal), modifying building codes and providing incentives (solar and geothermal). We have the resources available and must work intently to enable development.

Economics of Emissions: Charging extra costs to emitters or paying premiums for replacement of emitting processes will allow inclusion of emissions in a quantified manner and will encourage development of sustainable energy resources. Quantification of costs can be based on projected prices for Carbon Credits and their equivalents for other greenhouse gases or some other more aggressive measurement. Assigning economic value to emissions achieves the following:

- 5) Renewable energy sources in the form of wind and tidal power are further supported based on the cost of emissions that are avoided.
- 6) The tradeoffs among the effects of lower emissions, rising cost of some forms of energy, and the security of the energy supply can be elaborated and presented. Tradeoffs can be presented to consumers such that we can decide whether to pay more for domestic fuels such as high sulphur coal, including the cost of burning the fuel cleanly.
- 7) An additional incentive can be applied to dispatchable energy that can be used on call to mitigate against the irregular demand that is always present and the irregular supply from other renewable sources. Biogas provides an excellent example; fuel can be stored until it is required.

Opening the Market:

- 8) Opening the market is provided as an alternative with respect to both renewable energy and electricity, but should be promoted more strongly. To develop innovation and enable cost reduction we must open the market to alternative generators, subject to reliability and other interconnect requirements to be specified by the transmission provider. Increased market access and the interconnect specification are required immediately.

Technology Development:

- 9) Any support provided for research and development should be dependent upon provision of a credible export marketing plan that explains how the technology can be used at least outside of Atlantic Canada and, preferably, outside Canada. If the resulting technology is not competitive elsewhere then we should be importing solutions.
- 10) The provincially managed Ecotrust program is supporting tidal generation and carbon sequestration investigations; these initiatives should be reemphasized and accelerated.

Miscellaneous:

- 11) Restructure energy rates to encourage all electricity customers to limit consumption during peak periods.
- 12) Current energy efficiency programs offering refunds for home retrofits could be more effective with support for low income residents. Consider, therefore, a program that will provide funds for qualifying home renovations with checks built in to ensure that the work is done properly.
- 13) The Provincial government should lead by example and require that all government buildings are LEED certified within a certain timeline and that all government vehicles exceed established emission standards and use alternative technologies such as electricity and bio-diesel where feasible.

The Engineers Nova Scotia's Energy Committee appreciates the magnitude of the challenges related to sustainable energy and climate change in Nova Scotia. We believe, however, that individual Nova Scotians will respond positively to creative and forward looking energy and environment policies that will help ensure sustainability. Education is key: we must empower all Nova Scotians to understand and participate in this most critical of issues affecting all of our lives and all of our futures.

The views presented in this letter are those of the Engineers Nova Scotia Energy Committee and are not necessarily those of Engineers Nova Scotia.

Engineers Nova Scotia Energy Committee Members:

Vivek Tomar, P.Eng., Chair; Frank Comeau, P.Eng.; William Davison, P.Eng.; Louis Dionne, P.Eng.; Alireza Dehghan, P.Eng.; Fred Farmer, P.Eng.; Rick Grant, P.Eng.; David Lawrence, P.Eng.; Roger LeBlanc, P.Eng.; Aaron Long, P.Eng.; Dr. James Retallack, P.Eng.; John Reynolds, P.Eng.; Jim Simmons, P.Eng.; Valerie Williams, P.Eng.;

Again, we offer our assistance and look forward to further development of action plans.

Yours truly,

Vivek Tomar, P.Eng.
Chair,
Engineers Nova Scotia Energy Committee

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