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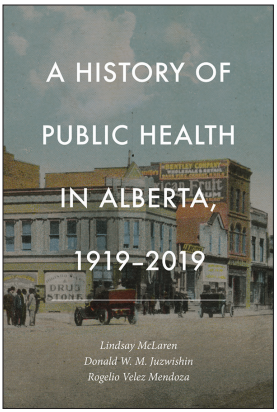

A HISTORY OF PUBLIC HEALTH IN ALBERTA, 1919–2019

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ISBN 978-1-77385-546-2

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8

Health Protection – Climate Change, Health, and Health Equity in Alberta

Lindsay McLaren, Cristina Santamaria-Plaza, and Dennis Slater

Introduction

> [There is] an unprecedented surge in awareness of and engagement with the climate emergency. . . . Yet, the link made by individuals between health issues and climate change is weak.[1]

Health protection, one of the core functions of public health practice, refers to "important activities of public health, in food hygiene, water purification, environmental sanitation, drug safety and other activities, that eliminate as far as possible the risk of adverse consequences to health attributable to environmental hazards."[2] Sometimes used interchangeably with *environmental health*, health protection is a long-standing aspect of public health practice.

Widely considered to have emerged out of the sanitary movement in mid-nineteenth-century England in response to health problems caused by industrialization and urbanization, health protection activities have evolved to include a breadth of issues including occupational hazards and working conditions; built environments including housing, land-use patterns and roads; and agricultural methods.[3] These issues are significantly intertwined with structural drivers of inequity. For example, environmental hazards in the workplace often result from employment characteristics typical of neoliberal capitalism, such as precarious employment and inadequate pay and benefits (see Chapter 9).[4]

Partly because of their relatively long history, health protection activities concerning quality and safety of air, water, and food occupy a dominant place in public health practice: to a large extent they underpin public health's broad and institutionalized approach, including the professional practice of health inspection. Indeed, the historical prominence of health protection activities in public health has led to a common — but inaccurate — perception that the two are synonymous, or in other words that public health is reducible to health protection activities.[5]

While the current chapter considers one of these long-standing concerns — namely, air pollution — it does so with the intent of providing a historical backdrop for a newer and complex topic in public health: climate change, the persistent, long-term changes to the state of the climate, driven by both natural and human and industrial factors that release CO_2 and other greenhouse gases into the atmosphere.[6] Along with biodiversity loss and ecosystem destruction more generally, the health implications of climate change are significant. An example of a direct implication is the sickness and death caused by extreme weather. Indirect impacts include health consequences stemming from changes to food growing conditions and to water quality and quantity, zoonotic disease emergence, and mental health impacts following climate-related disasters or forced climate migration.[7] Moreover, within and between countries, the health impacts of climate change are highly inequitable. Therefore, a *climate justice* orientation — that is, a just, or fair, response that considers the complex social and political dimensions — is essential.[8] A climate justice perspective is theoretically consistent with public health's "values of social justice and fairness for all, and its focus on the collective actions of interdependent and empowered peoples and their communities."[9] However, as Buse and others have written, certain assumptions and beliefs embedded within public health practice can present a challenge to the field's ability to substantively engage with these socio-political aspects.[10]

Following a brief overview of national and international milestones, the chapter proceeds in two main sections. The first considers the first two-thirds of the twentieth century, when provincial environmental policy in Alberta was focused on pollution. The second section presents our analysis of provincial government deliberations on climate change policy since 2000; in particular, we explore whether and how concepts of health and equity have been mobilized in those deliberations. Overall, our analysis contributes to a rapidly growing literature on public health and climate change, and on contemporary health protection more generally, by adding a historical perspective aimed at articulating and strengthening a broad, coherent vision of public health in the Alberta context.[11]

National and International Milestones in Environmentalism

To help situate the chapter content, a partial list of key events in international and national climate change history is shown in Table 8.1.

TABLE 8.1: Summary of some key international and national milestones in climate change.[12]

Decade	Event or Initiative
1820s	• First recorded inquiry into the greenhouse gas effect by French mathematician, Joseph Fourier (1824)
1860s	• British physicist John Tyndall established that there were several types of gases (including water vapour) that contributed to the greenhouse gas effect (1861) • Early federal conservation-oriented legislation, the *Act for the Regulation of Fishing and Protection of Fisheries*, was passed by the Canadian Government to regulate "sea-coast and inland fisheries, to prevent or remedy the obstruction and pollution of streams" (1868)
1880s	• Banff National Park (Canada's first National Park in Alberta) was created by the federal government (1885)
1890s	• Swedish chemist Svante Arrhenius observed a correlation between CO_2 and temperature change, thus demonstrating that coal burning during the industrial revolution contributed to the greenhouse gas effect (1895)
1930s	• The *National Parks Act* was passed by the Canadian government in 1930, which provided for parks to be maintained and used in such a way that left them "unimpaired for the enjoyment of future generations" • British engineer Guy Callendar showed that temperatures in the United States had increased significantly since the industrial revolution. This was most likely due to rising CO_2 emissions, which had increased during the same period (1938)
1950s	• Canadian physicist Gilbert Plass examined the infrared absorption of different gases, and concluded that doubling of greenhouse gases (i.e., CO2) would raise temperatures by 3 to 4 degrees (1955) • American scientist Charles Keeling developed a way to record CO_2 levels at a research station in Hawaii, and demonstrated that annual atmospheric CO_2 emissions had steadily risen between 1958 and 1964. The research station continued to collect data which confirmed Keeling's findings (1958)

Table 8.1: (*continued*)

Decade	Event or Initiative
1970s	• The first United Nations Conference on the Environment was held (Stockholm, 1972).
	• *Canada's Water Act* was enacted in 1970; it provided for "the management of water resources of Canada, including research and the planning and implementation of programs relating to the conservation, development and utilization of water resources" (1970)
	• The *Arctic Waters Pollution Prevention Act* was enacted, which aimed to "prevent pollution of areas of the arctic waters adjacent to the mainland and islands of the Canadian arctic" (1970)
	• Canada's *Clean Air Act* was passed, which aimed to "promote and achieve uniform approach to air pollution control across the country" (1971)
	• Canada's first Environment Ministry was created in 1971; it was responsible for, among other things, "preserving and enhancing the quality of the natural environment", and "coordinating policies and programs" to do so.
1980s	• In 1983 the United Nations convened the World Commission on Environment and Development (*Brundtland Commission*) to examine issues relating to economic development, labour practices and environmental protection. The Commission's report, Our Common Future, established three pillars: economic growth, environmental protection, and social equality.
	• The United Nations created the *Montreal Protocol on Substances that Deplete the Ozone Layer* (1987), in which 197 UN Member States including Canada, aimed to "phase out [the different] groups of [ozone depleting substances (ODS)], control of ODS trade, annual reporting of data, national licensing systems to control ODS imports and exports"
	• The Intergovernmental Panel on Climate Change (IPCC) was created by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP) (1988), with a main goal to comprehensively review and make recommendations concerning "the science of climate change; the social and economic impact of climate change, and potential response strategies and elements for inclusion in a possible future international convention on climate"
	• The *Canadian Environmental Protection Act* was passed in 1988, with the aim to prevent pollution and protect the environment and human health
1990s	• The United Nations Framework Convention on Climate Change (UNFCCC), signed by Canada in 1992, aimed to keep the global average temperature from rising to levels that would damage the environment
	• The *Canadian Environmental Assessment Act* was passed, which required all ministries to conduct environmental assessments for projects to protect the environment (1992)
	• The Kyoto Protocol was created in 1997 and aimed to engage member countries in committing to the UNFCCC's mandate. In signing, Canada agreed to GHG emission target reductions over the period 2008–2012.

Table 8.1: (*continued*)

Decade	Event or Initiative
2010s	• Under Prime Minister Stephen Harper, Canada withdrew from the Kyoto Protocol (2011) and the original *Canadian Environment Assessment Act* was repealed (2012)
	• Justin Trudeau was elected prime minister in 2015, after running on a campaign focused on climate change action including a carbon tax. The J. Trudeau administration signed the Paris agreement, to keep global temperature increases to 1.5°C above pre-industrial levels, in 2016. Also under the federal Liberals, the Pan Canadian Framework on Clean Growth and Climate Change was released (2016) and the Impact Assessment Agency of Canada was established (2019).
	• The *North American Climate Clean Energy and Environment Partnership Act* was created between Canada, the United States and Mexico to continue building their efforts to address climate change. (2016)
	• Greta Thunberg, Swedish climate activist, started a worldwide climate-related political movement by protesting in front of the Swedish Parliament with a sign titled "School Strike for Climate". Greta Thunberg received the Nobel Peace Prize in 2019 (2018–2019)

The Industrial Revolution and its capitalist underpinnings is considered to mark the point where human activity became the most important contributor to climate change, beginning with shifts toward coal-burning technologies that enabled mass textile production and transportation, such as railways, canals, and iron ships, in the late eighteenth and early nineteenth centuries. Waves of industrialization between the 1860s and 1940s, which were more pertinent to the North American context, were characterized by a colonial, extractive transition toward economies of scale through growth of the automotive industry, rail transportation, and consumer goods. Concurrent with these developments were rising deforestation and resource extraction of oil, gas, and coal.[13]

Public and political concern about environmental preservation and conservation has evolved over time. In terms of settler-dominated activities, popular sources describe Canada's environmental movement as occurring in four waves.[14] During the late 1800s and early 1900s, European colonization and rapid exploitation of Canada's natural resources, which were incorrectly perceived as inexhaustible, prompted some limited awareness, particularly within the forestry industry, of the need for protections to allow long-term harvesting to continue.[15] Otherwise, organized conservation was not very prominent in Canada at that time, and some activities that resembled environmental protection were in fact driven by economic goals (Banff National Park, for example, was created to generate tourism revenue).[16]

A second wave started in the 1960s and represented somewhat of an inflection point in environmental preservation and activism. Important organizations were formed, including the National and Provincial Parks Association of Canada (now the Canadian Parks and Wilderness Society) in 1963, the World Wildlife Fund Canada in 1967, and Greenpeace (including a Canadian contingent) in 1971.[17] Growing pressure from these and other groups contributed to important legislative and administrative changes, including in Alberta. The federal government context for air pollution included the 1969 creation of a new division of the Department of National Health and Welfare devoted to health aspects of air pollution; the 1970 federal Motor Vehicle Safety Act, which allowed vehicle emissions to be regulated; the 1970 introduction of incentives to reduce air pollution under federal Income Tax Regulations; and the 1971 introduction of a national Clean Air Act and establishment of a federal Department of Environment.[18]

Following a third era of the 1980s and 1990s, which significantly included the 1983 creation of the Green Party of Canada,[19] the fourth era — aligning with this chapter's focus — is characterized by the climate change preoccupation of the 2000s that started with the 1997 Kyoto Protocol. The nations that signed the accord, including Canada, committed to reducing their greenhouse gas emissions by 6 percent between 2008 and 2012. However, in one of many important illustrations of the need to situate these issues in socio-political context, progress stalled in Canada under the federal Conservative government of Stephen Harper (2006–2015), which withdrew Canada from the accord in 2011; cut funding to environmental research and organizations; repealed and replaced key environmental legislation, such as the Canadian Environmental Assessment Act; and effectively silenced environmental non-profit organizations, such as by placing severe limits on "political activity" that impede the organizations' normal activities. Upon their majority election in 2015, the federal Liberal government under Justin Trudeau signed the 2016 Paris agreement, which signified a commitment to work toward limiting global temperature rise during the current century to 1.5° Celsius above pre-industrial levels. Also in 2016, the federal government released the *Pan-Canadian Framework on Clean Growth and Climate Change*, which outlined a plan to "to meet emissions reduction targets, grow the economy, and build resilience to a changing climate." In 2019 they created the Impact Assessment Agency of Canada, which — consistent with a broad, intersectoral version of public health — examines positive and negative environmental, economic, social, and health impacts of major resources projects.[20] However, despite these initiatives, whether or the extent to which the federal Liberal government is serious about taking substantive action on climate change is questionable and remains to be seen.[21]

Pollution Control and Public Health in Alberta During the Twentieth Century

We first consider environmental policy around air pollution in Alberta during the twentieth century. See Table 8.2 for a summary of provincial milestones.[22] Notably, from 1907 until 1970, public health and pollution control were administratively connected: the Provincial Board of Health was responsible for processes and legislation concerning safe and healthy environments including clean air.

Table 8.2: Timeline of some major milestones in Alberta environmental policy as it intersects with public health, 1905–1970s.

Year	Event
1907	• Alberta's first provincial *Public Health Act* authorized the provincial Board of Health to create regulations to prevent water pollution, for the purpose of preventing communicable diseases.
1919	• The provincial Department of Public Health was created, which assumed responsibility for the provisions of the *Public Health Act* (including prevention of water pollution).
1944	• In the context of population and industrial growth in Alberta cities, an amendment to the provincial *Public Health Act* acknowledged water used "for agricultural, domestic or industrial purposes"; water pollution control measures in Alberta subsequently intensified.
1947	• Imperial Oil struck oil near Leduc, Alberta, marking the beginning of Alberta's petroleum industry (a significant impact on Alberta's economy was not apparent, however, until the 1960s).
1955	• An amendment to the provincial *Public Health Act* added "pollution of atmosphere" to the list of items that could be regulated by the provincial Board of Health, thus signaling a shift of attention to air pollution.
1961	• Alberta implemented a program of air pollution control measures, including emissions standards and regulations focused on industrial plants and operations.
1960s	• The provincial *Public Health Act* acknowledged "pipelines" as a source of pollution
1971	• A new provincial Department of Environment was created, which took over responsibility for pollution-related activities from the provincial Department of (Public) Health.
1970s	• Reference to "pollution" disappeared from the provincial *Public Health Act*. • Substantive early efforts to protect the environment (e.g., the 1970 creation of an "independent watchdog" for the environment – the Environment Conservation Authority) gave way to an emphasis on economic and industrial growth. Significant negative environmental impacts of oil sands development were apparent by the mid-1970s.

Until around the 1940s, government pollution legislation focused primarily on water pollution, which was a concern from Alberta's first Public Health Act of 1907.[23] This arrangement remained largely the same from the 1920s to the 1940s. In 1944, in an early indication of the ongoing intersection between environmental concerns and extractive industry, an amendment to the act acknowledged uses of source water "for agricultural, domestic or industrial purposes," in addition to

water for drinking.[24] In the context of population growth and industrial expansion in Alberta cities, water pollution control measures in the province intensified in the 1950s and 1960s.[25]

The 1950s signalled a shift in attention to air pollution. A 1955 amendment to the Public Health Act added "pollution of atmosphere" to the list of items that could be regulated by the Provincial Board of Health. Specifically, the board's authority was extended to include "prevention of the pollution, defilement or fouling of the atmosphere and the regulation of plants or industries discharging chemical or other waste matter into the atmosphere."[26] During the 1960s, that wording was amended to say "regulation of plants, industries *and pipe lines*" (emphasis added); as discussed below, the expansion of the oil and gas industry figured prominently, and problematically, in the evolution of Alberta's environmental policy starting in the 1960s.[27]

Government recognition of the connection between air pollution and health during the 1950s is clear from the description of "pollution of atmosphere" in the 1955 Public Health Act, which addressed

> [circumstances where] dust, vapour, fumes or smoke is being discharged into the atmosphere either within or outside the confines of any building, and that as a result of such discharge the quality of the air is being impaired or corrupted *and the comfort or health of the public or a portion of the public is being injuriously affected*.[28] (emphasis added)

Following the regulatory authority established by the 1955 act, in 1961 Alberta implemented what was described as a broad program of air pollution control. This included emissions standards and regulations focused on industrial plants and operations where, under Alberta Regulation 262/61 (O.C. 1327-61) plans for the construction of pipelines and plants "likely to contribute to air pollution" had to be submitted to the Provincial Board of Health for approval.[29] An explicit concern with health, which persisted in this new program, expanded to include plant and animal life.[30]

1971: Creation of a Provincial Department of Environment

From the point of view of the intersection of provincial public health and environmental policy, circumstances changed with the 1971 creation of a new provincial Department of Environment. The new department, which was one of the first of its kind in Canada,[31] took over air- and water pollution control activities from the Department of (Public) Health.[32] Likewise, references to "pollution" in the Public Health Act, which had been present since the very first act in 1907,

disappeared during the 1970s, and did not return. When the new Department of Environment inherited the Division of Environmental Health from the Department of Public Health, it was renamed the Division of Pollution Control; "health" was removed from the name.[33]

The creation of the new Department of Environment must be situated in the development of the Alberta oil and gas industry. In what has become provincial lore, Imperial Oil struck oil near Leduc, Alberta, in February 1947, which, ominously, "marked the beginning of a petroleum boom that rapidly transformed Alberta's impoverished agricultural economy and drew thousands of people to the province."[34] Although the 1947 date is significant, the transformation of Alberta's economy took some time. Within an extractive colonial context, a growing human-centric demand for oil led to the production of synthetic oil from the massive Athabasca bitumen deposit in northeastern Alberta.[35] However, because of technical challenges associated with mining and upgrading the bitumen into synthetic crude oil, commercial production of bitumen did not occur until the 1960s. This perhaps explains why reference to "pipelines," in the context of pollution, did not appear in Alberta's Public Health Act until that decade.[36]

In the context of significant environmental concerns from scientists and citizens that accompanied the development of the oil industry and growing community pressure to address them, legislation to establish a provincial Department of Environment was passed in early 1971 by the Social Credit government of Harry Strom (1968–1971) and implemented under the PC government of Peter Lougheed (1971–1985) upon their election later that year.[37] As discussed by historians, Alvin Finkel, and Hereward Longley, while the SC party originated in the post-Depression context as a social reform party that focused on the rights of workers and farmers and was opposed to big business including oil, their position shifted over the course of their long tenure toward an increasingly laissez-faire orientation toward the oil industry; at the same time they were seen as increasingly representing right-wing religious fundamentalism.[38] In the light of that ideological shift, Finkel argues that the Social Credit's flurry of environmental initiatives in 1970 was a last-ditch and somewhat disingenuous effort to gain public support and, unsuccessfully, avoid losing the 1971 election.[39]

Overall, explicit concern with human health and well-being was not prominent in government discourse on environmental policy around the time of the creation of the provincial Department of Environment. Perhaps the closest thing would be a somewhat general reference to "quality of life" in the 1971 Strom administration throne speech: "The quality of life depends substantially on the availability of a wide variety of natural resources . . . the land itself for agricultural and recreational purposes, the water, the air we breathe."[40]

The dominant focus on the capitalist economy — and the pride of place of extractive industries within the economy — continued under the Lougheed administration. After winning the 1971 provincial election, the PCs brought in a "sweeping array of environmental research programs, standards and approvals procedures, and a pollution control judiciary."[41] This included the potentially noteworthy Environment Conservation Authority, an "independent watchdog for the environment" that reportedly, upon its establishment in the early 1970s, was the first of its kind within or outside of Alberta.[42] However, and perhaps predictably in hindsight, the administration's early caution about the environment shifted to an orientation focused on quickly developing the oil industry, which led to environmental matters being marginalized.[43]

Significant harmful environmental impacts of oil sands development were apparent by the mid-1970s and had worsened by the 1980s.[44] In addition, the global energy crises of the 1970s caused by political unrest in the Middle East, and the subsequent introduction of Canada's National Energy Program under Pierre Trudeau's Liberals in the 1980s, which was marketed as aiming to stabilize and promote self-sufficiency of oil supplies but was experienced as highly unfair to Alberta because of its impact on provincial oil surpluses, strongly and negatively influenced federal-provincial relations.[45] This federal-provincial animosity, which continues today, is the context in which attention shifted to climate change.

1990s–2019: Climate Change and Health Equity in Alberta

This section is based on references to "climate change" in the *Alberta Hansard*, and especially — in line with the broad definition of public health embraced by this volume — comments and statements that also mobilized concepts of health, conceptualized broadly to include well-being and equity.[46] Pertinent comments were summarized thematically, situated within the main elements of the debate, and presented using illustrative quotations. The bills, along with the individual politicians who engaged in the debates and are referenced below, are summarized in Table 8.3a and Table 8.3b.

Table 8.3a: List of bills referenced in our analysis of climate change, health, and equity in Alberta legislative debates, 1990s–2019 (chronological). Note: PC = Progressive Conservative; NDP = New Democratic Party; UCP = United Conservative Party.

Year (Governing party)	Bill
1991 (PC)	Bill 209: *Air Quality Act* (did not pass)
2002 (PC)	Bill 32: *Climate Change and Emissions Management Act* (did not pass)
2003 (PC)	Bill 37: *Climate Change and Emissions Management Act* (passed)
2007 (PC)	Bill 3: *Climate Change and Emissions Management Amendment Act* (passed)
2008 (PC)	Bill 8: *Climate Change and Emissions Management Amendment Act* (passed)
2016 (NDP)	Bill 20: *Climate Leadership Implementation Act* (passed)
2019 (UCP)	Bill 1: *Act to Repeal the Carbon Tax* (passed)

Table 8.3b: List of individuals referenced in our analysis of climate change, health, and equity in Alberta legislative debates, 1990s–2019 (alphabetical by last name).

Name	Party Affiliation and Constituency (during time period referenced)
Wayne Anderson	Wildrose, MLA for Highwood
Laurie Blakeman	Liberal, MLA for Edmonton-Centre
William Bonko	Liberal, MLA for Edmonton-Decore
David Broda	PC, MLA for Redwater
Debby Carlson	Liberal, MLA for Edmonton-Ellerslie
Greg Clark	Alberta Party, MLA for Calgary-Elbow
Scott Cyr	Wildrose, MLA for Bonnyville-Cold Lake
Richard Gotfried	PC, MLA for Calgary-Fish Creek
Ernest Isley	PC, MLA for Bonnyville
Brian Jean	Wildrose, MLA for Fort McMurray-Conklin
Arthur Johnson	PC, MLA for Calgary-Hays
Ralph Klein	PC, Premier and MLA for Calgary-Elbow
Gary Mar	PC, Health Minister and MLA for Calgary Nose Creek
Brian Mason	NDP, MLA for Edmonton-Highlands
Don MacIntyre	Wildrose, MLA for Innisfail-Sylvan Lake
Grant Mitchell	Liberal, MLA for Edmonton-Meadowlark
Jason Nixon	Wildrose, MLA for Rimbey-Rocky Mountain House-Sundre
Rachel Notley	NDP, Premier and MLA for Edmonton-Strathcona

Table 8.3b: (*continued*)

Name	Party Affiliation and Constituency (during time period referenced)
Ronald Orr	Wildrose, MLA for Lacombe-Ponoka
Raj Pannu	NDP, MLA for Edmonton-Strathcona
Shannon Phillips	NDP, Environment Minister and MLA for Lethbridge-West
Angela Pitt	Wildrose, MLA for Airdrie
Robert Renner	PC, MLA for Medicine Hat
Dave Rodney	PC, MLA for Calgary-Lougheed
Ed Stelmach	PC, Premier and MLA for Vegreville-Viking
David Swann	Public health physician and Medical Officer of Health in Southern Alberta; later MLA for Calgary-Mountain View and Leader of the Alberta Liberal Party
Kevin Taft	Liberal, MLA for Edmonton-Riverview
Bob Turner	NDP, MLA for Edmonton-Whitemud
Glenn van Dijken	Wildrose, MLA for Barrhead-Morinville-Westlock

Following infrequent reference to "climate change" in the *Hansard* during the 1970s and 1980s (indeed, there were fewer than ten references to "climate change" in the *Alberta Hansard* between 1970 and 1989), references started to increase in the 1990s coinciding with national and international milestones noted above. There was indication that some members of government were not taking climate change seriously. For example, during question period in a 1990 sitting, the PC Minister of Agriculture, Ernest Isley, described driving in from his constituency of Bonnyville in cold weather when the temperature was "minus 45, and my constituents were saying, 'Hey, we'd like to see some evidence of this global warming.'"[47]

In general, references to health in relation to climate change in the 1990s were inconsequential and infrequent.[48] Perhaps the most prominent example was private member Bill 209, the Air Quality Act, introduced by Grant Mitchell (Liberal, MLA for Edmonton-Meadowlark) in 1991.[49] One of the two objectives of the bill was "to ensure that the air in Alberta is of excellent quality and presents no hazard to human health;" indeed, in making a case for the bill Mr. Mitchell itemized health consequences of gases being emitted into the atmosphere: "Alberta has the highest rate of death due to asthma in Canada today . . . because there is a direct relationship between the nature of the air we breathe, what's in it — the pollutants, the irritants, the toxic gases that are in it — and the propensity for people to get asthma and to die from asthma attacks."[50] Accordingly, Bill 209 called for

a much more significant leadership role by the health minister in establishing strong air quality standards to protect human health.[51]

Bill 209 timed out prior to second reading, with one point of PC opposition being that the bill was redundant with initiatives already in place, and was therefore unnecessary.[52] Regarding the alleged "initiatives already in place," environmental historian Longley describes the 1990s as a period when the governing PCs created a perception that they were appropriately managing environmental issues while in fact they were expediting industrial development. This problematic "symbolic policy discourse," as Longley calls it,[53] persisted in climate change debates in the new millennium, of which we consider two prominent examples: the Climate Change and Emissions Management Act of the first decade of the twenty-first century and the Climate Leadership Implementation Act of 2016.

2000s: Climate Change and Emissions Management Act

The Climate Change and Emissions Management Act deliberations unfolded under the PC governments of Ralph Klein (1992–2006), a period that was immensely problematic for the public's health as described in Chapter 4, and then Ed Stelmach (2006–2011). Premier Klein's intention to introduce a bill dealing with environmental concerns was conveyed in his government's throne speech of 26 February 2002, with reference to health and well-being: "The health of Alberta's unmatched natural environment is also critical to the province's overall health and to individual health and well-being. In 2002 the government will further encourage practices that prevent pollution and other environmental problems."[54] Before getting into the deliberations on Bill 32, the Climate Change and Emissions Management Act (2002), that followed, two significant events of late 2002 must be pointed out. First, the federal Liberal government, which had signed the international Kyoto accord in 1997, was in the process of ratifying it; the Klein government vehemently opposed the accord. Second, and pertinent to our focus on the intersection of environmental policy and public health, in October 2002 Dr. David Swann, public health physician and medical officer of health in southern Alberta, was fired for speaking out in favour of the accord (see also Chapter 13).[55]

BILL 32: CLIMATE CHANGE AND EMISSIONS MANAGEMENT ACT, 2002

Key elements of Bill 32 included gas emission intensity targets, an emission trading system, mandatory reporting, and the establishment of a Climate Change and Emissions Management Fund.[56] Consistent with his vitriol toward the Kyoto deliberations, Klein, when introducing the bill at second reading, spent several minutes criticizing the federal government before getting into the bill's substance. This was not lost on opposition members such as Debby Carlson (Liberal),

who characterized Bill 32 as "a bill that's targeted at setting up a constitutional battle with the federal government [while] minimizing any kind of contribution Alberta would have."[57] In this context, it is perhaps not surprising that the concept of fairness or equity primarily arose in comments describing initiatives such as Kyoto as economically unfair to Alberta, as argued by David Broda (PC): "The protocol is not a fair or equally binding agreement. Even though Canada puts out only 2 percent of the world's greenhouse gas emissions, the economic risk to Canada would be four times that of the European Union and 10 times that of Japan."[58]

Consistent with Longley's notion of symbolic policy discourse noted above, opposition members saw Bill 32 as disingenuous and ineffective. They took particular issue with the emission targets, which focused on reducing emission *intensity* as opposed to absolute reductions. Raj Pannu (NDP) argued that "the most flawed aspect of Bill 32 is . . . that emissions will be reduced relative to GDP. . . . In other words, the faster our economy grows, the more emissions will be allowed to go up." Referencing an analysis by the Pembina Institute, a national think-tank focused on clean energy, Pannu argued that under the emission intensity approach, greenhouse gas emissions could be expected to increase by over 80 percent compared to 1990.[59]

In terms of reference to health and well-being during the Bill 32 deliberations, one interesting example comes from an exchange between Kevin Taft (Liberal) and PC Minister of Health and Wellness, Gary Mar, during question period on 20 November 2002. Referencing deaths from West Nile Virus in Ontario due to mosquitoes spreading north into Canada as a result of climate change, Taft queried whether the government had attempted to measure the health impact of climate change on Albertans. Mar responded: "I think that the Minister of Environment is well on this particular file, Mr. Speaker. We do co-ordinate with work that is being done out of his department. Our focus has really been on things that are much more closely associated with issues related to health care . . . ensuring, for example, that people get the highest level of cardiac care in this province."[60] This response conveys a problematic separation between health problems caused by climate change on the one hand, and the purview of the Ministry of Health, that is, health care, on the other.

Another illustration of such a disconnect came from Premier Klein himself. In describing his government's intention to introduce Bill 32, he described it as legislation that

> not only serves to reduce greenhouse gases and address the issue of climate change but will ensure that the economy is sustained. . . .

> You know, jobs mean a lot to people, Mr. Speaker, a *healthy lifestyle* where people can grow up in a family secure in the knowledge that the breadwinner of that family will have secure employment is just as important as the issue of climate change.[61] (emphasis added)

Here, Klein frames action on climate change as a competing policy priority to other actions that promote health — which he framed narrowly as achieving a healthy lifestyle — such as actions to sustain the neoliberal capitalist economy. This framing, which obscures the interconnected social, economic, and political determinants of health, occurred repeatedly in climate change deliberations and we return to it later in the chapter. Bill 32 passed second reading but did not progress at that time.[62] Meanwhile, the federal Liberal government, under Jean Chretien, ratified the Kyoto accord on 17 December 2002.[63]

BILL 37: CLIMATE CHANGE AND EMISSIONS MANAGEMENT ACT, 2003

In April 2003, the governing PCs once again introduced the Climate Change and Emissions Management Act; this time as Bill 37. Bill 37 was largely similar to Bill 32, which raised the ire of some opposition members who felt that it ignored important interim events such as the federal ratification of the Kyoto protocol and served only as "fed-bashing."[64]

One reference to health and well-being was made by Laurie Blakeman (Liberal; see also Chapter 12) while commenting on the bill's lack of attention to motor vehicle driving as a cause of emissions. She remarked, "Let's look at helping the individual to drive their car less and use public transportation more or, heck, walk. We've had a $3 million ad campaign come out of the Department of Health and Wellness about how people should be healthier and should walk more. Do we make it more attractive for people to walk around, especially in the urban areas? No."[65] Mobilizing a broader version of health and well-being than seen to date in the climate change deliberations, Blakeman noted the policy incoherence between different areas of government, where the activities of the Department of Health and Wellness, which promoted walking, were undermined by the failure of Bill 37 to consider and try to reduce emissions from driving, despite the potential for synergy between public health and emissions reduction efforts; for example, more walking and wider public transit use could contribute to fewer emissions and improved health. Despite considerable opposition, Bill 37 passed quickly in November 2002.[66]

BILLS 3 AND 8: CLIMATE CHANGE AND EMISSIONS MANAGEMENT AMENDMENT ACTS, 2007 AND 2008

During the window between Bill 37 and Bill 3, an amendment to the Climate Change and Emissions Management Act that was introduced in 2007, public

health physician David Swann entered politics. Fuelled by his experience with the Kyoto accord, he was elected to the Alberta legislature in November 2004 as a Liberal and served as Critic for the Environment for the opposition from 2004 to 2009, during which time he also won the Liberal leadership.

When introducing Bill 3 in March 2007, PC Environment Minister Robert Renner described it as "ground-breaking legislation" that would establish "Canada's first legislated greenhouse gas emission targets for large industrial emitters."[67] Once again, however, and in another illustration of Longley's notion of symbolic policy discourse, opposition members criticized the disingenuous nature of the bill and its anticipated lack of effectiveness, characterizing it as "lip service."[68] There were a few references to health and well-being during the Bill 3 deliberations,[69] including, not surprisingly, from Swann (Liberal), who argued that " we are paying millions every day now as a result of inaction on climate change. . . . We are also paying the health costs which industry is imposing on all of us as a result of the decline in air quality and the impacts on human health."[70] In addition, Arthur Johnson (PC) commented: "Albertans value their economic prosperity; however, it should not impede their quality of life."[71] Johnson's comment is worth noting because it conveys recognition — unusual among PC members — that quality of life, although a broad concept, is not synonymous with economic prosperity. Ultimately, despite several attempted amendments and impassioned pleas from opposition members,[72] Bill 3 passed, thus placing Alberta first in Canada for "legislated greenhouse gas emission reduction targets;" although as noted above this title is highly misleading.[73]

Bill 8, the final element of the Climate Change and Emissions Management Amendment Act, passed in October 2008, creating the infrastructure to administer the Climate Change and Emissions Management Fund established as part of Bill 37. Opposition members expressed resigned support, again lamenting the bill's inadequacy in terms of having any impact on emission reductions.[74]

Climate Leadership Implementation Act

Following the historically significant election of the NDP government of Rachel Notley in 2015, Bill 20, the Climate Leadership Implementation Act was introduced, deliberated, and passed after a marathon session during May and June of 2016.[75]

Bill 20 included three key components: the Climate Leadership Act, which implemented a carbon levy; the creation of a new agency called Energy Efficiency Alberta; and amendments to existing legislation to align with the government's overall Climate Leadership Plan.[76] The amendments permitted carbon revenue funds to be used for a broader array of activities than previously, including to

support initiatives to reduce greenhouse gas emissions and to provide rebates to consumers, businesses, and communities. Introducing the flagship legislation, Premier Notley signalled the significant change from previous governments when she said, "we are proud that we are taking steps to finally establish Alberta not only as a participant but as a world leader on environmentally responsible energy development."[77]

The Bill 20 deliberations were aggressive and focused most prominently on the carbon levy. Opposition members were patronizing and dismissive in their comments. Two examples of such remarks are:

> It's the shrill finger pointing and the chicken clucking and all the rest that discredit your entire message.[78]

> The Member [Notley] . . . has once again demonstrated a profound lack of understanding of the business world.[79]

Opposition members attacked the governing NDP as ideological and anti-Albertan.[80] Comments invoked a caricatured version of "Albertans" as hard-working — in a "pioneer" sense — heterosexual, car-driving families, as illustrated by this comment from Ronald Orr (Wildrose), referencing the added fuel costs from the carbon levy:

> honestly, how many Albertan families do you know that have only one car? Most people have two cars. The wife has a car. The husband has a car. In many cases kids have their own cars. The average family house in Alberta has a two-car garage. I wonder why. . . . Well, it's because the typical family in Alberta actually has two cars.[81]

Within this context of Bill 20, our two concepts of interest — health and equity — were present in ways that are informative for advancing a broad vision of public health focused on upstream determinants of population well-being and health equity.

HEALTH AND WELL-BEING

To some extent, health was embedded in Bill 20. The bill itself did not mention health, nor did it provide new levers for the public health sector to engage with climate change.[82] However, during the deliberations, health implications were noted. For example, during first reading, Shannon Phillips (NDP), Minister of Environment and Parks, identified that the Climate Leadership Plan would "diversify our economy, create new jobs, improve the health of Albertans, and erase any doubt about our environmental record."[83] Other members likewise

acknowledged anticipated health benefits with respect to reducing particulate damage from coal plants and new infectious diseases caused by a warming climate.[84]

In contrast, and similar to the Taft/Mar exchange of 2002 noted earlier, several opposition members framed investment in climate change and investment in health— which was interpreted in a downstream manner and conflated with health care — as competing policy priorities. One pernicious line of argument was that investment in action on climate change would harm health care by imposing additional costs on that sector or by diverting money away from it. For example, Scott Cyr (Wildrose) argued that "the NDP love to talk about how . . . they would never hurt health care. . . . Well, that's really interesting because the last time I checked, ambulances use diesel, and this [carbon levy] raises the costs on all fuels."[85] Likewise, Don MacIntyre (Wildrose) argued that "the good people of Innisfail-Sylvan Lake are a little bit concerned that this government can put $3.4 billion earmarked toward a box named Other, but they can't seem to find a nickel for an urgently needed urgent care facility in Sylvan Lake."[86] Cyr was taking issue with the "economy-wide" nature of the carbon levy, which meant that no sector, including health care, was exempt, while MacIntyre opposed the amendment that would permit broader use of carbon levy revenue, which he connected with the NDP's failure to invest in health care facilities in his constituency.

Other opposition members took a different tack, misleadingly drawing attention to potential negative consequences for health that could ensue from implementation of the carbon levy. Ronald Orr (Wildrose), for example, opposed the levy on the basis that it would impact families' abilities to heat their homes, which in turn would negatively impact their health:

> the World Health Organization has done a number of significant studies . . . on the health impacts of low indoor temperatures. . . . It relates to acute respiratory diseases, that are among the leading causes of death in Europe. . . . We're taxing [families'] natural gas, which is the essential service by which they're to heat their home, and now we're going to be pushing them to turn their thermostats down to the point where we may be actually causing health impacts.[87]

Likewise, Dave Rodney (PC) spoke about possible consequences of the carbon levy for social and emotional dimensions of health: "I don't know if it's because of my previous portfolio in wellness or as chair of the Alcohol and Drug Abuse Commission, but people [knowing about the impending carbon levy] are telling

me: 'You know what? I've turned to a little self-medication. I'm in a lot of trouble,' and/or 'My spouse and I are disagreeing to the point where there's domestic abuse.'"[88] Comments from Orr and, especially, Rodney illustrate a pernicious invocation of the social determinants of health, where the levy was framed as creating health-damaging financial precarity for families. This sets the stage for our second concept of interest — equity.

EQUITY AND VULNERABILITY

A prominent point of opposition to the carbon levy was the assertion that it would unfairly burden Alberta families and that this was intensified in the context of an economic recession.[89] These comments frequently and misleadingly drew attention to "vulnerable" Albertans, as noted for example by Scott Cyr (Wildrose) during second reading of Bill 20 when he said, " how can you not see . . . how it's going to affect our most vulnerable? Are we going to see seniors on the streets? Are we going to see children and single mothers put on the streets because . . . the unintended consequences of this carbon tax could really impede Albertans' way of life?"[90]

Such comments were coupled with those focusing on the burden on charities. One example came from Glenn van Dijken's (Wildrose) comments focusing on the fact that charities were not exempt from the levy:

> Charitable organizations play a critical role in our society. . . . They support the basic needs of our most vulnerable and are currently swamped trying to attend to the needs of the thousands of Albertans that have lost their jobs in the last year and need some extra help. . . . How can this government justify increasing the costs to charities when our province needs them now more than ever before?[91]

Notable, with respect to the purposes of this chapter, is van Dijken's assertion of the "critical" role of charities — versus robust public sector initiatives by government — vis-à-vis Albertans' well-being. Comments of this nature intensified during deliberations over a proposed amendment to Bill 20 to designate the charitable sector as eligible for a carbon rebate. Indicative of the depth of commitment to charity as a viable solution to social and economic problems, Angela Pitt (Wildrose) introduced the amendment as something that would have broad support when she argued that "all sides of the House can support [this amendment] . . . to show our commitment to the most vulnerable people in Alberta. . . . This is an opportunity for this House to show these hard-working individuals that we support them, that we've got their backs."[92]

These comments from conservatives who did not support climate change legislation invoke social and economic factors affecting Albertans' well-being. However, and problematically, they do so in a way that frames economic disadvantage and its solutions as private matters. In contrast to a social justice orientation, where inclusive public institutions are key factors in supporting and empowering citizens, conservative comments align with a market justice orientation, which views charity as a viable way to address economic well-being among those who cannot achieve it through the market (see also Chapter 12).[93] For these reasons, these comments are significant from the point of view of an overall objective of this volume: to illustrate and strengthen a broad vision of public health.

BILL 20: THIRD READING

The deliberations continued through a marathon session on 6 June 2016, during which over twenty amendments to Bill 20 were put forth by various members of non-governing parties and lost. In addition to points of opposition noted above, a significant one that transcended the opposition parties concerned a lack of detail and accountability that would result in the bill being ineffective. For example, Alberta Party member Greg Clark argued that "there are no details in this bill . . . there are some very significant gaps. . . . We're essentially in many ways being asked to sign a blank cheque here, and I'm very uncomfortable with that."[94] David Swann (Liberal) had raised this concern throughout the debate.[95] Ultimately, and significantly, Swann, a public health leader who had entered politics because of his commitment to the issue of climate change, did not support the bill on this basis. Although this must be interpreted within the dynamics of politics, we close with excerpts from his eloquent commentary:

> I really, really want to support this bill. This is, to me, a sea change that has been so important in my political life.
>
> There is no single item in this bill that's particularly egregious . . . but the amalgamation of a number of weak points in the bill leaves the bill open to becoming as ineffective as the previous PC attempts at a carbon intensity tax [which] had the predictable outcome of no change.
>
> [T]his is a new government. They're trying to do the right thing. I don't know about the next government, though.
>
> It's with a heavy heart that I must say that I cannot support the bill at this time.[96]

With the majority NDP government, Bill 20 passed third reading on 7 June 2016, with a vote of 42 to 29. Three years later, the act was predictably repealed by the United Conservative Party government of Jason Kenney in their flagship legislation, Bill 1 of 2019.[97]

Conclusions

Anchored in the long-standing public health function of *health protection*, this chapter explores the historical and contemporary connection between policy domains of environment and (public) health in Alberta. We acknowledge limitations to our focus and analysis. Because of our particular interest in how concepts are mobilized by provincial governments, a key decision-making level, we did not examine municipal government initiatives or community-led activities in the non-profit sector.[98] We also did not examine how recent environmental activities, including climate change, were understood or navigated from the perspective of local, regional, and provincial health services authorities in Alberta, including how changes such as regionalization impacted these issues.[99] In the context of intensifying concerns around the integrity of our ecosystems, all of these would be excellent topics for future research in the Alberta context.

With regards to our analysis here, we conclude with two main points. First, from the contemporary point of view of a broad, intersectoral version of public health and the challenges presented by isolated government departments,[100] it is interesting and potentially informative to consider that up until 1971, there was a built-in administrative connection between policy domains of environment, such as pollution, and health in Alberta when the provincial Department of Public Health was responsible for preventing and controlling air pollution. Not surprisingly, health was an explicit concern in those policies. The Department of Environment, created in 1971, marked a separation of the two policy domains, which weakened or at least changed the relationship between environment and health on an administrative level. The creation of the Department of Environment was one part of a general historical trend of a growing number of increasingly specialized government entities. However, that does not mean that it is insignificant; as historian Frits Pannekoek notes, "some may well think that the changing organization of various units into ministries really is not relevant, but these nuanced structures have had a profound impact on Alberta."[101] Indeed, as also discussed in Chapter 12, from the perspective of a broad vision of public health, these nuanced structures would appear to represent an informative focus for further historical analysis with a critical, socio-political orientation.

The 1971 creation of the provincial Department of Environment signalled increased attention to environmental concerns, which is a positive development

in terms of public sector leadership for important problems. However, in the context of ideologically driven intensification of colonial extractive industries and capitalist economic growth, it is perhaps not surprising that environmental policy in Alberta quickly became weak, and worse, disingenuous. Against that backdrop, our analysis of climate change deliberations in the early 2000s showed our second concluding point, which is that some members framed climate change and health as competing policy priorities; for example, arguing that investment in climate change meant less money for health care. Embedded in this argument was a conflation of health and health care, as well as a dissociation of health from its upstream or root causes including social equity and healthy environments. These dynamics continue to hinder a broad vision of public health today. In terms of equity, the conviction and persistence with which many members mobilized a downstream and depoliticized version of equity as being about a static population of inherently "vulnerable" Albertans who depend on charities for well-being is significant in terms of its striking contrast with how equity is conceptualized from a social determinants of health point of view. Illustrative of the latter, a 2008 report from the World Health Organization's Commission on Social Determinants of Health argued that health inequity is "not in any sense a 'natural' phenomenon but [is] the result of a toxic combination of poor social policies and programmes, unfair economic arrangements, and bad politics."[102] We recognize of course that comments in government deliberations constitute "playing politics." However, the points of view advanced in those comments would not be mobilized if they did not powerfully resonate with at least some Albertans.

These observations illuminate challenges for public health. They illustrate and shed light on the weak link made by individuals, and governments, between health issues and climate change noted in the *Lancet* quotation that opened this chapter. Strengthening the link will require, among other things, efforts to revisit entrenched forms of public health practice that perpetuate a downstream orientation and conflate public health with health care.[103] Research in climate change and public health practice indicates that activities are dominated by *adaptation,* or adjusting to or moderating harms from climate change, such as climate change and health vulnerability assessments.[104] While it is certainly important to plan for adaptation responses, these efforts must be accompanied by *mitigation*, that is, political engagement to demand reduction of emissions, including by ceasing extractive activities altogether. The upstream orientation of mitigation is, in theory at least, strongly aligned with public health's stated focus on efforts to address upstream determinants of health and well-being in populations.[105] Guidance may be found in the Canadian Public Health Association's

work on the ecological determinants of health, led by Dr. Trevor Hancock, who was the first leader of the Green Party of Canada, which explicitly rejects the view that humans are inherently more important than other life forms and outlines an agenda for action that demands "explicit re-engagement with the values of public health" including to challenge prevailing economic norms that promote economic growth as the solution to social problems.[106]

To return to the core public health function of health protection with which we began this chapter, climate change illustrates that there is an important opportunity for public health communities to push the boundaries of health protection to embrace new and emergent priorities and ways of thinking, while continuing to respect and strengthen the long-standing focus on water, air, and food safety. Substantive engagement around ecosystem integrity, social equity, and the political economic systems that obstruct them would enable the field of public health to remain relevant and to meet its core mandate around the public's health. For a field that is lamented as weakening, that is an important opportunity for public health indeed.[107]

NOTES

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3 Annette Prüss-Üstün et al., *Preventing Disease through Healthy Environments: A Global Assessment of the Burden of Disease from Environmental Risks* (Geneva: World Health Organization, 2016); Chris G. Buse et al., "Public Health Guide to Field Developments Linking Ecosystems, Environments and Health in the Anthropocene," *Journal of Epidemiology and Community Health* 72 (2018).

4 National Collaborating Centre for Determinants of Health, *Determining Health: Decent Work Issue Brief* (Antigonish, NS: NCCDH, St. Francis Xavier University, 2022).

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6 Chris G. Buse and Rebecca Patrick, "Climate Change Glossary for Public Health Practice: From Vulnerability to Climate Justice," *Journal of Epidemiology and Community Health* 74, no. 10 (2020): 867–871; Intergovernmental Panel on Climate Change, "Glossary of terms," in *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change (IPCC)*, eds. C.B. Field, et al. (Cambridge, UK, and New York: Cambridge University Press, 2012).

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9 Richard Horton, et al., "From Public to Planetary Health: A Manifesto," *The Lancet* 383, no. 9920 (2014): 847.

10 Chris G. Buse et al., "Public Health Guide to Field Developments Linking Ecosystems, Environments and Health in the Anthropocene," *Journal of Epidemiology and Community Health* 72 (2018).

11 Buse and Patrick, "Climate Change Glossary."

12 Compiled from various sources; for example: BBC (https://www.bbc.com/news/science-environment-15874560); History.com (https://www.history.com/topics/natural-disasters-and-environment/history-of-climate-change); The Canadian Encyclopedia (https://www.thecanadianencyclopedia.ca/en/article/environmental-and-conservation-movements). See also *Act for the Regulation of Fishing and Protection of Fisheries*, Statutes of Canada, 1868, c. LX; Kevin Mcnamee and Maxwell W. Finkelstein, "National Parks of Canada," in *The Canadian Encyclopedia. Historica Canada*, article published 12 January 2012, https://www.thecanadianencyclopedia.ca/en/article/national-parks-of-canada; *An Act respecting National Parks*, S.C. 1930, c. 33; Trevor Hancock, Donald W. Spady, and Colin L. Soskolne, *Global Change and Public Health: Addressing The Ecological Determinants Of Health*, Canadian Public Health Association Discussion Paper (Ottawa: Canadian Public Health Association, 2015), https://www.cpha.ca/sites/default/files/assets/policy/edh-discussion_e.pdf; Larry Booth and Frank Quinn, "Twenty-five Years of the Canada Water Act," *Canadian Water Resources Journal* 20, no. 2 (1995); 65–90; *Canada Water Act*, S.C. 1969–1970, c. 52; *Arctic Waters Pollution Prevention Act*, S.C. 1969–1970, c. 47; R. J. Powell and L. M. Wharton, "Development of the Canadian Clean Air Act," *Journal of the Air Pollution Control Association* 32, no. 1 (1982): 62–65; "Acts," Acts & Regulations, Environment and Climate Change Canada, accessed 27 October 2020, https://ec.gc.ca/default.asp?lang=En&n=E826924C-1&wbdisable=true; "Conventional Oil," Alberta Culture and Tourism, accessed 27 October 2020, http://history.alberta.ca/energyheritage/oil/default.aspx; "History of the IPCC," The Intergovernmental Panel on Climate Change, accessed 27 October 2020, https://www.ipcc.ch/about/history/; "Overview of Canadian Environmental Protection Act," Government of Canada, modified 2 August 2017, https://www.canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/general-information/overview.html; "About Montreal Protocol," United Nations Environment Programme, accessed 27 October 2020, https://www.unenvironment.org/ozonaction/who-we-are/about-montreal-protocol; "United Nations Framework Convention on Climate Change," Government of Canada, modified 27 April 2020, https://www.canada.ca/en/environment-climate-change/corporate/international-affairs/partnerships-organizations/united-nations-framework-climate-change.html; *Canadian Environmental Assessment Act*, S.C. 1992, c. 37; "What is the Kyoto Protocol?," United Nations Framework Convention on Climate Change, accessed 27 October 2020, https://unfccc.int/kyoto_protocol; "Leaders' Statement on a North American Climate, Clean Energy, and Environment Partnership," Justin Trudeau, Prime Minister of Canada, published 26 June 2016, https://pm.gc.ca/en/news/statements/2016/06/29/leaders-statement-north-american-climate-clean-energy-and-environment

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15 Hummel, "Environmental Movement in Canada."

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18 R.J. Powell and L.M. Wharton. "Development of the Canadian Clean Air Act," *Journal of the Air Pollution Control Association* 32, no. 1 (1982). These federal initiatives formed part of the complex, inter-jurisdictional governance arrangements under which environmental policy in the provinces and territories operates today. Jeff Surtees, "Who's The Boss? —– Jurisdiction Over the Environment in Canada," *LawNow*, 2 March 2017, https://www.lawnow.org/whos-the-boss-jurisdiction-over-the-environment-in-canada/; Penny Becklumb, *Federal and Provincial Jurisdiction to Regulate Environmental Issues*, Background Paper (Publication No. 2013-86-E) (Ottawa: Library of Parliament, 24 September 2013, revised 29 October 2019), https://lop.parl.ca/staticfiles/PublicWebsite/Home/ResearchPublications/BackgroundPapers/PDF/2013-86-e.pdf.

19 "History," Green Party of Canada, accessed 28 October 2020, https://www.greenparty.ca/en/party/history. The first leader of the Green Party of Canada was public health physician Trevor Hancock. See Trevor Hancock, *Ecological Economics and Public Health: An Interview with Dr. Trevor Hancock* (Montréal, QC: National Collaborating Centre for Healthy Public Policy, 2019), http://www.ncchpp.ca/867/Publications.ccnpps?id_article=2052.

20 Vanessa Hrvatin, "A Brief History of Canada's Climate Change Agreements," *Canadian Geographic,* 30 May 2016, https://www.canadiangeographic.ca/article/brief-history-canadas-climate-change-agreements; Government of Canada, *Pan-Canadian Framework on Clean Growth and Climate Change: Canada's Plan to Address Climate Change and Grow the Economy* (2016), http://publications.gc.ca/collections/collection_2017/eccc/En4-294-2016-eng.pdf; "Mandate," Impact Assessment Agency of Canada, accessed 28 October 2020, https://www.canada.ca/en/impact-assessment-agency/corporate/mandate.html. The Impact Assessment Act of 2019, which created the agency, replaced the weak 2012 version of the Canadian Environmental Assessment Act passed under the Harper government.

21 Shannon Daub et al., "Episodes in the New Climate Denialism," in *Regime of Obstruction: How Corporate Power Blocks Energy Democracy*, ed. William K. Carroll (Edmonton, AU Press, 2021).

22 In light of our contemporary focus on climate change, we focus on air pollution as the logical historical precursor because climate change reflects human activities that release CO2 and other greenhouse gases into the atmosphere; it is therefore related to, but is not the same as, air pollution. We consider the historical overlap between this version of environment and health and well-being.

23 For example, Alberta's inaugural (1907) Public Health Act included the following clause among the items for which the provincial board of health could create regulations for the purpose of preventing the spread of communicable diseases: "The prevention of the pollution, defilement, discolouration or fouling of all lakes, streams, pools, springs and waters, and to ensure their sanitary condition and to regulate the cutting and storage of ice." *Act respecting Public Health*, S.P.A., 1907, c. 12. A 1919 amendment further added "prevention of the pollution of soil" to the list (*Act to Amend the Public Health Act*, S.P.A. 1919, c. 46).

24 *Act to Amend the Public Health Act*, S.P.A. 1944, c. 53.

25 For examples of water pollution measures, see R.H. Ferguson, "Water Pollution Control in Alberta," in H.L. Hogge et al., "Air and Water Pollution Control Programs in Alberta: A Panel Presentation," *Canadian Journal of Public Health* 57, no. 2 (February 1966); PAA (PAA), *An Administrative History of the Government of Alberta, 1905–2005* (Edmonton: PAA, 2006).

26 *Act to Amend the Public Health Act*, S.P.A. 1955, c. 30. See also "Alberta will spend more on highways," *Edmonton Journal*, 18 February 1955, Alberta Legislature Library, Scrapbook Hansard, https://librarysearch.assembly.ab.ca/client/en_CA/search/asset/161992/0; "New legislation would curb disputes over mineral rights", *Edmonton Journal*, 24 February 1955, Alberta Legislature Library, Scrapbook Hansard, https://librarysearch.assembly.ab.ca/client/en_CA/search/asset/162014/0

27 *Public Health Act*, R.S.A. 1970, c. 294.

28 *An Act respecting Public Health,* R.S.A. 1955, c. 255.

29 Alberta Department of Public Health, *Annual Report 1961* (Edmonton: Printed by L.S. Wall, Printer to the Queen's Most Excellent Majesty, 1963), 2; Powell and Wharton, "Development of the Canadian Clean Air Act;" Hogge et al., "Air and Water Pollution Control Programs in Alberta."

30 S.L. Dobko, "Air Pollution in Alberta," in H.L. Hogge et al., "Air and Water Pollution Control Programs in Alberta."

31 PAA, *An Administrative History.*

32 Specifically, the Department of Environment took over responsibility for: i) assessment of the pollution control facilities at all new or expanding industries or other activities; ii) measurement of the air quality in those areas of the province in industrial and urban centres where air contaminants are being released in significant amounts; iii) measurement of the rates of release of contaminants (stack surveys) at larger industries; iv) review of air quality and contaminant release rate information submitted by industries, as required in the Air Pollution Control Approvals; and v) Evaluation and follow-up on reports and complaints related to air quality. Alberta Department of Health and Social Development, *A Summary Report 1971* (Edmonton, 1972), 19.

33 PAA, *An Administrative History.*

34 Hereward Longley, "Conflicting Interests: Development Politics and the Environmental Regulation of the Alberta Oil Sands Industry, 1970-1980," *Environment and History* 27, no. 1 (1February 2021), https://doi.org/10.3197/096734019X15463432086919.

35 Longley, "Conflicting Interests."

36 *Public Health Act*, R.S.A. 1970.

37 An an example of citizen concern, Longley notes that three Edmonton-based environmental groups were formed in 1969 or 1970 and pressured government for environmental policy and legislation. Longley, "Conflicting interests;" STOP — Save Tomorrow Oppose Pollution fonds, PR1502. PAA, Edmonton, Alberta.

38 Alvin Finkel, *The Social Credit Phenomenon in Alberta* (Toronto: University of Toronto Press, 1989); Longley, "Conflicting Interests."

39 Finkel, *The Social Credit Phenomenon*.

40 Throne Speech, 11 February 1971 (Harry Strom, Social Credit administration). Jack Lucas and Jean-Philippe Gauvin, "Alberta Throne Speeches 1906–2017 (Comparative Agendas Project)," 2019, https://doi.org/10.5683/SP2/0WH5FH, Borealis, V1.

41 Longley, "Conflicting Interests."

42 Retrospective description of the Environment Conservation Authority: Alberta. Legislative Assembly of Alberta, 26 November 1990 (Bob Hawkesworth, NDP). All Alberta Hansard transcripts are available at https://www.assembly.ab.ca/assembly-business/transcripts/transcripts-by-type. The Environment Conservation Authority, which was created through *An Act respecting Environment Conservation,* S.A. 1970, c. 36, was responsible for reviewing and reporting on government policies and programs on matters pertaining to environmental conservation. Environment Council of Alberta records, GR0053.0001F. PAA, Edmonton, Alberta.

43 As an example of environmental matters being marginalized, in 1977 the Environment Conservation Authority was replaced by the Environment Council of Alberta, which was later described as "largely impotent" in its ability to advocate for the environment. Alberta. Legislative Assembly of Alberta, 26 November 1990 (Bob Hawkesworth, NDP).

44 As an example of increasingly harmful oil sands activity, Longley states that by 1976 the GCOS company's tailings pond leached over 1.5 million litres per day of toxic effluent into the Athabasca River. Longley, "Conflicting Interests."

45 "Conventional Oil," Alberta Culture and Tourism, accessed 29 October 2020, http://history.alberta.ca/energyheritage/oil/default.aspx.

46 In focusing our analysis in this way, and in the interest of coherence, we omit other concepts and dimensions that figured prominently in the climate change debate, many of which would constitute an interesting, informative analysis.

47 Alberta. Legislative Assembly of Alberta, 8 June 1990 (Ernest Isley, PC), to which Grant Mitchell (Lib) replied, "It's just appalling that a minister of this government would joke about something as critical as this." 1749.

48 Substantive reference, in the Hansard, to equity or fairness vis-à-vis climate change was absent during the 1990s.

49 Alberta. Legislative Assembly of Alberta, 18 March 1991, first reading; 23 May 1991, second reading (did not pass second reading).

50 Alberta. Legislative Assembly of Alberta, 23 May 1991 (Grant Mitchell, Lib).

51 Alberta. Legislative Assembly of Alberta, 23 May 1991 (Grant Mitchell, Lib).

52 Alberta. Legislative Assembly of Alberta, 23 May 1991 (Donald Tannas, PC).

53 Longley, "Conflicting Interests."

54 Throne Speech, 26 February 2002 (Ralph Klein, PC administration). Lucas and Gauvin, "Alberta Throne Speeches."

55 Brad Mackay, "Firing Public Health MD Over Pro-Kyoto Comments a No-no, Alberta Learns," *Canadian Medical Association Journal* 167, no. 10 (2002): 1156. See also multiple stories in the *Edmonton Journal*, 5 October 2002.

56 Bill 32: Climate Change and Emissions Management Act, 2002; Alberta. Legislative Assembly of Alberta, 19 November 2002, first reading; 26 November 2002, second reading.

57 Alberta. Legislative Assembly of Alberta, 26 November 2002 (Debby Carlson, Lib).

58 Alberta. Legislative Assembly of Alberta, 18 November 2003 (David Broda, PC).

59 Alberta. Legislative Assembly of Alberta, 26 November 2002 (Raj Pannu, NDP).

60 Alberta. Legislative Assembly of Alberta, 20 November 2002 (Kevin Taft, Lib, Gary Mar, PC).

61 Alberta. Legislative Assembly of Alberta, 19 November 2002 (Ralph Klein, PC).

62 Alberta. Legislative Assembly of Alberta, 26 November 2002.

63 Bill Doskoch, "Canada and the Kyoto Protocol – a Timeline," *CTVNews*, 5 December 2011, https://www.ctvnews.ca/canada-and-the-kyoto-protocol-a-timeline-1.732766.

64 Alberta. Legislative Assembly of Alberta, 18 November 2003 (Brian Mason, NDP).

65 Alberta. Legislative Assembly of Alberta, 18 November 2003 (Laurie Blakeman, Lib).

66 Alberta. Legislative Assembly of Alberta, 18 November 2003, second reading, committee of the whole; Alberta. Legislative Assembly of Alberta, 20 November 2003, third reading.

67 Alberta. Legislative Assembly of Alberta, 8 March 2007 (Robert Renner, PC).

68 Alberta. Legislative Assembly of Alberta, 20 March 2007, second reading, Bill 3 (William Bonko, Lib).

69 For example: Alberta. Legislative Assembly of Alberta, 10 April 2007 (Harry Chase, Lib; David Eggen, NDP).

70 Alberta. Legislative Assembly of Alberta, 20 March 2007, second reading, Bill 3 (David Swann, Lib).

71 Alberta. Legislative Assembly of Alberta, 8 March 2007 (Arthur Johnston, PC).

72 Proposed changes included several amendments designed to make the bill stronger, including those put forth by David Eggen, NDP (Alberta. Legislative Assembly of Alberta, 5 April 2007, amendment A1; 10 April 2007, amendments A2, A3, and A4) and by Swann (Alberta. Legislative Assembly of Alberta, 11 April 2007; 12 April 2007). See also "Environmental Sustainability", Alberta. Legislative Assembly of Alberta, 12 April 2007.

73 Bill 3: Alberta. Legislative Assembly of Alberta, 3 April 2007, second reading; 11 April 2007, Committee of the Whole; 17 April 2007, third reading.

74 Alberta. Legislative Assembly of Alberta, 16 October 2008 (Laurie Blakeman, Lib); 20 October 2008 (David Swann, Lib).

75 Alberta. Legislative Assembly of Alberta, 24 May 2016, first reading; 1 June 2016, second reading; 7 June 2016, third reading.

76 Alberta. Legislative Assembly of Alberta, 25 May 2016, Bill 20 – second reading (Phillips, NDP).

77 Alberta. Legislative Assembly of Alberta, 24 May 2016 (Rachel Notley, NDP).

78 Alberta. Legislative Assembly of Alberta, 2 June 2016 (Ronald Orr, Wildrose).

79 Alberta. Legislative Assembly of Alberta, 6 June 2016 (Don Macintyre, Wildrose).

80 Alberta. Legislative Assembly of Alberta, 25 May 2016 (Richard Gotfried, PC).

81 Alberta. Legislative Assembly of Alberta, 31 May 2016, (Ronald Orr, Wildrose).

82 Bill 20: Climate Leadership Implementation Act. The Legislative Assembly of Alberta, Second Session, 29th Legislature, https://docs.assembly.ab.ca/LADDAR_files/docs/bills/bill/legislature_29/session_2/20160308_bill-020.pdf.

83 Alberta. Legislative Assembly of Alberta, 24 May 2016 (Shannon Phillips, NDP).

84 Examples include comments from Bob Turner, NDP and David Swann, Lib: Alberta. Legislative Assembly of Alberta, 25 May 2016 and 31 May 2016.

85 Alberta. Legislative Assembly of Alberta, 25 May 2016 (Scott Cyr, Wildrose).

86 Alberta. Legislative Assembly of Alberta, 1 June 2016 (Don Macintyre, Wildrose).

87 Alberta. Legislative Assembly of Alberta, 31 May 2016 (Ronald Orr, Wildrose.

88 Alberta. Legislative Assembly of Alberta, 7 June 2016 (Dave Rodney, PC).

89 Alberta. Legislative Assembly of Alberta, 24 May 2016 (Brian Jean, Wild Rose).

90 Alberta. Legislative Assembly of Alberta, 25 May 2016 (Scott Cyr, Wildrose).

91 Alberta. Legislative Assembly of Alberta, 25 May 2016 (Glenn van Dijken, Wildrose).

92 Alberta. Legislative Assembly of Alberta, 6 June 2016 (Angela Pitt, Wildrose).

93 Ahmed M. Bayoumi and Adrian Guta, "Values and Social Epidemiologic Research," in *Rethinking Social Epidemiology: Towards a Science of Change*, eds. Patricia O'Campo and James R. Dunn (Dordrecht: Springer, 2012).

94 Alberta. Legislative Assembly of Alberta, 31 May 2016 (Greg Clark, Alberta Party).

95 Alberta. Legislative Assembly of Alberta, 31 May 2016 (David Swann, Lib).

96 Alberta. Legislative Assembly of Alberta, 7 June 2016 (David Swann, Lib).

97 Bill 1: An Act to Repeal the Carbon Tax (Kenney). Alberta. Legislative Assembly of Alberta.

98 Examples of climate change related in municipal government and non-profit sectors include: "Calgary's Climate Change Program," The City of Calgary, accessed 28 October 2020, https://www.calgary.ca/uep/esm/energy-savings/climate-change.html; "Climate Action," Town of Canmore, accessed 28 October 2020, https://canmore.ca/residents/stewardship-of-the-environment/climate-change-adaptation-plan; "Home," Alberta Environmental Network, accessed 28 October 2020, https://www.aenweb.ca.

99 For example, "Environmental Public Health," Alberta Health Services, accessed 28 October 2020, https://www.albertahealthservices.ca/eph/eph.aspx. For an example of an analysis of public health adaptation to climate change from the perspective of practitioners, see Chris G. Buse et al., "'We're All

Brave Pioneers on this Road:' A Bourdieusian Analysis of Field Creation for Public Health Adaptation to Climate Change in Ontario, Canada," *Critical Public Health*, 31, Issue 1 (2021).

100 For example, see Evelyne de Leeuw and Dorothee Peters, "Nine Questions to Guide Development and Implementation of Health in All Policies," *Health Promotion International* 30, no. 4 (2014).

101 PAA, *An Administrative History of the Government of Alberta*.

102 Commission on Social Determinants of Health, *Closing the Gap in a Generation: Health Equity through Action on the Social Determinants of Health*, Final Report of the Commission on Social Determinants of Health (Geneva: World Health Organization, 2008), https://www.who.int/social_determinants/thecommission/finalreport/en/.

103 Buse, "Health Equity, Population Health;" Buse et al., "'We're All Brave Pioneers on this Road.'"

104 Stephanie E. Austin et al., "Public Health Adaptation to Climate Change in OECD Countries." *International Journal of Environmental Research and Public Health* 13, no. 9 (2016); Malcolm Araos et al. "Public Health Adaptation to Climate Change in Large Cities: A Global Baseline," *International Journal of Health Services* 46, no. 1 (2016). We were surprised to read in these publications that "in the public health context, adaptation is synonymous with prevention and may constitute policies (etc.) to avert the negative health impacts of climate change." This sounds like tertiary prevention at best. Chris G. Buse, "Why Should Public Health Agencies Across Canada Conduct Climate Change and Health Vulnerability Assessments?" [commentary], *Canadian Journal of Public Health* 109, no. 5-6 (2018).

105 Adaptation strategies can in some cases directly conflict with mitigation. One example is the adaptation strategy of air conditioning to reduce heat-related illnesses when air conditioning also contributes to greenhouse gas emissions and climate change. Younger et al., "The Built Environment, Climate Change, and Health: Opportunities for Co-benefits;" Canadian Public Health Association (CPHA), *Public Health: A Conceptual Framework*, CPHA Working Paper, Second Edition (Ottawa: CPHA, 2017), https://www.cpha.ca/public-health-conceptual-framework; "Glossary," National Collaborating Centre for Determinants of Health, accessed 30 October 2020, https://nccdh.ca/index.php?/glossary/entry/upstream-downstream.

106 Trevor Hancock, Donald W. Spady, and Colin L. Soskolne, *Global Change and Public Health: Addressing the Ecological Determinants Of Health*, CPHA Discussion Paper (Ottawa: Canadian Public Health Association, 2015), https://www.cpha.ca/sites/default/files/assets/policy/edh-discussion_e.pdf. See also Margot W. Parkes et al., "Preparing for the Future of Public Health: Ecological Determinants of Health and the Call for an Eco-social Approach to Public Health Education," *Canadian Journal of Public Health* 111 (2020).

107 Louise Potvin, "Canadian Public Health under Siege" [editorial], *Canadian Journal of Public Health* 105, no. 6 (December 2014), doi:10.17269/cjph.105.4960; Ak'ingabe Guyon et al., "The Weakening of Public Health: A Threat to Population Health and Health Care System Sustainability," *Canadian Journal of Public Health* 108, no. 1 (2017).