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Abstract

The Canadian province of Alberta is a major contributor to global greenhouse gas emissions, producing 256 megatonnes of carbon dioxide equivalent per year, or 38% of Canada's national emissions. As a carbon-intensive natural resource extractive economy, Alberta implemented numerous low-carbon policies in 2015, only to see many of those policies repealed in 2019 following a change in government. This case study examines what social, political, and economic factors impacted governance of climate policy in Alberta from 2015 until the change in government in 2019. Analysing 344 press releases and 12 interviews with public servants and other stakeholders, this research uses Alberta's Climate Leadership Plan as a case study to better understand the drivers and pressures facing sub-national governments as they develop and implement climate policy.

Key policy insights

- Several strong structures of governance were established early in the policy cycle, only to have those structures rolled away later on. Winding down of climate policy governance structures in Alberta coincided with an aggressive campaign to expand fossil fuel infrastructure.
- The main motivation for climate policy implementation in Alberta from 2015 to 2019 was social licence for continued fossil fuel development.
- Barriers to policy development and implementation included the speed of policy development; the number and diversity of vested interests of industry and environmental stakeholders; institutional tensions, differing bureaucratic cultures and conflicting mandates and within separate government ministries; and the use of the carbon tax as a wedge political issue.

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List of acronyms

"ABCA"	Court of Appeal of Alberta
"ACCO"	"Alberta Climate Change Office"
"B.C."	British Columbia
"CCIR"	Carbon Competitiveness Incentive Regulation
"CLP"	Climate Leadership Plan
"CLPC"	Climate Leadership Policy Committee
"EEA"	Energy Efficiency Alberta
"EEAP"	Energy Efficiency Advisory Panel
"EI"	Emissions intensity
"ENGO"	Environmental non-government organization
"EPC"	Emissions performance credit
"ERA"	Emissions Reduction Alberta
"GDP"	Gross domestic product
"GHG"	Greenhouse gases
"GoA"	Government of Alberta
"GoC"	Government of Canada
"MtCO ₂ e"	megatonnes of carbon dioxide
"NDC"	Nationally Determined Contributions
"NDP"	New Democratic Party
"OAG"	Office of the Auditor General (Alberta)
"OAGC"	Office of the Auditor General of Canada
"OSAG"	Oil Sands Advisory Group
"REP"	Renewable Electricity Program
"SGER"	Specified Gas Emitters Regulation
"tCO ₂ e"	tonnes of carbon dioxide
"TIER"	Technology Innovation and Emissions Reduction
"WCI"	Western Climate Initiative

Introduction

The Canadian sub-national province of Alberta emits 38% of the country's greenhouse gas (GHG) emissions, equal to 256 megatonnes of carbon dioxide equivalent (MtCO₂e) per year comparable to Canada's 670 tCO₂e per year (Government of Canada (GoC), 2022a). Emissions mitigation and climate policy developed in Alberta will play a large role as Canada looks to meet its established emissions reduction targets under the Paris Agreement (Israel, 2020; GoC, 2021a), as well as recently announced net-zero emissions targets by 2050. In 2015, the Government of Alberta (GoA) developed an economy-wide carbon levy (carbon tax) and implemented many low-carbon policies as part of the 2015 Climate Leadership Plan (CLP). Following a change in government in 2019, most of these policies were repealed along with the economy-wide carbon tax (French & Graney, 2019; GoA, 2019X). In this research, I will identify what factors influenced governance of Alberta's CLP from 2015 to 2019. The underlying goal of this research is to enhance the durability of future climate policy in Alberta as well as other sub-national governments with similar emissions profiles.

Analysis of climate policy governance in Alberta is critical for a variety of reasons. First, from the perspective of multi-level governance (Dale et. Al, 2019), climate action from sub-national governments (i.e. bottom-up policy) is seen as critical in driving down global emissions following the Kyoto Protocol in 1997 (Rabe, 2007; Dale et al., 2018). In the Canadian context, this is true: Alberta saw the earliest form of Canadian industrial emissions policy through the 2007 Specified Gas Emitters Regulation (Midiha, 2015; Jaccard, 2013; Read, 2014; Becker, 2019), while other Canadian provinces struggled to implement economy-wide carbon taxes or other broad-reaching climate policy or regulations. Second, sub-national governments or provincial governments under Canada's constitution have a high degree of autonomy in terms of natural resource practices (Cairns, 1992).¹ Third, Alberta is a major exporter of fossil fuels and has so far been unable to decouple economic growth from overall increase in emissions (Canadian Institute for Climate Choices, 2020).² Fourth, each degree of global mean temperature increase will see 1.5 to two degrees of temperature increase in Alberta (Rusnell, 2020; Heyhoe & Stoner, 2019), and Alberta has already been disproportionately impacted by the impacts of climate change (Insurance Bureau of Canada, 2021). Fifth, and finally; climate policy in Canada is evolving and requires increased stringency and involvement of Alberta if national targets are to be reached. Understanding how governance enabled and managed climate policy during the period of 2015 to 2019 is critical in understanding how to enact future policy and deepen stringency and durability of climate policy in similar sub-national jurisdictions.

For the purposes of this research, I will define "climate policy governance" as the actions of the state and constellation of non-state actors that work through political tensions to arrive at policy decisions regarding output of greenhouse gas within the jurisdiction of the state (Van der Veen, Bernstein & Hoffman, 2017; Jørgensen, Jogesh & Mishra, 2015; Bernstein & Hoffman, 2018; Dale et al., 2018). The focus will be on the CLP, and steps that the government took to develop and implement the plan, and the pressures that impacted the plan. It could easily be said that there is also the opportunity to examine the role non-state actors have or had in participating in climate action in Alberta during this time (Bäckstrand, Kuypers, Linnér & Lövbrand, 2017). However, as detailed by Convery, (2015), the government has a role in either allocation of a socially efficient price signal for pollution, or to clarify property rights and establish markets for emissions trading, or both; and therefore, the actions of government will be my focus of analysis.

This study takes a political economic lens in examining climate policy governance, which situates climate policy in a political environment where the outcomes will result in winners and losers, such as certain economic sectors or low-to-middle income individuals (Vogt-Schilb & Hallegatte, 2017; Oates & Portney, 2003). While many economists argue that carbon taxes and other market instruments are the most efficient way of combatting pollution and climate change (Schneider, Kollman and Reichl, 2015; Winter, Dolter, & Fellows, 2021), effective policy on its own will not

¹ However, the federal government has significant leeway to implement broad-reaching climate policy, as determined under the recent March 2021 ruling by the Supreme Court of Canada recognizing the constitutionality of the 2018 Greenhouse Gas Pollution Pricing Act under the peace, order, and good governance clause of the Constitution (Supreme Court of Canada, 2020).

² While Alberta's emissions decreased in 2020 (see Figure 1 on page 10), it is unclear if this demonstrates a "decoupling".

result in durable or necessarily effective climate policy (Jenkins, 2014). Obviously in Alberta, climate policy was not politically durable, which makes the 2015 Climate Leadership Plan a good candidate for assessment.

Research questions

What drivers and pressures faced Alberta as it developed and implemented the CLP? This research explores the structure of and impacts to governance of Alberta's CLP from 2015 to 2019. This is a broad assessment as the CLP was a portfolio of programs and policies. To focus on just the carbon tax component of the CLP would ignore the interrelated programs funded by that revenue; in fact the CLP is unique from climate policy in other jurisdictions in that 100% of the revenue was recycled back into CLP initiatives. Similarly, to focus on the programs and not the carbon tax would ignore one of the most controversial mechanisms of that plan.

In addition to exploring the elements impacting governance of Alberta's CLP, this research will show when these elements emerged, and if governance itself changed throughout this period. This research will demonstrate how diverse interests shaped policy development and implementation, and what structural tensions exist within low-carbon transitions at the state/province level. This research will also identify information, drivers, tools, structures, and pathways used by government in decision-making (i.e. governance). As senior decision-makers have a propensity for inaction (Rickards, 2014), it is important to understand the structures and drivers of governance of Alberta's CLP outside what was published in semi-regular public reports. This case study will "look under the hood" of civil service decision-making and explore structures, tensions and pressures that exist therein. I will also explore if there were feedback loops about public support and changes in governance.

This research will not be an evaluation of individual components of Alberta's CLP, and instead will examine the supporting infrastructure and political economy of such policy. This research will also not evaluate climate policy in other jurisdictions and will also refrain from linking to past or present climate policy in the province (although comparisons will be made throughout).

This case study will also not specifically examine Indigenous elements of climate policy in Alberta. While a strong program of Indigenous climate action existed in Alberta during the period examined, it should be the focus of its own specific research with more contextualized research questions. Additional research could include specific research methods to understand the important role that Indigenous persons play in Alberta's low-carbon transition.

Approach

As a significant policy event in Alberta's history, the CLP offers a good candidate for analysis as a case study (Yin, 2018). However, because it is a significant and complex policy, it is difficult to assess completely. This research therefore contains a large amount of background prior to turning to the analytical focus of this case study which involves factors impacting governance of climate policy in the province. While case studies typically do not have a typical form (Yin, 2018), this study introduces analytical methods, and then follows with a discussion on results and conclusion for policymakers.

As a case study, this research contains extensive background on climate policy prior to the CLP, an inexhaustive cross-Canada survey of climate policy at the sub-national level for comparison, and then eventually an extensive overview of the CLP. This background however serves a good purpose for the academic community as no similar summary has yet been provided. On the CLP specifically, I provide a chronological overview; beginning with election of the Alberta New Democratic Party (NDP) in 2015, then moving into engagement through the Climate Change Advisory Council, establishment of governance structures aiding in the implementation of the CLP, and eventually the policies and programs that constitute the CLP. Because funds raised and spent out of the carbon levy played a significant role in climate governance and direction of government at the time, I provide an extensive overview of the CLP budget over the course of the time examined. With this background, I hope to accomplish this case study's goal of exploring the different facets that may have impacted Alberta throughout the life of the program.

Following a long background, I introduce my research methods, which include interviews and a thematic analysis. Interviews were conducted in 2020 with individuals who were involved in the development and implementation of the CLP. From these interviews, I ascertain a variety of factors that impacted governance of the CLP, specifically, drivers, barriers and structures. To better understand a potential change in governance of the CLP, I also complete a thematic analysis of hundreds of press releases developed by the province from 2015 – 2019. From this thematic analysis, I argue that the CLP undergoes a narrative shift from its inception to the eventual 2019 election. From this narrative shift, I can better understand the themes identified in the earlier interviews.

Research context

Research on external pressures facing the climate policy development undertaken by the province have been studied in-depth by Brandan Boyd (2019), Assistant Professor at MacEwan University in Edmonton. Boyd establishes that climate policy development in Alberta is a reluctant response to increasing criticism outside its borders (Boyd, 2019, p. 186). The scope of Boyd's analysis does not focus on specific elements of Alberta's CLP from 2015 to 2019. Through my research I will attempt to expand on Boyd's claims in the context of Alberta's CLP, and better explore internal drivers and decision-making that impacted development and implementation of the CLP.

Bratt (2020) completed a case study of Alberta's CLP, with a focus on the polarization inherent within the multitude of stakeholders involved within the CLP. The research provided an overview of the trajectory of consensus between industry and environmental stakeholders beginning before the election of the Alberta NDP, starting with former-premier Jim Prentice in 2014. Bratt explores many of the similar aspects of this research; including a discussion on key policies developed and an exploration of key political events that underpinned or undermined the implementation of the plan. Bratt's research differs from this research in that it focuses primarily on the public discourse on climate policy, and less about the shifting motivations of the CLP from the perspective of policymakers. Bratt also makes conclusions about the effectiveness of the CLP from the perspective of how it endured provincially, such as the phase-out of coal-fired power, methane regulations, and 100 megatonne cap on oil sands emissions (2020). Bratt further discusses how policy elements such as the carbon pricing backstop, output-based pricing system and methane regulations were borrowed by other governments; primarily the federal government (2020).

Hastings-Simon & Tretter (2023) also used Alberta as a case study to discuss how the fossil fuel sector creates "carbon lock-in — the dependency on fossil fuels and the inertia that this dependency can create in policy development". The focus of Hastings-Simon & Tretter is not on Alberta's CLP specifically, but by comparing different innovation pathways and establishing how incumbent fossil fuel and industrial interests hinder advancements of more aggressive innovation pathways. The paper argued that as long as policies are interpreted to limit market opportunities, they will be met with resistance.

Other recent studies have focused on climate policy in Alberta as well. Dobson and Winter (2015) examined the lack of emissions coverage and inadequate stringency under the 2007 Specified Gas Emitters Regulation and recommends an economy-wide carbon tax with revenue recycling. Mascher (2017) examines the carbon pricing systems of B.C., Alberta, Quebec and Ontario with the aim of assessing equivalency with federal standards. Dobson, Winter, and Boyd (2019) also complete a cross-provincial comparison of carbon pricing instruments with the aim of assessing equivalency with federal standards and does so across the ten provinces. Dobson, Winter, and Boyd found deficiencies with the Alberta government's exemption of small oil and gas producers under the carbon tax. Carter (2020) examined the common approaches of Canadian "petro-province" governments, which involve the compromise of environmental reforms in favour of extractive (i.e. fossil fuel) interests. Carter provides an overview of climate policy in Alberta from 2003 to 2020 and notes common themes that are discussed in this research – particularly an emphasis on emissions intensity, establishment of climate policy as a "Made-in-Alberta plan", and use of climate policy as justification for continued market access. Israel et al. (2020) examine the contribution of Albertan oil sands to Canada's Nationally Determined Contributions (NDCs) and incompatibility with 2050 carbon neutrality targets.

Climate policy developed by Alberta has also been a focus of the Office of the Auditor General of Alberta (OAG), which produced an audit of the 2008 climate change strategy, as well as two subsequent sets of recommendations in 2012 and 2014 (OAG, 2018). A follow-up audit was also completed in 2017 specifically focused on the Alberta Emissions Offset Registry. Finally, in 2018, the OAG completed a more comprehensive audit of the provincial government to assess if government had adequate systems and processes to lead and coordinate the CLP, as well as adapt to climate change-induced risks. The audit complemented a cross-provincial audit of climate action across all Canadian provinces (Office of the Auditor General of Canada, 2018).

The body of research on Alberta's CLP has an information gap regarding how various external pressures translated into government decision-making from the period of 2015 to 2019. This

research also focuses on governance, which is difficult to study given lack of available information. This research does not attempt to duplicate findings of research outlined above, but instead specifically addresses the time period of 2015 to 2019 and fills a gap by exploring impacts to governance that are specific to this unprecedented period in policy development.

Climate policy up to 2015

Prior to 2015, climate policy in Alberta included three major components: province-wide emission reduction targets, a system capturing emissions for large facilities emitting over 100,000 tCO₂e, and a fund for innovation and technology³ (Boyd, 2020; Read, 2014; Court of Appeal of Alberta (ABCA), 2019; Dobson & Winter, 2015). Alberta released two strategies: one in 2002 and another in 2007.

Emissions intensity targets were introduced in 2002, establishing a goal of cutting emissions intensity by 50 per cent (relative to gross domestic product (GDP) below 1990 levels by 2020 (GoA, 2002a). The 2002 plan was offered as an alternative emissions strategy to the Kyoto Protocol, and in fact offered rationale as to why emissions *should* increase in the province (Bramley, 2002; GoA, 2002b). Implementation of the Specified Gas Reporting Regulation formed the basis of reporting for industrial facilities in 2004 (GoA, 2024). The 2007 Climate Change Strategy continued these emissions intensity targets and included an additional commitment to reduce economy-wide “business as usual” emissions intensity by 200 million tonnes by 2050 (GoA, 2008a). The 2007 strategy also saw significant investments into carbon capture and storage, as well as public transit (GoA, 2008b).

The 2007 strategy established the Specified Gas Emitters Regulation (SGER)⁴, which applied to facilities emitting more than 100,000 tCO₂e. While heralded as one of the first industrial carbon prices in North America (Dobson & Winter, 2015; GoA, 2008a), the SGER only had marginal impacts to provincial GHG reductions (Dobson & Winter, 2015; Read, 2014). The program required facilities to reduce emissions by 12% per unit of production below a facility-specific benchmark. Facilities had flexibility in how they could fulfil their compliance obligation (Boyd, 2020). If facilities emitted over those limits, they could purchase carbon offsets reduce their overall carbon footprint. Facilities could also purchase emissions performance credits (EPCs), which are generated from that facility or other facilities regulated under SGER from previous years if they emit under their required emissions intensity. It is also in 2007 when the Alberta government first refers to the SGER as it’s “made in Alberta plan” (GoA, 2008a; Boyd, 2015; Carter, 2020), a theme which was picked up again by the 2015 Alberta NDP government.

As an alternative to purchasing emissions performance credits or carbon offsets, firms had the option of contributing to a technology and innovation fund at the rate of \$15 for each tCO₂e over their required emission intensities. This fund is now managed by Emissions Reductions Alberta (ERA),⁵ which is a non-profit with board member representation by industry, academia, and the GoA. Prior to the CLP, ERA had collected \$404 million from regulated companies in technology fund payments (Read, 2014), and to date, ERA has funded \$910 million, resulting in a \$7.3 billion total spend across the economy (ERA, 2023). As Saraurer (2019) found, expenditures in research and development do result in significant emissions reductions but are typically not cost-effective. Saraurer also found that due to path dependence and the tight coupling of industrial emissions and GDP, industrial emissions reductions are more tied to GDP fluxes than investments in research and development (2019).

Read (2014) found that with the combined \$15/tCO₂e fund contribution price or option to purchase offsets or EPCs, most facilities opted to pay into the fund, signalling that is likely the lower-end price option for many facilities. Read also identified that since facilities only saw 12% of their emissions taxed, that this resulted in an effective \$1.80/tCO₂e internal carbon price for producers (2014). However, since compliance costs are deductible for tax purposes and royalty calculation purposes (in the case of oil sands producing facilities), these internal carbon price signals are even lower (Read, 2014).

³ Following repeal of Alberta’s CLP, the “new” climate strategy Technology Innovation and Emission Reduction (TIER) system) is essentially the same emissions intensity approach as the Specified Gas Emitters Regulation.

⁴ Now known as TIER.

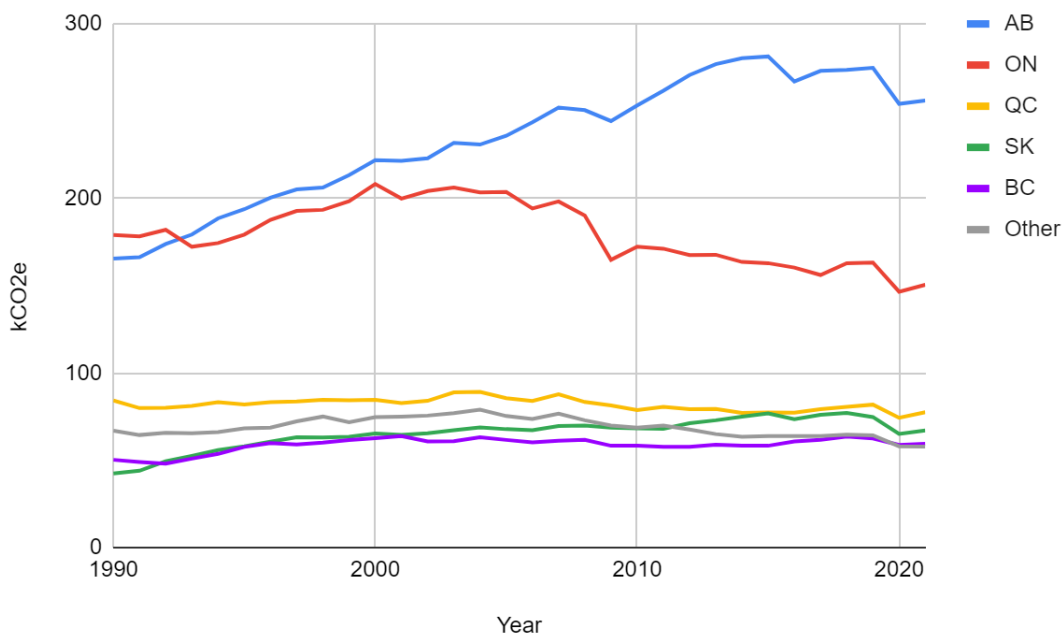
⁵ ERA was known as the Climate Change Emissions Management Fund and Corporation until 2015.

In terms of other actions, Alberta had not made significant progress. While an arms-length organization, Climate Change Central, had been established to deliver energy efficiency and other programming, that agency was closed in 2014 due to discontinuation of funding from both levels of government (Calgary Herald, 2014). The 2008 Alberta strategy also saw an emphasis on carbon capture and storage, however a 2014 OAG report identified that the province did not come close to reaching the 35 MtCO₂e carbon capture and storage targets with the \$1 billion provided in funding, instead reaching only a forecasted 3 MtCO₂e by 2020 (OAG, 2014). The 2008 strategy also called for the development of a provincial adaptation strategy, which remains a gap for the province today.

Across both 2002 and 2007 climate strategy iterations in Alberta, there is a focus on emissions intensity (EI) (GHGs per unit of production) instead of caps on absolute emissions throughout the whole economy. EI, however, may be a problematic metric through which to measure success in climate policy. First, Alberta leaves these targets unaddressed since 2007 in subsequent iterations of climate policy, and instead differs to other targets and mechanisms. Alberta has not established a methodology on how it would determine EI for the purposes of reporting. Such a methodology may be economy-wide, or for select products. Second; Canada's NDCs under the Paris Agreement requires an absolute 30 percent reduction in GHG emissions from 2005 levels by 2030, equating to a reduction from 735 megatonnes to 515 megatonnes (GoC, 2020a; UNFCCC, 2017). As long as emissions and economic growth remain tightly coupled (Hughes & Herian, 2017), barring an economic collapse, Alberta will not see the drop in emissions needed for Canada to meet its proportional share of the country's NDC.

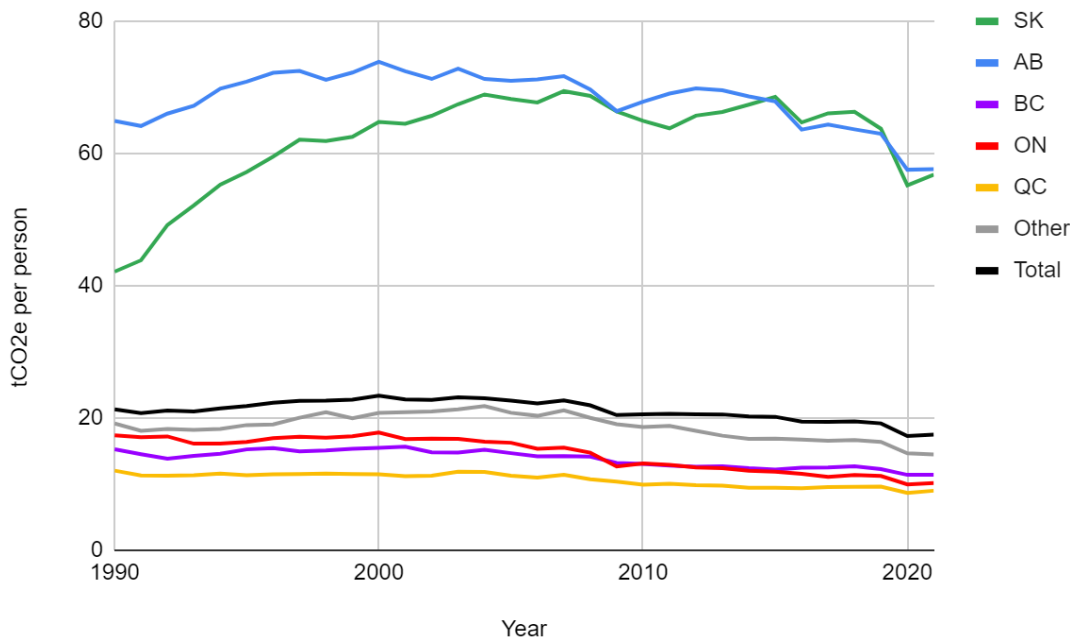
Where does provincial climate action up until 2015 leave Alberta in the context of the country's NDC's? Figure 1 shows historical emissions for Alberta and other Canadian provinces. While emissions in other provinces have stabilized, emissions in Alberta have continued to increase. Figure 2 shows per capita emissions for Alberta and other Canadian provinces. Along with Saskatchewan, per capita emissions are significantly higher than other Canadian provinces. If Alberta were a stand-alone country, it would be the top 31st state in terms of emissions.

Figure 1: Historical GHG emissions in Canada



Source: GoC, 2024a

Figure 2: GHG emissions per capita in Canada



Source: GoC, 2024a; Statistics Canada 2023

Other Sub-National Climate Policy

While Alberta may have been the first province to develop industrial carbon pricing in 2007, it would be one of the later ones to implement a carbon tax. Quebec would also collect a carbon tax in 2007, although at the time, the only sector affected would be petroleum companies (Houle & Lachapelle, 2019). British Columbia (B.C.) would be the first Canadian province to implement an economy wide carbon tax at \$10/tCO₂e in 2008 and would reinvest tax revenues into corporate and income tax cuts (Harrison, 2013). In 2013, Quebec would then expand the carbon tax to a cap and trade system covering industrial emissions in 2013 and would eventually join the California cap and trade system (Western Climate Initiative (WCI)) in 2014 (Pardon, Houle & Lachapelle, 2014). By 2015, Quebec would expand carbon pricing coverage to emissions from transportation as well (Houle & Lachapelle, 2019). Eventually, the province would ban oil and gas exploration altogether in 2022.

Ontario would also join the WCI in 2017, only to see its participation cancelled in 2018 with the election of Progressive Conservative premier Doug Ford (Raymond, 2020). Saskatchewan developed its climate strategy, “Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy” in 2017 (Government of Saskatchewan, 2017), however the system only covers industrial emissions.

Nova Scotia implemented a cap and trade system in 2019, but would not see rebates sent back to citizens (Government of Nova Scotia, 2019). Newfoundland and Labrador implemented a “Made-in-Newfoundland” climate action strategy in 2019, which includes a carbon tax and output-based pricing system for large emitters (Government of Newfoundland and Labrador, 2019). The Northwest Territories have implemented a carbon tax in 2019, while also providing a cost of living offset and rebate for industrial facilities (Government of Northwest Territories, 2019). All other provinces and territories are now covered by the federal government carbon pricing backstop (GoC, 2021a).

Both the B.C. carbon tax and Ontario cap and trade system would see surprising political opposition. Harrison (2013) provides a case study of B.C.’s carbon tax implementation in 2008, which saw a \$10/tCO₂e tax applied on all combustible fuels. Revenue recycling would be accomplished through reductions in taxes collected. The government would implement cuts of 5% for individuals in the first two income tax brackets (under \$70,000 per year) and would implement a low-income tax credit as well as a one-time \$100 cheque to all individuals in 2008 (Harrison, 2013). The general

corporate tax rate would see a reduction from 12% to 10%, and the small business tax rate would see a reduction from 4.5% to 2.5% (Harrison, 2013). B.C. also see a commitment to join the WCI, and legislated carbon neutrality for public sector organizations in 2010. Harrison (2013) hypothesizes that with a majority government and little challenge from parties ideologically to the right, the B.C. Liberals were able to attract more left-wing votes through the carbon tax. Harrison also argues that the success of the carbon tax was due in part to the acceptance of the B.C. Liberals (and by extension the carbon tax) by the business community (2013). Much like what would later be seen in Alberta, the carbon tax in B.C. saw fierce opposition by the official opposition – this time the B.C. NDP, who launched a campaign to “axe the tax” stating that the tax unfairly targeted consumers. Unlike Alberta however, the B.C. Liberals had a sizeable share of the votes in order to see electoral success in the 2012 election. Former Premier Christy Clark had frozen the carbon tax at \$30/tCO₂e, which then resumed incremental increases in 2019 (Government of B.C., 2021) as a result of campaign promises by the B.C. NDP in the 2017 election. The carbon tax now is \$45/tCO₂e and will rise to \$80/tCO₂e in 2024 (Government of B.C., 2024). B.C.'s carbon tax and CleanBC plan continue today, but have only marginally contributed to emissions reductions (Pretis, 2019) while seeing negligible impacts to gross domestic product (Jean-Thomas & Kichian, 2021).

Much like Alberta, Ontario would see repeal of its carbon pricing scheme in 2018. Raymond (2020) provides an assessment of how the design and framing of the cap and trade policy failed to adequately “defuse the potential power of populist attacks focusing on energy prices for ‘working families’” (p. 1127). While the former Ontario Liberal government would focus on climate impacts and creating “green” economic development, the government did not adequately focus on consumer costs (Raymond, 2020). Ultimately, the Ontario cap and trade system was repealed with the election of the Ontario Progressive Conservative party. The experience of B.C. and Ontario both illustrate how carbon pricing factored into the electoral victories of the successive political parties, however with different results. Neither of these examples can clearly demonstrate if carbon pricing was the key determinant of success for each government but provide an opportunity to demonstrate the importance of revenue recycling and consumer impacts in the introduction of climate policy. Both governments also wrangled with communication and framing issues associated with the introduction of policy, with Ontario certainly failing to communicate the complexity of their emissions trading system (Raymond, 2020).

2015 Alberta Election

The lead-up to the 2015 election saw two notable factors: The introduction of the Progressive Conservative's budget, and the lack of support for the Progressive Conservative Party itself. In the April 2015 budget, then-Premier Jim Prentice, leader of the former Progressive Conservative party, implemented an increase to the gas tax from four to 13 cents per litre (Johnson, 2015). Introduction of a progressive tax system (which would increase taxes for higher-earning Albertans) and healthcare premiums (contribution levies) were also proposed at this time (Johnson, 2015). It is difficult to determine sentiment on these tax increases given that they occurred in the lead-up to the 2015 provincial election. It is also difficult to determine if the 2015 election were a referendum on tax increases, or the Progressive Conservative Party of Alberta. While many pundits noted that the election of the Alberta NDP was a result of vote splitting (Grant, 2015; Dehaas, 2015), many other pundits note that the election of the Alberta NDP was a result of the loss of popularity of the Progressive Conservatives of Alberta (Grenier, 2015).

The Alberta NDP election platform states four actions in their 2015 platform that pertain to climate action (Alberta NDP, 2015).

- A phase out of coal-fired electricity generation and expansion of renewable electricity;
- Introduction of a green retrofitting-loan program;
- Diversion of funding away from carbon capture and storage toward public transit, and
- Leadership on climate in conjunction with Albertans, other provinces, and the federal government.

It is worth noting that carbon taxes were not contained in the Alberta NDP platform in 2015.

One factor that would eventually play significantly into the electoral success of the Alberta NDP, and therefore the success of the 2015 CLP, is the occurrence of a significant economic

recession that occurred from 2014 to 2017. The recession, which resulted from a plunge in global oil prices (Dobson, 2015; TD Economics, 2016), would see a 4% loss in provincial GDP in 2015, and a 3.7% loss in 2016 (ATB Financial 2016; ATB Financial, 2017). Unemployment would rise as high as 8.1% in 2016 (ATB Financial, 2017).

Alberta's Climate Leadership Plan (CLP) (2015 to 2019)

2015 would see major breakthroughs on the issue of climate change policy at the provincial, federal, and international level. Provincial action would help set up the federal government for the implementation of far-reaching energy and environmental policy which would eventually outlast action at the provincial level. Provincial and federal action would also be featured internationally as states and regions made significant efforts to mitigate GHG emissions.

Climate change would be one of many issues campaigned upon by the Alberta NDP in the lead up to the 2015 election (Leach, 2015). As eventual chair of the Climate Change Advisory Panel Andrew Leach would comment "there was a lot left to define with respect to short-term and long-term policies affecting greenhouse gas emissions in the province" (Leach, 2015). Mandate letters were not issued by the Premier (Thomson, 2016). The carbon tax was also not mentioned in the party platform, throne speech, or October budget (Thomson, 2016). Following election, Alberta soon had to grapple with incoming regulatory realities. The existing SGER was set to expire in 2015, and government made a commitment to implement new regulations (GoA, 2015a).

Government would undertake a series of public engagement and technical expert working groups to draft a Climate Leadership Plan which was announced in November 2015. Below, I will provide an overview of the engagement process as well as the governance structures that were established. However, it is first important to describe events arising outside of Alberta's borders that would eventually shape the trajectory of climate policy in the province.

Development of Alberta's CLP would see the start of a provincial and then federal discussion on not only climate change but would spark a federal discussion about the trade-offs between energy production and infrastructure, and climate action. Alberta's early movement on climate change would help establish a rare federal consensus on action on climate change. The federal Liberals would be elected in October 2015, and a month later, the provinces worked with the new government to produce the Vancouver Declaration on Clean Growth and Climate Change which would eventually see the Pan-Canadian Approach to Pricing Carbon Pollution, also known as the Pan-Canadian Framework. This coalition consisting of most Canadian provinces decided (at the time) that carbon pricing was the most effective way of combatting climate change, and that ambition and stringency should increase over time (ECCC, 2016).

Alberta and its new partners in the Federal government would then be able to appear in Paris at the 21st session of the Conference of the Parties to the United Nations Framework Convention on Climate Change with actual achievements that they could show the world. The eventual Paris Agreement would bind member participants to limit global warming well below 2.0 degrees Celsius compared to pre-industrial levels, with mentioned ambition to reach 1.5 degrees Celsius. The agreement would also establish the requirement for each country to determine NDCs as well as outline the how each member state was going to take actions to reach those NDCs. It is in this global and federal context that we see individual corporate entities start to voluntarily reduce their emissions, many of which operate in Alberta.

Sharing the stage with Premier Notley in November 2015 were the heads of major Albertan oil and gas companies – a signal to the international community that Alberta would be taking the issue of climate change seriously, and that there was alignment with the corporate community. As this research will show, there was not clear alignment, and government would face a variety of challenges to the implementation and governance of climate policy from 2015 to 2019.

Alberta announced they would withdraw from the federal climate change plan in response to the decision of the National Energy Board to overturn approval of the Trans Mountain pipeline (Moffatt, as cited in Attorney General of Canada, January 29, 2019; GoA, 2018a). This reversal of position will be explored further through the thematic analysis later.

Engagement and design of the CLP

The GoA relied heavily upon the recommendations of expert panels that were convened primarily in the early part of government's mandate. The first panel would shape the development of what would eventually be known as the CLP. Chaired by Dr. Andrew Leach, the Climate Change Advisory Panel would consist of membership from industry, environmental non-governmental organizations (ENGOS), and First Nations. The panel would conduct two open houses, which would see the attendance of over 1,000 people, as well as three meetings with First Nations and 10 technical sessions (GoA, 2015b). The panel also accepted 25,000 online survey responses and 535 formal submissions (GoA, 2015b). A report was provided to the Minister in November 2015, which accompanied a noteworthy press release with many members of Alberta energy and environmental sectors on the stage.

One of the more difficult tests of the Alberta NDP government would not be the climate file initially, but farm safety. Bill 6: *The Enhanced Protection for Farm and Ranch Workers Act* would bring farms and ranches under occupational health and safety laws. At the time, it was unclear if children and neighbours would be prohibited from helping on family farms (CBC News, 2016). The confusion led to widespread protests at the Alberta legislature, and an eventual commitment from the Alberta government to engage more meaningfully in the future (MacArthur, 2015; CBC News, 2016).

Following the Climate Change Advisory Panel, Government would then initiate five other panel processes, each with membership from cross-sections of the Albertan economy. The 2016 Energy Efficiency Advisory Panel (EEAP), chaired by Dr. David Wheeler, would see membership from co-operative associations, First Nations, consulting, energy efficiency technology, and the Municipal Climate Change Action Centre (GoA, 2016a). The work of the EEAP would form the new arms-length (EEA) in 2017, which would be deployed to implement numerous energy efficiency programs for the public and businesses (see below). Other panels include the Climate Change Technology Task Force, which was also developed in 2016, would provide numerous recommendations to government that would guide Alberta's investment into emissions reduction technology (GoA, 2017a). The Oil Sands Advisory Group (OSAG) was established in 2016 to craft policy that would inform the development of the 100 MtCO_{2e} cap on oil sands emissions (GoA, 2018b). OSAG consisted of industry representatives, but also First Nations, Métis, municipalities, and ENGO. The OSAG was particularly controversial given the participation of activist Tzeporah Berman, which was identified in interviews and described more below. An Advisory Panel on Coal Communities was also established in 2018 to identify how to encourage economic diversification in communities impacted by the wind-down of coal-fired power plants and coal mines (GoA, 2018c). Finally, a Methane Reduction Oversight Committee would work from 2016 to 2019 (GoA, 2018d); Alberta Environmental Network, 2016).

As Blue et al. (2018) would explore, the consultation process established by Alberta would lead to significant interest from the fossil fuel industry. Industry used the opportunity to advocate for the themes of "leadership", "balance", "competitiveness" and "regulation of demand"; all of which were incorporated into provincial climate policy (Blue et al., p. 94 2018). However, as Blue et al. details, climate policy was then designed in a way that would mitigate impacts to fossil fuel development. Blue et al. describes two types of industry response to forthcoming climate change regulation: 1) denial and obfuscation, or 2) the adoption of a "proactive stance" on climate action (p. 96, 2018). With the latter approach, the fossil fuel industry is better able to hedge against risk of rising compliance costs as they come online. The latter approach also ensures access points for civil society in shaping climate policy and positions the fossil fuel industry as a potential partner in policy development (Blue et al., 2018).

The alignment between government and industry was verified by a 2015 interview between journalist Jason Markusoff and Shell Canada's 2015 President and Country Chair, Lorraine Mitchelmore. In the interview, Mitchelmore describes how the development of climate policy in 2015 formed a window of opportunity for a sub-section of proactive energy companies to come to the table and collaborate on the development of climate policy that would align with international emerging trends in carbon pricing (Markusoff, 2015).

Governance of Alberta's CLP

The Alberta Climate Change Office was established in February 2016 with the mandate of ensuring a “whole of government” approach to implementing the CLP (2016). The secretariat would have its own Deputy Minister which (as will be discussed below in the summary of interviews) was critical in the implementation of this part of government’s mandate. Former Minister Shannon Phillips would be both the Minister of Environment and Parks and Minister Responsible for the Climate Change Office. Deputy Minister Bill Werry would head the secretariat from February 2016 until replaced by Eric Denhoff in September 2016 (Alberta, 2016; Denhoff, 2021). Denhoff would head the secretariat until both the ACCO and Ministry of Environment and Parks would merge in March 2018 (Denhoff, 2021). Denhoff would continue as Deputy Minister of Alberta Environment and Parks until October 2018 (Denhoff, 2021). The ACCO would track planned deliverables, expected completion dates, and costs of programs implemented under the CLP (OAG, 2018). The secretariat would also lead specific policy files, as detailed in interviews below.

Alberta would then see the development of the Climate Leadership Policy Committee (CLPC), a Cabinet Sub-Committee that would review and approve policy items that came before Cabinet. While there is no publicly available information as to when the CLPC was established, it can be assumed to have been established between the announcement of the CLP in November 2015, and establishment of the ACCO in February 2016. The 2018 OAG report describes the interaction between elected officials and the CLPC:

“The government established the [CLPC] to make recommendations to Cabinet on programs that lead ministries put forward under the CLP. Before lead ministries bring matters to the committee, a cross-ministry committee of deputy ministers and a separate cross-ministry committee of assistant deputy ministers review the proposals to ensure awareness and alignment of proposed programs. The [ACCO] coordinates these processes and ensures that advice is related to lead ministries.” (p. 5)

Coordination of climate-related policy and programming across various ministries and bodies is critical in the development and implementation of climate policy (Office of the Auditor General of Canada (OAGC) 2018, Dale, 2016), and the CLPC served that role. The 2018-19 CLP Implementation Plan provides an overview of the ACCO:

“The ACCO was created to enhance government policy capacity and act as a catalyst for action on climate change. As part of its mandate, the ACCO coordinates and reports on the all-of government approach to implementing the CLP, as described throughout this document. While the ACCO assumes an overall coordinative role, several ministries have lead accountability for implementing discrete initiatives and programs under the CLP. Disseminated accountability for implementation enables effective use of government resources and ensures that government places a climate lens on much of its core business. A dedicated governance system is in place to ensure effective planning, risk-based monitoring, evaluating and reporting, which enables the Minister Responsible for the Climate Change Office to report the results of the CLP to Albertans.” (p. 13, 2018)

The CLPC would however be disbanded in the winter of 2017-18.⁶ The ACCO meanwhile would be folded back into the Ministry of Environment and Parks in March 2018 (Denhoff, 2019). No justification is provided by government for the disbanding of the CLPC or the reincorporation of ACCO back into the Ministry of Environment and Parks, however through this research, I will attempt to situate this event among other political and economic ones that occur throughout this

⁶ The exact date the CLPC was disbanded is unknown. The OAG (2018) cites a December 2017 date where the policy Sub-Committee would be disbanded, however details of committee membership would remain available on the GoA website until March 2018 (GoA, 2018).

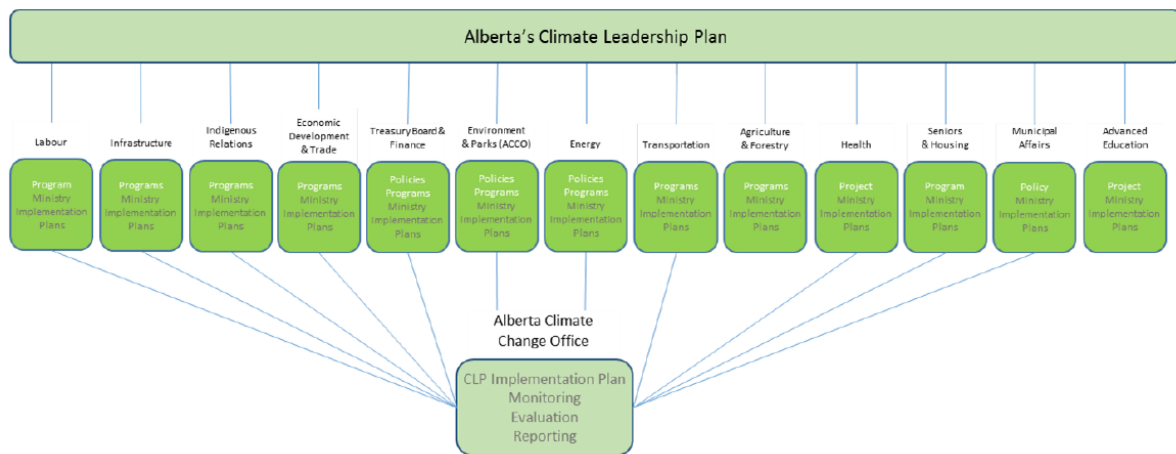
government’s mandate in order to attempt to offer potential explanations for this change in governance.

It is notable that throughout the existence of the CLP, there was no permanent oversight body established. One can look to the Climate Solutions Committee in B.C. (Government of B.C., 2023), or the Ontario Environmental Commissioner (Loriggio, 2019) for comparisons.

Reports on Progress and Implementation of the CLP. Government would publish three public reports on the status of the CLP; a progress report for the 2016-17 and 2017-18 fiscal years, and an implementation plan in the 2018-19 fiscal year (GoA, 2017b; GoA, 2018e; GoA, 2019a). The two progress reports would encapsulate CLP programs and efforts under a series of outcomes and objectives with the aim of reporting on progress and evaluating the efficiency of CLP funding, policies and programs (GoA, 2017b; GoA, 2019a). The implementation plan meanwhile is forward looking and addresses key timelines and deliverables planned under the CLP (GoA, 2018e).

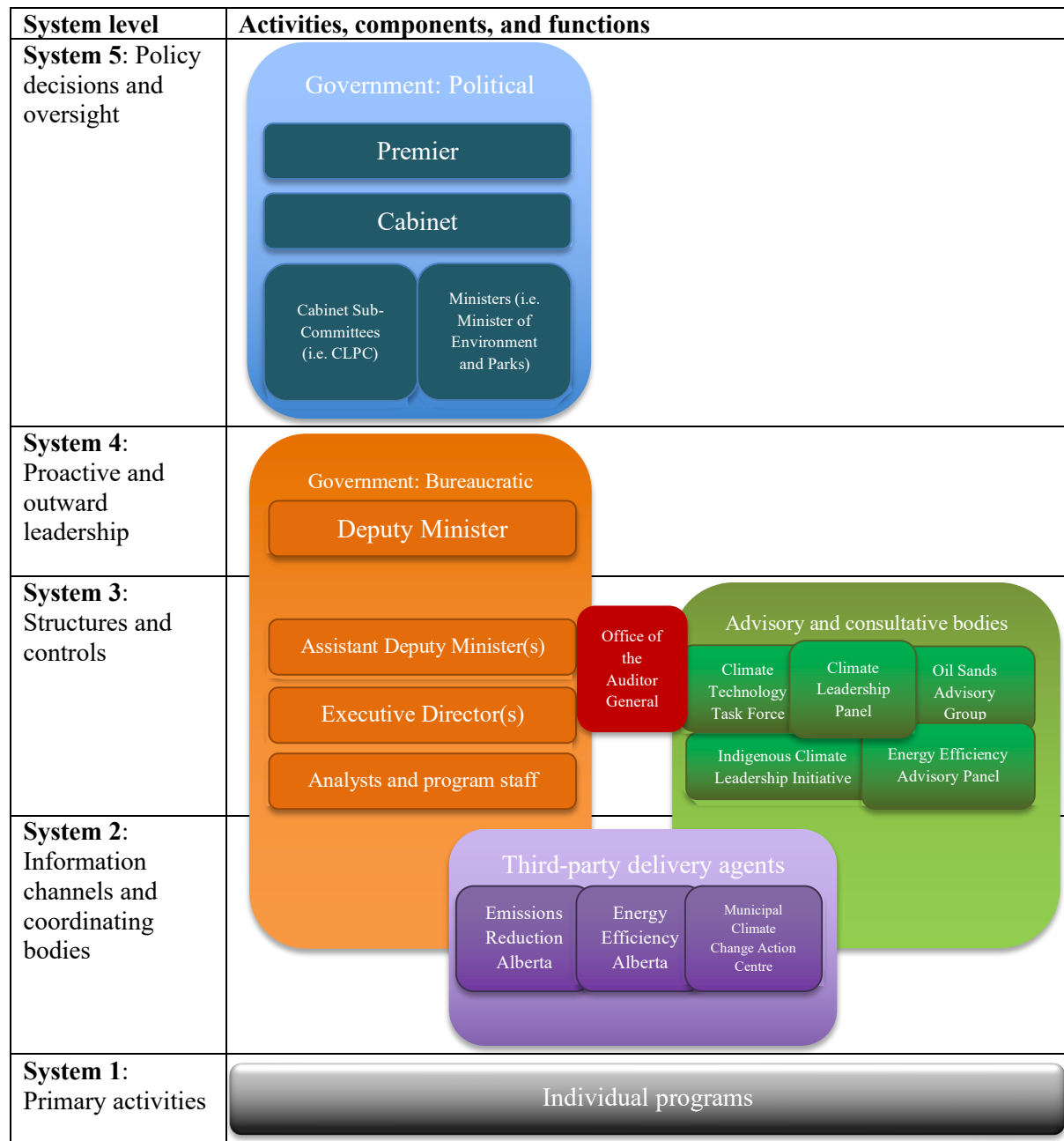
Systems Diagram. The 2018-19 Implementation Plan would outline a “hierarchy” diagram of decision-making across Ministries (p. 14, Figure 3), and outline how the ACCO serves as a coordinator role. However, the diagram does not capture elements beyond the bureaucratic level, nor does it incorporate other levels of governance.

Figure 3: CLP Implementation decision-making



To better illustrate the individual governance components of the CLP, I have developed a systems diagram which attempts to situate decision-making hierarchies as well as the individual components. Using Beer’s Viable System Model (1981) with additional guidance from Leonard (1999), I mapped the different components of CLP governance according to five levels, which are characterized and then applied in the context of Alberta’s CLP in Figure 4.

Figure 4: CLP governance systems map



While typically used to describe firm-level governance, the Viable Systems Model can be used to show the hierarchy decision-making and information flow for the entire CLP as a system of many organizations and interests. Each polygon is intended to represent a particular organization or set of organizations. As shown above, the political component of government (i.e. elected officials, Ministers, Cabinet, Cabinet Sub-Committees, and the Premier) encompass system five, which are the ultimate decision-making bodies in government. The decision-making bodies within System 5, such as the Climate Leadership Policy Committee, both establishes priorities and fosters coherence across other government priorities (Leonard, 1999).

The bureaucratic component of government (i.e. the public service, in this case represented through Alberta Environment and Parks or the Alberta Climate Change Office, and other Ministries) occupies three different levels of the Viable Systems Model. In System 4, the Deputy Minister takes a proactive view and looks to balance present and future needs of the organization (Leonard, 1999). In interviews, it is revealed that there was a Deputy Ministers committee that discussed and deliberated on CLP elements. In System 3, the public service allocates resources and ensures performance

standards of initiatives and bodies managed in System 1 and System 2. Several programs were directed from the ACCO itself, such as the development and operation of the Carbon Competitiveness Incentive Regulation (CCIR) for large industrial emitters. It is useful to mention that the public service administers and functions as regulator for the Specified Gas Emitters Regulation / CCIR (now known as the Technology Innovation and Emissions Reduction (TIER) system) for large industrial emitters (i.e. emitters over 100,000 tCO₂e per year). It is also important to note the role of the OAG, which plays a somewhat independent moderating role for government, and ensures that government is held accountable to promises made and proper procedures. In 2018, both the Alberta OAG and federal OAG released reports on the progress of national and sub-national governments in reaching climate policy goals (OAG, 2018). In System 2 meanwhile, government takes the steps required to fill gaps where there are no third-party delivery agents, or where there are no resources to complete the stated objectives of the CLP. In System 2, the public service also ensures coordination and information flow.

As described above, the CLP established several temporary consultative and advisory bodies to inform the development of new CLP policy. Examples of these bodies include the Climate Leadership Panel and (EEAP). In System 3, these entities look to accomplish the objectives of System 5 while staying tuned to best practices and global trends. Once the framework of policies and programs were established, the work of these bodies was complete.

In order to implement the program-level objectives of elected officials, third-party delivery agents were either developed or deployed in order to undertake specific activities (System 1). Examples of such delivery agents include Emissions Reduction Alberta (ERA), which administer the Climate Change and Emissions Management Fund, or EEA, which administered several energy efficiency programs. System 1 consists of the many programs that encompass the CLP, each of which have interactions with different parts of Albertan economy and/or society. Examples of System 1 elements include specific program intakes under ERA, or different programs implemented by EEA.

While many expert advisory committees and bodies were established, they were all eventually dismantled. One noticeably absent element of Alberta's CLP governance structure was an external body that served to steer, advise, or hold the province accountable on its plan. While the OAG served that capacity to some extent, climate policy oversight is not the primary focus or a key objective of the OAG. In their assessment of good governance structures for National Sustainable Development Strategies under Agenda 21 of the United Nations Conference on Environment and Development, Swanson and Pintér (2006) identify that most strong governance structures have formal requirements for stakeholder involvement in the development and ongoing implementation of environmental objectives. This requirement was not baked into the CLP, nor was an ongoing advisory body established to provide continuous feedback.

Also not mentioned in the systems diagram is the role of the federal government, local governments, and Indigenous communities. As shown in interviews (see below), the CLP was initiated to safeguard industrial and market access interests and was not necessarily intended to align with broader pan-Canadian efforts to combat climate change. Therefore, the federal government is not considered in this systems diagram and rests outside of the decision-making process. Similarly, while important to the implementation of the CLP, Albertan municipalities saw limited involvement in governance and roll-out of the CLP, with the main interaction limited to receipt of funds for transit and other infrastructure.

Programs and policies

The CLP consisted of a portfolio of laws, programs, policies and grants. For simplicity, the discussion on programs and policies will be differentiated between revenue and expenditures. In the discussion on revenue, I will provide detail on the carbon levy and credit purchase option under the CCIR. In the discussion on expenditures, I will describe the various buckets of programming, even if they do not include specific budgetary items. Table 1 summarizes revenue and expenditures throughout the life of the CLP. It is worth noting however that while 100% of carbon levy revenues are intended to be reinvested in emission reduction programs and policies, expenditures are not intended to line up perfectly with revenues due to the government's budgetary cycle and the carrying-over of amounts for future years. In addition, revenue and expenditures omit the 2019-20 fiscal year that included April 2019, the month that the 2019 provincial election took place.

Table 1: CLP revenue and expenditures

\$M	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	Total
Revenue	200	413	1,284	1,881	3,778
Expenditures	-	1,413	1,255	1,354	4,022
Difference	200	(1,000)	29	527	(244)

Revenue. Over the course of the CLP, government raised \$3.7 billion from January 2017 until March 2019. Table 2 provides an overview of funding by year by revenue source.

Table 2: CLP revenue

Revenue sources (\$M)	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	
Carbon levy	-	250	1,038	1,324	
Large industrial emitters	200	163	246	528	
Federal transfers	-	-	-	29	Total
Total revenue	200	413	1,284	1,881	3,778

Source: AEP (2019), GoA (2018f, 2019b? & 2021a?).

Carbon levy. In 2016, government passed the Climate Leadership Implementation Act and the Climate Leadership Act which placed a carbon levy on fuels that would be paid by consumers along the value chain (ABCA, 2020). As shown above, the largest source of funding was the carbon levy, which was applied to thermal combustible fuels and included in the price of fuel paid by consumers. At its peak, the carbon levy resulted in a 6.73 ¢/L cost for purchasers of gasoline, an 8.03 ¢/L cost for purchasers of diesel fuel, and a \$1.517/GJ for natural gas consumers. While not in legislation, the carbon levy amounts included in the schedule of the 2017 Climate Leadership Act (GoA, 2017c) was intended to equate to \$30/tCO_{2e}. Table 3 shows the increase in carbon levy rates over time. As shown below, the carbon levy rate stayed fixed at \$30/tCO_{2e} for 2019. Government provided no rationale for the decision to maintain the carbon levy price for 2019.

Table 3: Carbon levy rates

Year	2017	2018	2019
Rate	\$20/tCO _{2e}	\$30/tCO _{2e}	\$30/tCO _{2e}

Source: GoA (2017b, 2019a)

The GoA published the expected costs to households as a result of the carbon levy (see Figure 5 below). Government also made an intentional effort of displaying the expected means-tested rebate (see below for more information on carbon levy rebates). It is expected that the government aimed to illustrate how the majority of Albertans would benefit from the rebate compared to the costs of the carbon levy.

Figure 5: Carbon levy and rebates

		Single	Couple	Couple with 2 children
Typical fuel use assumptions	Natural gas use (GJ)	100	123	135
	Gasoline use (L)	2,000	3,000	4,500
2018 costs and rebates	Natural gas cost	\$152	\$186	\$205
	Gasoline cost	\$134	\$202	\$303
	Total levy cost	\$286	\$388	\$508
	Full rebate	\$300	\$450	\$540

Source: GoA (2017d)

While the carbon levy was applied at the consumer level, it was remitted higher up the value chain by fossil fuel providers and refineries (GoA, 2017d). Exemptions were provided for fuel sold to Indigenous persons on treaty reserves, as well as fuel sold to farmers for agricultural use (GoA, 2017d). Fuel combusted as part of the production process by conventional oil and gas producers was also exempt until 2023 (GoA, 2017d). Facilities regulated under the CCIR were also exempt from the carbon levy as their emissions would be covered through this other mechanism (GoA, 2017d).

Climate Change and Emissions Management Fund. In addition to the carbon levy, government collected revenues through the CCIR (formerly the Specified Gas Emitters Regulation). Emitters had the option of purchasing fund credits in order to meet compliance under this system. Proceeds from the funds would go to the Climate Change Emissions Management Fund (CCEMF). The price schedule of those units can be found in Table 4. More information on expenditures from the CCEMF can be found in later sections.

Table 4: Climate Change and Emissions Management Fund Credit Amount

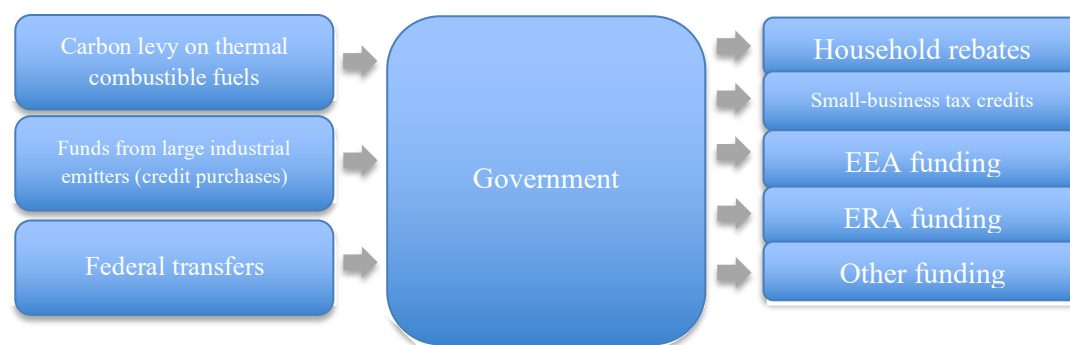
Year	2017	2018	2019
Rate	\$20/tCO ₂ e	\$30/tCO ₂ e	\$30/tCO ₂ e

Source: GoA (2017d, 2021a)

Federal transfers. As shown in Table 2, an additional source of funding was federal transfers. No details are available on the details of that transfer, or the rationale. It is also not currently known how that funding is different from other cost-sharing arrangements undertaken by the provincial government on other CLP initiatives, such as transit in Edmonton and Calgary.

Revenue recycling. One feature of the carbon levy and funds collected from large industrial emitters was that every dollar collected would be redistributed back to Albertans through rebates or investments in lower-emitting technologies and programs. The relationship between the revenue sources and expenditures is shown in Figure 6 below.

Figure 6: Revenue recycling under Alberta's CLP



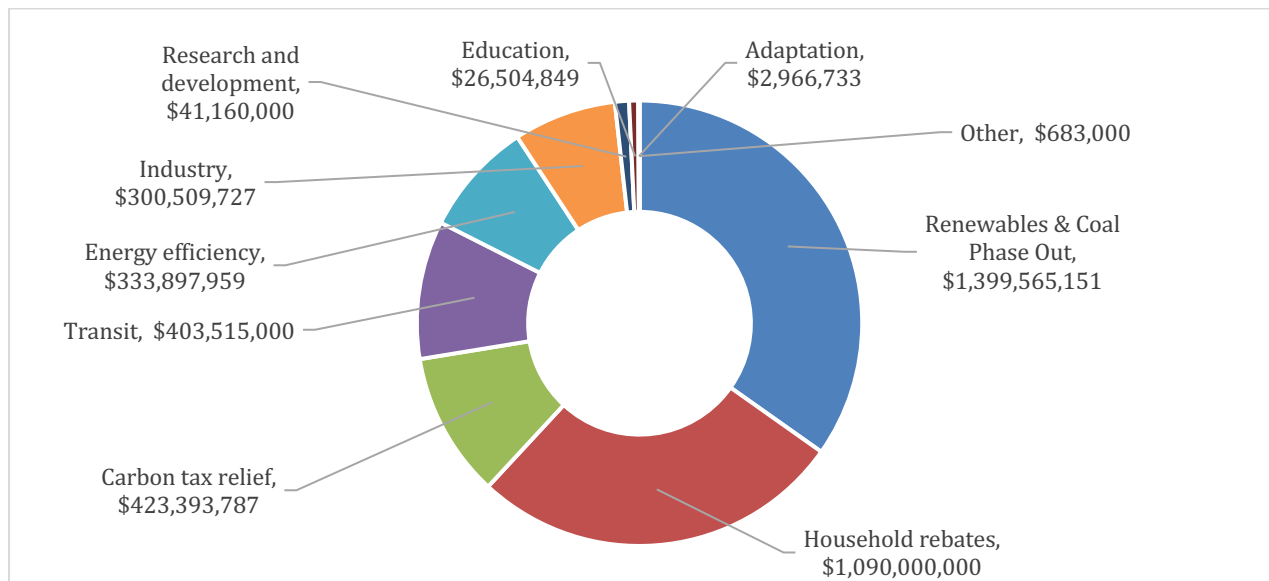
Expenditures and programming. Since one of the main tools of the CLP was recycling of carbon levy revenues, it is useful to show how those funds were allocated. Investigative research by Graney & French (2019) was one of the main sources used to detail program expenditures. Over the course of eight articles, Graney and French lay out key considerations related to Alberta's CLP in the lead up to the 2019 provincial election. To complete their analysis, Graney & French received a dataset from the GoA itemizing all expenditures to date. This research is complementary to work completed by McLean (2019), which also uses data provided by the GoA in her 2019 analysis.

Analysis from Graney & French was then cross-examined against budget documents provided by the GoA. In several instances, there was under-reporting of program expenditures. For example, phase-out agreements for coal-fired power plants were not considered by Graney & French, likely as government carried forward the amounts to subsequent years. However, other budget documents show the costs borne in that fiscal year, so for the purposes of this analysis, it is included. Table 5 provides an overview of expenditures by fiscal year. Table 5 and Figure 7 provide an overview of funding by policy area.

Table 5: Expenditures by policy area

Policy area	2016/17	2017/18	2018/19	Total
Electricity	\$1,116,687,324	\$104,032,984	\$178,844,843	\$1,399,565,151
Household rebates	\$152,000,000	\$410,000,000	\$528,000,000	\$1,090,000,000
Carbon tax relief	\$41,000,000	\$184,960,769	\$197,433,018	\$423,393,787
Transit	-	\$182,172,000	\$221,343,000	\$403,515,000
Energy efficiency	\$22,053,446	\$139,876,146	\$171,968,367	\$333,897,959
Industry	\$74,824,764	\$186,328,933	\$39,356,031	\$300,509,727
Research and development	-	\$28,960,000	\$12,200,000	\$41,160,000
Education	\$6,552,669	\$17,952,180	\$2,000,000	\$26,504,849
Adaptation	-	-	\$2,966,733	\$2,966,733
Other	\$100,000	\$583,000	-	\$683,000
Grand Total	\$1,413,218,202	\$1,254,866,012	\$1,354,111,993	\$4,022,196,207

Figure 7: Expenditures by policy area



Below, under each program area, is commentary of the programs funded by the CLP, as well as policies that were attached to regulations.

Alberta's CLP involved four key policy areas:

- An economy-wide carbon levy (tax) of \$20/tCO₂e introduced in 2017, raising to \$30/tCO₂e in January 2018;
- A phase out of coal-fired electricity generation and target of 30% renewable power by 2030;
- A cap on oil sands emissions at 100 megatonnes (MT), and
- A 45% reduction in methane emissions by 2025 (OAG, 2018).

However, there are various other policy elements introduced as part of the CLP that were significant, yet not part of the "pillars":

- Introduction of the CCIR, or an output-based pricing system covering industrial emitters;
- Creation of EEA;
- Alberta Indigenous Climate Initiative, and
- Investments in transit, and more (OAG, 2018).

Carbon pricing, household rebates, and carbon levy rebates. Carbon pricing was a focal point of the CLP, and became a lightning rod for political opposition, as evidenced by interviews below. As panel chair Andrew Leach identifies both in the CLP Report to Minister (2016) and op-ed in *Macleans* (2016), "broader and better" carbon pricing in Alberta minimizes the economic cost of action. The use of carbon pricing is also supported by Canada's Ecofiscal Commission (2015), and Dobson & Winter (2015). The structure and legislative underpinnings of the carbon levy are discussed above, however there are several budgetary implications to explore that extend to the different types of rebates and carbon levy relief that were available for particular social and economic sectors of Alberta.

Harrison (2010, 2012, 2013) details how carbon taxes typically have political disadvantages, given that the costs are more attributable for the end consumer than a cap and trade system.⁷ Vogt-Schilb & Hallegatte (2017) argue that recycling revenues into societal development (i.e. rebates) helps mitigate impacts to poor and middle-class voters, and lower the political costs of the transition. In order to enhance the political palatability of the carbon levy and mitigate impacts to lower-income individuals, rebates were provided on a means-tested basis. Carbon levy rebates formed the second-largest expenditure over the duration of the CLP (see Table 5, and was expected to reach 66% of the

⁷ However, as determined by Raymond (2020), even the cap and trade system in Ontario struggled with perception issues. Political opposition portrayed the cap and system as overly complex and would ultimately lead to an increase in household energy prices for Ontarians.

population (Winter & Dobson, 2016; also see Tombe & Winter, 2019). The income distributions of carbon levy rebates were assessed by Winter & Dobson (2016) and Tombe & Winter (2019), and the results of these studies showed that for the 40% of Albertans, the carbon levy rebate was larger than the increased cost resulting from the carbon levy. However, as income rises, the rebate lowers. The GoA released guidelines illustrating expected rebate amounts in 2019 (Figure 8). As shown in Table 7, over a billion dollars were spent over three years in rebates. Figure 7 (shown earlier) illustrates that rebates would form the second-largest share of expenditures. It is worth noting that the median income of Albertans was \$76,900 in 2019 in 2021 dollars (GoC, 2024b), meaning that no single average-income adult would receive a rebate, and couples would only receive a rebate if their combined income was lower than \$95,000 (\$98,605 in 2021 dollars (GoC, 2024b)).⁸

Figure 8: Rebate income criteria

		2019
Rebate amounts	First adult	\$300
	Spouse/Equivalent to spouse	\$150
	Each child (maximum 4)	\$45
Maximum family net income to receive full rebate	Single	\$47,500
	Couple/Single parent	\$95,000
	Families	\$95,000
Phase-out rates	Single	2.67%
	Couple/Single parent	4.00%
	Families	4.00%

Source: GoA (2019c)

Table 6: Carbon levy rebate expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
Carbon Levy Rebates	\$152,000,000	\$410,000,000	\$528,000,000	\$1,090,000,000
Household rebates total	\$152,000,000	\$410,000,000	\$528,000,000	\$1,090,000,000

Relief was also provided to specific economic sectors. As described above, exemptions were provided for agricultural, Indigenous, and specific industrial uses. Two additional tax credits were also derived to provide relief for particular economic sectors. These tax credits included the reduction in the small business tax credit from 3% to 2%, resulting in \$415M of foregone revenue. Government would later develop an Investor Tax Credit which was funded by the carbon levy and offered a 30%

⁸ Future research could examine the relationship between income, preferences on carbon taxation, and voter turnout. Such research may identify if the rebate has the ability to shift the political preferences of voters.

tax credit to Alberta investors who funnelled investment into small businesses operating a variety of sectors, including tourism, digital media, and research and development (GoA, 2018g).

Two grant programs were developed to provide targeted relief where the costs of the carbon levy would result in undesirable consequences. The Lloydminster Border Community Competitiveness Program would be provided to eligible fuel retailers in the city of Lloydminster to harmonize prices with fuel offered by Saskatchewan-side fuel retailers (Graney & French, 2019). \$4M would be provided to Lloydminster fuel retailers over the course of the CLP. The CLP also included a Greenhouse Natural Gas Rebate Program which would provide \$4.4M over two years (Graney & French, 2019).

In 2020, once the carbon levy was repealed, government released a report discussing effectiveness of the CLP. The examination shows that the carbon levy would be responsible for 13% reduction in emissions by 2030. (GoA, 2019d). This analysis also included an assessment that GDP was impacted by 0.5% to 1% per year (GoA, 2019d). No other analysis has been done to assess the effectiveness of the carbon price from 2017 to 2019, however similar studies were completed for B.C. (see Pretis, 2019).

Table 7: Changes in GHGs from the CLP

Category		2020	2025	2030
Scenario 1: Climate policy pre-CLP	Total	282	297	303
Scenario 2: CLP increasing to \$30/t	Total	268	265	269
	Decrease	-14	-32	-34
	Decrease (%)	-5%	-11%	-11%
<i>Scenario 2: CLP increasing to \$30/t (carbon tax only)</i>	<i>Total</i>	<i>281</i>	<i>292</i>	<i>298</i>
	<i>Decrease</i>	<i>-1</i>	<i>-5</i>	<i>-5</i>
	<i>Decrease (%)</i>	<i>0%</i>	<i>-2%</i>	<i>-2%</i>
<i>Scenario 2: CLP increasing to \$30/t (rest of CLP only)</i>	<i>Total</i>	<i>269</i>	<i>270</i>	<i>274</i>
	<i>Decrease</i>	<i>-13</i>	<i>-27</i>	<i>-29</i>
	<i>Decrease (%)</i>	<i>-5%</i>	<i>-9%</i>	<i>-10%</i>
Scenario 3: CLP increasing to \$50/t	Total	268	261	265
	Decrease	-14	-36	-38
	Decrease (%)	-5%	-12%	-13%

Taken from the Economic Assessment of Climate Policy in Alberta, GoA, 2019d.

Table 8: Carbon tax relief expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
Greenhouse Natural Gas Rebate Program	-	\$1,940,769	\$2,433,018	\$4,373,787
Lloydminster Border Community Competitiveness Program	\$1,000,000	\$3,020,000	-	\$4,020,000
Small Business Tax Reduction	\$40,000,000	\$180,000,000	\$195,000,000	\$415,000,000
Carbon tax relief total	\$41,000,000	\$184,960,769	\$197,433,018	\$423,393,787

Coal phase-out and renewable electricity. The largest expense under the CLP involved the phase-out of coal-fired power plants ahead of schedule (Graney & French, 2019) and the transition to renewable energy in the province. Table 9 shows the total expenditures by fiscal year.

Table 9: Coal phase out and renewable electricity expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
Alberta Indigenous Green Energy Development Program	-	\$1,299,086	-	\$1,299,086
Alberta Indigenous Solar Program (AISP)	\$622,995	\$3,240,520	-	\$3,863,515
Coal Phase-Out Agreements	\$1,115,156,823	\$96,970,000	\$67,000,000	\$1,279,126,823
Coal Workforce Transition Fund	-	\$473,670	\$3,174,112	\$3,647,782
Farm Stewardship Centre Showcase Solar Photovoltaic	\$54,000	-	-	\$54,000
Heart Lake Firenet: Master Site/Lookout Site Solar Power Project	-	\$375,000	-	\$375,000
Hinton Geothermal FEED Study	-	\$400,000	-	\$400,000
Irrigation Canal Solar PV	-	-	\$1,500,000	\$1,500,000
Martin Primary Fire Base: Prime Power Solar Project	-	\$600,000	\$480,024	\$1,080,024
Municipal Climate Change Action Centre – Alberta Municipal Solar Program	\$51,708	\$477,380	\$2,029,201	\$2,558,289
Miquelon Lake Provincial Park Centre Rooftop Solar System	\$31,137	\$14,000	-	\$45,137
Off-Grid Diesel Reduction	-	-	\$3,300,000	\$3,300,000
On-Farm Photo-Voltaic Program	\$770,661	\$183,328	\$2,381,506	\$3,335,495
Regulated Rate Option Price Ceiling Initiative	-	-	\$37,500,000	\$37,500,000
Solar Technology System Initiative for Schools	-	-	\$61,480,000	\$61,480,000
<u>Coal phase out and renewable electricity total</u>	<u>\$1,116,687,324</u>	<u>\$104,032,984</u>	<u>\$178,844,843</u>	<u>\$1,399,565,151</u>

As shown above, the largest share of expenditures result from the phase out of coal power and settlements with Capital Power, TransAlta, and Canadian Utilities (ATCO Electric) for an amount of \$97M per year starting in 2017 and continuing to 2030, equalling \$1.1 billion in 2017 (ABCA, 2020). It is estimated that 287 MtCO_{2e} of GHGs would be avoided between 2030 and 2061 through the phase out of coal-fired power generation (ABCA, 2020). Under the CCIR (discussed below), coal power plants would also be covered by carbon pricing and would be assessed using benchmarks that equated to the lowest-emitting natural gas-burning facilities (ABCA, 2020).

To support workers in the coal sector that were impacted by the phase out of coal-fired power, government implemented a workforce transition fund that would provide financial assistance to workers. The program would provide a bridge to re-employment in other sectors, a bridge to retirement, relocation assistance, tuition vouchers for retraining, career counselling, and more (GoA, 2021b). Government also redeployed \$5M in funds from the Community and Regional Economic Support program and targeted them towards 12 municipalities and First Nations impacted by the phase out, however those expenditures were not funded by the CLP (GoA, 2021c).

The *Renewable Energy Act* was introduced in 2016 and would see the generation of 1,360 megawatts of renewable energy and reduce annual emissions by 2.3 MtCO_{2e} (ABCA, 2020). The Act would legislate a mandate of 30% renewable power by 2030, requiring 5,000 MW of renewable power by 2030. Under the Renewable Electricity Program (REP), the Alberta Electric System Operator was tasked with conducting rounds of competitive processes. Over the course of the CLP, three rounds of REP were completed. REP (round) 1 would see the delivery construction of four wind projects equalling 600 MW in capacity at a weighted average bid price of \$37/MWh, which set a record in Canada for the lowest-priced renewable electricity (AESO, 2021). REP 2 would see five wind power projects totalling 300 MW at an average weighted average bid price of \$38.69/MWh. One

unique requirement of REP 2 was that projects would require a minimum of 25% Indigenous ownership for a minimum of three years (AESO, 2021). A final REP 3 would see development of three wind projects totalling 400 MW of capacity at a weighted average bid price of \$40.14/MWh. Budget data for the REP is not publicly available as not all of the projects are operational. Early analysis speculated that by 2030, REP would bring in \$10B in investment (GoA, 2017e).

Government would also provide numerous funding pathways for small-scale renewable energy projects through EEA, the Indigenous Climate Leadership Initiative (ICLI), Municipal Climate Change Action Centre (MCCAC), and On-Farm Photo-Voltaic Program. Funding from the Residential Commercial Solar Program operated by EEA would see \$18M in investment resulting in nearly 1,500 solar projects (EEA, 2019). A number of smaller projects would be funded as well, notably the Fort Chipewyan Solar Project (GoA, 2019e). Government would also place solar panels on many K-12 schools through funding implemented by the MCCAC, amounting to \$61M (GoA, 2018g; Graney & French, 2019). Government also passed the Small-Scale Generation Regulation in 2018, which allowed for small scale and community generation and supply to Alberta's grid which wasn't previously afforded under the previous electric system (Decentralized Energy Canada, n.d.).

Industrial policy. Government implemented four large programs intended to reduce emissions for industry in Alberta; a 100 MTCO₂e cap on the emissions from oilsands producers, modernization of the SGER and implement a new carbon pricing mechanism for large industrial emitters (i.e. polluters over 100,000 tCO₂e/year), reducing methane emissions in upstream oil and gas by 45%, and the sunseting of the Bioenergy Producer Program (BPP). Industrial policy would see the development of several new regulations as well as targeted grant programs to incentivize industrial competitiveness, reduce carbon leakage, and mitigate impact of carbon pricing to trade-exposed industries. A smaller amount of funding would also be deployed to a single carbon capture project.

While not part of the initial Leach report, the oil sands emissions limit (OSEL) would remain one of the more controversial yet longstanding policy items in the CLP. On November 1st, almost a year after the CLP announcement, former Minister Shannon Phillips would announce the *Oil Sands Emissions Limit Act*, which capped emissions for all oil sands sites at 100 MtCO₂e, with allowances for new upgrading and co-generation (GoA, 2016b; ABCA, 2020). However, the Act relied upon further regulation which had not yet been developed (GoA, 2016b; Israel, Gorski & Simpson-Marran, 2018). The Pembina Institute completed two reports providing a forward look at how Albertan oilsands emissions would increase over time, and likely exceed the cap in 2025:

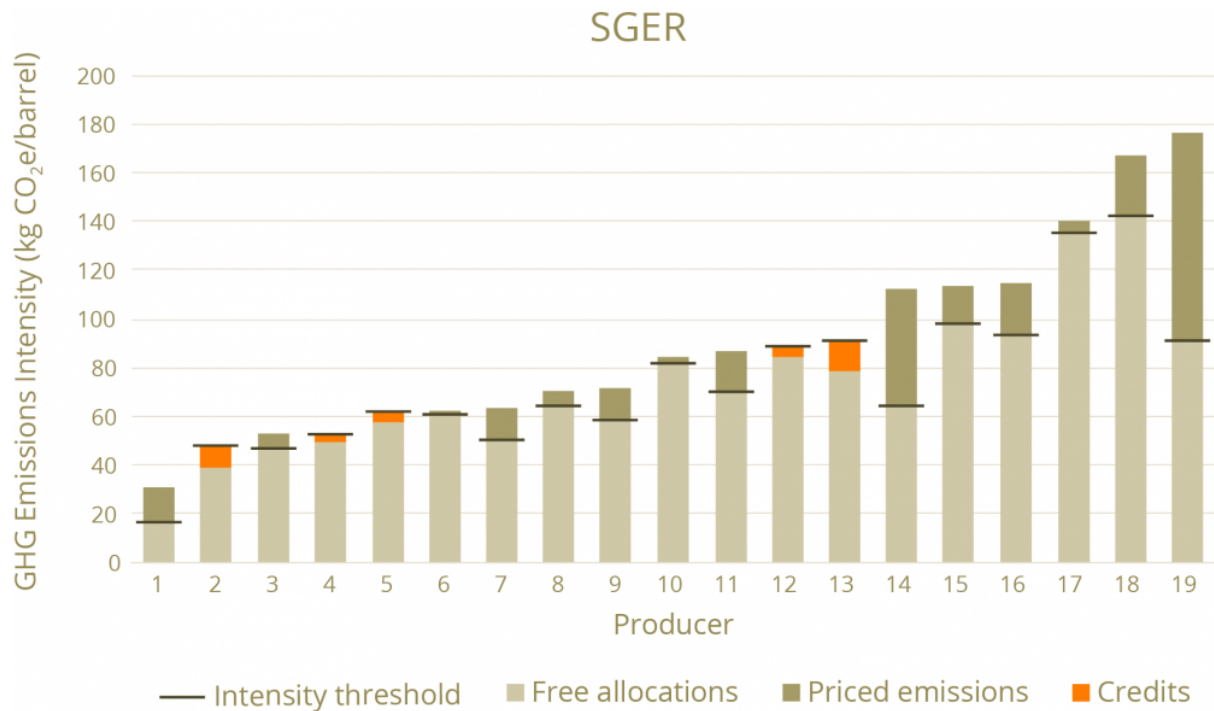
“In 2016, the Alberta government passed the *Oil Sands Limit Act*, which establishes a firm limit for oilsands carbon emissions. When regulations are created that enable the act to come into force, emissions associated with oilsands extraction and upgrading cannot exceed 100 million tonnes (Mt) of CO₂ per year by law, with an additional 10 Mt provision for newly built upgraders. In 2018, emissions were estimated at 77 Mt. Currently, the energy regulator has granted approvals that cumulatively add up to 131 Mt if all projects proceed — a figure that rises to 167 Mt when including projects seeking approval. Considering only projects under construction and a portion of those approved, Pembina Institute analysis suggests the 100 Mt limit will be reached in 2025.” (Israel, Gorski & Simpson-Marran, 2018, p. 2).

Implementing the OSEL would haunt Alberta years after the CLP ended. In 2020, the Teck Frontier Mine faced a federal environmental assessment that considered how projects would increase emissions (Impact Assessment Agency of Canada, 2020). Because there were no regulations that operationalized the OSEL, the federal government signalled that the project would not be approved (Fletcher, 2020). Eventually, Teck would withdraw their application for environmental assessment due primarily due to the lack of regulatory systems that reconcile resource development and climate change, such as a fully-implemented OSEL (Lindsay, 2020, p. 2; Connolly, 2020 – see also Turner, 2020).

The second mechanism the CLP would take to reduce industrial emissions would be to reformation of the existing SGER to a CCIR. The CCIR functioned like a output-based pricing system (Sawyer & Stiebert, 2017), which establishes sector or product-specific emissions intensity

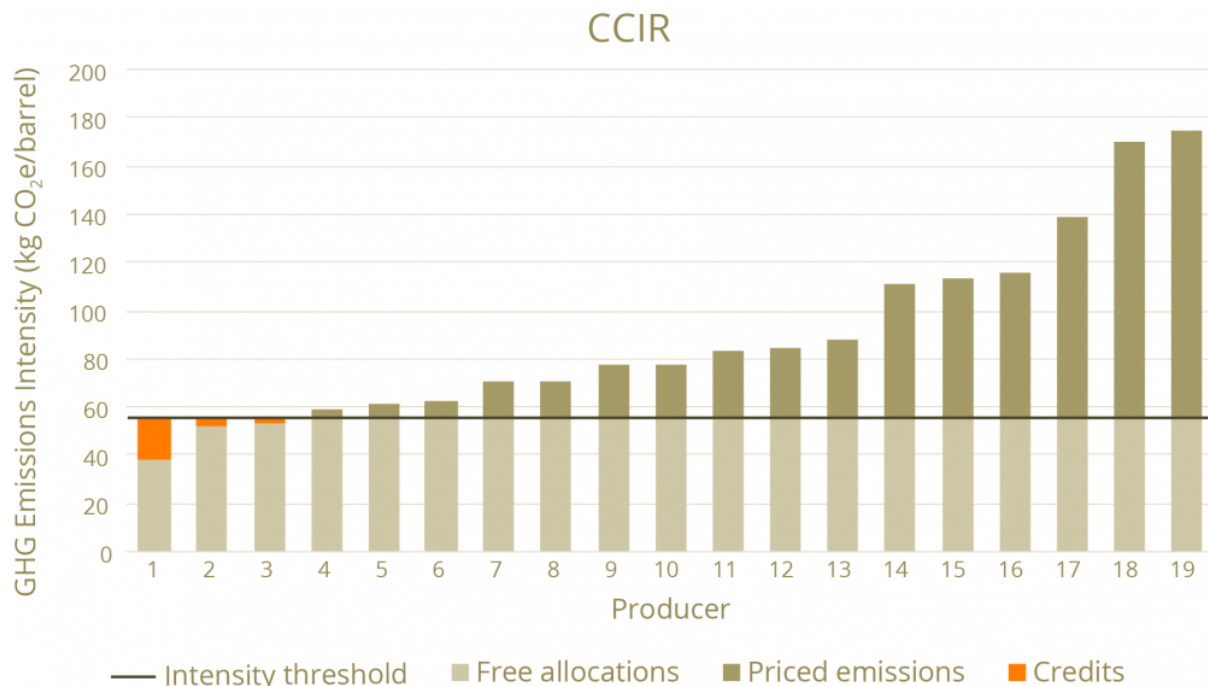
benchmarks for facilities and allows for emissions trading or purchase of units in order to meet compliance obligations if emissions fall over those benchmarks. Unlike the SGER, the benchmarks under the CCIR would incentivize facilities to reduce emissions to a point where their emissions are equivalent to top quartile performance. The difference between both systems is illustrated by Figure 9 and Figure 10 prepared by Jan Gorski at the Pembina Institute (2019) with sample anonymized data from Alberta Environment and Parks.

Figure 9: Emissions allocations and compliance pathways for facilities under SGER



Source: Gorski (2019)

Figure 10: Emissions allocations and compliance pathways for facilities under CCIR



Source: Gorski (2019)

As seen above, movement to the CCIR removes facility-based intensity ratcheting-down, and instead refers to top-quartile performance as the benchmark. Like SGER, facilities that emit below the benchmarks generate units called an Emissions Performance Credit (EPC) which can also be purchased by higher-emitting facilities. Emitters have the ability and flexibility to purchase offset units and EPCs in order to meet their compliance obligation, as well as purchase a fund credit which represents one tonne of CO₂e, and is provided to the Climate Change and Emissions Management Fund (GoA, 2017f). As Gorski (2019) points out, the shift from SGER to the CCIR provides better emissions coverage and sees increased compliance costs for those that have relatively high emissions intensity compared to their sector.

However, government provided containment measures to cushion the blow of this new system. In addition to funding from ERA that is recycled back to large industrial emitters for emissions-reduction projects, and the funding that is received by facilities earning EPCs, government developed focused grant programs for large industrial emitters. A cost containment program would be offered for facilities that saw significantly increased costs (GoA, 2021d; GoA, 2021e). Cost containment could refer to additional compliance flexibility (i.e. use of carbon offsets), a different cost-containment allocation benchmark which is different from the original established benchmark, or both (Nickel, 2021). Cost containment would be provided to four facilities in 2018, with an additional eight in 2019 and 2020 (GoA, 2021d). Nearly all recipients of cost containment would be in the oil and gas sector, with the exception being one pulp and one biofuels facility. No dollar amounts are provided due to commercial sensitivity reasons (Nickel, 2021).

A third plank of the GoA's industrial emissions mitigation strategy was to reduce methane emissions. Methane emissions would be reduced through the Methane Emissions Reduction Regulation, which aimed to cut methane emissions by 45% from 2014 levels by 2025 (ABCA, 2020). The GoA would direct ERA to invest \$40M in funding from ERA to go towards projects that would reduce methane emissions in industrial sectors, as well as improve methane detection and quantification (GoA, 2016c). Following stakeholder engagement, the Alberta Energy Regulator (AER) would release methane directives intended to ensure adherences to the Regulation (GoA, 2018h).

Fourth, and finally, the GoA would provide \$67M in funding to bioenergy producers (Graney & French, 2019). Funding would assist facilities that produce ethanol as well as generate heat from waste (GoA, 2016e). In the press release and in her interview, former Minister Phillips notes that

government did not initially receive the policy advice she was looking for, and the intent of the final year of funding was to signal to industry that the program would no longer continue.

A day before the announcement of the CCIR, government published a press release announcing four programs that would fund innovation in industrial operations. Several of these funding opportunities were already announced – for example, the \$63M in funding for the BPP program as well as the regular funding to ERA. In addition to these funding announcements, an oil sands innovation fund was promised with \$440M in funding, as well as \$145M in funding for a Climate Change Innovation and Technology Framework (described below under “Research and Development”), \$240 in industrial energy efficiency funding to be provided by EEA (see below), and finally \$400 million in green loan guarantees (also to be provided by EEA). While it can be confirmed that the BPP funding was spent by the end of the 2018-19 fiscal year, it can not be confirmed if the other funding areas were allocated. Table 10 provides a summary of industrial expenditures by fiscal year by program. A small additional funding amount was provided to support Shell’s Quest Carbon Capture and Storage Project (Graney & French, 2019).

Table 10: Industry expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
AER Methane Reduction	\$3,337,000	-	-	\$3,337,000
Bioenergy Producer Program	\$38,487,764	\$21,828,933	-	\$60,316,697
Bioenergy Producer Program – Extension	-	-	\$6,601,031	\$6,601,031
Carbon Capture and Storage	-	-	\$1,605,000	\$1,605,000
Emissions Reductions Alberta (ERA)	\$33,000,000	\$164,500,000	\$31,150,000	\$228,650,000
Industry total	\$74,824,764	\$186,328,933	\$39,356,031	\$300,509,727

Energy efficiency. Over the course of the CLP, 31 different streams of energy efficiency programming were delivered (Graney & French, 2019). EEA, MCCAC, ERA, and the GoA would work to deliver funding to a variety of sectors.

EEA would deliver eight energy efficiency programs over the course of three years; including seven main energy efficiency programs in addition to a residential and commercial solar program (see above). The most notable program was the Residential No-Charge Energy Savings Program, which saw record uptake (EEA, 2017). The Residential Retail Products program would offer rebates at the point of sale in participating retail outlets (EEA, 2017). The Business, Non-Profit, and Institutional Energy Savings program would offer non-residential rebates (EEA, 2019). The Home Energy Plan Program would provide rebates for home energy evaluations and rebates for boilers and furnaces (EEA, 2019). The Custom Energy Solutions program would work with energy-intensive institutions and larger businesses (albeit not large final emitters) to reduce energy demand (EEA, 2019). Home Improvement Rebates would provide rebates for renovations with the assistance of a contractor (EEA, 2019). Online rebates would provide rebates for select products after sale (EEA, 2019). The Non-Profit Energy Efficiency Transition program would support non-profits with capacity funding to obtain energy audits (EEA, 2018).

The GoA would also deliver several smaller programs, including the Senior Home Adaptation and Repair Program (GoA, 2021f), On-Farm Energy and Agri-Processing Program (GoA, 2016f), and Irrigation Efficiency Program (GoA, 2018i). Government would also direct MCCAC and ERA to deliver specific energy efficiency programs for industry and local governments respectively. Several other specific grants were provided, such as \$14M to the University of Alberta for a district heating project. Government also invested \$8M in greening their own operations and \$7M in funding for government infrastructure respectively. A number of post-secondary and healthcare institutions were also provided with funding for specific retrofits. In all, \$334M was spent on energy efficiency across a variety of projects. A summary of funding allocated is provided in Appendix 5 for brevity.

Transit. The CLP allocated funding towards transit through three avenues; the GreenTRIP program which funded expanding transit in smaller urban and rural municipalities, and two light rail

transit (LRT) projects in Edmonton and Calgary. \$176M was provided to the City of Edmonton via a loan conversion for the Southeast Valley Line project. \$1.53B was allocated over the course of several years for the City of Calgary's Green Line (GoA, 2017g; GoA, 2019f). While Graney & French (2019) identified GreenTRIP and Edmonton Valley Line in their summary of program expenditures, the Calgary Green Line was not included. \$1.53B was allocated and finalized by the GoA in 2019, which is perhaps why the amount was not included. It is also possible that some of the amount in GreenTRIP funding in FY2018-19 was counted twice. Due to a lack of available information, I was unable to determine the actual total expenditure on transit under the CLP.

Table 11: Transit expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
GreenTRIP	-	\$6,472,000	\$221,343,000	\$227,815,000
LRT – Edmonton Southeast Valley Line Loan Conversion	-	\$175,700,000	-	\$175,700,000
LRT – Calgary Green Line	\$148,000,000		\$1,530,000,000	\$1,678,000,000
Transit total	-\$148,000,000	\$182,172,000	\$1,751,343,000	\$2,081,515,000

Research and development. Stemming from the work of the CCTTF, government would fund several early-stage emission reduction projects. As mentioned above (see “carbon pricing, household rebates, and carbon levy rebates”) the Investment Tax Credit would see \$27M in reduced taxes. Funding would be provided to the Carbon Conversion Technology Centre through Alberta Innovates (GoA, 2017h). Alberta Innovates for other projects intended to build capacity for early-stage emissions reduction projects (Graney & French, 2019).

Table 12: Research and development expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
AI – Alberta Carbon Conversion Technology Centre	-	\$9,730,000	-	\$9,730,000
Capital Investment Tax Credit (Clean Tech Stream) (EDT)	-	\$18,000,000	\$9,000,000	\$27,000,000
CCITF – AI: CT Commercialization (AITC)	-	\$1,230,000	-	\$1,230,000
CCITF – AI: CT Facilities Support	-	-	\$3,200,000	\$3,200,000
Research and development total	-	\$28,960,000	\$12,200,000	\$41,160,000

Education. Government interacted with Indigenous communities and the general public through three main avenues; the ICLI (see below), the Community Environment Action Grant, and advertising. As discussed below, funding through the ICLI provided Indigenous communities with tools and resources to undertake CLP-related projects. The Community Environment Action Grant would see funding allocated to environmental education organizations to improve Albertan's literacy with climate change-related topics (GoA, 2021g). Finally, government would run regular commercials on conventional media to share information about the carbon levy and available programs. As explored in interviews below, the commercials were seen as a political lightning rod for the Alberta NDP.

Table 13 provides a summary of funding allocated towards education and literacy under the CLP. Note that expenditures noted in this section do not account for energy efficiency or renewable energy investments made to primary, secondary, or post-secondary institutions.

Table 13: Education expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
Alberta Indigenous Climate Capacity Program (AICCP)	-	\$2,817,005	-	\$2,817,005
Alberta Indigenous Green Employment Program	-	\$11,843,314	-	\$11,843,314
Community Environment Action Grant 1.0	-	\$2,541,861	-	\$2,541,861
Community Environment Action Grant 2.0	-	-	\$2,000,000	\$2,000,000
Education, Outreach, Marketing	\$6,552,669	-	-	\$6,552,669
IPCCC Event Edmonton	-	\$750,000	-	\$750,000
Education total	\$6,552,669	\$17,952,180	\$2,000,000	\$26,504,849

Adaptation and resilience. Alberta supported various initiatives under the umbrella of “adaptation” and “resilience” during this time, however not all were funded through carbon levy funds. The Springbank Off-Stream Reservoir was the only initiative funded by \$2.9M in carbon levy funds in FY2018-19 (Graney & French, 2019). There was also \$170.2M in funding from 2015 to 2019 as part of the Alberta Community Resilience Program and Watershed Resiliency and Restoration Program Grants, however that funding was not from carbon levy funds.

Table 14: Adaptation expenditures by fiscal year

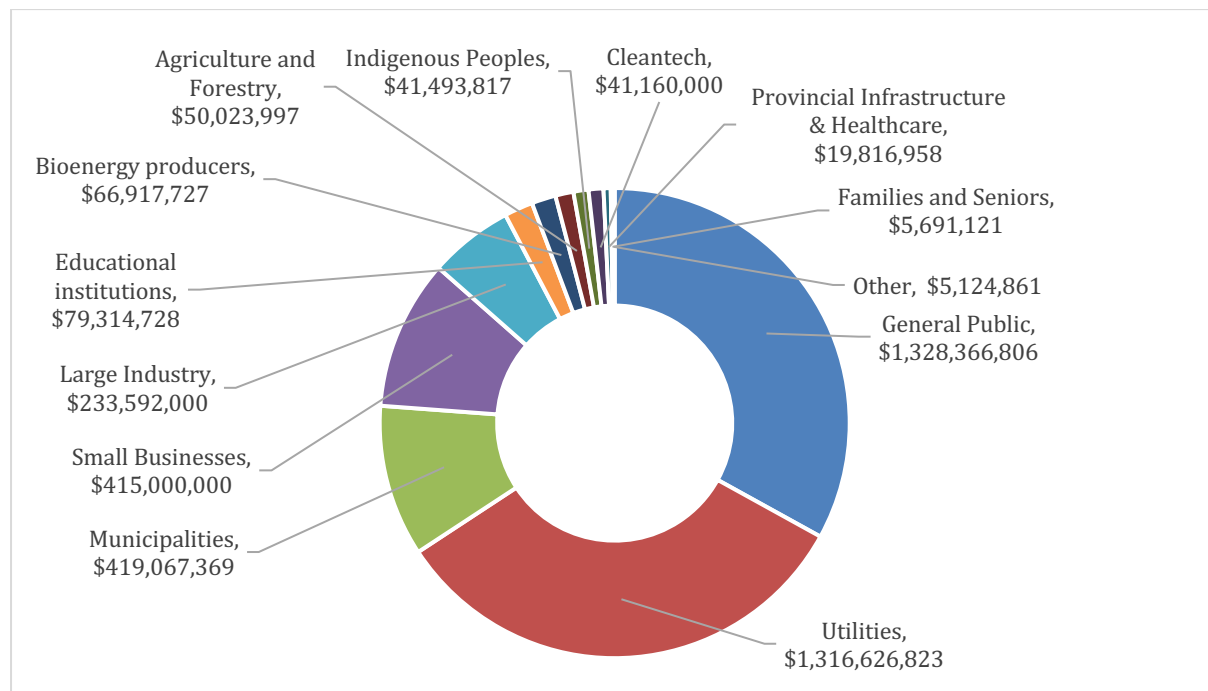
Program	2016/17	2017/18	2018/19	Total
Springbank Off-Stream Reservoir	-	-	\$2,966,733	\$2,966,733
Adaptation Total	-	-	\$2,966,733	\$2,966,733

CLP programs by sector. CLP programs are itemized in Table 15 to illustrate the different sections of the economy that received revenue recycled from carbon levy revenues. As shown below, different sectors of the economy received significantly different proportions of carbon levy funding. It is notable that the general public received the largest share of revenue in the form of rebates (see Tombe & Winter, 2019). Utilities received the second-largest share of carbon levy investment. These transfers were mostly used to compensate for the phase out of coal-fired power.

Table 15: Expenditures by sector

Anticipated recipients	2016/17	2017/18	2018/19	Total
General Public	\$168,683,806	\$518,192,000	\$641,491,000	\$1,328,366,806
Utilities	\$1,115,156,823	\$96,970,000	\$104,500,000	\$1,316,626,823
Municipalities	\$1,240,591	\$187,452,940	\$230,373,837	\$419,067,369
Small Businesses	\$40,000,000	\$180,000,000	\$195,000,000	\$415,000,000
Large Industry	\$36,337,000	\$164,500,000	\$32,755,000	\$233,592,000
Educational institutions	\$3,613,869	\$620,859	\$75,080,000	\$79,314,728
Bioenergy producers	\$38,487,764	\$21,828,933	\$6,601,031	\$66,917,727
Agriculture and Forestry	\$6,487,359	\$7,335,441	\$36,201,198	\$50,023,997
Indigenous Peoples	\$3,131,904	\$35,061,913	\$3,300,000	\$41,493,817
Cleantech	-	\$28,960,000	\$12,200,000	\$41,160,000
Provincial Infrastructure & Healthcare	\$79,086	\$10,819,066	\$8,918,806	\$19,816,958
Families and Seniors	-	-	\$5,691,121	\$5,691,121
Other	-	\$3,124,861	\$2,000,000	\$5,124,861
Grand Total	\$1,413,218,202	\$1,254,866,012	\$1,354,111,993	\$4,022,196,207

Figure 11: Expenditures by sector



Methodology

In order to determine the key factors and events that drove policy development and implementation, I conducted a qualitative analysis (Creswell, 2007). This research summarizes policy considerations associated with Alberta's CLP in the form of an exploratory case study (Mills, Durepos & Wiebe, 2010). Specifically, this case study examines what factors impacted governance from 2015 to 2019. Exploratory case studies are useful where there is a lack of existing information or material (Mills, Durepos & Wiebe, 2010). This particular case study differs from other time-bound case studies (i.e. before-and-after case studies (Mills, Durepos & Wiebe, 2010)) in that climate policy in Alberta will be explored from 2015 to 2019 in order to draw out distinct themes emerging during that time. An overview of programs, policies, and funding provided will be explored to examine government's priorities during the period examined. Any shifts in theming over this time will also be analysed. Pressures that impacted governance of Alberta's CLP will be identified and contextualized within these themes. Interviews were conducted with public servants, industry, and ENGOs to better understand what pressures impact governance during this time. Where possible, illustrative quotes are used to characterize certain issues.

This research also attempts to understand changes in governance of the CLP from 2015 to 2019. Interviews resulted in differing opinions as to the extent to which government adjusted the trajectory of policymaking, so in order to explore this further, I completed a thematic analysis of key messages used in press releases throughout the CLP.

Interviews

Open-ended, semi-structured interviews (Mills, Durepos & Wiebe, 2010, p. 495) with nine public servants, two ENGO representatives, and one industry representative were conducted in order to identify key factors that influenced governance of the CLP (Babbie, 2011, p. 340). Interviewees were selected from a purposive sample (Lavrakas, 2008, p. 524), a type of non-random sampling that deliberately chooses interviewees who have the knowledge necessary to answer the research questions. This type of sampling ensures that perspectives from representatives from some of the key institutions and stakeholders are included.

Interviews were conducted in Fall 2020 through videoconferencing. Each participant was interviewed once. The average length of the interview was 45 minutes. Notes were taken throughout. Interviews were not recorded in order to be sensitive to the fact that many respondents were still employed through the GoA. While most of the respondents in this study will be kept anonymous, the interview with former Minister of Environment and Parks, and Minister Responsible for the Climate Change Office, Shannon Phillips is not anonymized given her self-expressed role as a public figure. Phillips is currently the Member of Legislative Assembly for Lethbridge-West and expressed consent with the recording of our interview.

The interview protocol is attached in Appendix 1, and the interview questions are attached in Appendix 2. Questions were designed to explore public servants' perceptions of the key factors impacting governance during this time. The questions open with asking about key factors impacting the success of the CLP, and then focus in on various elements that I assumed could have an influence based on my *a priori* knowledge of the policy (Ryan & Bernard, 2003). After several interviews, one question was added to dive deeper into earlier responses provided regarding potential misalignment between Ministries in the GoA. While some questions yielded rich responses, others did not, meaning that my assumed (*a priori*) understanding of the pressures that impacted governance of the CLP were not universally shared by my respondents. Examples of this include the role public opinion research played in influencing governance of the CLP. I had assumed that this played a larger role, however based on the responses provided, it only played a peripheral role.

Sample

Opinions from public servants were also supplemented from the two responses from the ENGO community, and the one response from the industry sector representative. A roster of interviewees is shown in Appendix 2.

Interview process

Themes, illustrative quotes, and conclusions were derived from the interview responses. Repetition of ideas was used as an indicator of importance (Ryan & Bernard, 2003). Any notable differences or similarities in the responses of participants was noted (Ryan & Bernard, 2003).

Thematic analysis

334 press releases were analyzed and themed (see Results below) to construct a picture of government's changing priorities throughout the CLP. In the discussion section of my analysis, I establish a framework that leads to the assignment of one of six themes and provide an audit trail to increase legitimacy of this analysis (Nowell et al., 2017).

Bias and Limitations

As I was an employee of the GoA during the time period examined, I have bias which both informs the intent and outcomes of this research. My experience working in the provincial government has provided me with transparency into bureaucratic processes and an appreciation for the magnitude and impact of Alberta's CLP, however it has left me with pre-existing beliefs about what I consider are the key factors for governance. I compensated for confirmation bias through triangulation of data sources. Secondary research, interviews and a thematic analysis were contrasted within the case study (Mills, Durepos & Wiebe, 2010).

Results

Interview results and analysis: Factors impacting governance of Alberta's CLP

Within each category, a number of themes and sub-themes emerged from interviews (see Table 16). Due to the diversity of responses, the themes are kept granular in order to explore the detail of responses.

Table 16: Individual themes identified through interviews

Theme	Sub-theme	Number of respondents
Drivers	International recognition and/or ESG	9
	Paris Agreement	5
	Market access	3
	Made-in-Alberta plan	6
	Federal government and leverage points	3
Barriers	Speed vs engagement (timing)	5
	Lack of vocal support from industry	2
	Macroeconomics	2
	Lobbying	2
	Failure to maintain	1
Structures	Secretariat with DM	9
	ACCO (on its own)	4
	Leach panel	5
	Political leadership	2
	Revenue recycling	2
	CLPC	2
	DM Committee	2
	IETWG	1
	OSAG	1
	Premier and Cabinet	1
Key influencers	Small business	3
	Official opposition	3
	Oil sands producers	2
	Media	2
	Office of the Auditor General	2
	Indigenous communities	2
Outcomes	Pan-Canadian Framework	2
	Indigenous partnerships	1

Drivers

Boyd (2020) characterizes Alberta as a reluctant actor about climate policy, where the province is “influenced by decisions and pressures outside its borders”. Boyd specifically considers economic competitiveness of the upstream oil and gas sectors in contrast to that sector in the United States. While economic competitiveness was indeed an identified factor which impacted governance (n=3), respondents also identified other issues facing Alberta's energy industry, such as social license and corporate social responsibility (n=9). It is clear that an objective for government was to ensure climate policy was in place in order to justify status-quo oil production.⁹ Two participants mentioned

⁹ While outside of the scope of analysis, it is interesting to consider consolidation of Alberta's oil and gas sector in the absence of the CLP. One could argue that divestment on the part of TotalEnergies, Shell, and Teck was partially a result of a lack of climate policy altogether, and Albertan oil was now considered socially and environmentally riskier than petroleum products in other jurisdictions where carbon pricing was in place.

ESG specifically, while the remainder focused on international market access for petroleum. Three participants noted it was important that the CLP was an Alberta-led initiative as the real driver was pursuit of social license to justify additional development of oil and natural gas pipeline infrastructure. Two participants noted plainly:

“The CLP was being used to get the Trans Mountain pipeline built” (Participant 5).

“The whole underlying motivation was to future proof the economy and position it [for success]. In many ways this was economic policy, and this was lost on most people. Through this policy, the federal government was able to buy a pipeline” (Participant 6).

The above quotes emphasize how the CLP is a “made in Alberta plan”, which is a compromise: climate action for additional pipeline infrastructure and continued oil production.

When asked what level of government drove climate action for Alberta (i.e. federal, provincial, or local government), participants mostly accepted that Alberta was the driver of climate action (n=6). While the Federal government was an early partner, the decision to undertake climate action was Alberta's (n=6). One respondent also noted how the introduction of more stringent climate policy was inevitable at the provincial level. One respondent noted that Alberta and the federal government were aligned on a more nuanced level: a compromise of climate action for increased pipeline capacity.

Two respondents noted that the real legacy of the CLP was the Pan-Canadian Framework and the period of time where most provinces were aligned enough on climate action in order to allow the Federal government to take meaningful leadership. One respondent noted that the election of conservative governments in Saskatchewan and Ontario had weakened the national consensus on climate action. One participant said that Alberta would also fall out of alignment with the federal government, intentionally, for political appearances when the Trans Mountain Pipeline received an unsatisfactory ruling from the Federal Court of Appeals (Buck, 2018; Tasker, 2018).

Two respondents however noted how climate policy in Alberta has been influenced by the federal government for some time already. Ratification of Kyoto Protocol was identified as a turning point for Alberta (n=1).

“The threat of federal encroachment on shared jurisdiction is a major reason why Alberta was one of the first with industrial carbon pricing and remains the reason why nearly all provinces have now implemented an output-based pricing system” (Participant 1).

Another comment stated that Alberta had been managing emissions since 2007, and this plan was really a continuation of what the Alberta government had done previously (n=1).

One respondent noted that out of the other two levels of government (provincial leadership aside), the federal government had the largest impact in the governance of the CLP (n=1). When asked if municipalities played a large role in governance, respondents did not feel they were knowledgeable enough about their role in order to comment (n=2). Some urban centres were highlighted by respondents for climate leadership during this time, particularly Edmonton and Calgary (n=3). Some smaller centres such as Medicine Hat and Canmore were highlighted as well (n=2).

Barriers

Respondents noted that policy development was occurring at a difficult time for the province. The province was in the middle of a significant recession (n=2), and one respondent noted that government was trying to both be sensitive to large layoffs occurring in the province, as well as the need to take strong action. Another respondent noted that the voting public in the past had not held incumbent government accountable for macroeconomic issues to the same extent. Later, in the section on “key influencers”, I will describe the different types of coalitions and support dynamics that emerged throughout the CLP.

Speed and pace were also identified as key pressures to governance (n=5). Some respondents identified that it was difficult to involve other ministries in decision-making due to speed of policy-development. Another comment noted how third-party agencies such as EEA already had many decisions made for them, and did not have enough time to complete independent analysis (n=1). Two respondents noted however how commitments and timing of political decisions had unintended consequences, specifically how the carbon levy would suddenly impact non-profits once implemented in January 2016. The respondents noted that the ACCO quickly had to develop a program to specifically target this area which would have otherwise been left without options unlike other sectors of the economy.

Three interviewees noted difficulty in communicating elements of the CLP to the broader public.

“The overall climate plan was not well understood. We spent a lot of time trying to communicate” (Participant 8).

One respondent noted that some of the planned EEA programs appeared frivolous due to their basic nature (i.e. light bulbs and shower heads), and this potentially impacted sentiment of the whole program for Albertans. Two respondents also noted that commercials from government didn't resonate well with Albertans (n=2) (Bennett, 2016), with one respondent saying that the commercials instead directed attention to the carbon tax revenue that was being spent. The Calgary Herald quoted former Alberta Party leader Greg Clark as he encountered the advertisements in a movie theatres one weekend. “‘People were jeering in the theatre,’ said Clark, MLA for Calgary-Elbow. ‘And rightfully so. The ads are not about informing Albertans of a program they can take advantage of; it’s all about political spin.’” (Thomson, 2017).

“Advertisements were really interpreted negatively. Movie theatre ads really popped the balloon. Became a polarizing topic. Should we spend this money, etc.” (Participant 3).

The need to communicate elements of the CLP prompted Alberta ENGO's to fund a study completed by Climate Outreach to study the types of messaging that worked best well with different segments of Alberta's population (Climate Outreach, 2018).

Structures

Respondents articulated how development of the CLP saw four major chronological phases:

- Initial development (Leach panel);
- Development of the Alberta Climate Change Office;
- Creation of the CLPC (Cabinet Sub-Committee), and
- Policy implementation.

These four phases form the basis through which internal factors impacting governance are considered. A discussion on overarching internal pressures identified by respondents follows. Finally, in order to assess any response to external pressures discussed above, I summarize responses on any changes in governance of the CLP from 2015 to 2019.

Leach Panel. The Leach panel heavily influenced policymaking, according to interviewees (n=5). One ENGO interviewee and one industry interviewee noted how the initial panel process was transparent and well-led. One respondent cited the balanced perspectives on the panel as one likely source of its success. Minister Phillips admitted that Leach was able to shift on some matters; and so did Phillips; signalling that there was effective communication and learning on the political, staff, and advisory side. Phillips credits the Leach panel with identifying that the coal phase out would result in the lowest cost emissions reductions. Former Minister Phillips also cites other academics as being influential informal advisors. One respondent said that it was a mistake for a large chunk of the policy to be the carbon tax. Another respondent mentioned that the official opposition used the carbon tax as their main electoral weapon.

One respondent noted that while there were no fixed GHG targets, there was fixed funding and fixed programs (n=1). The respondent noted however that engagement with other ministries was slow as there was a lack of capacity in understanding how programs would result in GHG decreases.

Alberta Climate Change Office (ACCO). Several respondents noted that the existence of the ACCO was critical to the development and implementation of the CLP. However, it is likely that many of these public servants were biased given they had worked there. However, the role that the ACCO played in governance of the CLP was verified by not only former Minister Shannon Phillips, but also staff at the political level, as well as some external stakeholders interviewed (n=4).

Across all respondents, existence of a secretariat with its own Deputy Minister and three Assistant Deputy Ministers was cited as a key structural element in governance of the CLP. Former Minister Phillips noted that having a specific Deputy Minister overseeing a secretariat made the transmission of orders more effective, and this public servant played a key role in advising the Former Minister in sorting through varying interests. Former Minister Phillips noted that if she had implemented a secretariat in other files, such as conservation, things may have run more smoothly. Two respondents noted that the ACCO “reduced red tape” and removed silos between Ministries.

Rapid growth of the department was identified as a major structural shift (n=2) expanding from 20 staff to approximately 100 at the peak of the department. One staff likened the expansion of the secretariat to that of an emergency task force. Staff-level leadership (i.e. through the Deputy Minister or analysts) (n=4) was listed as a key factor in the CLPs success. Both political advisors and the Former Minister interviewed noted that there was good alignment between elected officials, their staff, and the public servants (n=3). This was echoed by other respondents who were current or former staff (n=4). No staff mentioned poor alignment between ACCO staff and political leadership. Former Minister Shannon Phillips credits the work of former Progressive Conservative Premier Jim Prentice, who took intentional steps to restore the operations and machinery of government, while also reviving staff morale.

An “whole of government” approach was mentioned several times— a reference to cross-ministry alignment in policy development (n=3). Respondents characterized partner ministries involvement in policy development (n=5), such as Alberta Energy on carbon levy development and methane targets. While interviewees noted that there was strong institutional alignment between elected officials and staff within the Ministry of Environment and Parks (n=5), several respondents noted however that staff in other ministries were not aligned, with particular mention of the Ministry of Energy (n=3) and Ministry of Agriculture and Forestry (n=3). Two respondents detailed how one public servant in Energy leaked economic analysis detailing how the combined impacts of the CCIR, carbon levy, and methane regulations would result in job losses (Southwick & Varcoe, 2017). One item that both held partner ministries accountable (n=2) and was the biggest source of contention between them was funding from the carbon levy (n=1). One participant noted that all ministries were unified in recognizing the ESG and economic development benefits of carbon levy funding.

The leadership of Deputy Minister Eric Denhoff in the ACCO was mentioned by several respondents. One respondent noted how Denhoff was able to play an “agent of change” role and was “a force to be reckoned with”. Another public servant stated that Denhoff demanded accountability at all levels. One analyst described an instance where the Deputy Minister marched two blocks to the neighbouring building where the analyst worked to personally hold the analyst accountable for a particular issue. Two staff noted that the Deputy Minister often circumvented traditional bureaucratic barriers in order to get results (n=2).

One respondent noted that there was a Deputy Minister's committee consisting of membership across other ministries (n=2). One respondent noted how often this committee, or the DM himself would make some decisions before they went to the CLPC. One respondent noted however that there was a disconnect between the DM and Minister levels, and that many decisions were made on her behalf. The 2016 advertising campaign and energy efficiency programs were used as examples to illustrate that while funding would be allocated, the details would often be left to the administrators, often with inadequate timeframes for implementation.

Two staff discussed the cultural and institutional resistance to speaking about Alberta's contribution to climate change, which was apparent from policy analysis at the staff level. Another advisor stated that there were several staff with close relationships to industry stakeholders, and these staff supported the status quo (climate inaction). One respondent noted that hiring within the Alberta public service continually self-reinforces more conservative political attitudes, and that the staff themselves are very right-wing. The same respondent noted that public servants are naturally risk adverse, and leadership on climate needed to come from the Premier and Minister.

Climate Policy Cabinet Committee. The CLPC was identified as a major structural element in governance (n=7). One participant noted that authority from the CLPC enabled the department to manage its own process and move quickly (n=1). Another respondent noted how it kept partner ministries accountable and engaged. Former Minister Shannon Phillips credits the CLPC with ensuring that ministries impacted by policies are involved in the decision-making. The Cabinet Sub-Committee structure would allow for public servants and their respective Ministers to defend their positions and ensure a more democratic approach to policymaking.

As with the ACCO, comments around the CLPC may be biased as several staff interviewed supported the functioning of the CLPC throughout the life of that committee. However, the role that the CLPC played in governance of the CLP was verified by not only former Minister Shannon Phillips, but also her staff at the political level (n=2).

Implementation. The implementation phase of Alberta's CLP is characterized throughout the interviews as the establishment of procedures and processes to issue funding, as well as establish third-party delivery agents to conduct programming. A key feature of the plan was the revenue recycling component of the carbon levy. The ACCO was given authority to manage funds much like Treasury Board and Finance, giving the department ability to receive funding proposals for carbon levy funds (n=2). In order to hold ministries accountable for the progress of funded initiatives, the ACCO established a "priority tracking system" which allowed for partner ministries to provide updates on deliverables, outcomes and key messages for initiatives (n=2). One other respondent noted how the government released semi-regular accountability reports. Both respondents noted how government wanted to understand the investment that government had made.

Two participants noted the difficulty of getting funding out the door prior to fiscal year end. The cyclical budgetary process / financial cycle seemed to be a barrier for staff. Reporting and budgetary processes continued up until and after the election (n=1) and did not see a change in pace after establishment in 2017. Implementation plan and regular reporting was a request of the OAG (n=1).

Embodying policy tools and functionalities with stakeholders was a theme that emerged through interviews. Emission Reduction Alberta was mentioned (n=1) as one additional avenue for government to incentivize emission reductions and could be more nimble than consolidated government budgetary processes. Other third-party delivery agents such as EEA and MCCAC were mentioned (n=1), signalling that government sought to embed resources in Crown corporations and/or agencies in order to undertake climate policy objectives.

Two interviewees noted that the implementation phase allowed for lobbying (n=2). As described above, large industrial stakeholders had more salience than others, and this impacted the structure of decision-making for government. This can be contrasted with earlier in the plan, where there were intentional areas where stakeholder feedback was welcomed in more open and transparent processes, such as the Climate Leadership Discussions or the EEAP. Interviewees noted that during this time, the issues that saw the most lobbying and negotiation were the Coal Phase Out (n=7), CCIR

(n=5), Oil Sands Emissions Limit (n=4), methane regulations (n=4), and the Renewable Electricity Program (n=3).

An example of lobbying in action was the development of a fund focused on high-emitting oil sands producers that was contingent on emissions reduction investments. One stakeholder noted how some facilities were more exposed than others due to their emissions intensity compared to the benchmark under the CCIR. The interviewee noted that the ACCO had identified the additional financial burden this would place on the facility, and eventually developed a grant program for the top 25% of emissions intensive oil sands producers. The same stakeholder also noted how some sectors were provided with increased allowable emissions, or non-taxable emissions, for the 2018-19 transition years.

“Government was well-informed and not ideological. It was interested in seeing the industrial base continue successfully” (Participant 11).

Other Internal Factors Impacting Governance. Five respondents noted that political leadership of former Premier Notley and former Minister Phillips played a key role in the development and implementation of the CLP (n=5). Phillips was attributed as being extremely knowledgeable about all elements of the CLP, which was demonstrated by her ability to conduct the telephone town halls in December 2016. One respondent noted how the Premier had 40 to 50 hours of briefings on the CLP which indicated keen interest. As indicated by one interview, and reinforced by Bratt (2020), the Premier was reluctant to fully defend the CLP against attacks from opposition, and this distance between the Minister and Premier grew over time.

Key influencers

Responses on public support and key stakeholders fell into two buckets; individual sectoral interests that had been involved in consultations and negotiations, and that of the general public. Unless prompted through the interview protocol, respondents did not mention the general public as being a key stakeholder. A particular question in the interview protocol did ask about the respondents' thoughts about the dynamics of public support, which is summarized in the proceeding section. One respondent confirms this, noting that support of the CLP was different depending on if you were a stakeholder that was directly engaged in policy development, or a general member of the public.

Individual sectors involved in CLP engagements. When asked who the most influential stakeholders were to the governance of Alberta's CLP, respondents provided a wide range of answers. Respondents mentioned the involvement of industrial stakeholders, which is not surprising given that the CLP was mostly industrial policy. What was surprising however was inclusion of the official opposition and media among this list.

Sectoral stakeholders. Involvement of stakeholders occurred throughout various panel processes during policy development and through implementation of individual CLP components. Oil sands producers were described as the province's most significant stakeholder in the development of the CLP (n=4). At the onset of the CLP, vocal proponents of the CLP included key producers, particularly Suncor, whose CEO shared the stage with the Premier at the release of the CLP (n=2). One industry stakeholder noted how they were not made aware of the November 2015 press release and were caught off guard when there were representatives from other companies there.

One political advisor stated that most conversations were with industry given the file: large industry with CCIR, renewable electricity, coal phase out. Two respondents stated that individual concerns of larger companies were quietly addressed by ACCO at the staff level. The respondent admitted that there was a significant amount of negotiating, however ultimately government tried to find a middle ground.

“At the end of the day, we made everyone sad. And we knew we're in the right place” (Participant 7).

While a few respondents noted that there was equal representation from ENGOs and industry in consultations, one respondent described the role of the petroleum sector as often disrupting bureaucratic decision-making with their feedback. The same respondent noted that elected officials also seemed to be prioritizing interests of oil sands producers ahead of stated policy goals, and that that partner ministries also were less collaborative when they knew that oil sands producers were not onside with policy development.

“In terms of how it impacted governance, in every CLP policy area, the governance structure would go out the window whenever an oil sands stakeholder complained. Similarly, when other government departments smelled blood in the water, they abandoned our collaborative working groups and turned on us, trying to undermine key policy decisions at critical times.” (Participant 1)

Three respondents noted that while the intent of the CLP was to support the longevity of industry, and improve its public image, industry was only quietly supportive (n=3). Respondents noted that industry supporters did not speak to the benefits of the plan, likely with the fear that they would be cast as unsupportive for future iterations of government which had selected climate as a wedge issue (n=3).

The Oil Sands Advisory Group had become a lightning rod for the official opposition due to the participation of Tzevorah Berman. One respondent noted that industry had asked for her specifically, and then did not vocally support her when she was criticized for her critical remarks of oil sand production (Bennett, 2017; CBC News, 2017). The same respondent also noted that while the 100 MT cap on oil sands emissions was originally conceived by ENGOs and Industry, it was vocally opposed and seen as a critical issue by some industrial operators.

Three respondents noted the role that small business had played in opposition of the carbon levy specifically. One respondent noted that there was a split amongst large and smaller industry regarding the extent to which the CLP should be supported (n=1). Two respondents noted that small business owners who were not the recipient of any carbon levy funds were vocal opponents to the carbon levy.

“There is a corporate consensus that stands on the stage in November 2015 and we knew this corporate consensus wouldn't last for too long. For small and medium enterprises, they were still doing well. The small drillers however got off their yachts in 2015 and plugged into the outrage machine” (Former Minister Shannon Phillips).

“Notley was using climate leadership to get a pipeline approved. When the pipeline didn't give them that public support, industry saw that the CLP didn't work” (Participant 2).

One respondent noted how there was a visible change in mindset from the corporate community with regards to climate policy, there is a higher level of comfort should future governments implement more stringency climate reforms.

“It definitely changed the climate change discussion we are having in Canada going forward. It linked energy and environmental policy for every government going forward. I also think that one of the key aspects was that it totally changed the conversation with industry. I am most familiar with the electricity sector but going from pre-climate change plans when the government was elected— we were hearing that it was impossible to phase out coal and convert coal to natural gas. The new government could have rolled back the coal phase out but didn't. This is emblematic of the broader conversation. What I gleaned from these CEOs is that there is a mind-shift. It happened once. Regardless of what happens in the next political shift, it is going to happen again” (Participant 10).

Political opposition, media, and other influences. Three respondents identified the official opposition as one of the most influential stakeholders during implementation of Alberta's CLP (n=3). Phillips also noted that support for the carbon levy did not survive contact once the official opposition decided to use it as a wedge issue (n=6).

“Climate policy has to be accompanied by a more participatory government and require an expansion of the state. [The official opposition] wrapped this up into very individualistic arguments and misrepresented the costs and risks. At its core is an argument about the role of government in industrial policy. The UCP took this discomfort and rammed it into the political moment. This political package went into the world, and it did not survive contact.” (Former Minister Shannon Phillips).

One respondent referenced the hiring, and the subsequent firing of Ed Whittingham from the board of the Alberta Energy Regulator. Whittingham served as the Executive Director of the Pembina Institute from January 2011 to June 2017. The respondent noted that this individual had been used as a proxy for the CLP. The Pembina Institute did see close collaboration with government (n=1), which is verified through court records (Rusnell & Russell, 2019). In the run-up to the provincial election, former-Premier Jason Kenney had explicitly identified Whittingham as unsupportive of Alberta's energy industry, going as far to accusing him of 'economic sabotage' (CBC News, 2019a).¹⁰

Media was also listed as a key stakeholder as well (n=2), particularly in how they stoked fears about significantly increased costs. One example was offered where a crematorium outside of Calgary had charged a family \$100 for a single crematorium, when the actual increased costs for the funeral home should have cost between \$1 and \$4 (Marchitelli & Ward, 2017).

The OAG was mentioned twice (n=2). As mentioned in the chronology, the OAG had undertaken an audit of the CLP which was completed in 2018.

Two respondents noted the work of the ICLI, which was a precedent-setting collaboration between the Province and Indigenous communities.

“The MSGC would not meet with the MNA and then eventually it was the norm to have these groups together. First Nations who sign treaties have historically have a tough time meeting with the province” (Participant 4).

The related Alberta Indigenous Electricity Working Group won an Emerald Award (Emerald Foundation, 2019) for climate action, which was received by the incoming Minister of Environment and Parks following the 2019 provincial election. The respondent noted how the governance framework served as the foundation of the current Indigenous Opportunities Corporation operated under the current government. Another respondent noted that the ICLI and various Indigenous-focused programs was able to see the construction of homes and the provision of funds to build capacity to tackle climate change.

Public opinion. Interviewees were asked about stakeholder support of Alberta's CLP. Most discussed public stakeholder sentiment, which was described as medium to high in the first years of the CLP (n=7), but dropped in the later years (n=4). To summarize this visually, I formatted into a table colour coded according to the legend in Table 17. See the results in Table 18.

¹⁰ Whittingham would be dismissed from his position at the Alberta Energy Regulator once the UCP would come to power in 2019 (CBC News, 2019b).

Table 17: Colour-coding of stakeholder sentiment

High	Green
Medium	Orange
Low	Red

Table 18: Interviewee response regarding stakeholder sentiment

Interviewee and Role	Year				
	2015	2016	2017	2018	2019
Participant 1	Green	Red			
Participant 2			Green	Red	
Participant 3	Green	Red			
Participant 4	Red	Red	Green		
Participant 5	Question not answered due to lack of knowledge				
Participant 6	Green	Red			
Participant 7	Noted that different policies had different types of support				
Participant 8	Green	Green	Red	Red	Red
Participant 9	Green	Orange	Red	Red	Red
Participant 10	Green	Red	Orange	Green	Green
Participant 11	Did not actually answer question				
Participant 12	Green	Red	Red	Red	Red

Former Minister Shannon Phillips and others (n=3) indicated that there was early polling that estimated support for a carbon tax would be shared by 60% of Albertans. Many respondents pointed to the November 2015 CLP announcement as the point of high support (n=8).

Four respondents noted that the implementation of the carbon tax in 2016 then sees the lowest point of public support. One respondent noted that the public could not understand that in order to get increased market access, the carbon tax was required (n=1). Another respondent noted that one segment of the Alberta population had played an oversize role in voicing opposition to carbon levy implementation. The respondent noted how the earlier Jim Prentice Progressive Conservatives had increased the gas tax, and there was little to no outcry (n=1) (Bellefontaine, 2015). One respondent noted how Albertans generally have a highly individualized sense of freedom and drew contrast with the implementation of seat belts in 1987, where Alberta was one of the last provinces to do so, due to much public controversy (Zazula, 2016). The respondent also pointed to the small but vocal opposition in Alberta to the wearing of masks and other COVID-19 restrictions.

One respondent then notes that public support inches up in the middle part of the mandate (n=2) but is impeded by missteps of the government (n=2). A dip in support was attributed to advertisements for the CLP (discussed above). Public support of the CLP then is reported to have dropped in the latter half of governments' mandate. One respondent said that while implementation of the CLP was successful from a policy and administrative perspective, it was not successful from a political perspective. Two respondents note that the consolidation of the official opposition in 2017 sees a further drop in public support (n=2). One respondent noted that the economy had failed to recover, and the Pan-Canadian Framework had appeared to be weakened by the Ford and Pallister elections. Each provided fodder for political opponents.

“Political surprise in 2016 saw a wall of screaming and lies that infected political discourse in Alberta. The dissolution of Harpers' government in 2015 saw the Conservative Party of Canada send their people south or to Alberta. [...] You start to see the far right influenced by international actors who start to take the guardrails off liberal democracy. This is all happening at this very time” (Former Minister Shannon Phillips).

Many respondents (n=7) noted that support was the lowest in the leadup to the election (n=7) (which is assumed to be 2018-2019).

“Then public support waned again due to a large political catfight. Then this turns into an election issue. [...] Climate policy was used as a key election issue and a key weapon used to attack the government of the time” (Participant 4).

Interviewees were asked to what extent support from the public impacted policy development, and they mostly responded that public support factored into decision-making only somewhat. One respondent noted that public support was definitely a key concern of governments in the development of policy. The respondent pointed to the numerous panels and expert working groups that had been established in the earlier years of the CLP. One analyst noted that policy development was constantly checked by management regarding political acceptability (n=1), but there were no direct linkages to public opinion research on policy development specifically. Another respondent noted how public opinion sometimes failed to make its way into policy development entirely. (n=1)

“I don't think the public aspect really impacted governance— this was inside baseball with how government wanted to run its business. The government wanted to see programs and rebates quickly— this was done swiftly and sometimes without critical thinking that was required” (Participant 3).

One political advisor and one public servant both noted that public opinion research and polling did not factor into decision-making, but more so reflected that the plan was lost on Albertans (n=2).

“We erred in the side of popping out of the box instead of developing a plan alongside Albertans. It was a risk worth taking” (Participant 6).

Public Opinion Polling. For comparison, public support of carbon pricing (conducted through public opinion polling) during Alberta's CLP is colour-coded in Table 19 and summarized in Table 20. Colour-coding uses the same rubric as Table 17.

Table 19: Colour-coding of stakeholder sentiment

>60%	Green
>50%, <60%	Orange
<50%	Red

Table 20: Stakeholder sentiment of the CLP

Source	Year					
	2014	2015	2016	2017	2018	2019
Mildenberger et al. (2016).			44%		46%	
Abacus	59 ¹¹				46% ¹² , 49% ¹³	69% ¹⁴
David Suzuki Foundation	46% ¹⁵	48% ¹⁶				
Pembina EKOS		50% ¹⁷				

As shown above, public (support) of carbon taxation was low in the beginning, but high towards the end. Percentages displayed in Table 20 represent support of carbon pricing, and does not consider support for other climate policy elements, such as support for investment in renewables, phase out of fossil fuels, etc.

Analysis on Stakeholder Sentiment. There is a disconnect between the findings of the public opinion polling and the interviews conducted as part of this case study. Interviewees may not have directly interacted with the public, and instead may have been reflecting on their interactions with institutional stakeholders (i.e. corporations, municipalities, associations) instead of the public. Also, public opinion of the CLP should not be conflated with the electoral success of the CLP. Eventually the CLP became entangled in a discussion on the succession of government, making it difficult to understand on its own.

Discussion

Change in Governance

It was difficult to determine through interviews if governance of Alberta's CLP had changed over time. Respondents provided conflicting remarks on this particular aspect. A political advisor and public servant both stated that there was little change in governance structure or implementation in the leadup to the 2019 election. One industry representative also noted how governance didn't really change throughout the life of the CLP to the extent that industry stakeholders were aware of.

¹¹ Abacus Data (2015).

¹² Abacus Data (2018a).

¹³ Abacus Data (2018b).

¹⁴ Abacus Data (2019).

¹⁵ Environics Institute & David Suzuki Foundation (2014).

¹⁶ Environics Institute & David Suzuki Foundation (2015).

¹⁷ Pembina Institute (2015).

One public servant did however note that the CLPC eventually wrapped up its work, with its functions absorbed back into Cabinet. The ACCO was set up on February 2, 2016, and it is anticipated that the CLPC was established sometime after. The last date the Wayback Machine shows the CLPC existed was February 15, 2018.

One respondent, a senior executive from an ENGO noted that there was a noticeable change in tone over the course of this government's mandate. This respondent noted that compromise of climate action for pipeline infrastructure "locked advocates in a box". This was also noticed by Carter (2020) in her review of Canadian energy and environmental policy. Politically, the compromise established by the federal liberals and the Alberta NDP is easy to outflank by political opponents who consider the furthering of the petroleum economy the top priority— for opponents, the absence of a compromise is attractive for voters who are concerned about the strength of the resource economy.

Ambition

Public servants interviewed expressed pride at the level of ambition of the CLP. Five respondents noted how the CLP had the highest level of ambition seen in their careers. Former Minister Shannon Phillips noted that the amount of GHGs reduced during this period can perhaps only be rivalled by California (n=2). Another advisor noted that the plan's ambition had surprised people (n=1). One respondent noted how development of the CLP demonstrated how the province can rapidly mobilize and drive climate action (n=1), while noting how development of the CLP was always hamstrung by the interests of industry and would never result in meaningful climate action. One respondent noted that even with the CLP, Alberta still emitted a 'plurality' of emissions within the Canadian federation (n=1). Another public servant noted that the CLP had a medium level of ambition, and that the return on GHGs was average for dollars spent. The same respondent noted that there could have been more stringency, but the plan was intended to address more than just emissions reductions.

Responses regarding ambition also fell along stakeholder lines. An ENGO interviewee noted that the plan was not ambitious enough but was criticized for going too far. The respondent from industry however responded how the CLP had a moderate level of ambition and looked to be more ambitious over time. The industry representative continued that ratcheting up of the carbon price and compounding impacts to industry was deemed to put a "chill" on new industrial projects.

Legacy

Several comments noted how progress made by Alberta led to refinement of climate policy nation-wide. One respondent noted how federal large emitters regulations was copied, or "watered down" from the CCIR (n=1). As mentioned above, one respondent said that the real legacy of the CLP was the success of the Pan-Canadian framework, and the larger and more cohesive action on climate federally. One respondent noted how the phase out of coal power has not been repealed and continues to this day (n=2). The same was said about methane regulations (n=2), Renewable Electricity Program (n=1) and the 100 MT cap (n=2). Two interviewees noted that elements of the CCIR remain in the existing TIER legislation.

Two respondents noted that Alberta will eventually have to tell a better story about their emissions profile to market their products, and climate action will instead be driven by individual companies instead of politicians. One respondent instead noted how GDP and GHGs are still tightly coupled and decrease of emissions will likely be seen as oil sands production decreases.

Thematic analysis

To better understand how the CLP was framed throughout the four-year term of the Alberta NDP, a thematic analysis was conducted using 344 press releases issues from April 11, 2019, to June 27, 2021. Press releases were downloaded from the Government of Alberta website. Because press releases are not available in a fulsome or tabular format from the Government of Alberta website, the search function on the website was used for comprehensiveness, with the following key words.

- Energy
- Climate

- Adaptation
- Energy efficiency
- Greenhouse
- Royalties
- Royalty
- Pollution
- Oil sands
- Air quality
- Environment
- Environmental
- Green infrastructure
- Climate Leadership Plan
- Emissions
- Carbon

While it is possible that the subsequent government may have deleted some press releases (Lawrynuik, 2019), there is no way to determine why some press releases remained, and why others would be removed. Therefore, it is assumed that all the press releases issued by government remain archived and publicly accessible online for the purposes of this analysis. Press releases were then itemized in Microsoft Excel and themed according to the content contained within. Following analysis, six themes emerged, and are summarized in Table 21. Appendix 2 provides an itemized list of each press release and the theme that was associated with each.

Table 21: Themes identified in the thematic analysis of Alberta 'energy' and 'environment' press releases

Theme	Description	Key words
Climate action	<p>The "Climate action" theme mentions climate action as a standalone item without mention of fossil fuel expansion.</p> <p>There is an emphasis on reducing emissions, development of clean energy, and incentivizing energy efficient. These press releases also frequently emphasize "shared responsibility" and "partnership" in fighting climate change. The terms "responsible", "responsibility", and "leadership" are also frequently used.</p> <p>Example: "Limit for oil sands emissions repairs Alberta's reputation and establishes leadership on energy production"</p>	<p>"Shared responsibility"</p> <p>"Leadership"</p> <p>"Emission" or "cutting emissions"</p> <p>"Climate"</p> <p>"Carbon"</p> <p>"Partnership"</p> <p>"Taking action"</p> <p>"Rebate"</p> <p>"Transition"</p>
Made in Alberta plan ¹⁸	<p>The "Made in Alberta plan" theme captures press releases that attempt to justify continued fossil fuel production on the development of climate policy. Press releases with this theme typically mention the need to expand pipeline infrastructure.</p> <p>The theme often appears in press releases where audiences include international audiences, the international investment community, or the federal government. Also used to position Albertan policy apart from federal policy at times.</p> <p>Within this theme, government emphasizes economic diversification and clean energy development while continuing expansion of fossil fuel production and fossil fuel infrastructure.</p> <p>The theme appears most frequently in speeches from the Premier, or other Ministers to general audiences.</p> <p>Example: "Energy is essential to a healthy economy. However, it must go hand-in-hand with a health environment".</p>	<p>"Made-in-Alberta" (not in relation to petrochemical support)</p> <p>"Diversification"</p> <p>"Innovation"</p> <p>"Building markets"</p> <p>"Advocating for investment"</p>
Petro-nationalism	<p>The theme of "Petro-nationalism" captures the framing of government that is intended to further continue extraction extractivism (Barnet, 2017; Guster, Fleet & Neubauer, 2021). These press releases emphasize government's support for continued and expanded fossil fuel development and infrastructure. Diversification is frequently mentioned, with specific reference to petrochemicals. These press releases however do not mention diversification of the larger economy away from</p>	<p>"Keep Canada Working"</p> <p>"Protection"</p> <p>"Fight"</p> <p>"Preserve"</p> <p>"Economic recovery"</p>

¹⁸ Note that for the purposes of this thesis, "Made in Alberta plan" is used as an identifier as defined in the table but is not entirely correlated with the multiple uses of the phrase in the history of the Alberta government.

	<p>fossil fuels. Many press releases are tied to funding announcements directed at the petrochemical sector.</p> <p>The theme rarely discusses clean or responsible energy production. The theme also positions itself directly opposed to the Federal government and even other provinces on issues of infrastructure expansion.</p> <p>Example: "Fighting for pipelines, creating jobs and making sure this economic recovery is built to last and built for regular Albertans – that's the focus of the Alberta government this legislative session".</p>	
CLP no-carbon	<p>The "CLP-no-carbon" theme is intended to capture CLP program announcements where this is no actual mention of the CLP, emissions reduction, or climate change.</p> <p>Example: "Renewable electricity in Alberta will keep power affordable thanks to record-low auction prices and strong investor confidence".</p>	<p>"Affordability"</p> <p>"Creating jobs"</p> <p>"Green power"</p>
Adaptation	<p>The "Adaptation" theme captures CLP-adjacent programs intended to address climate change adaptation. These may have been funded through the CLP, but could also have been funded through other departmental avenues.</p> <p>Example: "Now, more than ever, communities need help adapting to the frequent intensifying weather events caused by climate change".</p>	<p>"Resilience"</p> <p>"Protection"</p>
Royalties	<p>Included for completeness, the "Royalties" theme captures the number of press releases that pertained to the royalty review and is included for comparison. Also, since key words of "energy" and "pipelines" were selected to pull up articles, several press releases were included that speak to the Royalty Review, which was a major part of the NDP's platform in the early-to-middle part of the mandate.</p>	<p>"Job creation"</p> <p>"Investment certainty"</p> <p>"Value for future generations"</p>

One can consider the first three themes on a continuum where at one end, there is little mention of fossil fuel development and at the other there is significant mention of fossil fuel development. See Figure 12 below.

Figure 12: Continuum of framing

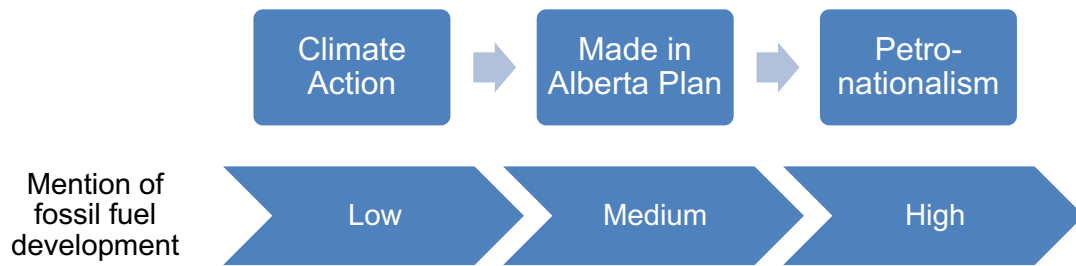


Table 22 illustrates the breakdown of press releases by theme. Overwhelmingly, the Climate Action theme appears most frequently, likely due to the nature of the search terms used. Figure 13 illustrates the breakdown of themes by year, while Figure 14 goes further to delineate by quarter.

Table 22: Number of ‘energy’ and ‘environment’ press releases by theme

Theme	Total
Climate action	127
Made in Alberta plan	62
Petro-nationalism	85
CLP-no-carbon	15
Adaptation	5
Royalties	15
Other	30
<u>Total</u>	<u>339</u>

Figure 13: Thematic analysis of Alberta's 'energy' and 'environment'-related press releases by year

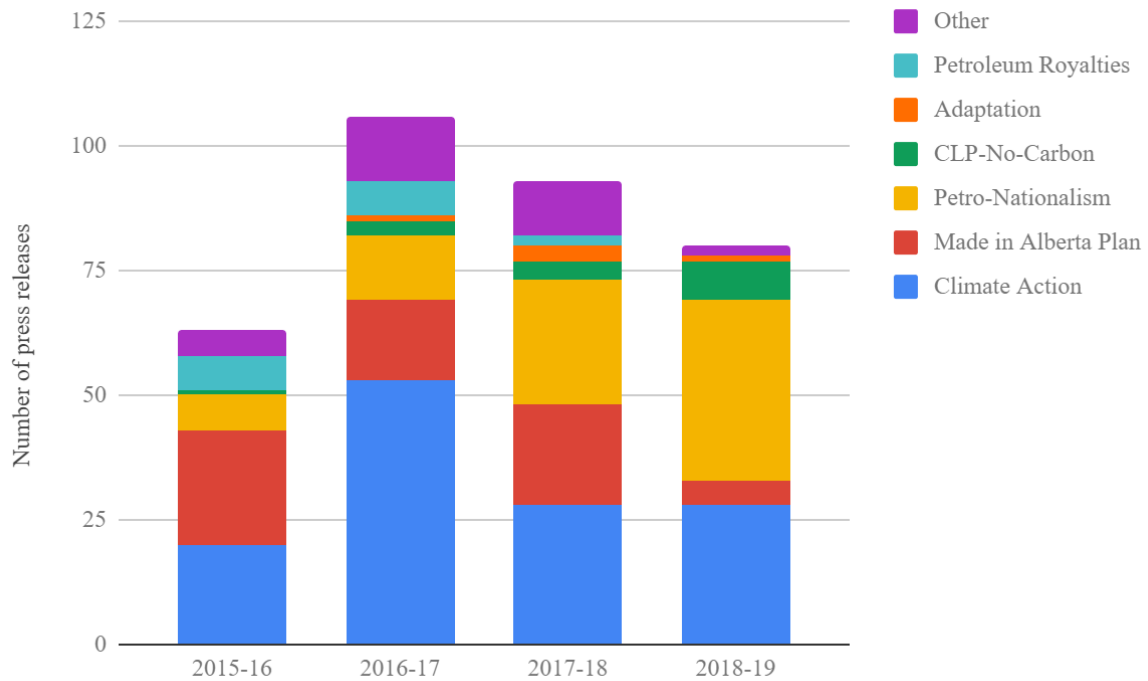
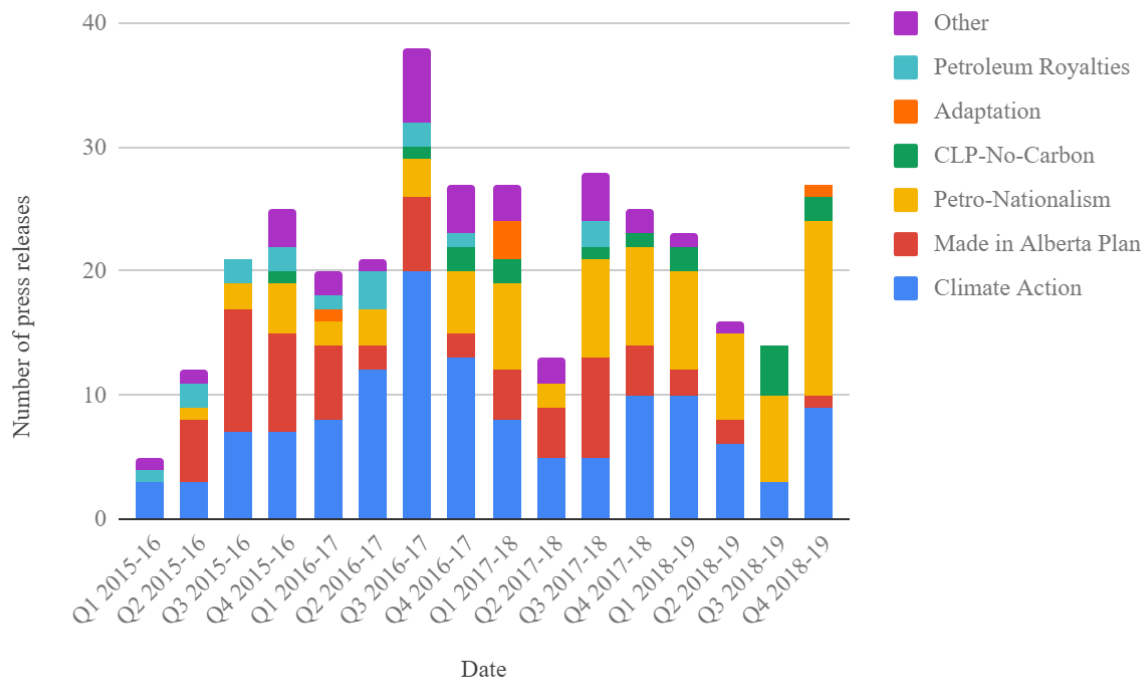


Figure 14: Thematic analysis of Alberta's 'energy' and 'environment'-related press releases by quarter



As evident by the figures, the themes of “made-in-Alberta plan” and “climate action” account for the majority of press releases in the first two years of government's mandate. Higher mention of “climate action” make sense as government had released the CLP in the earlier part of the government’s mandate. During 2017, we see the introduction of the phrase “made-in-Alberta plan” to refer to a variety of policies, including Alberta’s CLP. This “made in Alberta plan” phrasing was then

incorporated into the eventual “Keep Canada Working” campaign which saw the establishment of billboards in B.C. along the Trans Mountain Pipeline route which described the economic benefit of the infrastructure.

The NDP government introduced two reforms early in their mandate: a review of the royalty system and the CLP. The prompt start on these two initiatives is due to the impacts on revenue; royalty revenue was sorely needed given the economic downturn, and the tax revenue from a thriving oil sector (and returned investment to that sector) could only be established with improved social license and the improved market access that the social license brings.

There appears to be an increased emphasis in pipeline and petro-nationalist theming over the latter years of the government's mandate. It is worth noting that there is a relationship between pipeline discourse and climate change discourse; the theme of petro-nationalism increases over time while the theme of “climate action” spikes early, then flattens in the latter years of the mandate. The usage of the phrase “made-in-Alberta plan” actually shifts in 2019 from use in the context of climate change policy, to an emphasis on market access and continued expansion of the fossil fuel economy. Adoption of petro-nationalist framing is not surprising given that in 2017, Abacus found that 6% of Albertans are opposed to new pipeline development, 27% are neutral to new pipeline development, and 67% support development of new pipeline development. It is also not surprising that government shifted messaging given the increased politicisation identified in earlier sections of this research.

While most press releases under the “petro-nationalism” theme heralded the ribbon-cutting of government-funded initiatives, or the release of new programs, there seemed to be an increased number of press releases celebrating the opening of new oil production facilities where there was no actual government funding. These announcements typically featured the Premier, whereas most CLP-related announcements instead featured other members of cabinet. There are several possible reasons for such signals of support, however one could posit that it was an attempt to frame the provincial NDP as oil-industry friendly in the lead-up to the 2019 election and establish distance between the Premier and CLP-related initiatives. In fact, over time, press releases themselves referred less to the CLP and more to the specific arms-length agencies that were established to implement the initiatives (see discussion on the “CLP-no-carbon” frame below).

Emergence of the “petro-nationalist” theme also coincides with the largest increase in CLP funding for industry, as identified in earlier sections of this research. One interesting example of the “petro-nationalism” theme is the press release of the government's decision to direct AIMCo to invest in Calfrac, a company which is now valued significantly less than during the NDP mandate (Gunster, 2019). There however is no way to determine correlation between increased use of the “petro-nationalist” theme and actual funding for industry.

It is also difficult to determine if government intentionally positioned itself away from use of “climate action” language, or that the CLP had already been implemented and there was a new emerging government priority in the form of reduced market access and economic stagnation. While there may have been no intentional shift away from messaging, the increased use of “petro-nationalist” framing picks up speed where use of the word carbon levy stops appearing in press releases entirely in January 2018. By that time as well, the ACCO had been folded into the Ministry of Environment and Parks in early 2018 and the CLPC had been disbanded in 2018. The word “carbon” was only mentioned in 2019 in a speech by the Premier on the opening of a partial upgrading facility.

It is useful to discuss a fourth theme that emerged throughout the thematic analysis: “CLP-no-carbon”. This theme belongs to press releases that were related to the CLP but made no mention of emission reduction benefits or climate change; instead focusing on saving Albertans money, encouraging solar power, or highlighting energy retrofits. One reason why the “CLP-no-carbon” theme emerged later on throughout government's mandate is that government still wished to see announcements related to CLP initiatives that had already been underway but were hesitant to communicate the environmental benefit of such initiatives. One press release from February 2019 celebrates the successful signing of a contract for three new solar farms to supply government properties with solar energy, while omitting any mention of the CLP, emission reductions, or anything that would have fallen in the “climate action” theme. This analysis illustrates how even CLP-related programs such as the On-Farm-Solar program and Renewable Energy Program saw little mention of

emissions reduction or climate benefits. The theme of “CLP-no-carbon” illustrates how government had intentionally phased out mention of climate change in the latter half of the mandate.

There are a few shortcomings of this thematic analysis. First, the theme of “Made-in-Alberta” plan is most recurring in speeches, particularly speeches by the premier. Finding the theme recurring most in speeches indicates that there is an intentional effort to link the CLP, diversification, and market access at the highest political level. However, for the purposes of this analysis-- the mention of this theme in speeches skews the recurrence of this theme. Correcting for announcements only reduces the recurrence of this theme and makes it less obvious how government changes its framing throughout the political cycle when considering announcements directly. This theme is helpful in showing that the CLP is used to justify pursuit of further market access in the early and middle part of the mandate.

The “ade-in-Alberta” plan theme also balances two, at times oppositional, motives. The “Made-in-Alberta” theme attempts to identify where government had attempted to balance climate and market access themes. In the early part, there was agreement and willingness to cooperate with the federal government on development of energy and climate policy. Later, there was vocal opposition to many federal policies (Bill C-69, Trans Mountain, Keystone XL pipeline) and the government announced a “Made-in-Alberta” plan to reduce emissions while ensuring market access for oil producers. This “Made-in-Alberta” label in this research therefore captures periods of time where the government was attempting to justify market access with climate action, non-necessarily opposition to federal actions.

Second, the theme of “petro-nationalism” exists mostly for press releases that focus on petroleum product production and transportation. This theme assesses the occurrence of press releases that are absent of climate policy. The reason these press releases were included in this analysis is that the topic of “energy” and “pipelines” were selected. While it may not seem useful to consider how many times climate did not make it into key messaging, this theme does illustrate how there was much more emphasis on market access and petroleum production and transportation in the latter half of the government's mandate and can be contrasted with the decreased mention of climate policy. It is also interesting how there is little petro-nationalistic sentiment in the early half of the mandate.

Conclusions

In this case study, I have explored social, political and economic factors that impacted governance of Alberta's CLP. These factors can be broken down into structures (i.e. policy, programs, and oversight), drivers, and barriers. Through an examination of different program elements, interviews, and a thematic analysis of press releases; I arrived at an understanding of how Alberta navigated various interests to develop policy. Overall, I confirm Boyd's assertion of Alberta as a reluctant actor in climate policy and extend this assertion to the 2015 CLP.

The Alberta CLP serves as an example of how the trajectory of policy-making changes throughout the term of a government. The GoA attempted to bring multiple groups onside to develop progressive policy, however, after it was met with opposition, reverted to previous playbooks of resource-intensive states in the leadup to the Alberta provincial election. The Keep Canada Working campaign is an example of how Alberta adopted petro-nationalist framing when there are economic and political pressures placed upon it. While collaborative structures were established early on, such as the Leach Panel, ACCO and CLPC; these structures were eventually rolled away. It is unlikely that continued engagement and distributed decision-making would continue to support implementation, speaking to the need for sustained leadership. Differing perspectives between Premier and Ministers signalled the inability to fully commit to climate action when politically pressured by incumbent interests.

As a resource-dependent province, Alberta experiences lock-in of incumbent industrial interests (Hastings-Simon & Tretter, 2023) and has not shown the ability to deviate from path-dependency in decision-making (Rosenbloom, Meadowcroft, & Cashore, 2019). As shown in interviews and thematic analysis, climate policy was motivated principally by the need to maintain continued fossil fuel development. The bargain between climate action and industrial interests fell apart as the issue of pipelines emerged as a political wedge issue. The case study of Alberta's CLP shows how climate policy ultimately served to extend the continued natural resource extraction. The CLP was designed with the primary goal of advancing market access interests and ensuring that ESG elements of Albertan oil were better communicated. While initially impactful, the start and end of the CLP demonstrates more generally how even weak climate policy eventually becomes co-opted by the fossil-fuel extractive sectors over time.

The CLP saw many challenges. Implementation of climate policy in a province in a traditionally extractive province may have been an unpalatable shock, and this particular facet of the Alberta NDP's agenda was used as a political wedge issue. As shown in the research, government encountered difficulty in strategically communicating the benefits of the CLP. A "Made-in-Alberta" plan on fighting climate change bundles economic development, continued fossil fuel development, and climate action; leaving the public to doubt the effectiveness of climate action when economic stability or the expansion of fossil fuel development is inhibited. While not explored in this paper, it is also possible that the Alberta government failed to articulate a "clean growth" future where there are equal or improved standards of living and wages in a world where there is decreased emphasis on fossil fuel production. This paper also does not explore how attitudes have since changed due to regular recurring climate change-induced events (i.e. wildfires, floods). This paper also does not explore how Alberta can better undertake the "just transition" that is needed to maintain quality of living for Albertans in the face of declining natural resource wealth.¹⁹

Governance of Alberta's CLP was hindered by the speed of policy development and the inability to maintain consensus during the four-year mandate of the Alberta NDP. In the case of reluctant sub-national jurisdictions such as Alberta, the role of other governments (i.e. federal, municipal, Indigenous) become even more important in advancing climate action. The case study of Alberta leaves several glaring questions: Can resource-dependant jurisdictions democratically achieve enduring climate action? Can resource-dependent jurisdictions reduce GHGs without reducing GDP? Would the Alberta NDP have been elected if they had never opened the door on climate policy in the first place? One can look to the example of Alberta to learn that the political "right" is more proficient

¹⁹ A carbon-funded guaranteed annual income may be one option to both facilitate buy-in and maintain the carbon price that is needed to advance climate policy and could be the focus of future study.

at communicating petro-nationalism, and to compete with them in times of economic difficulty will be challenging.

While there was significant scrutiny on every dollar spent under Alberta's CLP, there is noticeably less discourse on expenditures to Canada's fossil fuel sector. As we have seen countless times, times of struggle beget requests for handouts from Alberta's oil and gas sector (Strauch, Carter & Homer-Dixon, 2021). The 2015 oil price drop saw significant concessions to the environment for the benefit of Alberta's energy sector. The 2020-- 2021 COVID-19 crisis saw increased support. In the 2017/18 fiscal year, Alberta provided \$2 billion in subsidies to fossil fuel producers (Environmental Defence & the International Institute for Sustainable Development, 2019), compared to the \$1.2 billion in CLP-related expenditures. One wonders what economic scenario will create the conditions necessary for Alberta's oil sector to be independently financially sustainable without public subsidies -- and perhaps the public will one day ask what the return on investment is for the billions of dollars in transfers from public to the private sector.

Ultimately, the Alberta NDP was unsuccessful in predicating fossil fuel expansion on climate action. This leaves three possible futures available to the province in terms of decarbonization:

1. Bold unhindered climate action (climate action framing),
2. Weak sustainability (a Made-in-Alberta plan), or
3. Abandonment of climate action, and pursuit of fossil industry advancement (petro-nationalism).

As we see in the present, the federal carbon tax is still a political wedge issue in times of economic uncertainty (i.e. inflation and low productivity). One can see the re-emergence of carbon taxation in the national political arena in a very similar manner as it did in the run-up to the 2019 election in Alberta (Wells, 2023; de Souza, 2023). Will the federal Liberals offer a holiday on carbon tax increases (an example of weak sustainability), or will the Liberals acknowledge the lessons from Alberta and maintain (or deepen) commitments to climate action? In order for Canada to reach it's NDC's, greater management of GHGs in Alberta will be needed. This case study will hopefully inform future policy-makers of issues to be taken into consideration when creating durable climate policy.

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Appendices

Appendix 1: Interview protocol

Hello,

This email is an invitation to participate in research on governance of carbon policy in Alberta. Based on my work in the Government of Alberta, I have identified 10 - 16 individuals who would be able to provide some insight into how governance of the Climate Leadership Plan evolved from its inception from 2015 – 2019. I would like to take 45 minutes of your time to answer some questions. I believe that your feedback would be valuable in this research. Would I be able to schedule some time to conduct this interview?

About the project:

This research explores what internal and external factors impacted governance of Alberta's Climate Leadership Plan from its development in 2015, to the present time.

About the interview:

10 - 16 selected interviewees will be asked a series of open-ended questions about Alberta's Climate Leadership Plan. The interview is expected to take 45 minutes. Responses will help me understand what were the key issues that emerged throughout this period. For confidentiality reasons, the conversation will not be recorded, however I will be taking notes throughout. All the feedback that you provide will be unattributed. If, for whatever reason, participants do not feel comfortable continuing the interview, it can be stopped at any point. Participants can also request to have their feedback withdrawn at any time. Depending on the answers, I may follow-up via email or phone. Participants will not be identified in the report by name, but will be identified as "Senior Manager, Government of Alberta", or "Environmental Non-Government Policy Advisor".

Please let me know if you are interested in this interview. I am happy to answer any more questions you may have.

Regards,

Warren

Questions:

1. Do you think that governance of Alberta's Climate Leadership Plan was successful? Why?
2. For internal public servant:
 - a. What were the largest factors that impacted governance of Alberta's Climate Leadership Plan from your perspective?
 - b. At what point(s) do you think this factor was the most important?
3. For external stakeholders:
 - a. What do you think impacted the development of the Government of Alberta's Climate Leadership Plan?
 - b. At what point(s) do you think this factor was the most important?
4. At what point did you see public support for Alberta's CLP the highest?
5. At what point did you see public support for Alberta's CLP the lowest?
6. In what ways did public opinion and/or public opinion research influence governance?
7. What stakeholder(s) do you think impacted governance the most?
8. How integrated would you consider planning and decision-making with regard to the CLP?
9. Did you observe any changes in governance from 2015 to 2019?
10. In your opinion, what level of government first triggered the shift to manage emissions?
 - a. Would you say that all three levels of government were aligned?
 - b. What times were they / were they not aligned?

11. How do you feel municipalities responded to Alberta's CLP?
12. For internal public servant
 - a. Do you think that the staff (public servants) were aligned with the elected officials (Premier, Minister of Environment of Parks) in the development and implementation of Alberta's CLP?
 - b. Were there times when you were aligned or less aligned?
13. How do you see Alberta reducing emissions in the long run?
14. Do you see Alberta's CLP adapting or evolving in the long run? How so?
15. Can you comment on the CLP's level of ambition?
16. Do you have any final comments around Alberta's Climate Leadership Plan that you would like to provide?

Appendix 2: Interviewees (arranged chronologically by interview)

Interview	Interviewee
1	Senior Analyst, Alberta Environment and Parks
2	Executive, Alberta Environment and Parks
3	Management, Alberta Environment and Parks
4	Executive, Alberta Environment and Parks
5	Management, Alberta Environment and Parks
6	Shannon Phillips, MLA, Lethbridge West, Former Minister of Environment and Parks, and Minister Responsible for the Climate Change Office
7	Advisor, Alberta Environment and Parks
8	Executive, Alberta Environment and Parks
9	Analyst, ENGO
10	Advisor, Alberta Environment and Parks
11	Manager, Industry
12	Executive, ENGO

Appendix 3: Press release analysis

Date	2015-16	2016-17	2017-18	2018-19	2019-20
Climate Action	20	53	28	28	0
Made in Alberta Plan	23	16	20	5	0
Petro-Nationalism	7	13	25	36	0
CLP-no-Carbon	1	3	4	8	0
Adaptation	0	1	3	1	0
Petroleum Royalties	7	7	2	0	0
Other	5	13	11	2	0

Date	Q1 2015- 16	Q2 2015- 16	Q3 2015- 16	Q4 2015- 16	Q1 2016- 17	Q2 2016- 17	Q3 2016- 17	Q4 2016- 17	Q1 2017- 18	Q2 2017- 18	Q3 2017- 18	Q4 2017- 18	Q1 2018- 19	Q2 2018- 19	Q3 2018- 19	Q4 2018- 19
Climate Action	3	3	7	7	8	12	20	13	8	5	5	10	10	6	3	9
Made in Alberta Plan	0	5	10	8	6	2	6	2	4	4	8	4	2	2	0	1
Petro-Nationalism	0	1	2	4	2	3	3	5	7	2	8	8	8	7	7	14
CLP-no-Carbon	0	0	0	1	0	0	1	2	2	0	1	1	2	0	4	2
Adaptation	0	0	0	0	1	0	0	0	3	0	0	0	0	0	0	1
Petroleum Royalties	1	2	2	2	1	3	2	1	0	0	2	0	0	0	0	0
Other	1	1	0	3	2	1	6	4	3	2	4	2	1	1	0	0

Appendix 4: CLP funding by recipient

Anticipated recipients	Program	2016/17	2017/18	2018/19	Total
Agriculture and Forestry	Agricultural Societies Energy Efficiency Program			\$10,000,171	\$10,000,171
	Alberta Energy Efficient Carbon Neutral Greenhouse Infrastructure Modelling	\$168,000			\$168,000
	Energy Savings for Agri-Processors - Large Program			\$4,000,000	\$4,000,000
	Energy Savings for Agri-Processors - Small Program			\$1,115,820	\$1,115,819
	Energy Savings for Agri-Processors (Small)			\$453,923	\$453,922
	Farm Stewardship Centre Showcase Solar Photovoltaic	\$54,000			\$54,000
	Greenhouse Natural Gas Rebate Program		\$1,940,769	\$2,433,018	\$4,373,787
	Heart Lake Firenet: Master Site/Lookout Site Solar Power Project		\$375,000		\$375,000
	IEE - Agriculture: Small to Medium Industry		\$6,981		\$6,981
	IEE - Energy Audits	\$500,000			\$500,000
	IEE - Irrigation Efficiency Program	\$974,848	\$2,039,266	\$2,514,851	\$5,528,965
	Irrigation Canal Solar PV			\$1,500,000	\$1,500,000
	Martin Primary Fire Base: Prime Power Solar Project		\$600,000	\$480,025	\$1,080,024
	Micro Combined Heat & Power for Dairies			\$450,000	\$450,000
	On-Farm Energy Management Program	\$4,019,850	\$2,190,097	\$10,871,886	\$17,081,832
	On-Farm Photo-Voltaic Program	\$770,661	\$183,328	\$2,381,506	\$3,335,495
	Agriculture and Forestry Total	\$6,487,359	\$7,335,441	\$36,201,198	\$50,023,997
Bioenergy producers	Bioenergy Producer Program	\$38,487,764	\$21,828,933		\$60,316,697
	Bioenergy Producer Program - Extension			\$6,601,031	\$6,601,031
	Bioenergy producers Total	\$38,487,764	\$21,828,933	\$6,601,031	\$66,917,727

Anticipated recipients	Program	2016/17	2017/18	2018/19	Total
Cleantech	Alberta Carbon Conversion Technology Centre		\$9,730,000		\$9,730,000
	Capital Investment Tax Credit (Clean Tech Stream) (EDT)		\$18,000,000	\$9,000,000	\$27,000,000
	CCITF – AI CT Commercialization (AITC)		\$1,230,000		\$1,230,000
	CCITF - AI: CT Facilities Support			\$3,200,000	\$3,200,000
	Cleantech Total			\$28,960,000	\$12,200,000
Educational institutions	Energy Efficient Infrastructure Projects	\$3,613,869			\$3,613,869
	Green Infrastructure Planning Funds		\$620,859		\$620,859
	Solar Technology System Initiative for Schools			\$61,480,000	\$61,480,000
	U of A District Energy Heating Project			\$13,600,000	\$13,600,000
	Educational institutions Total	\$3,613,869	\$620,859	\$75,080,000	\$79,314,728
Families and Seniors	Affordable Housing - Family / Seniors			\$5,691,121	\$5,691,121
	Families and Seniors Total			\$5,691,121	\$5,691,121
General Public	Carbon Levy Rebates	\$152,000,000	\$410,000,000	\$528,000,000	\$1,090,000,000
	Education, Outreach, Marketing	\$6,552,669			\$6,552,669
	Energy Efficiency Alberta (EEA)	\$10,000,000	\$107,428,000	\$113,491,000	\$230,919,000
	IPCCC Event Edmonton		\$750,000		\$750,000
	Miquelon Lake Provincial Park Centre Rooftop Solar System	\$31,137	\$14,000		\$45,137
	Zero Emissions Vehicle Study	\$100,000			\$100,000
	General Public Total	\$168,683,806	\$518,192,000	\$641,491,000	\$1,328,366,806
Indigenous Peoples	Alberta Indigenous Climate Capacity Program (AICCP)		\$2,817,005	-	\$2,817,005
	Alberta Indigenous Climate Planning Program (AICPP)		\$4,552,796	-	\$4,552,796
	Alberta Indigenous Community Energy Program (AICEP)	\$2,508,909	\$3,053,822	-	\$5,562,731
	Alberta Indigenous Energy Efficiency Program (AIEEP)		\$8,255,370		\$8,255,370

Anticipated recipients	Program	2016/17	2017/18	2018/19	Total
	Alberta Indigenous Green Employment Program		\$11,843,314	-	\$11,843,314
	Alberta Indigenous Green Energy Development Program		\$1,299,086		\$1,299,086
	Alberta Indigenous Solar Program (AISP)	\$622,995	\$3,240,520		\$3,863,515
	Off-Grid Diesel Reduction			\$3,300,000	\$3,300,000
	Indigenous Peoples Total	\$3,131,904	\$35,061,913	\$3,300,000	\$41,493,817
Large Industry	AER Methane Reduction	\$3,337,000			\$3,337,000
	Carbon Capture and Storage			\$1,605,000	\$1,605,000.00
	Emissions Reductions Alberta (ERA)	\$33,000,000	\$164,500,000	\$31,150,000	\$228,650,000.00
	Large Industry Total	\$36,337,000	\$164,500,000	\$32,755,000	\$233,592,000.00
Municipalities	Central Region Energy Audit	\$28,700			\$28,700.00
	Coal Workforce Transition Fund		\$473,670	\$3,174,112	\$3,647,782.00
	GreenTRIP		\$6,472,000	\$221,343,000	\$227,815,000.00
	High River Resource Centre - Deeper Greening	\$133,000			\$133,000.00
	Hinton Geothermal FEED Study		\$400,000		\$400,000.00
	Lloydminster Border Community Competitiveness Program	\$1,000,000	\$3,020,000		\$4,020,000.00
	LRT - Edmonton Southeast Valley Line Loan Conversion		\$175,700,000		\$175,700,000.00
	MCCAC - Alberta Municipal Solar Program	\$51,708	\$477,380	\$2,029,201	\$2,558,288.72
	MCCAC - TAME Express High Efficiency Lighting Retrofit		\$188,920	\$143,241	\$332,161.00
	MCCAC - TAME+ Energy Audit	\$27,184	\$411,970	\$717,550	\$1,156,703.43
	Springbank Off-Stream Reservoir			\$2,966,734	\$2,966,733.46
	Valleyview Municipal Building		\$309,000		\$309,000.00
	Municipalities Total	\$1,240,592	\$187,452,940	\$230,373,837	\$419,067,368.61

Anticipated recipients	Program	2016/17	2017/18	2018/19	Total
Other	Community Environment Action Grant 1.0		\$2,541,861		\$2,541,861.00
	Community Environment Action Grant 2.0			\$2,000,000	\$2,000,000.00
	IT to Administer Rebate Program		\$583,000		\$583,000.00
	Other Total		\$3,124,861	\$2,000,000	\$5,124,861.00
Provincial Infrastructure & Healthcare	Foothills Medical Centre Power Plant Redevelopment		\$556,000	\$909,075	\$1,465,075.36
	Health Facility Mechanical/Electrical Recommissioning		\$350,000		\$350,000.00
	Hospital Rooftop Unit Logic Controller		\$325,000		\$325,000.00
	LED Lighting for Health Facilities		\$1,262,066		\$1,262,066.00
	LED Lighting for Provincial Highways		\$6,726,000	\$286,000	\$7,012,000.00
	Reducing Government's Footprint			\$7,723,731	\$7,723,730.74
	Truck Stop Electrification Feasibility Study	\$79,086			\$79,086.00
	Variable Air Volume (VAV) Controllers at Health Facilities		\$1,600,000		\$1,600,000.00
	Provincial Infrastructure & Healthcare Total	\$79,086	\$10,819,066	\$8,918,806	\$19,816,958.10
	Small Businesses	Small Business Tax Reduction	\$40,000,000	\$180,000,000	\$195,000,000
Small Businesses Total		\$40,000,000	\$180,000,000	\$195,000,000	\$415,000,000.00
Utilities	Coal Phase-Out Agreements	\$1,115,156,823	\$96,970,000	\$67,000,000	\$1,279,126,823.00
	Regulated Rate Option Price Ceiling initiative			\$37,500,000	\$37,500,000.00
	Utilities Total	\$1,115,156,823	\$96,970,000	\$104,500,000	\$1,316,626,823.00

Appendix 5: Energy efficiency expenditures by fiscal year

Program	2016/17	2017/18	2018/19	Total
Affordable Housing – Family / Seniors	-	-	\$5,691,121	\$5,691,121
Agricultural Societies Energy Efficiency Program	-	-	\$10,000,171	\$10,000,171
Alberta Energy Efficient Carbon Neutral Greenhouse Infrastructure Modelling	\$168,000	-	-	\$168,000
Alberta Indigenous Climate Planning Program (AICPP)	-	\$4,552,796	-	\$4,552,796
Alberta Indigenous Community Energy Program (AICEP)	\$2,508,909	\$3,053,822	-	\$5,562,731
Alberta Indigenous Energy Efficiency Program (AIEEP)	-	\$8,255,370	-	\$8,255,370
Central Region Energy Audit	\$28,700	-	-	\$28,700
Energy Efficiency Alberta (EEA)	\$10,000,000	\$107,428,000	\$113,491,000	\$230,919,000
Energy Efficient Infrastructure Projects	\$3,613,869	-	-	\$3,613,869
Energy Savings for Agri-Processors – Large Program	-	-	\$4,000,000	\$4,000,000
Energy Savings for Agri-Processors – Small Program	-	-	\$1,115,819	\$1,115,819
Energy Savings for Agri-Processors (Small)	-	-	\$453,922	\$453,922
Foothills Medical Centre Power Plant Redevelopment	-	\$556,000	\$909,075	\$1,465,075
Green Infrastructure Planning Funds	-	\$620,859	-	\$620,859
Health Facility Mechanical/Electrical Recommissioning	-	\$350,000	-	\$350,000
High River Resource Centre – Deeper Greening	\$133,000	-	-	\$133,000
Hospital Rooftop Unit Logic Controller	-	\$325,000	-	\$325,000
IEE – Agriculture: Small to Medium Industry	-	\$6,981	-	\$6,981
IEE – Energy Audits	\$500,000	-	-	\$500,000
IEE – Irrigation Efficiency Program	\$974,848	\$2,039,266	\$2,514,851	\$5,528,965
LED Lighting for Health Facilities	-	\$1,262,066	-	\$1,262,066
LED Lighting for Provincial Highways	-	\$6,726,000	\$286,000	\$7,012,000
MCCAC – TAME Express High Efficiency Lighting Retrofit	-	\$188,920	\$143,241	\$332,161
MCCAC – TAME+ Energy Audit	\$27,184	\$411,970	\$717,550	\$1,156,703
Micro Combined Heat & Power for Dairies	-	-	\$450,000	\$450,000
On-Farm Energy Management Program	\$4,019,850	\$2,190,096	\$10,871,886	\$17,081,832
Reducing Government's Footprint	-	-	\$7,723,731	\$7,723,731
Truck Stop Electrification Feasibility Study	\$79,086	-	-	\$79,086
U of A District Energy Heating Project	-	-	\$13,600,000	\$13,600,000
Valleyview Municipal Building	-	\$309,000	-	\$309,000
Variable Air Volume (VAV) Controllers at Health Facilities	-	\$1,600,000	-	\$1,600,000
Energy efficiency total	\$22,053,446	\$139,876,146	\$171,968,367	\$333,897,959

Addendum: Q&As for thesis defence

Q: You are a former public servant in the administration which is also your research focus. How can you say you are unbiased?

A: I think it is important to note that everyone has biases. In this thesis, I take several steps to disclose my bias, as well as structure my research in a way as to mitigate that bias. I do this through use of publicly available information, use of primary research such as interviews, and use of secondary research such as existing case studies and the growing body of literature on this topic. I could have easily conducted a freedom of information request for documents that I know exist, however in doing so, I would be contravening my oath as a civil servant and my impartiality as a researcher as I would be selecting some resources over others. By relying on publicly available information and triangulation of primary research, I mitigate bias. Finally, I do not provide any recommendations, as that is probably best left for researchers completing comparative political science. This research only serves to form a basis of understanding to help inform future research and future policy.

Q: How did you select your interviewees?

A: Purposive sample based on experience with field. While I did have an understanding of who to talk to via my previous role, I think that another researcher could establish similar analysis through snowball sampling.

Q: Your research outline identifies a chronology as part of the research methods. Why is this not included?

A: A complete history of the CLP is included in the research context.