

REPORT OF THE ECONOMIC IMPACT ASSESSMENT TRIBUNAL ON THE
CLEAN ELECTRICITY REGULATIONS

May 1, 2024

The Government of Saskatchewan passed *The Saskatchewan First Act* on May 23, 2023. The Act came into force on September 15, 2023. It established the independent Economic Impact Assessment Tribunal to conduct economic impact assessments of Government of Canada initiatives that may cause harm to Saskatchewan projects, operations, activities, industries, businesses, or residents.

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- Michael W. Milani, K.C. Chairperson
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- Kenneth From
- Dr. Stuart Smyth
- Estella Petersen

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The following Appendices form part of this Report:

- Appendix 1 – List of Entities Who Received an Invitation
- Appendix 2 – Copy of Submissions
- Appendix 3 – Navius Study and Navius Slide Deck

GLOSSARY

Baseload power

The minimum amount of electricity needed to be supplied to a grid at all times to meet steady and often essential levels of demand.

Capacity

The greatest load that can be supplied by a generating unit, power station or an entire provincial grid system.

Carbon capture and storage (CCS)

Technology that reduces greenhouse gas emissions by capturing carbon dioxide, typically at fossil-fueled power plants, and storing it in geological reservoirs deep underground.

Carbon dioxide (CO₂)

One of the primary greenhouse gases. Carbon dioxide is produced in fossil fuel-based electricity generation.

CO₂ equivalent (CO₂e)

Unit of measure for greenhouse gases that includes CO₂ emissions as well as the CO₂ equivalents (CO₂e) for methane (CH₄) and nitrous oxide (N₂O) emissions.

Decarbonization

Reducing the use of fossil fuels to decrease carbon dioxide emissions.

Demand

The rate at which electric energy is delivered at a given instant or averaged over a period of time, measured in kilowatts, megawatts, etc.

GHG

Greenhouse gas.

Gigawatt hour (GWh)

A unit of bulk energy; one million kilowatt hours.

Megawatt hour (MWh)

A unit of bulk energy; one thousand kilowatt hours.

Transmission

The process of moving electric power in bulk at higher voltages from the source of supply to distribution centres.

Introduction

1. Canadians depend on reliable, affordable and safe electricity production and delivery systems.
2. An uninterrupted supply of electricity is an integral part of the lives of Saskatchewan residents. It is central to heating, cooling, and operating our homes, hospitals and schools. In future, it may power all of our vehicles.
3. Available dependable electricity is key to Saskatchewan industrial and commercial enterprises. Power outages create economic losses, and safety, communications and security issues.
4. The cost of electricity, measured by price and other economic consequences, must be affordable. If it is not, then there will be negative economic impacts on projects, operations, activities, industries, businesses and residents.

Executive Summary

5. The Economic Impact Assessment Tribunal was directed to examine the estimated compliance cost of the draft federal *Clean Electricity Regulations* (the “**CER**”) as compared to Saskatchewan’s Affordability Plan (the “**SAPP**”), for the period from 2025 to 2035. The Tribunal was also tasked with examining the forecasted cumulative effect of the CER on the provincial economy to the end of 2035.
6. The Tribunal reviewed the CER, the regulatory impact analysis statement (and the published responses to it), and other information. The Tribunal commissioned Navius Research Inc., which does economic modelling for (amongst others) the Government of Canada, to provide modelling for Saskatchewan in respect of the CER and the SAPP. Additional information was obtained from Crown Investments Corporation of Saskatchewan and the Saskatchewan Ministry of Finance. The Tribunal solicited submissions from a broad range of

governmental entities (including the Government of Canada), other organizations and entities who the Tribunal determined might have information that could assist the Tribunal in its examinations.

7. The Tribunal reached a number of conclusions, described more fully in this Report, including the following:

- The goal of achieving more environmentally-friendly electricity production is shared among diverse regulators, entities, and individuals.
- Due to regional differences, including sources of generation of electricity, population, climate, and geography, applying the CER without modification results in significantly greater costs to several Provinces, including Saskatchewan.
- The fluid nature of regulatory change creates challenges, thereby increasing risk, costs, and unintended consequences including undermining investor confidence.
- The CER compliance timeline (which is significantly shorter than under the SAPP) assumes that commercial scale technology (which does not presently exist) will be developed in time to allow implementation prior to prescribed deadlines.
- The timeline for compliance under the CER assumes that there will be sufficient labour resources available, in all areas of Canada, to create the required infrastructure.
- If the timeline for designing and implementing the necessary technology were longer, the opportunity for industry to succeed in achieving the desired environmental results increases markedly, and the investment of the required capital will be more probable.
- Existing infrastructure (including that paid for with tax dollars) will be abandoned, prior to its intended end-of-life, if the CER are applied without revision.
- The costs of electricity to Saskatchewan families, business and industry will be greater, under the CER than under the SAPP, for the period from 2025 to 2035.
- Saskatchewan's economic growth, as measured by GDP, will be at least \$7.1 billion lower under the CER than under the SAPP, for the period from 2025 to 2035.
- There will be at least 4,200 fewer jobs under the CER than under the SAPP, for the period from 2025 to 2035.

- The greater increase in compliance obligations (under the CER) in the price of electricity may have associated negative economic consequences, including stalling of growth, the potential shift of production to jurisdictions with weaker environmental standards, and a decrease in royalties and taxes paid to government.
- Lower growth rates, and potential retraction in some industries that are subject to the CER, may reduce opportunities to partner with Indigenous entities, communities and individuals.
- With its resource and export-based economy (including in respect of natural resources and agricultural products), Saskatchewan and its industries are particularly vulnerable to the consequences of greater electricity costs.
- Deindustrialization may occur, as energy intensive industries fail to compete with exporters in countries with a less green approach to energy policy.
- Economic analyses provide guidance as to costs, but the appropriateness of underlying assumptions and the actual effect of costs are best described by those who directly participate in the generation of electricity and its use.

8. The Tribunal’s mandate was expanded to include an assessment and examination of the *Clean Electricity Regulations*: Public Update February 16, 2024. Many potential modifications to the CER are signaled, but without clarity as to actual changes it is not possible to measure the effect on the cost comparison and analysis that the Tribunal undertook in respect of the current version of the CER.

The Tribunal and its Mandate

9. The Economic Impact Assessment Tribunal (the “**Tribunal**”) was created by *The Saskatchewan First Act*¹.

¹ SS 2023, c 9

10. On August 19, 2022, the Government of Canada published the proposed *Clean Electricity Regulations* (previously defined in this Report as the “CER”)² in the Canada Gazette, Part I, under the authority of the *Canadian Environmental Protection Act, 1999*³.

11. The CER have been referred to the Tribunal.⁴ The Tribunal has been directed to assess the economic cost of the CER, in respect of projects, operations, activities, industries, businesses or residents in Saskatchewan.⁵ That assessment may include consideration of total investments, impacts on government revenue, expenditures and debt levels, capital and maintenance costs, net exports and imports, direct compliance costs, and technological readiness.⁶

12. Order in Council 590/2023 dated November 22, 2023 (“OC 590/2023”) provided additional direction to the Tribunal:

1. The Tribunal shall identify and assess the nature and extent of economic harm and uncertainty to Saskatchewan residents and enterprises caused by the proposed Clean Electricity Regulations (CER) made pursuant to the Canadian Environmental Protection Act, 1999.
2. The Tribunal shall examine:
 - (a) the estimated compliance cost of the CER between the effective date (2025) up to and including the first compliance year (2035), against a baseline of Saskatchewan's electricity supply plan over the same time period in alignment with the provincial Affordability Plan;
 - (b) the forecasted effect on electrical utility rates between the effective date (2025) up to and including the first compliance year (2035), against a baseline of Saskatchewan's electricity supply plan over the same time period in alignment with the provincial Affordability Plan; and
 - (c) the forecasted cumulative effect on the provincial economy, and, where possible, by economic sector, to the end of the first compliance year (2035).

13. By Order in Council 153/2024 dated March 28, 2024, the mandate of the Tribunal was expanded to include the assessment and examination of the *Clean Electricity Regulations: Public Update* dated February 16, 2024.

² Canada Gazette, Part I, Volume 157, Number 33: *Clean Electricity Regulations* (Draft), August 2023. <https://www.gazette.gc.ca/rp-pr/p1/2023-08-19/reg1-eng.html>

³ S.C. 1999, c. 33

⁴ On November 30, 2023, notice of the referral was served on the Government of Canada. Each member of the Tribunal was appointed as the Panel to consider the referral. For ease of reference, only the term “Tribunal” is used throughout this Report.

⁵ Saskatchewan Order in Council 590/2023 dated November 22, 2023

⁶ *Ibid*

The CER and the RIAS

14. The CER are scheduled to come into force January 1, 2025.⁷ The overarching objective described in the CER is for Canada to have a national net-zero electricity sector by 2035, which in turn is to facilitate the creation of a national net-zero economy by 2050.⁸

15. The CER limit carbon emissions produced by a facility (also known as a unit) that generates electricity using fossil fuel. They impose performance standards that set the maximum amount of emissions (also known as “emissions intensity”) of greenhouse gases (“GHG”) that may be generated. The basic performance standard provides a limit of 30 tonnes of GHG per gigawatt hour (“GWh”) of electricity generated. That standard will (with some exceptions) come into effect on January 1, 2035, or the later of January 1, 2035 and 20 years after a unit is commissioned.

16. The CER apply to electricity generating units that, on or after January 1, 2025: (i) have a generating capacity of 25 megawatts (“MW”) or more, (ii) generate electricity using fossil fuel, and (iii) are connected to an electricity system that is subject to the North American Electric Reliability Corporation standards.⁹

17. The CER delay the application of the performance standard for some types of existing units. The applicable time depends on the type of unit. January 1, 2035 is the compliance deadline for all units that: (i) combust coal or petroleum coke, (ii) are commissioned on or after January 1, 2025, or (iii) increased their generation capacity by 10 per cent or more since registration of the unit.

⁷ Canada Gazette, Part 1, Volume 157, Number 33: *Clean Electricity Regulations* (Draft), August 2023. <https://www.gazette.gc.ca/rp-pr/p1/2023/2023-08-19/html/reg1-eng.html>

⁸ *Ibid*

⁹ This includes units in Alberta, British Columbia, Manitoba, New Brunswick, Nova Scotia, Ontario, Quebec and Saskatchewan. A Saskatchewan example is the SaskPower owned Chinook natural gas power facility located outside of Swift Current.

18. For units commissioned before 2025, the CER provide a different timeline for compliance. In the case of natural gas units, compliance must occur by the date that is the earlier of 20 years after the facility was commissioned and 2045.

19. Every electrical system must match electrical supply with electrical demand. Such demand varies throughout the day. As a consequence, each system requires baseload power and peaking power.¹⁰ The CER create an exception to the emissions intensity limits, for peaking power used to manage load pressures or to balance intermittent renewables (such as wind power and solar power). For gas-fired units, the exception is limited to 450 hours of operation and 150 kilotonnes of CO₂, annually.

20. The CER also provide that if there is “an extraordinary, unforeseen and irresistible event”, system operators may order a unit to produce electricity to avoid a threat to the supply or to restore supply. Emissions must be measured during this time, however these emissions and generating hours do not count towards the CER emission limits. An exemption may be for a maximum of 90 days and may be continued for a maximum of an additional 90 days. Applications for an exemption must be made to the federal Minister of Environment and Climate Change Canada within 15 days of the date that the event begins.

21. The CER contemplate different requirements for a gas-fired unit that includes carbon capture and storage (“CCS”).¹¹ The CER provide a transition period for gas-fired units that include CCS. For the first seven years of operation or until December 31, 2039 (whichever is sooner), such units may emit a calendar year average of 40 tonnes of CO₂ emissions per GWh of electricity generated.¹²

¹⁰ Baseload power facilities operate continuously to meet consistent demand, 24 hours per day. Peaking power plants are generating facilities that can readily ramp up or ramp down to meet or respond to intermittent demand for electricity.

¹¹ CCS is a three-step process: capturing CO₂ produced by power generation, transporting the CO₂, and permanently storing the CO₂ underground.

¹² Additionally, (i) the unit’s CCS system must have begun operating within the last seven calendar years and (ii) the unit must have operated at or below 30 tonnes of CO₂ emissions per GWh for two periods of at least 12 continuous hours, with at least four months between those two periods, in a calendar year.

22. The Government of Canada published a regulatory impact analysis statement (the “RIAS”)¹³ at the same time as the CER were published. The RIAS applied a cost-benefit analysis to quantify the incremental direct and indirect costs and benefits associated with the CER. The RIAS sets out the Government of Canada’s estimates of the impacts of the CER on the generation of electricity, GHG emissions, social costs and benefits, and the expected changes to electricity rates.

23. The cost-benefit analysis considered two scenarios: a baseline scenario (describing what would occur in the absence of the CER) and a scenario that assumes that the CER are in place. The results under the two scenarios were then compared. The RIAS employs two economic models, the outputs from which form the basis of the cost benefit analysis.¹⁴

Saskatchewan and the role of Saskatchewan Power Corporation

24. Assessing the effect of the CER on Saskatchewan requires an understanding of the generation and delivery of electricity, and their relationship to Saskatchewan’s population and geography.

25. As of October 1, 2023, Saskatchewan’s population was estimated to be 1,218,976.¹⁵ The Saskatchewan Growth Plan¹⁶ targets the Saskatchewan population to increase to 1.4 million by 2030.

26. The majority of population growth is forecast to occur in major urban centres. That growth will increase demand for electricity, but such increase is not limited to those locations.

¹³ Canada Gazette, Part 1, Volume 157, Number 33: *Clean Electricity Regulations* (Draft), August 2023, Regulatory Impact Assessment Statement. <https://www.gazette.gc.ca/rp-pr/p1/2023-08-19/reg1-eng.html>

¹⁴ One model is the NextGrid Model, which projects electricity production infrastructure and usage subject to system reliability and resource availability. The other model is the Energy, Emissions and Economy Model for Canada (“E3MC”), which is used by the Government of Canada for international reporting and forecasting emissions trends. E3MC combines results from two sub-models: Energy 2020 and Informetrica Macroeconomic Model (“TIM”). Energy 2020 simulates energy markets to provide outputs such as energy use, prices, and GHG emissions. TIM examines consumption, investment, production and trade decisions in the entire economy.

¹⁵ Population estimates are released on a quarterly basis by Statistics Canada’s Demography Division.

¹⁶ Saskatchewan’s Growth Plan: The Next Decade of Growth 2020-2030
<https://www.saskatchewan.ca/government/budget-planning-and-reporting/plan-for-growth>

Activities such as agriculture, primary resource (including oil and gas) extraction, mining and forestry are carried out in rural areas and remote areas, and their electricity requirements will also increase.

27. Self-identified Indigenous individuals number 187,885 (approximately 17 per cent of the total population).¹⁷ This is the second highest proportion among provinces, following Manitoba. The First Nations people of Saskatchewan represent 11 per cent of the total population, the highest among the provinces. The self-identified Métis population comprises 62,800 persons (5.7 per cent of the population).¹⁸

28. *The Power Corporation Act*¹⁹ grants Saskatchewan Power Corporation (“**SaskPower**”) the exclusive franchise throughout the Province (except in Saskatoon and Swift Current) to supply, transmit and distribute electricity, and to provide retail services to customers.

29. SaskPower has more than 550,000 customers, over an operating area of approximately 652,000 square kilometres. With three customers per kilometre of transmission line, SaskPower has one of the lowest customer densities in Canada.²⁰

30. SaskPower categorizes its customers as: (i) residential [individually-metered residential premises], (ii) commercial [non-farm and non-residential locations, including small and medium sized business], (iii) power [large commercial or industrial users], (iv) farm [farms with normal household and agricultural use], (v) oilfield [oil and gas production sites along with oil pumping and processing services], and (vi) reseller [municipal utilities in Saskatoon and Swift Current].²¹

31. 170 of SaskPower’s 550,000 customers account for 58 per cent of its electricity sales, measured in GWh: (i) industrial [10,087], (ii) oilfield [4,211], (iii) commercial [3,776], (iv)

¹⁷ Census Profile, 2021 Census of Population

¹⁸ <https://www.saskatchewan.ca/government/government-data/bureau-of-statistics/population-and-census>

¹⁹ *The Power Corporation Act*, RSS 1978, P-19, as amended

²⁰ SaskPower’s submission to the Tribunal, dated February 15, 2024

²¹ *Ibid*

residential [3,294], (v) farm [1,288], and (vi) reseller [1,162]. Many of the largest electricity customers are not located in Regina or Saskatoon.²²

32. SaskPower manages a provincial electrical system that includes 31 generating facilities, comprised of three coal-fired power stations, 10 natural gas stations, seven hydro-electric stations, eight wind-powered facilities, and three solar facilities. Of these 31 facilities, 12 are operated by independent power producers who sell electricity to SaskPower.

33. Other than electricity consumed by a generating facility for its own purposes (sometimes referred to as “behind the fence” use), the electricity generated by each generating facility is delivered into SaskPower’s grid. SaskPower then transmits and distributes that energy to its customers.

34. Generating capacity is the maximum output that a facility can physically produce. In 2023, the sources of SaskPower’s generating capacity were (approximately) as follows: 25 per cent coal, 21 per cent hydro, 40 per cent gas, 11 per cent wind, and 2 per cent solar. By comparison, in 1984 the equivalent approximate percentages were 71 per cent coal, 23 per cent hydro, and 6 per cent gas.²³

35. Every electrical system requires baseload power and peaking power. Baseload power facilities operate continuously to meet the minimum level of electricity demand, 24 hours per day, 365 days of the year. Available sources of baseload power in Saskatchewan are coal, gas, hydro, and (potentially, in future) nuclear.

36. As described earlier in this Report, peaking power plants are generating facilities that can readily ramp up and ramp down to meet intermittent demand for electricity. Unlike many areas of Canada, Saskatchewan does not have access to large-scale hydroelectricity, and as a result relies on natural gas-fired plants to provide peaking power.

²² *Ibid*

²³ *Ibid*

37. Wind and solar are types of variable and intermittent generation sources. They depend on natural conditions and are unpredictable. They are not “dispatchable” resources. They cannot be relied on to provide consistent and uninterrupted baseload power or peaking power. Recent events in Alberta have underscored this issue.²⁴

RIAS Measurement of the Costs and the Benefits of the CER

38. A cost benefit analysis such as that undertaken in the RIAS process seeks to quantify, and (to the extent possible) monetize the incremental direct and indirect costs and benefits of a regulation, over time.

39. The RIAS estimates the total monetized benefits of the CER to be \$102.5 billion, achieved substantially from reduced GHG emissions and savings from reduced fuel use. The RIAS takes its estimate of GHG reduction, and applies a price to the social cost of pollution. Of the \$102.5 billion estimated incremental benefits of the CER, GHG reduction comprises \$87.5 billion.

40. The RIAS estimates the total costs arising from the CER to be \$73.6 billion, primarily due to required investment in respect of the buildout of electricity infrastructure to enable compliance with the CER. The RIAS concludes that there are total net benefits of approximately \$28.9 billion.

41. Each amount described in the preceding two paragraphs are on a Canada-wide basis.

42. The RIAS also estimates the increase in energy costs to residences, using a national average, as follows: 0.08 cents per kilowatt hour “**kWh**”) in 2035 (0.35 per cent increase), 0.49 cents per kWh in 2040 (1.9 per cent increase), 0.35 cents per kWh in 2045 (1.2 per cent increase), and 0.26 cents per kWh in 2050 (0.89 per cent increase).

²⁴ On January 13, 2024, there was a prospect of rolling blackouts on a freezing Saturday night, in Alberta. The Alberta Electric System Operator, in coordination with the Provincial Government, took the unprecedented action of issuing an emergency alert asking residents to conserve electricity.

43. The results forecast by the RIAS are not the same in all Provinces. Where there is greater reliance on emitting technology to generate electricity, higher incremental cost increases are expected. The RIAS estimates that Saskatchewan (with a 3 per cent increase) will have the third highest percentage increase in electricity rates by 2040 behind Nova Scotia (with a 15 percent increase) and Alberta (with a 5 percent increase).

44. Carbon pricing is factored into the RIAS analysis, as it assumes that all emissions from units required to comply with the CER are also subject to the carbon pricing regime. That regime is set out in the Government of Canada's backstop pricing system and accompanying provincial regimes such as Saskatchewan's output-based performance standards program.²⁵

45. The CER would not replace the carbon pricing system until 2035. The RIAS analysis assumes that: (i) the carbon price will increase by \$15 per tonne per year until reaching \$170 per tonne per year in 2030, and (ii) the federal output-based standards for electricity apply and will not change after 2030.

46. Electricity demand is also addressed in the RIAS. The RIAS assumes that demand will increase by at least 1.4 times by 2050 and includes a sensitivity analysis at 2.5 times current levels by 2050 if there is high growth.

47. The RIAS estimates that the CER would result in the reduction of approximately 342 metric tonnes of CO₂e from 2024 to 2050. The RIAS estimates that 98 per cent of the reductions (from 2024 to 2050) would be made by the five Provinces with the greatest amount of fossil fuel generated electricity, namely Alberta, Saskatchewan, Ontario, Nova Scotia, and New Brunswick.

48. The RIAS recognizes that the CER would impact provincial electricity systems to different extents, observing that in some cases there would be significant costs, while in others, there would be cost savings. The Provinces that would sustain the highest cost impacts are

²⁵ According to the Government of Canada, carbon pricing regulations alone are insufficient to achieve the required emissions from the electricity sector, which (in 2020) accounted for 9.2 per cent of total GHG emissions in Canada.

Alberta (\$34 billion), Ontario (\$20 billion), Saskatchewan (\$11 billion), and New Brunswick (\$8 billion). The following illustrates these amounts:

Region	27-year total (2024 – 2050)	Measure of relative cost by size of economy*
NL	-964	-1 190
PE	412	2 419
NS	3 177	3 089
NB	8 377	9 910
QC	-1 194	-118
ON	19 353	968
MB	353	210
SK	11 204	5 292
AB	34 694	3 906
BC	-16 848	-2 404
YK	3	31
NT	-6	-51
NU	0	0
Total	58,561	N/A

Source: RIAS Table 27

* The values in this column are relative only, in that they are only meaningful when compared against each other to denote relative positioning. They have no real interpretation in isolation of each other.

The RIAS Modelling Results

- The RIAS examines interlinking economic effects for Canada as a whole.
- The RIAS results are derived from modelled scenarios reflecting what is likely to occur in response to the draft CER based on constraints and assumptions in the model.
- As per the RIAS, highest cost impacts are modelled in Alberta (\$34B), Ontario, (\$20B), Saskatchewan (\$11B), New Brunswick (\$8B), and Nova Scotia (\$3B).

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Saskatchewan's Affordable Power Plan

49. OC 590/2023 directs the Tribunal to examine a comparison (for the period 2025 to 2035) of: (i) the estimated compliance cost of the CER, and (ii) the forecasted effect on electrical utility rates against a baseline of Saskatchewan's electricity supply plan in alignment with the provincial affordability plan.

50. The provincial affordability plan is Saskatchewan's Affordable Power Plan (previously defined in this Report as the "SAPP").²⁶ The estimates set out under the SAPP, and the underlying assumptions, are discussed more fully in the part of this Report that considers the economic analyses. Those estimates include the following: (i) by 2035, Saskatchewan's generating capacity needs will exceed 7,000 MW, (ii) \$46 billion in capital investment will be

²⁶ Saskatchewan's Power Future: Looking to 2035 and Beyond, (Saskatchewan Affordable Power Plan), <https://www.saskatchewan.ca/government/news-and-media/2023/may/16/premier-outlines-plans-for-affordable-reliable-power-production>

required between 2023 and 2035 to comply with the CER, and (iii) by 2035 compliance with the CER will increase utility bills by an estimated 107 per cent.

SaskPower's Submission

51. SaskPower's target is to reduce GHG emissions by 50 per cent from 2005 levels by 2030, while also preparing for a net-zero GHG emissions future by 2050 or sooner.²⁷ SaskPower notes that its future operations align with the Saskatchewan Growth Plan, including by adding 3,000 MW of renewable energy to the grid by 2035.

52. SaskPower observes that fossil fuel-fired electrical generation continues to serve a critical role by supplying baseload generation and backing up intermittent renewable generation to ensure reliability. Such fuel-fired generation accounted for more than 70 per cent of the electricity generated in fiscal year 2022-23.²⁸

53. The CER performance standards will apply to all SaskPower's coal facilities and natural gas facilities, which currently represent 64 per cent of the total generating capacity in the Province. The end-of-life provisions under the CER allow any units commissioned between 2015 and 2025 to be exempt from the CER for the first 20 years of operation. Older gas units must retire, run as peaking power plants, or have CCS installed. In Saskatchewan, only the Queen Elizabeth, Chinook and Great Plains facilities would qualify for this exemption. Other facilities currently being constructed (such as Aspen) will not qualify as they will not be operational before 2025.

54. Significant time is required to bring facilities that can generate dispatchable electricity into operation, as illustrated by the following diagram:

²⁷ SaskPower's submission to the Tribunal, dated February 15, 2024

²⁸ *Ibid*

Timeline for Dispatchable Supply Options



55. Implementing some of the infrastructure changes (such as equipping natural gas units with CCS technology) cannot yet begin. The technology does not exist at commercial scale. Additionally, at the present time small modular reactors are not available for use. The timelines set out above also assume that labour will be available. These topics are discussed more fully later in this Report.

56. In its submission to the Tribunal,²⁹ SaskPower reiterates its commitment to achieve a net-zero GHG emissions power system by 2050 or sooner. It will maintain a GHG emissions reduction target of 50 per cent below 2005 levels by 2030, exceeding the federal target of 40 per cent below 2005 levels by 2030.

57. For gas-fired units, the CER exception to the otherwise applicable performance standards will permit peaking power generation for up to 450 hours of operation and 150 kilotonnes of CO₂, annually. SaskPower states that the 450 hours of annual operation exemption is inadequate: that amount is less than one-half of Saskatchewan's current peaking use. It observes that increased flexibility for natural gas-fired generation will be critical to ensuring reliability in Saskatchewan well beyond 2034, until non-emitting baseload generation options and long

²⁹ SaskPower's submission to the Tribunal, dated February 15, 2024

duration utility-scale energy storage are commercially available and deployed at the scale required to replace natural gas-fired generation.

58. SaskPower states that if there is a 107 per cent increase in utility rates by 2035 arising from the CER (as described in the SAPP) SaskPower anticipates a “spike” in its operational costs. SaskPower observes that the economic lifespan of some of its thermal projects will be reduced, as a consequence.

59. In respect of the cost to Saskatchewan of complying with the CER measured against the baseline of the SAPP (with SaskPower achieving net-zero by 2050), SaskPower has estimated the related capital expenditures between 2025 and 2035 would be between \$9.4 billion and \$14.1 billion. SaskPower describes two categories of capital expenditures: (i) generation that includes the cost of new generation and new interconnections that facilitate imports or exports of electricity, and (ii) other capital expenditures related to sustaining capital, new transmission and distribution, and customer interconnections.

60. SaskPower also concludes in its submission that “compliance with the draft CER is not attainable due to the immense logistical and technological challenges that are present in the period up to the 2035 deadline.” This matter is discussed more fully, later in this Report.

Navius Study

61. The Tribunal determined that having additional, independent, economic impact modelling, would assist the Tribunal in its examinations. Having access to an analysis focused on Saskatchewan, rather than Canada-wide, characteristics was and is important.

62. Navius Research Inc. (“**Navius**”) was engaged to provide an analysis employing a Saskatchewan-centric calibrated model. Navius’ energy modelling considers climate and energy policies and the economic impacts of those policies. Navius is independent: it has provided services to, amongst others, the Government of Canada and the Saskatchewan Government.

63. As described earlier in this Report, the analysis under the (Government of Canada’s) RIAS compares two scenarios: a baseline scenario (describing what would occur in the absence of the CER) and a scenario that assumes that the CER are in place.

64. Navius was asked to examine and compare: (i) a scenario reflecting what will occur under the SAPP, and (ii) a scenario reflecting SaskPower’s complying with the CER. Navius refers to its analysis of CER in the Saskatchewan context as “SK-CER”. To avoid confusion, only the term “CER” will be used in this Report (other than where Navius is quoted or a diagram uses the term SK-CER).

65. Navius provided its report (the “**Navius Study**”)³⁰ to the Tribunal, and supplemented the Navius Study with explanatory slides (the “**Navius Slides**”).³¹

66. The Navius Study identified six Saskatchewan-specific key insights:

- The CER drives deeper emissions reductions than under the SAPP.
- The increase in the price of electricity is greater under the CER, and price increases lead to lower energy demand and more imported electricity.
- Saskatchewan’s GDP is higher under the SAPP than under the CER.
- Household consumption of goods and services is lower under the CER.
- Low carbon technology adoption is higher under the CER.
- The CER impact is due to both compliance with the CER and changes to other federal policies.

67. A high-level description of conclusions that can be drawn from the Navius Study as to the difference in the economic impact to Saskatchewan (if the CER, rather than the SAPP, applies), is as follows:

a) The CER requires more investment in the utility sector than does the SAPP:

³⁰ “A Study to Review the Economic Impact of the Clean Electricity Regulations on Saskatchewan: Final Study Report”, dated March 19, 2024

³¹ Navius Research Inc., “CER Economic Impact Assessment Tribunal: Quantitative Analysis Study Report” Presentation” (Navius Presentation), dated April 4, 2024

- \$4.9 billion increase in cumulative utility sector investment under the CER from 2025 to 2035; and \$19.5 billion from 2025 to 2050.

b) Electricity costs increases are greater under the CER than under the SAPP; the following describes the *additional* annual increases:

- \$241 increase for residential ratepayers by 2035; and \$630 increase by 2050.
- \$888 increase for commercial ratepayers by 2035; and \$2,340 increase by 2050.
- \$1,429 increase for small industrial ratepayers by 2035; and \$3,750 increase by 2050.
- \$1 million to \$10 million increase for large industrial ratepayers by 2035; and \$3 million to \$28 million increase by 2050.
- For the largest industrial customers: an annual cost increase of \$15 million to over \$29 million for the largest industrial customers by 2035; and \$38 million to over \$75 million annually by 2050.

c) Households reduce consumption more under the CER than under the SAPP:

- \$3.5 billion cumulative reduction in household consumption from 2025-2035 under the CER, compared to under the SAPP; and \$19.9 billion cumulative reduction from 2025 to 2050.

d) Saskatchewan's economy grows slower under the CER than under the SAPP:

- \$7.1 billion negative impact under the CER compared to the SAPP from 2025 to 2035; and \$26.8 billion from 2025 to 2050.
- approximately 4,200 fewer jobs in 2035 under the CER compared to the SAPP; and approximately 9,400 fewer by 2050.
- lower growth and output is wide-spread across all industries, except utilities and construction.

e) Carbon/investment leakage risks appear to be more acute under the CER than under the SAPP.³²

³² "Carbon/investment leakage" is a term used to describe where, as a consequence of a regulatory regime, a choice is made to carry out activities in a jurisdiction that has less onerous regulations, or one where compliance is possible.

f) Under the CER there would be an 87 per cent reduction in emissions by 2035, and under the SAPP there would be a 59 per cent reduction in emissions by 2035.

68. Several other high-level conclusions can be drawn from the Navius Study:

- The impact of the CER relative to the SAPP is more significant, in every measured category, beyond 2035.
- The CER relative to the SAPP, leads to lower job growth, lower exports, and lower economic output.
- Effects on rates are influenced more by utility investment into generating technologies, whereas effects on GDP are influenced more by lower economy-wide carbon pricing under the SAPP.
- Both the CER and the SAPP lead to significantly reduced emissions, the difference being that the SAPP will result in the elimination of the last 28 per cent of the required reduction by 2050 (rather than 2035).

The Tribunal's Process

69. The Tribunal members began their work by reviewing publicly available information including the CER, the RIAS, and the published responses to the RIAS (which includes responses from a broad spectrum of organizations, entities, and individuals, many of which addressed matters not within the mandate of the Tribunal).

70. Written submissions were made to the Tribunal by Crown Investments Corporation of Saskatchewan (“CIC”) and by the Saskatchewan Ministry of Finance. In-person meetings were held with representatives of CIC and of the Ministry.

71. Invitations to provide written submissions in respect of matters within the Tribunal’s mandate were sent to a broad range of governmental and other entities. Appendix 1 lists those entities who received an invitation. Appendix 2 contains a copy of the submissions.³³ Some

³³ One entity requested that its submission be confidential (and that entity is not listed in Appendix 1 nor does its submission appear in Appendix 2).

respondents advised that they were responding on behalf of other entities that are a part of the underlying industry. Appendix 3 contains the Navius Study and the Navius Slide Deck.

72. The Tribunal met with Navius, following the Tribunal's receipt and review of the Navius Study and the Navius Slides, to gain a more complete understanding of the methodology employed, and the conclusions reached, by Navius.

73. Each Tribunal member reviewed all documents (including all submissions), independently. Throughout the process, Tribunal members met periodically to discuss, as a group, their own comments and to share their observations. The Tribunal then prepared this Report.

Compliance Costs

74. Tribunal members were assisted by the economic modelling undertaken by the Government of Canada (and reflected in the RIAS) and by Navius (in the Navius Study). The Tribunal recognized that the scope of all economic modelling is inherently limited, and that the results are influenced markedly by the assumptions made and variables applied. If any one or more of the assumptions is based on predictions that are not accurate, then the conclusions and forecasts may be inaccurate. That is not a criticism of the economic modelling that was undertaken: it is simply a reality and limitation of such studies.

Assumptions

75. The Saskatchewan Government (in the SAPP), SaskPower (in its submission), and Navius in its analysis, applied different assumptions. The following diagram compares the respective assumptions:

Assumptions: SAPP vs SK-CER vs SaskPower

SAPP	SK-CER	SaskPower
Net-zero by 2050	Net-zero by 2035	Net-zero by 2050
Carbon pricing backstop fixed at \$65/tCO ₂ e within OBPS.	Carbon pricing backstop rises at \$15/tCO ₂ e per year to \$170/tCO ₂ e by 2030.	Carbon pricing backstop rises at \$15/tCO ₂ e per year to \$170/tCO ₂ e by 2030.
Electricity sector excluded from OBPS carbon pricing.	Electricity sector included in OBPS carbon pricing.	Electricity sector included in OBPS carbon pricing.
Federal support of 75% of capex for first SMR and 50% capex for renewables up to \$6B inclusive of existing policy supports.	Federal support for electricity generation technologies does not exceed the announced investment tax credits.	Federal support for electricity generation technologies does not exceed the announced investment tax credits.
	All other existing provincial and federal policies remain in place.	

76. In addition to the assumptions set out above, the RIAS and the Navius Study presuppose that the required technology can be implemented on a commercial scale, and can be incorporated into facilities so that they can become operational by 2035. Both the RIAS and the Navius Study also assume that labour will be available, at ordinary market costs, to carry out the necessary construction in that prescribed timeframe. Both assume that industry participants will be prepared to invest the time and capital that will be required. And both take, as a given, that lenders will be prepared to make funding available.

77. On the ground experts, including SaskPower and many of the entities who made submissions to the Tribunal, strongly assert that development and implementation of required technologies cannot occur on the accelerated timeline required by the CER. Consider the submission by Cenovus Energy Inc. (“**Cenovus**”):³⁴

While achieving 30 t/GWh may be feasible under ideal testing conditions, practical real-world circumstances make it improbable that operators will consistently achieve this optimal level. To date, there have been no instances where large-scale combined cycle gas turbine plants, equipped with CCS, have consistently captured 95 percent of emissions. Hypothetical technological advancements should not form the basis of government regulations.

³⁴ Cenovus Energy Inc.’s submission to the Tribunal, dated February 23, 2024

78. Other submissions describe the challenges of sourcing labour to build the required infrastructure, and of the risk that investments of capital will not occur.

79. It may be that some or all of these potential obstacles of technology, labour, capital and funding can be overcome, and that assumptions used in or underlying the studies will prove to be appropriate. However, in the view of the Tribunal, it is most probable that there will be additional costs and risks not contemplated by the modelling, which in turn will have a negative effect on the Saskatchewan economy. These matters are discussed more fully later in this Report.

Aggregate Costs of Compliance

80. The costs of Saskatchewan complying with CER are significant. The RIAS (at Table 27) estimates total incremental costs in response to the CER to be \$36.6 billion between 2024 and 2035, increasing to \$76 billion by 2050. The RIAS estimates the cost to Saskatchewan to be \$11.2 billion over the next 27 years.

81. When considered through the lens of comparative population size, the disproportionate bearing of costs by Saskatchewan is illuminated. Saskatchewan's population is approximately 1.2 million, out of a total Canadian population of approximately 39 million. Saskatchewan has 3 per cent of the population, but would bear 15 per cent of the total costs of CER compliance.

82. The view of the Government of Saskatchewan is that the costs (for Saskatchewan) are greater than those estimated in the RIAS. According to the Government of Saskatchewan, the capital cost of complying with the CER is \$46 billion.³⁵

83. SaskPower provided its own estimation of costs: it believes that the required technology cost will be much higher than is described under the RIAS. SaskPower estimates those costs to be between \$9.4 billion and \$14.1 billion over a ten year period.³⁶ Additionally, and perhaps more importantly, SaskPower asserts that required technology cannot be implemented by 2035.

³⁵ The SAPP

³⁶ SaskPower's submission to the Tribunal, dated February 15, 2024

84. Beyond the comprehensive analysis provided in the RIAS on incremental costs and rate impacts attributable to the CER on a national and provincial basis, the Government of Canada has not yet provided additional analysis on the forecasted effect on a number of topics. Those topics include the forecasted effect on Saskatchewan electricity rates, the estimated cost to the Province of complying with the CER, the forecasted cumulative effects on Saskatchewan attributable to the CER, and the forecasted cumulative effects on the Saskatchewan economy by economic sector.

85. Just as it is the subject-matter experts on creation of power producing facilities and implementation of technology who have the deepest understanding of the underlying issues, it is the entities with the most complete understanding of the Saskatchewan economy who can provide the most complete picture of direct and indirect costs of implementing the CER in this Province.

86. It is also important to recognize that the CER do not operate in isolation. The cumulative effect is important: in its assessment of the costs of the CER and their economic impact, Navius recognizes the carbon tax and its effect on the measure of economic consequences.

87. The Navius Study assumes that the carbon tax regime (an important assumption in the modelling) will continue to be in place while efforts to comply with the CER occur.

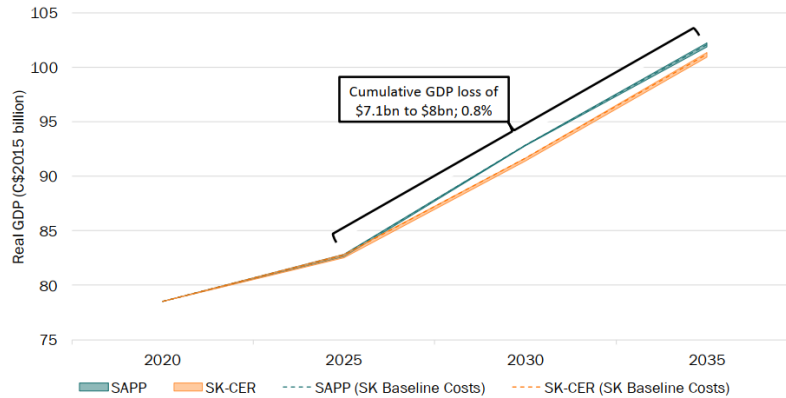
Gross Domestic Product

88. The cumulative effect of the CER on the Saskatchewan economy is very significant, to the end of the first compliance year (2035). That effect can be measured in different ways, one of which is by examining the repercussions on Saskatchewan's gross domestic product ("GDP").

89. Navius forecasts there will be a \$7.1 billion to \$8 billion negative effect on Saskatchewan's GDP for the period from 2025 to 2035 arising from the CER (as compared to the SAPP). That is illustrated by the following:



Figure 7: Range of GDP impacts under the SAPP and SK-CER (C\$2015)



90. Navius' determination as to how sectors of the Saskatchewan economy will be affected by the CER as compared to the SAPP is illustrated by the following:



Table 3: GDP impacts of SK-CER relative to SAPP (C\$2015)

Sector	SK-CER impact in 2035		
	Annual (\$bn)	Annual (%)	2026-2035 cumulative (\$bn)
Consumption	-0.5	-0.9%	-3.5
Investment	0.5	2.6%	2.3
Government	-0.1	-0.5%	-0.5
Exports	-1.1	-1.7%	-8.1
Imports	0.3	-0.6%	2.8
Total	-0.9	-0.9%	-7.1

91. The \$8.1 billion negative effect in the *export sector* is worthy of attention. Saskatchewan is an export-based economy. The significance of exports to the overall health of the provincial economy, should not be underestimated. And if the contribution to GDP is (as forecasted) negatively affected, that diminution does not end in 2035. Re-engaging in world markets is not a matter of turning on a switch.

92. The Ministry of Finance provided the following chart, based on the Navius Study estimates. It illustrates industry-sensitive information relative to GDP.

SAPP vs. SK-CER GDP Summary

GDP (Billion C\$2015)	Cumulative (CER Minus SAPP)	
	(2025-2035)	(2025-2050)
Total	-7.1	-26.8
Agriculture & Forestry	-1.5	-5.9
Construction	+0.1	+1.3
Manufacturing	-0.1	-1.7
Mining	-2.3	-9.2
Oil & gas	-1.2	-5.9
Services	-4.8	-25.5
Transportation	+0.4	-0.3
Utilities	+2.2	+20.4

Slower growth is wide-spread, impacting almost every sector.

Cumulative GDP loss

- \$7.1B (2025-2035)
- \$26.8B (2025-2050)

Note: All values reflect Ministry of Finance calculations based on the full data set for the report prepared by Navius Research.
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In the period 2025 to 2035, only the construction, transportation, and utilities sectors would experience greater contribution to GDP under the CER as compared to the SAPP.

93. The comparative contribution of the agriculture and forestry sector to the province's GDP will be lower by \$1.5 billion by 2035 and by \$5.9 billion by 2050; the comparative contribution of the mineral sector will be lower by \$2.3 billion by 2035 and by 9.2 billion by 2050; and the comparative contribution of the oil and gas sector will be lower by \$1.2 billion by 2035 and by \$5.9 billion by 2050. This cumulative comparative reduction in GDP will result in a loss of jobs and revenue for governments which may in turn lead to fewer services, higher taxes, or higher deficits.

94. There is another potential consequence of the greater negative effect of the CER on GDP. The GDP, and changes to GDP, are factors that rating agencies consider when establishing sovereign credit ratings. For example, Moody's Investor Service assesses a sovereign's volatility in GDP, and considers GDP per capita and average real GDP growth. Lower GDP (than what might otherwise be achieved) might lead to higher borrowing costs for Saskatchewan.

95. Additionally, there is a compounding factor when GDP is considered. A 0.1 per cent change in growth rate has a much bigger impact, over time. It is akin to compound interest.

96. Saskatchewan Finance indicates³⁷ that historical data from the period from 1990 to 2023 suggests that for every \$1 decrease in provincial GDP, the Government of Saskatchewan's total own-source revenue typically decreases by about fifteen cents. Navius forecasts that Saskatchewan's GDP in 2035 would be \$900 million lower under the CER compared to the SAPP. Applying the historical data and correlation, would result in approximately \$135 million less in provincial own-source revenue.

97. Applying the Navius figure of \$7.1 billion lower cumulative GDP between 2026 and 2035 (comparing the CER to the SAPP), the application of the historical correlation leads to an estimate of approximately \$1.1 billion less in provincial own-source revenue.³⁸ If the Navius figure of \$8 billion (which is the high end of the Navius \$7.1 billion to \$8 billion range) is applied, the estimate of reduced provincial own-source revenue would be greater.

Electricity Costs

98. Electricity is a necessity for virtually every sector of the economy. For example, as the price of electricity rises the direct and indirect costs borne by the average family will increase. The CER, if implemented, would lead to a significant increase in the cost of living for the average Saskatchewan family over and above the additional cost that would be incurred if only the SAPP were to apply.

99. Navius also concluded that the largest industrial users of electricity will be subject to a forecasted annual increase of between \$15 million and over \$29 million. That raw number is relevant, but the consequences are more significant in industries where the electricity costs are a large portion of the overall expenses.

³⁷ Ministry of Finance's submission to the Tribunal, dated April 22, 2024

³⁸ *Ibid*

100. Navius forecasts that if the CER were to apply, by 2035 the largest industrial users of electricity will be subject to an annual increase of costs of between \$1 million and \$10 million (with such amount to be greater for those entities that use in excess of 30,600,000 per kWh of electricity per month).

101. Navius forecasts that the extra direct annual costs of electricity to be borne by smaller industrial users of electricity, if there is compliance with the CER, will be not less than \$1,429 by 2035, and that commercial users of electricity will have annual costs that are (comparatively) higher by not less than \$888 by 2035. As well as paying the direct increase in annual electricity costs, these industrial users will also pay the indirect costs of increased electricity prices on inputs and services they require.

102. In quantifying such costs, it is important to consider the broader picture rather than merely focusing on only one part of it. Navius concludes that the *direct* costs to be paid by residential users will be (comparatively) greater by \$241 annually, by 2035. However, in assessing the overall effect on households, Navius' forecast that there will be a \$3.5 billion cumulative reduction in household consumption from 2025 to 2035 under the CER as compared to the SAPP is significant.

103. Household consumption expenditures include amounts paid for: (i) durable goods (mortgage payments, automobiles, furniture, household appliances and electronics), (ii) semi-durable goods (clothing, footwear, jewelry, toys, tools, and household textiles and utensils), (iii) not-durable goods (food, beverages, motor fuels, electricity, gas, and other consumable goods), and (iv) services (rent, restaurant meals, and various personal services).

104. The aggregate consequence is that households would have \$1,350 less to spend annually on non-electricity life essentials like groceries, transportation, and housing if the CER, rather than the SAPP, were to apply. That \$1,350 amount reflects the combined relatively lower overall household consumption (\$1,074 per household) and the higher electricity expenditures (\$276 per household).³⁹

³⁹ Ministry of Finance presentation to the Tribunal, dated April 22, 2024

105. Under SaskPower’s estimate of the price increase, households would have even less to spend on non-electricity life essentials if CER rather than the SAPP were to apply: SaskPower’s figure is \$2,040 less to spend annually. That \$2,040 amount reflects the combined relatively lower overall household consumption (negative \$1,623 per household) and the higher electricity expenditures (\$417 per household).⁴⁰ In its meeting with the Tribunal, Navius acknowledged that SaskPower is in the best position to describe the impact on the price of electricity.

106. The Honourable Minister Guilbeault responded⁴¹ to the invitation from the Tribunal to make a submission. He notes that the RIAS:

included preliminary analysis of incremental costs and incremental impacts on forecasted rates attributable to the draft regulations for Canada from 2025 to 2050, which includes disaggregated impacts for Saskatchewan and by five-year periods. As noted, the estimated cost impacts are relatively modest in the context of estimated increased grid expansion required by provinces that will happen with or without the proposed [CER]. Incremental impacts attributed to these regulations must also be understood within the context of broader energy savings by households as they turn to clean electricity instead of relying on volatile fuel prices to power up their cars and heat their homes in the future. ...the International Energy Agency estimates that household energy bills in advanced economies could fall by nearly 20 percent by 2030 as fossil fuel use drops and energy efficiency gains accrue. Likewise, there are cost savings that may be derived from avoided health costs and climate change impacts that will benefit the governments of Saskatchewan and Canada.

107. The commercial sector provides goods and services to the public and its increased costs will be passed on to consumers; for example, grocery stores will pay more for electricity for their freezers, lights, and air conditioning and these costs will be passed on to customers. Similarly, municipalities will experience increases in electricity costs which will be passed on in the form of tax increases.

108. The Saskatchewan Urban Municipalities Association states the following:⁴²

Municipalities of all sizes pay large amounts of money for utilities provisions, especially for large recreational centres. Municipal operating budgets must be balanced, and any increase to utility rates will make it difficult for municipalities to remain financially stable.

⁴⁰ *Ibid*

⁴¹ The Honourable Minister Guilbeault’s submission to the Tribunal, dated February 15, 2024

⁴² Saskatchewan Urban Municipalities Association’s submission to the Tribunal, dated February 29, 2024

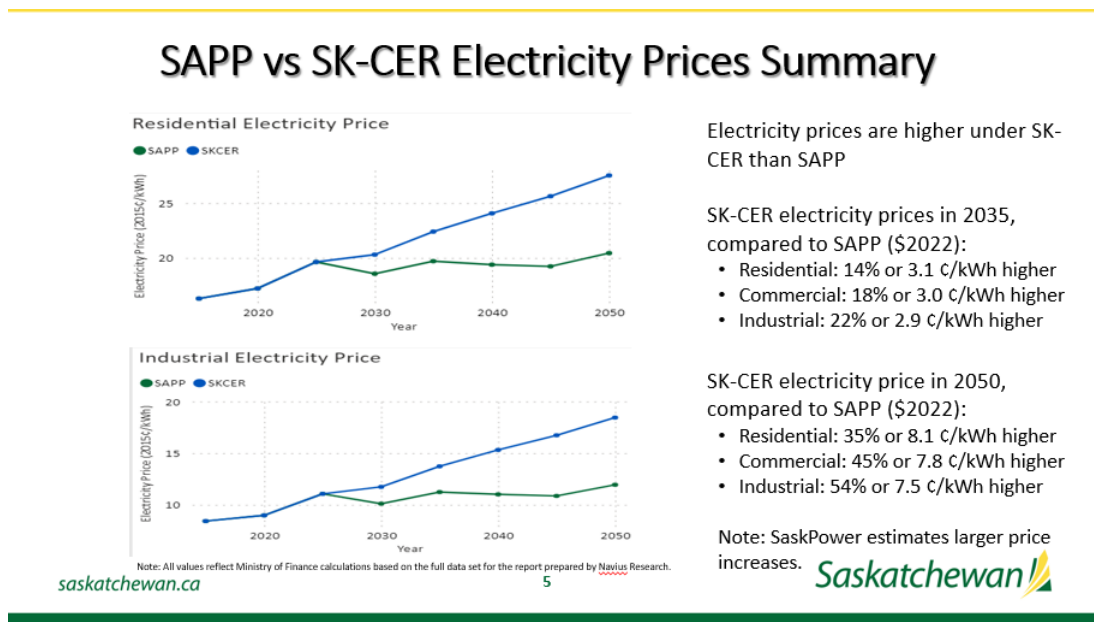
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Higher utility rates can place a substantial financial burden on residents, particularly those with fixed or low incomes. This might lead to increased financial stress and challenges in meeting basic needs and potentially risk disconnection, posing health and safety concerns, especially in extreme weather conditions.

Businesses, especially those that rely on energy-intensive operations, will experience a significant increase in operational costs. This would impact profitability leading to downsizing or closure of businesses in our hometowns, particularly given the ongoing challenges municipalities are still facing in stabilizing from the impact of COVID-19.

That said, there could be the risk of reduced economic activity and potential defaulting of property taxes leading to reduced revenue for urban municipalities. Saskatchewan urban municipalities may experience increased demand for social services if more residents struggle with affordability, potentially straining local resources. The housing crisis in our hometowns is a well-acknowledged example in this context.

109. An analysis of the results of the Navius modelling of electricity prices is summarized in the following chart:



110. There is also the matter of the costs to SaskPower (ultimately borne by taxpayers). In its submission, SaskPower states that the current all-in cost of electricity generation (including

capital costs, operating costs, fuel and taxes) for SaskPower is approximately \$86 per MWh (during fiscal year 2022-23), and that the cost of new non-emitting dispatchable generation will be materially higher than the present costs. Both the cost of production and the cost of transmission, will be greater: SaskPower says that under the CER it will result in a 110 per cent price increase.⁴³

Loss of Jobs

111. Navius forecasts that there will 4,200 fewer jobs in 2035 if the CER are implemented, as compared to the SAPP. Numbers are, by their nature, unemotional. Job losses are not. Loss of employment also has intangible costs in terms of the health and well-being of citizens. The domino effect on families and communities will be of significant concern to Saskatchewan residents. Employees support local stores, restaurants, and other businesses. Employees pay taxes: the loss of jobs means a loss of revenue for governments, which in turn may lead to fewer services or higher taxes.

112. An analysis of the loss of employment, by industry, is summarized in as follows:

SAPP vs. SK-CER Jobs and Households Summary		
Employment (FTE)	CER Minus SAPP	
	(Year 2035)	(Year 2050)
Total	-4,164	-9,352
Agriculture & Forestry	-245	-125
Construction	+871	+641
Manufacturing	-973	-1,228
Mining	-483	-851
Oil & gas	+13	-253
Services	-2,877	-5,634
Transportation	-350	-317
Utilities	-120	-303

Slower job growth is wide-spread

Full time equivalent employment

- ~4,200 lower in 2035
- ~9,400 lower in 2050


Indicator	Cumulative (CER Minus SAPP)	
	(2025-2035)	(2025-2050)
Household-Total Consumption (billion C\$2015)	-3.5	-19.9
Household-Consumption Per Household (C\$2015)	-6,843	-34,022

Household cumulative consumption

- \$3.5B lower (2025-35)
- \$19.9B lower (2025-2050)

Note: All values reflect Ministry of Finance calculations based on the full data set for the report prepared by Navius Research.

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⁴³ SaskPower’s submission to the Tribunal, dated February 15, 2024

113. The only industry in which there is a material increase is construction. That increase assumes that a labour force will be available to carry out the changes stemming from the CER: the Tribunal has identified factors that may make such an assumption incorrect. Those factors include the challenges of attracting specialist and non-specialist employees to Saskatchewan, and of Canadian jurisdictions competing for labour to build the low-and non-emitting generation sources required by the CER, at the same time.

114. The proposed introduction of the CER has also created significant concerns for commercial operations. As the Saskatchewan Urban Municipalities Association noted in its submission,⁴⁴ higher electricity costs affect business in different ways. There is the direct cost of the expenditure having to be made by the business, but there is also the indirect cost of residents have less to spend in the businesses. If the result is businesses closing (or fewer new businesses opening), there is a waterfall effect. Fewer businesses mean fewer employees.

115. In its submission, The Mosaic Company (“**Mosaic**”) (a company that mines potash), states:

Saskatchewan stands out for its high industry power/energy needs, extreme high and low temperatures, sprawling distance to reach all communities and low population density. Today, the industry needs to recruit talent outside the province and expects that challenge to increase. Affordability remains critical to attracting workers and their families to live and work in Saskatchewan, particularly in rural areas like Esterhazy, where well over half of our 1,900 employees are located.

Conclusions Respecting Compliance Costs

116. The Tribunal has reached the following conclusions in respect of the comparative costs and economic impacts of implementing the CER rather than the SAPP, in respect of the period from 2025 to 2035:

- Due to regional differences, including sources of generation of electricity, population, climate and geography, applying the CER without modification results in significantly greater costs to several Provinces, including Saskatchewan.

⁴⁴ Saskatchewan Urban Municipalities Association’s submission to the Tribunal, dated February 29, 2024

- The timeline for compliance under the CER assumes that there will be sufficient labour resources available, in all areas of Canada, to create the required infrastructure.
- The costs of electricity to Saskatchewan families, business and industry will be greater, under the CER than under the SAPP.
- Saskatchewan's economic growth, as measured by GDP, will be at least \$7.1 billion lower under the CER than under the SAPP.
- The negative impact on GDP may be greater than \$7.1 billion, including as a consequence of the forecasted growth in construction not accounting for technology not being available on a commercial scale, or for challenges in attracting labour.
- There will be at least 4,200 fewer jobs under the CER than under the SAPP.
- Electricity costs to be paid by residential users will be comparatively greater by \$241 annually.
- Households would have between \$1,350 and \$2,040 less to spend annually on non-electricity life essentials like groceries, transportation and housing if CER rather than the SAPP were to apply.
- The largest industrial users of electricity will have annual electricity costs that are (comparatively) higher by between \$1 million and \$10 million (with such amount to be greater for those entities that use in excess of 30,600,000 per kWh per month), by 2035.
- Smaller industrial users of electricity will have annual electricity costs that are (comparatively) higher by not less than \$1,429, by 2035.
- Commercial users of electricity will have annual electricity costs that are (comparatively) higher by not less than \$888, by 2035.
- A greater amount of investment in the utility sector is required under the CER, estimated to be at least \$4.9 billion (as forecast by Navius) and could be as much as \$9.4 billion to \$14.1 billion (as predicted by SaskPower).
- The greater increase (under the CER) in the price of electricity may have associated economic consequences, including stalling of growth, the potential shift of production to jurisdictions with weaker environmental standards, and a decrease in royalties and taxes paid to government.

Additional Observations, Findings and Concerns

117. The preceding section of this Report (entitled Compliance Costs) addresses the Tribunal's examination of comparative compliance costs, the forecasted effect on electrical utility rates, and the forecasted cumulative effect on the provincial economy, as mandated by OC 590/2023. The Tribunal was also directed to identify and assess the nature and extent of economic harm and uncertainty. Such matters are not necessarily measured by dollars.

The Balance: reliability, affordability, and environmental appropriateness

118. There is, in the context of the generation of electricity, a three-legged stool of reliability, affordability, and environmental appropriateness. Compliance with the CER cannot occur, while maintaining reliability and affordability. For the reasons discussed below, the three legs of the stool would be off balance if the CER were to apply.

119. The Tribunal's review of the materials and the submissions received suggests that there does not appear to be a difference of view between the Governments of Canada and Saskatchewan as to the desirability of reducing carbon emissions from electricity generation. However, the consequences (including unintended consequences) of achieving that reduction may vary greatly depending upon the path and timeline chosen.

120. No one who made a submission stated that they are opposed to enhancing environmental protections. However, they noted, through their own lens, that achieving the desired result must occur over an appropriate timeframe, be realistic, be commercially sensitive, and not cause unintended negative consequences.

121. At its core, the CER (as reflected in the RIAS) treats all Provinces equally, in terms of the imposition of requirements, as if the Provinces are indistinguishable. The CER has applied a "one size fits all" approach: a Province is a Province is a Province. That is so, even though the economic effect on one Province, compared to another, will be very different. Although the RIAS recognizes the distinctions, such as the disparity in availability (between Provinces) of types of electricity producing sources and the markedly different approaches that would be

required to change technology, the CER does not account for the differences by providing elasticity in the requirements.

122. Saskatchewan has a very different energy producing landscape from that of many other Provinces. In Saskatchewan, compliance with the CER will require a massive shift, at great cost, in methods of electricity generation within a very short time. Saskatchewan already has a competitive disadvantage when it comes to the cost of electricity. The CER will widen it.

123. The RIAS estimates that the cost impact to Saskatchewan will be \$11.2 billion, whereas the costs to British Columbia will be a *positive benefit* of \$16.8 billion.

124. In the view of the Tribunal, the primary concerns from a Saskatchewan perspective, arising from the changes and the timing mandated by CER, include: (i) the cost of compliance (measured by dollars), and (ii) the potential impossibility of compliance. The CER does not fully address the hurdles to effecting the required changes within the proposed timeframe. Among other matters, implementation of the CER will necessitate employing technology that does not yet exist on a commercial scale. As well, there would need to be industry participants and investors prepared to make capital expenditures where the results of investment are uncertain, and where such expenditures would be made against the backdrop of criminal sanctions.

The Timeline for Compliance

125. Just like the CER itself, both the RIAS and the Navius Study accept, as a given, for the purposes of their analyses, that commercial scale technology can be created and implemented in a cost-effective manner prior to the deadline for compliance. However, it is only the subject-matter experts that are best positioned to know what is possible. In Saskatchewan, those experts are SaskPower and the industries that would be required to implement the technology.

126. As illustrated in the diagram that appears at paragraph 54, SaskPower has described the time it takes to bring projects on-line, from inception to operation. For projects of the type that will be required to comply with the CER, as a Crown corporation SaskPower must engage in

complex and lengthy procurement processes. There will be requests for qualifications, followed by a request for proposals, an evaluation process, the selection of a preferred proponent, negotiations with the preferred proponent, (if the procurement process has been successful) the entering into of the legal agreements, the securing of land rights (including easement rights), and the obtaining of licences and permits.

127. A procurement process is not premised on theoretical construction specifications. If technology does not exist, parties will not take on contractual obligations to create what may or may not be achievable. As a result, the timeframe for creating the necessary changes does not in fact begin to run in 2025: it will run from a future, undetermined date.

128. There is another reality of economic activity that is tied to bringing projects on-stream for which the economic analyses do not account. Cameco Corporation (“**Cameco**”), which operates uranium mines, has expressed concern about the Federal impact assessment process that many of these activities required by the CER might trigger, and the delays this process introduces that will push the times beyond 2035 for implementation.

129. In all, the time between the proposed date the CER will come into effect and the 2035 deadline for compliance appears inadequate.

Saskatchewan’s Export Economy

130. Saskatchewan is a resource based and export based economy. For products ranging from potash to canola, the prices to be paid by the purchasers of those commodities are not set by the producers. Instead, those prices are world-market driven. Saskatchewan is the most trade dependent province in Canada, with exports comprising 63 per cent of Saskatchewan’s GDP.⁴⁵

131. With trade prices determined at the international level, if domestic regulations result in the price of Canadian fertilizer production being above the current world price, then Canadian fertilizer firms will either forgo making sales or lower their price and lose money on the sale.

⁴⁵ Statistics Canada, table 36-10-0222-01: Gross Domestic Product

Both options have negative economic consequences: staff are laid off as there is insufficient demand for more potash to be mined and firms will reduce capacity to attempt to offset lower revenues.

132. If the required technology is not implemented on the Saskatchewan facility, it will be destined to close, with the concomitant loss of jobs, and reduction in taxes (and in some cases the loss of royalties paid to government). This in turn leads to less funds being available to government to apply to other imperatives and priorities. This is another example where the dollar cost, and negative consequence, to the Saskatchewan economy as reflected in the economic studies may well be less than what will actually occur.

133. The Tribunal notes another concern. Rather than such costs being incurred by Saskatchewan industry, there may be “carbon/investment leakage”. Entities will choose to not incur the cost of implementing technology in Saskatchewan, but will instead do so in a jurisdiction with less cost and more regulatory certainty. Navius notes that such leakage risk appears to be more acute under the CER than under the SAPP.

134. If it is not economically sensible to spend transition dollars in Saskatchewan, then capital will move to jurisdictions where there are not those same compliance issues. In other words, more will be spent in jurisdictions where there are less strict rules, and more regulatory certainty. Less Saskatchewan production may result in fewer royalties paid to government. The result may be one or more of higher taxes, lower services, or higher debt.

Mining

135. The effect of electricity prices on the underlying industry is an important consideration. In its submission,⁴⁶ Mosaic points out that “[c]ompetitors in Eastern Europe play by a very different set of rules – receiving government subsidies for power/energy, low taxes, cheap labour and very few environmental regulations”. Mosaic also states the following:

⁴⁶ The Mosaic Company’s submission to the Tribunal, dated February 21, 2024

Studies confirm that potash produced in Saskatchewan is made with 50 percent fewer emissions than product coming from Russia and Belarus. While some of this difference is regulated, much of it comes from responsible choices and investment made by the industry to be more efficient and reduce overall impacts. The Clean Energy Regulations follow previous carbon-related legislation that has already increased costs to industry through required upgrades and the carbon tax. These are one-sided costs that are only penalizing Saskatchewan producers and offer a cost advantage to the competition.

136. In its submission⁴⁷ another potash producer, Nutrien Ltd., states the following:

... any disproportional costs, especially of the magnitude contemplated by the CER, incurred by potash producers not replicated in other producing jurisdictions will significantly undermine the industry's ability to compete on a global scale. To be clear, Canadian potash producer's largest competitors in Belarus, Russia and China have shown no indication of carbon pricing for potash producers in their jurisdictions and they continue to focus on providing greenhouse gas intense and cheaply produced base-load energy for industrial operations. Unachievable targets or regulatory regimes that do not recognize our industry's emissions reduction potential or ability to compete internationally will result in emissions displacement to jurisdictions with more emissions-intensive production systems and no or lesser greenhouse gas (GHG) reduction policies. In fact, this will have the effect of displacing cleaner production with higher emission-tonnes, globally counteracting any reduction intended by the Canadian climate policy regime.

137. Many industry participants have alternatives. Instead of taking on the risk and cost of implementation, they might choose to invest and produce outside of Canada. Shifting production to countries with lower emission control standards will not result in global emission reduction of GHGs, but may in fact increase it.⁴⁸

138. Ironically, any decrease (or non-expansion of) mining, may negatively affect the recovery of rare earth elements. Those elements are integral to the development of many clean technologies.

139. The detrimental economic effect is not simply something that industry bears. Elimination or reduction of production will result in losses of jobs and reduction in taxes and royalties paid to governments. Royalties are a significant source of revenue to governments.

⁴⁷ Nutrien Ltd.'s submission to the Tribunal, dated February 14, 2024

⁴⁸ *Ibid*

140. The Navius Study reflects that job loss will be greater if the CER, rather than the SAPP, is implemented. There are direct costs, and indirect costs. Loss of employment will have a ripple effect on the economy.

141. It is not only the employees of the company that has reduced or shifted production who form part of that calculus. For example, other individuals in resource communities who work in the fields of services, construction and transportation will also be adversely affected, if mining jobs are lost.

142. If the CER are modified in a manner that will increase the likelihood of successful modification or development of infrastructure (such as by moving the 2035 compliance date to a later date), there will be greater opportunities to reduce job losses.

143. Special consideration should be paid to job losses, in the context of Indigenous individuals and communities. Facilitating Indigenous involvement in modified electricity generating platforms can succeed only where the underlying development has an opportunity to itself succeed. The involvement of Indigenous individuals and communities can go far beyond employment: there will be opportunities for ownership of and investments in the new infrastructure. A longer period of implementation (from the presently proposed 2035) will also enable other important initiatives to more fully take place, including technical training and education.

144. The Saskatchewan Mining Association identified another consequence of the CER's approach to behind the fence generation, as follows:⁴⁹

The SMA and our members believe it is important to differentiate between electricity being offered for sale onto a regulated electricity system as a primary business versus electricity being offered for sale which is in excess of the electricity required by an industrial operation "behind the fence line".

Electricity generation carried out at industrial operations, like mining, is primarily used to support the operation and it would only be the surplus electricity generated that would be offered for sale. Emissions from the generation of electricity behind the fence line are already captured under the provincial industrial output-based pricing system.

⁴⁹ Saskatchewan Mining Association's submission to the Tribunal, dated February 22, 2024

Not exporting electricity to SaskPower (a NERC-regulated electricity system) in order to maintain their status of not being subject to the CER, would restrict industrial emitters from decreasing their own production to support the broader grid in times of peak demand. Without that flexibility in the regulations, through the net exporter provision in the regulations, would be a huge disincentive for industrial generators to support the province at a time of need. This must be avoided.

SaskPower would be required to either increase its own generating capacity, or import the required electricity.

Agriculture

145. The foregoing comments tie to the mining sector of Saskatchewan's economy. Similar considerations apply to the production and sale of agricultural commodities. Saskatchewan creates world-class, high quality products, sold to global markets. In the case of several commodities, almost the entire Saskatchewan production is exported. If those products can be sold at a competitive price, sales will occur. Saskatchewan does not set the prices – the amounts to be paid are international commodity prices.

146. Geography matters, as does cost of production. Saskatchewan is landlocked, which is a disadvantage in respect of the transport of agricultural products.

147. Trade in agricultural commodities and inputs (for example, fertilizer) are very price sensitive. Quality plays a key role, but if key exporting markets all produce roughly equivalent quality, then trade is price dependent. For example, Canada, the USA, China, Russia, and Morocco all export fertilizer. Depending on the importing nation specifications, any of these exporting nations could meet the specifications, therefore, the key factor in determining if trade occurs is price.

148. The export concern is described in the submission by Canola Council of Canada and Canadian Oilseed Processors Association:⁵⁰

⁵⁰ Canola Council of Canada and Canadian Oilseed Processors Association's submission to the Tribunal, dated February 23, 2024

The CER must not impair our global competitiveness and ability to feed and fuel the world. With 90% of Canada's canola currently going to export markets annually and a nascent domestic biofuels market, the CER must be designed and implemented in a way that does not impact Canada's competitiveness, particularly for trade exposed industries such as canola. This includes additional costs borne by processors as a result of a shift to a net-zero electricity supply.

149. Their submission goes on to provide:

Our industry is growing and is committed to helping contribute to Saskatchewan's economic success and climate change objectives. Since early 2021, more than \$3 billion of additional processing capacity has been announced in Saskatchewan, with a potential economic impact of \$2.8 billion and the creation of 3,000 new jobs by 2025. Many of these new announcements are linked to the growing demand for low carbon feedstocks in renewable fuel production, being driven by programs such as the Clean Fuel Regulation. Owing to canola's natural ability to sequester carbon from the air and store this carbon in the soil via sustainable production practices such as reduced tillage, renewable fuels derived from canola can reduce GHG lifecycle emissions by up to 90 % when compared to fossil diesel.

To capitalize on these growing opportunities and avoid any unintended outcomes that impact our industry's competitiveness, regulations like the CER must be balanced and realistic to implement.

150. The export issue was also identified by Louis Dreyfus Company Canada ULC, a processor of agricultural goods:

As LDC sells its products into global markets, such cost increases cannot be passed down the value chain and will be borne by Saskatchewan businesses. Equally, it has been suggested that measures the CER could require ahead of 2035 may make the electricity grid less reliable during periods of stress, such as recent cold spells. That is also a concern as we have designed our facilities to operate as efficiently as possible. We chose Saskatchewan because of its robust capability to provide production inputs, including energy.

151. There will continue to be global demand for agricultural products. As production in Saskatchewan reduces, economic activity will shift to other countries, many of which do not have the same high environmental standards and regulations; hence, global emissions will not decline and may even increase.⁵¹

Oil and Gas

152. The oil and gas sector is very important to the Saskatchewan economy.

⁵¹ Nutrien Ltd.'s submission to the Tribunal, dated February 14, 2024

153. Similar concerns were expressed by petroleum producers. The Canadian Association of Petroleum Producers (“CAPP”) stated that electricity costs represent approximately 1/5th of oil and natural gas producer operating expenses. Accordingly, CAPP says, electricity prices have a significant impact on competitiveness. Rising electricity costs and the expected increase in the volatility of electricity prices amplifies industry’s concerns.

154. Electricity is required for the oil and gas sector to decarbonize, which in turn means that clean, grid-based electricity lines to oil and natural gas fields must be built. However, CAPP believes that the CER:

will make it even more difficult for utilities to justify building electrical generation and distribution infrastructure to enable access and supply for our industry, particularly given the remote locations of industry’s operations which are often far removed from populated areas in the province. Natural gas supports affordable and reliable electricity generation. Standards need to ensure natural gas can continue to be a key contributor to the electricity system – it is the only lower emission baseload source that can be built on the timeline of the CER.

155. If the oil and gas industry is at risk, then the concomitant reduction in revenue will have negative impacts on the economy, reducing the ability to fund public services, infrastructure projects, and social welfare programs. Unintended or indirect consequences could include the loss of: (i) surface lease payments to landowners, (ii) mineral lease payments, (iii) property taxes paid to rural municipalities, and (iv) income that would have been earned under servicing contracts for repairs and maintenance. That would, in turn, affect local businesses such as retail stores, restaurants, and service providers, thereby causing indirect job losses.

156. In its submission⁵² Longhorn Oil & Gas Ltd. (“**Longhorn**”) expressed its concerns about the forecasted increase in utility rates. It observed that older oil fields are extremely sensitive to higher power prices: utility expenses presently account for 26.2 per cent of its total operational costs, which percentage may increase to 42.43.

⁵² Longhorn Oil & Gas Ltd.’s submission to the Tribunal, dated March 1, 2024

157. Longhorn noted that if it no longer operates, then payments to landowners, to rural municipalities on account of property taxes, to third parties for repairs, maintenance and well servicing, would not occur. Longhorn states:⁵³

Eliminating these expenses would cause indirect job losses, affecting local businesses such as retail stores, restaurants, and service providers, leading to further economic downturns within Longhorn's surrounding communities.

158. The consequences may be more far-reaching, in Longhorn's view:⁵⁴

Companies facing financial strain due to increased costs will cut back on their community involvement and charitable contributions as they prioritize core business operations and financial health.

There will be a shift in focus strictly to survival and efficiency, moving resources away from charitable causes to core business operations. This can have a significant impact on the local community, especially for organizations that rely heavily on corporate sponsorship to operate such as local food banks, crisis centres, and youth programs. Drastically increased utility expenses would lead to a significant reduction in community involvement and support, affecting not just the immediate beneficiaries of such efforts but also the broader socio-economic fabric of the community.

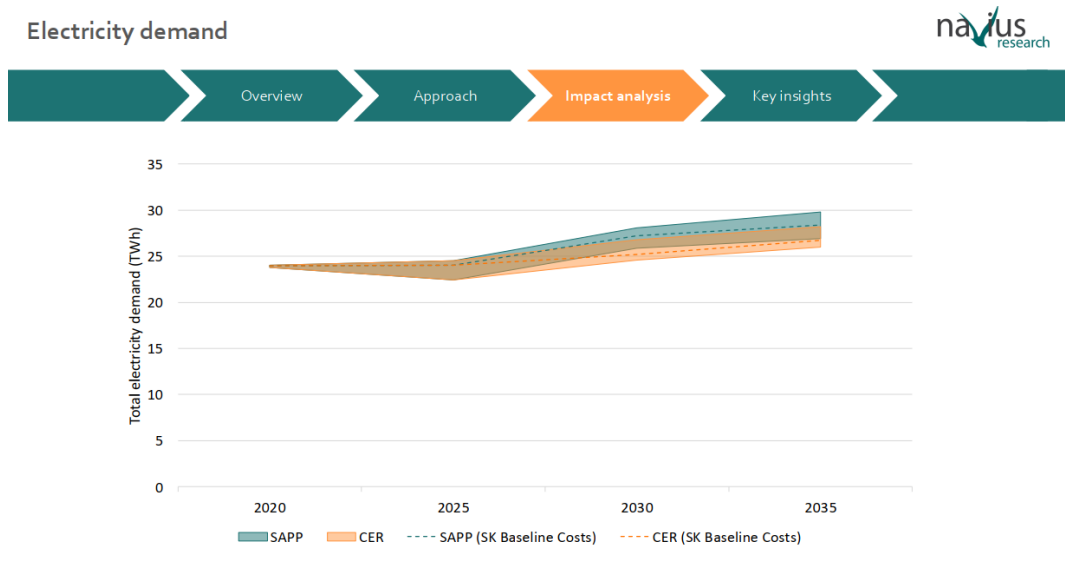
159. As in the mining sector, oil and gas companies may choose to shift operations to jurisdictions with relaxed regulatory regimes.

Increased Use of Electricity

160. Navius has illustrated the forecasted difference in electricity demand between the CER and the SAPP, as follows: electricity use will be greater, under the SAPP.

⁵³ *Ibid*

⁵⁴ *Ibid*



Greater demand for electricity will increase the challenges in having the required infrastructure changes in place to comply with the CER’s 2035 deadline.

161. In its submission⁵⁵ SaskPower made the following comment:

Electrification: New and expanded uses for electricity will emerge as society responds to the need to decarbonize our economy — to fuel vehicles, to provide process heat for industrial facilities, and to heat homes and businesses — that will lead to unprecedented demand for power. In Canada and the United States, some sources estimate that total electricity demand could more than double by 2050. This will drive the need for significant investment not only in clean power generation, but also in Saskatchewan’s grid so it can support growing electrification and customer self-generation.

162. The growth of electricity use in Saskatchewan may be underestimated. The Saskatchewan Mining Association commented⁵⁶ as follows:

As noted in the Regulatory Impact Analysis Statement (RIAS), the demand for electricity is projected to be 1.4x (low demand scenario) to 2.5x (high demand scenario) higher by 2050 than current levels. Considering the efforts by all levels of government, industry and private citizens to move towards net-zero it is reasonable to predict that actual electricity demand will be closer to the 2.5x value. With the federal government’s stated intention of having 100% of new light duty vehicles be electric vehicles by 2035, there will be increased pressure on electrical grids and the economic analysis must take this into account.

This means there will be even higher costs to those jurisdictions, like Saskatchewan, that will need to both replace existing emitting electricity generating capacity, as well as add new non-emitting baseload capacity

⁵⁵ SaskPower’s submission to the Tribunal, dated February 15, 2024

⁵⁶ Saskatchewan Mining Association’s submission to the Tribunal, dated February 22, 2024

to meet the anticipated higher demand for electricity as we progress to 2035 and ultimately to 2050. The Government of Saskatchewan has identified that approximately 3,500 megawatt (MW) of existing baseload electricity comes from emitting sources and they project that an additional 7,000 MW will be required to support Saskatchewan's economy by 2035.

163. Entities that may be interested in establishing or expanding operations in Saskatchewan, or elsewhere, will consider the availability of electricity, and its cost. Saskatchewan will want to be able to accommodate those requirements.

Technology

164. One of the biggest hurdles to overcome is that no commercial scale technology exists to enable modification of existing facilities, or new facilities, to meet the requirements of the CER. Trying to create and implement that technology in a time period that is too short is a recipe for failure of the initiative.

165. For technology to be created, there must be incentives and a system that will actually work for the designers, the builders and the users of the infrastructure.

166. The estimates of costs of implementing technology that appear in or are derived from the RIAS and the Navius Study assume that required technology will in fact become available within the subject time. Whether it is cast as potential economic harm, or uncertainty, the Tribunal believes that there is a substantial risk that reliable commercial scale technology will not in fact become available in time to enable compliance with the CER deadline. Testing must occur over an extended period of time, in various operating conditions and seasons, to assess viability.

167. The development of sophisticated technology, and the implementation of the technology through test phases and ultimate commercial use, require a combination of participants prepared to make the required investment and participants prepared to fund such investment. Those participants will make economic decisions applying a risk analysis. The combination of the very large costs and the short timeline create a very high degree of risk.

168. To facilitate the results the CER directs, significant capital investment will be required. The competition for investment dollars is a global issue. For Canada (and Saskatchewan) to compete, investment hurdles must be minimized.

169. As well, the CER itself provides a very stark disincentive for industry to take on the challenges of the technological changes. If a project is developed, with a good faith belief that the new technology will be sufficient to comply with the CER but that does not occur, the consequences are not only monetary. If during its operations a facility does not comply with the performance standard, criminal sanctions are possible. Enterprises assessing whether they are prepared to modify their infrastructure will treat this as a substantial risk.

170. Canadian Power Holdings Inc. (the operator of the Meridian co-generation facility at Lloydminster, Saskatchewan) comments on this risk, stating⁵⁷:

Potential exposure to criminal prosecution is a substantive issue, unduly subjecting proactive operators seeking to preserve reliable electricity supply for customers using cutting edge technology, while aggressively moving forward with decarbonization, to risk of punitive treatment under the law.

171. Consider a circumstance where carbon capture (CCS) is installed on a facility. If best efforts are made, and the required capture rate of installed CCS is not achieved, the facility and the CCS immediately become stranded assets that are not permitted to operate. Without compliance with the CER being assured, companies will not invest in the required CCS technology, but instead seek to place capital in higher return ventures.

172. Endeavouring to comply with the CER will require SaskPower to prematurely lock-in large investments for commercially unproven technologies, rather than benefitting from technological advances and cost reductions that will occur over time. In SaskPower's view, a target of a net-zero GHG electricity system by 2050 provides the time necessary for these emerging technologies to be commercially proven, which in turn will mitigate cost and risk.

⁵⁷ Canadian Power Holdings Inc.'s submission to the Tribunal, dated March 1, 2024

173. The Tribunal also views as questionable an assumption that technology costs will continue to decline. That assessment is being applied to technology that does not yet exist at commercial scale.

Labour and Supply Chain Issues

174. Assuming for discussion purposes that it is possible to implement commercial scale technology by the CER deadline, there is a related risk that it cannot occur prior to that time, because of labour shortages. Attracting labour (both specialist and non-specialist) to Saskatchewan is a challenge compounded by the fact that other Canadian jurisdictions will be concurrently competing for labour (so as to comply, themselves, with the CER).

175. Saskatchewan will be also competing with many other jurisdictions in North America for the same labour and material resources to build the low- and non-emitting generation sources and supporting infrastructure needed to enable the global transition to a low-carbon economy.

176. Cenovus describes⁵⁸ the labour and supply issue, with these words:

Rushing the timeline will serve to force suboptimal results and put enormous pressure on the cost to build technologies required to bring existing natural gas power generation facilities into compliance. At a time when there is a rush to build CCS capacity both domestically and internationally, there is already significant risk of labour and materials shortages that will cause delays and material cost inflation. This will amplify the risk of cost escalation to investments targeting the decarbonization of power generation, as well as our own CCS projects.

177. In respect of the CER, SaskPower concluded that compliance with the CER by 2035 is not possible from a logistical perspective (nor from a financial or technological perspective).

178. Additionally, with multiple jurisdictions building generation sources and supporting infrastructure, supply chain issues will be exacerbated. That reality, combined with the labour issues, illuminates the risks of driving compliance within too short a time period.

⁵⁸ Cenovus Energy Inc.'s submission to the Tribunal, dated February 23, 2024

Import of Electricity

179. The economic analyses assume that some issues could be addressed very simply, by Saskatchewan importing electricity from one or more other Canadian jurisdictions, or from the United States.

180. Saskatchewan is bordered by Alberta and Manitoba. Alberta is facing the same reliability issues as Saskatchewan. Manitoba is better positioned to comply with the CER, because of Manitoba's abundance of hydroelectric power. However, Manitoba's first priority will be to meet the needs of its own residents, and there is no assurance that electricity could be made available to Saskatchewan, as and when it is required.

181. The solution identified in the Navius Study pre-supposes that: (i) other jurisdictions will have electricity to provide, at the time Saskatchewan requires it, (ii) such electricity will be available at reasonable or market prices, and (iii) there will be no legal or legislative prohibition from another jurisdiction on the supply of electricity into Canada. The uncertainty of (i) through (iii) creates risk.

182. What if the supply is to be from the United States? That possibility involves far more complex, less controllable, considerations. The United States might simply decide that supply outside of its borders will be tempered. In its submission,⁵⁹ SaskPower states that recent attempts at securing firm capacity via imports from neighbouring jurisdictions have not produced viable options.

183. The Tribunal believes that the risk of geopolitical considerations affecting importing electricity should not be overlooked or underestimated. As well, the relative strengths of the Canadian and US dollars and the inability of Saskatchewan to control such currency considerations are other factors that were not included in the Navius Study.

⁵⁹ SaskPower's submission to the Tribunal, dated February 15, 2024

Regulatory Uncertainty

184. In 2012 the Government of Canada implemented regulations that mandated the closure of conventional coal-fired power plants by 2030. Further restrictions on baseload power options resulted from the 2018 production of the *Regulations Limiting Carbon Dioxide Emissions from Natural Gas-Fired Generation of Electricity*. The CER reflects a further significant shift in policy. Planning in the face of these shifting sands is challenging. Achieving capital investment is problematic.

185. Environment is a shared jurisdiction between the federal and provincial levels of government. Political gridlock may dampen investment in resources and technologies to reduce emissions. Such investment will be delayed, or entirely forgone.

186. Regulatory uncertainty can be best addressed by the federal and provincial governments legislating in their constitutional spheres in a manner that will allow industry participants to implement required changes in a manner that will succeed.⁶⁰

Saskatchewan's Climate and Geography

187. The CER, in designing its Canada-wide compliance requirements, do not incorporate a structure that embraces the differences in climate and geography, from region to region. An example is the inadequacy of the 450 annual hour peaking power exemption in a jurisdiction (like Saskatchewan) that has dramatic swings in temperature.

188. Neither the RIAS nor the Navius Study integrate the geography of Saskatchewan and its effect on the delivery of electricity into their respective conclusions. As noted by Cameco⁶¹, wind and solar are not viable options for wide-scale deployment in northern Saskatchewan due to extreme weather conditions, low infrastructure availability and intermittency of generation. A significant portion of homes and facilities in the region are heated by electricity (and not natural gas).

⁶⁰ Comments on legislating are made by Chief Justice Wagner of the Supreme Court of Canada in *Reference Re Impact Assessment Act*: 2023 SCC 23.

⁶¹ Cameco Corporation's submission to the Tribunal, dated February 13, 2024

189. The CER's approach to natural gas-fired facilities does not adequately recognize Saskatchewan's extreme weather conditions, and limitations on available hydroelectric sources of electrical energy. For example, during extreme hot or cold temperatures wind generation can be near zero for extended periods, from several hours to a number of consecutive days. It will be necessary to rely on an increased amount of dispatchable energy.

Risk to Stability

190. Canadians depend on reliable, stable, affordable and safe electricity systems. Saskatchewan will require significant upgrades to electrical transmission and distribution infrastructure to comply with the CER. Cameco notes that adding electrical supply due to increasing demand, while decarbonizing the grid in a short period of time, puts stability at risk. The difference in time frame between what the CER requires, and what the SAPP contemplates, underscores that such risk is greater under the CER.

191. The need to ramp up or down instantaneously is a feature of a safe and reliable grid. Natural gas is an "on-demand" source of power with capabilities to ramp up or down instantaneously. The CER limit the extraordinary operation of natural gas plants to 450 hours per year. Greater flexibility is necessary to reduce the risk of the grid being unable to provide sufficient electricity at all required times.

192. The RIAS itself comments on the significance of reliability, stating:

The Department noted that the reliability of electrical systems are of critical importance for provinces and territories, as they are responsible for designing and operating electrical systems.⁶²

193. A number of those who made submissions to the Tribunal expressed concern about grid reliability. That concern is exacerbated by increasing reliance on intermittent power sources like

⁶² RIAS

wind and solar, without adequate alternative generation. Wind and solar are not peaking, or “dispatchable” resources. They are “as available” energy, producing what nature provides.⁶³

194. The consequences of rolling blackouts cannot be overestimated. There is the inconvenience of power being unavailable. But there are more significant risks, including as to safety. Loss of power during mining operations by employees is not an insignificant consequence. Shutdowns and start-ups of industrial operations cost time and money. If the supply of electricity is insecure, businesses will assess whether Saskatchewan is the correct jurisdiction in which to develop or expand operations.

195. Risk will be reduced if the CER were to provide more flexibility to accommodate a range of potential outcomes and ensure that reliability can be maintained across the country’s diverse electricity systems. In Saskatchewan, that requires the use of natural gas facilities.

196. The decarbonization of projects (the ultimate regulatory goal) may be put at risk by the CER. Cenovus has commented as follows:

As currently drafted, we believe that the Clean Electricity Regulations do not adhere to Government’s stated core principles; maximizing GHG reductions from the grid; maintaining electricity affordability for Canadians and businesses; and maintaining grid reliability to support a strong economy.

... many of our decarbonization projects will serve to increase our reliance on electricity imported from provincial grids. However, by driving up costs and the prospect of power shortages, the CER risks significantly eroding the viability of our decarbonization projects

Safety

197. The need for certainty of power supply is self-evident. Matters that are in some senses related to comfort (such as heat and air conditioning in homes) are also matters of safety.

⁶³ On January 13, 2024 there was a prospect of rolling blackouts on a freezing Saturday night, in Alberta. The Alberta Electric System Operator, in coordination with the Provincial Government, took the unprecedented action of issuing an emergency alert asking residents to conserve electricity.

198. The importance of safety cannot be overstated. Consider an industrial circumstance, such as mining operations below ground. Loss of electrical power is more than an inconvenience. It could result in risk to life and health. SaskPower has stated:

One of our most pointed concerns relates to the significant operational safety risks to our employees and contractors that is introduced by power interruptions caused by grid instability. As well, there are matters of safety at industrial operations, where sudden termination of power could lead to significant consequences, including to employees.⁶⁴

199. Mosaic notes⁶⁵ the following:

Losing power – whether for five minutes or five hours – is very impactful to our operations. Restarting facilities takes considerable time and can pose safety hazards with mine personnel and underground ventilation.

Additional Indigenous Considerations

200. Saskatchewan has a large Indigenous population. Those individuals form a high percentage of residents in northern Saskatchewan. There, the cost of electricity per month is already enhanced due to a lack of natural gas infrastructure, and because electricity is used for home heating. Any additional costs of electricity will have a greater impact on Saskatchewan's northern and Indigenous communities. Enabling the costs of complying with regulations to reduce carbon emissions, to be incurred over a longer implementation time (with the attendant reduction of risk), will be of benefit to this very important part of Saskatchewan's population.

201. CAPP identified another Indigenous-related concern, stating:

Furthermore, the proposed CER will limit the breadth of options for SaskPower to include Indigenous communities in Saskatchewan's power sector as it did with the Flying Dust First Nation and the First Nation Power Authority. The Kopahawakenum Flare to Power Facility is an example of partnering with Indigenous People in Saskatchewan's power sector and achieving sustainable economic development, community benefits, and reducing greenhouse gas emissions.

⁶⁴ SaskPower's submission to the Tribunal, dated February 15, 2024

⁶⁵ The Mosaic Company's submission to the Tribunal, dated February 21, 2024

202. In its submission SGO Mining Inc. advises as follows:⁶⁶

Our site employs approximately 427 full time employees, works with many contract partners, and supports Saskatchewan business through local sourcing of material. In 2023 SSR Seabee paid out \$55 MM in wages and continues to develop skilled labor and trades through experience and training programs. Of those 427 employees, 14% are northern employees, and 27% are self identified indigenous workers. SSR Seabee works closely with the communities of Lac LaRonge Indian Band (LLRIB) and Peter Ballyntyne Cree Nation (PBCN) to increase local employment and procurement opportunities and sources \$23 MM through the services of indigenous vendors.

Orphaning of Projects/Early Closure of Facilities

203. The orphaning of projects is an unrecoverable cost. One Saskatchewan-specific example is the approximately \$800 million investment by SaskPower in its Great Plains natural gas power station. The plant is scheduled to be operational by the end of 2024 and a typical lifespan for a natural gas power station is 30 years. However, under the CER only 20 years of operation will be allowed. The \$605 million investment in the Chinook natural gas power station will also fall under the 20-year criteria. The 46 MW Ermine and Yellowhead natural gas power stations as well as the proposed 370 MW Aspen natural gas power station near Lanigan will not be commissioned until after the CER's January 1, 2025 deadline.

204. The CER's treatment of cogeneration facilities may result in unintended consequences. For example, Canadian Power Holdings Inc. says that it is likely that its Meridian cogeneration plant will be unable to continue to operate past 2035 under the CER. If the plant can continue to operate, there would be significant impacts for its thermal and electrical customers (Cenovus and SaskPower), by increasing operating costs at Cenovus' heavy oil upgrader operations. This would in turn result in higher electricity costs for Saskatchewan residents and businesses.

205. Canadian Power Holdings Inc. comments⁶⁷ on the orphaning issue, in the context of a cogeneration facility, as follows:

Meridian is nearing 25 years of operation. Plants employing this technology can generally be expected to operate efficiently and reliably for 50 years or longer with strategic maintenance or capital replacements throughout their life. Meridian is capable of providing efficient, reliable, affordable electricity to the Saskatchewan economy for another 25 years.

⁶⁶ SGO Mining Inc.'s submission to the Tribunal, dated February 23, 2024

⁶⁷ Canadian Power Holdings Inc.'s submission to the Tribunal, dated March 1, 2024

206. This provides a good illustration of a cost concern that arises under the CER. Facilities will be required to close, in some cases significantly prior to their expected operation life. When they were constructed, the facilities complied with the then-applicable laws. Requiring early closure means that the value of an investment is truncated or lost. Shutting down facilities prior to end-of-life capabilities increases the energy gap that exists because of the lack of innovative technology capability.

207. Mothballing of current generating facilities, in some cases designed and constructed with taxpayer dollars is troubling.

208. On the topic of the normal life cycle of facilities, the Saskatchewan Mining Association states:⁶⁸

The SMA also believes utilities should be judged on a fleet-wide basis, rather than on an individual unit/facility basis. This approach would allow utility operators to continue to use some existing operations that don't individually meet a clean electricity definition. This would have the added benefit of allowing these operations to operate through a normal life cycle and not strand an important asset through implementation of an arbitrary EoPL. This flexibility will be especially important in regions, like Saskatchewan, with non-competitive electricity grids where the cost of decarbonization across the system will be shared across all customer groups

SaskEnergy

209. SaskEnergy has noted that electricity costs are a significant component of its operating expenses. It has identified another cost:

The total impact is not presently known as the pathways chosen by the electricity generators in the province is still being assessed, however imagining a scenario where natural gas could no longer be utilized for any electricity generation would result in lost revenue and a significant impairment in the value of TransGas' system assets. The inability to recover the cost of those stranded assets would result in a significant financial impairment to SaskEnergy's transmission system assets currently valued at \$1.5 billion.

⁶⁸ Saskatchewan Mining Association's submission to the Tribunal, dated February 22, 2024

Conclusions in Respect of the Tribunal's Additional Observations, Findings and Concerns

210. The Tribunal has reached a number of conclusions in respect of its additional observations, findings and concerns:

- The goal of achieving more environmentally-friendly electricity production is shared among diverse regulators, entities and individuals.
- The fluid nature of regulatory change creates challenges, thereby increasing risk, costs and unintended consequences including undermining investor confidence.
- The CER compliance timeline (which is significantly shorter than under the SAPP) assumes that commercial scale technology (which does not presently exist) will be developed in time to allow implementation prior to deadlines.
- If the timeline for designing and implementing the necessary technology were longer, and the labour and supply chain concerns were addressed, the opportunity for industry to succeed in creating and implementing the desired environmental results increases markedly, and the investment of the required capital will be more probable.
- More existing infrastructure (including that paid for with tax dollars) will be abandoned, prior to their intended end-of-life, if the CER applies without revision.
- With its resource and export-based economy (including in respect of natural resources and agricultural products), Saskatchewan and its industries are particularly vulnerable to the consequences of greater electricity costs.
- Deindustrialization may occur, as energy intensive industries fail to compete with exporters in countries with a less green approach to energy policy.
- The economic analyses provide guidance as to costs, but the appropriateness of underlying assumptions and the actual effect of costs are best described by those who directly participate in the generation of electricity and its use.
- Lower growth rates, and potential retraction in some industries, may reduce opportunities to partner with Indigenous entities and individuals.

Government of Canada Update Paper

211. The mandate of the Tribunal was expanded to include the assessment and examination of the *Clean Electricity Regulations*: Public Update dated February 16, 2024 (the “**Update Paper**”).⁶⁹

212. The Update Paper refers to the consultation period that ended November 2, 2023. In response to this consultation, the Government of Canada provided a public update on the CER, by way of the Update Paper. It describes a number of potential changes to the CER that are under consideration by the Government of Canada.

213. The Update Paper reflects a number of the concerns that were expressed during the consultation period:⁷⁰

- The unlikelihood that natural gas units equipped with CCS would be able to operate as peaking units and meet a 30 t/GWh performance standard, and that uncertainty around this would be a disincentive to invest in this technology;
- That the 450-hour annual limit for peaking plants would undermine reliability and have an unintended outcome of less efficient units being used rather than a more efficient unit operating longer;
- That offsets may be used to assist operators that exceed limits;
- That the proposed 20 year end-of-life provision is too short and would result in stranded assets, increased costs and reduced reliability;
- That existing cogeneration units may stop exporting electricity to the grid in order to avoid being subject to the CER;
- That having the federal Minister review emergency circumstances after the fact could inhibit decisions during emergencies; and
- That the minimum capacity threshold of 25 MW could create an incentive to create multiple units of less than 25 MW to avoid being subject to the regulations.

⁶⁹ Order in Council 153/2024 dated March 28, 2024

⁷⁰ *Clean Electricity Regulations*, Public Update: ‘What We Heard’ during consultations and directions being considered for the final regulations, dated February 16, 2024

214. The Update Paper outlines at a high level areas that are being considered for inclusion in the final version of the CER, expected in 2024. The areas under consideration include an emissions limit approach with four elements:⁷¹

- a) changing from a fixed emissions intensity standard to an annual emissions limit;
- b) adjusting the performance standard used to calculate each unit's emissions limit;
- c) allowing operators that have multiple units to pool the emissions limits of their units operating in the same jurisdiction;
- d) allowing a unit to emit over its limit providing it provides GHG offsets to account for excess emissions.

215. The Update Paper also states that consideration is being given to:

- Extending the end-of-life provisions for natural gas-fired units to a time beyond 2035;
- Allowing units that have had major investments but will not be able to be commissioned by January 1, 2025, to make use of the end-of-life provisions provided they start selling electricity to the grid by a to be determined date;
- Cogeneration units being only subject to the regulations in years in which they have net exports of electricity to the grid, or treating them the same as all other units;
- Applying the CER to all new units at the same facility totaling 25 MW and greater;
and
- Giving operators the ability to declare an emergency for a prescribed period after which Minister's approval would be necessary to continue operating.

216. The Update Paper suggests that the updated regulatory design options may involve a new approach to the core performance standard that would set an annual emissions limit that is tailored to each generation unit, based on its size. The suggestion is that this would enable more efficient and cleaner units to run for longer periods of time, and that it would also increase flexibility to address peak power needs and the use of standby (or on-demand) power to support

⁷¹ *Ibid*

the build-out of cleaner technologies. The Update Paper notes that this approach could be supplemented by offsets, emissions pooling, and a more flexible approach to industrial cogeneration.

217. The following diagrams highlight some differences between the published CER and the Update Paper:

CER Comparison: CG1 and Update Paper

	Canada Gazette Part 1 Publication	Update Paper
Performance Standard	30 t/GWh or 95% capture rate	Undetermined, will be used to calculate the annual emissions limit.
Emissions Limit	N/A	Unit-specific limit based on capacity (MW) and a new performance standard.
Pooling	Not allowed	Parties with multiple units in the same province could pool emissions limits.
Offsets	Not allowed	Considering a maximum percentage above each unit's annual emissions limit.
End of Prescribed Life (existing units)	20 years	To be determined
New Units	Units commissioned by Dec. 31, 2024 are treated like existing units.	Considering extending this to cover units with significant investment and work underway, but with a shorter prescribed life.
Cogeneration Units	Cogen units > 25 MW subject to same performance standard as any unit exporting to the grid.	Considering amendments for both new and existing units, no details provided.
Emergencies	Requires retroactive approval from federal Minister	System operator declares emergency, Ministerial notification may be required.
Minimum Size Threshold	25 MW	Single units: > 25 MW or New units at one facility: > 25 MW combined.

CER Update Paper: Implications for Saskatchewan

	Update Paper - Impacts
Performance Standard	Shift from the Performance Standard to the "Tailored Approach" with pooled emissions limits should offer slightly more flexibility to SaskPower – without firm details it is impossible to assess.
Emissions Limit	
Pooling	
Offsets	Compliance is less criminal and more financial, but still has potential costs to SaskPower and rate payers – without firm details it is impossible to assess.
End of Prescribed Life (existing units)	Exact change is unknown. Unless extended to 30+ years, units could still face early retirement.
New Units	Aspen could be treated as an "existing unit" but may still be subject to early retirement. Could effect annual and long-term supply planning.
Cogeneration Units	Two major <u>cogen</u> facilities currently contribute to the SK power grid, with the potential for more future sites, so these provisions will impact current and future facilities.
Emergencies	Update provides more latitude for SaskPower to continue making operational decisions in emergency circumstances.
Minimum Size Threshold	No current plans in SK for gas units <25 MW, but some industrial sites are considering future units and will be impacted by these provisions.

218. Many of these matters that are to be considered further go to the heart of the CER. Accordingly, the Tribunal believes that publication of these potential changes with a new regulatory impact analysis statement that would describe the estimated effects on Canadian, regional and provincial economies, and a new consultation period, would be beneficial.

219. If the potential changes are reflected in a revised CER, then the costs, risks and unintended consequences may well be different from what the Tribunal has described in the earlier parts of this Report. However, without examining the final form of revised CER, it is not possible to quantify the difference in costs, nor is it possible to describe how (if at all, and to what extent) the changes will have addressed the issues (beyond costs) that this Report has described. Until the changes are known, regulatory uncertainty increases.

Additional Matters

220. *The Saskatchewan First Act* and OC 590/2023 authorized the Tribunal to make recommendations. The Tribunal has chosen to not make express recommendations. The Tribunal has, in this Report, provided its assessment and conclusions arising from its examination of the matters described in its mandate. The economic costs of the present version of the CER have been described in this Report, in the context of Saskatchewan projects, operations, activities, industries, businesses or residents. If the CER are to come into effect, then mitigating those costs can be achieved through modifying the CER to address the concerns that have been identified.

221. The Tribunal wishes to thank those entities and organizations who made submissions to the Tribunal. The Tribunal also wishes to thank Navius for providing the Navius Study, and its assistance in the Tribunal reviewing its contents. The Tribunal is very appreciative of the information and analysis provided by CIC and the Ministry of Finance.