



Hybrid Power and Microgrids

Hybrid alternatives to traditional fossil fuel power generation reduce GHG emissions, lower the cost of energy and increase price certainty. Perhaps most importantly, they provide energy independence and power resilience when properly integrated as a microgrid system.

Innovating in all that we do

- Integrating renewable energy into smaller, off-grid power systems is complex and challenging, particularly at high renewable energy penetrations. We derisk projects with proper planning, equipment selection and power system studies.
- Our hybrid power projects are designed with energy storage and utility grade microgrid controllers. Distributed energy resources are strategically designed to maximize renewable integration, ensuring stability of the power grid.

Engaging communities. Finding mutually beneficial solutions

- Renewable power assets have benefits beyond environmental stewardship. They can be an ongoing contribution to the community, helping diversify the economy with electricity and employment opportunities.

Technical & project management expertise

- Experience across all phases of hybrid power and microgrid projects
 - Concept
 - Feasibility
 - Engineering
 - Construction
 - Operation
- Remote power systems
 - Indigenous Communities
 - Mines
 - Government Facilities
- Power System Studies and Planning
- Hybrid Power Modeling
- HμGrid – Hatch Microgrid Controller

PROJECT EXPERIENCE

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Microgrid Feasibility Study and Utility Scan

Toronto Hydro, Canada



Hatch completed a strategic study for Toronto Hydro to assess the feasibility and value of microgrids within its distribution system. The study included industry research, use-case development, technical and economic modelling, and stakeholder engagement. Hatch provided recommendations for pilot projects, phased implementation, and approaches to address technical and regulatory barriers to enhance grid resilience, renewable integration, and service reliability.

Sea Island Renewable Energy Generation and Storage Study

Vancouver Airport Authority, Canada



Hatch developed a renewable energy and storage roadmap for Vancouver International Airport (YVR) to support net-zero objectives, energy security, fleet electrification, and future aviation demands. The work included solar PV siting and glare analysis, conceptual design, BESS modelling for peak shaving and infrastructure deferral, and the evaluation of emerging technologies. Hatch also provided prioritized recommendations and an actionable implementation strategy to position YVR as a renewable energy hub.

Summerside Sunbank Project

Aspin, Kemp and Associates & The City of Summerside, Canada



Aspin, Kemp & Associates is installing a 21MW solar and 10MW/20MWh battery storage microgrid to support the City of Summerside's emission-reduction initiatives. As Engineer of Record, Hatch completed the detailed design, use-case assessment, vendor review, design review and validation, and specifications development.

BC Hydro Broad Scope Support

BC Hydro, Canada



Hatch is providing Owner's Engineering services for the integration of battery energy storage systems and microgrid control systems at several non-integrated locations. The project aims to optimize renewable energy use and reduce diesel generation. Hatch's scope includes conceptual design, equipment specifications, procurement support, vendor design reviews, factory testing representation, and construction, testing, and commissioning support.

Utility Battery Feasibility Study and Procurement Support

Yukon Energy Corporation, Canada



Hatch is working with Yukon Energy to assess the potential benefits a utility scale battery can provide to its grid. As part of this study, the primary, secondary and tertiary use cases for the battery were identified. Based on the use cases, the preferred sizing and battery chemistry were proposed. Additionally, three potential sites were assessed to determine the benefits and challenges associated with each option.

Hatch supported Yukon Energy with the preparation of battery specifications for the procurement of the 20MW/40MWh battery and terms for reference for the basic engineering for the balance of plant.

Inuvik High Point Wind-Storage & Power System Study

Northwest Territories Power, Canada



Hatch completed the preliminary and detailed design of Inuvik's hybrid power project, integrating a 3.5MW wind turbine and 3.5MW/1.75MWh BESS with the existing LNG and diesel plant. Services included balance-of-plant design, SCADA communications, Hatch HμGrid controls, procurement support, permafrost foundation review, and system commissioning in 2023. Additionally, Hatch integrated 1MW of solar into the microgrid.

South Tryon Bus Yard Charger Installation Design and Construction Management

Charlotte Area Transit System, USA



Hatch is supporting Charlotte Area Transit System (CATS) with the assessment, design, procurement, and construction management of new electric bus chargers beneath a solar canopy at CATS's South Tryon Bus Yard. This work includes fire protection and options to consider battery energy storage, solar system expansion, and a CNG generator.

Looking for more information?

Contact us!



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