



Energy in Canada @ 150 and Beyond Cap-and-Invest: Financing Canada's Energy Transition to a Low Carbon Economy

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One in a series of papers prepared by Canadian energy sector leaders – at the invitation of the Energy Council of Canada – exploring key aspects of our ongoing national energy story on the occasion of the 150th anniversary of Confederation.

Summary: Jatin Nathwani proposes a 'Cap and Invest' system as a means of adequately financing an effective response to the climate change challenge. A small levy on the economy-wide consumption of fossil fuels could provide capital on the scale needed to support the transition to a low-carbon economy, within the timeframes to which we aspire and have committed to. This approach would take account of both the limits of government's ability to re-direct existing budget allocations from current needs, and of the intergenerational nature of climate change burdens. A governance framework to ensure trust and prudence is also proposed.

The need for a bold measure to drive actions to reduce Canada's greenhouse gas emissions is clearly evident. How to finance this climate change challenge is less than clear. We have a patchwork of solutions emerging around a 'carbon tax' or a 'cap-and-trade' regime with different flavours. This has the potential to descend into inter-provincial finger pointing or a stalemate at the federal-provincial table. The goodwill appears to be there but the harsh reality of delivering tangible results will come

crashing in when the parties involved try to carve out a path that is least painful.

A cogent national strategy is required to deal – head on – with a future liability that is at its core a case of intergenerational burdens. The global context sets the parameters – climate science provides a solid foundation for action to part with fossil fuels but global energy poverty remains an intractable predicament. Income shifts and population growth in tandem drive energy demand and emissions upwards.

I propose a fresh approach – 'Cap-and- Invest' with a long view that moves us beyond the proposed solutions that shape the current discourse on putting a price on carbon.

The climate change challenge, at its core, is a governance challenge that is informed as much by energy technology choices as workable policy options.¹ To achieve large reductions in

¹ See recent report of the Expert Panel on Energy Use and Climate Change, 'Technology and Policy Options for A Low-Emission Energy System in Canada', by the Council of Canadian Academies (CCA), 2015 and 'Equinox Blueprint Energy 2030', (WGSJ, 2012). This is a good first step that identifies several credible options.



emissions over a long period of time dictates the need for an economy-wide effort coupled with a broad social consensus that embraces reason for change without the overhang of a “formal” treaty obligation.

The ‘Cap- and- Invest’ approach can be adopted by any jurisdiction but, for illustration, let us focus on Canada.

The essential building blocks of a national approach comprise:

- I. **A ‘cap- and- invest’ strategy** with emphasis on investment and innovation as the drivers of change. The transition to a low carbon economy – measurable from one decade to the next – will require sustained, massive investments in our national scientific, technological and industrial capacity, to facilitate rapid deployment of existing and emerging solutions that reduce emissions on a time scale consistent with our national aspirations and international commitments. The trap to be avoided is to be confined to symbolic ‘feel-good’ gestures, premised on the notion that every little bit counts, and that will certainly achieve only a little.
- II. **A small levy on economy-wide consumption of fossil fuels** – equivalent to one to two percent of the value of current consumption to generate a

large pool of capital for investments in the de-carbonization of the economy.²

Why is this necessary?

Primarily because existing or current budget allocations, by definition, are committed to meeting current needs and the ability of governments to re-direct funding away from hospitals, schools or day to day functioning of our social infrastructure would meet with extreme resistance. Under any political calculus, today’s demands always trump tomorrow’s issues, particularly as ethereal as carbon emissions.

An important additional distinction is also key. Climate change is an issue of inter-generational burdens. A levy on current consumption, on an on-going basis, spreads the burden fairly across all individuals in society over time. A levy on consumption, transparent and openly debated prior to implementation, is one way to establish a social contract between those who are taxed and those who manage the tax revenues for a clear and explicit purpose. To reduce complexity of management and uncertainty around investment decisions, a large pool of patient

² This is different from attempts to impose carbon pricing either through regulations (opaque); or a ‘carbon tax’ (transparent); or a ‘cap and trade’ regime limited to large emitters (producers) with ‘allowances’ granted free or auctioned. The ‘caps’ and the ‘tax’ burdens – when imposed on producers only – are subject to intense lobbying by companies (for example energy intensive production) exposed to trade competitive pressures. Governments relent and the end result is a diminution of effectiveness; either the taxes are lowered to a point with no impacts, or under a cap and trade regime, the free allowances undermine the market price on the trade exchanges (the European ETS being a good example). Without persistent long term price signals, investors do not commit to low carbon solutions.



capital can then provide a reliable basis for meeting our obligations to our children and future generations.

III. Innovation in Governance is central to inspire trust and to ensure prudent investments will be made to deal with this specific challenge. To gain political acceptability of the levy on consumption, an “arms-length” independent investment board, enacted by an Act of Parliament – similar to the Canada Pension Plan Investment Board – would be necessary.

With a clear mandate, an impregnable governance structure and accountability for investment decisions, such an agency becomes the guardian of change. This is similar to the way in which the Canada Pension Plan Investment Board invests current contributions to cover future liabilities. The revenues from the levy³ would create a large enough pool of capital for investments to allow a transition to a low carbon economy over time.

If the funds from the levy are matched by industry and invested strictly in projects that yield verifiable GHG reductions, then access to a much larger pool of capital becomes the “carrot” for industry. The competitive edge to Canadian industry – through access to low priced capital in support of innovations – has

³ One percentage point increase in the GST would generate approximately \$ 8-9 billion per year in the Canadian economy. Raising the GST from 5 to 7 percent would create a pool of capital in the range of \$18-20 billion per year. The “ring-fencing” of the revenues from the consumption tax becomes a credible pool of investment capital with scale and scope for effecting change to a low carbon energy system.

the potential to spur development of new solutions and over time a basis for a competitive advantage for Canada in global markets.

Maintaining tough national targets – a priority for the federal government - would give Canada a leg up in international diplomacy; re-directing funds from consumption to investment becomes the virtuous part of a twinned solution that becomes the foundational basis for a transformation to a low carbon economy through technological innovation.

Professor Nathwani is the founding executive director, Waterloo Institute for Sustainable Energy (WISE) – whose vision is clean energy, accessible and affordable for all – and holds the prestigious Ontario Research Chair in Public Policy for Sustainable Energy at the University of Waterloo. He is the co-director of the consortium ‘Affordable Energy for Humanity (AE4H): A Global Change Initiative’ that comprises 130+ leading energy access researchers and practitioners from 30 institutions and 16 countries. Prior to his appointment at the university in 2007, Professor Nathwani worked in a leadership capacity in the Canadian energy sector over a 30 year period.