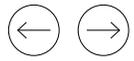




Transparency & the Pan-Canadian Climate Framework in Action in the West

The case of Saskatchewan



Executive summary

Successful climate policy design relies upon transparent information shared with Canadians: provinces, who share responsibility for the environment and the economy and are exclusively responsible for development and management of the country's natural resources; Indigenous rights holders; industry stakeholders; and the Canadian public. This transparency is missing from implementation of the Pan-Canadian Climate Framework. Lack of transparency has produced an information asymmetry and consequent power imbalance tilted toward the federal view of the national interest.

Failure to understand, recognize or be accountable for the policy implications of the diverse conditions and requirements of all regions means that the policy cannot be truly “Pan-Canadian.”

The source of the information asymmetry stems from a lack of transparency around both the measures of emissions and the modelling of the impacts of federal policies on emissions and the economy. While these may be sufficient at the national level, there are serious problems at the provincial level.

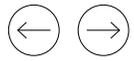
A case in point is the 2021 federal appendix to the Healthy Environment and Healthy Economy plan, the follow on to the Pan-Canadian Framework. The [Modelling and Analysis of a Healthy Environment and Healthy Economy](#), provides historical and future emissions projections to 2030 at the sector and provincial level, but only one national GDP growth reduction number and no provincial economic impacts.

National numbers are not very useful to Canadians or provincial decision-makers because provincial conditions vary so greatly given Canada's diversity of economic drivers, energy systems, and emissions. Application of policies will have very different impacts across the country: in national forecasts large economies “swamp” smaller ones; costs are sometimes highly concentrated (think coal towns and coal-phase outs in the electricity grid); benefits are broadly disbursed; and relatively high paying jobs may be lost in one region and replaced by lower paying ones or are lost from the region altogether but created in another – appearing in national models as having had no impact.

A report for Canada West Foundation by professors Herb Emery and Kent Fellows assessed the ECCC economic model's effectiveness at the provincial level using Saskatchewan as a case study.

...the lack of economic impacts from climate policies for provinces is a product of applying computable models that mis-specify how integrated provincial economies adjust to shocks (whether or not they produce reasonable projections at an aggregate national level).

The models, in effect, have assumed away the problem that federal climate policies create for resource export dependent provinces like Saskatchewan.



The lack of economic impacts of climate policies on the national economy may turn out to be true, but that outcome will mask the potentially massive redistribution of jobs, investment, and GDP from resource exporting regions to the core central Canadian economy.

The EC-Pro model is rigorous, peer reviewed, and an excellent CGE model. Our point is that the EC-Pro model needs to be applied to provincial economy contexts under alternative sets of assumptions to identify the range of possible economic outcomes to climate policies.

There is a high likelihood that the ECCC model outputs evaluating the impacts of the Strengthened Climate Plan and Healthy Environment and Healthy Economy are grossly underestimated and misunderstood by decision makers.¹

The other information challenge is measurement of the emissions themselves.

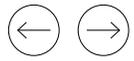
As emissions stringency tightens in carbon pricing, Output Based Performance Standards, emissions regulations and potential emissions caps, as well as emissions reporting to financial regulators, it will become even more important to have a set of commonly agreed-on measures for gauging progress. Reducing emissions by 75 per cent or net zero may be shared goals, but interminable uncertainty and government wrangling over “which measure do we use for what” will be an unnecessary irritant to federal-provincial relations as well as relations with various publics including industry, investors and ESG monitoring agencies. Determination of provincial regulatory equivalence to federal regulations uses federal models and federal data to project whether provincial regulations achieve equivalent emissions reductions.

The battle over measurement is partly the lack of transparency and who owns the data, where it is located and how is it shared. The country’s analysts, federal, provincial, private sector, think tanks and others are relying on different data to estimate the implications of policies and the energy transition.

For example, the federal National Inventory Report (NIR) in 2020 registered no decrease in Saskatchewan’s methane emissions between 2015 and 2019, whereas provincial data shows a 24 per cent decrease by 2019, and 51 per cent by 2020. Revised NIR 2022 measures showed a 49 per cent decline 2015-2020. The revisions show a willingness to revisit measures but also the challenges of making policy decisions under such uncertain conditions.

As provinces and the federal government move to establish targets for emissions reductions or set emission caps, measurement matters. Where federal and provincial measures do not agree, it reduces trust, creates uncertainty and hurts investment. Decision makers are left with no choice but to develop competing models and data sets which expands the policy debate from the policy itself to include debates around models and data.

¹ H. Emery and K. Fellows, *Assessing the Validity of CGE Modelled Impacts of the Federal Climate Policies on the Saskatchewan Economy*, Canada West Foundation March 2022.



1.0 Introduction

The environment is local – it touches the lives of Canadian where they live and work; and at the same time, it is national and global, without respect for national or provincial boundaries. Canada’s federal form of government is also both local and national – balancing the diversity that distinguishes this country and the unity that makes us a country. This creates complexity, with real consequences for governments, individuals, and industry as they wrestle with climate policies to reduce GHG emissions as a nation – not despite our diversity, but by building on our diverse strengths.

There is no lack of commitment to reduce emissions by governments in Canada. But that goal is often lost in debates over who should do what. This is not unlike debates at UN Climate Change Conferences of the Parties (COP) or the European Union. And Canada, as one of the world’s more decentralized federations, has its own challenges. Because no single order of government is assigned responsibility for protection of the environment under the constitution, governments test the boundaries of their constitutional responsibilities in their efforts to achieve ambitious goals.

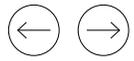
Governments have adopted a complex mix of overlapping policy tools, including targets, emission caps, carbon pricing, methane emission regulations, fuel standards, vehicle emission standards, coal phase-out, supports for renewable electricity, and incentives for innovation and investments in technologies like carbon capture and sequestration.

In 1867, when the Fathers of Confederation were designing how the provinces of Upper and Lower Canada would come together as a country, the West wasn’t at the table, tariffs were the largest source of provincial government revenue, the Maritimes refused to join, and the transcontinental railway was a long way from completion. At the time, there were no concerns about whales in the Strait of Georgia, waste from paper mills, or greenhouse gas emissions from the oil sands. Canada’s constitution did not assign responsibility for protection of the environment to either the federal or provincial governments.

Rather than address the problem through Canada’s unwieldy amending formula², protection of the environment fell mostly to provinces as owners of natural resources with responsibility for local matters. In 1988 the Supreme Court of Canada (SCC) determined that the federal government had jurisdiction where pollution was a matter of federal concern – in this case where oceans and fisheries³, both areas of federal jurisdiction, were involved. This decision coincided with growing federal concern over the impact of pollution and the introduction of the Canadian Environmental Protection Act in 1988.

² *As was done when the federal government was required to consult with the provinces by the 1936-37 Supreme Court and Privy Council decisions on unemployment insurance during the Great Depression. Eventually all provinces agreed to assign responsibility for unemployment insurance to the federal government in 1940. See Reference re legislative jurisdiction of Parliament of Canada to enact the Employment and Social Insurance Act (1935, c. 48)*

³ *R v Crown Zellerbach Canada Ltd, [1988] 1 SCR*

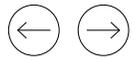


In 1992, the SCC explicitly recognized shared responsibility for the environment between the provinces and the federal government. In *Friends of the Oldman River*⁴, the Supreme Court of Canada determined that each level of government can legislate in environmental matters when it is acting from the basis of one of its constitutional powers. These responsibilities continue to be a matter to be determined by the SCC – the Greenhouse Gas Pricing Act reference to the Supreme Court determined in March 2021 that the federal government had the jurisdiction to provide for a regime to provide minimum greenhouse gas prices across the country. The Supreme Court will also hear arguments on the validity of the Impact Assessment Act (Bill C-69) on a broader question of whether emissions regulation generally is the domain of the federal government.

In 2018, the federal government adopted the term “Pan-Canadian” to describe its climate change framework – perhaps to signal a cooperative approach with provinces, territories and Indigenous people.⁵ However, that cooperation has been tested at intergovernmental meetings, federal policy consultations as well as in court. Those limits are at the heart of what is really meant by “Pan-Canadian.” If the term is meant to reflect a genuine appreciation of the impacts of the policy for Canadians in all regions of the country, then it fails. It fails because province-level economic impacts are either unknown, poorly understood or just not transparent.

⁴ *Friends of the Oldman River Society v Canada (Minister of Transport)*, [1992] 1 SCR 3.

⁵ “The Pan-Canadian Framework on Clean Growth and Climate Change is our plan – developed with the provinces and territories and in consultation with Indigenous peoples – to meet our emissions reduction targets, grow the economy, and build resilience to a changing climate. Our plan includes a pan-Canadian approach to pricing carbon pollution, and measures to achieve reductions across all sectors of the economy.” Preamble Pan-Canadian Framework on Clean Growth and Climate Change, January 31, 2018. <https://www.canada.ca/en/services/environment/weather/climatechange/pan-canadian-framework/climate-change-plan.html>



2.0 The Problem: Good climate policy needs public trust

Agreeing on goals is not enough. Efforts by industry sectors to reduce emissions have been bogged down by a lack of policy and regulatory alignment and a lack of trust between orders of government. These have combined to create the lack of certainty needed by industry to make the big investments required. Political risk for investment in cleaner energy lies within Canada's own borders.

The transformation to a lower carbon future is expensive. The investment required to achieve net-zero emissions by 2050 involves multiple pathways across electricity, oil and gas, buildings, transportation, heavy industry and agriculture. The Royal Bank estimates cost around \$2 trillion over the next 30 years – or a four-fold jump from current spending of about \$15 billion per year to \$60 billion.⁶ This level of investment in long term solutions requires certainty that the rules of the game won't change half-way to the goal line. For the federal government, getting provinces, the private sector and the public on board requires trust.

And the situation hasn't changed. Investments in LNG export facilities, carbon capture, hydrogen production – all necessary pathways to a net zero future – are moving in fits and starts or not at all, awaiting greater political certainty. Trust matters if policy is going to achieve climate goals.

A study that examined public support for specific climate policies in Canada found that trust in the federal government influenced public support for carbon pricing.^{7,8} In particular, the integrity dimension of trust, which includes both transparency (openness and honesty) and fairness had a statistically significant impact on support.

Many Canadians generally support action on emissions, but that support is influenced by how they experience emission reductions. Policies with direct costs, like carbon pricing, have less support than those where the costs are not directly apparent, like those for fuel standards that are buried in the supply chain, or policies have no apparent or direct costs like electric vehicle subsidies, whose costs are buried in the cost of taxes⁹. Support also differs depending on the energy systems, resource endowments and economic drivers of their region. It's not surprising that residents of oil and gas producing provinces are much less supportive of rapid energy transition than their neighbours who are blessed with hydro power¹⁰.

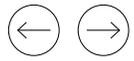
⁶ RBC Economics, *The \$2 Trillion Transition: Canada's Road to Net Zero*, October 20, 2021.

⁷ S. Kitt, J. Aksen, Z. Long, Ekaterina Rhodes, (2021), "The role of trust in citizen acceptance of climate policy: Comparing perceptions of government competence, integrity and value similarity", *Ecological Economics*, 183, 2021, 106958

⁸ Trust in provincial governments had no statistically significant effect. In this study, only 42% of respondents supported moderate carbon prices (\$50/tonne) but only 27% supported higher carbon prices (\$150/tonne). Support was higher for policies that had no direct cost associated for consumers (EV subsidies, EV mandates, clean fuel standards)

⁹ Kitt et al

¹⁰ *Addressing climate change in the Canadian federation*, Confederation of Tomorrow 2021 Survey of Canadians, June 2021.



3.0 Federal policy interacts with provincial realities

3.1 Decarbonization policies affect provincial economies differently

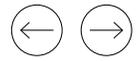
The last time the federal government, provinces and territories *all* agreed on a common approach to climate change was the 2016 Vancouver Declaration which made three points clear: the provinces, territories and federal government were committed to addressing climate change; differences across the country would be accommodated; and the economy was part of the equation.

Since that time, the federal government has not succeeded in getting all the provinces and territories on board with its vision for how climate change would be addressed. And one of the major reasons for that is lack of trust due to incomplete information, failure to share information or even agree on data that is shared.

Good policy design involves not only consultation (with provinces, industry and the public), it requires that those consulted understand the potential implications of the proposed policy. In the case of environmental or climate policy this includes, critically, not only effects on the environment but the total cost of the action on the economy and the distribution of that cost. This kind of information has not been made available by the federal government in a timely fashion.

A case in point is the 2021 federal appendix to the Healthy Environment and Healthy Economy plan, the follow on to the Pan-Canadian Framework. The Modelling and Analysis of a Healthy Environment and Healthy Economy, provides historical and future emissions projections to 2030 at the sector and provincial level, but only one national GDP growth reduction number and no provincial economic impacts. While more detailed results of forecasts of economic costs and benefits, including compliance costs, were released in the *Canada Gazette* when regulations were published, this occurred long after consultations took place. And even then, there was a complete lack of provincial level economic impacts.

National numbers are not very useful to Canadians or provincial decision-makers because provincial conditions vary so greatly given Canada's diversity of energy systems and emissions. Application of policies will have very different impacts across the country even if national models show zero impact. For example, in national forecasts large economies "swamp" smaller ones; costs are sometimes highly concentrated (coal towns and coal-phase outs in the electricity grid) while benefits are broadly disbursed; and relatively high paying jobs may be lost in one region and replaced by lower paying ones, or created elsewhere.



The Parliamentary Budget Office's *Beyond Paris 2021* report included forecasts of sectoral emissions and GDP impacts but did not provide province level GDP estimates. However, its estimates of large negative GDP impacts in the oil and gas sector (-10.8 per cent), compared to a national impact of -0.8 per cent, make it plain that the biggest negative economic impacts would fall on Alberta and Saskatchewan.¹¹ Policies such as the Output Based Performance Standards (OBPS), and methane regulations have greater impacts in provinces like Saskatchewan and Alberta, where large emitter sectors make proportionately greater contributions to their economies.

An additional problem arises from the fact that the federal models are not transparent. This means that – not only during consultations but also across the implementation phase – provinces do not have the opportunity to identify or test assumptions, to scrutinize data inputs, or to run the models themselves. Provinces and territories are thus at a disadvantage in policy consultations with their federal counterparts because of insufficient transparency. Most provinces do not have the in-house capacity to build their own models – and even if they could, they do not have access to federal modelling assumptions.

A Government of Alberta “Request for Proposals” (June 6, 2022) addressed this exact problem:

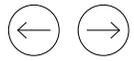
On March 15 the federal government published a discussion paper on the proposed Clean Electricity Standard (CES), outlining a plan for the country’s electricity generation to reach net zero by 2035. On March 29 the federal government published a 2030 Emissions Reduction Plan as part of the broader goal of net zero by 2050. Alberta has Canada’s only fully deregulated electricity market, a nuance that federal policy may not take into account in developing the CES. As Alberta was not consulted in the development of the CES and a detailed socio-economic analysis was not provided by the federal government, Alberta needs to determine the impacts of and potential alternatives to the proposed policy from the federal government.

It’s not so much a question of whether a given model’s results are “wrong.” It’s that all models are abstractions of reality whose outputs depend on the assumptions of the model and the data employed. And when those outputs are used for decision-making that have regional environmental and economic implications we run into trouble with nation level models.

The models used by ECCC lack transparency on two counts. *EC-Pro*, used by the Government of Canada to estimate energy-economic impacts does not provide “high resolution spatial representation”¹². It does not differentiate between different kinds of households by income or size, or differences in government revenues or spending. It is not transparent with respect to the availability of the model for other users, open-source code, modelling equations, or assumptions.

¹¹ Office of the Parliamentary Budget Officer, *Beyond Paris: Reducing Canada’s GHG Emissions by 2020*. June 23, 2021

¹² E. Rhodes, K. Craig, A. Hoyle, M. McPherson, “How do Energy-Economy Models Compare? A Survey of Model Developers and Users in Canada, *Sustainability*. 2021, 13, 5789



A report for Canada West Foundation assessed the ECCC model's effectiveness at the provincial level.¹³ A summary of that report is presented below.

...the lack of economic impacts from climate policies for provinces is a product of applying computable models that mis-specify how integrated provincial economies adjust to shocks (whether or not they produce reasonable projections at an aggregate national level).

The models, in effect, have assumed away the problem that federal climate policies create for resource export dependent provinces like Saskatchewan.

The lack of economic impacts of climate policies on the national economy may turn out to be true, but that outcome will mask the potentially massive redistribution of jobs, investment and GDP from resource exporting regions to the core central Canadian economy expected between integrated core and periphery economies within a nation.

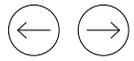
The assumptions are in some cases technical elements – for example, how the models adjust supply and demand following policy changes (fixed factors, like labour and investment supply assumptions). Other assumptions involve the pathways of how energy systems and economy will evolve – where will the required electricity for electric vehicles come from, how long will it take to build capacity and how will it be funded? These and other assumptions make the ECCC economic models “spatially blind,” despite application of provincial level input-output data.

If a climate policy or regulation can be expected to impact labour demand equally across all provinces, then the policy is a “common shock” for the nation with no important regional dimensions. If the climate policy or regulation has differential impacts on labour demand across provinces due to different sectoral compositions of the economy, or differences in elasticities of substitution between energy sources, and sectors, then the Strengthened Climate Plan or Healthy Environment, Healthy Economy plans are introducing region specific shocks which in the ECCC model have permanent effects on the labour market that result in persistent cross province differences in wages, returns to capital and resource income.

These are the issues that drive the quality of forecasts at regional levels. ECCC's EC-PRO national models may do a reasonable job at the national level, but they do a poorer job of modelling effects for less populated, resource producing, or trade exposed provinces. Saskatchewan checks all three boxes.

Saskatchewan would be expected to be among the most impacted of provinces under the federal climate policies and regulations given that one-third of its emissions are from oil and gas, one-quarter from an export oriented agricultural sector and another 20 percent from electricity generation. The province's 2021 Growth Plan calls for a 25 percent increase in barrels of oil produced to generate investment and population increase which may not be possible with the sector specific hard cap to be imposed by the Federal Government.

¹³ H. Emery and K. Fellows, *Assessing the Validity of CGE Modelled Impacts of the Federal Climate Policies on the Saskatchewan Economy*, Canada West Foundation March 2022.



After 2000, with oil and gas, potash, uranium and agriculture all booming, Saskatchewan had a fast-growing population and GDP, and had reversed its population aging. The Government of Saskatchewan's growth plan calls for increasing oil production by 25 percent. It is not unreasonable to expect that an increase in oil for export would result in stronger economic growth. How could reducing the competitiveness of oil and gas exports not impact the Saskatchewan economy?

Because the ECCC model is not accessible to determine provincial level economic impacts, a counterfactual approach was used to test what happens when an *EC-PRO* model is applied to Saskatchewan using different hypothetical conditions that could result from climate policies under different sets of assumptions.

A CGE model applied to Saskatchewan that, under assumptions used for the EC-Pro CGE model, found that growing oil exports 25 per cent has little impact on Saskatchewan GDP but neither does reducing oil exports by 85 per cent. Re-running the same model with mobile labour and capital assumptions (a more realistic assumption at the provincial level) shows that increasing oil exports 25 per cent increases GDP by 5 per cent and reducing oil exports by 85 per cent would reduce provincial GDP by 12 per cent – a decline similar to that experienced in the Great Depression of the 1930's. That loss of GDP would drive Saskatchewan's population back to 1 million instead of reaching its goal of one and quarter million people.

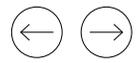
Clearly, model assumptions matter.

Local versus national assumptions about substitutability of fuels (hydro for coal, electricity for gasoline); adoption of technology (lowest localized cost, cost reductions with experience, system coherence); consumer behavior (the "rational" consumer or "real" behavior); the degree of localization (including population density, availability of public transit); labour markets; and investment response to policy changes are just a few instances of where assumptions will also influence impacts on provinces and territories differently.

Assumptions can determine whether jobs lost in one region are replaced by jobs in another – not a big deal at the national level, but a very big deal in the regions where those losses occur.

ECCC models are considered to be excellent by modelling experts (even those who run competing models). But when provinces can't run these models to assess province level impacts, or design their own equivalent policies, that creates the kinds of concerns that reduce collaboration and good policy design.

Where the federal modelling of climate policies shows that provinces adapt and change what is produced, the likely impacts are population loss, GDP loss, and accelerated population aging. **There is a high likelihood that the ECCC model outputs evaluating the impacts of the Strengthened Climate Plan and Healthy Environment and Healthy Economy are grossly underestimated and misunderstood by decision makers.**



Increasingly there are calls for transparent, open access models and data be available to provinces, First Nations and stakeholders (industry, think tanks).¹⁴ The Energy Modelling Initiative (EMI) at the Trottier Energy Institute (Institut de l'énergie Trottier) at Polytechnique Montreal, University of Victoria Institute for Integrated Energy Systems and the University of Calgary School of Public Policy have received nearly \$5 million support from Natural Resources Canada, to create the Energy Modelling Hub, to develop an inventory of modelling expertise across the private sector, academia and governments. It will convene these experts regularly to foster collaboration, develop a governance framework and platform for models and tools. Its purpose is “to offer long-term support for specific energy models, to ensure a timely and relevant response to policy makers and, overall, to facilitate communications between Canadian energy modellers and governments, utilities and other stakeholders.”¹⁵ The objective is to build models that are accessible to provinces and other user groups. But in the meantime, the gap remains.

3.2 Overlapping regulations lead to uncertainty and lost opportunities

Federal regulation in areas where there are existing provincial regulations creates uncertainty that spills over to economic decisions in the private sector. Overlapping regulation and overlapping outcomes measurement mean that governments spend, in the case of Saskatchewan and methane regulations, considerable time negotiating “equivalency agreements” for provincial regulations to be administered by the provincial regulator – meaning industry faces not only changing goal posts, but also the rules and field of play.

In 2020, the Canada West Foundation’s GHG emissions regulation compendium found that every oil and gas producing province as well as the federal government had regulations relating specifically to the sector as well as where the sector qualified as large emitters. It also found that 43 per cent of all emissions regulations in place across the country at that time specifically addressed the oil and gas sector – and that percentage increased to 65 per cent if you look at policy targeted at large emitters specifically.¹⁶

3.3 Lack of transparency leads to problems with measurement and targets

As provinces and the federal government move to establish targets for emissions reductions or set emission caps, measurement matters. Where federal and provincial measures do not agree, it creates uncertainty and harms investment as was the case in the Teck oil sands mine cancellation when the federal and provincial governments disagreed not only on what an emissions cap would like but also on the state of emissions at the time.^{17,18}

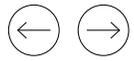
¹⁴ E. Rhodes, K. Craig, A. Hoyle, M. McPherson, “How do Energy-Economy Models Compare? A Survey of Model Developers and Users in Canada, *Sustainability*, 2021, 13, 5789, and Robert Hoffman, Models Assessment, an address to the Canadian Club of Rome, August 2, 2019. and Clean Prosperity newsletter,

¹⁵ Energy Modelling Initiative, Polytechnique Montreal. <https://emi-ime.ca/> accessed February 1, 2022.

¹⁶ M. Orenstein and J. McLean, *A Compendium of GHG Reduction Legislation and Regulations Across Canada*, Canada West Foundation, August 17, 2020. <https://cwf.ca/research/publications/report-a-compendium-of-ghg-reduction-legislation-and-regulations-across-canada/>

¹⁷ Teck Resources news release, Teck Withdraws Regulatory application for Frontier Project, February 23, 2020, <https://www.teck.com/news/news-releases/2020/teck-withdraws-regulatory-application-for-frontier-project> accessed February 2, 2022.

¹⁸ V. Kapelos, *Teck mine approval could require Alberta to hit net-zero emissions by 2050*. CBC news, February 2, 2020 <https://www.cbc.ca/news/politics/teck-mine-approval-emissions-cap-net-zero-alberta-1.5447944> (accessed February 3, 2020)



ECCC's December 2021 review of Canada's methane regulations for the upstream oil and gas sector included a summary of comments from stakeholders:¹⁹

- stakeholders emphasized the importance of collaborating with provinces on emissions data
- several stakeholders stressed the importance of the continuation of equivalency agreements
- stakeholders emphasized the importance of collaboration going forward
- none of the submissions included data that would impact the modelling
- stakeholders have commented on the need to have enhanced transparency around data which inform methane policy, including the proposal to have range estimates for projected emissions

As emissions stringency tightens in carbon pricing, the OBPS, emissions regulations, proposed emissions caps, as well as emissions reporting to financial regulators, it will become even more important to have a set of commonly agreed-on measures for gauging progress. Reducing emissions by 75 per cent or net zero may be shared goals, but interminable uncertainty and government wrangling over “which measure do we use for what” will be an unnecessary irritant to federal-provincial relations as well as relations with various publics including industry, investors and ESG monitoring agencies. Determination of provincial regulatory equivalence to federal regulations uses federal models and federal data to project whether provincial regulations achieve equivalent emissions reductions.

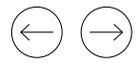
The battle over measurement is partly the lack of transparency: who owns the data, where it is located and how is it shared. The country's analysts, federal, provincial, private sector, think tanks and others are relying on different data to estimate the implications of policies and the energy transition.²⁰

“Key datasets are spread across federal agencies, the provinces, and fragmented among public and private sources. Critical datasets are not publicly available, while others are available only at a prohibitive cost.”²¹ Decision makers are left with no choice but to develop competing models and data sets which expands the policy debate to include debates around models and data.

¹⁹ canada.ca/en/environment-climate-change/services/canadian-environmental-protection-act-registry/review-methane-regulations-upstream-oil-gas-sector.html

²⁰ Bishop 2022, *ibid.*

²¹ G. Bishop, “Lack of access to data is hindering Canada's efforts to achieve net zero targets”, *Globe and Mail*, February 4, 2022. <https://www.theglobeandmail.com/opinion/article-lack-of-access-to-data-is-hindering-canadas-efforts-to-achieve-net/>



For example, the Bank of Canada is developing yet another set of models and data sources to better understand how climate change is affecting the economy. To address the lack of transparency it has “vowed to include these findings in its quarterly forecasts to help markets price risks.”²²

Research by the C.D. Howe Institute used Alberta data to assess policy impacts on outcomes like competitiveness. Unfortunately, the same analyses could not be conducted for other provinces or at a national level because ECCC does not make that data available. This research concluded that lack of transparency meant that ECCC’s OBPS benchmarks used to set carbon prices for large emitters “were determined based on data that was never publicly disclosed.”²³ So there is no way for anyone to assess whether these benchmarks are “fair” or where Canada sits compared to other countries who are our competitors.

Some regulators are more transparent than others.

Saskatchewan releases actual facility level methane emissions from venting and flaring as well as potential emissions without mitigation in its Annual Emissions Report. Alberta Environment and Parks publishes CO₂ emissions and bitumen production for each of the 38 active oil sands extraction sites on its website.²⁴ The Alberta Energy Regulator reports methane emissions by source, type of facility and operator in the previous year.²⁵

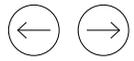
By comparison, the National Inventory Report (NIR) is released later and with less granularity. The NIR averages facilities and aligns its measures with international requirements which may not reflect the greater experience with the data from provinces that have been collecting data for compliance or royalty purposes for a longer time. It also adjusts “on the ground” data to match its emissions model estimates. The NIR is not collected by a regulator – it is prepared for a different audience and reason and therefore it uses a different methodology. However, for Canadian decision makers the choice of which numbers are used makes a difference.

²² J. Gordon, “Bank of Canada plans new tools to better assess how climate change is impacting the economy”, *Globe and Mail*, November 3, 2021. <https://www.theglobeandmail.com/business/economy/article-bank-of-canada-plans-new-tools-to-better-assess-how-climate-change-is/>
Bank of Canada, *Transition Scenarios for Analyzing Climate-Related Financial Risk*, January 2022. <https://www.bankofcanada.ca/2022/01/staff-discussion-paper-2022-1/>

²³ G. Bishop, “Too TIER-ed? Alberta’s Proposed Re-design of Carbon Pricing for Large Emitters” *C.D. Howe Institute open letter*. August 1, 2019. <https://www.cdhowe.org/public-policy-research/too-tier-ed-albertas-proposed-re-design-carbon-pricing-large-emitters>

²⁴ <https://open.alberta.ca/opendata/alberta-oil-sands-greenhouse-gas-emission-intensity-analysis>

²⁵ Alberta Energy Regulator, *Upstream Petroleum Industry Emissions Report: Industry Performance for Year Ending December 31, 2020*. January 2022 <https://www.aer.ca/protecting-what-matters/holding-industry-accountable/industry-performance/methane-performance/emissions-data>



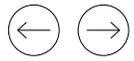
For example, methane emissions reported by the federal government in the annual NIR, and by the province of Saskatchewan in its annual Climate Resilience Reports did not match in the 2021 report (for 2019)²⁶. (Nor do they for Alberta or British Columbia.) The federal NIR in 2021 registered no decrease in Saskatchewan's methane emissions between 2015 and 2019, whereas provincial data shows a 24 per cent decrease by 2019, and 51 per cent by 2020. The revised NIR showed a decline in of 49 per cent in Saskatchewan 2015-2020, which raises concerns about policies driven by previous estimates.

Saskatchewan	Baseline emissions in kt CO ₂ e 2015	Most recent emissions	Percent reduction achieved to date	Saskatchewan Target for 2025
Revised NIR data (2022)	17,800	9,000 (2020)	49%	
NIR data	11,000 (2015)	11,000 (2019)	0%	40-45%
Provincial data	11,000	5,300 (2020)	51%	

Discussions with Saskatchewan officials found that the translation of provincial data to federal measures is obscured by use of generalized rather than specific data that reflects local geology, equipment, facilities or infrastructure. For example, for methane measurement there are important differences between wells that produce natural gas incidental to oil and wells that produce gas with incidental liquids, or whether wells can be immediately tied into pipelines, or whether electricity is available to replace pneumatic power. Sour gas wells vent very little methane because regulations already prohibit venting of H₂S or SO₂. When average values are used to estimate emissions, it matters whether the appropriate average values are applied.

The science and technology for better methane measurement is developing rapidly. Measurement and regulations need to adapt to a pipeline of technologies that have been funded by governments and industry over the past 10 years and are piloted today, including remote sensing by airplanes, drones, satellites and even continuous site monitoring connected to the internet in remote areas. As measurement technology and approaches evolve – the federal government's review of its NIR oil and gas measures in 2022 is long overdue.

²⁶ Climate Resilience in Saskatchewan, 2021 Report



4.0 Conclusion

Successful climate policy design relies upon transparent information shared with provinces because they share responsibility for the environment and economy and are responsible for resource development. The information is critical for Indigenous rights holders, industry stakeholders, and the Canadian public. This transparent information is missing from implementation of the Pan-Canadian Climate Framework. Lack of transparency has produced an information asymmetry and consequent power imbalance tilted toward the federal view of the national interest.

Failure to understand, recognize or be accountable for the policy implications of the diverse conditions and requirements of all regions means that the policy cannot be truly “Pan-Canadian.”



Good for the West. Good for Canada.

The Canada West Foundation is an independent, non-partisan public policy think tank that focuses on the policies that shape the West and, by extension, Canada. Through our evidence-based research and commentary, we provide practical solutions to tough public policy challenges facing the West and Canada as a whole, at home and on the global stage.