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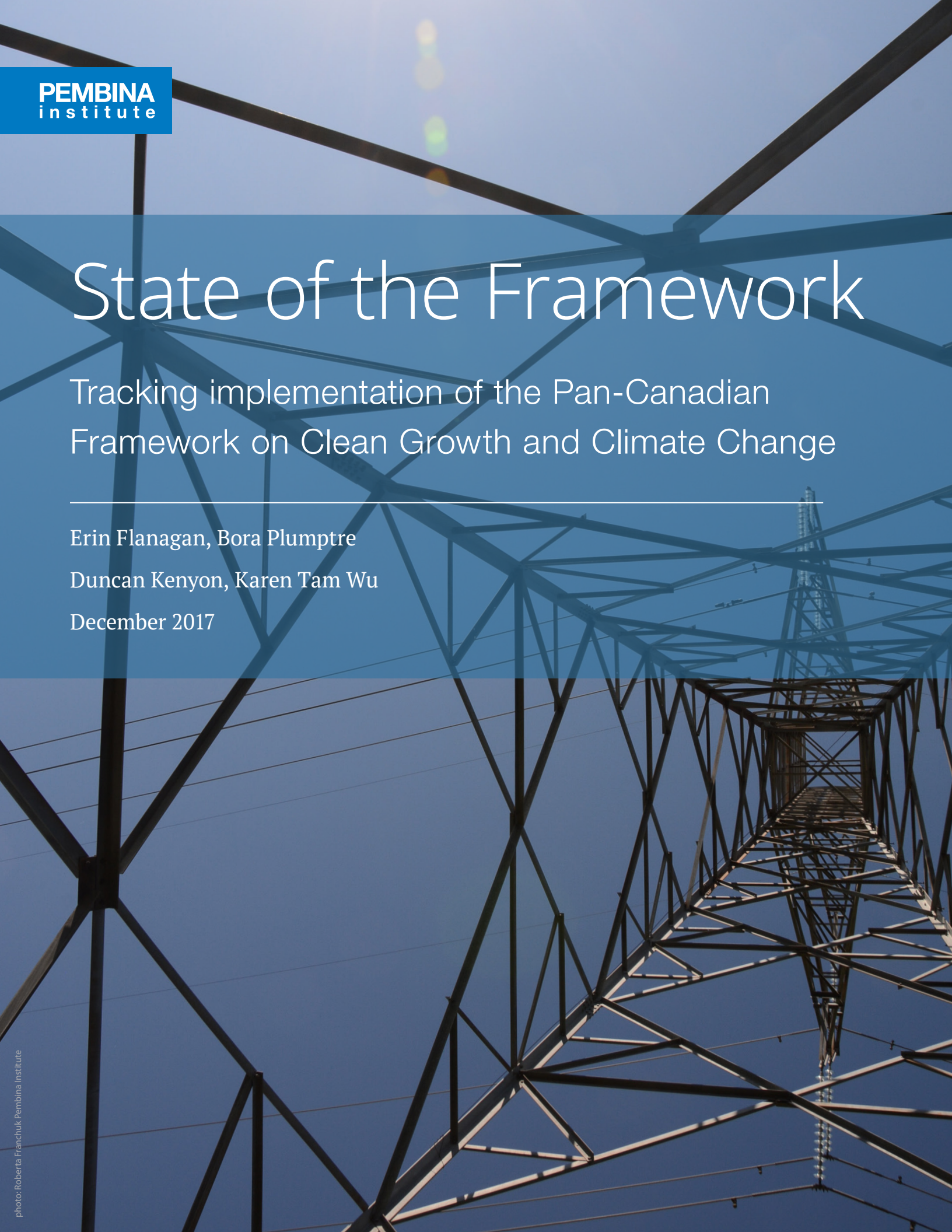
State of the Framework

Tracking implementation of the Pan-Canadian Framework on Clean Growth and Climate Change

Erin Flanagan, Bora Plumptre
Duncan Kenyon, Karen Tam Wu

December 2017



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Tracking implementation of the Pan-Canadian Framework on Clean Growth and Climate Change

Contents

List of Figures

Executive summary

The Pan-Canadian Framework on Clean Growth and Climate Change (PCF) was finalized on December 9, 2016, at a climate-focused first ministers meeting in Ottawa — the second in our country's history, and the second of that year.

The PCF contained new measures to reduce emissions from key emitting sectors, including transportation, buildings, electricity and oil and gas. It further solidified pan-Canadian support for Canada's new approach to carbon pricing — a two-track compliance model unveiled by the prime minister in the House of Commons last October. All told, the PCF contained more than 50 new climate and clean growth measures for federal, provincial, and territorial governments to collectively advance. More than emissions reductions, these commitments demonstrated that climate action was a central policy priority for Canada's national and sub-national governments.

Over the last year, important progress has been made to implement each PCF policy measure. Nevertheless, our assessment finds that implementation timelines are at risk. We call on the federal government to accelerate its engagement with the provinces and territories on the implementation of each PCF policy measure.

While it's tempting for governments to slip into 'election mode' well in advance of the writ being dropped (and Canada has numerous upcoming elections), signatories to the PCF simply cannot afford to take their eyes off policy implementation. Canada's credibility on the international stage rests on its ability to successfully implement measures to achieve its 2030 target, and further, to extend ambition in line with international expectations. Successful implementation of the PCF is essential to realizing both aims.

To close the gap to its existing 2030 target, and further extend ambition in line with the Talanoa Dialogue process, Canada must implement additional mitigation measures. We offer several recommendations: extend the pan-Canadian carbon price up to $130 per tonne of pollution by 2030, implement Canada-wide zero emission vehicle legislation, ban the sale of internal combustion engines, and establish long-term energy efficiency targets.

The international community continues to recognize that existing climate strategies are insufficient to achieve the temperature limits outlined in the Paris Agreement. The Paris Agreement calls for carbon neutrality by mid-century; it is therefore necessary for Canada's first ministers to align their efforts with long-term decarbonization. A Canadian commitment to increasing climate ambition beyond our existing 2030 target, in line with the Paris Agreement requirements for developed nations, should be central to this process. As an early demonstration of good faith, we recommend all orders of government link PCF policy measures directly to Canada's mid-century long-term low-greenhouse gas strategy.

1. Introduction

1.1 Translating commitments into tangible progress

In 2016, Canada navigated uncharted territory: negotiating, for the first time ever, a national climate plan to meet or exceed the country's 2030 climate target. The Pan-Canadian Framework on Clean Growth and Climate Change (PCF) was finalized on December 9, 2016 at a climate-focused first ministers meeting in Ottawa — the second in our country's history, and the second of that year.

Cooperation across orders of government successfully delivered the PCF. At the time of its launch, the PCF had broad support from federal, provincial and territorial governments: all provinces and territories, except for Saskatchewan and Manitoba, signed on to the framework upon its release last December.

As a policy package, the PCF set Canada on a course to cut nearly 200 megatonnes (Mt) of carbon pollution — a reduction that would bring Canada close to achieving its 2030 national climate target. The PCF contained new measures to reduce emissions from key emitting sectors, including transportation, buildings, electricity, and oil and gas. It further solidified pan-Canadian support for Canada's new approach to carbon pricing — a two-track compliance model unveiled by the prime minister in the House of Commons last October.

Canada's approach to climate change has historically been described as piecemeal: federal, provincial and territorial governments have pursued a mix of carbon pricing and sector-specific regulations to reduce emissions over time, but programs have had differing levels of impact and were disconnected from a larger vision of low-carbon economic development in Canada. Despite historical challenges, the PCF brings Canada within striking distance (44 Mt) of its 2030 climate target. It also commits the country to increasing its level of ambition on climate action over time, consistent with Canada's pledge under the Paris Agreement.

The PCF contained additional measures on adaptation and climate resilience, greening government operations, infrastructure investments, and support programs to accelerate commercialization and deployment of clean technology in domestic and international markets. All told, the PCF contained more than 50 new climate and clean growth measures for federal, provincial and territorial governments to collectively advance.

And, more than emissions reductions, these commitments demonstrated clearly that climate action was a central policy priority for Canada's national and sub-national governments.

But how are Canada's first ministers doing at implementing last year's important climate commitments? This report summarizes Canada's progress at implementing key measures within the Pan-Canadian Framework — particularly those related to mitigating carbon pollution. It further evaluates trends in Canada's emissions inventory from both a sectoral and regional perspective, and recommends a path forward to governments looking to build momentum through 2018.

1.2 Political will is still high, but so is the inventory

Canada's 2017 National Inventory Report shows that Canada's emissions totalled 722 Mt in 2015 — only 2% below 2005[1] levels of 738 Mt, and an increase of 18% above 1990 levels of 611 Mt.[2] At present, Canada is not on track to achieve its 2020 emissions reduction goal under the Copenhagen Accord, nor its 2030 climate target filed with the UNFCCC under the Paris Agreement (Figure 1).

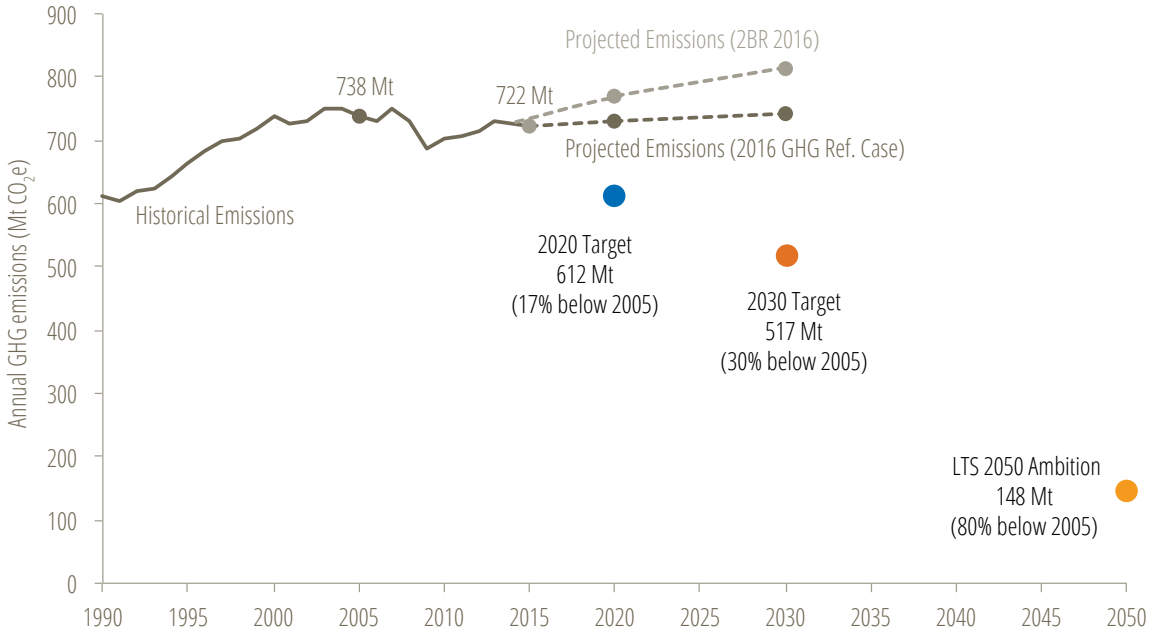

Figure 1: National emissions trends, 1990 to 2015

Source: Environment and Climate Change Canada[3]

Notably, Canada's economy experienced a sustained decrease in economic activity from 2007 to 2009, which was partly responsible for the national emissions decline from 758

Mt to 696 Mt over this period. Since then, national emissions have steadily increased: carbon pollution grew by 5% in the six years from 2009 to 2015.

1.2.1 Provincial and territorial trends

Canada's provinces and territories contribute to Canada's emissions inventory in different ways, with their emissions footprints varying depending on population size, natural resource profile (including electricity grid), and structure of their economy. In absolute terms, Alberta is Canada's largest emitter at 274 Mt in 2015. Coming in at second largest is Canada's most populous province, Ontario, at 170 Mt. Quebec, Saskatchewan and British Columbia each represent between 9-11% of national emissions, at 80 Mt, 75 Mt, and 60 Mt respectively in 2015. Manitoba and the Atlantic provinces each clocked in at 3% of the national total or less (Figure 2).

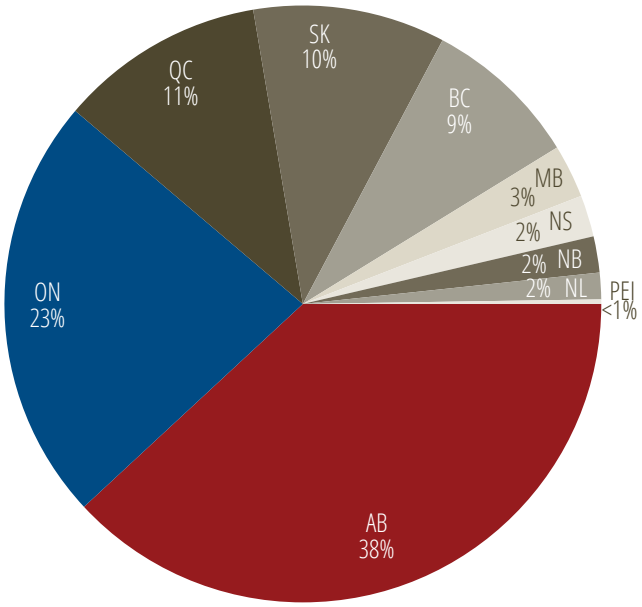

Figure 2: Provincial and territorial contribution to national GHG inventory, 2015

Data source: Environment and Climate Change Canada[4]

Carbon pollution trends from 2005 to 2015 underscore that progress at reducing emissions has been significant in some parts of Canada — namely Ontario, Quebec and the Maritimes — but this progress was not matched in Western Canada and Newfoundland & Labrador. Emissions rose by 18% in Alberta, 8% in Saskatchewan, and 1% in Manitoba. Emissions declined by 5% in B.C., 19% in Ontario, 10% in Quebec, and 30% in New Brunswick and Nova Scotia (Figure 3).

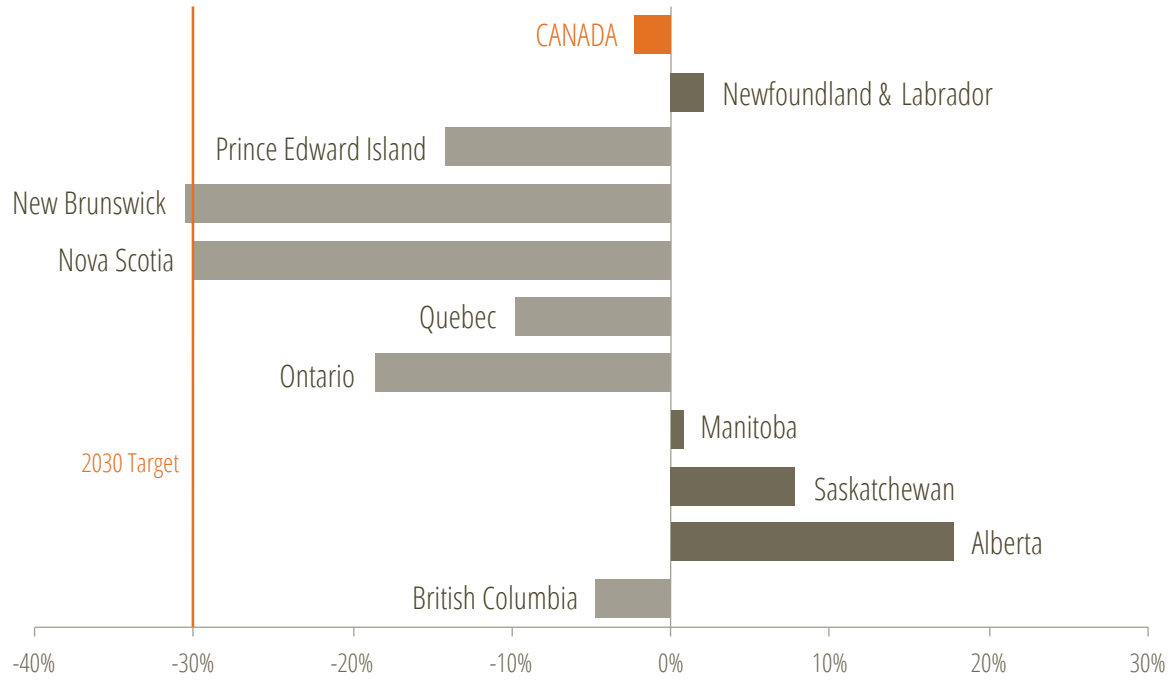

Figure 3: Change in provincial and territorial emissions, 2005-2015

Data source: Environment and Climate Change Canada[5]

1.2.2 Sector trends

Breaking down the data along sector lines, nearly 50% of Canada's emissions come from two sectors: oil and gas and transportation. At 26% of the national inventory, Canada's oil and gas sector is a significant challenge to emissions reductions (Figure 4). Since 2005, oil and gas sector emissions have risen by 20% (see Figure 5), while economy-wide emissions decreased by 2% over the same period.

The transportation sector is Canada's second-largest source of carbon pollution in the country by economic sector.[6] Since 2005, the transportation sector has hovered between 22 to 24% of Canada's total emissions inventory. It is the largest source of carbon pollution in many of Canada's provinces, including British Columbia, Quebec, Manitoba, Ontario and Newfoundland and Labrador.[7]

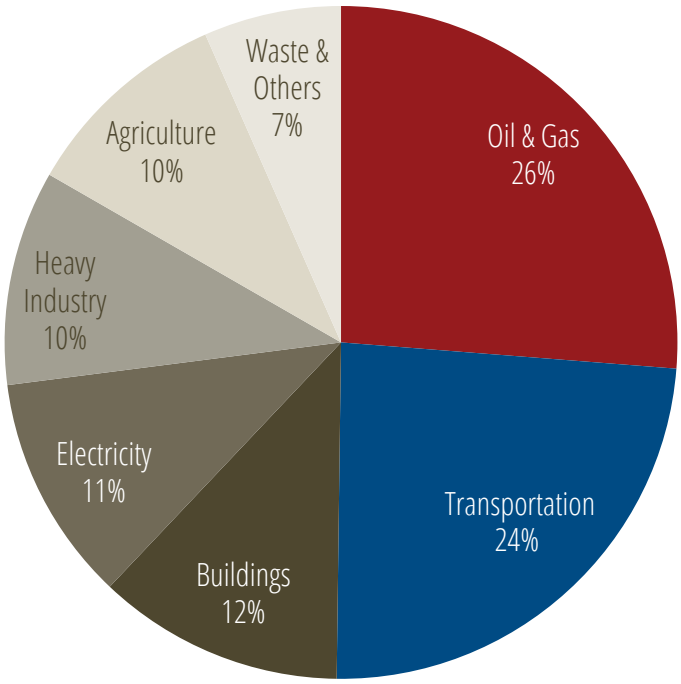

Figure 4: Canadian emissions by economic sector, 2015

Data source: Environment and Climate Change Canada[8]

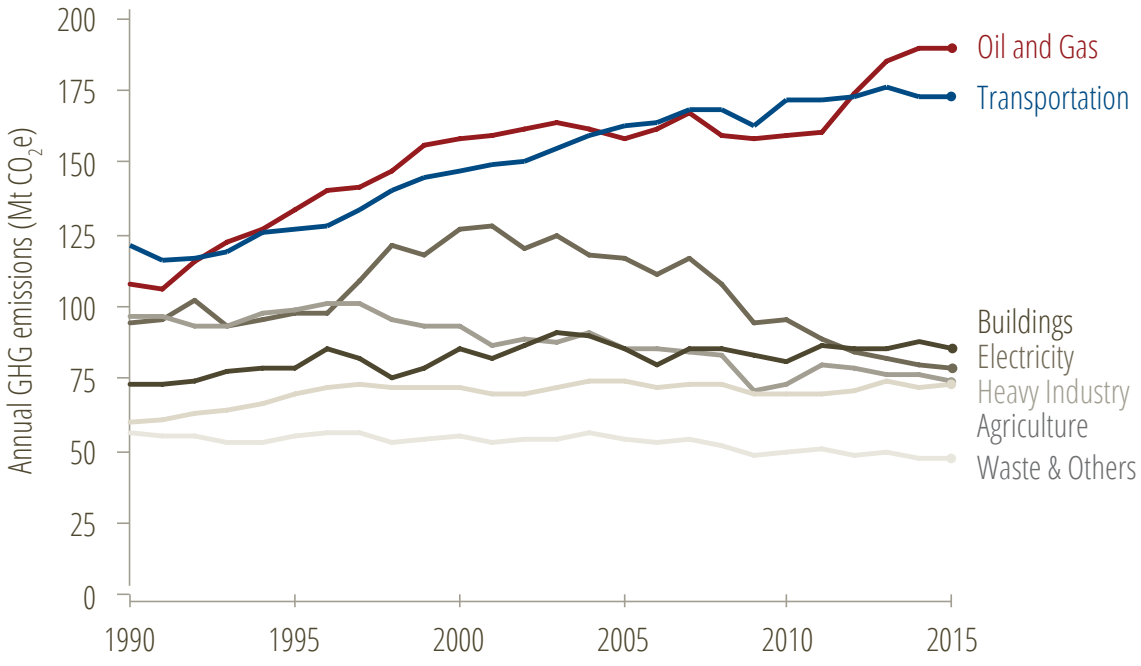

Figure 5: Change in Canadian emissions by economic sector, 2005-2015

Data source: Environment and Climate Change Canada[9]

Looking to the third- and fourth-largest emitting sector, homes and buildings account for 12% of Canada's greenhouse gas emissions.[10] Further, the buildings sector has remained stagnant since 2005, with emissions in 2015 1% above emissions in 2005 (Figure 5). Lastly, Canada's electricity sector represents just over 78 Mt, approximately 11% of Canada's overall emissions in 2015.[11] Despite Canada's comparably low emitting grid when considered nationally, and important emissions reductions in the sector since 2005, Canada's electricity sector remains its fourth-largest emitter as a result of the ongoing reliance by some provinces on coal-fired power. Coal represents 72% of these electricity emissions, at around 61 Mt, while providing just over 10% of our electricity.[12]

Reviewing projected sector changes from 2005 to 2030 as illustrated by Canada's Second Biennial Report filed to the UNFCCC (Figure 6) reveals two essential trends. First, emissions reductions in some sectors will be undermined by likely growth in emissions in the oil and gas sector. This is especially true for the electricity sector, where a projected decrease of 84 Mt could be undercut by a 74 Mt rise in emissions from the oil and gas sector over the same time period. Second, emissions in heavy industry, buildings and agriculture are likely to all grow by a total of 22 Mt by 2030, more than offsetting modest emissions reductions in the transportation sector (projected at 14 Mt below 2005 levels by 2030).

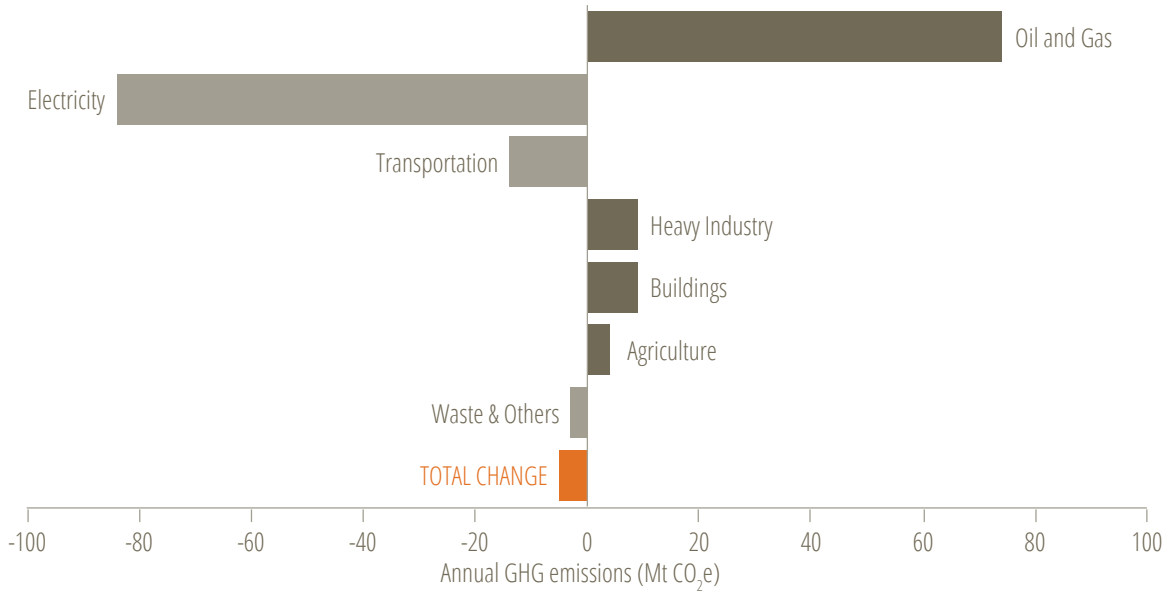

Figure 6: Projected emissions change in key sectors, 2005-2030

Data source: Environment and Climate Change Canada[13]

2. Progress reports

In this section, we review the state of policy implementation at the federal, provincial, and territorial levels, with a particular eye to PCF measures related to mitigating Canada's carbon pollution. In doing so, we examine specific commitments made and cross-reference those with policy documents, regulations, and/or public statements by relevant ministers to determine progress made on implementation over the course of the last year. Our intention is to illustrate implementation gaps so that federal, provincial and territorial governments can redouble efforts to ensure all elements of the PCF are implemented with integrity, and in a timely fashion.

In each section, we evaluate overall progress by indicating a number of stars according to the metric below.

★★★★	**Excellent progress**: PCF commitments are on track towards full implementation according to originally indicated timelines
★★★	**Moderate progress**: Important progress on implementation has been made, but there remains a risk timelines will not be upheld
★★	**Insufficient progress:** Some progress on implementation has occurred, but policy timelines are behind schedule
★	**Poor progress:** Limited or no progress on implementation has occurred, and policy effectiveness is at risk
	No progress: Governments have recanted their original promise

1.3 Carbon pricing

PCF commitments

1. All jurisdictions will have **carbon pricing by 2018**.
2. Jurisdictions can implement (i) an explicit price-based system (a **carbon tax** like British Columbia's or a **carbon levy** and performance-based emissions system like in Alberta) or (ii) a **cap-and-trade system** (e.g. Ontario and Quebec).
3. For jurisdictions with an explicit price-based system, the carbon price should start at a minimum of **$10 per tonne in 2018 and rise by $10 per year to $50 per tonne in 2022**. Provinces with cap-and-trade need (i) a **2030 emissions-reduction target** equal to or greater than Canada's 30% reduction target and (ii) declining (more stringent) **annual caps to at least 2022** that correspond, at a minimum, to the projected emissions reductions resulting from the carbon price that year in price-based systems.
4. The federal government will introduce an **explicit price-based carbon pricing system that will apply in jurisdictions that do not meet the benchmark**. The federal system will be consistent with the principles and will return revenues to the jurisdiction of origin.
5. Federal, provincial and territorial governments will work together to **establish the approach to the review of carbon pricing**, including expert assessment of stringency and effectiveness that compares carbon pricing systems across Canada, which will be completed by early 2022 to provide certainty on the path forward. An **interim report will be completed in 2020** that will be reviewed and assessed by First Ministers. As an early deliverable, the review will assess approaches and best practices to address the competitiveness of emissions-intensive trade-exposed sectors.

Ottawa’s commitment to ensure all provinces and territories have a price on carbon in place by 2018 was one of most talked about elements of the PCF last year. On October 3, 2016, Prime Minister Trudeau announced in a speech to the House of Commons that a federal benchmark — beginning at $10 per tonne of emissions in 2018 and climbing to $50 per tonne in 2022 — would be implemented. Provinces can comply with the benchmark by implementing a cap-and-trade system in line with Canada’s 2030 target, or by adopting a carbon tax at least as stringent as the benchmark. On May 18, 2017 the Government of Canada released a technical paper on pricing carbon pollution, describing in further detail how the it would regulate jurisdictions that don’t have their

own carbon pricing scheme satisfying the minimum pricing conditions.[14] The technical paper discussed measures to reduce competitiveness impacts to industrial players, inspired by the Government of Alberta's output-based allocation system for large industrial emitters. On November 29, 2017 Minister Catherine McKenna confirmed that federal carbon pricing legislation will be introduced in 2018.[15]

Beyond Ottawa, provinces have made significant new announcements on carbon pricing in the past year:

- **British Columbia** will increase its carbon tax to $35 per tonne in April 2018. Prices will continue to rise by $5 per tonne until they reach $50 per tonne in 2021.[16]
- **Alberta**'s carbon levy came into force on January 1, 2017, at $20 per tonne, and will rise to $30 per tonne in 2018; the price for large industrial emitters was already raised to $30 per tonne in 2017. Details regarding Alberta's specific approach to output-based allocations, called Carbon Competitiveness Incentives, were released on December 6, 2017.[17] This system is expected to be operational before year-end 2018.[18] The province has further committed to upholding the federal price schedule up to $50 per tonne by 2022.[19]
- **Manitoba** unveiled its Climate and Green Plan on October 27, 2017. A central component of the plan is to introduce a $25 per tonne carbon levy in 2018, frozen at that rate until 2022.[20] Manitoba claims that cumulative reductions under this approach will be higher than outcomes achieved under the pan-Canadian benchmark. The proposed approach will be in excess of the benchmark price until 2020; however, Manitoba's approach will fall short of the federal benchmark between 2020 and 2022.[21]
- **Ontario**, **Quebec** and California signed an agreement on September 22, 2017, laying the ground for a full integration of their respective carbon markets beginning January 1, 2018. The next round of carbon credit auctions will be joint across these three jurisdictions. Ontario also amended its cap-and-trade regulation to include GHG caps for 2021-2030, in line with the province's legislated emissions reductions target of 37% below 1990 levels by 2030.[22]
- **Nova Scotia** introduced Bill No. 15, an amendment to the Environment Act, on September 29, 2017, to enable the creation of an unlinked, province-wide cap-and-trade system. The bill passed third reading on October 24, 2017. The province has yet to introduce regulations to support the system, including establishing an economy-wide carbon pollution cap. Without these details, it's unclear if the proposed approach will deliver incremental emissions reductions in the province.

- **Yukon** has announced it prefers that the federal government implement the backstop program in its jurisdiction in 2018. From August to September 2017, the Government of Yukon conducted public consultation regarding how best to use the revenues levied under the backstop.[23]

Several provinces must still unveil their approach to pricing pollution. At the end of October, **New Brunswick**'s premier confirmed that the province will introduce a form of carbon pricing, but did not provide substantive details.[24] Similarly, **Prince Edward Island** is expected to unveil its approach in early 2018, and has yet to state its preferred policy mechanism.[25] **Newfoundland and Labrador** has yet to disclose its path forward, but premier Dwight Ball has indicated his government will unveil its detailed approach in spring 2018.[26]

Saskatchewan recently stated its intention to develop output-based allocations for large final emitters in the province, but will exempt its oil and gas and electricity sectors.[27] Its 2017 Speech from the Throne declared the province will fight the imposition of a carbon price, including through a legal challenge if necessary.[28] The province will install a new premier in early 2018, which presents an opportunity for the government to reconsider its approach.[29] Barring a change to its position, the federal government is expected to impose its pan-Canadian benchmark on Saskatchewan in 2018.

Northwest Territories intends to design its own carbon pricing approach, stating it is "committed to developing its own carbon pricing plan that addresses the challenges faced by NWT residents, business and industry, including high costs of living and of energy, challenges with food security, and emerging economies."[30] It released a discussion paper on carbon pricing design options in July 2017. **Nunavut** is presently working with the federal government to land on a policy approach suitable for its northern context. Nunavut has stated that any carbon price must be "revenue neutral and not place any further cost burden to our communities" and that carbon pricing policy must not interfere with existing territorial financing arrangements.[31]

Overall, concrete progress has been made on the carbon pricing front in most provinces, with the notable exception of Saskatchewan, parts of Atlantic Canada and the territories. Continued progress in 2018 is essential, and the imposition of a pan-Canadian price should begin in earnest. We observe a risk of timeline slippage here: in order to begin 2018 on the firmest legal footing, Ottawa should have introduced enabling legislations for the pan-Canadian benchmark prior to 2018. This has yet to

occur. Minister McKenna recently stated her government will introduce carbon pricing legislation in 2018, but did not specify precisely when next year this would occur.[32]

PROGRESS ASSESSMENT ★★★

2017 saw important new carbon pricing commitments from several provinces. However, the federal government has not yet introduced legislation to enact the pan-Canadian carbon pricing backstop — meaning it will not begin 2018 on the firmest legal footing with provinces that skirt the national benchmark, like Saskatchewan and Manitoba. Looking ahead to 2018, we remain optimistic that the federal government will ensure all provinces and territories have a price in place, and that such programs meet either the explicit pricing or emissions reductions requirements clearly outlined in the national benchmark. Turning a blind eye to inadequate approaches risks unravelling the pan-Canadian framework's hard-won consensus.

1.4 Complementary measures: Electricity sector

PCF commitments

1. Federal, provincial and territorial governments will work together to **accelerate the phase-out of traditional coal units across Canada by 2030**.
2. The federal government will **set performance standards for natural gas-fired electricity** generation.
3. Governments will accelerate and **intensify efforts to improve the energy efficiency of diesel generating units**, demonstrate and install hybrid or renewable energy systems, and connect communities to electricity grids.

Two weeks before the PCF was signed, the federal government announced its intention to accelerate the phase-out of traditional coal-fired electricity in Canada.[33] The Government of Canada further released a Notice of Intent to Regulate on December 17, 2016, confirming its plans to "publish proposed regulations in the Canada Gazette, Part I, at the end of 2017 with final regulations to be published at the end of 2018".[34] Alongside the accelerated coal phase-out, which will be implemented through amendments to existing regulations under the *Canadian Environmental Protection Act, 1999*, the federal government committed to introducing a new emissions intensity standard for natural gas-fired power plants.

In January 2017, Environment and Climate Change Canada (ECCC) launched a technical working group to discuss proposed amendments to the existing coal-fired power rules under the Canadian Environmental Protection Act, and further to solicit feedback on the proposed approach to regulating greenhouse gas performance of natural-gas fired plants and coal-to-gas conversions. This process brought together electricity sector stakeholders, including the Pembina Institute, and concluded in April 2017. ECCC held a webinar for a broader set of interested parties in late October 2017 to report on recent progress, including its draft greenhouse gas performance standards for coal-fired power and converted boilers.

A press release in November stated the federal government would "publish updated coal regulations in the months ahead".[35] The language is imprecise; however, this could be a signal of a delay to the original 'end of 2017' timeline.

At COP23 in Bonn, Germany, Canada launched an international alliance to phase-out of traditional coal-fired electricity around the world. The founding declaration of the Powering Past Coal Alliance notes that all OECD member countries must phase-out traditional coal-fired power use by 2030 to achieve the Paris Agreement temperature limits.[36]

In November 2015, **Alberta** committed to phasing out coal-fired generation by 2030, and one year later reached compensation agreements with the owners of the six coal-fired units originally slated to operate beyond 2030.[37] The province also recently announced a $40 million package for workers affected by the transition away from coal-fired power; this new fund supplements support provided to affected municipalities and First Nations communities through the Coal Community Transition Fund.[38] In May 2017, two of the largest coal-fired electricity producers in Alberta announced plans to convert their coal-fired power plants to natural gas generation several years in advance of 2030.[39]

On November 21, 2016, the Government of Canada reached an agreement in principle with the Government of **Nova Scotia** to strike a new equivalency agreement for its electricity sector.[40] The existing equivalency agreement between Canada and Nova Scotia was finalized on May 26, 2014, and came into force on July 1, 2015. In lieu of the federal regulations, Nova Scotia agreed to caps on its electricity sector carbon pollution, one spanning 2015-2019 and another spanning 2020-2030. The existing agreement allows the province to maintain its coal-fired electricity plants beyond 2030 in exchange for broader, but equivalent, emissions reductions in its electricity sector.[41]

On November 28, 2017, reports emerged that Ottawa had struck a second agreement on electricity sector emissions, this time with the Government of **Saskatchewan**.[42] Public details regarding this agreement have yet to be released, though it is likely to affect only Shand 1, a 276 MW unit with an end-of-economic-life date of 2042.[43] All other coal plants in Saskatchewan are projected to close on or before 2029. Firm details have yet to emerge regarding **New Brunswick**'s lone coal plant — a 458 MW unit commissioned in 1993 and scheduled to operate until 2040-41. Premier Brian Gallant released New Brunswick's Climate Change Action Plan on December 7, 2016, stating the province would phase out its coal use by 2030 "if adequate support can be found to minimize impacts on energy costs and the local economy".[44] In the absence of such conditions, the plan proposes to eliminate coal use by 2040, 10 years past the federal government's 2030 deadline.[45]

Across Canada, more than 200,000 people in 280 northern and remote communities depend on diesel generators for electricity generation and heating.[46] Budget 2017 allocated $21.4 million over four years (starting in 2018-19) to support the deployment of renewable projects in communities north of the 60th parallel that rely on diesel for electricity and heating under the Northern Responsible Energy Approach for Community Heat and Electricity Program.[47] A further $220 million over 11 years was announced to reduce reliance on diesel fuel south of Canada's 60th parallel. $75 million was also dedicated to new outcome-based initiatives through the Canada Impact Fund. Finally, $400 million over 10 years was dedicated to the Arctic Energy Fund to address energy security in Canada's Arctic communities.

PROGRESS ASSESSMENT ★★★

The federal government has made steady progress towards amending existing regulations for coal-fired power and introducing new rules for coal-to-gas conversions. However, it has yet to release public details on its approach. Ottawa has three weeks to release its draft rules before the clock runs out on this commitment. Broader questions remain about the impact of federal–provincial equivalency agreements on policy ambition: equivalency agreements may unlock equivalent emissions reductions, but can Canada claim international leadership with coal still in its electricity mix beyond 2030?

1.5 Complementary measures: Transportation sector

PCF commitments

1. Federal, provincial, and territorial governments will work with industry and other stakeholders to develop a Canada-wide strategy for **zero-emission vehicles** by 2018.
2. Federal, provincial, and territorial governments will work together, including with private-sector partners, to accelerate demonstration and deployment of **infrastructure to support zero-emission vehicles**, such as electric charging stations.
3. The federal government, working with provincial and territorial governments, industry, and other stakeholders, will **develop a clean fuel standard** to reduce emissions from fuels used in transportation, buildings and industry.
4. The federal government will continue its work to implement increasingly stringent standards for emissions from **light-duty vehicles**, including fuel-efficient tire standards, and to update emissions standards for **heavy-duty vehicles**. Further, the federal government will work with provinces, territories, and industry to develop new requirements for heavy-duty trucks to install fuel-saving devices like aerodynamic add-ons.

In May 2017, Transport Canada and the Innovation, Science and Economic Development announced the creation of a national advisory group with a mandate to address key barriers to EV adoption.[48] The advisory group worked in five issue areas: vehicle supply; cost and benefits of ownership; infrastructure readiness; public awareness; and clean growth and clean jobs. The advisory group's work is complete, but details have yet to emerge regarding how the federal government proposes to achieve its commitment for a Canada-wide strategy by 2018. Meanwhile, Minister of Natural Resources Jim Carr signed on to the Clean Energy Ministerial's global Electric Vehicles Initiative campaign at this year's meeting in Beijing, China. This committed Canada to a global target of at least 30% of new EV sales by 2030.[49]

Provincially, **Quebec** has set a goal of having over 100,000 zero-emission vehicles on its roads by 2020.[50] In October of 2016, the province passed legislation — and subsequently released regulations in July 2017 — mandating that electric or plug-in hybrid vehicles constitute a certain percentage of each vehicle manufacturers' total provincial sales by 2018 (3.5%), 2020 (6.9%), and 2025 (15.5%).[51] Quebec is also developing a Sustainable

Mobility Policy (to be adopted in 2018) to maximize mode shifting to lower-emitting modes of transportation across each transportation sub-sector (rail, marine, freight, personal transport) through integrated urban planning and the promotion of sustainable mobility solutions.

Progress has also been made to ensure infrastructure to support ZEVs is in place. Through Budget 2017, the Government of Canada allocated an additional $120 million for Natural Resources Canada to deploy infrastructure for electric vehicle charging and alternative fuel stations, and to support technology demonstration projects.

Ontario is working with 27 public and private sector partners to create a network of close to 500 electric vehicle charging stations across 250 locations in Ontario.[52] The province committed to investing $20 million from Ontario's Green Investment Fund in charging infrastructure. The Ministry of Transportation reports that it has spent $19.8 million towards the Electric Vehicle Chargers Ontario program.[53]

Quebec recently welcomed recommendations from the Premier’s Conseil consultatif sur l'économie et l'innovation, which advocated for the near-term installation of 2000 public rapid-charging stations, in addition to the 80 already built.[54] These stations recharge EV batteries at a considerably faster rate than lower-level chargers (of which the province currently has about 900 installed in its Electric Circuit network).

British Columbia funds several programs to increase the deployment of EV charging infrastructure. In its September 2017 Budget Update, the Government of British Columbia pledged to expand its Clean Energy Vehicles Program by an additional $40 million.[55] These funds will support investments in charging infrastructure and hydrogen fuelling infrastructure, including two ongoing programs: the Multi Unit Residential Building Charging Program, designed to reduce costs and support installation of charging stations in existing multi-unit residential buildings; and the Fleet Champion Program, wherein signatories to West Coast Electric Fleets initiative are eligible to receive a reimbursement of up to $2,000 per charging station purchased and installed.[56,57]

Beyond ZEVs, the PCF commits the federal government to implementing a new carbon pollution standard for solid, liquid and gaseous fossil fuels used in the transport, buildings and industrial sectors — known as a Clean Fuel Standard (CFS). The federal CFS is expected to achieve 30 Mt of in-year reductions in 2030. Since January 2017, ECCC has been engaging with stakeholders on the development of the CFS. In February, the federal government published a discussion paper outlining key concepts and key questions to stakeholders.[58] A stakeholder workshop on the discussion paper was held

on March 6, 2017. A series of five technical webinars were held in April 2017 to seek additional input.

According to ECCC's website, a framework setting out the government's path forward on CFS design was to be published in Fall 2017.[59] At present, this framework has yet to be unveiled. In a November 8, 2017, interview with CTV, Minister Catherine McKenna would not confirm when the CFS policy framework would be released, saying only that it would be released "in the coming months".[60] This marks timeline slippage on this critical policy, which could have compound effects since much of the policy remains to be developed. Draft regulations are due for publication in Part I of the Canada Gazette by mid-2018.

On March 4, 2017, ECCC amended its heavy-duty vehicle regulations to introduce more stringent GHG emission standards for on-road heavy-duty vehicles and engines, beginning with the 2021 model year.[61] Canada's passenger automobile and light truck GHG regulations were amended in 2014 to establish progressively more stringent annual fleet-average GHG emission standards over the 2017 to 2025 vehicle model years, in line with regulations promulgated by the U.S. Environmental Protection Agency.[62]

PROGRESS ASSESSMENT ★ ★

Transportation is Canada's second largest source of emissions, representing 24% of national emissions in 2015. Despite its importance, policy progress has been slow. Notably, the federal Clean Fuel Standard's timelines have been delayed by an unknown number of months. At 30 Mt, the Clean Fuel Standard will be the single largest contributor to Canada's 2030 climate commitment. If this policy timeline and/or ambition slips, Canada's 2030 climate target will remain out of reach. We remain optimistic that the federal government will deliver a Canada-wide ZEV strategy in early 2018, though we look forward to additional details on the path forward emerging soon.

1.6 Complementary measures: Buildings sector

PCF commitments

1. Federal, provincial and territorial governments will work to develop and adopt increasingly stringent model building codes, starting in 2020, with the goal that provinces and territories adopt a **"net-zero energy ready" model building code by 2030.**
2. Federal, provincial and territorial governments will work to develop a **model code for existing buildings by 2022,** with the goal that provinces and territories adopt the code.
3. Federal, provincial and territorial governments will work together with the aim of requiring **labelling of building energy use by as early as 2019**.
4. The federal government will set **new standards for heating equipment and other key technologies** to the highest level of efficiency that is economically and technically achievable.

Building codes are traditionally developed by the federal government on a five-year cycle; provinces then have the option of voluntarily applying them in their jurisdiction. Because of this, the model code elements of the PCF aren't mandatory for provinces or territories to adopt — and the PCF doesn't contain direct incentives to spur adoption.

In Budget 2017, Ottawa committed $40 million over five years for the National Research Council's five-year climate-resilient buildings project. Budget 2017 also sent a clear signal by dedicating $182 million to building code development for retrofits and new construction. Budget 2017 also includes a plan to invest $4.7 billion to build and retrofit affordable housing units, as part of the National Housing Co-Investment Fund.

Provinces have also made progress on the buildings front. Prior to the PCF, **British Columbia** and **Ontario** had already taken measures to mandate and encourage the construction of net-zero buildings. Both provinces have previously signalled their intention to adopt similar code requirements by 2030 and 2032, respectively; however no clear roadmap toward achieving this goal through successive code revisions has been established to date.

At the Energy and Mines Ministers meeting in August 2017, ministers released *Build Smart: Canada's Buildings Strategy*. This strategy lays out a proposed path forward for the development of net-zero energy ready building code in a tiered approach, starting in

2018 with final release in 2022.[63] We observe potential timeline slippage, since the PCF commitment was to adopt increasingly stringent codes beginning in 2020. Furthermore, the *Build Smart* strategy has not explored how to ensure provincial adoption of the new building codes. To accelerate code evolution towards net-zero energy, British Columbia introduced the Energy Step Code in 2017, a set of better-than-code energy efficiency targets for new construction that municipalities can choose to require or incentivize as of January 2018.[64] So far, at least thirteen municipalities have signalled their intention to consult with their community on adopting one of the steps, and a few leading councils have already passed resolutions to require or incent upper steps (step 3 and up) starting in 2018.

There has been little progress in terms of model codes for existing buildings. To date, no provinces or territories have laid out a plan for the adoption and enforcement of energy efficiency requirements for existing buildings.

In February 2017, Ontario introduced the Reporting of Energy Consumption and Water Use Regulation, which will come into effect in 2018 and will mandate large building owners to report regularly on their buildings' energy and water consumption.[65] Ontario is also committed under its Climate Change Action Plan to implement a Home Energy Rating & Disclosure (HERD) program. To date, Ontario is the only province to articulate an energy labelling strategy.

In March 2017, Natural Resources Canada published a Notice of Intent to improve the energy efficiency of appliances and equipment through amendments to existing energy efficiency regulations.[66] This will increase the stringency of existing energy efficiency standards for 11 product categories and introduces standards for the first time in Canada for six product categories, including oil and gas boilers and furnaces, gas fireplaces, water heaters, and heat pumps.

PROGRESS ASSESSMENT ★★★

The buildings sector offers some of the lowest-cost emission reduction opportunities, and some of the highest economic returns in the form of job creation, GDP stimulus, and co-benefits to Canadians. To date, good progress has been made on setting targets for new construction practices to reach net-zero energy ready levels. However, progress has been slower on reducing emissions from existing buildings, which represent a larger portion of needed reductions in the sector. There is a risk of slippage in the implementation of codes for both new and existing buildings, as provinces have not yet committed to adopting federally developed model codes in a timely manner as they become available.

1.7 Complementary measures: Industrial sector

PCF commitments

1. Federal, provincial and territorial governments will work together to support **industrial energy efficiency**, including the adoption of energy management systems.
2. The federal government will work with provinces and territories to achieve the objective of **reducing methane emissions from the oil and gas sector, including offshore activities, by 40-45% by 2025**, including through equivalency agreements.
3. The federal government has introduced proposed regulations to **phase down use of HFCs** to support Canada's commitment to the Montreal Protocol Kigali amendment.

On November 22, 2015, **Alberta** released its comprehensive Climate Leadership Plan. The plan committed the province to implement a methane reduction strategy to reduce emissions by 45% from 2014 levels by 2025. Building on this, in June 2016 the North American Leaders' Summit scaled this policy commitment across North America: Canada, the U.S. and Mexico each committed to reduce oil and gas methane emissions from new and existing wells by 40-45% by 2025.[67]

Unfortunately, documents obtained by CBC in April 2017 revealed that the federal government was backsliding on the details of its regulations. According to the leaked documents, the initial federal plan was to phase in equipment-specific rules (i.e., requirements to improve the performance of compressors, valves, and leak detection systems) beginning in 2018.[68] The entire regulatory framework would have been in place by 2020. However, more recent federal timelines confirm that the approach will be phased in beginning in 2020, with full implementation by 2023. The delayed approach will not affect the in-year emissions reductions in 2025, but will lower cumulative emissions reductions over that period by about 55 Mt.[69] In May 2017, Ottawa published its draft oil and gas methane regulations in the Canada Gazette, Part I.[70]

At the provincial level, oil and gas methane regulations will have most impact in British Columbia, Saskatchewan, and Alberta, since most of Canada's oil and gas operations are concentrated in these three provinces. Alberta continues to move forward with consultations to develop its approach. The Government of Alberta will finalize its draft regulations shortly, after extending its multi-stakeholder processes to allow negotiations between industry and non-governmental stakeholders to run until

December 1, 2017.[71] Discussions over a possible equivalency agreement between the Government of Canada and the Government of Alberta will then begin.

Beyond methane, Alberta has recently announced funds targeted at industrial energy efficiency measures. Support for industrial energy efficiency will come in two forms: project funding ($240 million for equipment, facility upgrades, energy audits, and energy management systems) and loan guarantees ($400 million to be underwritten for both energy efficiency and renewable energy investments).[72] Loan guarantees are a proven tool for low-cost deployment of low-carbon technology.

Saskatchewan's recently unveiled its *Prairie Resilience* climate plan indicating the province will "develop and pass greenhouse gas emissions regulations specifically suited to our upstream oil and gas industry". The Government of Saskatchewan states that their approach will deliver oil and gas methane emissions reductions on the order of 40-45% below 2015 levels, though they do not indicate by what year these outcomes would be achieved.

British Columbia committed to reducing oil and gas methane emissions by 45% by 2025 in its 2016 Climate Plan.[73] A transition phase will offer incentives to drive reductions in newly constructed operations from 2015-2018 and to enable legacy retrofitting, while a latter phase will establish mandatory performance standards. B.C. is also an official observer to the Government of Alberta's oil and gas methane regulatory development process, with an aim to create consistency between Canada's two largest gas producing jurisdictions. In 2017, B.C.'s new government further committed to broadening the province's carbon tax to cover fugitive emissions sources. Further details, including an implementation timeline, are not yet available.[74]

2017 also saw progress on another important source of carbon pollution: hydrofluorocarbons (HFCs), man-made chemical compounds used in air conditioners, refrigerants and other cooling devices that are also, unfortunately, powerful greenhouse gases. The Kigali Amendment seeks to accelerate the phase-down of the production and consumption of HFCs, with an overarching global target of reducing global HFC consumption by 80 to 85% by 2047.[75] Canada released draft regulations for HFCs prior to the conclusion of the PCF in 2016; the rules were finalized and published in Part 2 of the Canada Gazette in October 2017.[76]

After some heavy lifting from Canada and Rwanda in the lead up to COP23 in Bonn, Germany, the Kigali Amendment recently crossed the 20-country threshold for entry into force on January 1, 2019.[77]

PROGRESS ASSESSMENT ★★

The oil and gas sector is Canada's single largest source of GHG emissions, representing more than a quarter of all carbon pollution in Canada. Any government that wants to demonstrate climate leadership must be serious about cutting carbon pollution from this sector. Despite this, Canada softened its approach on oil and gas methane regulation in 2017 — leaving inexpensive emissions reductions opportunities on the table. This is unacceptable and represents the most egregious policy backslide on the climate file in 2017.

3. Recommendations

Our assessment finds that important progress has been made to realize the significant new policy commitments unveiled in the 2016 Pan-Canadian Framework. However, all orders of government must do more to ensure all PCF policy measures are fully implemented. We recommend the following actions be taken in 2018 to ensure all orders of government continue to make progress on clean economic development:

1. Accelerate implementation timelines to ensure policy commitments are achieved

Across the board, implementation timelines are at risk. We call on the federal government to **accelerate its engagements with the provinces and territories on the implementation of each PCF policy measure**. While it's tempting for governments to slip into 'election mode' well in advance of the writ being dropped (and Canada has numerous upcoming elections, notably Ontario in 2018, and Alberta and federal in 2019), signatories to the PCF simply cannot afford to take their eyes off policy implementation. Canada's credibility, both at home and on the international stage, depends on its ability to successfully implement measures to achieve its 2030 target, and further extend ambition in line with international expectations. **Successful implementation of the PCF is essential to this**.

2. Modernize equivalency agreements for the era of the PCF

As provinces and territories search for ways to adapt federal climate policy to their own circumstances, equivalency agreements will play an increasingly key role across a number of critical measures. Because of their outsized importance in delivering on the PCF, equivalency agreements must be modernized to match today's climate ambition. We urge the federal government to **conduct annual monitoring and evaluation**, and to report on the agreement's effects on GHG emissions in the covered subnational jurisdiction. Further, the federal government should **harness this evidence** to determine whether intended environmental outcomes are on track to be achieved — and should review the terms of the equivalency agreement if the evidence suggests the subnational approach will not deliver the intended cumulative result. Lastly, **as scientific evidence improves our understanding of emissions baselines, the environmental outcomes established within an equivalency agreement should be updated**.

3. Ensure the benchmark carbon price continues to rise

The federal government must continue to demonstrate leadership on carbon pricing. First ministers should finalize the **post-2022 schedule for price increases after the interim review in 2020**. In our view, a second tranche of price increases should extend the benchmark from 2022 to 2030, in line with Canada's international commitments. This round of price increases should follow the existing schedule by extending prices to $60 in 2023 and culminating in a price of $130 per tonne of pollution in 2030. This schedule is in line with economic modeling showing these price levels are required to achieve Canada's targets.[78] Further, forthcoming **federal legislation should be indexed to inflation** to ensure the price signal is real and rising, year over year.

4. Increase policy ambition in line with Talanoa Dialogue expectations

To meet and exceed Canada's 2030 emissions reduction goal, the federal government must address existing gaps in the country's climate policy landscape. In doing so, it should seek to build on successful programs and policies already established by federal, provincial, territorial, Indigenous and local governments. In addition to establishing a carbon pricing schedule out to 2030, the specific policies and strategies outlined below merit consideration for implementation.

I. Reducing carbon pollution from the transportation sector must be a principal component of a credible pan-Canadian climate plan. While the PCF calls for new policies to ensure more zero-emission vehicles are on Canada's roads, federal, provincial and territorial governments have not established a national target for EV sales in Canada to guide the development of the policies in the zero emissions strategy. We therefore recommend the federal government introduce **Canada-wide zero-emissions vehicle legislation** to increase ZEV penetration in the personal transportation market. Starting with models manufactured in Canada in 2018, federal legislation could require that a certain percentage of major vehicle manufacturers' sales have zero or near-zero tailpipe emissions, for example 10% of sales by 2020, 22.5% of sales by 2025, and 30% of sales by 2030.[79] The target should have predictable and consistent increases to provide the auto industry with long-term policy stability. Further, we recommend the federal government consider **banning the sales of internal combustion engines** in Canada. These actions would be in line with those of China, India, France, the United Kingdom, Norway, Scotland and the Netherlands, which have all announced phase-outs of sales of gas and diesel cars in the next 20-30 years.[80]

II. Beyond the transportation sector, the Government of Canada should consider **setting national energy efficiency targets**. A pan-Canadian target of 30% less energy use in the existing building stock below 2005 levels by 2030, and a goal that 100% of new constructions be net-zero energy ready by 2030, would be ambitious and achievable. Given the voluntary nature of the national model codes, the federal government must continue to proactively collaborate with lower orders of government, including through funding arrangements, to ensure that model codes are adopted quickly. Further, a comprehensive retrofit and fuel switching strategy is needed in all provinces to establish appropriate emissions reduction targets and timelines for retrofits to existing buildings.

III. In the electricity sector, we encourage the federal government to view itself as a **catalytic investor in clean electricity solutions**. In particular, we expect continued investment in provinces reliant on coal-fired power to facilitate their transition from dirty to clean electricity, instead of locking-in additional fossil fuel generation by way of natural gas. Forums like the Regional Electricity Cooperation and Strategic Infrastructure (RECSI) initiative are avenues in which specific modeling and technical support for this coal-to-clean transition can take place. Looking north, ongoing funding to transition off diesel is welcome — and should be earmarked to increase community and human capacity in remote and Indigenous communities, in addition to supporting technical feasibility studies and providing capital for new projects.

5. Create strong, long-term accountability structures to track climate progress

In its most recent Emissions Gap Report, the United Nations Environment Programme recognized that existing climate plans are insufficient to achieve the temperature limits outlined in the Paris Agreement.[81] At home and abroad, **successful climate action requires continuous review, evaluation and improvement**. We urge governments to design and implement a method of stocktaking for the pan-Canadian climate framework, to ensure commitments made are implemented and ultimately strengthened with time.[82] Further, we urge governments to link the pan-Canadian climate process directly to the mid-century long-term low-greenhouse gas strategy: since the Paris Agreement calls for carbon neutrality by mid-century, federal, provincial and territorial discussions must align with and support this end. Within this process, Canada should commit to increasing its climate ambition beyond its existing 2030 target, in line with the Paris Agreement requirements for developed nations.

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