



SASKATCHEWAN
CHAMBER
OF COMMERCE
Energy Efficiency Strategy

OCTOBER 2017



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BACKGROUND

The Saskatchewan Chamber of Commerce has identified existing programs and potential opportunities to promote energy efficiency in Saskatchewan. The need to fully explore and encourage businesses to conserve energy is a logical first step toward reducing carbon emissions, lowering energy costs, and improving the province's competitiveness. With a future that may include the pricing of carbon, the need to ready businesses is critical - reducing unnecessary energy use should be the foundation on which we build upon our future conservation efforts.

INTRODUCTION

Implementing energy efficiency needs to be the first approach to greenhouse gas (GHG) emission reductions in Saskatchewan. Reducing energy consumption per unit of production makes business and environmental sense, as it improves competitiveness both locally and globally, addresses environmental concerns, and strengthens companies' social license to operate. However, enabling businesses to use less power and produce fewer emissions has a cost. Upfront investments are needed which often compete for funding with other projects and opportunities within a business. An attractive, and demonstrable return on investment (ROI) is necessary before significant energy efficiency improvement activities are undertaken.

The Government of Saskatchewan can play a role in helping to improve energy efficiency across the province by instituting a combination of incentives, disincentives, codes, and



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regulations that create the ROI conditions necessary to spark meaningful energy efficiency improvement among energy users, specifically commercial, industrial, agricultural, and municipal consumers.²

The Saskatchewan Chamber of Commerce has determined that the framework and

Implementing energy efficiency needs to be the first approach to greenhouse gas emission reductions.

programs outlined in this paper are the supports necessary to advance the implementation of significant increases in energy efficiency.

¹ Note: According to a survey by the Canadian Federation of Independent Businesses (CFIB), 94% of Saskatchewan small business owners support policies that would help promote awareness of existing energy efficiency measures while 84% support more financial incentives for energy efficiency through tax credits and rebates, as well as research and innovation of clean technologies. In a CFIB report entitled, *Green Growth: How SMEs are Working Toward a Greener Future*, 83% of SMEs are choosing to go green because of their personal views, 51% because it helps reduce their operating costs, and 33% stated that doing so is important to their customers and employees.

² Note: The Government of Alberta through its new stand-alone agency, Efficiency Alberta, is now offering up to \$3,500 in rebates for residential energy efficiency improvements. The Home Improvement Rebate is a \$24 million program that provides opportunities for homeowners to purchase energy efficient appliances and products. Some products eligible for the rebate include insulation for attics, basement above-grade walls, EPA Energy Star certified tankless hot water heaters, and triple glazed argon windows. Rebates will go directly to homeowners once projects are completed. Alberta-based contractors that are certified to install eligible products are responsible for guiding homeowners through the application process. While the program is geared toward the residential sector, a similar program in the future could be modified for commercial and industrial applications.

rebates for

SCOPE

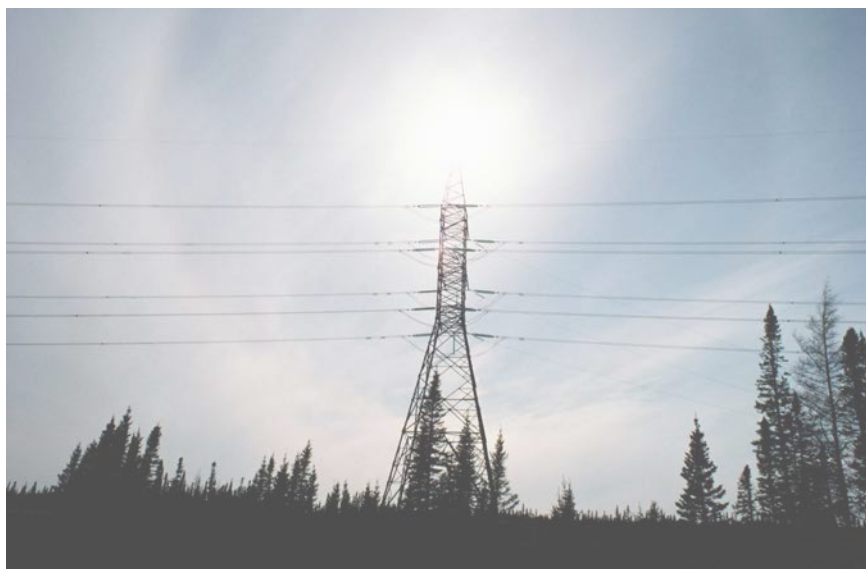
The Chamber determined that the following principles should be incorporated into enhancing energy efficiency in Saskatchewan:

- Reducing energy consumption per unit of production makes both economic and environmental sense.
- Incentives to business and industry should focus on measurable ROI.
- Consideration of both short and long-term economic benefit to business through the use of proper financial incentives must be a priority.
- Saskatchewan should be as good or a better performer than of any of our competitors on energy efficiency.
- Regulation and code development are tools to assist with energy efficiency but should be used with careful evaluation.
- Greater communication of the real benefits of energy efficiency, both the tangible and intangible, must be more broadly shared.
- Recognition of progressive innovation and practices in energy efficiency and conservation should occur to encourage and create broader positive action.
- Enhanced incentives for research and innovation in Saskatchewan will provide long-term benefit.
- Private industry and municipalities are large energy users and should be able to access programs to enhance their efficiency.

OBJECTIVES

The primary objectives of the Saskatchewan Chamber of Commerce Energy Efficiency strategy are twofold:

1. Reduce GHG emissions
2. Increase Saskatchewan industry competitiveness by promoting a more productive use of energy



FRAMEWORK

In Saskatchewan, energy efficiency programs have primarily been the responsibility of SaskPower and SaskEnergy. SaskPower has a Demand Side Management (DSM) energy efficiency program as part of its long-term planning. The DSM program provides customers with greater control over their power use and opportunities to minimize the impact of rate increases. Lower growth in demand through improved energy efficiency reduces the need to invest in new generation capacity and reduces upward pressure on electricity costs. At the same time, lower electricity demand reduces power production, which results in lower greenhouse gas emissions. While the Saskatchewan Chamber of Commerce recognizes the value of the efforts that both SaskEnergy and SaskPower have undertaken to date, the Chamber also realizes there is potential conflict in asking power and natural gas suppliers to fund cuts in consumption.³

Additionally, the Chamber believes that energy efficiency requires a higher profile in the province and should include efforts beyond those within the scope of SaskPower and SaskEnergy's authority. As such, the Saskatchewan Chamber of Commerce would like to see the Minister of Economy be given authority over energy efficiency programming in the province, setting objectives, and organizing programs. The Ministries of Environment, and Highways and Infrastructure should act as assistants and promoters of this programming. As well, the Ministry of Finance may be involved with respect to funding mechanisms. Moving forward, the technical expertise of SaskPower and SaskEnergy should be leveraged throughout the implementation of energy efficiency programming, as they would be expected to deliver the bulk of the programming. The Provinces of Alberta and Manitoba, among others, already have energy efficiency agencies or programs, although their energy markets are markedly different than those in Saskatchewan.

SPECIFIC RECOMMENDATIONS

1. Create an Energy Pricing Arrangement Where Inefficiency is Identified and Efficiency is Rewarded with Lower Costs

A proposed energy pricing arrangement (including energy rates and potentially other related charges) would assess the energy efficiency of power and natural gas customers and use the differential in rates between high and low efficiencies to fund improvement programs. Those businesses and related equipment with poor energy efficiency would have a financial incentive to upgrade to new and cleaner technology in order to realize savings on operational costs. Such a policy would succeed in nudging businesses toward retrofitting their

capital sooner than they otherwise would. This would require the measurement of material and energy efficiency, as for example Ontario has recently required with respect to water and energy use for large buildings. It would also require an upgrade to utility billing systems. An initial investment in evaluations and billing system modifications is needed to implement this.

40% of all industrial operating expenses are energy-related.

³ Note: Both Alberta and Manitoba have recently established independent agencies dedicated to energy efficiency. Energy Efficiency Alberta and Efficiency Manitoba as they are called, will be responsible for developing, administering, and implementing Demand Side Management (DSM) programs aimed at businesses and residents. Both stand-alone agencies are governed by a Board of Directors and supported by a stakeholder advisory committee with technical expertise. Both agencies will be focused on reducing overall energy consumption, including reductions in GHG emissions, as well as meeting established energy savings targets. The board of Efficiency Manitoba will be able to make recommendations regarding improvements to existing government programs, as well as suggest changes to energy savings targets. This is to ensure that no inherent conflict exists between an energy provider and an energy efficiency body.

2. Expand the SaskPower Industrial Energy Optimization Program

According to Natural Resources Canada, approximately 40% of all industrial operating expenses are energy-related. SaskPower currently manages the Industrial Energy Optimization Program (IEOP) which is designed to “offer financial incentives and customized technical support for the identification, development and implementation of energy management and capital projects.” This program is aimed primarily at businesses involved in the manufacturing and processing of goods, as well as the extraction of primary products that have a demand of 1 MVA or greater. Based on SaskPower’s internal data, since 2012 and through March 2017, this program has supported the implementation of 32 projects with 19 customers. There are currently 76 projects in active development or implementation. An advantage of this program is that projects administered on a case-by-case basis typically foster a higher level of engagement in comparison to prescriptive, one-size-fits-all programs that offer “one-off” incentives. To maximize effectiveness, the Chamber recommends that SaskPower expand participation in the Industrial Energy Optimization Program by at least a factor of ten.



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3. Promote the Adoption of Online Assessment Tools

We should encourage industry in Saskatchewan to adopt accepted tracking and measurement tools for benchmarking purposes. An example of this is EPA Energy Star, which is commonly used for measuring the energy efficiency of commercial spaces. EPA Energy Star uses Portfolio Manager, a free automated interface tool that allows businesses to enter information about their building and the inputs used. BC Hydro’s successful *Business Energy Savings Initiative* (BESI) use this methodology. In May of 2017, SaskPower unveiled its own online assessment tool available on its website to both businesses and residents. Based on the information provided, the tool will provide recommendations to reduce power consumption.

The process of tracking and analyzing energy consumption electronically on a month-to-month basis by design encourages closer scrutiny of energy usage, which in turn can foster greater accountability by incentivizing decreased consumption. Ultimately, businesses cannot improve their energy efficiency unless they proactively measure it.⁴ Furthermore, energy efficiency measurement should be consistent with accepted international standards, for example ISO 50001 Energy Management or the Canadian Standards Association (CSA).

⁴Note: The Government of Ontario recently enacted regulations that outline what building owners and utilities must do to comply with Ontario’s Large Building Energy and Water Reporting Benchmarking (EWRB) Initiative.

4. Incent Saskatchewan Industry to Adopt Clean Technology by Providing Transition Support and Funding

In a policy brief by economists Jason Childs and Samuel Gamtessa of the Johnson Shoyama Graduate School of Public Policy, it was recommended that direct subsidies be provided to businesses in order to incentivize the replacement of existing capital with new and cleaner technology. Because companies are often hesitant to replace existing capital until it can be fully depreciated for tax purposes, accelerated capital cost allowance depreciation should be allowed for firms to replace existing technology when more energy efficient technology exists. In keeping with Childs and Gamtessa's recommendations, additional support should also be offered to businesses who must retrain employees so that new technology can be utilized effectively.⁵

In addition to the proposed measures outlined above, programs that offer measurable advantages in increasing material efficiency (the minimization of water and raw materials used in the production process, selection of the most economical raw materials possible, the reduction and recycling of waste to minimize the amount of unutilized material) should be eligible for funding opportunities. For businesses, a competitive advantage in material efficiency also enhances their bottom-line.

5. Expand SaskPower Demand Side Management (DSM) Programs

For 2016, SaskPower's overall departmental spend for existing DSM programs and their related evaluation components was in excess of \$16 million. Consistent with the Chamber's recommendations surrounding the Industrial Energy Optimization Program, we request that budgets for these activities be significantly increased. We also recommend that DSM program funding be changed from operating expenses to capital investment (as has apparently been done in BC), in order to ensure a robust and predictable stream of funding to draw from. In this way, without significant impact upon utility rates, DSM budgets could be increased significantly. This could begin first with recommendations 2 and 3 above. In other jurisdictions, the DSM portfolio of programs are often a part of the supply or generation planning departments of the respective utility provider. Provided below is a list of some of the existing DSM commercial programs offered by SaskPower and the energy savings that have been realized to March 31st 2017.

Commercial Lighting Incentive Program

This year-round program provides commercial customers with qualified energy efficient lighting equipment at discounted prices. This program is provided through more than 80 participating electrical distributors across Saskatchewan. Commercial customers who switch to energy efficient lighting can save up to 40% on their annual lighting electricity costs, as well as lower the need for maintenance resulting in reduced maintenance costs. Since 2012, over 5,700 commercial customers have saved 12 MW in total by retrofitting approximately 409,000 bulbs with energy efficient ones.⁶

⁵ Jason Childs and Samuel Gamtessa, "Energy Inefficiency of Canadian Goods Producing Industries: Policy Opportunities" *University of Regina: Johnson Shoyama Graduate School of Public Policy*, (2017), 4.

⁶ Note: Energy Efficiency Alberta, a new provincial agency responsible for coordinating Demand Side Management (DSM) programs aimed at businesses recently unveiled a similar program that allows qualified installers to replace existing incandescent light bulbs, power bars, and faucets with newer and more energy efficient products such as LED bulbs, advanced power bars, and self-adjusting thermostats at no charge to residents. Revenue from carbon pricing provides the funding for rebates and incentives.

Commercial Refrigeration Incentive Program

This annual program provides business customers incentives on the purchase of qualified energy efficient refrigerators, freezers, or refrigeration products. Rebates of up to 50% on the purchase price for the products are provided directly through SaskPower as an end-customer rebate. This program is targeted to all businesses, with attention to grocery retailers and restaurants. Since 2014, over 70 energy efficient refrigeration components and more than 20,400 feet of energy efficient refrigerated display cases have been incented, resulting in energy savings of 3.5 GWh and 0.42 MW of equipment rating.

Compressed Air Program

The Compressed Air Program provides business customers with financial incentives to help cover the costs associated with performing an audit of their facility's compressed air system. Additional financial incentives may be available if the customer implements specific audit recommendations. This is designated as a year-round initiative. Since 2014, 30 industrial plants have audited their compressed air system usage and have subsequently initiated retrofit projects with this program.

Parking Lot Controller Program

SaskPower offers business customers a \$50 per controller incentive towards the purchase of parking lot controllers (controllers that govern the flow of electricity to cars based on the temperature and time). This program is provided through electrical contractors and can help property owners reduce the cost of electricity associated with a parking lot by approximately 50%. Since 2011, 258 participants have received incentives to install parking lot controllers for over 21,000 vehicle parking stalls, resulting in energy savings of 8 GWh.

Municipal Ice Rink Program

This is another year-round program that is open to qualified artificial ice rinks in Saskatchewan and provides customers with facility energy audits and financial incentives (prescriptive and customized) in an effort to ensure that municipal ice rinks are being operated as efficiently as possible. The program covers 50% of study costs up to \$3,200 and 50% of the capital cost up to \$10,000. Since 2012, 104 walk-through facility audits have been completed and survey results indicate about 40% of recipients have or are intending to make changes as a result of the program.

Walk-Through Assessment

SaskPower introduced the Walk-Through Assessment Program in November 2016. Based on annual consumption and square-footage, qualifying customers receive an in-person energy assessment of their facility. Participants receive a facility-specific power consumption report, a comparison to similar facilities, a list of the top energy saving opportunities and information about available SaskPower incentive programs. SaskPower also covers 90% of the cost associated with the assessment. This program is targeted to customers who use 300 MWh to 600 MWh of electricity per year for non-production purposes. This program is consistent with the Chamber's larger stated goal of the widespread promotion of energy assessment tools that allow businesses to better scrutinize their energy usage.

Participants in this program will realize a reduction in maintenance costs, better performance, reductions in GHG emissions, and sizable ongoing annual energy savings.

Commercial Energy Optimization Program

SaskPower launched the Commercial Energy Optimization Program in July 2017. This program provides financial incentives to the largest commercial customers to encourage them to adopt and implement energy efficient technology and practices in their facilities.

Net Metering Program

This program allows residents, farms, and businesses to generate electricity to offset their own needs and to bank any excess electricity to SaskPower's grid for later use. Generation must be through approved environmentally preferred technologies up to 100 kW (dc) of nominal (nameplate) generating capacity. Electricity sent to the grid is recorded on the meter and applied against the customer's current electricity consumption as shown on the monthly bill. Any excess electricity is carried over and applied to the following month's consumption. The Net Metering Program also offers customers a one-time rebate, equivalent to 20% of eligible costs to a maximum payment of \$20,000, for a new project. There are approximately 676 SaskPower customers interconnected through the Net Metering Program for approximately 6.7MW.



Energy Efficient windows

6. Create a Building Envelope Energy Efficiency Improvement Program Under SaskEnergy

There is currently a lack of information surrounding the age and energy performance of Saskatchewan's existing commercial buildings. No building code to date has set limits on insulation values or the energy efficiency of buildings. Because the regulation of building construction is administered by municipalities, no ministerial department or agency of the provincial government collects this type of information. In response to these deficiencies, a proposed Building Envelope Energy Efficiency Program should address the following elements:

- i. Insulation of walls, roofs, windows, and doors
- ii. Increase airtightness/building seal, and employ air barriers where appropriate
- iii. Building and water heating/furnaces and system efficiency
- iv. Commercial, industrial and residential buildings
- v. Promote fuel switching to more efficient fuels
- vi. Measure outcomes
- vii. Assess building stock efficiency
- viii. Include building code upgraded requirements going forward
- ix. Funding to be allocated as capital investment

The Saskatchewan Chamber of Commerce recommends the Government of Saskatchewan's Building Standards and Licensing Branch adopt the National Energy Code for Buildings applicable for large buildings, as well as Section 9.36 of the *National Building Code* applicable to energy efficiency in houses and small buildings as a benchmarking tool to ensure a high level of energy performance for new builds. A co-benefit of this approach is that it incentivizes manufacturers and suppliers of building products to improve and upgrade the equipment that they offer in order to better comply with building codes.

7. Expand SaskEnergy Demand Side Management (DSM) Programs

Combined Heat and Power (CHP) Energy Resiliency Program

Cogeneration/Combined Heat and Power (CHP) is defined as the simultaneous production of electrical and thermal energy from one fuel source. The waste heat from electricity generation is recovered and used for applications such as space heating and cooling, water heating, and industrial process heat. By making use of the waste from one process in the production of the other, substantial gains in energy efficiency can be realized.⁷ Compared to a typical energy system arrangement in a commercial facility based on 1 GJ of Natural Gas input, Cogeneration yields on average 83% efficiency versus the 52% efficiency found in a typical system based on internal data provided by SaskEnergy. These efficiencies are only obtained if the unit is perfectly suited/sized for the application. The reliability of such a unit would need to meet the SaskPower reliability criteria. Also, CHP units require specialized knowledge to operate and maintain, and such, facilities would need to have that personnel available.

These types of funds can help to reduce both greenhouse gas emissions and energy consumption per unit of production.

For new applications, CHP is much easier than in retrofit applications, as existing facility infrastructure may or may not be designed for such a usage. There is currently an immature market for CHP in terms of development. The Saskatchewan Chamber of Commerce recommends that the CHP program be further tested in appropriate applications. CHP programs would best be utilized in turn-key operations or when large-scale industrial, commercial, or institutional facilities need to retrofit aging infrastructure. Ideal candidates for CHP projects would include larger facilities who require on-site electricity backup for power outages such as schools, hospitals, senior care homes, and other critical facilities.

Commercial Heating, Ventilation and Air Conditioning (HVAC) Program

According to SaskEnergy, the commercial HVAC program, offered in partnership with SaskPower, provides incentives for the purchase and installation of energy-efficient natural gas furnaces, boilers, unit heaters, rooftop units, infrared radiant heaters, and variable speed ECM boilers circulating pumps in commercial new construction, as well as retrofit applications. These incentives serve to offset the price of energy efficient equipment over the purchase price of standard efficiency equipment. Commercial buildings eligible for this program include but are not limited to, retail stores, municipal buildings, churches, community halls, non-profit organizations, mechanical shops, apartment buildings, strip malls, medical clinics, and restaurants.

The long-term benefits of high efficiency equipment purchased under this program include a reduction in operating costs, better performance, reductions in GHG emissions, increased building comfort levels, and up to 40% in ongoing annual energy savings. This program receives 100

⁷Canadian Industrial Energy End - Use Data and Analysis Centre. "A Review of Existing Cogeneration Facilities in Canada." *Simon Fraser University*, (2009).

– 150 applicants per year of uptake, with \$150,000 per year allocated from SaskEnergy’s operating budget plus additional funding through SaskPower. The deadline for applying is November 30, 2017. The Chamber recommends that the funding for this program be changed to capital investment and the program be extended past November 30, 2017.

Commercial Boiler Program

Similar to the rationale for the Commercial HVAC Program, SaskEnergy established the Commercial Boiler Program to help offset the incremental price of installing high-efficiency natural gas boilers over the purchase price of a standard efficiency boiler. According to SaskEnergy, “incentives are based on the equipment’s capacity for space-heating, ventilating, and domestic hot water load, as well as on the type of equipment installed. In order to qualify, the boiler plant must have an input rating of 400,000 BTUs or higher. Commercial buildings eligible for this program are the same as those eligible under the Commercial HVAC Program. Buildings that are directly owned, operated by or receive primary funding from the province are ineligible to participate.

Incentives for condensing boilers include \$10 per 1,000 BTUs per hour for the first 600,000 BTUs per hour, and \$3 per 1,000 BTUs per hour above the 600,000 BTUs per hour. The maximum eligible incentive is \$40,200. For near-condensing boilers, the incentive is \$3 per 1000 BTUs per hour and must be used in a hybrid system with at least one condensing boiler. Similar to the Commercial HVAC Program, participants in this program will realize a reduction in maintenance costs, better performance, reductions in GHG emissions and sizable ongoing annual energy savings of up to 40%. This program receives \$370,000 per year from SaskEnergy’s operating budget and experiences an uptake of 40 applications per year. The Chamber recommends that the funding for this program also be changed to capital investment instead and expanded past November 30, 2017.



8. Promote Conversion for Specific Fleets of Vehicles and Heavy Equipment

Natural Gas

Natural gas provides a proven, commercially available option to reduce carbon emissions using lower cost fuel. Compared to conventional, crude oil-based fuels such as gasoline and diesel, natural gas is 20 – 30% cheaper and emits 20 – 25% less GHG emissions. Even with higher initial costs (which will decrease as manufacturing scales up through increased adoption) the life-cycle costs of natural gas vehicles are significantly lower. The cleaner burning nature of the fuel means maintenance costs are reduced because engine parts such as spark plugs stay cleaner while operating on natural gas.

Major improvements in conversion technology mean that performance issues associated with early generation technology, like cold start concerns and loss of power are no longer a problem. High mileage fleets can expect to pay back the conversion costs through fuel savings within a 2 - 5-year timeframe.

Because the up-front capital costs associated with building fill station infrastructure and retrofitting existing vehicle fleets for natural gas are subject to economies of scale, the Saskatchewan Chamber of Commerce recommends that the public sector (provincial government, municipalities, etc.) act as a large-scale early adopter to put downward pressure on up-front capital costs. Bringing down these costs sufficiently makes it less risky for private sector organizations with large fleets to retrofit their operations. The Chamber maintains that converting succinct fleet services with a Return-to-Base component and heavy equipment to natural gas is the most cost-effective method in the short to medium-term for reducing GHG emissions and improving energy efficiency for this segment of the transportation sector.

Electrification

Per the findings of the Canadian Energy Research Institute's (CERI) 2017 report, *Greenhouse Gas Emissions Reductions in Canada Through Electrification of Energy Services*, the electrification of the broader public transportation sector in Canada is an evolving science. Over the long-term, promoting the electrification of residential, commercial, and passenger transportation is a laudable goal that can certainly contribute to but not fully achieve by itself, Canada's 2030 and 2050 GHG emission reduction targets.⁸ Presently, the capital costs of deploying and replacing existing energy infrastructure (end-use conversion, electricity generating facilities) along with the associated operational costs of achieving

electrification across the broader transportation sector would make it the 3rd most expensive energy supply in Canada and would only achieve a 0.3% reduction in GHG emissions by 2030 based on CERI's projections.⁹ While the transportation sector is the second largest energy consumer nationally, attempts to electrify the broader transportation sector before Saskatchewan can modify and decarbonize its electricity generating mix to keep up with demand, would be very expensive and runs the risk of stranding existing fuel distribution and dispensing infrastructure, as well as reducing revenues from fuel-based excise taxes.¹⁰

9. Encourage Industry in Saskatchewan to Develop a Culture Around Energy Management

Currently in Saskatchewan, it is not the industry norm to have dedicated Energy Managers on-site with the appropriate technical training, as is the case in other provinces. In Saskatchewan, such a role is often carried out by corporate offices, maintenance, electricians, and other personnel who lack the specialized training and knowledge with which this type of manager works to ensure success.

The Saskatchewan market might also benefit from increased focus on services for energy efficiency. For example, both Ontario and British Columbia who are leaders nationally in Demand Service Management, have many vendors and service providers for businesses to choose from with respect to energy management and conservation. The private sector has an opportunity to further expand the market for services related to energy efficiency within the province.

The long-term goal is to develop a network infrastructure for industry and support a culture of energy management here across

⁸ Ganesh Doluweera, Hossein Hosseini, and Alpha Sow, "Greenhouse Gas Emissions Reductions in Canada Through Electrification of Energy Services" *Canadian Energy Research Institute*, (2017): 44.

⁹ Ibid., 40-43.

¹⁰ Ibid., 47.

Saskatchewan. A practical way to do this would be to create a forum or council for industrial energy champions across the province that can disseminate information on energy management, share technical knowledge and training, foster networking opportunities, and serve as a venue to learn more about a future expanded version of SaskPower's Industrial Energy Optimization Program.

Funding Mechanisms

The Saskatchewan Chamber of Commerce understands that the recommendations put forward to improve energy efficiency in the province require the commitment of financial resources. The Chamber also recognizes that the provincial government is in the best position to facilitate real change and to provide necessary funding from general revenue into this accelerated effort. Short term budget constraints should not displace this project as a priority which anticipates significant short and long-term gains both economically, and in meeting GHG emission reduction targets. The financing concept described below is being recommended for consideration by the Province, its utilities, and for major industrial sites, in addition to the funding mechanisms recommended above and contained within existing programs.

Green Revolving Funds

A Green Revolving Fund (GRF) is an internal fund that "provides financing within an organization or sector to implement energy efficiency, renewable energy, and other sustainability initiatives that generate cost-savings."¹¹ The cost savings from past projects are calculated and a portion of those savings are used to replenish the fund for the next round of capital investments, resulting in a sustainable funding cycle. Consistent with the stated objectives of the Chamber's specific policy recommendations on energy efficiency, these types of funds can help to reduce both greenhouse gas emissions and energy

consumption per unit of production. GRFs are a proactive way to hedge against rising energy costs and over the long-term can help turn energy efficiency projects into consistent programs rather than a series of siloed, one-off projects.¹² Sources of seed capital can be quite diverse and can include capital budgets, administrative budgets, rebates and incentives from utility companies, as well as government grants.

For many large organizations, capital budgets are often already used to fund large energy efficiency projects, making them a logical source of seed money.¹³ At the organizational level, a prioritized list of potential projects should be developed through an engineering evaluation and/or energy audit. Common project criteria can include payback duration, capital costs, and cost-effectiveness of greenhouse gas reductions per dollar of capital cost.¹⁴ If an audit is carried out and metering is installed to establish a baseline measurement before a project is implemented, the subsequent month-to-month energy usage can be tracked with either spreadsheets or accounting software. Otherwise, an engineering evaluation and calculations can be used. The process of tracking and analyzing energy consumption every month encourages a closer scrutiny of energy dollars.¹⁵ GRFs are considered by experts to be low-risk, high return investments for underutilized capital.¹⁶

¹¹ Joe Indivik, Rob Foley, and Mark Orlowski, "Green Revolving Funds: An Introductory Guide to Implementation and Management," ICF International and the Sustainable Endowments Institute, (2013): 5.

¹² Ibid. 7.

¹³ Ibid. 10.

CONCLUSIONS

Businesses in Saskatchewan use energy to create products sold to markets around the world. With the demands of both fiscal and energy efficiency, it is imperative that all businesses seek to ensure that they use scarce resources as prudently as possible. There are great merits in having SaskPower and SaskEnergy as the suppliers, and for businesses to develop clear, measurable, and effective programs that incentivize energy efficiency. The use of tools to evaluate, monitor, and predict savings will find great support from the Saskatchewan business community. Energy efficiency is everyone's responsibility and if done well and sustainably, can offer Saskatchewan reductions in GHG emissions and an important competitive advantage in the global economy. A potential co-benefit of implementing these policies is that Saskatchewan may export its own competitive advantages in energy efficiency by selling its expertise in secondary markets. As we enter an era of much greater focus on energy use and carbon emissions, we need to commit to a new way of thinking about our actions relating to energy management.

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¹⁴ Ibid. 13

¹⁵ John Maiorano and Beth Savan. "Barriers to Energy Efficiency Projects and the Uptake of Green Revolving Funds in Canadian Universities," Ottawa: Sustainable Prosperity, (2012): 13.

¹⁶Ibid., 4.

ENERGY EFFICIENCY TASKFORCE

In response to federal plans to impose Carbon pricing, the Saskatchewan Chamber of Commerce formed a 100-Day Energy Efficiency Task Force in the Fall of 2016 to articulate a clear framework for Saskatchewan moving forward with respect to promoting energy conservation measures. The mandate of the Energy Efficiency Task Force was to create a series of recommendations to advance the implementation of energy efficiency measures as the first step toward reducing carbon emissions and lowering energy costs. Task Force members have specialized knowledge on energy conservation and on Demand Side Management programs aimed at the commercial-industrial sector. The primary objectives of the recommendations are to reduce GHG emissions and to increase industry competitiveness. Reducing energy consumption per unit of production makes both business and environmental sense.

ENERGY EFFICIENCY TASKFORCE MEMBERS

Paul McLellan (Task Force Chair)
CEO Alliance Energy Ltd.

Greg Gottselig
Operations Manager, The Cornwall Centre

Bob Schutzman
Director of Environmental Affairs (Canada),
Evraz Inc. North America

Barry Watt
Manager-Green Energy, Crescent Point En-
ergy Corporation, Calgary AB

Jessica Theriault
Director of Environmental Affairs, The Mo-
saic Company

Greg Hanwell
Co-owner, Beer Bros. Gastropub and Deli

Brad Sigurdson
Vice President of Environment, Safety and
Regulatory Affairs, Sask Mining Association

Greg Johnston
General Manager Strand Based Business,
Tolko Industries Ltd.

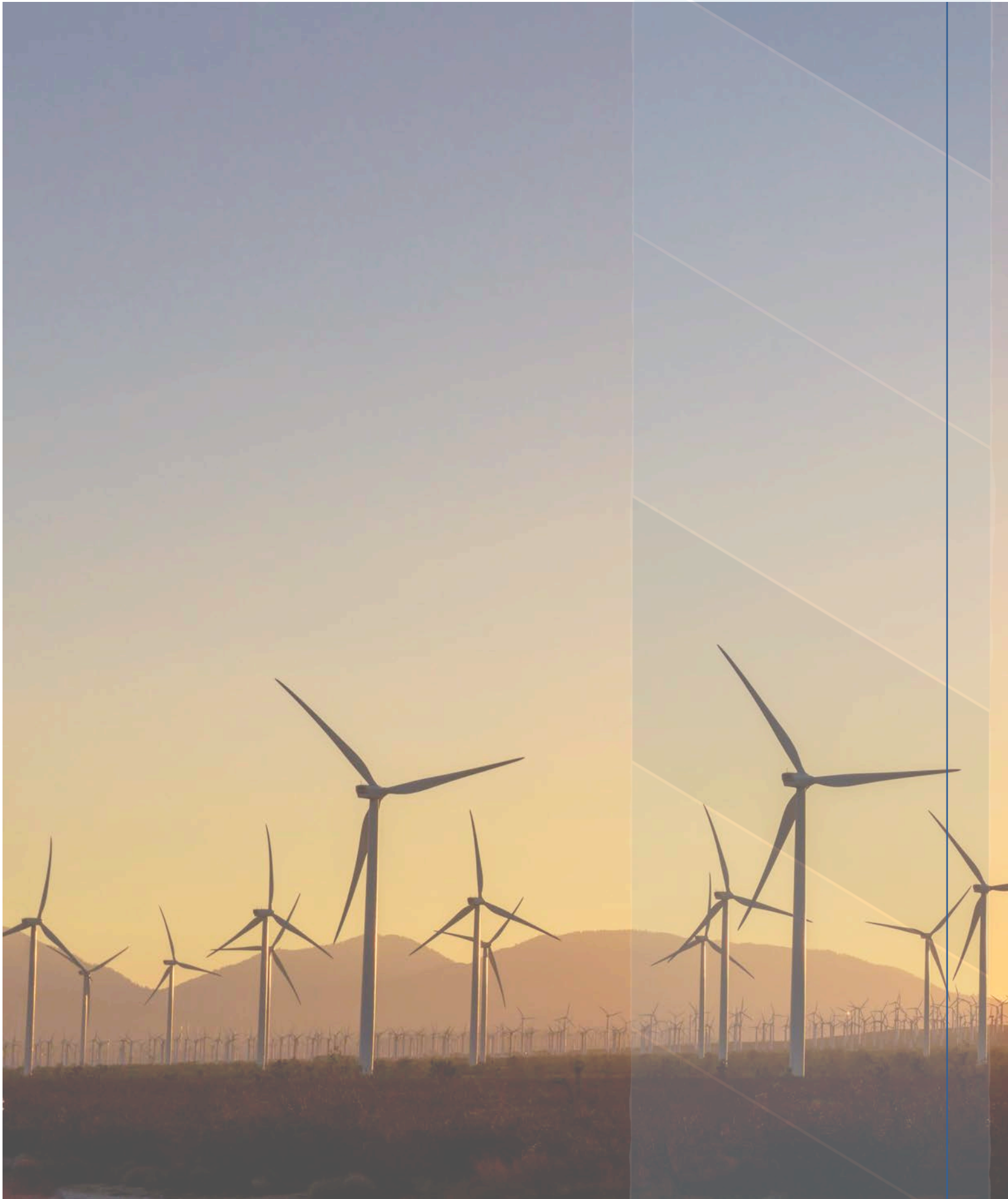
SASKATCHEWAN CHAMBER OF COMMERCE STAFF

Steve McLellan
CEO

Curtis Hemming
Director of Government Relations

Joshua Kurkjian
Director of Research and Policy Development

Michele Geres
Executive Assistant and Secretary to the
Board





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