

**EXECUTIVE
BOARD
MEETING**

SM/21/19

Correction 1

March 11, 2021

To: Members of the Executive Board

From: The Secretary

Subject: **Canada—Selected Issues**

Board Action: The attached corrections to SM/21/19 (3/1/21) have been provided by the staff:

Evident Ambiguity

Page 44

Factual Errors Not Affecting the Presentation of Staff's Analysis or Views

Pages 17, 31, 42, 46, 47, 48, 52 (para. 20)

Typographical Errors

Page 52 (para. 21)

Questions:

Mr. Christou, WHD (ext. 36743)
Mr. Matheson, WHD (ext. 34094)
Mr. Gross, MCM (ext. 38730)
Mr. Parry, FAD (ext. 39724)

across both levels of government.⁹ Unsurprisingly, as can be seen in figure 10, the increase in the progressivity of taxes over time can be attributed to a rise in the share of taxes paid by high income households and falling shares paid by households in the middle of the income distribution. Meanwhile, the share of taxes paid by households at the lower end of the income distribution has remained broadly stable since the 1970s.

E. Summary and Policy Conclusions

24. There has been a well-documented upward trend in income inequality in advanced economies over the past several decades. More recently, Canada's inequality has been relatively stable, while upward trends have largely continued unabated in other G7 countries. Tax and transfer systems act to reduce income inequality across all OECD countries, but Canada's redistribution policies appear to reduce inequality by less than many European countries. Overall, Canada ranks towards the middle of OECD countries when considering disposable income inequality, after accounting for the impacts of government redistributive policies.

25. There is not much diversity in market income inequality across provinces, and trends in inequality are remarkably similar over time. After remaining broadly stable since the mid-1970s, disposable income inequality rose across Canada in the second half of the 1990s and settled at a higher level in the 2000s. Underlying these overall trends were increases in market income inequality starting in the 1980s. This was broadly offset by redistributive policies (transfers and taxes) until about 1995. However, between 1995 to 2000 the redistributive effect of government programs fell while market inequality remained higher, increasing disposable income inequality. Since the current federal administration came into power in 2015, redistributive policies have been having a greater impact on lowering disposable income inequality, particularly in Alberta and Newfoundland and Labrador. However, the overall levels of inequality remain high from an historical standpoint.

26. While recent cross-country empirical studies tend to find a negative relationship between inequality and growth, this chapter finds mixed evidence for Canada. Theories related to the negative effects of inequality on growth tend to involve disruptions in political processes and rising social tensions, factors that likely present themselves in empirically unpredictable and non-linear ways. This may be one reason why this chapter finds mixed evidence for Canada.

27. Inequality remains important, irrespective of its impact on growth. Over the sample period examined, inequality in Canada has not had a significant impact on growth in either direction—suggesting it has been neither too high nor too low. However, this does not diminish the importance of policymakers' efforts to reduce inequality on the basis of societal preferences and social justice grounds, something the Canadian governments have long emphasized.

28. Rising market income inequality in Canada can be attributed to several factors, many of which are also present in other advanced economies. These factors include globalization and

⁹ The evolution of tax redistribution and progressiveness for different taxes cannot be evaluated due to data limitations.

CLIMATE MITIGATION POLICY IN CANADA: A PROTOTYPE FOR OTHER COUNTRIES ¹

A. Introduction

1. Canada has set an ambitious target to achieve net zero greenhouse gas (GHG) emissions by 2050 (pending legislation would make this legally binding), has an intermediate target for 2030 aligned with this long-term commitment, and there are federal-level targets for the sales shares of zero-emission vehicles (ZEVs), phaseout of coal generation, and forest carbon sequestration. Requirements for carbon pricing at the provincial/territorial level are progressively scaling up. Carbon pricing is the most (cost)-effective instrument for promoting reductions in energy use, shifting to clean fuels, and establishing the critical price signal for redirecting new investment towards clean technologies. The pricing requirement of CAN \$40 per ton (CO₂) for 2021 will make Canada, along with the EU, the frontrunner on carbon pricing, while planned price increases over the next decade put it on track to meet its 2030 emissions targets. Canada's mitigation strategy therefore provides a valuable model for others to follow at the national level and its approach shows how a price floor arrangement among large-emitting countries could work to effectively deliver emissions reductions at the global level that are urgently needed over the next decade.

2. Canada's mitigation strategy has several key elements:

- Most importantly, a proposed requirement that provinces and territories phase in an explicit carbon price floor, or an equivalently scaled emissions trading system (ETS), with a proposed price progressively rising to CAN \$170 by 2030;
- A federally imposed carbon pricing backstop, where sub-national carbon pricing falls short, consisting of (i) a fuel charge and (ii) an output-based performance standard (OBPS) for energy-intensive, trade exposed (EITE) industries;
- Reinforcing federal incentives at the sectoral level, including tax credits for ZEVs, emission rate standards for vehicles and power generators, and building retrofit programs;
- Public funding to support low-carbon investments and transitional assistance; as well as
- Equitable and transparent recycling of carbon pricing revenues to households and (where revenues substitute for distortionary taxes) incentives for work effort and investment.

3. Although modelling suggests the carbon price floor trajectory is aligned with the 2030 emissions target, there is some uncertainty over the emissions impacts, and political acceptability, of high carbon prices. Additionally, some sectors (e.g., transportation, forestry,

¹ Prepared by Ian Parry, Simon Black, Danielle Minnett, and Victor Mylonas.

agriculture) are difficult to decarbonize through pricing alone or are not currently covered by pricing. Federal policies at the sectoral level, combined with the planned carbon pricing, could help enhance the overall effectiveness and acceptability of Canada's mitigation strategy.

4. This chapter recommends policymakers consider the use of federal-level feebates to reinforce private mitigation incentives at the sectoral level. Feebates apply a revenue-neutral, sliding scale of fees on products or activities with above-average emission rates and a sliding scale of rebates on products or activities with below-average emission rates. They do not impose a fiscal cost to the government (which is important given current budgetary pressures induced by the pandemic) and they can help with acceptability because (unlike carbon pricing) they avoid the burden of higher energy prices on the average household and firm. Feebates are more flexible and cost-effective than regulations and can provide powerful mitigation incentives. While feebates have most appeal for the transportation sector, they could also be used alongside existing policies in the power, industry, building, and forestry sectors. Variants of pricing schemes might also be applied to fugitive emissions, logging on public forestland, and agriculture (in the latter case supported by consumer-level incentives to encourage plant-based diets).

5. The chapter also discusses strategies for enhancing the acceptability of carbon pricing. The pricing scheme by itself would impose an average burden on households of 2 percent of consumption in 2030 with burdens evenly distributed across household income groups. [Returning Using](#) carbon pricing revenues to [households cut personal income taxes](#) (as already common at the provincial level) offsets about 80 percent of this burden, however. For the most part, burdens at the provincial level are broadly representative of those at the national level.

6. Policymakers might also consider, over the medium term, a transition away from the OBPS to a border carbon adjustment (BCA), which is slated for introduction in the EU and is under consideration elsewhere (e.g., UK, US). With deeper decarbonization of industry, the BCA could address competitiveness and emissions leakage concerns more effectively than the OBPS, by applying carbon charges to imports with high embodied carbon (exempting trading partners with adequate carbon pricing). A BCA applied to EITE industries would limit administrative burdens and perhaps legal risks while raising revenues of 0.7 percent of GDP in 2030 with 35 percent from charges on imports from China and 28 percent from the US. An international carbon price floor (ICPF) arrangement, based on the Canadian model is, however, a potentially far more effective mechanism (than unilateral BCAs) for achieving the mitigation among large-emitting countries that is needed over the next decade to stay on track with climate stabilization goals.

Table 1 (below) summarizes the main policy recommendations of the chapter.

to start rising again in 2021 as economies recover (Figure 1). With governments bringing forward investment plans to boost their economies, the pandemic has added to the urgency of ensuring this new investment is efficiently allocated to low-carbon technologies. This, in turn, requires strengthening carbon pricing or equivalent measures to level the playing field for clean technologies.

2. Canada has set aggressive targets to reduce carbon dioxide (CO₂) and other GHGs. Key targets include:

- A goal (made legally binding by the tabled Canadian Net-Zero Emissions Accountability Act, [if passed by Parliament](#)) of zero net GHG emissions by 2050.² Other large emitters including the EU, Japan, Korea, UK and the US have also set carbon or GHG neutrality targets for 2050, while China has announced a carbon neutrality target for 2060.³ On a linear emissions reduction pathway, emissions neutrality in 2050 would require cutting 2030 emissions by one-third below current levels and 2040 emissions by two-thirds.
- An intermediate goal—from Canada’s Nationally Determined Contribution (NDC) submitted for the 2015 Paris Agreement—to reduce GHG emissions to 511 million tons of CO₂ equivalent in 2030 or 30 percent below the 2005 level and 15 percent below the 1990 level.⁴ Since Canada’s 2020 emissions are approximately the same as in 2005 (see below), the NDC target is aligned with a linear pathway to emissions neutrality.
- Increasing the sales shares of ZEVs (for passenger vehicles) to 10 percent by 2025, 30 percent by 2030, and 100 percent by 2040.
- Phasing out coal-based power generation by 2030.
- Sequestering a net 7–46 million tons of CO₂ in forests (depending on harvest rates) in 2030.⁵

3. GHG emissions in Canada were 729 million tons in 2018, with 74 percent of emissions from fossil fuel energy (see Figure 2). Another 8 percent of GHGs were from industrial processes like metal and cement production and fluorinated (F-) gases, 8 percent were fugitive emissions (leaks from extraction, storage, processing, and distribution of oil and gas), 8 percent from agricultural sources, and 2 percent from waste (e.g., methane leaks at landfills). By sector, energy (i.e., power and district heating) accounted for 36 percent of fossil fuel CO₂ emissions in 2018,

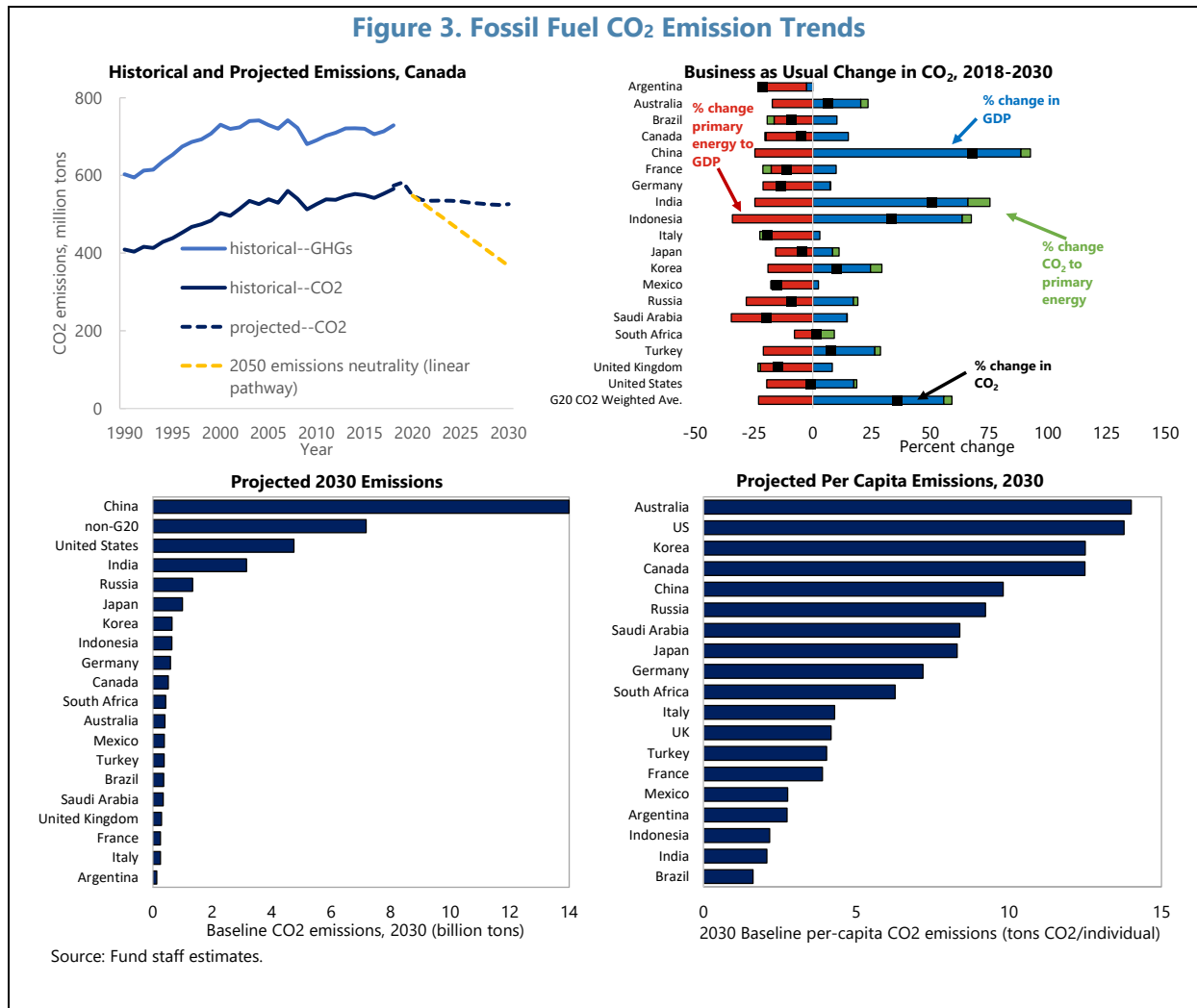
² See <https://mcmillan.ca/Canada-Legally-Commits-to-Net-Zero-Emissions-by-2050>. Emissions in some sectors (e.g., transportation) may be positive so long as they are offset elsewhere by negative emissions (e.g., from reforestation, using biomass with carbon capture and storage technologies in power generation, deploying air filter technologies to directly remove CO₂ from the atmosphere).

³ See www.iea.org/reports/world-energy-outlook-2020/achieving-net-zero-emissions-by-2050.

⁴ See Government of Canada (2015) and CAT (2020a). All 190 parties to the 2015 Paris Agreement are submitting revised climate strategies for the November 2020 UN climate meeting in Glasgow.

⁵ ECCC (2018).

than offset by a decline in the energy intensity of GDP.⁸ In contrast, in large emerging market economies, BAU emissions expand rapidly. Nonetheless, without its planned mitigation policies, Canada would be the third largest per-capita emitter among G20 countries in 2030, and the tenth largest emitter in absolute terms. See Figure 3.



10. The Pan-Canadian Framework on Clean Growth and Climate, adopted in 2016, ensures that carbon pricing applies throughout Canada with increasing stringency up to 2022, and the 2020 Climate Plan proposes to extend the horizon of escalating carbon prices to 2030.⁹ The framework covers all emissions sources except those from forestry, agriculture, and waste. Canadian provinces and territories have the flexibility to either implement an explicit price-based system—a carbon tax as in British Columbia or levy (i.e., where revenues are earmarked) as (initially) in

⁸ Reflecting gradually improving energy efficiency and an assumption that the demand for energy increases by less than in proportion to GDP.

⁹ ECCC (2020).

Alberta—or an ETS. Jurisdictions with an explicit price-based system need a minimum price rising by CAN\$10¹⁰ per ton of CO₂ equivalent per year to reach \$50 per ton by 2022. The Climate Plan proposes raising the annual increase in the carbon price to \$15 per ton from 2023, implying a 2030 carbon price of \$170 per ton. Jurisdictions with ETSs should have: (i) a 2030 emissions reduction target equal to or greater than Canada’s 30 percent reduction target; and (ii) declining annual caps corresponding, at a minimum, to the projected emissions reductions that would otherwise result in that year from a price-based system. The federal approach evolved from earlier provincial carbon pricing schemes which led federal policy to provide flexibility for provinces to maintain control over their carbon pricing systems.

11. Under Canada’s Greenhouse Gas Pollution Pricing Act, a federal ‘carbon pricing backstop system’ imposes pricing of fossil fuel GHGs in any province or territory that requests it or that does not have carbon pricing systems aligned with federal criteria (or, if needed, will supplement sub-national schemes with a ‘top-up’).¹¹ The backstop has two components:

- a tax-like component that is a regulatory charge on fuels; and
- a tradable performance standard for EITE facilities called the Output-Based Pricing System (OBPS). Facilities with annual emission rates per unit of output above industry standards (which, to varying degrees, are set below the industry average) can meet their compliance through purchasing credits from facilities with emission rates below the standard. They can also use banked credits, pay a fee (equal to the carbon price), or buy offsets from provincial offset schemes (generated from projects in sectors not covered by pricing).¹² Emitters registered for the OBPS are exempt from regulatory fuel charges. Most provincial carbon pricing systems meeting federal requirements have a version of the OBPS. See Annex 1 for further details.

12. Carbon pricing systems that fully meet or exceed federal requirements are in place across the country though there is a risk this could change due to pending legal actions in jurisdictions where it was more difficult to gain public acceptance of pricing. Carbon pricing systems in British Columbia, the Northwest Territories, Nova Scotia, and Quebec are fully meeting federal requirements. Systems in place in Alberta, [New Brunswick](#), Prince Edward Island, and Saskatchewan also meet them for the emission sources they cover while the federal backstop supplements these systems for other sources. The federal backstop is in place in Manitoba, Nunavut, Ontario, and Yukon. See Annex 1 for more detail on provincial schemes. Alberta, Ontario, and Saskatchewan have taken the pricing requirement to the supreme court claiming it is not constitutional as it steps on provincial jurisdiction while Manitoba, New Brunswick, and Quebec also argued the law should be struck down.¹³

¹⁰ Unless otherwise indicated, monetary figures below are in current CAN \$.

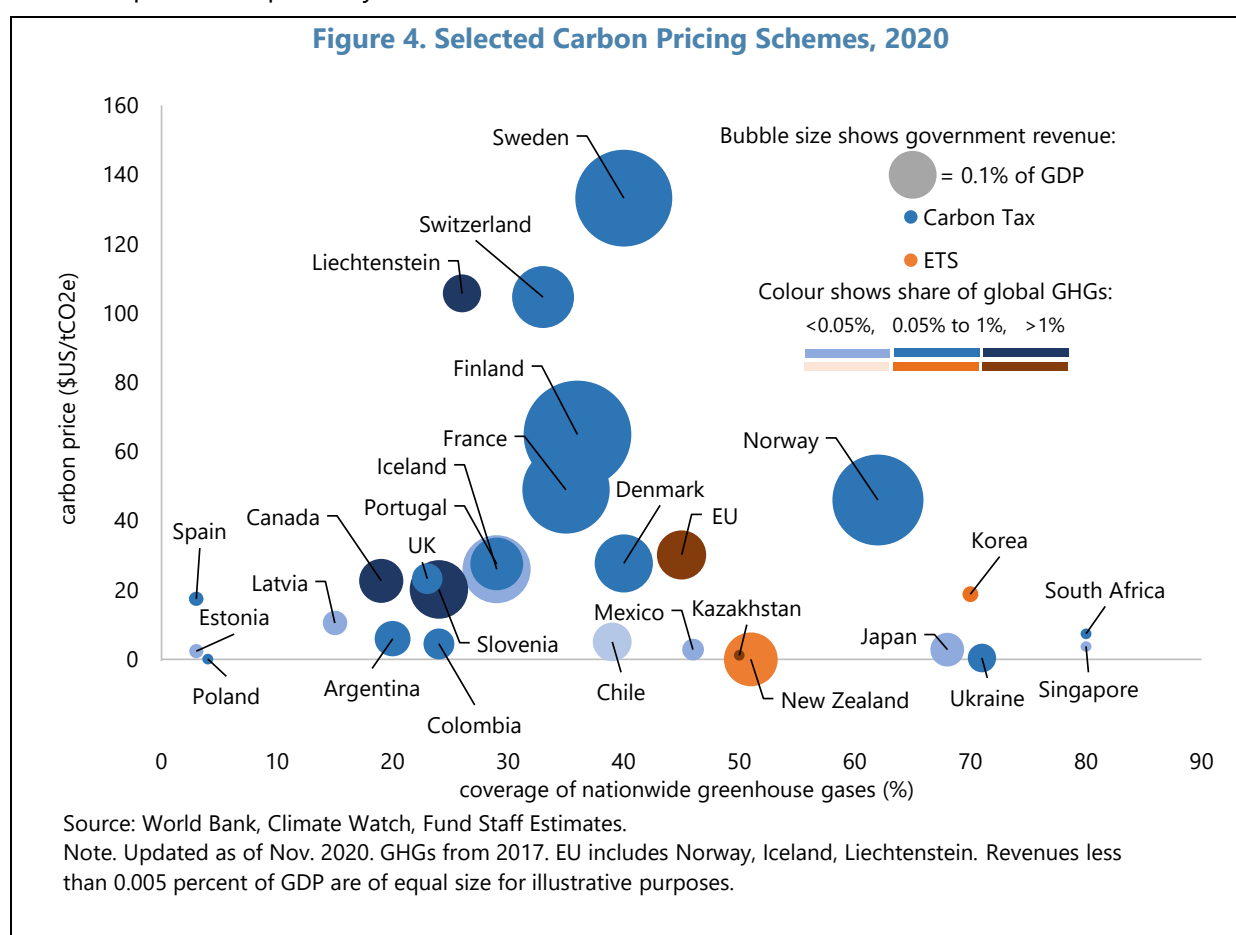
¹¹ See ECCC (2016).

¹² A federal offset program is currently under development.

¹³ The hearing concluded on September 23, 2020 but a decision could take several months.

13. Proceeds from the federal provincial carbon pricing backstop remain, by law, in the jurisdiction of origin. Provincial and territorial governments with systems meeting the federal benchmark, or who have voluntarily adopted the federal system, retain revenues. For provinces that have not committed to carbon pricing, the federal government returns approximately 90 percent of revenues from the backstop directly to households in the form of tax-free Climate Action Incentive payments.¹⁴

14. The price floor establishes Canada as one of the most aggressive emission pricing countries. Current prices in most carbon tax and ETS schemes are around US\$5-25 per ton, though the EU's ETS price has risen to \$35 per ton, and some countries (e.g., in Scandinavia) have much higher prices (Figure 4). By 2022 and 2030, Canada's price floor would reach the equivalent of US\$36 and \$133 per ton respectively.



¹⁴ The remaining 10 percent is also directed back to the jurisdiction of origin through funding for schools, hospitals, small- and medium-sized businesses, colleges and universities, municipalities, not-for-profits, and indigenous communities in the province. Payment amounts for 2020¹ are available at <https://www.canada.ca/en/department-finance/news/2020/12/climate-action-incentive-payment-amounts-for-2021.html> www.fin.gc.ca/n19/19-107-eng.aspx. Individuals can claim these amounts through their personal income tax and benefits returns. In Nunavut, Yukon, and Prince Edward Island, direct proceeds are returned to the provincial or territorial government.

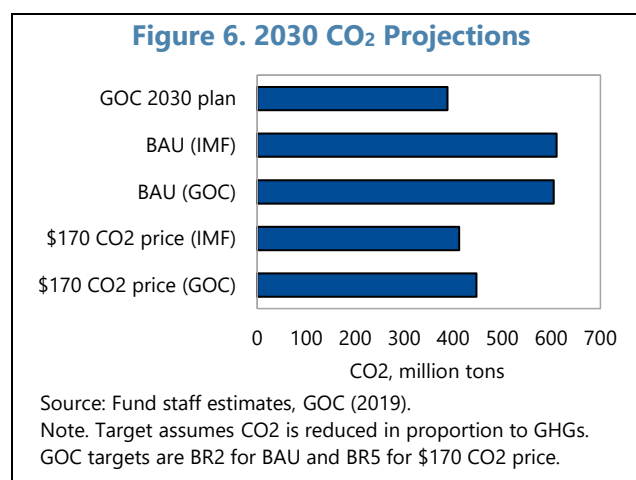
20. The pan-Canadian carbon pricing scheme is well designed. The scheme:

- *Comprehensively applies to all provinces and territories* and all fossil fuel and industrial process emissions within those jurisdictions.
- *Has a clearly specified trajectory of robust and rising prices*—recently [proposed to be](#) extended to 2030—which provides the critical price signal for redirecting investment towards low-emission technologies.
- *Allows flexibility in the use of revenues.* Using revenues to increase economic efficiency is important for containing the overall costs of carbon pricing for the economy—efficient uses include, for example, lowering distortionary taxes on work effort and investment, or increasing socially efficient investments, whereas lump-sum transfers to households do not increase economic efficiency. In fact, combinations of policies like feebates can have significantly lower costs than (equivalently scaled) carbon pricing schemes where revenues are not used efficiently. See Annex 2 for further discussion.
- *Is compatible with overlapping instruments at the federal or sub-national level.* In other words, other instruments reduce emissions without affecting price floors at the provincial and territorial levels. In contrast, if nationwide emissions were subject to a pure ETS, overlapping instruments at the federal or sub-national level would have no effect on emissions and instead would lower the ETS allowance price.

21. According to government and IMF projections, the carbon price is approximately in line with the 2030 emissions target (Figure 6), though estimates are subject to uncertainty.

IMF staff estimates suggest the price would cut nationwide CO₂ emissions about 33 percent below BAU levels which result in emissions slightly above the 2030 target. This projection however is sensitive to BAU emissions growth, which depends, for example, on GDP projections, and on the responsiveness of emissions to pricing, the latter of which relies on the future cost and availability of clean technologies, among other elements. Significant uncertainties surround all these factors, and uncertainties on the price responsiveness of emissions rise with the level of pricing. Political resistance to pricing, at the jurisdictional, industry, or household level may also intensify with the level of pricing.²⁰

22. The acceptability of pricing in Canada will partially depend on progress with pricing elsewhere - and implicit



²⁰ For example, France's attempt to rapidly increase a carbon tax for non-ETS emissions was suspended in 2018, due to public opposition, when the price reached US\$49 per ton.