

Canada: Tensions between energy and GHG policies

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Abstract. Canadian energy policy is defined by three primary themes. First, the tension between federal and provincial jurisdictions over energy development and energy transmission. Provinces have control over the development of their energy resources, while interprovincial transport and offshore development is federally regulated, creating interregional tensions over market access. Secondly, regional resource endowments led to disparity in economic development, and federal policies that benefited some regions at the expense of others, furthering inter-regional tensions. Thirdly, the proximity of the United States as a primary export market has influenced interprovincial cooperation and coordination in energy policy. These three themes will be explored in describing the evolution of energy policy in Canada. Coupled with environmental concerns around energy development, energy policy in Canada has been, and continues to be, fraught with tension.

1. Introduction

This chapter examines the politics and policy of energy in Canada;¹ the primary focus is oil, natural gas, and electricity. While a full description of the breadth and scope of each policy is beyond the scope of this piece, pivotal policies in Canada's history and their effects are explored. Canadian energy policy and regulation is defined by the division of powers between the federal government and provinces and territories; the disparity in resource endowments across Canada; and dependence on the United States as a primary market for Canada's energy products. The existence of federal, provincial and territorial governments, each with different responsibilities and policy objectives, has made the evolution of energy policy in Canada complex, often fragmented and always controversial. This complexity is mirrored in environmental policy, and the interactions between energy and environmental policy.

A defining characteristic of Canada's energy policy and decision-making is the division of powers between federal and provincial governments. This division of powers creates overlapping jurisdiction and friction between legislative authorities. Both provincial and federal governments have strong powers over natural resources, contributing to the friction between the two levels of government. To understand energy policy in Canada, it is necessary to understand the role and rights of the provinces as owners of the natural resources, and how the federal government may restrict those ownership rights through its exercise of constitutional jurisdiction.

This discussion focuses on federal-provincial and province-to-province relations in the development of energy policy, as this is where conflicts frequently arise. It traces the history of policy development to provide context for current policy disputes and regional mentalities. While much of this

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¹ The country is divided into 10 provinces (West to East: British Columbia, Alberta, Saskatchewan, Manitoba, Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, and Newfoundland and Labrador) and three territories (West to East: Yukon, Northwest Territories, and Nunavut).

text is spent on current trends and policy issues, understanding of current policies — federal and provincial — would be incomplete without examining the legacy of federal policies following Confederation in 1867 and up until the 1980s. Contemporary energy policy, and the decisions made by political leadership, are function of past political contexts and decisions. Acrimonious province-to-province and provincial-federal relationships were common in the past and continue into the present.

The federal government has a long history of interventionist policies to support economic development, many directed at energy resources. Federal governments face the tension of regional differences: depending on the energy source, different parts of Canada are simultaneously net energy importers as well as net energy exporters (McDougall 1982; Tombe 2014). The tension between regions and Canada's self-sufficiency began with coal and continued with oil and natural gas (McDougall 1982). The most accessible (and lowest-cost) supply of energy for Central Canada is from the United States, and the United States is a natural market for Canada's energy producing provinces. The difference in resource endowments and populations in Western, Central and Eastern Canada have led to fundamentally different interests; combined with the vast distances requiring large energy infrastructure projects with significant cost and risk, energy politics in Canada has ever been controversial (Doern and Gattinger 2003). In modern energy politics and policy, the debate has centered on protecting the environment, whether Canada's current reliance on fossil fuels is sustainable, and for electricity, using energy policy to meet environmental objectives. This continues to maintain regional tensions, with oil and gas producing provinces wanting to maintain their resource-based economies, and other provinces desiring more action in lowering greenhouse gas (GHG) emissions.

Balancing economic growth with commitments to reduce GHG emissions and the requisite policy actions have challenged policymakers and politicians across Canada. As a nation endowed with substantial fossil fuel resources, the majority of which are exported, the appropriate balance of resource development and emissions-reduction is a non-trivial policy question. The complicated nature of the Canadian federation exacerbates this policy discussion. Somewhat surprisingly, the tension over the balance between resource development and emissions reductions does not necessarily translate to regional divides over climate policy itself. Instead, support for more stringent emissions-reduction policies differ along political lines, creating another source of tension in policy development.

Contemporary policy in Canada is rapidly shifting, with vast changes starting in 2012 and continuing to the present. Energy and environmental policy are increasingly part of public debates and affects election outcomes. The current policy environment is unsettled (Economic Policy Uncertainty n.d.), with increasing use of courts to provide clarity and legislative instruments to assert jurisdiction. The question of appropriate balance remains unanswered and will inform policy discussions and actions for the foreseeable future.

The remainder of this discussion covers the main points underlying Canadian energy and climate policies. Section 2 discusses energy resources and the disparity between centers of production and consumption across the country. Section 3 touches on the policy-making environment including the governance structure at the federal level, existing laws governing energy, cultural attributes and informal institutions affecting policy-making, and control and flow of information. Section 4 covers some of the Canadian experience in energy policy-making. Finally, Section 5 offers some brief conclusions.

2. Energy resources

Canada is an energy-rich nation. In 2019 proven reserves, it ranked globally 4th for crude oil, 15th for natural gas, 16th for coal, and 3rd for uranium (BP 2020). These endowments have substantially

influenced the direction and scope of energy policy. Energy security is not generally a concern,² though the pace and scope of resource development is, as well as access to export markets (both domestic and international). The energy sector³ is a small share of the total Canadian economy, accounting for 7% of GDP⁴ and 1.4% of total employment⁵ in 2019, though this varies substantially by province. The four western provinces, B.C., Alberta, Saskatchewan, and Manitoba, contributed nearly 71% of 2019 energy sector GDP, with Alberta alone contributing 51% (Statistics Canada 2023b). This illustrates the regional disparity between the western producing provinces and the high-demand eastern provinces which leads to energy and climate policy conflicts.

Table 1. Energy resources: 2019

Primary fuel	Proven reserves (2019)	Global share of proven reserves (percent)	Production (2019)	Net Exports (Exports-Imports) 2019
Oil (million tonnes)	27,300	9.8	274.9	164.1
Natural gas (billion cubic meters)	2,000	1.0	173.1	48.1
Coal (million tonnes)	6582	0.6	50.5	28.5
Uranium (tonnes)	565,000	8.0	6,996	4,967.2

Source: BP 2020; OECD-NEA 2020; NRCan 2019.

Most hydrocarbon resources are in the west, concentrated in the Western Canadian Sedimentary Basin (WCSB).⁶ Historically and currently, most of Canadian crude oil production is from the western provinces, with Alberta accounting for 80.5% in 2019 (NRCan 2020). Oil sands account for 97% of remaining established reserves and accounted for 63% of crude oil production in 2019 (NRCan 2020). Oil sands production comes from two sources: surface mining and in situ processes using steam, with production split equally between the two types in 2019 (NRCan 2020). While in situ production uses less water per barrel than mining and recycles more water than mining (NRCan 2020), it is more emissions

² The exception is Northern Canada, where remoteness and limited infrastructure makes energy very expensive and the colder climate means per capita energy use is higher (NEB 2011).

³ The “energy sector” is defined as the combination of the business establishments of the North American Industry Classification System (NAICS) codes 211 (oil and gas extraction), 2121 (coal mining), 21229 (uranium ore mining), 213111 (oil and gas contract drilling), 213118 (services to oil and gas extraction), 2211 (electric power generation, transmission and distribution), 2212 (natural gas distribution), 32411 (petroleum refineries), and 486 (pipeline transportation).

⁴ Author’s calculations from Statistics Canada (2023a,b).

⁵ Author’s calculations from Statistics Canada (2024).

⁶ The WCSB is a large sedimentary basin with substantial oil, natural gas, coal and mineral wealth underlying the majority of Western Canada, including northeastern British Columbia, Alberta, southern Saskatchewan, southwestern Manitoba and the southwest corner of the Northwest Territories (Mossop and Shetsen 1994).

intensive (Bošković and Leach 2020; Leach 2022). Emissions intensity also varies substantially across facilities (Orellana et al. 2018; Sleep et al. 2020). In addition to proven reserves, oil sands also dominate potential resources, at 90% of remaining ultimate potential resources at the end of 2019 (CER 2020). Policy affecting the oil sands and development of the frontier lands has a crucial role in determining future production, particularly climate policy. Hydraulic fracturing is also controversial and subject to ongoing policy discussion, with moratoriums in several provinces; should these policy issues be resolved the technology may substantially change the availability of oil resources in Eastern and Atlantic Canada.

As with crude oil, the majority of Canada's natural gas resources are concentrated in the WCSB. As of the end of 2013, 98% of historical production occurred in Western Canada (NEB 2015). At the end of 2019, approximately 81% of remaining marketable gas resources were in the WCSB, of which 34% is shale gas (CER 2020). Frontier areas (West Coast offshore, Arctic, the territories, Nova Scotia, and Newfoundland and Labrador) accounted for 17% of potential resources. Resource development in each of these regions will depend on policy changes, particularly around offshore drilling and hydraulic fracturing. Both the oil and natural gas segments are competitive including companies ranging from international oil companies to small independents, though the oil sands is highly concentrated.

The magnitude of hydrocarbon reserves has meant the Western provinces are comfortably able to support their own energy demand, as well as export to the rest of Canada and elsewhere. As a result, a primary policy consideration for producing provinces is access to export markets, whereas consuming provinces are concerned with low energy costs. Both concerns influence energy policy at the provincial and federal levels. In 2019, 81% of oil produced was for export, of which 79% went to the US (NRCAN 2020). Pipelines to eastern Canada and into the US mid-west and ultimately to the Gulf Coast carry crude. Canadian gas pipelines are well integrated into the US system (NRCAN 2019). This integration is due to the location of the supply relative to demand, well-developed pipeline infrastructure, and trade agreements between the US and Canada. In 2019, 45% of natural gas production was exported with all of it going to the US (NRCAN 2020). Canada also imports natural gas into the eastern provinces due to plentiful supplies of shale gas and cheaper transportation costs than from the western provinces. This integration has meant changes in US energy markets, such as those prompted by hydraulic fracturing, also substantially affected Canadian production and consumption trends (Winter 2019; Rioux and Winter 2020).

In addition to well-developed transportation infrastructure, the rest of the mid-stream is developed or developing. Canada has 15 refineries which supply domestic demand and provide for export (NRCAN 2020). In 2019, the country was a net exporter of petroleum products, exporting 27% (primarily to the US) and importing 19% for domestic use (NRCAN 2020). A combination of limited inter-provincial crude oil pipeline infrastructure and tidewater access for both refineries (10 of 15) and major refined products demand centers means Canada consistently imports and exports refined products. Canada has one import facility for LNG in New Brunswick and three small liquefaction facilities operating for domestic use (NRCAN 2023). One small export facility sends small volumes to China (FortisBC 2017), one is under construction (LNG Canada 2019), and numerous other projects are proposed for B.C. (CER 2019; NRCAN 2023). Five additional projects have been proposed in the eastern provinces, though none have progressed (Winter et al. 2018). Projects in B.C. have a competitive edge over the US Gulf Coast due to reduced travel times of 50% to Asia (Moore et al. 2014). However, LNG projects are subject to provincial environmental assessment and federal regulation (export licenses and impact assessment), which adds complexity and slows approvals, final investment decisions, and construction.

In addition to hydrocarbons, Canada produces coal and uranium. Coal production declined 249% between its peak in 1997 and 2017, with this downward trend expected to continue (CER 2018). In 2019, B.C., Alberta and Saskatchewan accounted for 99% of production — 47% thermal coal and 53% metallurgical coal — of which 51% is exported (NRCAN 2020). the majority of uranium production is exported, with 75% of production in 2019 exported to Asia, North America, and Europe (NRCAN 2020). Canada is the largest foreign supplier of uranium to the US. Uranium mining is highly concentrated, with

only two firms operating five mines (GoCan 2024). Coal mining is also concentrated, with eight firms operating 19 mines (Mining Association of Canada 2022).

Over 80% of Canada’s electricity is generated by non-GHG emitting sources, 60% by hydro (NRCan 2020). Canada is the third largest hydroelectricity producer in the world (USEIA 2022). British Columbia, Manitoba, Quebec, Newfoundland and Labrador, and Yukon generate over 85% of their power needs with hydro (NRCan 2020). Currently, three large hydro projects are under construction in B.C., Manitoba, and Quebec (USEIA 2022). Nuclear generation is only used in Ontario and New Brunswick, and was 57% and 36% of respective generation in 2018 (NRCan 2020). Non-hydro renewable energy sources have grown since 2000 and in 2018 accounted for 7% of generation, with wind providing 98% of electricity generation for Prince Edward Island (NRCan 2020). Coal-fired generation declined by 49% between 2008 and 2018 (NRCan 2020), due to climate policy and low natural gas prices, but is still the majority generation source for Saskatchewan and Nova Scotia. In 2018 the Government of Canada implemented regulations requiring a stringent emissions performance standard for coal-based generation by 2030 (Thibault et al. 2023). Natural gas generation accounts substantial shares of generation in Alberta (46%) and Saskatchewan (39%), both with substantial natural gas production (NRCan 2020). Natural gas generation accounts small shares in the other provinces and territories (0.1% to 14%), due to other and cheaper sources and limited transportation and distribution networks.

Table 2: Electricity Generation, 2000 and 2019 (Terawatt-hours)

Fuel	2000	2019	Share of generation: 2000-2019
Coal	114.9	54.6	0.19-0.08
Oil	13.4	4.1	0.02-0.01
Gas	35.4	69.3	0.06-0.10
Nuclear	72.3	100.5	0.12-0.15
Biofuels	8.9	10.8	0.01-0.02
Hydro	356.8	382.0	0.58-0.58
Solar	0.0	4.3	0.00-0.01
Wind	0.3	34.2	0.00-0.05
Actual generation [#]	612.0	660.4	

#Actual generation includes sources not specified elsewhere, e.g. pumped hydro, non-renewable waste, etc., and statistical discrepancies (which can be positive or negative).

Source: BP 2020

All provinces and territories, except for Nunavut,⁷ are connected to the electricity transmission grid, which gives 98% of the Canadian population access to bulk power markets (IEA 2022). The network extends over 160,000 km, and historically developed to meet within-province generation needs, resulting in limited interprovincial and international trade and runs predominantly north-south due to the location of population centers relative to generation facilities. Transmission planning, which is critical for increased load, greater internal and international trade, integration of expanded renewable generation, and reliability, requires intergovernmental cooperation. Provinces and territories have the responsibility of intra-jurisdiction transmission planning. Inter-jurisdictional transmission planning is joint jurisdiction

⁷ Nunavut is the largest and northern-most territory, stretching across most of the Canadian Arctic. Due to the remote nature of all settlements in Nunavut, electricity generation is distributed and uses petroleum (NRCan 2019).

between system operators, utility regulators, and the federal government through its oversight of inter-jurisdictional trade. The grid is divided into three different grids: Western (Pacific to Alberta-Saskatchewan border), Eastern (Saskatchewan to the Ontario-Quebec border), and Quebec (Quebec and the Atlantic provinces) (USEIA 2022). Thirty-seven interconnects link the Canadian network to the U.S. Canada is a net exporter of electricity, exporting 9% of its generation to the US in 2018 (NRCan 2020). International exports are roughly 3.5 times greater than interprovincial electricity trade (Statistics Canada 2023c). To allow for seamless trade between Canadian and US bulk power markets, provinces have adopted reliability rules from the North American Electric Reliability Council (NERC) and meet the rules of the US Federal Energy Regulatory Commission (FERC).

In 2019, Canada was ranked 6th globally in energy consumption (NRCan 2020). In 2017, final energy accounted for 70% of total energy consumption (NRCan 2020). Industrial final energy consumption accounted for 28% of total energy consumption, transportation 20%, and residential and commercial 20%. The average annual growth of primary energy consumption between 2008 and 2018 was 0.6% (BP 2020). In the near-term, annual energy growth is expected to follow macro-economic trends (CER 2021). However, in the longer-term, 2021 to 2050, total end-use average annual growth rates may decline to 0.01% or lower (-0.75%). These lower growth rates would depend on improvements in energy efficiency, technological advances, and additional climate policies. In 2015, Canada committed under the Paris agreement to reduce GHG emissions by 30% below 2005 levels by 2030 (ECCC 2021). In recent projections, Canada expects to be approximately 8% (without LULUCF) below 2005 levels by 2030 under the policies outlined in its fourth biennial report to the UNFCCC, and 17% below with additional measures (ECCC 2020). When LULUCF is included, emissions will be approximately 19% lower than 2005 (ECCC 2020).

3. Characteristics of policy-making environment

3.1. Governance Structure

Canada is a liberal democracy with representative government and sovereignty invested in the Crown, and a constitution and charter of rights and freedoms including freedom of the press and freedom of expression. Canada is a federal system with a national government, 10 provinces and three territories, currently led by King Charles III of Britain. The head of state is the monarch, and the monarch's authority is delegated to the governor general federally, and lieutenant-governors provincially and territorially (Hodgetts and Yarhi 2017). Canada's governments have three branches: executive, legislative, and judicial (Marland and Wesley 2016; Brooks and Menard 2017). The executive consists of three parts: the head of state, Cabinet (head of government and ministers) and the administration (Gow and Bishop 2016). Federally, Parliament consists of Upper and Lower Houses, while each province and territory have a single legislative assembly.

The head of government (federally, Prime Minister and provincially or territorially, Premier) is typically the leader of the party with the most seats in the legislature.⁸ The timing of elections varies by jurisdiction (some have fixed election dates), though no more than five years should elapse between elections. A key principle in Canadian democracy is responsible government: the executive is responsible to the legislature, receiving its power from the legislature, and the legislature in turn receives its power as elected representatives of citizens (Gow and Bishop 2016). Laws typically originate in the executive branch and frequently have a responsible minister for oversight and leadership. Legislation is debated and passed in the legislature but is not expected to change much between introduction and final reading (Brooks and Menard 2017).

⁸ The exceptions are Nunavut and Northwest Territories; both govern by consensus.

Canada has four primary political parties, federally and provincially. These are Liberals (centrist), New Democrats (left of center), Conservatives⁹ (right of center) and Bloc Quebecois (the province of Quebec only). The Green Party, focused on environmental objectives, has recently gained political traction. The two parties that have dominated national politics for much of Canada's history are the Liberal Party and the Conservative Party (Brooks and Menard 2017). Provincial or territorial parties are not necessarily linked to their federal counterparts, and so each party's place on the political spectrum is jurisdiction-dependent. While the left end of the spectrum is often considered to be fiscally and socially liberal, and the right side as fiscally and socially conservative, this is often context dependent.¹⁰

A high degree of decentralization makes Canada unique relative to other highly-developed nations; provinces and territories have a substantial amount of decision-making authority (Marland and Wesley 2016). The Constitution delineates federal and provincial jurisdiction; there is overlapping and joint jurisdiction over energy and environmental policy. Canadian governments typically have separate ministries for regulation of the environment and energy development. Energy is usually, but not always, encapsulated in a ministry responsible for natural resources. This means there can be upwards of 28 departments relevant across the 10 provinces, three territories and the federal government. These ministries are responsible for initiating and implementing policies. Ministry name changes and portfolio shuffles are also common, resulting in policy-making responsibilities related to the environment or energy development shifting across ministries over time. In addition to the ministries responsible for energy and the environment, government agencies, boards and commissions (overseen by the relevant ministry) implement policy. Currently, federal policy is implemented through the Canada Energy Regulator¹¹ (CER) in its role as a public interest, economic, and safety regulator of energy infrastructure; the Impact Assessment Agency of Canada (IAAC); Natural Resources Canada (NRCan); and Environment and Climate Change Canada (ECCC).

3.2. Existing laws governing energy

The *Constitution Act, 1867* provides substantial provincial powers over the management of energy and natural resources, as well as direct provincial ownership of lands containing natural resources. Specifically, section 109 of the Canadian constitution defines provincial powers, conferring all lands, mines, minerals and royalties to the provinces.¹² Section 92 details the exclusive powers of provinces, including the ability to levy direct taxes (92-2), authority over the management and sale of public lands (92-5), and property and civil rights (92-13). Provincial ownership and oversight of non-renewable resources, forestry resources and electrical energy are specifically outlined in section 92-A, which grants the provinces primary access to revenues from the development of natural resources.

Federal powers over energy and natural resources come from its powers over interprovincial trade (through the trade and commerce clause, 91-2), the authority to levy taxes through any mode (91-

⁹ The Conservative Party was a founding political party of Canada. In the 1940s, it rebranded as Progressive Conservative, and rebranded again in 2003 as the Conservative Party of Canada, following the amalgamation of three right-of-center parties (Harrison et al. 2017).

¹⁰ For example, in the 2015 federal election, the NDP campaigned on balanced budgets while the Liberals campaigned on budgeting based on economic cycles.

¹¹ The CER replaced the National Energy Board and the IAAC replaced the Canadian Environmental Assessment Agency in August 2019. The CER is a departmental corporation accountable to the Minister of Natural Resources, and the IAAC is a federal agency accountable to the Minister of Environment and Climate Change.

¹² Exceptions include natural resources in national parks and on First Nations' reserves, which are administered by the federal government. First Nations are one of the three Indigenous groups recognized by the Canadian Constitution; the other two groups are Inuit and Metis (CIRNAC 2024).

3), treaty powers (132), and emergency and declaratory powers. The “trade and commerce” clause gives the federal government power over interprovincial pipelines and transmission lines, as well as exports of energy. The emergency power grants federal authority to legislate and maintain “peace, order and good government.” A constraint on the taxation powers enabled by Section 91-3 is the prohibition against taxation of “lands and property” belonging to a province, which has implications for incentive systems for resource development. The federal government also maintains jurisdiction over the Canada Lands, which includes the territories, First Nations’ reserves, offshore areas, and national parks (NRCan 2016). Federal jurisdiction of the Canada Lands includes the powers of the provinces¹³ as well as the powers of an owner.

Notable for energy policy, an exception to the provincial powers outlined in section 92 is the federal government has jurisdiction over “local works and undertakings” that cross interprovincial or international boundaries, or those that are wholly situated within a province but are declared to “be for the general advantage of Canada” or “two or more of the provinces.” This declaratory power has become very important for the development of energy policy at a federal level, as it enabled “nation-building” infrastructure in the form of pipelines and railroads, federal control of atomic energy, and other uses. Notably, the Constitution Act is silent on the environment, which has implications for energy policy in Canada. Most recently, energy and environmental policy have been inextricably tied, creating difficulties in effective development of both.

3.3. Cultural attributes and informal institutions affecting policy-making

Canada’s high degree of decentralization informs the political culture and Canadian federalism. Marland and Wesley (2016) identify geography, ethnicity and ideology as the three most important factors shaping the dynamics of Canadian politics. Brooks and Menard (2017) suggest four major challenges in the Canadian political community: French-English relations, Indigenous demands for self-government, American cultural influence and regional tensions. Political culture differs across the country, and often results in regionally-focused political parties at the sub-national level. Western Canada is identified as more conservative, fiscally and socially. Political culture and policy history exacerbate the geographic differences mentioned above. The distribution of Canada’s population means the provinces of Ontario and Quebec are the center in terms of economic and political power, contributing to regionalism (Brooks and Menard 2017). Federal policy actions are often seen as an attempt by the central government to control or influence resource development. Overall, this means Canadian energy policy is often fragmented and piecemeal, and always controversial.

The overlapping and joint jurisdiction over energy and environmental policy frequently means a lack of clear legal distinction of the roles of the provinces, territories, and federal government (the judiciary is used very rarely to clarify the division of powers). As a result, issues are settled politically. Traditionally this is done at the executive level via executive federalism (Smiley 1974), intergovernmental forums and negotiations. Joint jurisdiction over many policy areas has resulted in a tradition of negotiation and compromise amongst provinces, territories and the federal government. Most recently, the provinces have moved from cooperative federalism to collaborative federalism, where provinces take the lead in policy development. However, regional tensions and differences in policy direction means national consensus can usually only be found on broad principles or small, low-cost initiatives, such as the Canadian Energy Strategy through the Council of the Federation (a collaborative forum for interprovincial-territorial cooperation). Frequently, provincial or territorial leaders will refuse to sign joint policy statements due to a conflict in a separate policy area, or if the policy is ‘imposed’ by the federal government.

¹³ An exception to this is the devolution of the ownership and management of land and natural resources to Yukon Territory and Northwest Territories, which occurred in 2003 and 2014, respectively. Resources in Nunavut are still under federal control.

3.4. Sources and control of information

Canada has a strong and mutually dependent relationship between the political executive and the media (Marland and Wesley 2016; Brooks and Menard 2017). The Prime Minister and members of cabinet regularly speak directly to the public or targeted groups through the media. Relatedly, freedom of the press has an important role in holding politicians and governments to account. A tool used frequently by journalists, opposition parties, and public advocates is Access to Information requests to gain access to government documents and improve their understanding of government decisions (Marland and Wesley 2016). As a free society, there are many information inputs into the policy-making process, and citizens have relatively free access to policy and policy-makers. One challenge to information-provision in Canada is the dominance of American programming, somewhat mitigated by government-owned media outlets and regulatory requirements for Canadian content (Brooks and Menard 2017).

Within government, Canada has historically relied on in-house policy units, government-controlled advisory bodies, and royal commissions (Bakvis 2000). Royal commissions, also known as commissions of inquiry, are appointed by Cabinet “to carry out full and impartial investigations of *specific* national problems” (Library and Archives Canada 2019). Budget cuts in the 1980s and 1990s reduced within-government policy capacity, since replaced by policy networks consisting of think tanks, academia, consultants and government officials (Bakvis 2000). Additional important sources of external policy capacity are the Council of Canadian Academies and, specific to energy and environmental policy, the National Roundtable on the Environment and the Economy. Both produce independent reports and impartial advice to the Government of Canada, though the Roundtable was eliminated in 2013 (GoCan 2013; Council of Canadian Academies n.d.).

In policy development, there is an increasing trend towards direct consultation of the public as well as the use of expert advisory panels. Consultation is required as part of the federal government’s regulatory management framework (Treasury Board of Canada Secretariat 2012), but has significantly expanded to include the public as well as regulated entities, typically through web-based consultation platforms. Expert panels, though less formal than a royal commission, perform many of the same functions. Recent examples include the National Energy Board Modernization Expert Panel federally, Alberta’s Climate Change Advisory Panel, and the Nova Scotia Hydraulic Fracturing Review.

4. Experience with energy-policy making

4.1. Overview and Context

Despite the Constitution granting provinces control and management of their natural resources, this was not observed in practice until 1930. As argued by Janigan (2012), the battle over resource control has been a defining characteristic of Canadian policy since Confederation. The four founding provinces (Ontario, Quebec, Nova Scotia and New Brunswick) maintained control of their resources, as did British Columbia and Prince Edward Island when they joined confederation in 1871 and 1873. Manitoba became a province in 1870 followed by Alberta and Saskatchewan in 1905. These three provinces were not given control over their lands or natural resources. Instead, in an argument that lasted decades, the original provinces argued they “had bought the West, fair and square, so they owned the West’s lands and resources” (Janigan 2012). Richards and Pratt (1979) state the federal government kept control over natural resources and lands as an essential part of a policy of transcontinental expansion, using the control to promote immigration and settlement of Western Canada. In 1930, Alberta, Saskatchewan and Manitoba gained control of their lands and resources. However, because of the dispute over ownership of natural resources, western alienation — due in part to Western Canada’s smaller population and subsequent smaller weight in elected representation — has been a defining theme of Canadian policy in general, and energy policy specifically.

The evolution of federal energy policy has been mainly through the federal responsibility over trade and taxation, and in cases where federal *environmental* policy affects *energy* policy, either at the federal or provincial level. Energy trade policy is largely delegated to the Canada Energy Regulator (CER), which determines whether infrastructure enabling trade is in the public interest, and to ensure export of energy products — crude oil, natural gas and electricity — “does not exceed the surplus remaining after Canadian requirements have been met” (CER n.d.-b). In some instances, the federal government has taken a stronger role in shaping energy policy in Canada than suggested by the limits on its jurisdiction. After Confederation, for example, a tariff on American coal imports was put in place to encourage greater use of domestically-produced coal (Bregha 2014).

Provincial policy has focused on the development of energy resources. Provinces and territories (and the federal government where applicable) have by and large chosen to develop their hydrocarbon and mineral resources by leasing the right to develop to private companies. The governments therefore enjoy the gains from developing their resources with the risk taken on by the private sector and receive a share of the rents¹⁴ through application of a royalty tax to the value of the resource produced. However, the government ownership of the resource itself ends when the resource is produced — ownership is “severed” at the wellhead or mine-head.

Ownership of the resources has granted each subnational government control over the pace and scope of resource development, but not ownership of the severed resource.¹⁵ The various governments’ policies proceeded independently from each other, with the federal government entering when private interests seek to export the severed resource. There is a strong tradition of provincial governments acting as advocates for private projects such as pipelines in political discussions, due to the provinces’ role as owner of the resources. In addition, the overlapping jurisdiction and responsibilities of the two levels of government has often led to energy policy formed via federal-provincial bargaining. This bargaining occurred in the 1970s and 1980s over “appropriate”¹⁶ levels of crude oil and natural gas prices, as well as more recently over pipeline development and environmental policy.

4.2. Oil and Natural Gas

This section focuses primarily on policies developed by the federal government and the provinces of British Columbia, Alberta,¹⁷ and Saskatchewan as the major hydrocarbon-producing provinces. In addition, oil and natural gas are discussed together as the majority of policies were aimed at both or affected both products. While there are many interesting developments in Canadian energy policy, only the major events are highlighted here.

¹⁴ Rents are economic gains above and beyond the cost of development of the resource.

¹⁵ In some instances, provincial Crown corporations (state-owned enterprises) were established to produce and market hydrocarbon and mineral resources.

¹⁶ There was a desire at the federal level to protect Central and Eastern Canadian consumers from high prices, while simultaneously enabling development in the producing provinces. Specific policies are discussed in more detail below.

¹⁷ Alberta is unique in Canada in its political stability; from 1905 to present, there have been only six governing parties: Alberta Liberal Party (1905-1921), United Farmers of Alberta (1921-1935), Social Credit Party of Alberta (1935-1971), Alberta Progressive Conservatives (1971-2015), Alberta New Democratic Party (2015-2019), and United Conservative Party (2019 – present). This has led to political dynasties and remarkable consistency in policy development. In the 2015 election, the NDP’s major energy policies were reviewing royalty rates and promoting processing of natural resources in Alberta. The victory was an upset, attributable to Progressive Conservative scandals and a few costly political gaffes from then-Premier Jim Prentice.

4.2.1. Early Policy Development: 1905 - 1960

The 1947 Leduc and 1948 Redwater oil discoveries in Alberta are generally accepted as marking the birth of the modern Canadian oil industry, though Alberta's Turner Valley Field was discovered and developed earlier (Doern and Toner 1985). Alberta and Saskatchewan consciously modelled their regulation of oil and gas on precedents previously set within the U.S. (Richards and Pratt 1979). Alberta's regulatory system developed as soon as resource rights were transferred to the province in 1930, as it began regulating production from federally-granted leases and attempted to reduce wasteful production practices (Richards and Pratt 1979). In 1938, Alberta's Social Credit¹⁸ government created the Oil and Gas Conservation Board as an arms-length regulator of hydrocarbon development in response to public, industry and political pressure for regulatory intervention (Richards and Pratt 1979). The regulator still exists today as the Alberta Energy Regulator. Saskatchewan chose to regulate within-government through its ministry of natural resources.

A key political concern in the early days of Alberta's development was populist resistance to natural gas exports. Richards and Pratt (1979) characterize this opposition as rooted in the perception of natural gas as a special endowment, and a way to industrialize and diversify the provincial economy. Industry pressure to allow development and exports clashed with public and political opposition from Alberta's small but vocal opposition parties (Liberals and the Cooperative Commonwealth Federation¹⁹). Alberta's Social Credit government was also reacting to pressure from the federal Liberal government under Louis St-Laurent for a "nation-building" natural gas pipeline (Doern and Toner 1985).

In 1949, the federal St-Laurent government passed the *Pipe Line Act*, which legislated federal control of interprovincial and international oil and gas pipelines. In response to perceived increased federal control, Alberta's Social Credit government under Ernest Manning passed several pieces of legislation to strengthen the province's control over natural gas (Richards and Pratt 1979). Natural gas exports were the defining issue of Alberta's 1952 election. Both the Manning and St-Laurent governments were averse to natural gas exports, differing over scope. Manning and Albertans wanted to keep natural gas in Alberta, while the St-Laurent government wanted to develop a nation-wide market for natural gas to ensure reliable supply to Central Canada via an all-Canadian pipeline (Doern and Toner 1985).

The desire of St-Laurent's government in the 1950s to bring Western Canadian natural gas to Central Canada is described as the 'Great Canadian Pipeline Debate.' Part of the debate was whether the routing should be all-Canadian to maintain exclusive jurisdiction and avoid "excessive rates of exports" to the U.S. or go partially through the U.S. in order to minimize costs and access the U.S. market (McDougall 1982). The policy decisions by the St-Laurent government, partially through a desire to have the pipeline completed before the 1957 federal election, led to their defeat to the Diefenbaker Progressive Conservatives.

The Pipeline Debate led the new federal Diefenbaker government to form a Royal Commission on Energy (the Borden Commission). The Borden Commission caused the formation of the National Energy Board (NEB) in 1959, in addition to helping depoliticize energy policy at the time. The NEB quickly became important in energy policy decisions due to its role in determining whether pipeline construction and energy exports were in the national interest (Doern and Toner 1985; Doern and Gattinger 2003). The NEB

¹⁸ The party initially focused on economic reform and redistribution of "capitalist wealth to benefit consumers," but gradually transitioned to conservative fiscal and social policies (Morley and Panneton 2015). The party is now a fringe party in Alberta.

¹⁹ The Cooperative Commonwealth Federation (CCF) is the precursor to today's New Democratic Party, Canada's dominant left-of-center party. The CCF was formed in 1932, a coalition of progressive, socialist and labour groups, focused on nationalization of key industries and creation of a welfare state (Morley and Smyth 2015).

has formed a keystone of federal energy policy since its formation, providing independent, arms-length advice to the government on whether energy projects are in the national or public interest. That said, the importance of the NEB in policy decisions waxed and waned over its history, particularly during the 1970s and early 1980s, due to the increased prominence of the federal ministry of resource development in policy advice (Doern and Gattinger 2003).

4.2.2. The 1960s and the National Oil Policy

A legacy of the Borden Commission, the National Oil Policy was established by the Diefenbaker government in 1961. Its purpose was to protect the Canadian oil industry against lower-cost imports (McDougall 1982). In Western Canada, the federal government created a protected market, while Eastern Canada continued to rely on imports to meet domestic demand. Similar to earlier coal policies, the federal government imposed higher energy costs on Central Canadian consumers to protect higher-cost Canadian producers from U.S. imports and simultaneously provide a market for Canadian producers facing difficulty selling to the U.S. (McDougall 1982).

The period between 1947 and 1973 was characterized by remarkable federal-provincial consensus on policy, development and management of oil and natural gas (Doern and Toner 1985). The primary objective of energy policy during that time was to encourage production and growth of the domestic petroleum industry; this was achieved through a favourable tax climate to encourage investment, construction of pipelines for oil and natural gas from producing provinces in Western Canada to consuming regions in Canada and the U.S., and explicit support of exports. For oil, federal policy under Liberal and Conservative governments focused on developing export markets for Alberta in the Midwestern United States and Central Canada via approval of export pipelines. For natural gas, federal policy concentrated on maintaining a Canada-only market for Alberta's exports of natural gas, which still conflicted with Alberta's economic nationalism and desire to keep natural gas in the province (Richards and Pratt 1979).

4.2.3. The 1970s, 1980s and the National Energy Program

Rising energy prices and revenue-sharing dominated much of province-to-province and provincial-federal relations and energy policy in the 1970s. In 1971, Peter Lougheed's Progressive Conservative²⁰ party won an upset victory over the incumbent Social Credit, campaigning on using Alberta's oil and gas wealth to diversify the economy (Doern and Toner 1985). Direct government intervention in the oil and gas sector increased markedly in the 1970s, with governments at both the federal and provincial level forming crown corporations to develop resources as a way to maintain control over natural resource development (Doern and Toner 1985; Doern and Gattinger 2003).

In 1973, federal policy changed from pro-development to pro-consumer, precipitated in part by oil price and supply shocks from the first OPEC crisis, quickly dismantling the National Oil Policy. Growing public support for Canadian self-sufficiency in energy likely contributed to this major change in policy focus (McDougall 1982). Quite possibly the most interventionist set of energy policies in Canadian history, the federal government "imposed oil export controls, similar controls over the export of refined products, ... froze domestic oil prices, levied an export tax on crude oil, developed an oil import compensation scheme to protect consumers dependent on imported oil, ... and contemplated the imposition of oil rationing" (Doern and Toner 1985). The price controls and export taxes were aimed at protecting eastern Canadian consumers from rising prices (Doern and Toner 1985). The federal policy changes were also a response to the Trudeau Liberals' lack of internal analysis and information about Canada's energy

²⁰ The Alberta Progressive Conservative party was the provincial branch of the federal party and can be broadly characterized as center-right.

resources, crucial for policy development, and reliance on a foreign-owned industry for provision of the information (Doern and Gattinger 2003).

The western producing provinces, perceiving the federal changes as intrusion into their jurisdiction, responded with legislation to strengthen their control over oil development, including pricing of hydrocarbons. The conflict between the Trudeau Liberals and the producing provinces included “appropriate” prices, resource taxation and the deductibility of royalty payments from corporate income taxes, and whether Ottawa was receiving its “fair share” (Richards and Pratt 1979; Doern and Toner 1985). Trudeau was perceived to choose Central Canada over Western Canada, preventing producing provinces from accessing world prices for their resources (Doern and Gattinger 2003). Energy politics in the latter half of the 1970s was characterized by negotiations between the federal government and the producing provinces over oil and natural gas prices and revenue-sharing.

The federal pro-consumer policy objectives set the stage for further federal intervention with the National Energy Program (NEP) in 1980. Announced in October and immediately implemented by the Trudeau Liberals via the Department of Energy, Mines and Resources, the NEP had three — often mutually contradictory — policy objectives (Doern and Toner 1985; PriceWaterhouse 1981). First, to enable *security* of supply and independence from world oil markets, creating self-sufficiency in oil by 1990. Second, to increase the *opportunity* for Canadian involvement in the energy industry, via 50% Canadian ownership and control by 1990. Thirdly, to ensure *fairness* in pricing and revenue-sharing. Each objective was supported by multiple additional policies. The major policy changes included a four-year oil and gas pricing regime, new taxes to increase the federal share of petroleum revenue, a program to incentivize and increase Canadian ownership of petroleum corporations, an oil substitution program to reduce imports, and an exploration incentive scheme for frontier lands. Part of the rationale behind the NEP was to increase the Canadianization of the oil and gas industry, and the belief that high oil and gas prices benefitted foreign shareholders at the expense of Canadian consumers (Doern and Toner 1985). An additional consideration was resetting the fractious federal-provincial bargaining over prices and revenue sharing in the late 1970s.

Responses from the producing provinces and industry to the NEP’s suite of policies was strong and negative, with Alberta’s Lougheed characterizing it as a plan by the federal government and central provinces to “capture control of the western provinces’ resources, and ensure all provinces except Ontario and Quebec remained second-class citizens” (Doern and Toner 1985). Alberta led the opposition, retaliating by attempting production cutbacks, embarking on a constitutional challenge to the tax on natural gas exports, and withholding approval of oil sands projects. Lougheed’s move on the oil sands was an important bargaining chip, as the oil sands were viewed as essential for meeting the federal goal of oil self-sufficiency (Carmichael and Stewart 1983). Industry responded to the NEP by reducing exploration budgets, signalling that the federal policies reduced the attractiveness of Canada for businesses (PriceWaterhouse 1981; Doern and Toner 1985). Pressure from the other provinces and industry led to the federal government and Alberta reaching a compromise agreement over prices and taxation in 1981, and similar agreements were signed with the governments of British Columbia and Saskatchewan. In 1982, the Supreme Court of Canada ruled against federal taxation of provincially-owned oil and gas wells, further reducing the impact of the NEP and reinforcing provincial jurisdiction over resource development. The NEP was fully dismantled in 1985 but left a legacy of distrust of the federal government, and caused a resurgence of Western Canadian alienation, affecting policy and political relationships.

Falling oil prices and the federal-provincial agreements over pricing and taxation meant energy policy receded from public attention (Carmichael and Stewart 1983). The Liberals lost the 1984 federal election to the Progressive Conservatives (energy policy was not a substantive election issue) which led to full dismantling of the NEP. The Western Accord and the Agreement on Natural Gas Prices and Markets

eliminated crude oil and natural gas price controls (NRCan n.d.-c, d). These agreements mean that market forces have determined prices in Canada since 1985.²¹

4.2.4. Modern oil and gas policy

The elimination of price controls has led to less interventionist federal and provincial policy towards oil and gas. Signing the Canada-United States Free Trade Agreement (CUSFTA) in 1987 and the North American Free Trade Agreement (NAFTA) in 1994 reinforced the pre-eminence of market forces in determining prices. Current federal energy policy has three main principles: a market orientation, respect for the jurisdictional authority and the role of the provinces, and targeted intervention in the market process, where necessary, to achieve specific policy objectives (NRCan n.d.-b).

After dismantling the NEP, there were no energy-specific federal policy initiatives for almost thirty years. In 2012, Stephen Harper's Conservative Party began a review of foreign investment in the energy sector. Under the *Investment Canada Act (1985)*, the federal government is required to review and approve foreign investment above a certain threshold of asset value (\$1 billion (\$770 million USD, 2017 exchange rate) for WTO investments in 2018²², \$1.5 billion (\$1.16 million USD) for trade-agreement investments and \$398 million (\$306 million USD) if the foreign investor is a state-owned enterprise) to determine if the acquisition is of net benefit to Canada (GoCan n.d.-b). The federal review was prompted by the attempted acquisition of Canadian energy firms, Nexen and Progress Energy Corporation, by China National Offshore Oil Corporation and Malaysia's Petronas, respectively. While the acquisitions were approved, after the review the Minister of Industry stated that acquisition of a Canadian oil sands business by a foreign SOE "will, going forward, be found to be of net benefit on an exceptional basis only" (GoCan 2012).

In contrast to federal policy, the provinces have remained active in energy policy development; this is partially a function of their role as owners of the resource and partially a function of using energy policy to fulfill other policy goals.²³ The irresistibility of "diversification" and "value added" projects have a long history in Alberta energy policy (Morton 2015; Morton and McDonald 2015; GoAB 2018a, b, c, n.d.-c). These types of policies are independent of the governing parties: Social Credit, Progressive Conservatives, and the New Democratic Party all devoted resources to diversification and in-province development. Alberta's governments have also supported the development of the oil sands via subsidized technology development (GoAB n.d.-b). Similarly, the Government of Saskatchewan established a research arm known as the Saskatchewan Research Council to meet economic development policy goals (Saskatchewan Research Council n.d.).

Government policy (and politics) in Alberta have also been preoccupied with ensuring Albertans get their "fair share" of resource rents through royalties. This has led to multiple revisions to, and eight formal reviews of, royalty regimes between 1951 and 2015 (GoAB n.d.-a). The most recent review was dominated by the new NDP government's concerns about "fair share" (a theme in their 2015 election platform) and industry's concerns about competitiveness. Surprising many, then-Premier Rachel Notley convened an expert panel and *accepted* all the panel's recommendations, resulting in a regime that is more efficient and addresses both competitiveness and fair share considerations (Shaffer 2016).

²¹ The exception is some provinces regulate fuel prices under the guise of maintaining stable prices (NRCan n.d.-d).

²² The threshold value for each type of investment is adjusted annually based on GDP growth (GoCan n.d.-b).

²³ Resource revenues are often used or promoted as a way to keep other taxes low and boost social spending.

In British Columbia, the development of natural gas resources was an area of intense policy interest by the Liberal government of then-Premier Christy Clark; B.C.'s closeness to potential Asian markets and substantial natural gas reserves spurred government and industry interest in export opportunities via liquefied natural gas (LNG) (Moore et al. 2014). B.C.'s 2012 natural gas strategy outlined a goal of having one LNG facility in operation by 2015, and three by 2020 (GoBC n.d.). In this case, the government clearly adopted a policy of championing the industry (GoBC 2014). This created conflict with environmental groups as well as Indigenous groups and is an ongoing controversial policy. A defining issue of the 2013 election campaign was LNG development, with Clark promising resource revenues to fund major social spending, and the primary opposition, B.C.'s New Democratic Party campaigning against additional development.²⁴ The NDP won the 2017 election and has since become supportive of LNG development. However, unexpected delays, regulatory burden, and lower than expected natural gas prices prevented the industry from developing.

4.3. Electricity

Electricity policy is almost entirely under provincial and territorial jurisdiction; the exception is interprovincial and international transmission lines and electricity exports, which are regulated by the CER, and federal oversight of nuclear energy.²⁵ With limited interprovincial and international trade in electricity, electricity policy has largely escaped federal-provincial disputes (Doern and Gattinger 2003). Historically, generation, transmission and distribution of electricity occurred via vertically-integrated electric utilities, often Crown corporations with monopoly rights (NRCan n.d.-a). The utilities were then regulated by the provincial government, either via arms-length regulatory agencies or through government ministries. In recent decades, the organization of electric systems in the various provinces have diverged into three basic models.

Some provinces (British Columbia, Saskatchewan, Manitoba, Quebec, and Nunavut) still maintain vertically integrated Crown corporations. British Columbia, Manitoba,²⁶ Quebec and Saskatchewan also have smaller municipally-owned or investor-owned generators in addition to the central Crown corporation. Nunavut is unique in that all electricity generation is via diesel, and the territory does not have a transmission grid.

New Brunswick, Nova Scotia, Newfoundland and Labrador, Yukon, Northwest Territories, and Prince Edward Island have partially privatized their electricity sectors. Northwest Territories, Yukon, New Brunswick, and Newfoundland and Labrador have hybrid systems, with a Crown corporation and investor-owned corporations both involved in generation, transmission, and distribution, as well as a few investor-owned generators. Nova Scotia's system involves two major investor-owned vertically integrated companies providing generation, transmission, and distribution, and a few smaller investor-owned companies involved in generation. Prince Edward Island has a sole vertically integrated and investor-owned utility.

²⁴ The Liberal win was a surprise victory, though Christy Clark lost her own seat. The Liberal win is generally attributed to the anti-development stance taken by the NDP.

²⁵ The *Atomic Energy Control Act, 1946* transferred jurisdiction over uranium from provincial control to the federal government and delineated regulation of the production and use of uranium. The Government of Canada also established two Crown corporations; Atomic Energy of Canada Ltd was responsible for nuclear research, and Eldorado Nuclear Ltd was responsible for mining and refining.

²⁶ At the time of writing, the three investor-owned utilities (Wuskwatim generating station, St. Leon wind farm and St. Joseph wind farm) have exclusive sale agreements with Manitoba Hydro, which is regulated by the Manitoba Public Utilities Board.

Alberta and Ontario moved the furthest from Crown corporations. In Alberta, generation is fully deregulated, with generators bidding into a provincial energy-only market (AESO n.d.-a).²⁷ Transmission and distribution are rate-regulated, though provided by investor-owned corporations. In Ontario, the market is a hybrid. While generation is deregulated, planning and contracting for electricity generation is through a Crown corporation.

Recent developments on the electricity side of energy policy in the various provinces have focused on using electricity policy as an instrument to meet emissions-reduction targets. Ontario, for example, under the Liberals of Dalton McGuinty, passed the *Green Energy Act* in 2009; the purpose of the Act was to promote the growth of renewable energy projects. The policy also reinforced an existing policy to phase out coal, a process that began in 2001 under the McGuinty government (GoON 2017). As part of the new policy of increasing renewables' penetration in Ontario, the government launched feed-in-tariff (FIT) and microFIT programs (GoON n.d.).²⁸ The Act was roundly criticized as expensive and a costly way to reduce emissions, as well as resulting in substantially and unnecessarily higher electricity prices (Dachis and Carr 2011; McKittrick 2013).

In B.C, Gordon Campbell's Liberal government passed the *Clean Energy Act* in 2010, mandating that at least 93% of electricity generated in B.C. come from clean or renewable sources.²⁹ The Act outlines several other energy objectives, including achieving electricity self-sufficiency, reducing or conserving greenhouse gas emissions and energy use, becoming a net electricity exporter from clean or renewable sources, and ensuring electricity rates remain competitive, without the use of nuclear power. The existence of a vertically-integrated Crown corporation makes the government's ability to meet these various objectives vastly simpler compared to jurisdictions with less planning centralization.

Alberta's electricity policy has seen vast changes since 2016. In November 2015 the new NDP government announced their Climate Leadership Plan³⁰, which included a 30% renewable mandate and phasing out coal-fired generation by 2030. To provide context, coal provided 54% of Alberta's generation and 41% of generation capacity in 2014 (NEB 2016a). Supporting these two substantial policy changes required additional changes to Alberta's electricity industry, announced over the course of 2016. First, a Renewable Electricity Program was implemented to procure an additional 5,000 MW of renewable energy capacity via a competitive bidding process (AESO n.d.-b; GoAB n.d.-f). Second, payments were made to owners of coal generation plants based on the lost economic value associated with curtailed operations (GoAB n.d.-e). Third, implementing a capacity market by 2021 to ensure capital costs of new generation capacity investments are covered (GoAB n.d.-d). The government elected to maintain the basic structure of Alberta's electricity industry, but meeting the new policy goals required vast changes to maintain investor confidence and interest in Alberta. However, the April 2019 election swept the right-of-center

²⁷ In Alberta's energy-only market, participants provide bids of price and quantity, and are dispatched by the system operator based on ascending price. The market price is determined by the system operator based on the bid of the last producer required to meet forecast system demand, and all parties receive that price. In the energy-only market, firms only receive a return on the capital cost of investment when they receive a price above their marginal cost of production. Hence the term "energy-only" — producers only bid in the cost of producing the energy. For producers, this means there is no guaranteed return on their capital investment.

²⁸ The FIT program is for projects above 10 kW and below 500 kW, while the microFIT program is for projects 10 kW and smaller.

²⁹ The Act defines "clean or renewable" as "biomass, biogas, geothermal heat, hydro, solar, ocean, wind or any other prescribed resource." However, no target date was provided for reaching the goal of 93% of generation from clean and renewable sources.

³⁰ A review of Alberta's climate policy was not a campaign issue in 2015, though phasing out coal generation was an NDP platform item.

United Conservative Party (UCP) to power, which subsequently cancelled the 30% renewable target, Renewable Energy Program, and capacity market transition (Thibault et al. 2023). The coal phase-out remained, backstopped by 2018 changes to federal regulations on emissions from coal-fired electricity (GoCan 2018a; Thibault et al. 2023).

4.4. Contemporary energy policy issues: Pipelines and the environment

Starting in the 2010s, Canada entered into a new ‘Great Pipeline Debate’ centering on Canada’s future as a hydrocarbon producer as it simultaneously enacts policies to meet Paris agreement commitments. Continued development of hydrocarbons and export pipelines are seen by some as inconsistent with and contrary to Canada’s commitments to reduce emissions. This is despite the federal Trudeau Liberals announcing in late 2016 the Pan-Canadian Framework on Clean Growth and Climate Change, a policy document describing the actions Canada will take to reduce emissions, including carbon pricing (GoCan 2016b).

Oil production, predominantly from Alberta, has largely outstripped available pipeline export capacity.³¹ This, combined with saturation of Alberta’s historical market in the U.S., led to a series of five pipeline proposals — all controversial — to Canada’s West and East Coasts and the U.S. Gulf Coast. In November 2016, Liberal Prime Minister Justin Trudeau approved two pipelines and rejected one. The approved projects are both expansions of existing pipelines, while the rejected project was greenfield. This formed part of the rationale for the decisions and has reflected the federal government’s narrative of balancing economic and environmental objectives. Although three received approvals, at the time it was not clear if any would be built. Then and now, there is ongoing public and vocal opposition from environmental groups, Indigenous groups, and the public, creating uncertainty regarding the pipelines’ future.

One major contributor to the controversy surrounding pipelines is comments made by federal politicians. Then-Prime-Minister Stephen Harper referred to one as a “no brainer” and then-Natural Resources Minister Joe Oliver declared another to be “in the national interest” (Cattaneo 2011; McCarthy 2011). Oliver’s comment was made before the NEB’s formal recommendation on the pipeline, and during the NEB’s evaluation. These statements created the perception that pipelines would be approved, regardless of the NEB’s review, and provided substantial political fodder for opposition politicians. Furthermore, changes to the *National Energy Board Act* in 2012 under the Harper Conservatives, including a fixed timeline for project reviews and changes to the environmental assessment process, were criticized as reducing the comprehensiveness of regulatory reviews and decreasing the ability of stakeholders to participate in review processes (Colton et al. 2016). This prompted additional comments from opposition politicians, stating Canadians have “lost trust” in the NEB and its processes.

The second contributor to controversy regarding pipelines is the issue of benefits (mainly accruing to Alberta) and the risks and costs associated with spills (mainly borne by other provinces). Brought to a forefront in 2012, five conditions were laid out as requirements for B.C. to support heavy oil pipelines (GoBC 2012). The governments of Ontario and Quebec followed in 2014 with seven conditions (Morrow 2014). In 2016, B.C.’s Liberal premier gave her consent to one pipeline after the conditions were met (Tunney 2018). However, in 2017, the B.C. Liberals lost to an NDP-Green Party coalition which committed use “every tool in the toolbox” against the remaining pipeline project, despite its approval by the federal Trudeau Liberals in 2016 (Bakx and Johnson 2017; GoBC 2017).

Related to the first two points is deep-seated concern over local environmental impacts from pipelines, as well as the upstream emissions from crude oil production. The former is advanced by citizens

³¹ Crude-by-rail emerged as a substitute transportation method but is more expensive and has been plagued by several high-profile derailments involving loss of life and environmental and property damage.

along the pipeline route, whereas the latter has been the purview of environmental groups. Both concerns have led to public protests over pipelines. Underlying these concerns are the issues of trust of the NEB, and its successor the CER, and the legitimacy of its decisions. Numerous court challenges of NEB/CER pipeline decisions reinforce this image (CER n.d.-a).

Relatedly, Trudeau has publicly stated multiple times that Canadians had lost trust and confidence in the NEB and Canada's environmental assessment process. Much of the modern Canadian pipeline discussion has centered on the issue of whether energy projects have "social licence," "social acceptance" or "public acceptance" (Colton et al. 2016). Related to the idea of trust and legitimacy of the NEB and its review process, the implication of these terms is that energy projects, and pipelines in particular, need something more than regulatory approval to proceed (Colton et al. 2016). A resultant major policy initiative was the "modernization" of the NEB, reviewing its mandate, governance, decision-making role for major projects, and public participation and engagement with affected Indigenous peoples via an expert panel (Lauzon et al. 2017; GoCan n.d.-c). Simultaneously, the federal government struck an expert panel to review the environmental assessment process and the *Canadian Environmental Assessment Act* (Gelinias et al. 2017; GoCan n.d.-a, d).

The two reviews led to significant policy change in 2018 and 2019, reforming Canadian impact assessment processes (Winter 2018). The Canada Energy Regulator (CER) replaced the NEB, and the Impact Assessment Agency of Canada (IAAC) replaced the Canadian Environmental Assessment Agency. Impact assessment for major projects moved from the CER to the IAAC, though joint IAAC-CER review occurs when a major project's activities fall under CER regulatory jurisdiction (Bankes 2018; Hillier 2018; IAAC 2024). The changes moved energy project impact assessment from the CER — accountable to the Minister of Natural Resources — to the IAAC — accountable to the Minister of Environment and Climate Change (Bankes 2018; Olszynski 2018). Further, impact assessments expanded from considering economic and environmental impacts to include health and social impacts, a mandated inclusion of Indigenous traditional knowledge, an assessment of how a project fits within Canada's climate change goals and the Pan-Canadian Framework on Clean Growth and Climate Change, and a gender-based analysis of the project (IAAC 2024). The changes to impact assessment reflect an expanded definition of what matters in determining the public interest. The government also implemented a five-stage regulatory process, with designated timelines for the regulatory review and the formal impact assessment phases (IAAC 2022).

Even with the restructuring in August 2019, this is not the end for changes to federal energy regulation. Policy to implement the new processes, including information requirements and time management for regulated projects, and the type of projects subject to impact assessment, unfolded over the rest of 2019 and beyond (Mascher 2019; Wright 2019; Fink and Wright 2020; CoCan n.d.-a). Critiques and assessments of the changes ranged from arguing there was limited change to existing processes (Bankes 2018; Mascher 2018; Olszynski 2018), to relaxing some environmental oversight (Mascher 2019), to making significant changes to assessment of specific items like emissions (Wright 2019), to changes that would undermine the goals and intent of the government's regulatory reforms (Hall Findlay et al. 2018; Hall Findlay and Orenstein 2019), to constitutional overreach (GoAB 2019a). Of note is that the Harper government changes in 2012 made the public interest decision more political, and the Trudeau Liberal's changes maintain that politicization (Olszynski 2018). Moreover, in September 2019 the Government of Alberta asked the Alberta Court of Appeal to assess the constitutionality of the federal acts and regulations implementing the changes (GoAB 2019b).³² Energy policy will continue to be controversial.

³² The Alberta Court of Appeal ruled the federal *Impact Assessment Act* was unconstitutional in 2022, and Canada subsequently appealed to the Supreme Court of Canada. In 2023, the Supreme Court determined certain aspects of the Act are unconstitutional, requiring the Government of Canada to make changes but not striking down the law (Olszynski et al. 2023; Wright 2023).

Finally, adding complexity to the pipeline debate is the obligations of the federal and provincial governments, and project proponents in respecting the rights of Indigenous Peoples. This is a structural problem in Canadian resource development, frequently addressed through the courts rather than by policy. The history of Canada's relationships with its Indigenous Peoples is not a positive one, though recent federal steps have been taken to address these failings. In the context of energy policy, Supreme Court of Canada decisions have stated that Canadian governments have the duty to consult, and accommodate where the Crown's actions may adversely affect potential or established Aboriginal or Treaty rights.³³ A comprehensive treatment is beyond the scope of this discussion, but it is worth noting that many of the court challenges of NEB/CER decisions are by Indigenous groups arguing the government failed to fulfill its duty to consult. This is an evolving area of case law and will have a substantial impact on energy policy and energy development in the future. Critiques of the 2019 changes to federal energy project regulation suggest that the proposed policy changes are insufficient to address the concerns of Indigenous Peoples (Laidlaw 2018; Mascher 2018; Wright 2018). Currently, lack of resolution has created policy, regulatory and investor uncertainty.

The debate over pipelines has pitted governments and political parties against each other, and even caused within-party strife. At the center of the most recent debate is the Trans Mountain pipeline expansion project, opposed by the B.C. NDP government and the third-place federal NDP and supported by the federal Liberals, federal Conservatives and Alberta's NDP and UCP. In addition to the political strife, this project has spurred a deeper conversation about provincial rights and the role of the federal government in 'national interest' projects. B.C. and Alberta's governments have increased pressure through political rhetoric and legislation, and B.C. also used the courts to provide clarity on provincial rights (GoAB 2018d; GoBC 2017, 2018a, b). The project proponent requested political clarity on a path forward for construction, stating it faced "unquantifiable risk" from B.C.'s position and outstanding court cases, and would abandon the project if the inter-governmental dispute was not resolved (Hunter et al. 2018; Tunney 2018). In late May 2018, the federal government announced it would buy the pipeline and resell it once built (Rabson 2018). This has created a political situation eerily similar to the one that brought down the St. Laurent Liberals in the 1950s (Tombe 2018). Though the federal actions provide additional certainty for this one project, the overall issues with Canada's energy policy and regulatory system remain unresolved. The Trudeau Liberals have also linked building pipelines with support for carbon pricing, attempting to balance economic growth and environmental protection, as well as disparate political interests across the country. As a result, failure to build the pipeline runs the risk of undermining progress on the environment.

While contemporary energy policy at the federal level has centered on new pipeline projects, aimed at granting Canadian producers access to new export markets, it is worthwhile to note that the current federal government is not uniformly in favor of additional resource development. In late 2016 the federal government stated its intention to ban crude oil tankers from British Columbia's north coast, an action subsequently challenged by some B.C. First Nations (GoCan 2016a; Cattaneo 2018). A second new policy initiative, joint with the lame-duck Obama Administration, made Canadian Arctic waters off-limits to new oil and gas licensing (CIRNAC 2016). While this presumably does not prevent pursuit of existing licenses, it represents a new federal policy direction. It is also a controversial decision that has damaged federal-territorial relations, due to the unilateral move by Trudeau's government (Van Dusen 2016).

As noted above, environmental policy affects energy policy in a variety of ways and vice versa. In November 2015, Alberta's recently elected NDP government announced its Climate Leadership Plan, which included among other things a cap on total oil sands emissions and an economy-wide carbon tax. Rachel Notley's NDP government subsequently sold "climate leadership" to gain approval for new pipeline construction. This is a theme used by the Trudeau government in announcing a federal carbon pricing plan

³³ The terms 'Aboriginal' and 'Treaty' have distinct definitions in Canadian law.

and pipeline approvals in late 2016. The pricing plan, implemented fully in 2019, called for Canada-wide emissions pricing, either via a carbon tax, a cap and trade system, or a hybrid system with a carbon tax and a separate pricing mechanism for large emitters (GoCan 2016b; Winter 2020, 2024). Importantly, the policy allows for provincial flexibility in implementation, though it imposes the federal system on provinces that do not meet a specific benchmark (GoCan 2018b).

Surprisingly, the tension between provinces over pipelines did not initially affect support for climate policy. While support was not universal, most provinces were in favor and concerns over implementation focused on maintaining economic prosperity and mitigating costs while reducing emissions in each province. However, political change with 2018 and 2019 elections putting conservative governments in power combined with increased federal unilateralism over climate policy largely eliminated cooperation and consensus over pricing (Winter 2020, 2024; Harrison 2023). In 2019, Alberta, Saskatchewan and Ontario challenged the constitutionality of the federal policy in reference cases to their respective courts of appeal; the Ontario and Saskatchewan courts found the *Greenhouse Gas Pollution Pricing Act* constitutionally valid, though Alberta's did not (Winter 2020). Saskatchewan subsequently appealed to the Supreme Court.³⁴ The loss of consensus on emissions pricing and given widespread opposition by right-of-center political parties, means carbon pricing will continue to be an election issue.

5. Conclusions

Like in many countries, Canadian energy policy is constantly evolving. However, the last two decades of energy policy development were more turbulent than most, and Canada is currently at a crossroads. As a nation with substantial hydrocarbon energy resources and a desire (and commitment) to reduce emissions, there is a tension between economic and environmental policy objectives. Strengthening environmental movements and a growing desire to address climate change has meant a pivot in energy policy. Energy policy federally and provincially can be characterized as predominantly being used to achieve environmental or “green” objectives, particularly in electricity policy, with some exceptions. These environmental objectives have come into direct conflict with multiple high-profile energy infrastructure projects. Oil pipelines, and Alberta's oil sands as a major source of hydrocarbon production, have become lightning rods in energy policy and the conflict between achieving emissions reductions and maintaining economic growth.

Canada's energy and environmental policies have evolved from being regulatory and interventionist in nature to more market-based solutions. Another significant change is the development of explicit environmental policies in addition to and instead of relying on energy policy to meet environmental goals. However, recent changes in energy regulation federally suggest the pendulum is swinging back to more interventionist and politically-motivated policy action. This is due to the acrimonious political environment as well as increasing policy uncertainty, globally and within Canada.

On the other hand, environmental policies, such as the federal and Alberta carbon taxes, were used to facilitate energy infrastructure development. The federal government explicitly tied successful implementation of carbon taxes with pipeline development, clearly providing its interpretation of appropriate balance. Strong cooperative action taken by Alberta and federally on emissions pricing show that it is possible for a fossil-fuel-based economy to be a leader in environmental policy. These policies, however, are stymied by political factors: electoral change often prompts major changes in policy (in some instances eliminating policy altogether), opposition to emissions pricing has become an effective wedge

³⁴ The Supreme Court upheld the constitutionality of the *Greenhouse Gas Pollution Pricing Act* in March 2021, the majority opinion finding “setting minimum national standards of GHG price stringency to reduce GHG emissions was a ‘matter of national concern’” (Bankes et al. 2021).

issue federally and provincially for Conservative politicians, and opposition to fossil fuel development has become a progressive talking point federally and in some provinces.

Canada's constitution and the strong role of provinces in the federation complicates this evolving policy space. The joint jurisdiction over natural resources and the environment reinforces historical roles and tensions, and creates new sources of tension, resulting in an acrimonious policy environment. A history of federal involvement in energy development beyond its constitutionally-defined jurisdiction has created a legacy of provinces and territories sensitive to their rights and jurisdiction. This legacy exacerbates the natural tension and undermines opportunities for policy cooperation. Canada's current situation is unlikely to be resolved in the near future. The ongoing debate on appropriate balance of economic development and environmental protection is playing out in both the political and public spheres. Elections will continue to be telling in terms of reinforcing existing mandates and policy agendas, or sparking new changes in policy direction.

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