B r o m i d e s

Comments by Robert Hoffman on

Acting on Climate Change : Solutions by Canadian Scholars

The word that came to mind when I read 'Acting on Climate Change : Solutions by Canadian Scholars' was **bromide**. According to the dictionary, bromides are trite, clichéd sayings. A bromide isn't very helpful or specific, and people tend to say them over and over again. The word bromide comes from chemical compounds formed from the halogen bromine and a metal. This kind of bromide historically was used as a sedative, a medicine that dulls your senses, just as figurative bromides are boring and dull.

Why do I consider the solutions advocated by Canadian scholars to be bromides?

- Because the methods used for compiling the list of solutions obviate the need to state a clear understanding of the Canadian energy system and the impact of the solutions on the future trajectory of the system;
- Because the targets and the solutions proscribed lack precision;
- Because of the apparent discrepancy between the time line implied by the targets and that implied by solutions;
- Because the obvious interdependence among the solutions is ignored;
- Because contentious issues such as the production of oil from oilsands and of gas by fracking are glossed over or ignored altogether.

These points are elaborated in what follows.

1) **Methodology**: The proposed solutions are based on an application of the Delphi method, a structured communication technique, originally developed as a systematic, interactive forecasting method which relies on a panel of experts. It is clear that the solutions advocated by the panelists have not been subjected to systematic quantitative analysis, nor have many of the experts *scholars?* had access to any such tool. Under these circumstances and in the age of political correctness, the opinions of the 'experts' are expressions of the conventional wisdom of mainstream economics, uninformed by evidence-based scientific understanding.

2) **Targets**: The report recommends that a "long-term target of 80% emissions reduction" and a "short-term target of 26-28% below 2005 levels by 2025 be adopted immediately". The long-term target does not specify the year the target is to be reached, nor does it specify the year from which the reductions are to be calculated, thereby rendering the target inoperable. These targets are advocated in the absence of any systematic analysis of how the Canadian energy system might be reconfigured over time in order to meet the targets and without any presentation of as much as a single pathway that would meet the targets. The time horizons of the targets are sufficiently distant that by the time it is clear that the targets won't be met, they can't for all practical purposes be met. We have once before been down this path, with respect to the Kyoto target.

3) **Put a price on carbon**: The report asserts that the key enabling policy for reaching the recommended targets is 'putting a price on carbon', either by means of a carbon tax or a cap and trade system. There are several problems with this recommendation. The report fails to specify the annual levels of the tax needed to achieve the targets, nor does it specify the annual sequence of caps. No convincing evidence is presented concerning the relationship between the level of the tax and reduction in emissions. Since transportation for most people and most goods is essential and since there are few alternatives to hydrocarbon-fuelled

vehicles, the response of consumers to a carbon tax is apt to be small, especially in the short term and the response of the vehicle producers to high fuel prices has been to increase fuel efficiency, while still catering to consumer demand for ever heavier and 'safer' vehicles.

4) **Low-carbon electricity generation**: The report asserts that Canada could reach 100% reliance on low-carbon electricity by 2035, by increasing the exploitation of abundant renewable sources of energy, by the use of carbon capture and storage technology, and by the development of an east-west electricity grid. It fails to define 'low-carbon electricity'. This leaves open the question as to whether electricity generated from natural gas is considered to be 'low carbon' or not. If not, as implied by the reference to the experience of Norway where "Norway, for example, already generates 100 percent of its electricity using renewable energy", the report fails to address how systems with intermittent sources of renewable energy can meet hourly loads without gas-fired peeking plants.

5) **Oilsands**: That a report on greenhouse gas emissions in Canada would not mention the emissions associated with the production of oil from oilsands primarily for export is unbelievable, especially as production is expected to at least double over the next decade or two. It is difficult to reconcile the expectation of ever increasing production of oil from sand with the recommended targets.

6) **Natural Gas**: The report leaves open the role of natural gas and does not address the uncertainties around the question of fracking. Some advocate using natural gas in cogeneration facilities and as fuel for heavy trucks in the transition to non-fossil energy sources; others argue that gas produced by fracking has little or no advantage with respect to greenhouse gas (GHG) emissions over refined petroleum products and that switching to gas only prolongs the transition to non-fossil sources of energy.

7) **Policy interdependence**; The report fails to recognize interdependence among policies. For example, once the transition to low-carbon electricity and electric vehicles is made, investments in public transit will have little or no impact on GHG emissions. Further, if the switch to electric vehicles is imminent, it does not make sense to invest in improving the efficiency of gasoline or diesel-powered vehicles; nor will investing in efficiency improvements in electric vehicles reduce GHG emissions.

8) **Timing**: The report suggests ambitious targets with respect to time horizon in keeping with the urgency of the problem, but it fails to examine how much time is required for suggested policies to penetrate or saturate targeted stocks. For example, the report recommends investments in urban infrastructure such as mass transit, densification, and smart growth as means of mitigating GHG emissions. While the renewal and development of 'green' urban infrastructure and urban form may be worthwhile goals, even a concerted effort will have little impact on GHG emissions in the short run because of the time required to design and build new infrastructure and to replace or upgrade existing infrastructure, and in the long term because the full penetration of non-emitting energy carriers (electricity and hydrogen) will have been accomplished if targets have been met.

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