



The Million-Dollar Question: Will Carbon Pricing Work?

April 4, 2017

The federal government threw down the gauntlet last fall telling the provinces they had until 2018 to put a price on carbon. By then, four provinces—British Columbia, Alberta, Ontario and Quebec—already had, or were close to implementing, their own plans. The others now face a hard deadline to help Ottawa meet its commitments under the Paris Climate Accord, which means cutting Canada’s greenhouse gas emissions 30% from 2005 levels—by 2030.

Given that Canada is one of the world’s biggest per-capita emitters (#15), change is needed, proponents say. But criticisms abound, including that Ottawa’s plan will add another anchor to a Canadian economy trying to sail higher. And the biggest question—will carbon pricing actually work—is difficult to answer in these early days. While acknowledging that lack of clarity, we offer an overview of the key issues.

Carbon pricing is a great strategy for tackling Canada’s emissions.

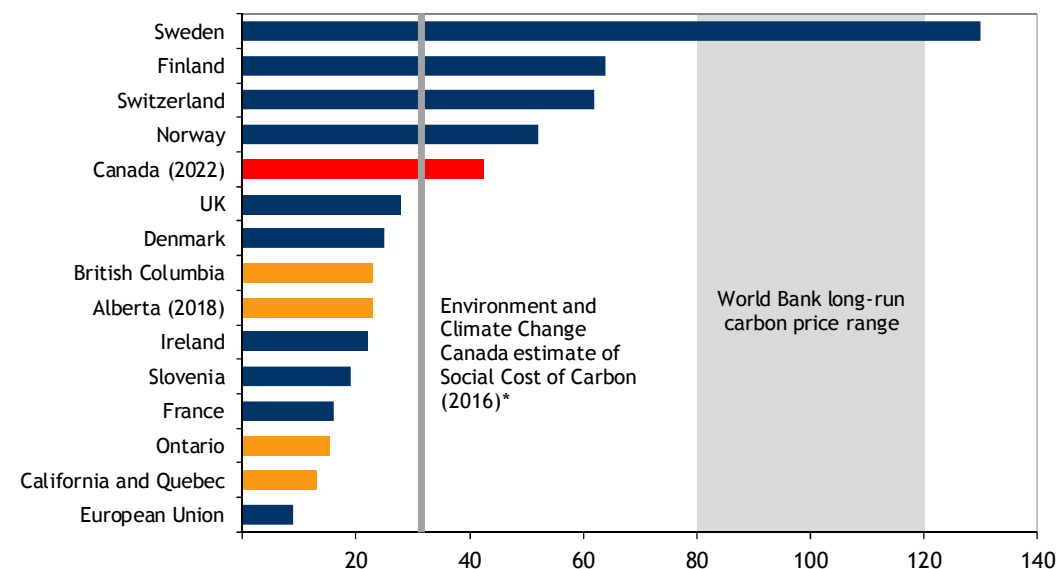
Because of our geography and climate, the bulk of Canada’s emissions are decentralized: generated by transportation and buildings, and reflective of our high standard of living. Allowing markets to find the most cost-effective, and locally beneficial, solutions to cutting emissions makes sense.

What’s more, Canada has less scope than other countries to reduce its emissions through regulation of the electricity sector. That’s because our electricity mix is already heavily concentrated in renewables. In 2013, 79% of Canada’s electricity mix was generated from renewable, nuclear and hydroelectric power, compared with 32% for the world.

As a northern country, Canada will be disproportionately affected by climate change. The annual average surface air temperature in Canada rose by 1.7°C in the 1948-2012 period—double the global average. And Canadians are already paying the price—insured catastrophic losses linked to weather events have spiked since the 1980s.

World Carbon Prices

2015, USD \$ per tonne of carbon dioxide equivalent



*Converted to USD at prevailing exchange rates
Source: RBC Economics Research, World Bank

The price is right. Or is it?

Ottawa's plan envisions a price on carbon of \$50 a tonne by 2022. Compared to other countries, that's an aggressive target (and higher than the levels currently in place in the four Canadian provinces with a pricing scheme). But it still falls well short of the US\$80-120 level the World Bank says would be needed to halt the rise in global temperatures. Only Sweden meets the World Bank's goal.

For critics, the problem is that the price is too high. Saskatchewan argues that a \$50 per tonne carbon price will siphon billions from the province's economy and make it a less competitive place to do business. While Nova Scotia recently pledged to create a cap-and-trade system, the government had resisted carbon pricing in the past partly because the province met Canada's 2030 emissions target in 2014. Then there's the Trump factor. When Ottawa announced its national carbon pricing plan, there was a climate-friendly president in the White House. Donald Trump, meanwhile, has vowed to boost industries with high emissions like coal and oil and gas, and slash the Environmental Protection Agency's budget.

It's still an open question whether the Canadian economy can afford a \$50-a-tonne carbon price when a host of other developments could affect its competitiveness, including a cross-border tax on manufactured goods and lower U.S. corporate tax rates.

A small number of firms, facilities and industries generate outsized emissions.

The Canadian firms facing the biggest competitive threat from carbon pricing are in high-emitting, trade-exposed sectors including steel, aluminum and cement-making. Indeed, the top-20 emissions-intensive and trade-exposed facilities in Canada are collectively owned by just a dozen firms and account for 3.5% of Canada's total emissions. While the share of overall emissions by these industries has declined in the past decade, some of that drop reflects the global recession.

This brings us to the elephant in the room: the oil and gas sector. It generates 26% of the country's total emissions, more than the electricity generation and emissions-intensive and trade-exposed industries combined. The key growth area in the oil and gas sector is the oil sands, which generates 9.3% of Canada's total emissions and saw emissions rise by a whopping 58% in the 2008-2014 period as activity recovered following the global financial crisis.

Meanwhile, carbon pricing creates opportunities for Canadian firms. The global market for GHG-reducing technology is growing fast, and clean-tech firms here stand to benefit. That's part of the rationale behind Ontario's stated intention to invest some of the revenue raised by its new carbon tax in its burgeoning clean tech sector, which already employs some 65,000 people.

The best Canadian case study: British Columbia.

Given the newness of some provinces' carbon-pricing plans (Ontario's just came into being in January 2017), a glance at B.C.'s experience gives us the best window into their early impact. The province created its plan in 2008 and so far, the record is mixed. The good news: from a peak in 2004, the province's greenhouse gas emissions had fallen 9% by 2014. That included drops in manufacturing, off-road gasoline and diesel consumption, and aluminum production. But some of the decline reflected one-off events like the modernization of the Kitimat Smelter, which was not related to the carbon tax. And road transportation emissions actually jumped 8% from 2004 to 2014 as global oil prices weakened and the popularity of SUVs and light trucks boomed.

B.C.'s experience highlights the role of other factors in reducing or increasing emissions (recessions, changes in technology, and so on), but the appropriate level of the carbon price to alter consumers' behavior remains an open question.

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