Planning a Sustainable Power Future

CONVERSATIONS WITH CHAMBER OF COMMERCE MEMBERS

June 2021

WHAT WE DID

As SaskPower plans our future power system, conversations with members of Saskatchewan's business communities have helped us understand what matters most to these important stakeholders. Through a collaboration with the Saskatchewan Chamber of Commerce, we engaged members of the Regina, Greater Saskatoon, Estevan, Moose Jaw, Assiniboia, Prince Albert, and Swift Current Chambers over the last year.

During 90-minute virtual sessions with each chamber, SaskPower outlined how we're aiming to achieve net zero emissions from the grid by 2050. We also highlighted the work already underway to introduce more renewable power generation and modernize Saskatchewan's power system to accommodate more customer generation.

During each event, we shared information on the low and no emissions power sources being considered along with the pros and cons associated with each option. We shared our planning considerations, and asked chamber members which ones they felt were priorities to them, as business leaders in communities across Saskatchewan.

KEY THEMES

These conversations offered a unique chance for deeper conversations on a range of topics with members, including:

- Self-generation
- Distributed energy
- Carbon tax
- Nuclear power from small modular reactors (SMRs)
- Carbon Capture and Storage
- Geothermal
- Increasing our regional interconnections
- Updating current SaskPower infrastructure
- The potential for peak-demand charging
- The cost of electricity and various electricity supply options

Our role in each session was to listen, answer questions, and address myths and assumptions where necessary as we try to learn more about the priority considerations participants want to see reflected in our plans to achieve net-zero emissions from the grid.

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The Saskatchewan Chamber recorded a few of these sessions, which you can watch at the links below if you're interested.

- Estevan, July 9, 2020: **https://www.youtube.com/watch?v=KHpswE30eYA**
- Regina, July 21, 2020: **https://youtu.be/_jeNaX81FCc**
- Swift Current, April 22, 2021: **https://www.youtube.com/watch?v=Ju16kyoR8Og**

CHAMBER OF COMMERCE EVENTS: QUESTIONS AND ANSWERS

1. **How do distributed energy resources fit into SaskPower plans for grid modernization?**

    - While utility-scale generation options are more cost effective, reliable, and can be just as sustainable as Distributed Energy Resources (DERs), we are evaluating how distributed solar generation and flare gas power generation projects built by private partners and delivering electricity into our grid might fit in our long-term future supply plan.

    - DERs require a sophisticated power grid to operate effectively and to capture all potential benefits; the Saskatchewan grid is not currently capable of accommodating the two-way, variable power flows that DERs require. Grid modernization work already underway will make it easier for us to integrate more DERs in the future.

2. **How much variable energy production can the current grid manage without compromising reliability of service?**

    - SaskPower grid operators have honed their ability to operate our system to take maximum advantage of the solar and wind power produced in the province. A significant constraint in our ability to manage large amounts of variable energy production is due to the lack of big interconnections with other provinces. These interties would allow us to sell more surplus renewable power outside the province or import large quantities when it is not sunny or windy.

    - SaskPower is looking at the feasibility of building larger interconnections with our neighbours to improve how we manage variable energy production. Utility scale energy storage options – such as large batteries – are also being explored for their potential to help capture surplus renewable generation.

3. **What is SaskPower doing to increase interest in customer self-generation?**

    - SaskPower always looks for the best option to supply customers with reliable, affordable, sustainable electricity, including self-generation.

    - Because utility-scale generation options are more cost effective and equally as sustainable, SaskPower is not actively trying to increase the number of customers who self-generate.

    - We do offer a variety of programs for residential, farm, small business, and industrial customers who want to generate their own power.

    - SaskPower has found that energy efficiency programming offers greater savings for customers looking to reduce electricity costs, compared to self-generation.

4. **Is SaskPower considering peak-demand billing?**

    - Not presently, because Saskatchewan doesn't regularly experience the high swings in power use that would make such a program appealing to customers. Jurisdictions with huge and predictable shifts in power use, like Ontario, are best suited for time-of-use pricing.

- SaskPower may explore peak-demand billing as we add more renewable generation to our system, with different pricing options that reflect an abundance of zero emission power supply (vs. demand for power from customers).

- Any peak-demand billing program would require significant updates to our bill systems.

5. How strongly is SaskPower considering small modular reactors?

- We're in the first year of a multi-year planning phase for the development of small modular reactors (SMRs) in Saskatchewan, which is expected to take about seven years.

- This planning work includes, site and technology selection development, submission and approval of an Impact Assessment application, assessment of our business case and business model as well as submissions to the Canadian Nuclear Safety Commission (CNSC) for various licences.

- Extensive Indigenous, stakeholder, customer, and public engagement will take place throughout the planning process.

6. How seriously is SaskPower considering importing hydro power from Manitoba, and how do costs compare to existing generation in Saskatchewan?

- Importing hydroelectric power from Manitoba is appealing because it would provide zero-emission baseload power to replace conventional coal and natural gas-fired generation over the longer term. Hydro power can also serve as a quick starting backup for our expanding solar and wind power facilities.

- The price of any large, long-term hydro purchases from Manitoba Hydro would be negotiated. In the course of negotiations, the price offered by Manitoba Hydro would be compared with SaskPower's costs to build baseload generation to serve us through 2050 and beyond - such as carbon capture and storage or SMRs.

7. **Is hydrogen a potential energy source for Saskatchewan in the future?**

    - Hydrogen is a developing technology that we are monitoring closely but is not yet commercially viable for a utility like SaskPower.

    - As we construct new natural gas generation facilities that will serve as a bridge to future supply options for 2050 and beyond – and which could include hydrogen power – we are installing gas turbines that could be retrofitted to use hydrogen as a fuel.

    - Securing a reliable and safe supply of hydrogen would be a key part of any future decision made by SaskPower regarding the viability of this emerging fuel source.

8. **What is the future of carbon capture and storage technology?**

    - SaskPower operates the world's first carbon capture and storage (CCS) demonstration project at Unit 3 of our Boundary Dam Power Station near Estevan. Investing in this first of a kind technology has allowed us to avoid over four million tonnes of carbon dioxide from the atmosphere since the unit began operating in late 2014. The future of CCS in Saskatchewan is one more important decision that needs to be made as SaskPower plans the future power system. As with any power source, there are many things to consider, including cost, reliability and long-term sustainability.

9. **What is the potential for geothermal production in Saskatchewan?**

    - Geothermal offers significant potential as a future renewable power source in Saskatchewan.

    - SaskPower continues to gain insights on the viability of geothermal through our work with Deep Earth Energy Production on what could become Canada's first commercial geothermal power generating facility. The project is located near Estevan and would generate renewable, baseload power using a hot aquifer three kilometres under the earth's surface.

10. How does SaskPower manage the safe and sustainable disposal of wind turbines and blades after a facility is decommissioned?

- With our first wind power facilities soon reaching the end of their operating life, we are actively investigating this issue. We have hired consultants to evaluate the structural integrity of existing blades and turbines to see if they can be efficiently life-extended by replacing certain components. Some waste is produced anytime we decommission a power generation facility; SaskPower adheres to all applicable provincial and federal environmental requirements in completing this work.

WHAT'S NEXT

SaskPower is grateful to the Saskatchewan Chamber for providing us these opportunities to engage with regional chamber members over the past year. We sincerely appreciate everyone's participation in the discussions about the future power system. We look forward to more engagement opportunities in 2021 and beyond.

SaskPower's next event with the Saskatchewan Chamber of Commerce is being planned now for the end of June 2021.

And, we're pleased to say that SaskPower is now a sponsor of the Saskatchewan Chamber's Energy Series. We're proud to support these important conversations about all forms of energy in our province.

Visit the Saskatchewan Chamber of Commerce website to see what's coming up next in this series: Signature Events - Saskatchewan Chamber of Commerce (saskchamber.com)