Aspen Natural Gas Power Station Project
Public Comment Period

NRStor and FHQ Developments feel strongly that a thorough assessment and comparison with modern energy storage technologies should take place prior to moving forward with the 370 MW Aspen Gas Power Plant. New gas generation will lock Saskatchewan into fossil fuel electricity generation past the 2035 targets for achieving net zero electricity across Canada. Saskatchewan already has approximately 3550 MW of fossil fuel capacity that makes up about 75% of energy generation. Energy storage technologies present a viable alternative to achieve the electricity system objectives of system reliability and integration of renewable energy. Energy storage technologies, and lithium-ion battery energy storage systems (BESS) in particular, are mature, commercially available, and ready to be deployed at scale today.

NRStor and FHQ Developments have jointly identified energy storage project opportunities in Saskatchewan that can be developed through Indigenous leadership and leverage learnings from large grid-scale energy storage projects that NRStor is deploying across Canada. Energy storage presents a transformative opportunity to align economic growth with environmental stewardship, while respecting Indigenous rights and supporting economic reconciliation.

Participation in energy storage projects can empower Indigenous communities to participate actively in the transition to a low-carbon future, creating local jobs and fostering economic self-sufficiency. By engaging in energy storage initiatives, Indigenous communities can enhance their resilience, diversify their economies, and drive positive social and environmental change for future generations.

It is crucial for decision-makers to recognize that energy storage technologies have reached a level of maturity and affordability that makes them a viable alternative to natural gas. The long-term costs and environmental risks associated with constructing and operating new gas plants can be significantly reduced by investing in energy storage infrastructure. Rather than committing to decades of fossil fuel dependence, we can invest in clean energy solutions that provide reliable power, create jobs, and safeguard our natural heritage.

One key advantage of energy storage is its ability to support the integration of renewable energy sources. By storing excess electricity generated from wind, solar, and hydro, energy storage systems ensure a stable and continuous power supply. This promotes grid reliability, reduces the need for fossil fuel-based backup generation, and accelerates the transition to a clean energy future. Investing in energy storage aligns with the goals of reducing greenhouse gas emissions, combating climate change, and meeting our sustainability targets.

Furthermore, energy storage projects provide flexibility and grid optimization. By storing energy during off-peak periods and discharging it during peak demand, energy storage systems help manage and balance the grid. This reduces the strain on the electricity infrastructure, minimizes the risk of blackouts, and optimizes the utilization of existing resources. Energy storage technologies offer a more efficient solution to meet growing energy demands, negating the need for new gas plants and their associated environmental impacts. Key electricity system benefits provided by energy storage include:

- **Firm Capacity and Grid Services.** Energy storage projects will help to secure needed grid service products such as energy, capacity, and ancillary services.

Key Energy Storage Services & Electricity System Benefits	
Service	**Description**
Capacity Services	• Provides power when called upon by the grid operator to help address capacity shortfalls, particularly as fossil fuel capacity is retired.
Operating Reserve	• Standby power or demand reduction that can be called on with short notice to balance unexpected mismatch between generation and load. • Able to provide the energy required within the time frame specified by the class involved (10-minute synchronized reserve or other reserve durations) and able to sustain supplying operating reserve energy for a specified duration.
Energy Arbitrage	• Stores surplus baseload generation in off-peak hours and discharges this surplus energy during peak hours. • Reduces the need for the utility to dispatch high-cost resources and high carbon emission fossil fired resources.
Wind Integration	• Provides balancing of surplus and shortfalls of wind energy in relation to provincial consumption needs.
Transmission Bottleneck Management	• Provides additional power flow capabilities to ensure the flow of power throughout the province is maximized and constraints are reduced.
Intertie Arbitrage	• Enables the province to trade clean energy with its neighbouring provinces and states in a position of strength, ensuring maximum value of any clean energy exports, and best value for clean energy imports.
Backup Power	• Provides backup and/or other services provided directly to co-sited industrial loads.

- **Controllable and Fast Responding.** Unlike many existing generation assets and transmission lines, the power from energy storage projects will be completely controllable according to what the electricity system and its customers need at any given time. The projects can be called upon and respond within milliseconds, making them a valuable tool relative to fossil fuel assets with slow ramp rates, including new natural gas plants.

- **Grid Efficiency.** Energy storage maximizes efficiency, increases competition, strengthens Saskatchewan's energy trading position, and optimizes Saskatchewan's ability to integrate wind onto the system immediately reducing curtailments.

- **Decarbonization.** Energy storage will reduce CO2 emissions significantly over life of the projects, enabling the transition off coal and fossil fuels and serving the Saskatchewan market with clean energy needed to stimulate a low carbon economy.

Importantly, choosing energy storage over natural gas supports innovation and technological advancement. The energy storage industry has witnessed remarkable progress in recent years, with declining costs and improved performance. By investing in energy storage, we foster a

culture of innovation, attract new investments, and create job opportunities in emerging sectors such as battery manufacturing and system integration.

Saskatchewan has the opportunity to avoid making long-term investments in carbon emitting gas generation. Jurisdictions around the globe are now retiring gas generation in favour of clean energy storage solutions. Battery storage projects are now cost competitive with gas generation on a capital cost basis. In addition, gas generation comes with additional operational, environmental, and hidden cost burdens:

- **Gas generation does not balance renewables well.**
  - Gas generation can produce power to fill gaps from missing wind and solar, but it cannot absorb clean energy when there is surplus, therefore it is only half the solution.
  - Gas generation must be left running to respond quick enough to balance the grid, but this requires constant burning of natural gas, even when sufficient clean energy is available, causing unnecessary emissions and incurring additional operating costs.
  - The speed of response ("ramp rate") of a typical gas generator is 20MW per minute. Energy storage is 100-fold faster. The ramp rate of a typical storage project is over 2000MW per minute, fast enough to react to clouds blowing over a solar farm or the wind suddenly dropping off, and then returning. Gas generation cannot respond this quickly.

- **Cost and accessibility of gas storage and gas distribution infrastructure.** To rely on gas fired generation for reliable peaking capacity and energy balancing, this requires natural gas fuel to be stored in nearby gas storage reservoirs, with firm gas pipeline access to deliver the fuel to the gas plants on a moment's notice. All this infrastructure and associated costs and investments must be considered in any gas generation comparisons.

- **Cost volatility.** Gas supply and therefore its cost, is often influenced by international pressures, making the long-term costs associated with gas volatile and difficult to predict. In contrast, energy storage can provide 25-year cost certainty to ratepayers and will not be subject to operating cost exposures and related repricing risk in contrast to new gas plants that allow for new costs to be passed to ratepayers.

- **Carbon costs.** Carbon costs continue to increase thus investing in gas generation results in a long-term commitment to an escalating operating cost related to emissions that will become a growing burden on Saskatchewan ratepayers.

- **Investment Tax Credit (ITC) Savings.** ITC is available for clean energy storage technology and not for carbon emitting projects, further supporting the economics of emissions-free energy storage relative to new gas.

To ensure a sustainable and resilient energy future, it is imperative that decision-makers prioritize energy storage as a viable alternative to new gas plants. We urge policymakers and stakeholders to engage in a meaningful dialogue that acknowledges the benefits of energy storage and the potential pitfalls of continuing to rely on natural gas. We encourage thorough analysis and consideration of the economic, environmental, and social benefits of energy storage projects. By considering energy storage as a viable option, we can build a cleaner, more reliable, and

economic energy system while fostering collaboration between Indigenous communities and the private sector.

Rendering of NRStor and Six Nations of the Grand River Development Corporation's 250MW / 1000MWh Lithium Ion Oneida Energy Storage Project located in Ontario, currently under construction.