

Pembina Institute Report to Donors 2018



Highlights from the past year

With a lot of progress on climate action this year, it's been a busy time for the Pembina Institute. Our research and analysis has been focused on finding climate solutions, sharing this work with the public and advising decision-makers on policy implementation. Over the past 12 months we've seen our work deliver real results.

We hit the ground running in 2017 with the December 2016 announcement of the first truly national climate plan, the Pan-Canadian Framework on Clean Growth and Climate Change (PCF), which included many of the Pembina Institute's policy recommendations. Following the excitement of the PCF announcement, much of the last year has been spent rolling up our sleeves and advising government on effective solutions for implementation that achieve maximum emission reductions while ensuring economic growth.

This last year saw a continuation of our decades-long work to reduce the amount of methane — a powerful greenhouse gas and the primary ingredient in natural gas — in the atmosphere. This work included tracking progress, and providing advice on, the draft federal methane regulations that would eventually lead to the release of the world's first comprehensive and nationwide regulation of methane in April 2018. The advocacy work and scientific research of the Pembina Institute and our ENGO partners played a key role in positioning Canada as a global leader in methane regulation. We are continuing to work with provinces to ensure their methane regulations reach equivalency with the federal standards.

Much of our work in the last year has focused on maintaining momentum for carbon pricing in Canada — a key policy in the PCF. Pricing carbon is a proven method for efficiently and cost-effectively reducing carbon pollution while kickstarting innovation in industry. Federally, we participated in the government's technical working groups to advise on the design and implementation of the federal backstop, and to highlight successful carbon pricing implementation, like in Alberta and British Columbia. We are committed to working to ensure all jurisdictions in Canada have a price on carbon by January 1, 2019.

The year also saw a continued growth in renewable energy in Alberta. In December 2017, there was an

audible gasp in the room when the Government of Alberta announced the cheapest renewable contracts in Canada as part of their first renewable electricity auction. This is an encouraging step forward in meeting Alberta's commitment to procure 5,000 megawatts of renewables by 2030. The Pembina Institute believes renewables are an affordable, clean and scalable option for energy in Alberta and across Canada, and we have been advocating for its continued growth.



A sold-out crowd at the 2017 Alberta Climate Summit, hosted by the Pembina Institute.

In November 2017, at the United Nations Climate Conference in Bonn, Germany, we saw progress on accelerating the phase-out of coal-fired power in Canada. Following their leadership with the PCF commitment of phasing out coal-fired power by 2030, the Canadian government showed international leadership and commitment with the Powering Past Coal Alliance, a coalition of support with national and sub-national governments, business and industry. This initiative proves how important Canadian climate leadership is and shows the potential Canada has to influence action abroad. Pembina Institute staff were on the ground in Bonn, speaking on panels about the Canadian coal-fired power phase-out experience, and how integral it is to meeting our Paris Agreements. We have long been working to move away from coal-fired power, highlighting the health and clean air benefits that would come from a complete coal phase-out.

A big focus of the Pembina Institute has been working to advance provincial and federal PCF commitments. Throughout our work federally and in British Columbia, Alberta, and Ontario we're committed to keeping the climate action momentum created from the PCF and from the Alberta Climate Leadership Plan. We're also monitoring progress and giving our recommendations on British Columbia's forthcoming clean growth strategy. With the newly formed Ontario government dismantling the carbon pricing system and

complementary climate action programs, it's important to hold the line in other jurisdictions and work to demonstrate how climate action and economic growth go hand in hand.

Our work from the past year, and the important work in the months ahead, would not be possible without our supporters.

Thank you for your generosity.

Message from our Executive Director

Dear friends and supporters,

It's hard to believe, but 2018 marks my 13th year with the Pembina Institute. The Canadian climate and energy file has changed a lot over these years and so has the Pembina Institute. Our team has grown to 50 talented and motivated staff, working to implement strong climate solutions nationally and in British Columbia, Alberta and Ontario. As we saw in October's sobering Intergovernmental Panel on Climate Change's report, our work has never been more urgent.



I can say with confidence that we at the Pembina Institute have never been so ready to meet this challenge. In addition to our critical and ongoing work externally, over the next few months we are also taking time to look inward. We're undertaking a strategic planning process, to further examine how we can have the most impact and best position ourselves to tackle climate change.

I want to take this time to thank our previous executive director, Glen Murray. In his time with us, Glen served as a great accelerator for the organization. He made his mark on the Pembina Institute by encouraging us to think bigger about our potential and with a more national focus. We're grateful for Glen's leadership.

As we near the end of 2018, we are in an extraordinarily different place that we were a year ago. In a few short months, we've seen ongoing implementation of climate policies including a national price on carbon but also growing opposition in some quarters to action on climate change. Your support is more important than ever to help defend this progress and to maintain our capacity to find innovative solutions to today's energy challenges.

On behalf of the Pembina Institute, I deeply appreciate your support and I look forward to the coming year with great anticipation and excitement for the challenges and opportunities ahead.

A handwritten signature in black ink, appearing to read 'Simon Dyer'.

Simon Dyer, Interim Executive Director



Photo: Julia Kilpatrick, Pembina Institute

Alberta's oil sands industry continues to present a legacy of environmental and financial liabilities, and is a focus of the Pembina Institute's work on fossil fuels.

Priority area accomplishments

Fossil fuels

Over the last year the Pembina Institute's fossil fuels team has been working to reduce the harmful impacts of fossil fuels in favour of an energy system that is clean and safe, and sustains a high quality of life. Alberta's oil sands industry represents the fastest growing source of greenhouse gas in Canada. It also presents a legacy of environmental and financial liabilities, including nearly two trillion litres of fluid tailings, a toxic by-product of oil sands mining. Due to a history of lax regulatory control and ineffective treatment and reclamation technologies, fluid tailings will continue to present a long-term burden for Canadians. Through our work on tailings ponds, we advocate for credible tailings management, and stress holding industry accountable for the liability legacy. As a member of the Oil Sands Environmental Coalition (OSEC), the Pembina Institute has been involved over the past two years in the review of all new tailings management plans. Our analysis work appears regularly in media outlets. The Pembina Institute also appeared at regulatory hearings for the Teck Frontier oil sands mine, and argued that it must be demonstrated that any decision must be consistent with Canada's international climate obligations.

Clean economy

Over the past year, the Pembina Institute has been working nationally to show policy-makers and the public that pricing carbon pollution is essential to addressing climate change and developing the global low-carbon economy of the future.

In addition to our work on carbon pricing provincially – particularly in Alberta, British Columbia, and Ontario – the Pembina Institute is actively participating in the federal consultation process to inform the government's carbon pricing "backstop". We're working to ensure that every jurisdiction has a carbon pricing system in place by January 1, 2019 that achieves significant greenhouse gas emissions reductions and supports the transition to a clean economy. Through reports, blogs, infographics, and media, we are working to inform and educate on the role a price on carbon plays in effectively reducing carbon pollution. As some jurisdictions like Ontario and Saskatchewan, plus opposition leaders federally and in Alberta, are outspoken against carbon pricing, this work is more important than ever.



The clean economy evolution will bring a variety of jobs to Canadians.

Alberta's Climate Leadership Plan includes specific legislation such as the renewable energy targets, as well as the development of supporting programs and agencies (e.g. Energy Efficiency Alberta). These have combined to support the growth of the renewable energy sector.

The Pembina Institute played a key role across all of these and more, bringing in best practices from other jurisdictions and working to ensure the best implementation. In the coming year we will continue to ensure the electricity market transformation does not lock in high-carbon infrastructure. We will need to advance the clean energy evolution by broadening support, creating an Alberta narrative and continuing to demonstrate how we can successfully make this transition.

Renewables in remote communities

As part of our work to solve the challenges in Canada's transition to clean energy, we are working to drive the transition to renewables in remote communities. Our work with remote communities throughout Canada is driven by our belief that improving the quality of life in communities is necessary and possible, and that advancing clean energy and supporting the leadership of Indigenous communities in their own clean energy transition has tremendous health, environmental, social, economic and community benefits. For the months ahead, the Pembina Institute's work includes researching the amount of financial subsidies applied to downstream diesel fuel and electricity prices, deepening human capacity programs in remote communities and convening key stakeholders and players in this sector to have relevant conversations and forward action to advance leadership and autonomy in these important communities across Canada.



Emissions from freight are projected to exceed emissions from passenger movement by 2030.

Environmental law reform and NEB modernization

In February 2018, the federal government released legislation to update environmental assessment laws and revamp the National Energy Board (NEB). The changes proposed in the new legislation were much anticipated and long overdue. If enacted, the legislation will overhaul the current environmental assessment process. The Pembina Institute has been formally engaged in the federal government's environmental law reform agenda for the past two years. We sit on a caucus of ENGOs focused on restructuring current environmental legislation and we are leading the charge to leverage Canada's new political climate to drive reforms to the NEB. Modernizing the NEB is about good governance in the era of low carbon: applying best-available climate science to federal reviews of major infrastructure projects, ensuring project economics are consistent with low-carbon pathways at home and abroad, and protecting Canada's long-term public interest by quantifying the climate risk associated with new fossil fuel projects. It is also about rebuilding trust in Canada's decision-making processes by supporting meaningful participation, transparency, and evidence-based decision-making. In the year ahead, we'll be working to make sure the federal legislation introduced earlier this year will pass through Senate.

Transportation and urban solutions

Over the last year, the Pembina Institute deepened and expanded our support to industry leaders and governments in the transition to a low-carbon freight sector. Nationally, emissions from freight are projected to exceed emissions from passenger movement by 2030, making this work essential to meeting Canada's Paris Agreement commitments. Our work has alerted governments and other stakeholders to the importance of policies and programs at all levels to tackle this complicated issue. In June 2017 we published the report *State of Freight*, a comprehensive scan of freight realities and policies across the country. We are supporting urban logistics solutions for local goods movement, and saw UPS launch a cargo bike pilot in Toronto shortly after our research on the potential for cyclelogistics was released. In the coming year, we're continuing our work on this file, and looking into innovative microhub delivery options in the Greater Toronto and Hamilton Area. In the next year we'll also be researching solutions and advising the federal government on how to reduce emissions from the goods movement sector relating to commitments made in the Pan-Canadian Framework on Clean Growth and Climate Change.



Reducing the carbon emissions of new and existing buildings will be a key component of climate solutions in Canada.

On our transit and land use planning file, we were a leading contributor to the development of the Regional Transportation Plan for the Greater Toronto and Hamilton Area, Canada's most populous and fastest-growing metropolis. Key elements of the plan, as well as subsequent releases from Metrolinx, reflect our calls for transparent, consistent transit decision-making processes. Through research and convening, we are continuing to help municipalities and communities have necessary discussions about denser urban development as the region looks to harness this rapid growth sustainably and shift the culture of city building.

Buildings and urban solutions

Building on years of multi-stakeholder work and research to encourage highly energy efficient new construction, the Pembina Institute was involved in the creation of the B.C. Energy Step Code. Launched in 2017, this provincial regulation can be used by local governments to significantly improve the energy efficiency of new homes.

Low-carbon retrofits of existing buildings are also a priority in the Pembina Institute's buildings and urban

solutions program. Meeting B.C.'s legislated climate targets requires a strategy to reduce emissions from existing homes and buildings by at least 60 per cent. In B.C., for example, this calls for the upgrading of 30,000 houses, three million square feet of commercial space, and 17,000 apartment units every year until 2050 to make them more resilient and less polluting.

The social housing sector houses some of our most vulnerable population; these buildings, and the people who live in them, are very susceptible to the impacts of climate change. Our Affordable Housing Renewal project aims to drive down the costs of reducing energy use and emissions.

The Pembina Institute advances low-carbon policies for both new and existing buildings through our representation on the B.C. Climate Solutions and Clean Growth Advisory Council, and in the development of the B.C. Energy Roadmap. As part of these advisory bodies, we are in a unique position to help the province set and meet ambitious carbon pollution reduction goals. The next year will see a lot of new policy ideas emerge in B.C., which will set the course for the next decades of evolution in the building sector.

Climate leadership

This year was an exciting time for making progress towards the commitments outlined in the landmark global climate deal, the 2015 Paris Agreement. December 2017 marked the first-year milestone of the implementation of Canada's first truly national climate plan: the Pan-Canadian Framework on Clean Growth and Climate Change (PCF). The PCF contained new measures to reduce emissions from key emitting sectors, including transportation, buildings, electricity and oil and gas. In our continued efforts to implement the PCF, the Pembina Institute is helping decision-makers understand how to design smart, competitive climate policies across all economic sectors and to develop best practices for peer jurisdictions as they follow suit.

We have been a key intervener and convenor in the federal process to develop both regulatory amendments implementing the coal phase-out and new regulations on gas-fired power plants. Internationally, at the 2017 United Nations climate conference in Bonn we played



Leadership on climate is happening at the federal, provincial and municipal levels.

an important role in securing the joint establishment of the Powering Past Coal Alliance (PPCA) from Canada and the U.K. We've continued to work with the federal government and international partners to ensure that the PPCA drives international ambition. At the same time, to safeguard Canada's international credibility, we continue to be vigilant in monitoring progress toward our domestic coal phase-out, including close tracking of and advising on federal-provincial negotiations on 'equivalency' (i.e. legal exemption from the federal rule) under the Canadian Environmental Protection Act.

The Pembina Institute has also been active on the clean fuel file. Responsible for 15 per cent of Canada's emissions reductions commitment, the Clean Fuel Standard (CFS) has emerged as a cornerstone of the nation's plan to meet its Paris Agreement target. As a member of the government's technical working group, the Pembina Institute is one of the few environmental organizations in Canada participating in the federal CFS consultations. We are actively working alongside other policy proponents, including low-carbon fuel producers, feedstock suppliers and charging network operators, to ensure the successful passage of an environmentally rigorous and ambitious standard by 2019.

This past year has shown our continued work on reducing methane emissions. In April 2018, Canada finalized nation-wide regulations covering new and existing sources of methane emissions from the oil and gas industry. The advocacy work and scientific research of the Pembina Institute and our ENGO partners played a key role in Canada becoming the first country in the world to commit to such inclusive standards.

Canadian provinces can either adopt the federal framework or develop their own regulations that achieve equivalent reductions to what the federal regulations would have achieved. The current draft Alberta regulations are sub-standard and will not achieve the equivalent results required under the federal framework. In the coming months, the Pembina Institute will actively be working to ensure that the provinces achieve equivalency with the federal regulations.

Events and campaigns



The Pembina Institute's former Executive Director Glen Murray addresses the UnGLOBE 2018 cocktail party.



"The Conservative Case for Climate Action" panel at the Alberta Climate Summit 2017 included the Pembina Institute's Sara Hastings-Simon (left).

UnGLOBE 2018

Almost 300 people attended our unofficial GLOBE 2018 cocktail party in Vancouver to celebrate leaders in the clean economy. Speakers from the World Bank Group, International Emissions Trading Association, LafargeHolcim, and Innergex Renewable Energy shared their thoughts about the importance of pricing carbon pollution to drive clean innovation. The event also served as the debut of Businesses for B.C.'s Clean Economy, an initiative led by the Pembina Institute to demonstrate corporate leadership and support for the low-carbon transition.

Alberta Climate Summit 2017

The sold-out Alberta Climate Summit, presented by Capital Power, marked our third annual event. The event brought together over 500 thought leaders from government, industry, Indigenous communities, civil society and ENGOs. Highlights from this year included our inaugural Youth Changemakers Energy Pitch, where six youth leaders ages 18-25 pitched their solutions for a low-carbon future to the crowd.



Dylan Heerema of the Pembina Institute's buildings and urban solutions team leads a session at the Retrofits at Scale workshop.

Retrofits at Scale workshop

In October 2017, the Pembina Institute hosted a workshop for leaders from the social housing and retrofit sectors. Participants explored how supply and demand for retrofit services can come together in the form of an affordable net-zero energy (or net-zero carbon) retrofit solution that can be scaled across the low-rise residential sector.

This workshop is part of the Affordable Housing Renewal project. The goal of the project is to see net-zero carbon retrofits delivered at scale across Canada, as part of the transition to a carbon-neutral residential sector by 2050.



The Renewables In Remote Communities 2017 conference included discussions of financial capacity, with Adam Chamberlain and the Pembina Institute's Dave Lovekin (left).

RiRC 2017

The Renewables in Remote Communities 2017 conference saw over 250 people come together in Whitehorse to discuss various aspects of both human and financial capacity for renewable energy projects in remote communities. While the conference tackled the two issues separately, dedicating a day to each, it became clear that the two are strongly interconnected and can't be dealt with in isolation.

Bringing together Indigenous leaders and communities, territorial, provincial and federal government representatives, utilities, private business, knowledge experts and the non-profit sector fostered great discussions, sharing and insights into how to better advance diesel reductions in remote communities.



Transportation experts joined Pembina Institute staff at the freight Thought Leader Forum.

On the road to freight excellence

In November 2017 we hosted a forum event that brought together over 60 leaders to set a shared agenda for joint action in the Greater Toronto and Hamilton Area. This invitation-only freight Thought Leader Forum convened industry and business leaders, local, regional, provincial and federal policymakers and planners, academics and non-governmental experts.

The day sought to understand the current state of freight and the emerging trends in urban sustainable goods movement; identify key areas for additional research; and identify opportunities to collaborate on this research to achieve excellence in a carbon-constrained environment.



The Pembina Institute's Julia-Maria Becker introduces the New Energy Economy map at the map launch in December.

New Energy Economy map launch

In December 2017 we launched our Alberta New Energy Economy map: an interactive online map that showcases the variety of clean energy projects that contribute to the growth of Alberta's economy. At the time of the launch, the map featured more than 100 projects, with more projects and stories being added every week. Projects range from wind and solar to energy efficiency and clean tech. Alberta's New Energy Economy map is an invaluable resource for governments, NGOs, industry and individuals interested in learning more about clean energy in Alberta.



Pembina Institute's unGALA

In January 2018, the Pembina Institute celebrated the power of Canada's new clean growth economy to create good jobs and foster clean energy innovation. The 2018 unGALA brought together an incredible diversity of people, from industry and entrepreneurs to government and non-profits, all joining together in the spirit of finding clean energy solutions. The night was full of delicious eats, an incredible band, western-themed drinks and plenty of networking with Canada's who's who of the sustainability sector.





Pembina Institute staff at the organization's annual assembly, February 2018.

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