

Response from Danny Harvey to the Questions Posed

What is there to gain from a common energy policy?

With a common goal and a coordinated energy policy, we could achieve faster reduction in and eventual elimination of greenhouse gas emissions from the electricity sector, at lower cost and with greater reliability, while also opening the possibilities for shifting some transportation and space heating energy demands to the decarbonized grid (via PHEVs and electric heat pumps, respectively) – because we would combine complementary high-quality renewable energy sources for electricity generation with optimal storage systems, peak load shaving, and electricity demand reductions targeting all efficiency measures that can be justified economically on a life-cycle cost basis.

What are the political, technical and economical hurdles, challenges and transformations for such a policy?

I think that the main problem is that political leaders just don't "get it" when it comes to the huge risks posed by greenhouse gas emissions and the resulting global warming, and so they continue along with the usual confrontational and small-minded politics, rather than rising above their pettiness to confront the enormous issue that we face. Contrast the almost total political silence on this issue in Canada (especially at the federal level), with what Canada and other nations of the world agree to at the UNFCCC COP meeting in Cancun, Mexico in 2010:

"The Conference of Parties ... recognizes that *deep cuts* in global greenhouse gas emissions are required according to science ... with a view to [holding] the increase in global average temperature below 2 C above preindustrial levels, and that the Parties should take *urgent action* to meet this goal ... also recognizes the need to consider ... strengthening the long-term goal to a global temperature rise of 1.5C." (Source: **United Nations, Framework Convention on Climate Change, The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, FCCC/CP/2010/7/Add.1 (15 March 2011)**, online: <http://unfccc.int/resource/docs/2010/cop16/eng/07a01.pdf>)

An economic hurdle is that fossil fuel energy costs are low (which could be most effectively rectified through a carbon tax), while at the same time significant up front investments are required for the kind of electricity grid that would be needed, while the technical hurdles (such as integrating storage at different time scales, or constructing an HVDC backbone grid) I think are relatively minor and can be solved in various ways.