

[Planning a Sustainable Electricity Future]

**ELECTRICITY OPTIONS & CONSIDERATIONS SYMPOSIUM
NOVEMBER 12, 2019**

**SASKATCHEWAN ASSOCIATION OF RURAL MUNICIPALITIES
(SARM)**

INTERIM SUMMARY REPORT

Prepared December 2019



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REPORT PURPOSE

Thank you to SARM for allowing SaskPower to add a one-day symposium on the future power system to their mid-term convention schedule.

We appreciate the participation and feedback from SARM members and the invitations to continue these conversations at RM council meetings and rate payers' dinners.

We look forward to these opportunities for information sharing and relationship building.

This interim report contains a summary of the feedback forms submitted at the Nov. 12th symposium as well as verbatim comments from the two facilitated discussions. It's been shared with SaskPower and SARM for consideration and discussion about next steps.

We'll update this report in spring 2020 to share how this feedback has been used to inform SaskPower's plans.

We consider this the first of many important conversations we'll have with SARM members as well as other stakeholder groups, customers and Indigenous rights holders as we plan the future power system.

Questions and comments can be directed to:

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NOVEMBER 12 SYMPOSIUM BY THE NUMBERS

92 total participants

“Informative and interesting. Good mix of presenters.”
 - Participant from the RM of Eye Hill

48 feedback forms received

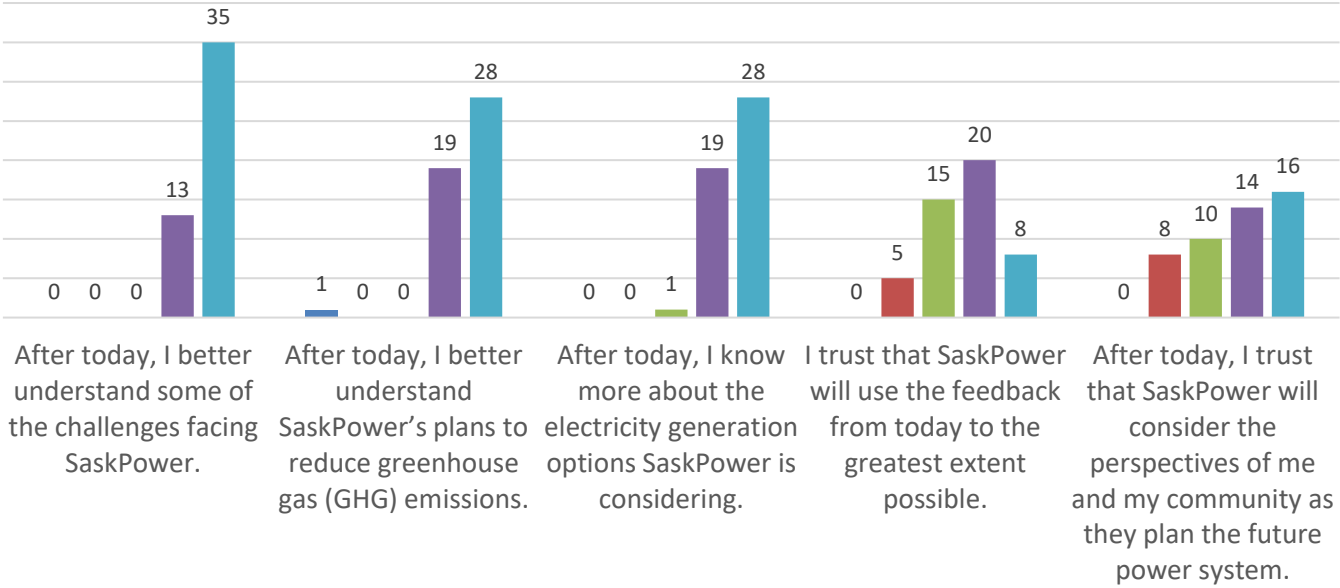


- Convenient location
- Presentations and posters were easy to understand/interesting
- Presenters and facilitators did a good job sharing/explaining
- Symposium was a good use of time

All 48 respondents answered “yes.”

Other comfort factors: four respondents noted that the room was on the cool side; three noted that some of the presentations were hard to see; two did not receive the notice of location change; two indicated that the start time was too early for travellers.

Using a scale of 1-5, participants were asked to indicate if they disagreed (1) or agreed (5) with the following statements. Of the 48 participants who submitted a form, all but one indicated they felt more informed about SaskPower’s plans and learned more about electricity options. But, many aren’t sure if SaskPower will use the feedback to inform future plans.



FACILITATED TABLE DISCUSSION #1

The morning keynote was a presentation about SaskPower's plans for the future power system delivered by SaskPower's Director of Generation Asset Management and Planning, Doug Opseth.

Doug's presentation highlighted SaskPower's evaluation of cleaner electricity generation options to reduce greenhouse gas emissions, including building new transmission infrastructure to import more hydroelectricity from Manitoba and the potential for nuclear power from small modular reactors (SMRs). The presentation also noted SaskPower's changing regulatory environment and some of the operational challenges associated with modernizing a 90-year-old conventional power grid to accommodate changing customer needs and expectations.

Following the presentation, facilitators led each table group in discussions around three questions. Highlights were captured on flip charts. Those notes are transcribed below.

Question 1: Based on what you just heard, is there anything you didn't already know or found especially surprising?

- We didn't know that SaskPower was buying so much hydro from Manitoba.
- The fact that you'll need more big transmission lines to bring power from outside the province (Manitoba).
- Surprised by the hydro content on the SaskPower grid.
- Energy imports – surprised we buy so much from Manitoba.
- Surprised about the closing coal plants.
- The nuclear reactor information was really interesting; surprised it takes so long to come on line.
- Didn't know that small nuclear reactors are so far along.
- Didn't realize the area covered by SaskPower was so large.
- We were glad to hear that SaskPower is going to replace some of their old structures and facilities with new ones.
- We didn't realize that SaskPower was moving away from so much natural gas – the changing regulations and the uncertainty were a surprise.
- We were surprised by the new federal regulations that hit SaskPower at the end of June. How did SaskPower not know about these sooner?
- Didn't know there was so much wind planned in future – what happens if the wind doesn't blow?
- Surprised about the net metering incentive and clean energy subsidization.

Question 2: Based on what you just heard, what would you like to know more about?

Regulations/emissions/rates

- Is it realistic to get to zero emissions?
- How will you manage cost and rates?
- What is SaskPower doing to regulate the rates for the long run?
- What happens to the provincial government if the CO₂ emissions target is not met?
- The goal of zero emissions: isn't wind zero? Why not just use wind power?
- Your planning and projections: how do you plan for SMRs without knowing what they cost?
- What's the capacity of the system – when does it make sense to overbuild?
- We'd like to know more about the cost of generation and the effects on rates.
- Is there consultation with the Federal Government – why don't they know more about how their regulations will impact SaskPower?
- How does a provincially owned utility deal with the risks of being a moving target?
- Your GHG emissions targets: current plans to reduce demand? Cap and trade to manage electricity consumption?

Generation options

- We'd like to know the cost and effect of each generation option, so we can compare.
- More information about typical costs of generation options.
- For 2030 and beyond, what's going to be our baseload power source?
- Shouldn't you be developing hydro in Saskatchewan first before Manitoba?
- What are the opportunities for hydro in Saskatchewan?
- Does the cost differential for purchasing power from Manitoba include the difference between 'renting' and 'owning' the electricity?
- Can you get more out of a hydro facility, e.g. can you use it to store energy too?
- Are there flare gas options?
- Is there any science behind using hydrogen storage?
- Can you use hydrogen as a transitional fuel?
- Does SaskPower have any interest in looking into biogas digesters for power generation?
- We have questions about the safety reliability, ecological impacts, new technology and costs of wind mills.
- Other jurisdictions have lots of wind and solar, how do those utilities back it up?
- Is wind economical?
- Can CCS (carbon capture and storage) be put on gas?
- Is there geothermal potential in Saskatchewan?
- How do you get buy-in from a community to build nuclear power?
- What is the capacity of SMRs?
- How do you decommission waste from SMRs?
- What's the extent of SaskPower's involvement in the SMRs? Will you own them?

- We'd like to know more about SMR technologies; energy returns vs. energy invested; how many units required? Where would the water come from for cooling?
- More info on the new reactors.
- SMRs – we want to know more.
- SMRs – where should or could we put one? We need more awareness of the technical points.
- We need to know about the elements required for SMRs such as the amount of water, size and footprint.
- Politically, nuclear seems like a great idea for Saskatchewan. Ontario has some nuclear power and Saskatchewan aligns with and is influenced by Ontario votes.
- Would you need a whole fleet of SMRs to keep costs down? Technology with a long lead time has a big risk.
- What about fusion?
- Need more information on the technology and technical specs of SMRs.
- More information about safety issues with nuclear power.
- What happens to the land should there be a failure with nuclear power?
- How much water is used for nuclear power? What about the impacts of pollution and other environmental concerns.

SaskPower infrastructure

- How do you manage the cost of damaged equipment?
- On the theme of infrastructure: public relations needs to talk about this more (aging infrastructure).
- What is the timeline for replacing aging infrastructure? When will this be done?
- How will you upgrade the power lines and be more efficient?
- How does SaskPower determine how to target safety, economics and be ready for storms, with grid resiliency? How do you keep the right priorities?
- What's the difference between overhead and underground power lines?
- Are you planning to move all power poles into the road allowance?
- Buried lines: how do you know when it's too much; how do you find them?
- The effects of power lines on private lands.
- You need to change the way you compensate. Keep the compensation with the land not the company.
- Look at compensation differently – how your infrastructure impacts and benefits the entire area not just one person.
- Are tie-lines reciprocal?
- Isn't it cheaper to go underground?
- Why use wood poles instead of steel?

Independent power producers (IPPs) and wind power projects

- Who pays the decommissioning costs of wind and solar? The IPP?
- Issues of taxation.
- We want to know what SaskPower knows about IPP companies, if they can be trusted.
- SaskPower should offer to speak to RMs and communities about how to work with IPPs.
- How regulated is the solar industry and how much vested interest does SaskPower have in IPP projects?
- Who is on the hook if things go south?
- More support from SaskPower – could provide information to RMs and IPPs so we can all make educated decisions.
- Something put in place to ensure the customers are protected if the IPP company walked away.
- Who takes down the old structures, who builds new ones?
- SaskPower should have timely information so that communities can decide on the by-laws for wind, solar, etc.
- How do you hold corporations accountable for some admin issues such as the change of company's names, management, contractors walking away from agreements?

Electric vehicles (EVs) and advanced metering (smart meters)

- SaskPower should lead on EVs; you should build re-charge stations.
- You should work on EV feasibility studies.
- Do smart meters have the capability for two-way communication?
- As EVs increase there will be less taxes to RMs to maintain road structures. What will we replace these funds with?
- Is there going to be a push for electric vehicles? Do they really make economic and environmental sense?

General

- Why can't you help the smaller communities with their rink facilities?
- Does the SaskPower app really help?
- Is SaskPower clear from privatization?
- Who do you notify if you find clubroot on land with SaskPower infrastructure? Relay to SaskEnergy and SaskTel too.
- More information about programs to help my farm expand without moving to a commercial customer class.
- Has SaskPower thought of buying gas wells?
- Do you have tree trimming standards?
- Will SaskPower be talking with other groups like SARM?

Question 3: What opportunities come to mind for collaboration and partnership?

- SaskPower could partner with communities to communicate about small nuclear reactors.
- Use the RMs. This could be a great partnership opportunity.
- Provide more education and information at the provincial level to address questions relating to health, technicalities and taxation issues of electricity.
- You should partner with industries, like the oil industry.
- You could find partners to help with education about energy sources; plans and use of different energy sources in the province.
- Collaborate on communications plans and actions to talk to stakeholders. Collaborate and involve farmers, the oil and gas industry and communities to look at possible opportunities moving forward.
- First, we'd like to know SaskPower's definition of partnership. Do you mean with First Nations communities? Ownership? Investment?
- There are opportunities for collaboration with wind farming.
- Partnership = investment.
- Consider First Nations ownership.
- Need to collaborate with First Nations.
- Landowners have a stake in projects - the general public just wants lights to turn on and not worry about it. Make it easy to understand for everyone.
- Why doesn't SaskPower create a vehicle similar to SIGA and have a partnership with the bands and Indigenous communities of Saskatchewan and sell the coal assets in Estevan? Let's protect our provincial assets and leverage our coal technology. Revenue and job creation for Indigenous communities, licensed by province. Keeps this asset away from the Feds.
- Can groups own generation and lines? Make sure you talk with the oil industry and Indigenous communities.
- RMs are also dealing with aging infrastructure. Can we work together?
- How does SaskPower interact with other governments, provincial and federal? There should be collaboration there.
- Employment opportunities.
- Is SaskPower even going to be involved in the future? For example, in the RM of Lumsden do we use Lumsden's power corporation?

TABLE DISCUSSION #2

For the final presentation of the afternoon, Iain Harry, SaskPower's Senior Business Advisor, Generation Planning talked about the potential for nuclear power from small modular reactors (SMRs) as a potential clean electricity option in the province's future mix (post 2030).

He explained some of the different SMR technologies and the regulatory and licensing process for nuclear power development in Canada.

Following the presentation, facilitators led discussions with the table groups. Comments, concerns and questions were again captured on flip charts, which are transcribed below.

Question 1: A lot of information has been shared today. What stands out for you?

- Why has nuclear not been done all this time if there are so many opportunities around it.
- You are going to need to really sell the nuclear option – explain what problem you are trying to solve.
- What happens if we reach the zero emissions goal and CO₂ keeps going up?
- That we have to explore and prioritize alternative options.
- Concern: concerned about safety – something might go wrong with nuclear power.
- Does this become a political issue between SMR vs no SMR?
- The term nuclear is automatically negative in the public eye. How do you sell it?
- How far nuclear has come. It's right around the corner.
- What are the costs of SMRs vs. gas plants?
- I'm still concerned about safety of nuclear power.
- Really surprised by the energy density of nuclear power.
- Very surprised that so many people are supportive of nuclear power. Rural people are used to being progressive. You should expect more fear from urban centers.
- Nuclear is amazing technology but it takes so long.
- How is nuclear regulated?
- Nuclear – head and shoulders above, best by far.
- Protests will likely make nuclear not happen. You'll need public acceptance
- Nuclear for the long term. Even environmentalists are changing their minds on nuclear. We have no concerns about nuclear waste or long-term storage, but there are concerns about waste from batteries.
- Nuclear seems to appear safer than it was.
- I think nuclear is much more advanced than it used to be.
- Nuclear innovation in Saskatchewan.
- Compensation: infrastructure, new projects, transmission, hydro, etc. – they all impact the few but benefit the many; how do you/what do you compensate those who are impacted? Maybe look across-industry for compensation guidelines.
- In Estevan: how do you use existing infrastructure? We should re-use the transmission lines not just build new ones. Are SMRs a good fit in this area?
- You didn't talk about your refurbishments of hydro.
- That SaskPower is exploring all options - geothermal, cogen and how much you are thinking ahead.
- How do you manage wind and solar integrations?
- Is there a way to use garbage to generate electricity?
- How does the price of gas influence this, power generation?
- Stood out that you didn't talk about batteries.

- Wind and solar are not baseload.
- Why didn't you talk about storage?
- Why are we wasting time on natural gas?
- I didn't realize the high level of community engagement that SaskPower actually does.
- How much is SaskPower politically influenced?
- Concerns about wind power, how long does this last?
- Zero consumption customers – will SaskPower have to up the basic interconnection charge to keep the connection lines going?

Question 2: How do you think you and/or your community want to be engaged in conversations about the future of electricity in Saskatchewan?

- Engage the public and ensure discussions through community meetings.
- Use media to change public perspectives about nuclear energy.
- We'd like to see open and honest discussions looking at economically viable options.
- You need more communication about challenges and future plans.
- SARM, this venue!
- When you talk about the future of electricity you should prioritize safety, economics, cost.
- You'll need a communications strategy that is honest and open to the residents of Saskatchewan.
- Presentations at ratepayers suppers.
- General public needs opportunities to give input. Town hall meetings.
- Unless it affects people individually they probably won't care or show up.
- Small spheres of influence then expand out.
- Ask people. Don't just tell.
- Address misinformation. Call out the pros and cons.
- Fear mongering won't work.
- The broad conversation could indicate different potential impacts and contributions from government agencies and private organization and other stakeholders that may be impacted.
- Take full advantage of ratepayers meetings. You should have regular attendance at these.
- Report or post the life span and maintenance work on SaskPower infrastructure according to each municipality.

Question 3: Who else should SaskPower be talking with?

- Schools, teachers, students.
- Young people to develop interest in nuclear energy.
- SaskPower should attend more council meetings. You should talk with RMs.
- Young people. The future generations.
- Give children a chance to learn through school curriculum. Look at school climate strikes. Understanding and symbolism of energy is important early on.
- Scientific community needs to unite behind nuclear, needs to be received from science. People want a say. A united front is needed.
- SUMA.
- Increase broader awareness of communities through the RMs use of newsletters, eblasts surveys, broad provincial conversations on energy. You could roll these invitations through SARM, SUMA, communities and the individual RMs.
- You should talk with English River, talk about investments in power production projects.
- Do what was done for SaskPower bonds, circa 1990, and future investments talks.