

Carbon Taxes: Can a Good Policy Become Good Politics?

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Good policy, bad politics: this is how carbon taxes are broadly perceived, notably in Canada. It would be difficult to find a policy that generates more praise and support among policy experts and one that is more closely identified with political suicide.

After explaining why a carbon tax is good public policy, and highlighting the political obstacles to its adoption, I will consider the current propositions for making it more electorally acceptable. I will argue that these propositions would not necessarily improve the electoral attractiveness of a carbon tax, and that some of them would actually damage its effectiveness as an instrument to achieve better public outcomes. I conclude with the hope that a time will come, not too far in the future, when the merits of carbon taxes will lead to public acceptance.

The Policy Effectiveness of a Carbon Tax

A carbon tax is a tax on the full range of fossil fuels (coal, natural gas and petroleum by-products such as gasoline, diesel, propane, aviation fuel, and heating oil), with the amount determined by the amount of carbon that is emitted when the fossil fuel is burned. Putting a price on carbon would be a critical step in reducing emissions and slowing, or hopefully halting, the human-made climate change that is altering our planet. In turn, the revenue generated by a carbon tax could be used to reduce taxes on household or business income, that is, to enable governments to tax what you burn, not what you earn.

The support this policy has received and continues to receive in Canada and around the world, right across the political spectrum, is downright impressive. Environmentalists and climate scientists have endorsed it; so have many economists—Thomas Friedman, Alan Greenspan, Arthur B. Laffer, Paul Krugman, Paul Volker, Joseph E. Stiglitz, Gregory Mankiw (formerly George W. Bush's and Mitt Romney's top economic adviser) (Pigou Club Manifesto, 2006), Craig

Alexander (TD Bank Chief economist), as well as mainstream energy and fiscal policy experts, international organizations such as the OECD,¹ several corporate CEOs and business organizations like the Canadian Council of Chief Executives,² renowned think tanks like the US American Enterprise Institute, the Brookings Institution, the Rand Corporation, or in Canada the National Round Table on the Environment and the Economy (NRTEE),³ the Conference Board of Canada,⁴ and the Canada West Foundation.⁵ Even prominent conservative politicians, such as Preston Manning in Canada⁶ and George Schultz in the US (Romm, 2012), have recognized the merits of carbon taxes.

A carbon tax is categorized as a “pigouvian” tax, after British economist Arthur Pigou, who nearly one hundred years ago proposed to tax “negative externalities”—that is, the social and environmental costs of a product or activity not reflected in its market cost (Pigou, 1920). High taxes on alcohol and tobacco are typical pigouvian taxes, aiming to internalize the social costs of these products in an effort to dissuade consumers from consuming them and to encourage healthier lifestyles.

A negative externality: that is exactly what children born in 2013 will be facing when having to deal with the climate changes caused by the greenhouse gases (GHGs) emitted, at no cost, by previous generations of consumers and producers of goods, services, and commodities. As science has made clear in recent decades, the world’s climate is being changed by the emission of GHGs, the most prevalent of which is carbon dioxide (CO₂). Climate change induced by human activity is one of the main threats facing humankind. By taxing this negative externality at the source of the activity, governments can force polluters to pay for the costs imposed by climate change on our children, and society as a whole; such a tax would also create an incentive for these polluters to find innovative ways to decrease their emissions in order to pay less tax.

In most of the world today, polluters can emit carbon for free. Putting a price on carbon emissions is an eminently logical way to force polluters to take the environmental cost of their operations into account, and to reduce their GHG emissions. If carbon emissions were priced in our economy, consumers and businesses would have a powerful incentive to choose goods and services with lower carbon content, and to invest in proven or innovative energy-saving and emission-reducing technologies. It would be in their own interest to curb their carbon emissions, thus reducing their tax burden.

To illustrate how this would work, imagine a corporate board meeting where senior management is asked to find ways to reduce the company’s taxes. In the absence of a carbon price, a team of accountants and lawyers will be hired to find legal loopholes, or possibly ways to shift resources to lower tax jurisdictions. Such a solution might improve the company’s bottom line, but it offers few benefits for the economy, or society at large. If however, there was a carbon tax

in the company's jurisdiction, management would instead reduce their taxes by hiring engineers and investing in the domestic R&D needed to reduce the company's emissions. Furthermore, because governments can use part of the revenues from a carbon tax to reduce corporate income tax rates, the firm will have more capital available to make efficiency-boosting investments, thus benefiting both the firm and the broader economy.

If such decisions were taking place economy-wide, jurisdictions would benefit from a cleaner environment, increased economic activity, cleaner and more efficient processes, new export opportunities, and high-value, clean economy jobs. Thus, taxing carbon emissions would be tremendously helpful in promoting more efficient use of energy at every level, delivering innovation incentives, and making clean and renewable energy a more competitive source of power. It would also have additional environmental benefits, such as a reduction of local and transboundary air pollution and related morbidity and mortality rates.

Through carbon taxes, governments can reduce emissions more affordably and effectively than through other policy levers. While regulations and direct investment in environmental initiatives should be part of any policy mix, these would be far more effective if anchored in a clear, consistent carbon price. Without a price on carbon, conventional policy instruments, such as subsidies and command-and-control regulatory mandates, tend to pick technology winners rather than allowing private firms and individuals to choose their own made-to-measure and cost-effective ways to reduce emissions.

Relying mainly—or only—on sector-by-sector regulated performance standards, as the current federal government is doing, is not only more burdensome on the economy but also has little support from analysts as a tool to reduce emissions.⁷

A carbon tax is not the only way to levy a price on carbon. Another method is through the allocation of emission quotas, also called a carbon market or cap-and-trade system. This method imposes a cap on how many GHGs an emitter can release each year, along with the ability to purchase emitting rights beyond that cap. For example, if a coal-fired power plant wanted to exceed its allocated cap, it would need to purchase more emitting rights from one or more other emitters who have not exceeded their own caps. A widely shared view among experts and industry leaders who have analyzed both carbon pricing systems⁸ is that a carbon tax is “the most efficient way to price carbon” (Oliwiler, 2012, p. 19; Hsu, 2011). Indeed, a carbon tax presents a number of policy advantages over a cap and trade system:

Greater emission coverage. A cap-and-trade system requires a large volume of data collection and monitoring of individual permit holders. Applying such a system beyond the large industrial emitters would be a complex endeavour and, in some sectors, nearly impossible. For example, addressing emission reductions

in transportation with a cap-and-trade system would be a massive undertaking. In Canada, the 700 large final emitters (mostly heavy industry and power plants) produce “approximately 51% of emissions” (NRTEE, 2009, p. 44), while transportation’s share is 24% (Environment Canada, 2012, p. 13). The European Union’s Emission Trading Scheme (ETS) covers only 40% of European GHG emissions (Laurent & Le Cacheux, 2009, p. 24).

In contrast, a carbon tax can achieve much broader coverage since taxation can be applied to virtually all fossil fuel purchases. A carbon tax would raise revenue largely from large industrial polluters, but can also be applied to smaller emitters, including consumers. A carbon tax could reach over 75% of emissions, as is the case in British Columbia (Horne, Petropavlova, & Partington, 2012, p. 16).

Clear price for investment decisions = greater effectiveness. A key factor in successful emission reductions is providing emitters with the ability to make long-term plans for low carbon capital expenditures. Emitters need a certain, long-term price signal that they can incorporate into their projections of operating expenses that will reduce uncertainty about returns on investment decisions.

A cap-and-trade system brings price volatility that inhibits private sector investment and is vulnerable to manipulation by speculators. The price fluctuates wildly because of the unpredictable nature of supply, demand, regulatory conditions, and the volume of emission rights issued. But with a clear, meaningful, and gradually increasing carbon tax, emitters have the certainty they need to make investment decisions. A well-conceived tax starts with a low price that rises predictably over time, on a trajectory that the government makes transparent to all.

Easier implementation. Carbon cap-and-trade systems are complicated structures, difficult to administer, subject to gaming, and involve offsetting credits that may take years to negotiate and implement. Significant lead time would be necessary to negotiate the allocation of emission permits, and to develop standardized rules and baseline emission paths that define and underpin carbon as a traded commodity. This is particularly true in a decentralized federation such as Canada, given constitutional jurisdictions over natural resources and industrial activity.

In contrast, a carbon tax would be administratively simple and straightforward to implement. It could be enacted immediately by the Federal Parliament under section 91(3) of the Constitution, which enables Parliament to raise money “by any Mode or System of Taxation.” It could also be introduced without hiring any new public servants, since a modern country like Canada already has an indirect tax system which also applies to fossil fuels.

Practically speaking, the only reform needed from the government would be to start taxing fossil fuels by carbon content (Mintz & Olewiler, 2008; Hohan, 2006; Yokoyama et al., 2000; Lachapelle, 2011; Laurent & Le Cacheux, 2009). For example, as it emits far more carbon when burned, coal would be taxed at a higher rate than oil, which would in turn be taxed at a higher rate than natural gas.

Use of revenues. Carbon pricing bears real costs for individuals and businesses, mostly in the form of higher energy prices. A cap-and-trade system does not generally provide any revenue with which the government may offset those costs, since emission quotas are usually allocated free of charge. While the government could sell the emitting rights by auctioning allowances for all existing emissions, this has not been done yet at a large scale.

In contrast, taxes create immediate revenue which the government could use to fund its policy priorities. It would have the resources to invest in additional emissions reduction measures, or to offset higher energy costs through broad-based, progressive tax cuts. The government could stimulate the economy and lower the cost of doing business by reducing taxes on productive activities like labour or investment. It could also target a significant share of revenues to lower-income households through refundable tax credits, to ensure that their quality of life improves rather than declines as a result of the policy. Such offsets are particularly important, given that lower-income households pay little tax and so would not benefit from reductions in tax rates alone.

In other words, a carbon tax can be the basis for comprehensive fiscal reform, combining environmental, economic, and social goals, a triple dividend the government uses to concurrently fight climate change, promote social fairness, and improve the competitiveness of the economy. Indeed, thanks to its carbon tax revenue, British Columbia lowered its corporate income tax to a rate that is among the lowest in the G8, and its personal income tax rates for those earning less than \$119,000 per year are now the lowest in Canada (Bauman & Hsu, 2012).

Carbon tax revenues can be used to ensure that households are net beneficiaries. For example, in Canada a significant share of the emissions come from foreign-owned industrial sites. So while the carbon tax would be paid to a significant degree by foreign-owned companies, the resulting revenues could be recycled to disproportionately benefit Canadian households.

Carbon tax revenues may also be used to mitigate the impact of carbon pricing on those regions of the country with higher emission rates. In Canada, the two highest emitting provinces, Alberta and Saskatchewan, are benefiting from high corporate profits, which means they will disproportionately benefit from reductions in corporate tax rates that a carbon tax revenue would enable.

As I mentioned, carbon tax revenue allows for targeted tax measures to lower-income households, which is vital because in isolation, carbon pricing can be

regressive. Higher carbon prices disproportionately burden low-income households, who ordinarily spend a large proportion of their income on heating and transportation (Congressional Budget Office, 2007; Sustainable Prosperity, May, July 2011). This is particularly true in a country such as Canada, with its cold climate and vast distances (Krechowicz, May 2011; NRTEE, 2009, pp. 76–77; Lee & Sanger, 2008), with already-widening inequalities (Conference Board of Canada, 2011), and where GHG emissions growth is due almost exclusively to the highest-income consumers (Osberg, 2008).

International considerations. Carbon taxes also bring advantages when we consider the international dimensions of fighting the climate change crisis. Carbon taxes are better suited to promote regional harmonization, if not an integrated world carbon price signal.

The inherent complexity of cap-and-trade systems worsens with the number of jurisdictions involved, and the rules of compliance expose them to the risk of a paralyzing domino effect: the overselling of permits by one or a few participating countries can make inaction legitimate for buyers of emission permits, as it undermines the entire pricing regime.

In contrast, a tax-based regime provides a fixed monetary incentive that is not affected by the non-compliance of one or more participants: “one country’s non-compliance cannot make inaction by other countries legitimate. . . . Thus, a tax regime will always have at least some environmental effect provided that at least one country complies” (Hovi & Holtsmark, 2006, p. 138). Simply, it is harder to bypass or game a carbon tax system.

Of course, a country acting alone may be disadvantaged when facing competitors that keep their carbon emissions free. This is particularly of concern to emissions-intensive-trade-exposed industries, which have no assurance that their competitors will play by the same climate rules. If carbon pricing is to lead to carbon leakage, with economic activities moving toward jurisdictions that do not price carbon, this could result in an economic loss for the country, and without marked environmental gain for the planet as, to some extent, global emissions are not reduced, only displaced.

But here again tax regimes are better suited to address the problem than cap-and-trade systems, since the carbon tax may be linked to a corresponding reduction in other taxes—business taxes, for example—that have “approximately the same marginal deadweight loss as the carbon tax” (Nordhaus, 2001, p. 16), thereby neutralizing the economic impact of the carbon price, if not improving the economy. According to Rausch and Reilly (2012) in their report for MIT, “this combination of a carbon tax with general tax cuts improves overall economic performance” (p. 17). And according to an OECD study, a carbon tax could promote employment growth when revenues are used to reduce taxation on labour (Chateau, Saint-Martin, & Manfredi, 2011).

Although the risk of carbon leakage cannot be ruled out without a universal harmonized carbon price, that risk should not be exaggerated, nor legitimize a reduction in effort (Dion & Laurent, 2012). After all, the price of carbon emissions is higher today in Europe than in America, and there is no carbon leakage between these two continents (Victor, 2011, p. 51). Many factors other than the cost of carbon, such as labour cost and quality, infrastructure, and political stability will continue to influence investment location (Andersen & Ekins, 2009).

In Canada, the current federal government decided not to adopt carbon pricing as long as the US Congress and White House do not. This marks a departure from past practice, a change from the time when Canada was willing and able to adopt different policies than its neighbour, policies that benefited Canadians, such as a more accessible and efficient health care system, more generous workers' rights, fairer and more effective anti-crime policies, tighter fiscal policy, a more reliable banking system, and lower business taxes.

In fact, trade concerns are an argument for carbon pricing, because the threat to competitiveness comes from failing to act, not from acting. Those countries—and their companies—that move toward carbon pricing will have an early adopter's advantage for trading opportunities (Sawyer & Fischer, 2010). The world will become less and less tolerant of the climate freeloaders who refuse to do their share in the fight against global warming. These environmental laggards might face new trade barriers, and their exports could be subject to boycotts in global markets. It is for this reason that the Canada West Foundation (2011, p. 25) lent its support to carbon pricing, arguing that it would reflect the seriousness with which Canada is taking its climate responsibilities, and in doing so help protect our resources from boycotts such as those organized against the oil sands in Europe and the US.

Having made the policy case for a carbon tax, I will address the issue of what its level, or "rate" should be. To be effective, a carbon tax must be high enough to create an incentive for the desired emission reductions. If the tax is too low or there are too many exemptions, business will simply "buy its way out," and fail to reduce its emissions. Multiple exemptions may reduce the tax's overall effectiveness to a negligible level (Bruvol & Larsen, 2002). The objective is to set a carbon price that raises the cost-effectiveness of research into low-carbon solutions and acts as a catalyst for the full range of actions needed to combat climate change.

Climate scientists urge decision-makers to keep global warming below the dangerous tipping point when they predict our planet will become much less hospitable for virtually all forms of life: 2° Celsius above pre-industrial levels. Ideally, the carbon price should be aligned with a required emission reduction target not to exceed this two-degree limit. The fourth report of the Intergovernmental

Panel on Climate Change (IPCC) calls for a world carbon price of between \$50 and \$100 per tonne of equivalent CO₂ between 2010 and 2030. According to Nordhaus (2008, p. 91), a leading climate economist, the optimal carbon tax would be \$42 per tonne in 2015, rising gradually to \$90 in 2050, and \$202 in 2100. The International Energy Agency (IEA) sets this price at between \$95 and \$120 per tonne by 2030 (2011, p. 49).

In Canada, the Suzuki Foundation and the Pembina Institute recommended setting a price of \$200 per tonne of CO₂, while the National Round Table on the Environment and the Economy (2009) suggested an economy-wide carbon price of \$50 per tonne by 2015 that “will need to rise to \$100 per tonne of CO₂ by 2020 and upward of \$300 per tonne of CO₂ by 2050” (pp. 30–31, 51). The NRTEE categorizes a reduction of less than \$50 dollars a tonne as low-cost, between \$50 and \$100 a tonne as medium-cost, and more than \$100 as high-cost (NRTEE, 2009, p. 94).

As we know, the world is nowhere close to levying carbon prices at the levels described above. Or to put it another way: as leading scientists are telling us that without appropriate carbon pricing, we are risking the future of our planet, there is still little action being taken. Are carbon taxes just bad politics?

Can a Carbon Tax Ever Be Good Politics?

There is a striking and worrisome dichotomy between experts’ urgent and insistent recommendation of a high carbon price and the fact that polluters worldwide (with too few exceptions) are not obliged to pay for their carbon emissions. There are only pockets of carbon pricing in a few jurisdictions. Yet where carbon taxes exist, results are encouraging.

Sweden, Finland, Norway, Denmark, and the Netherlands have been taxing carbon since the beginning of the nineties (Horne, Petropavlova, & Partington, 2012, pp. 5–6).⁹ The highest rates are paid in Sweden, which currently charges a standard rate of \$106 per tonne and an industry rate of \$23 per tonne. Finland currently charges \$78 per tonne for transportation fuels, and \$39 per tonne for heating fuels. Norway’s tax currently ranges from \$16 to \$86 per tonne, depending on the sector—they recently decided to double it for their offshore oil and gas production (Norway Ministry of Environment, 2012). In each of these economies, carbon taxes have helped to reduce greenhouse gas emissions (Sumner, Bird, & Smith, 2009), while average annual gross domestic product (GDP) growth since 1990 has outstripped that of the European Union, and matched or exceeded the average of all high-income OECD countries.

Switzerland will soon increase its rate from \$39 to \$65 per tonne; Ireland recently increased its rate to \$26 per tonne; South Africa is planning to introduce a partial carbon tax of \$15 per tonne in 2013; and Australia just decided to introduce, in July 2012, a \$23 per tonne carbon tax that will increase by 2.5%

annually until 2015—at that time, the government will consider shifting to a cap-and-trade system (Horne, Petropavlova, & Partington, 2012, pp. 5–6; Jotzo, 2012).

The performance of existing cap-and-trade systems is less impressive. The largest cap-and-trade system in the world by far is the European Union’s Emissions Trading Scheme, representing more than 80% of existing carbon markets. Unfortunately, its coverage is too narrow (40% of total emissions), and its price too low and too volatile to be an effective tool (around 7€ in October 2012; Clo & Vendramin, 2012). The same can be said of the Clean Development Mechanism—the UN-sponsored offset credits for international emissions markets—with a carbon price of less than \$2 in October 2012. New Zealand has operated a mandatory emissions trading system since 2008, and China is launching pilot emissions trading systems with the aim of crafting a national system by 2016 (Horne, Petropavlova, & Partington, 2012, pp. 5–6).

In Canada, there has been some action at the provincial level. Nova Scotia has capped its electricity emissions, responsible for almost half of the province’s emissions, with Nova Scotia Power mandated to decrease its emissions to 25% below 2007 levels by 2020. Alberta has had a cap system since 2007, whereby major emitters pay \$15 per tonne emitted in excess of the government-set target of 12% emission intensity reduction. Since the cap is not very demanding and the average cost per tonne negligible, there is no meaningful incentive for companies to reduce their emissions, and Alberta is set to miss its modest target (NRTEE, 2012, p. 80).

Also in 2007, Quebec introduced a modest carbon tax called the Green Fund Duty, which raises approximately \$3 dollars per tonne. The tax is levied on energy producers totalling approximately 50 companies. Quebec has committed to introducing a cap-and-trade system in 2013, in conjunction with California, with a gradually falling cap on emissions. The most ambitious initiative by far is the carbon tax established by British Columbia in 2008, which has gradually risen to its current level of \$30 dollars per tonne, to be held there unless further action is taken. It is a courageous initiative, but too modest to result in appropriate emission reductions (Sustainable Prosperity, 2012). No major party has committed to pursuing this tax further than its current maximum of \$30 a tonne, and it is unlikely that they will commit to do so before the next election (Richards, 2011).

At the federal level, the Harper government now rules out any form of carbon pricing as economic heresy. But in a 2007 document entitled *Turning the Corner* (Environment Canada, 2007), it proposed a cap-and-trade system which, during the 2008 federal election campaign, the Conservative Party committed to implement. In May 2008, while visiting the UK, Prime Minister Stephen Harper announced he would move immediately and launch a domestic carbon trading

system, without waiting for the US: “Our plan will effectively establish a price on carbon of \$65 a tonne,” he bragged (Prime Minister, 2008). Unfortunately, Mr. Harper reneged on this commitment, and he now vilifies any form of carbon pricing as “job-killing taxes.”

In lieu of carbon pricing, the government chose a sector-by-sector regulatory approach as the centrepiece of its climate change action plan. However, there is no overall implementation strategy to indicate how such different regulations in the sectors will enable Canada to meet the 2020 target, or how they will allow regulated companies to make appropriate investment decisions (Vaughan, 2012, pp. 38–39).

According to the Canadian Commissioner of the Environment and Sustainable Development, the Conservative government’s climate change strategy appears “disjointed, confused and non-transparent” and does not even come up with the “key management tools” needed to reduce GHG emissions (Auditor General of Canada, 2011, p. 44). While Canada needs to reduce emissions by 113 million tonnes over the next eight years to meet its target of a 17% reduction below 2005 levels by 2020, “existing federal regulations are expected to reduce GHG emissions by 11 to 13 million tonnes in 2020” (Environment Canada, 2012, p. 5; Vaughan, 2012, p. 34). The proposed regulations on coal-fired plants, on their own, will only yield a further 6 million-tonne reduction (Vaughan, 2012, p. 43). The NRTEE had similar findings: “federal policies will result in 21 Mt CO₂ of incremental emission reductions by 2020” (2012, p. 71).

The Conservative government places high hopes on carbon dioxide capture and storage (CCS); but it is still unknown whether this technology is effective for coal-fired plants, and there is even less certainty about how it will work with the oil sands. According to the NRTEE, CCS likely represents 50% of the additional emission reductions required to reach the current Canadian government’s 2020 target of 17% reduction below 2005 levels. However, without a price on carbon, there is little incentive for industry to invest the billions of dollars required to develop and deploy this technology. Lorraine Mitchelmore, Royal Dutch Shell Canadian President, said that CCS technology won’t be widely adopted until there is a price on carbon (McCarthy, 2012; Van Loon and Mayeda, 2013). Project-specific costs range between \$70 and \$150 per tonne of carbon (Royal Society of Canada Expert Panel, 2010, pp. 90–91; Carter & MacGregor, 2010). With “a constant, steady carbon price of \$100 to \$150 per tonne of CO₂... firms would quickly move to implement CCS” (NRTEE, 2012, p. 101).

During the 2008 federal election campaign, the Liberal Party of Canada crafted an ambitious plan that made greening the Canadian economy the centrepiece of its electoral platform. Its boldest proposal to Canadian voters involved setting a price for carbon emissions with a carbon tax, and using the resulting revenue to reduce personal and business income taxes. While many

economists and most environmentalists supported the fundamentals of this tax reform, the Liberals were unable to convince Canadians of the merits of the plan, nor counter the Conservative Party's misleading but effective campaign against what they portrayed as a "tax on everything." The Liberal platform was also attacked from the Left by the New Democratic Party, which argued that only big business should be subject to emission reduction targets and that taxpayers should be exempt from them—notwithstanding the fact that the NDP's proposed cap-and-trade system would have had a very real impact on Canadian individuals and families.

If the Liberals had won in 2008, 75% of Canada's GHG emissions would have been taxed, up to \$10 per tonne of CO₂ in 2009, gradually rising to \$40 in 2012. This green fiscal reform would have led to substantial cuts in personal and business income taxes, and to tax benefits for clean technologies, processes, practices, and activities that reduce GHG emissions. Instead, the Liberal defeat was interpreted as evidence that campaigning on a carbon tax is a sure recipe for defeat. The mere expression "carbon tax" appears to have become taboo among Canadian federal political parties, with the exception of the Green Party.

Canada is not alone in facing this reality. In fact, in no jurisdiction has a political party won an election while making a meaningful carbon tax the centerpiece of its electoral platform (Harrison, 2010 and 2012). Where carbon taxes have been implemented, it was done by already-elected governments that did not previously campaign on them. Some of those governments may have been re-elected, but they often had to concede exemptions or commit to no further tax rate increases.

Everywhere we look, the road to carbon pricing is long and bruising. In Australia, climate policy has contributed to the downfall of several prime ministers and opposition leaders since 2007. It took an unusual political constellation—a minority Labour government supported by the Green Party—to finally enact legislation that may not even survive the next election, since opposition parties averse to carbon pricing have pledged to repeal it (Jotzo, 2012).

It isn't a surprise that campaigning on a tax is tough. Some strategists advise against uttering the three-letter word at all costs, and instead call it a charge, levy, auction, or fee; but there is no proof that these semantics fool anyone. Any tax will be labelled as such, especially such a highly visible and effective tax as one on carbon.

While carbon taxes are lauded as good policy by policy experts on the Left, Right, and in between, it does not seem to be enough to convince the electorate. As Sheila Coppins (2008) wrote shortly after the 2008 Liberal defeat, "whether Nobel Laureates embrace the green shift means little to voters concerned about pocketbook politics" (p. 9).

Polls regularly show that citizens may be open to the idea of a carbon tax to fight climate change (EnviroNics, 2011). However, this support tends to vanish when questions ask more precisely about higher energy costs, particularly when referring to the retail price of gasoline or home heating fuel. For example, the National Survey on American Public Opinion on Climate Change received the lowest rate of support and the highest rate of opposition among 12 policy options with the question exploring whether “state governments should increase taxes on gasoline in order to reduce consumption” (Rabe, 2010, p. 134). In Canada, support for a carbon tax fell during the summer of 2008, just before the federal election, as the price of a barrel of oil reached its historic high of US\$148. The fact that petroleum prices are likely to stay high will not make life any easier for carbon tax advocates.

Nevertheless, the future of the planet is a priority in the hearts of many citizens. The climate change crisis is a huge concern for them, and they want politicians to face this defining policy challenge of our—and our children’s—lifetimes. But here again the required communications effort becomes a huge test, because although scientists can prove a high enough carbon tax has a significant impact on national GHG reductions, this remains an abstract concept for most citizens. Politicians who promote carbon taxes cannot credibly commit to deliver a substantial and rapid improvement of general climate conditions, such as fewer extreme weather events, droughts, floods, or pest infestations. Because they are spread all over the planet and over time—decades if not centuries—the positive impacts of a carbon tax on the climate are imperceptible in the course of a four-year elected mandate. Even if Canada took dramatic action and managed to cut its GHG emissions by half, such efforts would have no noticeable impact on the climate disturbances that currently threaten our country. Canada accounts for only 1.88% of global emissions, and GHGs migrate throughout the atmosphere: so 1 tonne of carbon dioxide emitted in Beijing or Paris has the same effect on Canada’s climate as 1 tonne emitted in Montreal or Calgary. Therefore, acting on climate change in Canada alone cannot solve the problem—nor can acting in any single country. But acting resolutely against climate change does allow Canada to be part of the solution, and to lead in the fight against the greatest ecological challenge humankind has yet faced.

Many politicians believe that cap-and-trade systems are more politically acceptable than carbon taxes. Carbon taxes are highly visible; cap-and-trade systems are more opaque. Everybody knows what a tax does; to most people, cap-and-trade remains a mysterious concept, making it easier to bury deep inside an electoral platform. Cap-and-trade systems are so complex that nobody will even try to understand them except for a few experts, while a fiscal reform involving a carbon tax is simple enough to be attacked, even for its alleged complexity. In 2008, the Liberal tax reform plan was arguably much easier to

understand than the Conservatives' and NDP's plans, based as they were on complicated cap-and-trade mechanisms. However, it was the Liberal plan that was criticized for being too complex.

In Europe, no government was elected by campaigning on the European cap-and-trade system. It is likely that few Europeans know that this system even exists, let alone understand it. The continent-wide adoption of the EU emission-trading scheme was secured through typical technocratic and opaque EU negotiations. In contrast, all attempts to establish an EU-wide carbon tax have failed, because of the political risk associated with the dreaded three-letter word.

In “tax,” entrenched opponents to carbon pricing of any sort have found their preferred language of attack, denouncing cap-and-trade systems as “cap-and-tax.” In Canada, the Conservative Party's attack ads have hammered the Official Opposition leaders—first, Liberal Michael Ignatieff and then, New Democrat Thomas Mulcair—as supporters of a “job-killing carbon tax” even though both leaders advocated a cap-and-trade system—the same policy the Conservatives had included in their platform in 2008.

Some suggest that the only way to make carbon taxes acceptable for voters is to make the fiscal benefit as concrete and easy to understand as possible. Carbon tax proposals can be made simple if broader policy outcomes don't matter much. For example, one can propose that the government tax carbon emissions and return the totality of the proceeds back to the public on a per capita basis—making sure to stress that every citizen will receive the same amount. A political party might then be able to campaign on the following simple commitment: “if we are elected, you will receive, every year, a ‘green cheque’ for X dollars.” Whether or not this “tax & 100% dividend” (Hanson, 2009) would be easier to sell to voters, it is clearly not the optimal policy and could cost substantial support in many corners. The environmental community might not support a proposed carbon tax if none of its revenue is earmarked to carbon mitigation projects or green incentives. The business community might not support a carbon tax if no funding is dedicated to reducing the cost of doing business or addressing competitiveness concerns. The social activist community is likely to attack a policy that does so little to correct the inherent regressive impact of energy taxes. In short: if you care about the whole range of outcomes of the policy, you must use a more multi-dimensional approach to find policy levers.

A different approach would be, instead of earmarking the totality of revenues for corresponding tax cuts, to allocate some of them to popular government programs. Both the BC carbon tax and the 2008 Liberal plan were meant to be revenue-neutral, with legislation requiring an annual report on how all carbon tax revenue is returned to taxpayers through tax measures. Such policies are designed to make a carbon tax more politically appealing.

Those whose advise politicians to stay away from purely revenue-neutral models refer to polls showing that the public's top choices for carbon tax revenue are for programs that address environmental impact—such as public transit—and for desirable services like health care and education (Horne, Petropavlova, & Partington, 2012, pp. 21–25). However, if revenue neutrality is not guaranteed, a carbon tax risks being characterized as just another tax grab. The notion that bad things (pollution) should be taxed instead of good ones (labour, investment) is a simple and powerful one. Revenue-neutral carbon tax reforms give citizens more control over how much tax they pay in a way that benefits them and society as a whole.

Another avenue would be to build support for carbon taxes through strong intergovernmental consensus. In Canada, some are of the opinion that the federal government should levy a carbon tax and then redistribute it partly or entirely to the provincial and territorial governments, based on the contribution their taxpayers have made (Peters, Bataille, Rivers, & Jaccard, 2010; Snoddon & Wigle, 2009; Courchene & Allan, 2010; Tang, 2011). Supporters of this approach argue that it would strengthen the consensus toward a comprehensive federal climate policy, harmonize carbon pricing across Canada, and address the regional equity problems that arise in a federation where two provinces—Alberta and Saskatchewan—emit 45% of the country's GHGs, while they only represent 13% of the population.

It is difficult to see how such federal–provincial revenue-sharing would facilitate the election of a federal party running on a carbon tax, making the pitch to voters that “I will tax you and I will give the money to your provincial government with no idea how it will be spent.” It seems a hard sell.

As the NRTEE (2012) points out, we should avoid designing a cross-Canada structure that creates a “joint decision trap” whereby collaboration and consensus leads to outcomes supporting the lowest common denominator” (p. 115). We should also avoid creating a disincentive for the provinces to actually reduce their emissions, which would happen if the federal government allocated carbon tax revenue to the provinces according to their volume of emissions. Then, any reduction in GHG emissions would result in reduced federal transfers. For example, it took a lot of political courage for the Ontario government to pursue its coal phase-out and pro-renewable energy policy. This would have been even more difficult if the corresponding decrease in carbon emissions from coal also cost millions of dollars from Ontario's treasury in lost federal transfers.

Conclusion: An Increasingly Pressing and Relevant Idea That Must Be Revisited

We humans are dumping far too much CO₂ and other greenhouse gases into the atmosphere, to the point where we are causing harmful and irreversible disruptions to the Earth's climate. To fight the perils of climate change,

governments must set an economy-wide price on GHG emissions not as a stand-alone policy, but as a cost-effective anchor, essential to the success of a comprehensive climate plan. Carbon pricing is needed to be bold, not blind, in facing this huge challenge.

In this chapter, I have made the argument that a carbon tax is by far the most efficient and effective way to price carbon. However, above all, we need sound carbon pricing. Currently, both the federal NDP and Liberals have opted for a cap-and-trade policy. It is not the optimal solution, but it is infinitely better than the Conservative government's irresponsible vendetta against all forms of carbon pricing.

If we are to proceed with a cap-and-trade system in Canada, it should be designed in a way that emulates the most positive aspects of a carbon tax: the government should sell emission allowances through full-fledged auctions, making sure that significant revenues are returned to Canadian households and businesses; it should extend the cap beyond the large industrial emitters, broadly applying "at a point in the fuel distribution chain," to "the 36 per cent of emissions in buildings, transportation and light manufacturing" (NRTEE, 2009, p. 44). And the government should limit price volatility through cost containment measures, safety valves, and price collars (NRTEE, 2009, p. 36; Aldy & Stavins, 2011; Joshi, 2009; Fankhauser, Hepburn, & Park, 2011).

I have argued in this chapter that there is no easy path, no semantic device, no simplistic window-dressing, and no obvious way to convince voters to support a carbon tax. It may simply be that citizens need time to get familiar with the concept and its benefits. This is why its proponents should not be discouraged by a first electoral rebuff. They should forcefully highlight this policy's virtues and advocate for it on its merits, which will become all the more evident as the difficulties they address become more salient. As the planet's temperature continues to rise, and extreme weather events become more and more frequent—from heat waves and droughts, to tornadoes and flooding—there will be greater demand for governments to put a price on carbon, to ensure that polluters are no longer able to use our air as a free dumping ground.

The revenues available for recycling that a carbon tax provides will be more welcome than ever. As the world economy continues to become more competitive, there will be greater demand for lower taxes on business income and on investment in new technologies. As the sandwich generation of middle-class households faces rising living costs, as they begin looking after both their children and aging parents, there will be greater demand for lower taxes on household income. As the costs of child poverty grow, particularly with an aging workforce that will need to maximize economic opportunities for younger workers, there will be greater demand for poverty reduction strategies.

I am confident and optimistic that these simultaneous pressures will one day motivate policy-makers, whether Conservative, Liberal, or NDP, to re-evaluate carbon taxes as a policy solution. The sooner the better.

Notes

- 1 “Acting now to put a price on carbon...” (OECD, 2012, p. 111).
- 2 “Key principles include a clear, nationally consistent carbon price across the economy” (Canadian Council of Chief Executives, 2012, p. 10).
- 3 “An economy-wide carbon signal is the most effective way to achieve the Government of Canada’s medium- and long-term emission reduction targets” (NRTEE, 2009, p. 4).
- 4 “Putting a price on carbon, for example, would provide broad incentives to develop and commercialize Canadian climate-friendly technologies” (Goldfarb, 2008, p. 26).
- 5 “This could take different forms such a carbon tax which would be the most simple to implement” (Canada West Foundation, 2011, p. 25).
- 6 “I’ve argued that for years” (Manning, 2012).
- 7 “It is virtually inconceivable that a standards-based approach could form the centrepiece of a meaningful climate policy” (Aldy & Stavins, 2012, p. 46). See also Simpson, Jaccard, & Rivers, 2007.
- 8 See the survey done by the US Congressional Budget Office (2008, February).
- 9 See also Summer, Bird, & Smith (2009).

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