



Strengthening Saskatchewan's Grid: Transmission to Power Communities and Growth

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Executive Summary

SaskPower’s implementation of *The Saskatchewan First Energy Security Strategy and Supply Plan* (Energy Security Strategy) aligns provincial priorities with SaskPower’s system planning initiatives to secure the province’s energy future, emphasizing reliability and economic growth. Within the provincial Energy Security Strategy, there is a particular focus on the expansion of transmission networks to strengthen energy security and electricity export capacity.

The Energy Security Strategy focuses on two main pillars:

1. “Power from Strength”, which seeks continued and increased reliability and affordability for energy security and economic growth; and
2. “Powering Growth”, which requires the strategic development of electricity infrastructure and the development of partnerships to further the provincial Growth Plan.

SaskPower’s current and planned transmission infrastructure supports both pillars by enabling large-scale power movement across Saskatchewan to meet customer demand, while strengthening ties with neighbouring markets to position SaskPower for expanded export opportunities.

This will occur on three fronts:

1. Intra-provincial transmission reinforcement for safety, reliability and load growth;
2. Development of northern transmission infrastructure for provincial energy security and economic growth; and
3. Interprovincial and international transmission infrastructure to enhance the resilience of the provincial electrical grid and enable the export of excess power for revenue.

Over the next five years, significant investment is anticipated into the province’s transmission system, primarily focused on three categories:

- **Customer Connects:** Interconnecting new generation or customer loads;

Transmission lines send high-voltage bulk power to sub-stations across the province, which then gets reduced to a lower voltage and delivered to homes and businesses by distribution lines.

- **Growth & Compliance:** Reinforcing the system for reliable operation and evaluating projects to address emerging needs that align with strategic objectives; and
- **Sustainment:** Maintaining performance of existing assets and managing risk.

A key focus of SaskPower’s transmission strategy is the province’s Far North. Future investments are aimed at facilitating growth in the mining sector and enhancing reliability. This includes a strategic initiative to connect Saskatchewan’s northern and southern electrical grids, creating a more integrated and resilient provincial electricity system. In addition, SaskPower plans to expand transmission infrastructure to serve new mining developments, ensuring the region has the capacity to power economic development and future industrial demand.

SaskPower is also advancing several interconnection projects to strengthen regional ties as well as future growth and revenue opportunities. Work is underway to build new transmission lines linking Saskatchewan to the Southwest Power Pool (SPP) by 2027, increasing access to a large U.S. market.

In Alberta, there are plans to upgrade the McNeill High Voltage Direct Current (HVDC) Converter Station, which will increase transfer capability. Meanwhile, Manitoba remains a key partner for SaskPower through existing firm import contracts.

Overall, SaskPower’s implementation of the Energy Security Strategy is designed to safeguard Saskatchewan’s energy future, support economic growth, and position Saskatchewan for long-term energy security. Strategic investments and partnerships will be critical to achieving these goals while managing financial and operational risks.



SaskPower Power Line Technicians string the power line on a new high-voltage transmission structure as part of the Uranium City Power Line Rebuild Project, which will strengthen power reliability for communities and businesses in the Far North.

Setting the Stage For Success

Saskatchewan First Energy Security and Supply Plan

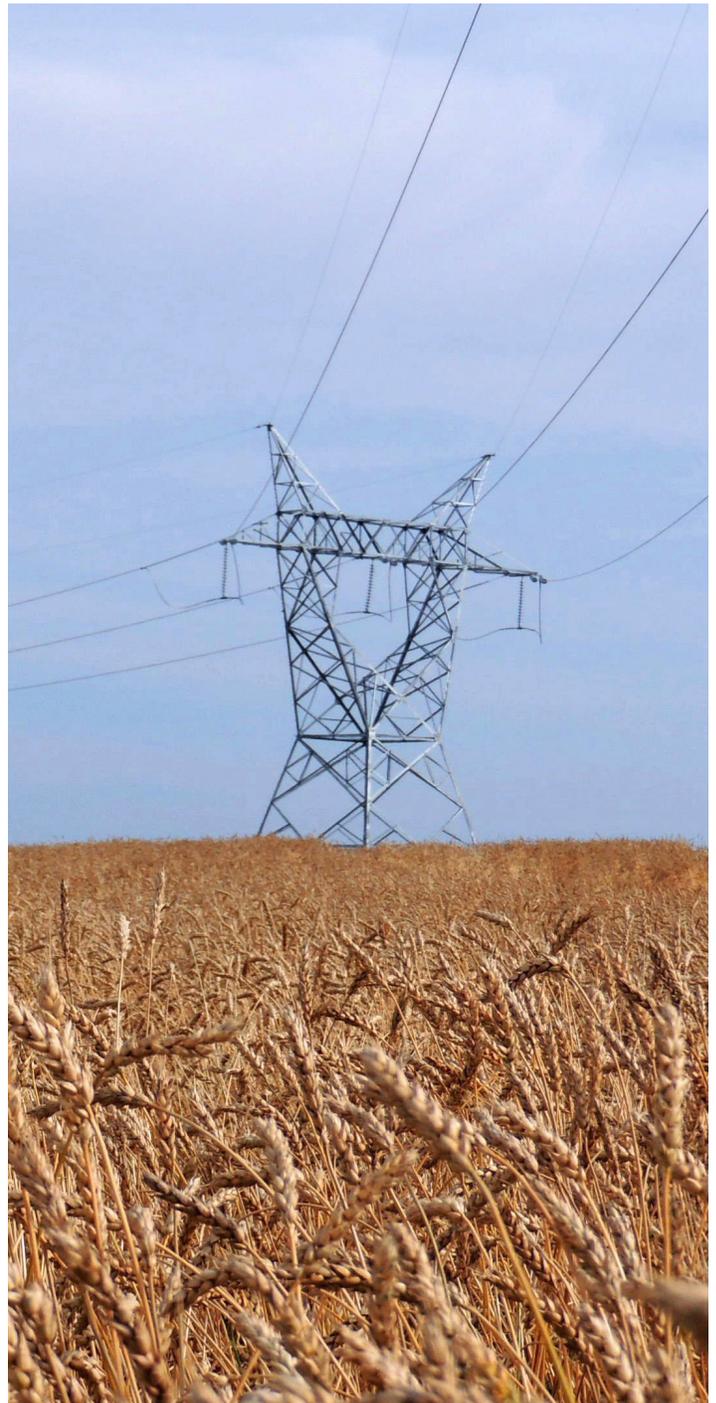
The Saskatchewan First Energy Security Strategy and Supply Plan (Energy Security Strategy) envisions a coal-fired energy bridge to a future powered by nuclear energy, enhanced transmission infrastructure to power economic growth and exports, and the build-out of local supply chains and workers to support the expansion of nuclear power in Canada and globally.

Existing and future transmission serve both pillars of the Energy Security Strategy by facilitating the bulk transfer of power across the province. That power is both generated within the province and imported from other jurisdictions. Investments in these areas are necessary to serve SaskPower customers, and deepen interconnections with neighbouring markets to enhance the reliability, resiliency and flexibility of the province's electricity system. They also provide the potential to increase power exports.

During the initial electrification of the province in the mid-1900s, a network of transmission lines was built that delivered power from coal-fired generation facilities in the far south, hydroelectric generation facilities along the Saskatchewan River, and natural gas-fired generation at Saskatoon. Ultimately, transmission infrastructure was constructed to meet the needs of the day. As the province's population and economy grew into the late 20th century, the transmission system also expanded to supply increasing load and to integrate new coal, hydro, natural gas, and Independent Power Producer (IPP) generation, as well as customer owned co-generation facilities.

Over the past 100 years, the SaskPower transmission system has continually evolved to connect new generation with increased load demand from residential customers, mining expansion, pipeline facilities, grain processing, oilfield development, and other industries. SaskPower has also expanded its interconnections with neighboring utilities to allow increased imports and exports, and to reinforce the transmission system.

SaskPower owns and manages nearly **15,000** circuit kilometres of transmission lines in the province.



As SaskPower looks to the future, ensuring the continued strength and growth of Saskatchewan's economy will require a reliable, well-maintained, and expanded transmission system that considers future growth opportunities in addition to meeting existing need.

SaskPower must ultimately maintain a prudent and responsible approach to project management. The initiation of projects must be contingent upon the availability and prioritization of capital, affordability for our customers, the availability of required labour, and the strength of supply chains.

SaskPower’s Transmission System: Current State

SaskPower’s transmission network enables large-scale power movement across Saskatchewan, delivering electricity from both domestic generation sources and imported power to customers across the province. The transmission system is structured so that customer load from all supply sources can be delivered across the province under a wide range of operating conditions. The following is a breakdown of generation and load requirements by region.

The Southeast Region has:

- 41% of SaskPower load, including but not limited to the City of Regina, oilfield, oil pipeline pumping load, potash mining loads and oil refinery and steel processing loads.
- 26% of SaskPower generation supply, including coal-fired and wind generation, and hydro imported from Manitoba.
- Transmission interconnections with Manitoba and the United States.

The Northeast Region has:

- More generation supply (9%) than load (6%).
- Several major transmission lines comprise a corridor to move power from the E.B. Campbell and Nipawin Hydroelectric Stations.
- One transmission interconnection with Manitoba.

The Southwest Region has:

- More generation supply (31%) than load (14%), including natural gas and pipeline loads, and load from the Cities of Moose Jaw and Swift Current.
- Generation supply includes coal, natural gas, and wind facilities.
- One transmission interconnection with Alberta.

The Northwest Region has:

- 38% of SaskPower load, including the Cities of Saskatoon and Prince Albert; potash mining loads; oil, natural gas and pipeline loads; and pulp mill loads.
- 32% of SaskPower generation supply, including natural gas and hydroelectric power stations.

Far North Region

SaskPower’s northern transmission system is not directly connected to the southern transmission system. The north is served by two hydroelectric facilities and is supplemented by a transmission interconnection with Manitoba. Manitoba Hydro can supply electricity to the Far North through long-term firm import agreements, and its transmission system facilitates transfers between Saskatchewan’s southern and northern electricity systems. This region contains:

- 2% of SaskPower load, made up of sparsely located mining loads and remote community loads.
- 2% of generation supply from hydroelectric power stations.
- Two transmission interconnections with Manitoba.

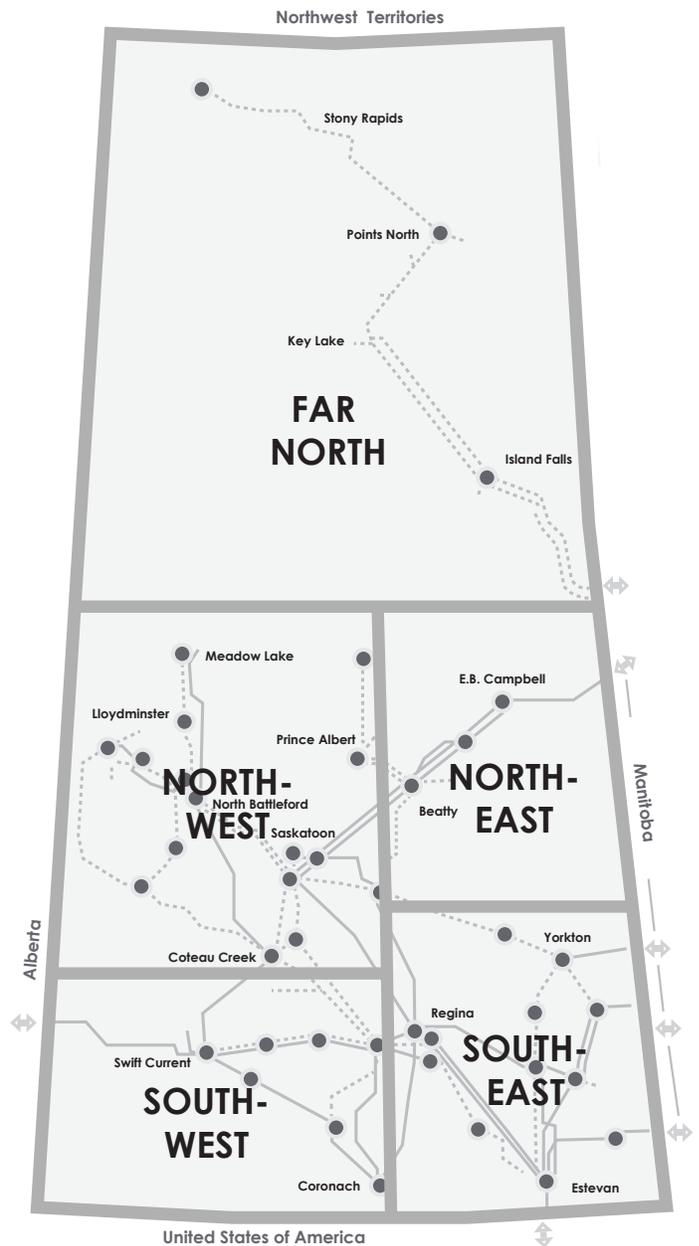


Figure 1: SaskPower System Regions





SaskPower crews haul transmission line equipment along the Lake Athabasca ice road enroute to the Uranium City Power Line Rebuild Project site in spring 2025. In total, 133 loads of material were transported north before the ice road closed, with each trip taking roughly 16 hours one-way. Serving all corners of the province sometimes means using air, boat, or ice road to get the job done.

SaskPower’s Implementation of the Saskatchewan First Energy Security Strategy & Supply Plan

Intra-provincial transmission reinforcement for safety and reliability

SaskPower’s transmission reinforcement efforts within Saskatchewan are driven by a combination of needs: regional load growth, new generation connections, and the maintenance of system reliability. Across the province, major projects include new transmission lines, station upgrades, and interconnections to support industrial development, renewable energy integration, and increased import and export capacity. Sustainment projects, such as transmission line rebuilds and substation replacements, are also prioritized to maintain reliability and manage asset risks.

SaskPower categorizes its planned transmission project investment into three types:

1. **Customer Connects:** Projects required to interconnect future generation or customer load to the transmission system.
2. **Growth & Compliance:**
 - a. Projects required to reinforce the transmission system to ensure reliability.
 - b. Evaluation of potential new projects to support emerging needs, in alignment with strategic objectives.
3. **Sustainment:** For existing assets, sustainment projects are required to ensure they continue to operate reliably and as designed.

SaskPower plans to invest in transmission infrastructure across these three categories. These reinforcements are essential for enabling reliable power delivery, supporting economic growth, and preparing Saskatchewan’s grid for the future.

Strategically, SaskPower is evaluating the early stages of conceptual, large-scale projects to address emerging needs and long-term resiliency. SaskPower’s plans also considers additional intra-provincial transmission system expansions to facilitate coal plant life extensions, renewable generation, and future economic development, particularly in mining.

In the southern half of the province, major initiatives include but are not limited to:

- New transmission lines and transmission system reinforcements to:
 - Facilitate power transfers to and from the SPP; and
 - Integrate the extension of coal-fired generation facilities and new renewable generation facilities in southeast and south-central Saskatchewan.
- Customer connects, including those to facilitate:
 - The new 370-megawatt gas-fired Aspen Power Station;
 - New wind and solar generation projects;
 - New major customers, such as canola processing plants; and
 - Flare gas generation sites.
- Transmission line rebuilds and structure replacements.

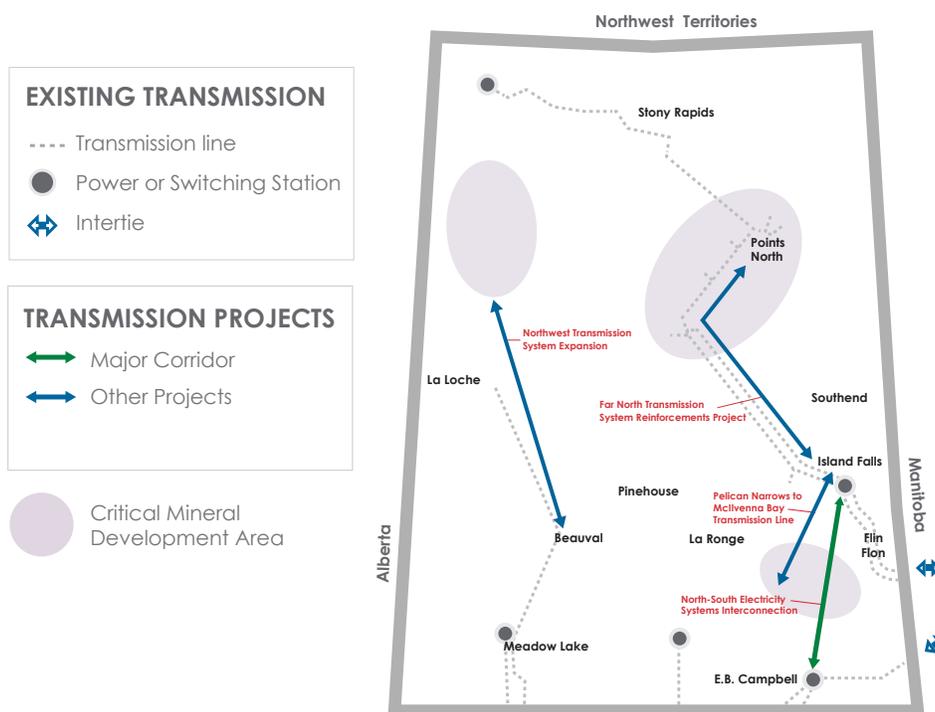


Figure 2: Saskatchewan’s Far North



Development of northern transmission infrastructure for provincial energy security and economic growth

Far North

Mining activity in northern Saskatchewan is driving major economic growth for the province. Global demand for uranium and other minerals is fueling new developments and expansions at existing sites, creating strong interest in SaskPower's services. To support this growth, significant upgrades to the northern power grid are essential to ensure reliability and prevent electricity shortfalls, particularly during low river flow conditions that could limit hydroelectric generation.

North-South Transmission Systems Interconnection

The proposed North-South Transmission Systems Interconnection is a project designed to link Saskatchewan's northern and southern electrical grids. Currently, these grids operate independently and are connected through Manitoba, with the southern system hosting most generation and major load centres, while the northern system is far smaller and geographically distant from most of Saskatchewan's generation sources.

Pending approval, this project would address energy security and economic development needs by establishing a direct connection between the northern and southern transmission systems. Based on conceptual planning, the project would include two new transmission lines approximately 250 kilometres (km) long. The preliminary target in-service date is 2032 and a route has yet to be determined. Preliminary planning, design, and engagement with Indigenous Rightsholders and the public has begun.

Northwest Transmission System Expansion

Pending approval, this project would enable critical mineral development in northwest Saskatchewan by expanding SaskPower's transmission system to serve new and prospective mining developments in the Patterson Lake region. Without this infrastructure, current and future mines will rely on transporting liquified natural gas (LNG), diesel, and/or propane to meet on-site electricity needs.

By expanding transmission infrastructure into northwest Saskatchewan, SaskPower would provide reliable electricity to a previously unserved area, enabling new critical mineral mining development. The Northwest Transmission System Expansion project would provide security of supply for new prospective mining customers and will aid in attracting further investment to explore and develop new mining sites in the region.

Far North Transmission System Reinforcements

SaskPower has developed a Far North Transmission System Reinforcement Strategy, which outlines a plan for meeting the projected load growth from new mine sites and the expansion of existing mine sites in northern Saskatchewan. As projected load growth is confirmed, SaskPower's strategy is being deployed in stages to deliver the required transmission system reinforcements.

Pelican Narrows to McIlvenna Bay Transmission Line

A new 80-km transmission line is being built from Pelican Narrows to Foran Mining's McIlvenna Bay copper mine. Construction is estimated for completion in 2026.



Interprovincial and international transmission infrastructure to enhance the resilience of the provincial electrical grid and enable export of excess power.

Benefits of Expanded Interties

Transmission interties between neighboring provinces play a critical role in maintaining the stability and reliability of the electricity system. These connections allow power to flow across borders, helping to mitigate unplanned shortages and balance supply and demand when local generation is constrained. As power grids integrate more diverse and intermittent generation sources such as wind and solar, interties also provide flexibility by enabling regions to share resources and respond quickly to fluctuations. In essence, the more interconnections that exist, the more resilient the overall grid becomes against unexpected disruptions or extreme weather events.

Beyond reliability and resiliency, expanded interconnections with neighboring jurisdictions offer significant economic opportunities. As SaskPower works toward building nuclear assets for future power supply, capacity may exceed demand. By increasing transmission capacity, Saskatchewan could export surplus electricity during periods of high generation, creating commercial revenue.

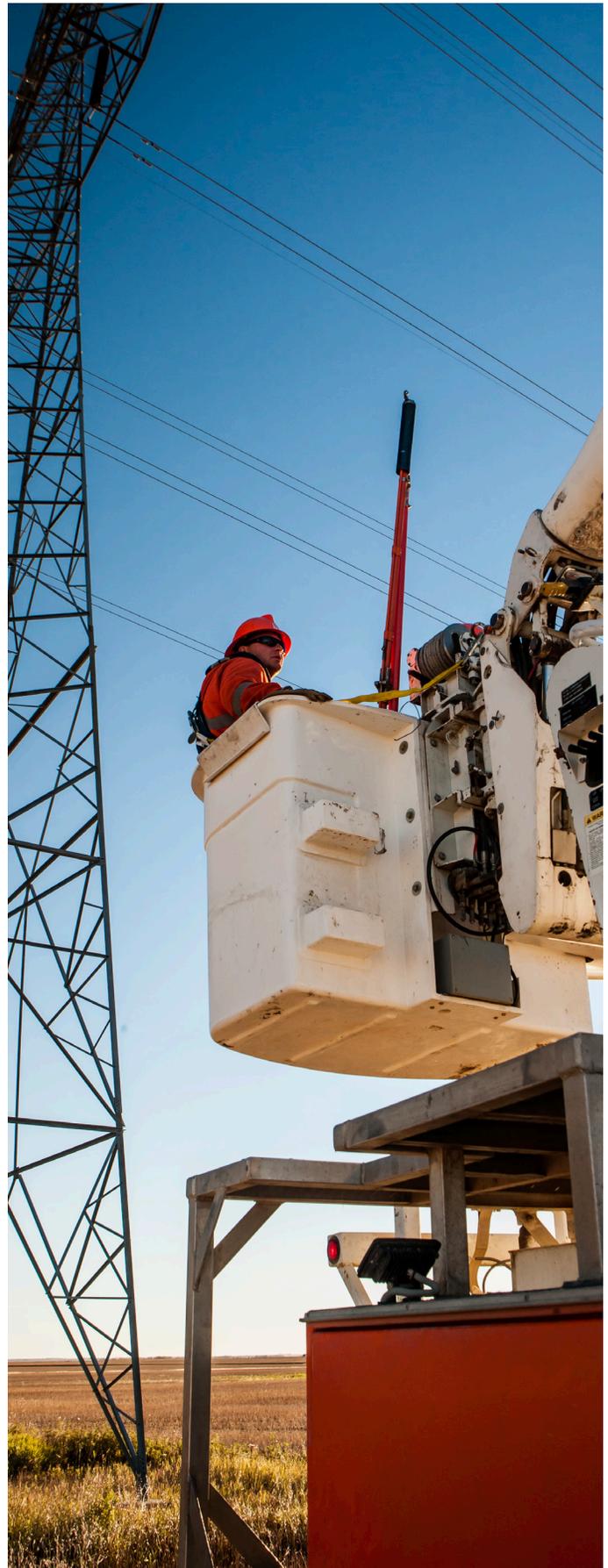
Alberta - Alberta Electric System Operator (AESO)

The intertie between Alberta and Saskatchewan requires an HVDC converter station since the two provincial systems are not synchronized. The only intertie between the Saskatchewan and Alberta power systems is the McNeill HVDC Converter Station, which is owned, operated and maintained by ATCO. AESO has publicly acknowledged that the McNeill HVDC Converter Station is nearing end-of-life and plans to replace or upgrade it as part of its long-term transmission strategy. The McNeill replacement is intended not just for reliability but also to potentially increase the capacity of the Alberta–Saskatchewan intertie.

For SaskPower, the connection with Alberta is important for three reasons: it gives us backup power when we need it, offers an alternative source when it is more economical than SaskPower’s generation, and it lets us sell surplus electricity.

SaskPower has no long-term firm capacity supply contracts with entities in Alberta like it does with Manitoba Hydro. Instead, transactions with Alberta occur through real-time market trading via SaskPower’s energy marketing subsidiary, NorthPoint Energy Solutions.

The intertie provides mutual reliability benefits. Saskatchewan can import during shortages or extreme weather, and Alberta can draw on SaskPower during its own tight supply conditions. This is considered a cost-effective way to manage peak demand and improve resilience.



Manitoba

There are five interties between Saskatchewan and Manitoba, with four on SaskPower’s southern system, and one with SaskPower’s Far North system. SaskPower currently has two long-term firm capacity supply contracts with Manitoba Hydro.

The Manitoba market, which is primarily hydroelectric, is vertically integrated and functions like the Saskatchewan market. Trading electricity is negotiated bilaterally, which requires mutual interest and agreement and usually results in fixed pricing.

SaskPower currently depends on using Manitoba’s transmission system to balance generation and load in SaskPower’s Far North grid, since that grid is not directly connected to SaskPower’s southern grid. SaskPower can wheel power in either direction through Manitoba between the two grids, which results in SaskPower sending power on Manitoba Hydro lines for a fee.

Through NorthPoint, SaskPower has options to transact in the MISO market in the U.S. through Manitoba. We can either buy transmission through Manitoba using its Open Access Transmission Tariff (OATT) or an option in the long-term supply contracts to have Manitoba deliver power directly to MISO, rather than delivering to Saskatchewan.

United States (U.S.) — Southwest Power Pool

Saskatchewan has one interconnection with North Dakota into the U.S., connecting Saskatchewan to the SPP. The SPP encompasses much of the central U.S. and is an organized electricity market (like Alberta).

The SPP tie allows SaskPower to import power during shortages and when more economical than SaskPower’s generation. Meanwhile, the tie allows SaskPower to export surplus electricity when conditions are favourable. The 150-megawatt (MW) interconnection provides backup during emergencies, system resiliency during extreme weather events, and offers SaskPower access to a large and diverse market. This improves system reliability and cost control by enabling imports when domestic generation is constrained. The expanded interconnection will provide opportunities for additional revenue and participation in additional market types and products.

SaskPower is working with the SPP and Basin Electric, an electric utility in North Dakota, to significantly expand the interconnection to 650 MW with a planned in-service date for late 2027. This initiative will have 20 years of guaranteed transmission service.

Intertie expansion with the SPP provides significant benefits, including increased reliability, resiliency, and flexibility. This expansion of the interconnection with the SPP also opens up economic opportunities. Access to a large market with broad geographic coverage and high renewable penetration allows SaskPower to buy power at low prices when SPP’s renewable output is strong and sell excess electricity when prices rise. A larger intertie enables higher transaction volumes, greater profit potential, and creates room for more diverse market activities, making it a strategic advantage for optimizing economics and supporting long-term growth.

Current intertie capacity is limited to **425MW** with Manitoba, **150MW** with Alberta, and **150MW** to the United States.

Opportunity to export excess energy for revenue

The Energy Security Strategy directs SaskPower to explore options for exporting excess energy for revenue. This marks a shift from occasional exports to making electricity sales a planned revenue stream. As the Energy Security Strategy notes, exporting power for profit is not simple. Electricity may be transacted “on the spot”, where exposure to price volatility is inherent, or secured through firm contractual arrangements that require continuous availability.

SaskPower is now tasked with actively pursuing opportunities to sell surplus power into Alberta, Manitoba, and the U.S., where competitive pricing requires careful scheduling and risk management. To enable this, the Energy Security Strategy states that the province will establish policies, regulatory frameworks, and corporate structures, while SaskPower invests in transmission interties and supporting infrastructure. This approach aims to diversify revenue, strengthen energy security, and foster regional partnerships.

