LOOK OUT

TOWARD A CLIMATE STRATEGY THAT REDUCES GLOBAL EMISSIONS

CANADAWEST FOUNDATION
CENTRE FOR NATURAL RESOURCES POLICY

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THE CANADA WEST FOUNDATION focuses on the policies that shape the West. Through our evidence-based research and commentary, we provide practical solutions to tough public policy challenges. For more than 40 years, we have been a passionate advocate for western Canada.

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Executive Summary

Canadians are embroiled in a fierce national debate about energy and the environment. As can be expected, western provinces with energy-intensive, trade-exposed economies find themselves in the middle of it all. Although the federal government has committed Canada to ambitious greenhouse gas (GHG) emission reduction targets, it has gone out of its way to reassure provinces it will respect provincial jurisdiction. The provinces have agreed to seek solutions in a pan-Canadian climate strategy.

Competing interests and different ideologies make useful co-operation easier said than done. The debate has exposed Canada's regional fault lines but, this time, some of the biggest fissures exist within the western provinces themselves. While it fights amongst itself, the West is missing the opportunity to look *out* – to chart a path that reduces global emissions without simply shifting them elsewhere, and without compromising competitiveness. And, if the West is not proactive about proposing climate policies that are strategic and ambitious, it must also *look out*. Most of Canada's emissions come from the West, and Ottawa will look to this region to make significant contributions to meeting its climate goals.

To succeed, the West should find a way to work together to advance common interests and design its own climate policies. This paper argues that western premiers should:

01 BURY THE HATCHET.

02 BE PROACTIVE TO AVOID SIMPLY MOVING EMISSIONS ELSEWHERE.

03 PLAY BALL WITH OTTAWA TO MAKE A MAJOR PUSH TO REDUCE CONSUMER-SIDE EMISSIONS.

These actions will position the West to act decisively to reduce emissions while maintaining a competitive advantage.

IT IS TIME FOR WESTERN PREMIERS TO

BURY THE HATCHET & WORK TOGETHER

It seems almost unfathomable today that the premiers of British Columbia, Alberta, Saskatchewan and Manitoba could speak for western Canadian interests in a united voice. Pipeline politics, environmental policies and ideological differences have created simmering tensions among the western neighbours that have spilled out, at times publicly.

The depth of discord in the West is almost enough to make us nostalgic for 1973. It was a year seen as a "coming out" for the new West – when four western premiers bridged divergent interests and ideology to send a forceful message to Ottawa and then-prime minister Pierre Elliott Trudeau.[1]

On the eve of the Western Economic Opportunities Conference (WEOC), held in Calgary in 1973, former Alberta Premier Peter Lougheed described the mood:

> *"I think Ottawa sat down and decided, "Well look, we've got three socialist governments out there. There's Barrett, NDP (B.C.); there's the Schreyer government in Manitoba and there's the Blakeney NDP government in Saskatchewan. Then there's that odd-ball Conservative Lougheed. They'll never get along, so why don't we call a conference with the four western provinces? They'll be so divided that we'll look like the only people who can hope to resolve the problems of the West."*[2]

Looking back from 2016, the West can see itself in that description, albeit politically inverted. Alberta once again is the "odd-ball" of the West – only this time having elected an NDP government amidst centre-right governments in B.C., Saskatchewan and Manitoba. The western provinces, to paraphrase Lougheed, seem like they'll never get along.

Yet, lessons in interprovincial relationships can be gleaned from that pivotal point in the history of the West more than four decades ago. In 1973, anticipating a federal divide-and-conquer strategy, the four western premiers developed a plan for the meeting. Then, as now, energy was a divisive subject. Suspecting the federal government would put energy on the agenda, the four premiers agreed that it was not the time for energy discussions.[3] Putting divisive energy issues to one side allowed provincial leaders to present a united front at WEOC.

Indeed, the words of the western premiers at WEOC were co-ordinated so closely as to be almost interchangeable – each leader sought federal policy changes that would afford the West the opportunity to develop.

In the end, the conference was considered largely unsuccessful because the West's common message fell on deaf ears in Ottawa. Yet, it was a great success in terms of interprovincial relationships and favourable outcomes for the West. It forged strong relationships among western premiers that allowed the region to emerge as strong and able to advance shared interests.

"Unfortunately, present day federal government policies still encourage the concentration of the country's business, industry and financial capital…in central Canada."

— B.C. Premier Dave Barrett

"Mr. Prime Minister, we do not seek handouts. We will certainly appreciate a helping hand, but even that is not our primary purpose here. What we are really asking for is that you free our hands of the shackles of history which deny us the fulfillment of our destiny."

— Saskatchewan Premier Allan Blakeney

"The concerns of the West are more than a matter of dollars, or job security, or even economic opportunity, important as these are. It's a feeling of western Canadians that we have a great deal going for us in the West, but we feel frustrated in reaching out for our potential because we sense such potential is not fully understood or appreciated in central Canada and hence, we are thwarted by federal government policies."

— Alberta Premier Peter Lougheed

Flash forward to 2016. Western premiers once again need to find a way to work together.

Today's premiers do not have the luxury of putting energy and environment concerns to the side. Energy and environment issues, including the inability to get oil and gas to emerging markets and little consensus on carbon pricing, divide the West. Moreover, the federal government is committed to creating a pan-Canadian climate strategy with the dual goal of eliminating large swaths of emissions and living up to Canada's international obligations. This paper shows there is no reasonable path to meeting our Paris commitments that does not go through the West.

To date, the Trudeau government has been accommodating – indicating it will let provinces chart their own paths to emissions reductions.[5] Yet, there is significant risk that Ottawa will impose a solution on provinces. There has already been significant talk of a $15/tonne carbon price floor.[6] Given this risk, the West would be well-served to take a page out to the 1973 western playbook to bury the hatchet. The premiers should work toward a common carbon price while protecting the competitiveness of western Canada's trade-based economies.

COUNTRIES WILL STRUGGLE TO MEET THE

CLIMATE TARGETS SET IN PARIS

The United Nations Climate Change Conference held December 2015 in Paris delivered an ambitious agreement – one in which developed and developing countries jointly agreed on a framework for tackling climate change. The big players all came to the table: One hundred and ninety five countries, accounting for 98 per cent of global emissions,[7] submitted their emission reduction pledges. At the core of the agreement is a pledge to reduce carbon emissions and limit global temperature increases to "well below 2 C above pre-industrial levels."[8] This will be no easy task.

Poor track record of meeting targets

There is a lingering belief that signatories to the Paris agreement will not meet the targets they have set for themselves. This is understandable. After all, countries have not been very good at meeting emission reduction commitments made in the past.

Historically, there have been numerous targets – some of which were quite ambitious. The Kyoto Protocol presents the best example; it committed most developed nations

Paris Agreement at a glance

The Paris Agreement, struck by 195 countries in Paris in December 2015, is designed to address climate change. It resolves one of the outstanding issues with previous climate agreements in that it includes both developed countries, including the U.S., and transforming economies like China and India – countries that are among the top emitters in the world.

GOAL: to keep the global temperature rise below 2 C, compared to pre-industrial times.

The agreement also includes an aspirational goal of limiting the temperature rise to 1.5 C.

Targets

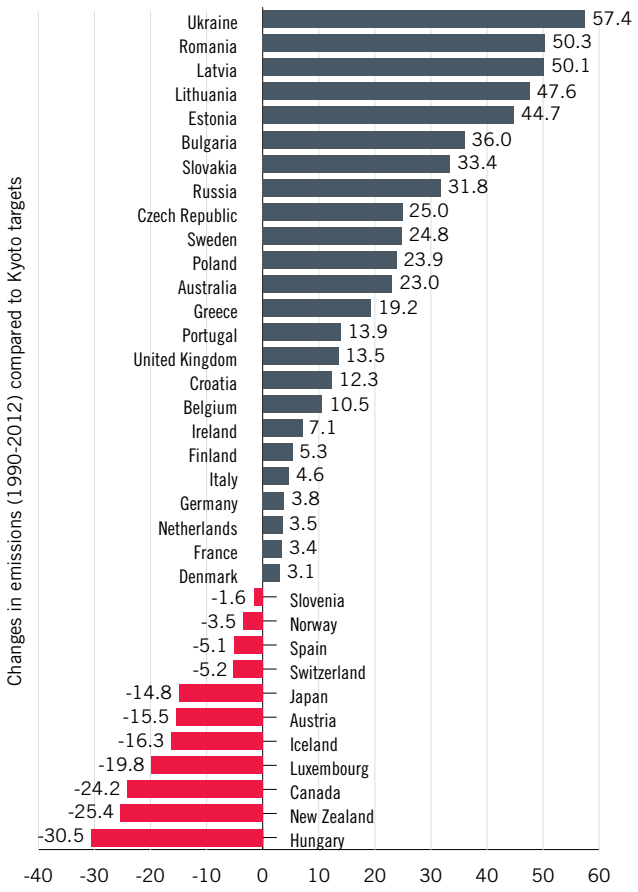
- Countries are required to set their own national targets to reduce greenhouse gas emissions (GHGs).
- The targets are not legally binding but countries are expected to provide regular updates and track progress.
- Countries have also agreed to update targets every five years to set more ambitious targets (based on scientific evidence).

Canada's submitted target: **GHG emissions 30% below 2005 levels by 2030**

to emission reduction targets. Within the protocol, countries negotiated different targets. Some, like Australia, negotiated emissions increases while others, like Canada, agreed to significant cuts. The average target was a cut of approximately five per cent relative to 1990 levels by 2012.

Figure 1 shows that Canada is among several countries that did not live up to the commitments made in the Kyoto Protocol.[9]

FIGURE 1: KYOTO SUCCESSES AND FAILURES



Source: UNFCCC and Canada West Foundation

It is not clear that this time will be any different.

Even if all countries do meet their targets, global temperatures will not be held 2 C below pre-industrial levels

The United Nations Framework Convention on Climate Change (UNFCCC) calculates that the sum of all pledges made in Paris would hold temperatures to 2.7 C above pre-industrial levels.[10] So, even if all the signatories to the Paris agreement achieve their pledged emission reductions, the world would still be 12,000 Megatonnes (Mt) short of what is needed to meet the 2 C target. To put it another way: To eliminate the gap, Africa, the Middle East, South America, Central America and North America would need to eliminate all of their emissions. Figure 2 illustrates that gap – and shows just how much farther Paris signatories will have to stretch to meet the Paris targets.

Canada will struggle to meet its commitments

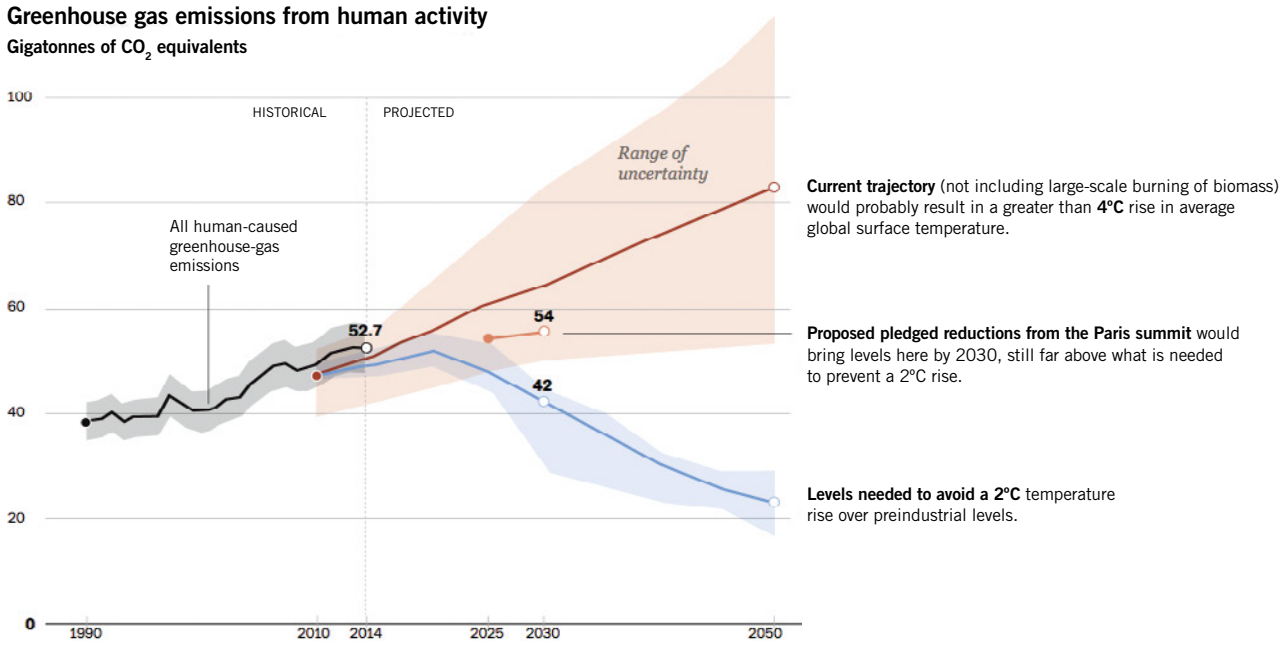
Figure 3, with numbers released by Environment and Climate Change Canada, outlines the depth of the task that Canada faces.

The high case shows emissions increasing to 875 Mt of carbon dioxide equivalent (CO_2e) by 2030 and the low case shows emissions rising slightly to 765 Mt of CO_2e by 2030. The targets Canada committed to in Paris appear as the black squares near the bottom of the chart.

Given the medium growth scenario, between now and 2030 (less than 15 years), Canada must reduce its total emissions by 291 Mt. The situation looks a bit better when we consider that this chart only accounts for actions taken by governments, consumers and businesses that were in place by September 2015. This means that the projections do not include Alberta's new climate strategy or Ontario's cap-and-trade plan.

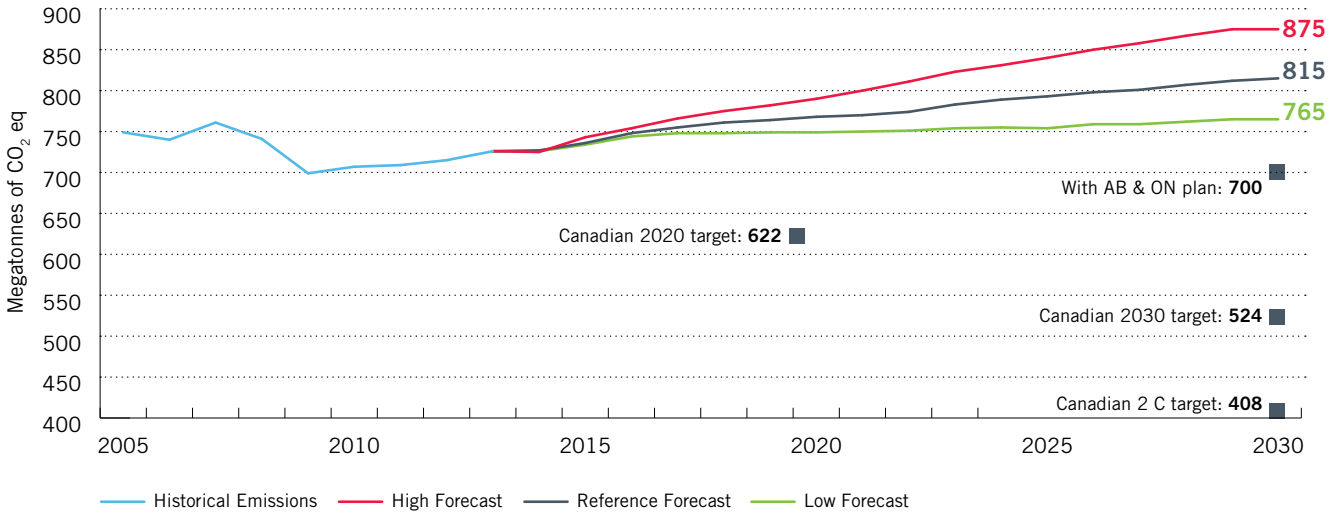
The plan outlined in Alberta's Climate strategy is supposed to reduce emissions by 50 Mt by 2030. Ontario's cap-and-trade plan is expected to help reduce emissions and meet the province's 2030 target (66 Mt). The two largest emitters will get us closer to the 2030 target but will leave us at least 175 Mt short of the target. There is little question a task this big will take serious commitment from government, along with the co-operation of industry and individual Canadians.

FIGURE 2: GHG EMISSIONS AND PARIS COMMITMENTS TO 2030



Source: United Nations Environment Programme

FIGURE 3: CANADA'S GHG EMISSIONS PROJECTIONS AND TARGETS (2020 AND 2030)



Source: Environment and Climate Change Canada and Canada West Foundation

THE FEDERAL GOVERNMENT IS COMMITTED TO
MEETING PARIS TARGETS

A committed federal government

The climate talks in Paris were a big win for the Trudeau government on the international stage. The Government of Canada made a show of its new approach to international co-operation. Canada had 383 delegates – more than double the U.S. delegation and almost as many as the host country France (396). And, our new prime minister, Justin Trudeau, triumphantly announced to the world that "Canada is back," a pronouncement greeted with relief in the global environmental community.[11]

Catherine McKenna, Minister of Environment and Climate Change, reaffirmed the former government's climate target – 30 per cent below 2005 levels by 2030. She said it would form the new floor and Canada would strive to do more.

It would be easy to dismiss her comments. After all, successive Canadian governments, regardless of political affiliation, have tended to ignore such targets upon their return to Canada. This time it seems different. The Trudeau government campaigned on a platform that meticulously differentiated it from previous governments. This strategy was in plain view with respect to the environment: "We will end the cycle of federal parties – of all stripes – setting arbitrary targets without a real federal, provincial and territorial plan in place."[12]

Since its election in October 2015, the Trudeau government has set out to develop a real plan. Environment ministers met in Ottawa in January 2016 to get the discussion started and first ministers met in Vancouver on March 3, 2016, to set out the path toward a Pan-Canadian Climate Strategy. First ministers set themselves an aggressive deadline of having a plan in place by the end of 2016.

Navigating the Constitution

Federal government action on climate change is complicated by the division of powers as set out in the Constitution of Canada. The Constitution divides jurisdiction over environmental matters between the federal government and provincial governments. Canadian courts have upheld this concurrent jurisdiction in a long list of cases. Generally speaking, provinces derive their authority over the environment from their powers over property, natural resources, local government and public lands. The federal government's jurisdictional claim stems from its authorities relating to criminal law, navigation, fisheries, interprovincial and international trade and its general power to ensure "peace, order and good government." This sets up a natural tension between levels of government when it comes to legislating about the environment.

Trudeau has addressed jurisdictional tensions by indicating that he will respect provincial jurisdiction. He should be commended for saying consistently that his government will allow provinces to chart their own path to emission reductions. In 2015, before he was prime minister, Trudeau gave a speech at Calgary's Petroleum Club where he said: "…(W)e will set a national standard in partnership with provinces and territories, one that gives them the flexibility to design their own policies to achieve those targets, including their own carbon pricing policies."[13] First ministers formalized this vision in March 2016 when they signed the Vancouver Declaration on Clean Growth and Climate Change (Vancouver Declaration).[14]

Since taking office, Trudeau has demonstrated very deliberately that he intends to work collaboratively with the provinces; it is a welcome development. Nevertheless, a skeptic – particularly a skeptic who grew up in a West steeped in the strong sentiment of western alienation – would be forgiven for harbouring suspicion about the federal government's intentions. In early 2016, the federal government fuelled that suspicion.

Federal government finds a hammer

On January 27, 2016, Jim Carr, Minister of Natural Resources Canada (NRCan), and Catherine McKenna, Minister of Environment and Climate Change, stood together to announce an interim approval process that applies to pipelines and an LNG terminal under regulatory review; they announced that federal government decisions on these projects will now consider upstream oil and gas emissions. In practice, this means that the federal government has a hammer it could use to keep western provinces in line.

The federal government can now refuse to permit a pipeline or LNG facility if it determines that B.C., Alberta or Saskatchewan has not done enough to reduce upstream GHG emissions. The western skeptic may well worry that the federal government has created a backdoor into provincial jurisdiction over the environmental management of projects – jurisdiction that has been guarded jealously by provincial governments for years.

To be fair, there is nothing in the federal government's conduct to suggest that it intends to use this hammer, but, subject to litigation, it is now available.

THE NAIL THAT STICKS UP
GETS HAMMERED

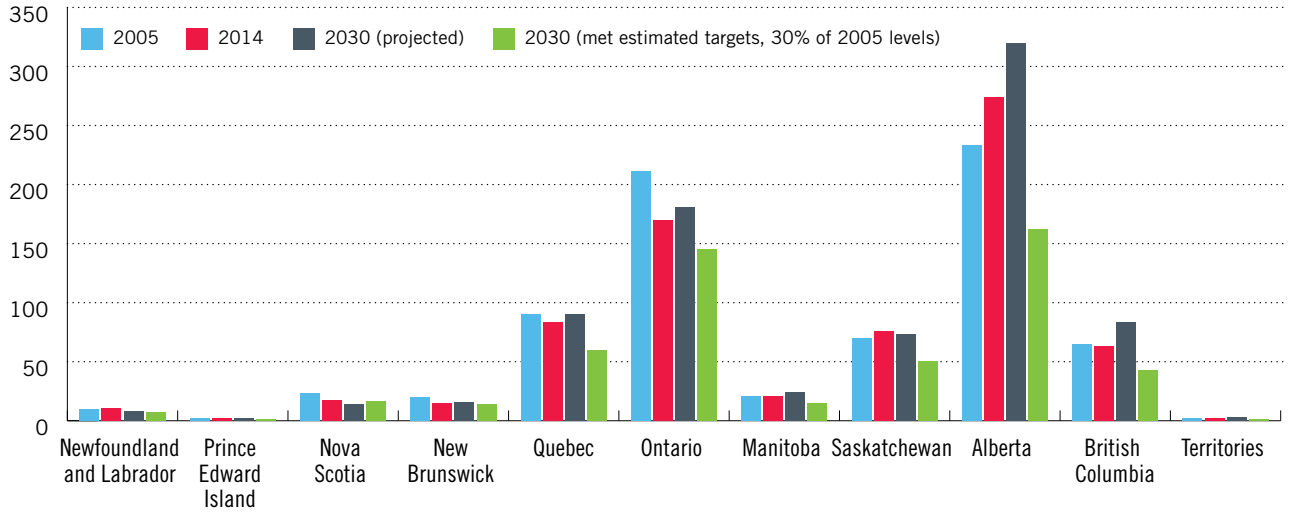
There are three main ways to address the emission reduction issue: (1) from a sectoral perspective, (2) from a jurisdictional perspective, and (3) from an efficiency perspective. The sectoral approach is helpful in showing which parts of the economy emit the most GHGs; it helps us to segregate emissions and better determine where action is necessary. The jurisdictional approach is helpful because it situates emissions in the appropriate political context to be acted upon. The efficiency perspective is helpful because it cuts across jurisdictions and sectors in search of the lowest cost emission reductions. There is value in each approach. Yet, no matter how we slice it, there is no escaping the conclusion that the bulk of emission reductions will have to come from the West.

The proverbial hammer

It is not surprising, given Canada's history, that the debate about a pan-Canadian climate strategy is rife with jurisdictional tension about who should bear the burden. There is an old Japanese proverb: *The nail that sticks up gets hammered*. This proverb usefully illustrates the risk the West faces if Canada does not meet its international commitments and a determined Ottawa goes looking for more emissions reductions.

Environment and Climate Change Canada calculates the top five emitters in Canada accounted for 91 per cent of Canada's national total GHG emissions of 732 Mt CO_2e in 2014.[15] Figure 4 shows Alberta, Ontario, Quebec, British Columbia and Saskatchewan are the nails that stick up.

FIGURE 4: PROVINCIAL AND TERRITORIAL GHG EMISSIONS: 2005 TO 2030 (Mt CO_2e)



Source: Environment and Climate Change Canada and Canada West Foundation

PROVINCIAL EMISSIONS TARGETS **Provinces have committed to reducing GHG emissions. A broad range of targets and plans exist across the country.**

BRITISH COLUMBIA

Target: 40% below 2007 levels

Projected 2030 emissions: **83 Mt**
Target 2030 emissions: **40 Mt**

Climate Leadership Panel Report (2016)

SASKATCHEWAN

Target: SaskPower's emissions 40% below 2005 levels

Projected 2030 emissions: **73 Mt**
Target 2030 emissions: **66 Mt**

SaskPower renewable energy target (2015)

MANITOBA

Target: 30% below 2005 levels

Projected 2030 emissions: **24 Mt**
Target 2030 emissions: **15 Mt**

Cap and Trade system, announced (2015)

ONTARIO

Target: 37% below 1990 levels

Projected 2030 emissions: **181 Mt**
Target 2030 emissions: **115 Mt**

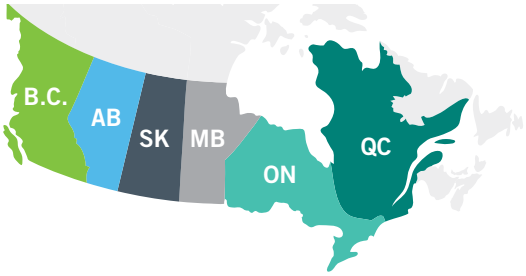
Climate Strategy and Cap and Trade system (2015)

ALBERTA

Target: 50 Mt by 2030

Projected 2030 emissions: **320 Mt**
Target 2030 emissions: **270 Mt**

Climate Leadership Panel (carbon tax and coal electricity phase-out) (2015)



QUEBEC

Target: 37.5% below 1990 levels

Projected 2030 emissions: **90 Mt**
Target 2030 emissions: **56 Mt**

Cap and Trade system (2012)

Alberta

In total GHG emissions terms, Alberta sticks up the highest, having emitted 274 Mt in 2014. Alberta's situation is exacerbated by the fact that it is one of only a handful of provinces in which emissions are projected to increase by 2030, primarily as a result of increased emissions from oil and gas production.[16]

Alberta's new *Climate Leadership Plan*, which includes a $30/tonne carbon price, is expected to deliver additional emission reductions of 50 Mt by 2030, 40 Mt of which will come by eliminating the use of coal-fired electricity.[17] While a 50 Mt reduction is significant (more than all emissions in Atlantic Canada combined), it will only get Alberta back to 2014 levels and nowhere near 30 per cent below 2005 levels. Alberta will need to find an additional 100 Mt to eliminate if it is to do its share to get Canada to the Paris targets.

Ontario

Ontario also sticks up, having emitted 170 Mt in 2014. Yet Ontario has taken significant action already, including retiring all coal-fired electricity, and has reduced its emissions 19 per cent below 2005 levels. Moreover, it has an aggressive target to eliminate an additional 66 Mt by 2030 which puts it on target to reduce emissions more than 30 per cent below 2005 levels. Put simply, Ontario will be able to argue persuasively that it has done its part to meet Canadian targets, even if it has been at great cost to the provincial economy[18] (and, indirectly, the national economy through equalization and other fiscal transfers).

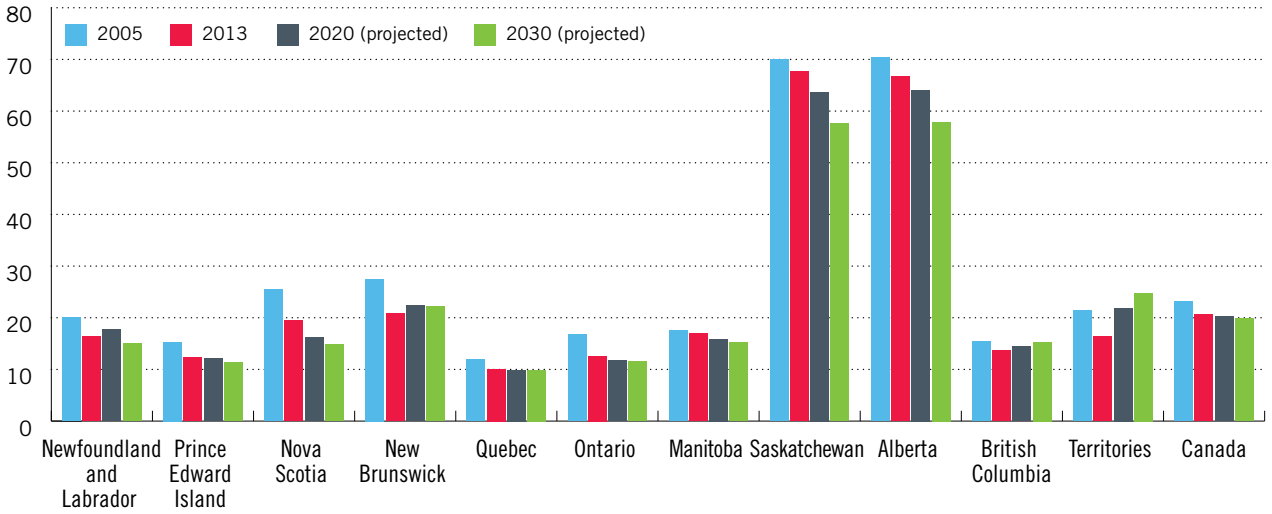
Quebec

Quebec, like B.C. and Manitoba, relies on hydroelectric energy sources to produce power. Hydroelectric power is a huge advantage in that it is emission-free. Quebec has also implemented a cap and trade system covering 85 per cent of its emissions; this has helped decrease provincial emissions by eight per cent (7 Mt) since 2005. The province intends to reduce emissions by an additional 27 Mt (or 30 per cent) by 2030.

British Columbia

British Columbia is in an unusual spot. Provincial emissions are quite low (63 Mt in 2014) to begin with – primarily because 90 per cent of its power comes from hydro. The province has been able to reduce its GHG emissions by three per cent (2 Mt) since 2005, partly because it introduced a revenue-neutral carbon tax in 2008.[19] Despite this tax, B.C.'s emissions are expected to rise by 2030 – primarily as a result of increased emissions associated with building a liquefied natural gas (LNG) industry. For example, the Pacific Northwest LNG terminal[20] itself would add an estimated 5.3 Mt of emissions per year.[21]

FIGURE 5: PROVINCIAL AND TERRITORIAL PER CAPITA GHG EMISSIONS: 2005 TO 2030 (T/CAPITA)



Source: Environment and Climate Change Canada, 2016

Saskatchewan

Saskatchewan also sticks up; provincial emissions were 76 Mt in 2014. When total GHG emissions are viewed on a per capita basis, the Saskatchewan nail sticks up as high as Alberta.[22] As such, Saskatchewan represents a big emission reduction opportunity.

In November 2015, SaskPower – a provincial Crown Corporation – announced a target of doubling the amount of renewable electricity generation capacity in the province by 2030, from one-quarter to one-half of the total. The government estimates that this will reduce SaskPower's GHG emissions by 40 per cent below 2005 levels – or 7 Mt.[23]

Be proactive to manage risk

Ottawa has given assurances it will respect provincial jurisdiction, but this could change if Canada fails to make significant emissions reductions and we fail to meet our international commitments. The risk of not meeting our targets is significant. Even if the five biggest emitting provinces all meet their 2030 targets, Canada will not meet its Paris commitment. Canada will have eliminated 200 Mt of emissions but will still be 91 Mt short of Canada's Paris targets and 207 Mt less than it would take to meet Canada's share of 2 C target.

The West would be wise to work together to develop a common strategy for reducing emissions while inoculating itself against the risk of onerous emissions reduction programs designed in Ottawa.

GHG POLICY SHOULD REDUCE EMISSIONS,
NOT MOVE THEM

Global focus required

There is a compelling argument that Canada should be focused on reducing global emissions. After all, if our goal is to limit global temperature increases to well below 2 C, then the single most important thing we can do is eliminate or capture emissions at source in China and India. Take India, for example. At a glance, its contribution of 6.6 per cent to global emissions does not appear overly significant. In fact, it produces only three times as much as Canada – and we are not a big contributor at two per cent. Yet, since 2001, India's carbon emissions have increased by 72 per cent. In Canada, our economy grew by 24 per cent between 2005 and 2014, but our GHG emissions decreased – by 2 per cent.[24]

Then there is China, which emits more carbon each year than the U.S. and Canada put together – almost twice as much. China's carbon emissions have increased by 158 per cent since 2001.[25] In the past decade, its average annual growth in emissions has been eight per cent. While nearly 70 per cent of China's coal-fired plants were built in the last 10 years, it has started to address this issue; it has suspended approvals of new coal plants in 15 provinces and aims to eliminate as much as 500 million metric tons of annual coal output in three to five years.[26] Nevertheless, increases in emissions from China and India are the largest source of increases in global emissions.

This is not an argument for doing nothing in Canada; that ship has sailed. It is an argument for designing emission reduction systems that are not aimed solely at reducing emissions at home, especially if those emissions will simply shift, or leak, to other jurisdictions.

Carbon leakage and EITE sectors

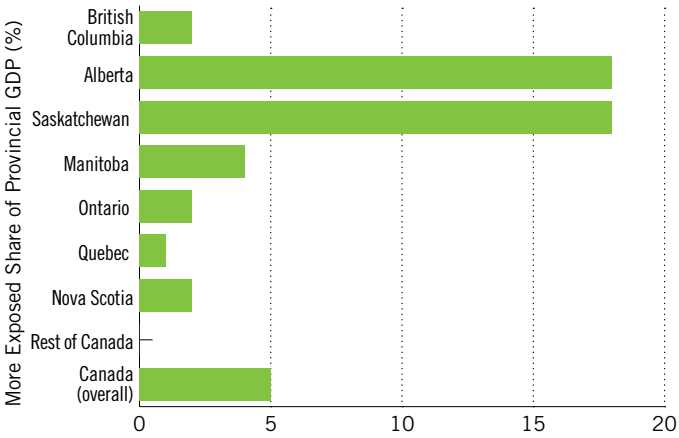
Carbon leakage satisfies no one. The term describes the "leakage" of emissions, economic activity and jobs to jurisdictions with weaker environmental regulation. Leakage amounts to a shift in investment and occurs if international competitors are not subject to equivalent environmental standards (i.e., a carbon pricing regime). In such cases, all else being equal, global emissions actually increase (or at least do not decrease) because firms relocate to produce at a lower cost (i.e. without the cost associated with a carbon price). Leakage undermines the effectiveness of environmental policies, as global emissions do not decrease but rather simply shift to outside the jurisdiction's borders.

The big dilemma is what to do with sectors that have high emissions but compete for investment against jurisdictions with weaker environmental regulations. This is a problem everywhere but, as data from Canada's Ecofiscal Commission points out, it presents a particular challenge in the West.

EMISSIONS INTENSITY: *a measure of GHG emissions (direct and indirect) produced by the sector divided by the value of shipments. Indirect emissions (from electricity used by the sector) are important in the calculation of emissions intensity for provinces that rely on coal-fired electricity generation (like Alberta and Saskatchewan).*

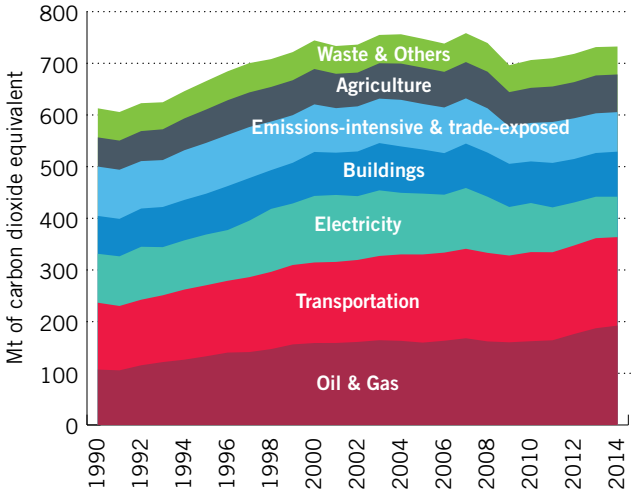
TRADE EXPOSURE: *the extent to which Canadian firms in a particular sector compete with firms operating elsewhere. It is calculated by dividing total exports and imports by the value of production plus imports.*[27]

FIGURE 6: COMPETITIVNESS PRESSURES FOR CANADIAN PROVINCES, 2015



Source: Canada's Ecofiscal Commission

FIGURE 7: GREENHOUSE GAS EMISSIONS BY ECONOMIC SECTOR, 1990-2014, CANADA



Source: Environment and Climate Change Canada, 2016

This means that Alberta and Saskatchewan have more at stake when designing emission reduction plans. Any system they create must protect nearly 20 per cent of its economy that is highly exposed to competition. Moreover, emissions-intensive electricity grids in each province means a carbon price would lead to higher electricity costs.

Yet, since more than one-third of Canada's emissions are Emissions Intensive and Trade Exposed (EITE) (i.e. oil and gas, non-oil and gas mining, smelting and refining, pulp and paper, iron and steel, cement, lime and gypsum, chemicals and fertilizer), reductions in these sectors are essential. Figure 7 starts to tell the story.

In Figure 7, Environment and Climate Change Canada breaks oil and gas out of the EITE sector, probably because oil and gas compose such a big percentage of total emissions. When oil and gas (which represents 26 per cent [192 Mt] of Canadian emissions) is combined with the EITE sector,[30] it accounts for more than one-third of all Canadian emissions.

If Canada is to meet its international emissions reduction commitments, something has to be done about the EITE sector. Alberta's new climate strategy provides a good example of how to thread the needle.

COMPETITIVENESS PRESSURES ARE REAL.

The U.S. has transformed from Canada's biggest oil and gas customer to our biggest competitor. In 2014, the U.S. became the world's biggest producer of oil. U.S. production has increased by four million barrels per day in four years (something it took Alberta 70 years to do).[28] It has also built 8,000 miles of pipe in the U.S. in last five years.[29] So, for example, Saskatchewan cares whether competitors like North Dakota and Texas price carbon, not whether Prince Edward Island and Ontario do. The harsh reality is that most of Saskatchewan's energy producing competitors do not price carbon.

Firms in the EITE sector will pay a carbon tax of $30/tonne. In a nod to competitiveness, the government will rebate some of the tax revenue back to these firms. The genius of the plan is that it injects competition into the mix at the firm level by recognizing "top quartile" performance. This means that the top 25 per cent will gain an advantage over the bottom 75 per cent; because the bottom 75 per cent of firms will pay more in carbon taxes than they receive in rebates, there is an incentive to perform better than one's peers.

Western goals can be achieved through a well-designed carbon price

Carbon pricing is one market-based, cost-effective[31] tool. Putting a price on carbon emissions sends an economic signal to emitters, which creates an incentive to curb emissions and to invest in and adopt clean technologies.

Canadian provinces have instituted distinct carbon pricing policies.[32] Three provinces – B.C., Alberta and Quebec – have implemented policies that put a price on GHG emissions. A fourth, Ontario, announced in 2015 that it will link with Quebec's system. In Manitoba, the former Selinger government committed the province to developing a cap and trade system along with Quebec, Ontario and California. The position of the newly elected Manitoba government on this issue is unclear but the PC Party platform mentions pursuing carbon pricing that fosters emissions reductions and keeping capital in the province.[33]

Saskatchewan has resisted a carbon price because it has a technology-focused GHG reduction strategy and it wants to maintain a strong competitive position.

Always the innovator, Saskatchewan has prioritized technology fixes aimed at reducing global emissions. For example, the province invested heavily in the Boundary Dam Carbon Capture and Storage (CCS) Demonstration project, a clean coal project near Estevan, Saskatchewan. The idea is that a successful project would become a viable emissions reduction tool for large, industrial emitters worldwide. If successful, it could be globally significant in that it could capture coal emissions at source in China and India. This technology focus is worth protecting and could remain a key element of Saskatchewan's environmental approach.

Despite making globally significant investments in technology, like CCS, Saskatchewan's story has not fully gained the traction it deserves. Saskatchewan should consider pricing carbon. Carbon pricing can be designed to address, in whole or in part, carbon leakage and competitiveness concerns.

CARBON PRICING & TOOLS

Carbon pricing works by placing a dollar value (or price) on each tonne of CO_2-equivalent emitted, thus increasing the cost of polluting. This creates an economic incentive for firms and individuals to reduce their emissions, or to invest in the research and development of more energy-efficient and environmentally friendly technologies.

Carbon can be priced in a variety of ways to achieve reductions in GHG emissions. Most carbon pricing systems in the world are a hybrid of the following models:

Carbon taxes

A carbon tax places a direct price on carbon emissions through the institution of a tax rate (dollar amount) on each unit of CO_2e emitted. Governments often use the revenue generated by a carbon tax to finance other environmental initiatives, invest in programs to research and develop green technologies, or lower other taxes, such as personal and corporate income taxes. To the extent that the price of one tonne of CO_2e in a carbon tax system is equivalent to the tax rate, carbon taxes provide price certainty. However, the total volume of emissions generated within the system will fluctuate based on the response of firms and individuals to the tax.

Cap-and-trade or emissions trading systems

Cap-and-trade schemes set a cap on the total level of permitted GHG emissions within a system. Each tonne of CO_2e accounted for within the system, as determined by the cap, represents a permit or an allowance, which the regulatory body distributes among participating firms. The regulator can issue these allowances free of charge and sell them at auctions. Firms that pollute below their allowance limit can sell (trade) any excess allowances to firms that emit in excess of their cap. This creates a market that determines the price of CO_2e emissions. When the market price for allowances – the carbon price – is greater than the cost of emissions abatement, firms will take steps to reduce emissions, so as to avoid purchasing additional allowances. However, if the cost of allowances is lower than that of abatement, firms will purchase additional allowances to meet compliance standards. While the price of carbon fluctuates in a cap-and-trade system based on the market price for allowances, the total level of emissions generated by participating firms is certain.

PLAYING BALL WITH OTTAWA

Federal government

Ottawa is keen to reduce emissions at home. Much of the talk leading up to the March 2016 First Ministers Conference in Vancouver was about whether Ottawa would impose a $15/tonne carbon price on provinces. At the close of the meeting, first ministers released the Vancouver Declaration in which they agreed "to transition to a low carbon economy by adopting a broad range of domestic measures, including carbon pricing mechanisms, adapted to each province's and territory's specific circumstances."

A closer look at the Vancouver Declaration, which is really a framework for how the federal government wants to tackle emissions, reveals a strong focus on emission reductions in the electricity and transportation sectors.[34] For example, the Government of Canada committed to taking early action on public transit infrastructure, regional plans for electricity transmission and advancing the electrification of vehicle transportation.

This makes some sense. After all, emission reductions are not created equal. When some emissions are eliminated, they are gone forever. This is the case with transportation, electricity and emissions from buildings. When a combustion vehicle is replaced by an electric car (assuming the electricity comes from a clean source), those emissions are wiped out. The choice to drive an electric vehicle also has a real effect on oil and gas emissions because it reduces demand for petroleum, which means petroleum won't be produced unless demand increases elsewhere.

While Canadians should be concerned about Ottawa spending money it does not have, the West should welcome federal investment to reduce emissions. The West should play ball with Ottawa to eliminate emissions from electricity, transportation and buildings.

A clean, low-cost electricity grid will be a key driver of economic success

Canada starts from a position of strength on electricity; our grid is one of the cleanest in the world. It ranks first in the G7 for renewable electricity generation and second, behind France, for electricity generated from non-emitting sources.[35] Almost 80 per cent of our electricity is generated by non-emitting sources, driven by a combination of hydroelectricity resources (B.C., Manitoba and Quebec), nuclear (Ontario) and growing renewables across the country.

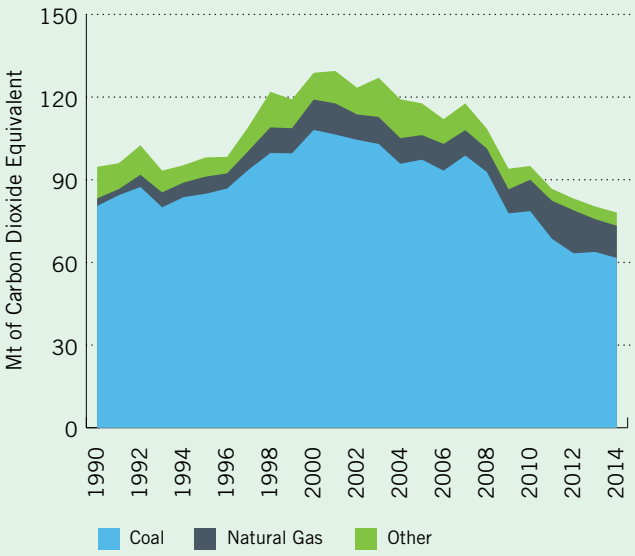
FIGURE 8: ELECTRICITY GENERATION IN CANADIAN PROVINCES

British Columbia	Hydro **90%**	Nat Gas **10%**		
Alberta	Coal **55%**	Nat Gas **35%**	Wind **4%**	Hydro **2%**
Saskatchewan	Coal **32%**	Nat Gas **40%**	Hydro **20%**	Wind **5%**
Manitoba	Hydro **98%**			
Quebec	Hydro **99%**			
Ontario	Nuclear **62%**	Hydro **20%**	Wind **10%**	Gas **5%**
Newfoundland	Hydro **80%**	Diesel, Nat Gas, Oil **15%**		
Nova Scotia	Coal **56%**	Wind **14%**	Gas **14%**	Hydro **10%**
New Brunswick	Imports **41%**	Nuclear **25%**	Oil, Coal, Diesel **27%**	Hydro **13%**
PEI	Imports **85%**			
Yukon	Hydro **95%**			
NWT	Hydro **75%**	Diesel **22%**		
Nunavut	Diesel **100%**			

Source: Canada West Foundation

Yet, the sector still contributes 11 per cent of Canada's GHG emissions. The vast majority of these emissions come from coal (66.6 Mt) with natural gas emissions (11.7 Mt) coming a distant second.

FIGURE 9: ELECTRICITY SECTOR GHG EMISSIONS, 1990-2014



Source: Environment and Climate Change Canada, 2016

Electricity emissions is primarily a western story. Coal supplies 55 per cent of electricity in Alberta, 32 per cent in Saskatchewan and 56 per cent in Nova Scotia. The electricity sectors account for 17 per cent of Alberta's and 21 per cent of Saskatchewan's total provincial emissions. Displacing conventional coal in these two provinces will have a significant impact on electricity sector emissions.

Alberta

Alberta's *Climate Leadership Plan* mandates the retirement of coal facilities in the province by 2030. The government has indicated that two-thirds of the coal will be replaced by renewables and one-third can be replaced by natural gas. The big challenge that Alberta faces is ensuring that the grid remains both reliable and affordable.

Saskatchewan

Saskatchewan has focused on the cost competitiveness of its grid but it also has a plan to reduce emissions.

In November 2015, SaskPower – a provincial Crown Corporation – announced a target of doubling the amount of renewable electricity generation capacity in the province by 2030, from one-quarter to one-half of the total. The core of the plan is to increase the use of wind power share of electricity generation from five per cent to 30 per cent. There is also a plan to bring an additional 170 MW of hydroelectricity power from Manitoba (four per cent of current generating capacity in Saskatchewan).

Transportation emissions are a big prize

In 2014, half of Canada's emissions came from two highly connected sectors – oil and gas (26 per cent or 192 Mt) and transportation (23 per cent or 171 Mt).[36] As indicated previously, significant reductions in transportation emissions will reduce emissions in both of these sectors and across all regions of the country. Moreover, a focus on transportation emissions has the added benefit of more deliberately drawing the linkages between individuals choices and the emissions they generate.

In 2010, after the U.S. introduced regulations to reduce tailpipe pollution, the previous federal government announced new fuel economy rules in an effort to develop common North American standards. These rules were broadly based on the Quebec and California model and forecast a reduction of 28 billion litres of fuel consumed between 2011 and 2016.[37]

Going a step further, the current federal government seems keen to advance the use of electric vehicles (EVs). It recently committed to "advance the electrification of vehicle transportation, in collaboration with provinces and territories."[38] In the last federal election, the Liberal Party of Canada promised it would add "electricity storage technologies and electrical car charging stations to the list of investments that are eligible for accelerated capital cost allowance" and work with provinces and companies to attract clean technology companies and investment.[39]

Widespread adoption of electric vehicle technology would drive up the demand for electricity. Consequently, emissions reduction benefits would not be fully realized unless the electricity used to charge them comes from non-emitting or low-emitting sources.

The widespread adoption of electric vehicles is likely to be a lengthy, and costly, transition. In 2015, 6,993 EVs were sold in Canada,[40] accounting for less than 0.4 per cent of new vehicle sales.[41] In Canada, the majority of new car purchasers are choosing gasoline-fueled cars, which will stay on the road an average of 10 years. Purchasing trends are unlikely to change until the electricity grid is cleaner and EVs are better able to compete on a performance and cost basis.

FIGURE 10: CANADA'S TRANSPORTATION SECTOR EMISSIONS BY PROVINCE

Source: Environment and Climate Change Canada and Canada West Foundation

Cities, buildings and energy efficiency

While mostly confined to the energy consumed within their borders, cities play a key role in energy management. Cities in western Canada have several initiatives to address energy management but there is room for growth. Given the overlap between urban energy management and broader GHG reduction targets, complementary goals can be achieved. The Canada West Foundation has done work to detail what cities can do to ensure effective energy management. See *Buildings, Bicycles and 'Burbs* (2014), and *Walkin' the Walk* (2015).[42]

Buildings matter. A number of federal programs address emissions in the building sector, such as the ecoENERGY Efficiency programs. While the implementation of building codes is the responsibility of the provinces and territories, the federal government has a model national energy code that each province can adapt to their own circumstances. The 2016 federal budget provided $128.8 million over five years to support energy efficiency programs related to buildings, industry and vehicles. Additionally, ahead of the G7 energy ministers meeting in Japan, the federal government announced stricter regulations on a number of household and commercial products to reduce energy consumption and align standards with the U.S.

In addition to building codes, provinces and territories are implementing additional measures to improve energy efficiency.

Alberta

There is real opportunity to improve energy efficiency in Alberta. The following map – from 2014 – shows North American energy efficiency budgets; Alberta really has not made much of an effort on this front. This is set to change, as Alberta's latest budget includes $645 million over five years on an energy efficiency program. This takes Alberta from the bottom to the middle of the provincial pack in terms of energy efficiency funding at $30.71 per capita.[43]

British Columbia

Buildings represent 11 per cent of the provinces' GHG emissions. BC Hydro's Power Smart program provides advice, rebates and incentives to residential and business customers, saving 4,334 GWH of energy in fiscal 2015.[44] The B.C. government's *Climate Leadership* report recommends revisions to building codes, target programs for efficiency and enhanced standards for heating that the province can use to reduce building emissions by 50 per cent by 2030.[45]

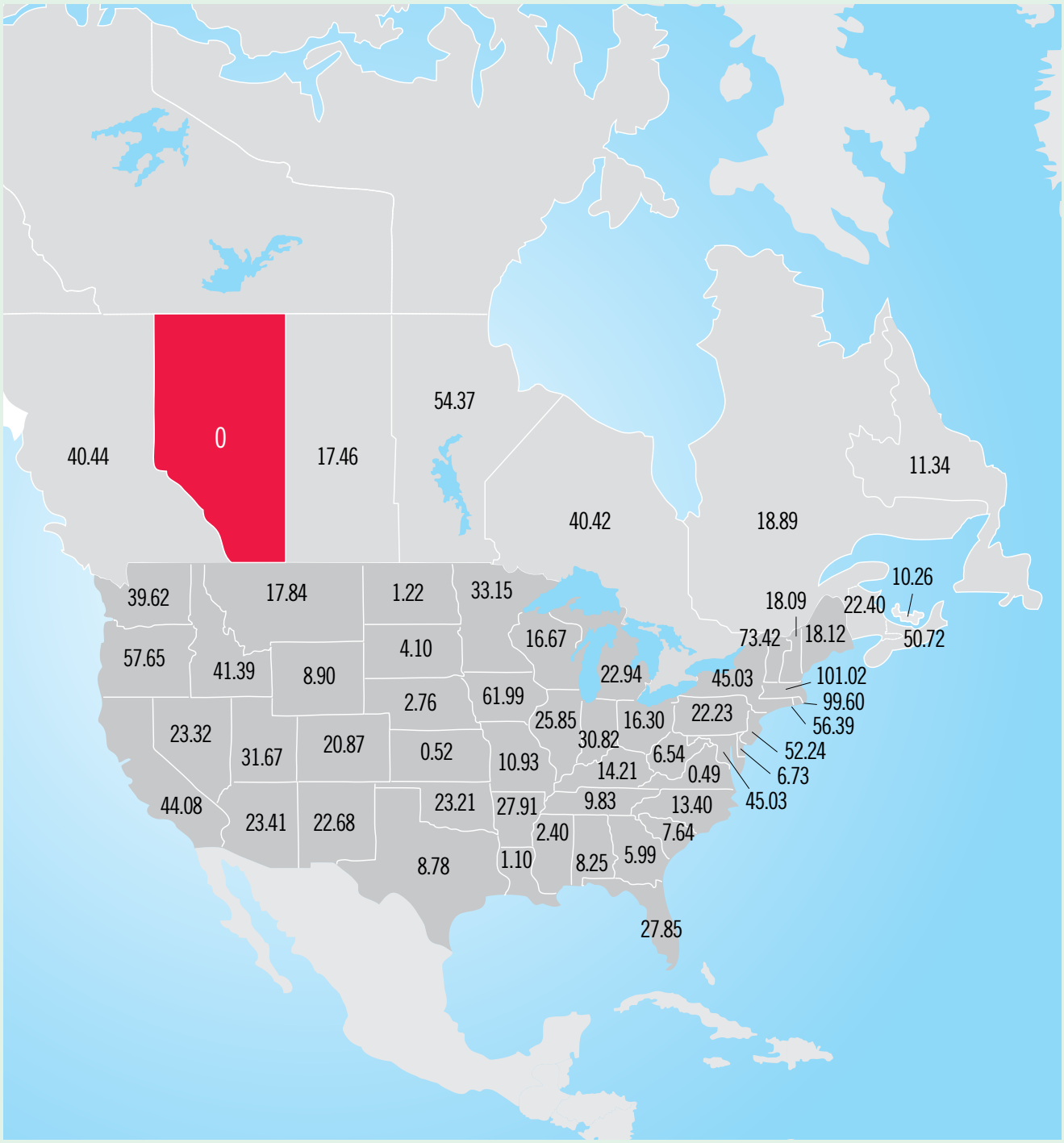
Manitoba

Manitoba Hydro has been leading the provincial support for energy efficiency programs. The Manitoba Hydro Power Smart program is recognized as a successful energy efficiency program, resulting in total savings of $228 million for consumers and more than 767,000 tonnes of GHG emissions.[46]

Saskatchewan

SaskPower delivers energy efficiency programs on behalf of the Government of Saskatchewan. Over time, SaskPower has introduced several incentives for consumers and businesses to adopt energy efficiency programs. However, critics maintain that more can be done. The Saskatchewan Environmental Society has recommended that Regina and Saskatoon adopt more ambitious efficiency standards for new construction, industrial operations and vehicles.[47]

FIGURE 11: $ PER CAPITA ENERGY EFFICIENCY PROGRAM BUDGETS IN NORTH AMERICA, 2014



Source: Alberta Energy Efficiency Alliance (USD for states and CAD for provinces)

Conclusion

As we move toward a pan-Canadian climate strategy, the West appears fractured – with competing interests and different ideologies that make a regional approach no easy task. There is a precedent of building an alliance based on mutual interests, when the four western premiers came together for the Western Economic Opportunities Conference (WEOC) in 1973. Today, the same kind of collaboration is necessary.

The Trudeau government is committed to meeting its Paris targets – a very difficult task. Trudeau has said his government will respect provincial jurisdiction in the quest to reduce Canada's emissions. Nevertheless, since most of Canada's emissions come from the West, western premiers should prepare for the day when Ottawa goes looking for more emissions reductions.

This is not a protectionist call to do nothing. Rather, it is a call for the West to take advantage of the opportunity to design its own climate policies, before Ottawa comes knocking. The West should develop a coherent and ambitious plan for reducing global emissions without simply sending emissions, jobs and investment elsewhere. The West will emerge successful if provinces maintain an unwavering focus on cost and competitiveness.

RECOMMENDATIONS

Western premiers should:

01 **BURY THE HATCHET.** They should follow the example set by premiers at WEOC and work together to advance western interests.

02 **BE PROACTIVE TO AVOID SIMPLY MOVING EMISSIONS ELSEWHERE.** The economies of our westernmost provinces are more energy-intensive and trade-exposed than those in other provinces. Since the West's energy intensive industries compete internationally for market share, it makes little sense to treat their emissions the same as emissions that do not face international competition. If costs increase for firms operating here and cost do not increase in competing jurisdictions, then the West risk simply shifting emissions and jobs to other places – a result that should satisfy no one. Yet, that does not mean western provinces should do nothing. Doing nothing will bring additional political pressure from a determined Ottawa. Rather, western provinces must take advantage of the opportunity to design systems that work for the West – systems focused on reducing global emissions while maintaining competitiveness.

03 **PLAY BALL WITH OTTAWA TO MAKE A MAJOR PUSH TO REDUCE CONSUMER-SIDE EMISSIONS.** Ottawa is keen to reduce emissions at home; it is focused on reducing emissions from electricity, transportation and buildings. Any plan to reduce emissions in these sectors must lean heavily on the West – where most of the emissions originate. Western premiers should encourage the federal government to focus its spending on projects with high emission reduction returns. One of the projects that deserves serious consideration is an integrated western electricity grid. The idea is not new but its time may have come. British Columbia and Manitoba have abundant hydro resources. Alberta and Saskatchewan are heavily reliant on coal and natural gas to generate electricity. An integrated grid would generate significant emission reductions and the hydroelectricity would be a welcome replacement for coal in Saskatchewan and Alberta, from a reliability perspective. It may also prove to be the missing piece that gets oil to tidewater and growing Asian markets. The big question that needs more examination is how much this will cost and whether it is an efficient use of federal dollars aimed at reducing emissions.

ENDNOTES

[1] Canada West Foundation, Ottawa and the West: Reflections on the Western Economic Opportunities Conference of 1973, p. 11.

[2] David G. Wood, The Lougheed Legacy, p. 108.

[3] Ibid

[4] Premiers Lougheed and Blakeney developed a very strong relationship and famously put it to good use in Constitutional negotiations in 1981.

[5] In *Patchwork Pollution Solution: Stitching together a Canadian climate plan*, the Canada West Foundation argued this kind of a decentralized approach may work.

[6] Globe and Mail, Ottawa seeks to set national minimum on carbon pricing, February 17, 2016.

[7] Carbon Brief, Paris 2015: Tracking Country Climate Pledges. It is important to note that these are not binding commitments – meaning they are not enforceable.

[8] Temperatures have already increased by nearly 1C.

[9] Overall, some countries can claim success in meeting the Kyoto targets (as evidenced above) but many of these were linked to the collapse of eastern European economies and the broader global economic crisis.

[10] United Nations Framework Convention on Climate Change.

[11] Natural Resources Defense Council, "Paris Climate Agreement Explained," 2015. Canadian International Development Platform, "The Paris Agreement: Implications for Canada, 2015.

[12] Liberal Party of Canada, Climate Change. Available at https://www.liberal.ca/realchange/climate-change/

[13] Liberal Party of Canada. Available at http://www.liberal.ca/justin-trudeau-pitches-medicare-approach-to-fight-climate-change-in-canada/

[14] Vancouver Declaration on Clean Growth and Climate Change, 2016, p.3. Available at https://news.gov.bc.ca/files/Vancouver_Declaration_clean_Growth_Climate_Change.pdf

[15] Canadian Environmental Sustainability Indicators: Greenhouse Gas Emissions p. 12.

[16] The NEB Energy Supply and Production 2016, estimates that total energy production will grow substantially till 2040. This growth will be led by oil production (56 per cent increase from 2014) and natural gas production (22 per cent increase from 2014) and LNG exports.

[17] 40 Mt represents 15 per cent of Alberta's 2013 GHG emissions (and would reduce electricity's share of emissions from 17 per cent to 9 per cent of total Alberta emissions).

[18] Ontario Society of Professional Engineers.

[19] B.C.'s Climate Leadership Team released recommendations in November 2015. The report recommends a 2030 target pf a 40 per cent reduction below 2007 levels in order to stay on path to the 2050 goal. The B.C. government has decided to maintain the $30/tonne carbon tax noting that it is waiting for others to catch up.

[20] Pacific NorthWest LNG, Draft Environmental Assessment Report, 2016.

[21] Of course, LNG in B.C. is a big wild card -- and if no LNG projects go ahead on the west coast then B.C. will not have to worry too much about the trajectory of its emissions. B.C. has pledged to reduce emissions by 40 per cent below 2007 levels.

[22] It is important to note that Ontario and Quebec – Canada's two most populous and vote rich provinces – look particularly good on a per capita basis.

[23] The plan is to meet this target by increasing the use of wind power share of electricity generation from 5 per cent to 30 per cent. The province has also agreed to bring 170 MW of hydroelectricity power from Manitoba (4 per cent of current generating capacity in Saskatchewan).

[24] Statistics Canada and Environment and Climate Change Canada

[25] World Bank

[26] Global Coal Plant Tracker, 2016.

[27] Nicholas Institute, Protecting Energy-Intensive Trade Exposed Industry, 2009.

[28] U.S. Energy Information Administration, Petroleum and Other Liquids.

[29] Financial Post, America has built the equivalent of 10 Keystone Pipelines since 2010, November 2015.

[30] Emissions-intensive, trade-exposed (EITE) industries typically meet an average threshold for emissions intensity (5 per cent) and trade exposure (15 per cent) or very high emissions intensity (20 per cent). Environment and Climate Change Canada includes the following sectors in its definition of EITE: non-oil and gas mining, smelting and refining, pulp and paper, iron and steel, cement, lime and gypsum, chemicals and fertilizer.

[31] A cost-effective approach achieves emissions reductions at least cost.

[32] See *Patchwork Pollution Solution* for a detailed description of these systems.

[33] Manitoba PC Party, Better Plan for a Better Manitoba, 2016.

[34] Vancouver Declaration on Clean Growth and Climate Change, 2016.

[35] Natural Resources Canada, Energy Markets Fact Book – 2014 – 2015, p. 81.

[36] The transportation sector grew by 32 per cent between 1990 and 2014. Total passenger emissions grew by 15 per cent despite the fact that emissions from cars declined by 30 per cent. This is explained by the fact that emissions from light trucks (including trucks, vans and sport utility vehicles) increased by 123 per cent. Freight travel emissions also grew substantially – 123 per cent between 1990 and 2014. See Environment and Climate Change Canada.

[37] Globe and Mail, Ottawa follows U.S. lead on fuel-efficiency standards, April 2010.

[38] Communique of Canada's First Ministers, March 2016, http://pm.gc.ca/eng/news/2016/03/03/communique-canadas-first-ministers.

[39] 2015 Liberal Party Platform, https://www.liberal.ca/files/2015/08/A-new-plan-for-Canadas-environment-and-economy.pdf, p. 7.

[40] Electric Vehicle Sales in Canada: 2015 Final Numbers, http:www.fleetcarma.com/ev-sales-canada-2015/, February 2016.

[41] CBC News, "Canada sets new record for new vehicle sales in 2015," January 5, 2016.

[42] Canada West Foundation, Walkin' the Walk, 2015 and Buildings Bicycles and 'Burbs, 2014.

[43] Alberta Energy Efficiency Alliance, 2016.

[44] BC Hydro Annual report, 2015.

[45] Climate Leadership Team, Report to the Government, 2015, p.18.

[46] Government of Manitoba, Expanding Clean Energy and Energy Efficiency.

[47] Saskatchewan Environmental Society, 2016.

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