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## Environmental Scan

### Overview

The Government of Saskatchewan committed to reduce greenhouse gas emissions and move towards more energy-efficient and renewable resources. This commitment includes the Net Metering Program, which aims to increase the generation of electricity from renewable resources, such as solar power, up to 16 Mw across the province. Due to the province’s projection that the program could meet its cap by November 2019, it is critical to evaluate other programs and policy approaches that might help Saskatchewan meet its goals.

The following table provides examples of programs across different jurisdictions that aim to reduce pollution in their areas.

Area	Program
British Columbia (BC)	<p>Energy Efficiency Programs: <a href="#">Link</a>, <a href="#">Link2</a></p> <p>Efficiency BC – is a provincial program offering financial incentives, information, and support to help households and businesses save energy and reduce CO<sub>2</sub>e by switching to high-efficiency heating equipment and renovating improvements to existing and new houses. The programs offer the following rebates for:</p> <ul style="list-style-type: none"> <li>- <b>Heating:</b> <ul style="list-style-type: none"> <li>- Up to \$7,400 for a heat pump, furnace or boiler, fireplace, and wood stove installation.</li> </ul> </li> <li>- <b>Hot Water:</b> <ul style="list-style-type: none"> <li>- Water Heater: \$1,000 to 4,000 for replacing an existing system with a high-efficiency model.</li> </ul> </li> <li>- <b>Windows, Doors and Draftproofing:</b> <ul style="list-style-type: none"> <li>- \$50 to \$100 per item for replacing existing windows and doors.</li> </ul> </li> <li>- <b>Insulation:</b> <ul style="list-style-type: none"> <li>- Up to \$5,500 for updates to attic, basement, crawlspace, etc.</li> </ul> </li> <li>- <b>Appliances:</b> <ul style="list-style-type: none"> <li>- \$25 to \$250 for replacing existing fridge, washer or dryer with a high-efficiency models.</li> </ul> </li> <li>- <b>Home Energy Evaluation:</b> <ul style="list-style-type: none"> <li>- Up to \$350 for a program-qualified energy advisor services.</li> </ul> </li> </ul> <p>Energy Generation – the government of British Columbia exempts alternative energy products from the PST. This exemption covers all solar photovoltaic and solar thermal panels, as well as all necessary equipment. <a href="#">Link</a></p> <p>Clean Transportation Programs: <a href="#">Link</a></p>

	<p>Clean Energy Vehicle Program – is the provincial incentive to encourage and accelerate the higher usage of EV for the provincial environmental and economic benefits. British Columbia introduced the CEV in 2011 and has since committed to investing more than \$71M into:</p> <ul style="list-style-type: none"> <li>- EV sale incentive;</li> <li>- Charging &amp; hydrogen fueling infrastructure;</li> <li>- Additional EV government fleet; and</li> <li>- Research, training, outreach &amp; economic development.</li> </ul> <p>The program provides point of sale incentive for eligible vehicles of up to:</p> <ul style="list-style-type: none"> <li>- \$3,000 for the purchase or lease of a new battery EV. Hydrogen fuel cell electric, or longer range plug-in hybrid EV; and,</li> <li>- \$1,500 for the purchase or lease of a low range plug-in hybrid EV.</li> </ul> <p>Scrap-It Program – offers qualifying vehicle owners a chance to scrap their old vehicles and substitute them with the CEV instead. The program provides \$6,000 towards the purchase of a new EV, and \$3,000 for the purchase of used EV. <a href="#">Link</a></p>
<p>Alberta (AB)</p>	<p>Energy Efficiency Programs: <a href="#">Link</a></p> <p>Energy Efficiency Alberta– the government’s initiative that provides a number of energy efficiency programs for new and existing homes. This includes rebates for proper evaluation provided by energy advisors, and home improvements by investing in energy-efficient renovations and appliances. The Program includes the following rebate options:</p> <ul style="list-style-type: none"> <li>- \$300 for an energy advisor services;</li> <li>- Minimum \$500 for boiler and furnace upgrade; and,</li> <li>- \$1,000 bonus rebate when three or more upgrades are done;</li> </ul> <p>Alberta also used to provide rebates for investments in renewable source of energy. However, this program is now fully subscribed and closed.</p>
<p>Quebec (QC)</p>	<p>Energy Efficiency Programs:</p> <p>Renoclimat <a href="#">Link</a>– is a provincial program that helps residents to find energy-efficiency for individuals that feature an energy performance measure of their homes conducted before and after the work, based on the rating system. The program includes subsidies for the program advisors’ evaluation as well as financial assistance for renovations which include:</p> <ul style="list-style-type: none"> <li>- Up to \$7,075 for improvements to insulation in a house;</li> <li>- \$245 to \$490 for air tightness works;</li> <li>- \$60 per rough opening in the wall or roof;</li> </ul>

	<ul style="list-style-type: none"> <li>- Up to \$8,785 for installation of ventilation, water heating, drain water heat recovery, geothermal, and heat pump systems.</li> </ul> <p>Chauffez Vert <a href="#">Link</a> – is a program offered by the government to encourage the owners of homes equipped with fossil fuel heating systems (other than natural gas) to replace them with renewable energy systems. The program includes financial assistance for eligible residents that were approved for this program. For instance:</p> <ul style="list-style-type: none"> <li>- Heating System: up to \$1,275 for a heating oil system, and \$850 for propane system upgrades (depend on the type and occupancy);</li> <li>- Water Heater: up to \$250 for a heating oil system, and \$200 for a propane system upgrades (depend on the type and occupancy).</li> </ul> <p>Econologis <a href="#">Link</a> – is a provincially provided program for low-income families that wish to make their homes more energy-efficient. The program includes free components, such as a home visit by an energy efficiency advisor, refrigerator replacement (if it is an older model), and installation of the electronic thermostats.</p> <p>Novoclimat <a href="#">Link</a> – is a provincially provided home program that aims to help customers reduce their heating costs by incorporating the energy-efficiency tools and techniques to the construction of a new single-family, small multiple-unit, and big multiple-unit buildings. The program includes the training and certification of contractors and specialists in ventilation, inspection of dwellings, and the certification of compliant homes. Also, the purchaser and builders of new single-family homes, as well as promoters under the small multiple-unit buildings, are eligible for financial assistance.</p> <p>Clean Transportation Programs:</p> <p>Roulez Vert <a href="#">Link</a> – is a provincially provided program that encourages the purchase of new and used electric vehicles, as well as installation of charging stations around the province. The program includes a rebate component depending on the type of the vehicle purchased or installation of charging stations. The rebates are as follows:</p> <ul style="list-style-type: none"> <li>- \$8,000 for the purchase or lease of a new EV; and,</li> <li>- \$4,000 for the purchase or lease of a used all-electric EV;</li> <li>- \$600 and \$5,000 for the purchase and installation of a home, work and multi-unit buildings charging stations, respectively.</li> </ul>
Federal Government (FG)	Clean Transportation Programs:

	<p>Zero-Emission Vehicles <a href="#">Link</a> – is an incentive to encourage residents to purchase or lease eligible EV. The incentive is provided for two levels:</p> <ul style="list-style-type: none"> <li>- \$5,000 for a battery electric, hydrogen fuel cell, and longer-range plug-in hybrid vehicles; and,</li> <li>- \$2,500 for a shorter range plug-in hybrid electric vehicles.</li> </ul> <p>To be eligible for the incentive the customer has to purchase or lease:</p> <ul style="list-style-type: none"> <li>- A vehicle with six seats or less, where the base model is less than \$45,000;</li> <li>- Higher priced versions of these vehicles, up to a max of \$55,000; or</li> <li>- A vehicle with seven seats or more, where the base model is less than \$55,000;</li> <li>- Higher priced versions of these vehicles, up to a max of \$60,000.</li> </ul> <p><b>The federal purchase incentive comes on top of any zero-emission program offered by provincial governments.</b></p> <p>Tax Write-Off – the 2019 federal Budget also proposed a 100 per cent write-off for zero-emission vehicles to support business adoption. Eligible zero-emission vehicles include a motor vehicle that is a plug-in hybrid or vehicles that are fully electric or fully powered by hydrogen, including light, medium, and heavy-duty vehicles purchased by businesses.</p>
California (CA)	<p>California’s New Solar Homes Partnership Program <a href="#">Link</a> – supports the installation of solar energy systems on rooftops throughout the state. The program provides financial incentives and other support for solar installation on new and existing energy-efficient home construction.</p> <p>This program no longer approves new applicants after it reached its cap.</p> <p>Clean Transportation Programs:</p> <p>Low Carbon Fuel Standard – is a program that provides rebates to EV owners for driving plug-in electric vehicles. The program provides up to \$850 USD. <a href="#">Link</a></p> <p>Clean Vehicle Rebate Project <a href="#">Link</a> – is a financial incentive provided by the state and federal government to encourage customers to purchase more EV. This program is available for both purchased and leased vehicles. The customers can receive up to \$7,000 USD for purchasing EV. The FG also provides a substantial tax credit for new battery EV, ranging from \$2,500 to \$7,500, depending on the capacity of the EV’s battery.</p>

**Analysis**

**1. Energy Efficiency**

Investments in energy efficiency in existing and new houses create benefits, such as lowering energy costs, cutting emissions, improving operating performance, and increasing asset values. These could be achieved through:

- Working with professional advisors;
- Provision of rebates through a lump-sum payment or tax credits for renovations and/or purchase of equipment by the government;
- Substitute old equipment with a new one; and,
- Training for constructors to be aligned with codes.

Inspection provided by professional advisors can help identify the best ways of achieving energy-efficiency. This step is important due to different codes and regulations in provinces as any renovations to the house need to be aligned with them.

These services, subsidized by governments, make them more appealing for users in finding low-cost solutions for energy-efficiency. The inspection can also enable residents to become eligible in receiving rebate components for costlier renovation projects.

Provision of rebates for renovations through a lump-sum payment or tax credits is another form of increasing the customer's interest in upgrading homes and making them more energy-efficient. This form of encouragement is used in many governments. For instance, British Columbia, Alberta, Quebec, and California offer programs that provide subsidies for purchase and/or installation of equipment for making upgrades more affordable. The reimbursements include rebates for upgrading heating, hot water, windows, doors, draft proofing, insulation, appliances, as well as wind, solar and geothermal areas.

**Similarities:** Rebates for energy-efficiency, including professional feedback as well as purchase and/or installation of equipment, is commonly used in British Columbia, Alberta, and Quebec. The rebates for these services depend on program's eligibility and users' category.

**Differences:** The BC government offers its customers an option of a mortgage refund up to 25 per cent for users purchasing a unit in an energy-efficient condo building, or for houses that achieve minimum energy-efficient program requirements as a result of the upgrades. Additionally, the government of British Columbia exempts from the PST alternative energy products. This exemption covers all solar photovoltaic and thermal panels, as well as all necessary equipment.

The Quebec government provides low-income households an option of replacing their old refrigerators with a new more energy-efficient one, as well as getting an installation of electronic thermostats free of charge. To be eligible for this service residents need to be below the eligible income threshold as specified on the government's webpage.

## 2. Electric Vehicles

Transportation is the second-largest source of greenhouse gas emissions in Canada. To tackle this issue, governments in the analyzed jurisdictions provide programs that encourage users to purchase more EV by providing financial assistance to make the purchase more affordable and by ensuring infrastructure is in place.

**Similarities:** Most of the analyzed governments provide rebates for the purchase of the vehicles, except AB. Governments of BC and QC offer their residents additional reimbursement on top of the Federal incentive which brings the cost of the eligible EV down by almost \$6,000 to \$8,000. All of the analyzed governments also provide funding for the installation of charging stations in multi-unit residential buildings, workplaces, public places, and streets.

**Differences:** The Government of BC provides its residents an option to replace an old vehicle with an EV. The province offers \$6,000 towards buying a new EV and \$3,000 for a used one.

## Climate Change and Adaptation (EN06)

Develops policy and regulatory frameworks to help build resilience to the cumulative effect of climatic, economic and policy impacts resulting from climate change. This includes the regulation of greenhouse gas emissions from large industrial emitters, in partnership with industry, the federal government and other stakeholders. Conducts economic modelling, scientific research and policy analysis. Engages with industry, non-governmental organizations, communities and Indigenous peoples to identify cutting-edge solutions to address climate change. Provides support for the integration of cumulative effects analysis in decisions related to resource management and environmental protection. It also provides scientific and technical resources that advance environmental protection and climate change solutions.

### **Allocations**

Climate Change.....	17(1)(a)	17(1)(a)
Cumulative Impacts and Science.....	17(1)(a)	17(1)(a)

### **Classification by Type**

	2019-20	2018-19
Salaries.....	17(1)(a)	17(1)(a)
Goods and Services.....	17(1)(a)	17(1)(a)
Transfers to Individuals.....	17(1)(a)	-
	17(1)(a)	17(1)(a)

## Q/A on Net Metering

### **How do you know this program is sustainable when the other was not?**

This program brings the price paid or credited for the excess power sent to the grid in line with SaskPower's average cost of energy, which is about 7.5 cents per kWh. 17(1)(a)

### **Why should you be subsidizing customers who want to generate their own power at all?**

We believe that diversity of supply in our electricity system, which includes renewable power, will ensure reliable, sustainable and cost-effective power for our customers and the communities we serve. On a larger scale, we use solar and wind power and we understand that our customers may want to do the same. We know solar is a technology where the price is dropping and will become an option that more customers will want to pursue in the future. Although solar is a higher cost option at this point, adding some small distributed generation into our system in a responsible way helps us to understand how these technologies work and integrate with our system. This will enable us to be better prepared for a more distributed energy future.

### **The solar industry in Saskatchewan said that they were going to have to lay off up to 800 employees. Is this new program going to fix that?**

Individual companies will make choices based on their particular circumstances. We know there is a need and business for the solar industry here in Saskatchewan.

### **How many applications do you expect to get, now that the terms are much less generous than the old program?**

We'll have to see. As with any market correction, we expect that there may be fewer applications, however, the extent will depend on each participant's situation, including systems costs and tax credits, and potential rebates offered through the federal government.

### **You said those with systems in the old program were heavily subsidized by other customers. To what degree will new participants be subsidized by others?**

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### **What types are technologies are eligible under this program?**

Solar, hydro, flare gas, biomass, biogas, heat recovery are all eligible technologies for the program.

**If I haven't used all my credits and close my account or move will SaskPower pay me for any outstanding credits?**

No, the credits are to be used to offset energy consumption charges and not for revenue generation. It is important that customers size their projects in relation to their energy use.

**If I am currently enrolled in the Net Metering Program does this change affect me?**

No. Customers with contracts under the Net Metering Program will continue under their current conditions for the length of their contract term (10 years) at which time they will be enrolled in the new program under the conditions that exist at the time.

**If I want to expand my system and am currently in the Net Metering Program can I do that under my existing contract?**

No. If you wish to expand your current project you must go into the new program.

**If I move, can my Net Metering contract be transferred to the new homeowner?**

No. The contract only applies to the current customer and cannot be moved to a new residence or transferred. The new homeowner would need to enroll in the new program.

**Will I have to pay a carbon tax under the new program?**

The federal carbon charge will be applied on the net of {consumption less generation} for customers in the new program (same as the previous program). If generation is more than consumption in a month, there will not be a carbon charge credit that month.

**What are the charges for participating in the program?**

There are several fees associated with participation in the program which have not changed:

- I. **Interconnection Study Fee:** A \$315 (GST included) non-refundable fee to review the participant's system proposal and its impact on interconnection with SaskPower's grid.
  
- II. **Bi-directional Meter:** \$475 (plus GST) for the installation, ongoing maintenance and replacement of the bi-directional meter over the life of the participant's participation in the program.
  
- III. **Electrical Permits:** You are required to obtain an electrical permit before beginning any construction of your project. For more information, including permit prices, visit the electrical inspections page on [saskpower.com](http://saskpower.com).
  
- IV. **Interconnection Costs:** You are responsible for all SaskPower construction costs associated with connecting your project to the SaskPower grid, including system and facility upgrades as required. If applicable the costs will be included in your Quote Letter.

**I see a note about a grid access fee in my contract or terms and conditions. What is it and will I be charged it at sometime in the future?**

A grid access fee is a monthly fee that helps cover the cost to maintain the electric utility system so power can be delivered to you whenever you need it. This includes fixed infrastructure costs such as the cost of transformers, power lines, poles, substations, and generating stations. Most residential and farm customers who generate their own power are able to avoid paying much of

the fixed costs as they are embedded in the energy charge on their bill. SaskPower currently does not currently have a grid access fee. But, we will continue to assess whether or not one is needed. As per the contract/terms & conditions if a fee is warranted, it may be added in the future.

**Is there a limit project size or how many projects I can do a year?**

Customers can generate up to 100 kW (DC) of power and have up to 5 - 100kW projects per year.

**Can I do more than one project per location?**

There can be one project per meter (electrical service) and up to 5 projects per customer per year.

**Isn't this a Net Billing program?**

Arguing about what to call the program would take away from the fact that the public knows this program as net metering and we did not want to create any confusion. The Bottom line is that we have a program that is now sustainable in the long run, with no cap, and no contract length. This program is fair to both solar customers and non-solar customers.

It's important to note that net metering customers are being credited at the retail rate for power that they generate and consume. They are given a credit of 7.5 cents for any excess energy that they put into the grid. This is the average cost of energy at SaskPower today.

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<b>INTER-CONNECTIONS</b> (3.2.1.)	<ul style="list-style-type: none"> <li>17(1)(a)</li> </ul> <p>more transmission development between the provinces.</p>	17(1)(a)
<b>SMART GRIDS</b> (3.1.3.)	<ul style="list-style-type: none"> <li>17(1)(a)</li> </ul>	17(1)(a)

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<b>REDUCED RELIANCE ON DIESEL – INDIGENOUS, NORTHERN, REMOTE</b> (3.1.4.)	<ul style="list-style-type: none"> <li>No Sask. information</li> </ul>	
<b>3.2. BUILT ENVIRONMENT</b>		
<b>MAKING NEW BUILDINGS MORE ENERGY EFFICIENT</b> (3.2.1.)	<ul style="list-style-type: none"> <li>No Sask. information</li> </ul>	<b>Potential Gaps:</b> <ul style="list-style-type: none"> <li>17(1)(a)</li> <li>17(1)(a)</li> <li>17(1)(a)</li> </ul>

<b>RETROFITTING EXISTING BUILDINGS</b>  (3.2.2.)	<ul style="list-style-type: none"><li>• No Sask. information</li></ul>	17(1)(a)
<b>IMPROVING ENERGY EFFICIENCY FOR APPLIANCES &amp; EQUIPMENT</b>  (3.2.3.)	<ul style="list-style-type: none"><li>• 17(1)(a)<ul style="list-style-type: none"><li>○ 17(1)(a)</li></ul></li></ul>	17(1)(a)

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<b>SUPPORTING BUILDING CODES &amp; ENERGY EFFICIENT HOUSING IN INDIGENOUS COMMUNITIES</b> (3.2.4.)	No Sask. information included	17(1)(a)
<b>ENCOURAGING FUEL EFFICIENT BEST PRACTICES FOR FREIGHT</b> (3.3.1-i.)	No Sask. information included	17(1)(a)
<b>ACCELERATE DEMONSTRATION AND DEPLOYMENT OF INFRASTRUCTURE TO SUPPORT ZERO-EMISSION VEHICLES</b> (3.3.2-b.)	No Sask. information included	17(1)(a)
<b>MODAL-SHIFT: INVEST IN REFUELLING STATIONS FOR ALTERNATIVE FUEL FOR LIGHT- AND HEAVY-DUTY VEHICLES</b> (3.3.3-c.)	No Sask. information included	17(1)(a)

<b>3.4 INDUSTRY</b>		
<b>IMPROVING INDUSTRIAL ENERGY EFFICIENCY, SUPPORTING ADOPTION OF ENERGY MANAGEMENT SYSTEMS (3.4.2.)</b>	<ul style="list-style-type: none"> <li>• 17(1)(a)</li> </ul>	17(1)(a)
<b>INVESTING IN TECHNOLOGY: RD&amp;D IN TECHNOLOGIES THAT REDUCE EMISSIONS (3.4.3.)</b>	No Sask information included.	17(1)(a)
<b>3.6 GOVERNMENT LEADERSHIP</b>		
<b>CUTTING EMISSIONS FROM GOVERNMENT BUILDINGS AND FLEETS (3.6.2.)</b>		<b>Potential Gaps:</b> <ul style="list-style-type: none"> <li>• 17(1)(a)</li> <li>• 17(1)(a)</li> </ul>



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<b>CROSCUTTING INITIATIVES</b>		
<b>CROSCUTTING INITIATIVES</b>	• 17(1)(a)	17(1)(a)
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<b>5.0 CLEAN TECHNOLOGY, INNOVATION, AND JOBS</b>		
<b>5.1 BUILDING EARLY-STAGE INNOVATION</b>		
<b>SUPPORTING EARLY-STAGE TECHNOLOGY DEVELOPMENT</b> (5.1.1.)	No Sask. information	17(1)(a)
<b>MISSION-ORIENTED RESEARCH AND</b>	No Sask. information	17(1)(a)

<b>DEVELOPMENT</b> (5.1.2.)		
<b>5.2 ACCELERATING COMMERCIALIZATION AND GROWTH</b>		
<b>ACCESS TO GOVERNMENT PROGRAMS</b> (5.2.1.)	<ul style="list-style-type: none"> <li>17(1)(a)</li> </ul>	17(1)(a)
<b>5.3 FOSTERING ADOPTION</b>		
<b>SUPPORT INDIGENOUS PEOPLES AND NORTHERN AND REMOTE COMMUNITIES TO ADOPT AND ADAPT CLEAN TECHNOLOGIES</b> (5.3.2.)	No Sask. information	17(1)(a)
<b>5.4 STRENGTHENING COLLABORATION AND METRICS FOR SUCCESS</b>		
<b>ENHANCE ALIGNMENT BETWEEN Federal, Provincial, and Territorial ACTIONS</b> (5.4.1.)	17(1)(a)	17(1)(a)

<b>ESTABLISHING A CLEAN TECHNOLOGY DATA STRATEGY (5.4.2.)</b>	• 17(1)(a)	17(1)(a)
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**SaskPower Paid Net Metering Rebates by Year and Utility**

Calendar Year	SaskPower		Saskatoon Light & Power		Swift Current Light & Power		TOTALS	Avg \$ per rebate	
2008							\$ 53,219.00		
2009							\$ 88,344.00		
2010							\$ 384,561.00		
2011							\$ 357,379.00		
2012							\$ 1,540,894.00		
2013	\$ 214,428.37	26	\$ 6,240.00	1	\$ 2,165.87	1	\$ 222,834.24	28	\$ 7,958.37
2014	\$ 211,601.20	32	\$ 47,493.27	10	\$ -	0	\$ 259,094.47	42	\$ 6,168.92
2015	\$ 673,869.35	80	\$ 94,039.72	15	\$ -	0	\$ 767,909.07	95	\$ 8,083.25
2016	\$ 727,485.47	102	\$ 116,608.36	25	\$ -	0	\$ 844,093.83	127	\$ 6,646.41
2017	\$ 1,168,661.39	124	\$ 105,468.25	29	\$ 23,097.52	2	\$ 1,297,227.16	155	\$ 8,369.21
to 3/31/2018	\$ 256,454.46	40	\$ 31,401.80	8	\$ -	0	\$ 287,856.26	48	\$ 5,997.01
to 3/31/2019	\$ 3,070,262.31	391	\$ 195,539.55	37	\$ 28,370.20	5	\$ 3,294,172.06	433	\$ 7,607.79
<b>TOTALS</b>	<b>\$ 6,322,762.55</b>	<b>795</b>	<b>\$596,790.95</b>	<b>143</b>	<b>\$ 53,633.59</b>	<b>8</b>	<b>\$ 9,397,584.09</b>	<b>928</b>	