

Backgrounder

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Government claims on Kyoto costs inflated

Combating Climate Change is Affordable

“...when past environmental regulations have been proposed, there are the three compliance cost scenarios: apocalyptic (industry), doable but costly (academic and government), and profitable (a few visionaries). Our guess, based on the record of previous academic and government cost forecasts, is somewhere between doable and profitable.”¹

The Climate Action Network Canada/Réseau action climat Canada (CAN-RAC) is confident that honouring Canada’s Kyoto obligation is technically and economically achievable. This confidence is based on three principles:

1. The historical record of the actual costs of complying with environmental regulation compared to the predicted costs.
2. The modeling tools used by government to predict economic impacts of changes in energy policy are not accurate enough to yield precise information.
3. Although the cost of complying with Kyoto sound large when put in full context of the size of the Canadian economy it is relatively small.

The historical record of the actual costs of complying with environmental regulation compared to the predicted costs.

The cost of complying with Kyoto has been a topic of debate in Canada since prior to 1997 yet, there have been only a few studies of the cost of complying. The most oft quoted “study” was produced by the Canadian Manufacturers’ Association in 2002 – at the height of the ratification debate. It predicted the loss of as many as 400,000 jobs should Canada implement the Kyoto Protocol. A closer examination of the report reveals that it was nothing more than a survey of the opinions of the members of the association. They basically guessed what might happen given that at the time the survey was done there was little or no information about what manufacturers would be asked to do or what programs or incentives might be created. Even in 2007 this “study” is still referred to and its author regularly appears in the media. Ironically, the manufacturing sector in Canada has reduced its greenhouse gas emissions while significantly increasing its production. The objective of this study was to place the notion that Kyoto is a costly job killer in the minds of the media, politicians and the public and it succeeded.

¹ From: <http://www.prospect.org/web/page.wv?section=root&name=ViewPrint&articleId=4757>

This is a familiar tactic. When faced with the possibility of regulation industry denies there is a problem, then concedes there is a problem but denies responsibility and then in the end claims the cost of fixing the problem will be too high.

The classic Canadian case is acid rain. INCO was the largest single source of acid rain causing emissions in North America and although government began trying to regulate in the early 1970s the company managed to postpone enforcement until the mid 1980s.

Once required to act, jobs were not lost at INCO. New technology install in Sudbury not only allowed the company to meet its target but it also lowered costs and increased profits. The company now rightly takes credit for significant environmental achievement.

Of particular significance to the debate around Kyoto costs are the records of achievement of the US acid rain program and the Montreal Protocol. The US acid rain program's successful use of emissions trading is the model for trading under the Kyoto Protocol. The Montreal Protocol targets and timetables, as well as the principle of differentiated responsibilities among developed and developing countries are also key elements of climate change agreement.

Since 1995, US electrical utilities have been required to hold permits for each ton of sulfur dioxide they emit. These permits, in limited supply, are distributed to firms each year by the government. The innovative feature of the program is that the permits can then be bought and sold. Given this, permit prices roughly reflect per ton pollution control costs. This is true because a firm generally wouldn't buy an extra permit if the cost of doing so exceeded the cost of reducing sulfur emissions by a ton.

When the tradable permits market was being designed in the early 1990s, credible industry estimates of permit prices (and thus control costs) were \$1,500 per ton; the EPA was predicting \$750. In 1997, permits were in fact selling for around \$100 a piece.

"The real compliance costs have in fact been two to four times lower than the Environmental Protection Agency expected, and four to eight times below industry estimates."²

The Montreal Protocol was negotiated in 1987 to protect the ozone layer. The original plan called for the elimination of 50% of the Chlorofluorocarbons (CFCs) production within 10 years. The EPA estimated the cost \$3.55 at per kilogram³. By 1993, the goal had become much more ambitious: complete elimination of CFC production, with the deadline moved up two years, to 1996. Nevertheless, the estimated cost of compliance fell more than 30 percent, to \$2.45 per kilogram. Substitutes for certain CFCs had not been expected to be available for eight or nine years but, industry was able to identify and adopt substitutes in as little as two years.

Dupont, the major North American manufacturer of CFCs, at first followed the normal industry course of deny the problem, deny responsibility and raised the alarm over costs but, in the early 1990s transformed itself. It achieved all the goals of the Montreal Protocol by replacing CFCs with profitable new refrigerants. It has also embraced action on greenhouse gas emissions and has made significant reductions without loss of jobs.

² Ibid

³ Ibid

The economy overall did not suffer and the price of refrigerators for consumers has not changed significantly and new models are twice as energy efficient as the CFC containing models of the 1980s.

Table 1 taken from Falling Prices, Cost of Complying With Environmental Regulations Almost Always Less Than Advertised by Hart Hodges illustrates the long history of inflated cost predictions.

Automakers and their allies have consistently overestimated the actual cost of compliance. They have consistently claimed that costly and complicated technologies would have to be developed and used in order to meet proposed emission standards. Based on a review of past industry estimates, the auto industry's typical estimates are 2 to 10 times higher than actual costs.⁴

The California Air Resources Board estimates the cost of complying with its Clean Car Act to be \$300 per car in 2009 rising to \$1000 by 2014. There is confidence in this estimate because the technology need to meet the targets is already known and available.

The modeling tools used by government to predict economic impacts of changes in energy policy are not accurate enough to yield precise information.

Government estimates of economic hardship from greenhouse gas reductions are based on models like CIMS, a hybrid energy-economy model that combines key characteristics of both the top-down and bottom-up approaches to energy modeling. In a report to NRCan, MK Jaccard and Associates explained that CIMS always assumes the following:⁵

- "...assumes all choices under the business as usual simulation were optimal and therefore assigns a cost to any reduction in GHG emissions that occurs as a result of policy. If consumers did not make perfect technology choices in the first place, the perceived private cost (PPC) can overestimate the perceived costs of GHG reductions.
- "Over a longer simulation period it is not always possible to anticipate future new technology options or process improvements."

Although the costs of complying with Kyoto sound large when put in full context of the size of the Canadian economy it is relatively small.

The Canadian economy is projected to grow at 2.4% to 2020, extending that to 2030 implies an economy about 40% larger than today's \$1.4 trillion economy reaching almost \$2 trillion in size. Projected GDP losses from overestimated costs and underestimating technological potential are insignificant at less than 0.05% of GDP for

⁴ Comments on the Proposed Adoption of Regulations by the California Air Resources Board (CARB) to Control Greenhouse Gas Emissions from Motor Vehicles, NRDC, 2004

⁵ Cost Curves for Greenhouse Gas Emission Reduction in Canada: The Kyoto Period and Beyond. MKJA Associates Inc. September 2006.

cost curves up to \$150/tonne in 2030. ⁶ CIMS GDP losses are always cumulative not annual. Economic impacts at this level are just noise in the modeling.

How real is the assumption that all change implies a cost? How much cost is real versus perceived?

Real life experience shows that:

- paybacks are often far greater than models predict because energy savings are greater than expected
- investments generate unexpected benefits as in greater productivity in buildings that have been;
- the product works better than you thought it would as in hybrid cars; and being the first one to adopt a technology generates a 'kool' cache.

Pollutant	Ex-Ante Estimate	Ex-Post or Revised Ex-Ante Estimate	Overestimation as a Percent of Actual Cost
Asbestos	\$150 million (total for mfg. and insulation sectors)	\$75 million	—
Benzene	\$350,000 per plant	approx. \$0 per plant	
CFCs	1988 estimate to reduce emissions by 50% within 10 years; \$2.7 billion	1992 estimate to phase out CFCs within 8 years; \$3.8 billion	41%
CFCs-Auto Air Conditioners	\$650-\$1,200 per new car	\$40-\$400 per new car	63%-2,900%
Coke Oven Emissions OSHA 1970s	\$200 million - \$1 billion	\$160 million	29%-525%
Coke Oven Emissions EPA 1980s	\$4 billion	\$250-400 million	900%-1,500%
Cotton Dust	\$700 million per year	\$205 million per year	241%
Halons	1989: phase out not considered possible	1993: phase out considered technologically and economically feasible	—
Landfill Leachate	mid-1980s: \$14.8 billion	1990: \$5.7 billion	159%
Sulfur Dioxide	\$4 billion-\$5 billion	—	100%-300%
Surface Mining	\$6-\$12 per ton of coal	\$0.50-\$1 per ton	500%-2,300%
Vinyl Chloride	\$109 million per year	\$20 million per year	445%

⁶ Annual GDP loss assuming \$150/tonne at 2030 for total GDP loss of \$23,483 billion/23 years = 1021 billion/1.96 trillion.