SUMMERSIDE SUNBANK

THE SUMMERSIDE SUNBANK PROJECT

A Utility Scale Solar / Battery Generation Project

Canada

Prince Edward Island CANADA

City of Summerside Prince Edward Island Canada

POWERED BY INNOVATION
Summerside, PEI—A North American Leader

SAMSUNG
SAMSUNG RENEWABLE ENERGY

City of Summerside

Prince Edward Island
Canada

SUMMERSIDE SUNBANK

THE PROJECT IN 30 SECONDS

Element	Outcome
Project Budget	
Project Budget	$68.79 Million
Federal ICIP Contribution	$26.3 Million
Provincial ICIP Contribution	$21.9 Million
Municipal ICIP Contribution*	$20.53 Million
*Samsung Technical Investment	$3.02 Million
*City Ineligible ICIP Project Expenses	$2.99 Million
*City of Summerside General Fund	$3.02 Million
*Third Party Financing	$11.5 Million
Project Capacity	
Solar Capacity	**21 Megawatts** *which equates to 25% of all electricity needed in the City*
Battery Capacity	**10 Megawatt 20 Megawatt Hour** *which equates to the energy needed for 1000 electrical heated homes*
Summerside Renewable Increase	**Topping 62%** *which equals 226 days of 100% green power for the City of Summerside*
Annual GHG Reduction	**8,128 tonnes** *which equates to 1750 passenger Vehicles*
Solar Farm Footprint	80 Acres
Total Number of Solar Panels	65,000+
Total Size of Battery	1 acre
Construction Timeline	18-24 months
Estimated Commissioning Date	May 2022
Electrical Import Reduction	20% *representing keeping over 2 million energy dollars in PEI's economy*
Estimated Annual production	29.6 GWh (20% of annual load) *or 2500 homes*
Economic Impacts	
Labour Wages Increase	$10 Million
Indirect Economic Benefit	$7 Million
Construction Jobs	210 FTE's
Annual Tax Revenue	$3.8 Million

THE SUMMERSIDE SUNBANK PROJECT

Summerside is furthering the way Utilities, Communities and Customers engage, deliver, consume and develop electricity by creating a renewable energy installation that puts the Environment, Economic and Social goals at the forefront of its mandate. With the development and installation of 16 MW's of solar ac along with a 20 MWh, 10 MW power transfer battery system, Summerside is advancing the adoption and integration of variable renewables into an electrical grid and incorporating seamless delivery of service to our customers in an economic, social and environmental responsible manner.

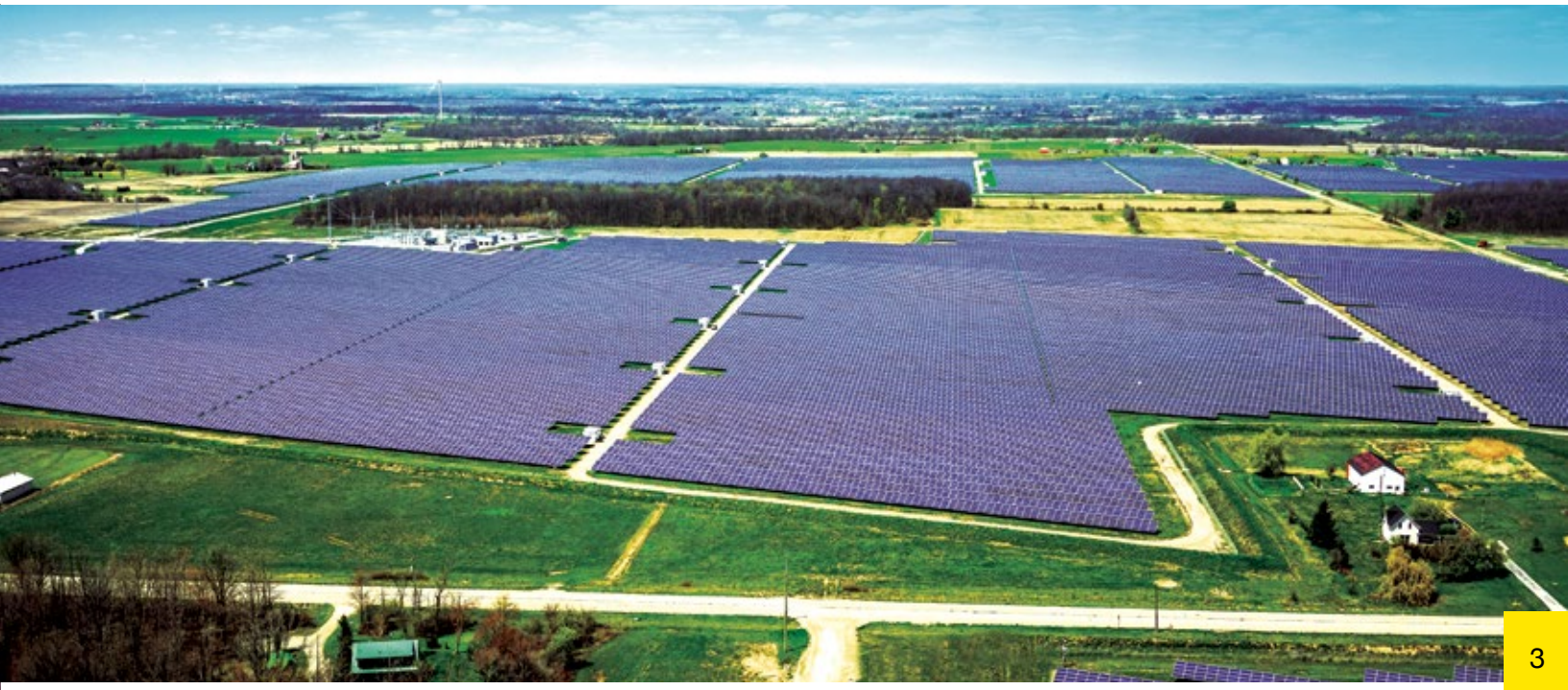
Summerside PEI is again revolutionizing the way utilities and communities deliver and consume power by creating an energy system that puts environmental, economic and social needs first.

SUMMERSIDE SUNBANK: THE FUTURE STARTS HERE

PV 16 MW A/C (24 MW D/C)

ESS 10 MW/20MWh

The boom in the renewable energy market over the past 10 years has seen Canada become one of the more successful countries in adopting renewables into the system. Approximately 19% of Canada's energy now comes from renewable sources. Credit is due in large part to municipalities, the City of Summerside being the one with the most accolades for innovation. Having already procured more than 45% of its energy requirement from wind generation, Summerside moves forward as a leader, never a follower.



City of Summerside
Prince Edward Island

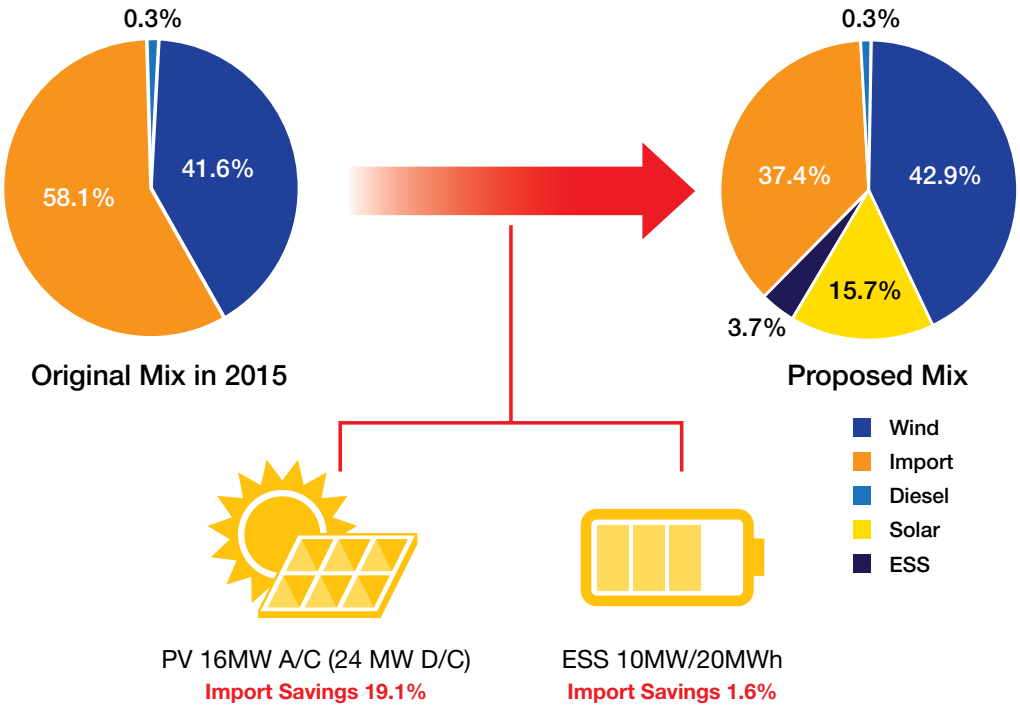
Samsung
Renewable Energy Inc.

SUMMERSIDE SUNBANK: OUTCOMES

The project's primary mandate is to demonstrate how utilities can integrate large scale solar PV and storage solutions that are impactful, responsive and green. This project will deploy a community microgrid combining 21MWac of solar PV generation with a 10MW/20MWh battery energy storage system within the City of Summerside. This will build on the City's existing wind capacity and leverage its capability in forecasting, scheduling and operating resources. It is expected to reduce imports of electricity from 58% to 38% and enable Summerside to become 62% green for all its electricity needs.

Summerside Energy Portfolio

Total Import Savings – 20.7%



Summerside Project Goals

- Enhance stability, security, reliability and resilience of supply
- Increase level of renewable energy generated from local sources
- Reinforce independence from electricity imports
- Increase flexibility in infrastructure for future needs
- Enhance local knowledge and skills in advanced technology deployment and operations
- Establish the City's energy backbone for smarter innovations longer term
- Reduce greenhouse gas emissions attributable to the City's footprint

Importance to the Community and Country

The Summerside Sunbank Project closely aligns with Canada's push towards Paris 2030. It exemplifies the active role that even small jurisdictions can and should play.

- Increased grid utilization
- Increases automation of supply/load balancing
- Leverages existing data sources and communications networks
- Increases local renewable generation
- Demonstrates the use of energy storage technologies for value streams.

Environmental benefits

The Summerside Sunbank Project provides significant environmental benefits including:

- Integration into the electrical grid of 30,000 MWh of solar energy
- A greener community using almost 62% renewable energy (wind and solar) for electricity needs. As an island community, it is a truly meaningful goal to reduce our carbon footprint and become the leader in innovative technologies for the future.

Economic and Social Benefits

- Local expansion of partnerships with global brand Samsung brings huge derivative impact
- Generating over $21 million of incremental gross domestic product on PEI
- Supporting over 200 full-time equivalent jobs on PEI
- Boosting labour income by $10,356,666 on PEI
- Increasing annual incremental taxation revenue to over $3.0 million
- Increase in excess of $7.0 million on local food spending, shelter services, transportation, health and personal care, recreation and gifts and charitable donations.

THE CITY OF SUMMERSIDE AND SAMSUNG SRE … AN INTERNATIONAL PARTNERSHIP

Summerside and Samsung SRE built a relationship founded on like mindedness. In 2016 while at an International Trade event hosted by the Federal Government, Samsung SRE and the City of Summerside connected. Based on several enabling factors including the City's robust infrastructure, its innovation ambitions, depth in electrification and its Living Lab Program along with Samsung's global expertise and capabilities in renewable energy and real smart city solutions, the parties struck a mutual collaborative agreement to further innovation on renewable energy projects inside the City of Summerside.

The basis of this partnership was to enhance Summerside's leadership position in Canada by deploying next generation technical solutions while showing other jurisdictions in North America how to replicate Summerside's approach whilst partnering with a leading global company in Samsung SRE.

Storing energy is not new for small applications, but it's an emerging market when ramped up to Utility scale. The boom in the renewable market over the past 10 years has seen Canada become one of the most successful countries adopting renewable energy into its grid system. Approximately 19% of Canada's energy supply is now from renewable energy resources. The City of Summerside in Prince Edward Island has procured more than 45% of its load from renewable sources.

Since the development of Summerside's wind farm, investment in clean technology has become key to advancing the City's sustainability, economic development and environmental reputation. It is the global sector presenting the most promise for municipalities and businesses to drive economic prosperity.

Summerside is a City that is a leader and an early adopter of green energy technologies among municipalities and Samsung is a leader in the private renewable energy sector as one of the largest renewable asset owners in Canada. Our partnership is a natural fit to bring synergies and capacities to both parties to achieve success.

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SUMMERSIDE/SAMSUNG SRE PARTNERSHIP GOALS ARE TO:

- Achieve national recognition of Summerside as the City of Excellence and City for Eco-Initiatives
- Develop Summerside as the Eco Centre for testing and validation of eco solutions
- Solidify relationships with additional partners for mutual advancement of business interests

The Summerside Sunbank Project is a collaboration between mutual partners to move our community forward based on innovation, energy, economic development and environmental sustainability, while bringing technology reliability and application to the Province of PEI.

OUR MUTUAL GOALS ARE TO

Position Summerside to maximize its energy system efficiency, stability and reduce greenhouse gas emissions to their lowest number through initiatives of combining energy storage systems with renewable energy resources, utilizing surplus electricity produced by such intermittent sources of power, enhancing grid efficiencies, managing demand and managing supply of the electricity by the City-owned utility;

Through the City and Samsung SRE partnership, contribute to the City's plan to become a landmark municipality for leadership in green energy policy and technology adoption;

Ensure we further innovate with state-of-the-art technologies that bring important economic development opportunities to the City and lead to the creation of value-added local jobs in the long term;

Ensure our partnership extends beyond the borders of Summerside to become a best practice model for leveraging sustainable green energy development using innovative technology as an integral part of its economic development strategy for North America.

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THE OUTCOMES OF THE SUMMERSIDE SUNBANK COLLABORATION WITH SAMSUNG SRE WILL FOCUS ON:

- Technical overseer and consultant to project bringing their global expertise in both battery and solar technologies.
- Construction overseer to assist with the development of a robust 35-year infrastructure asset with having a large experience group of constructing these types of assets.
- Financial Investor of the project
- Integration resource to assist Summerside in the integration of solar and wind into its electrical grid to bring renewable penetration above 60% with variable wind and solar resources.
- Valid relationship partner in furthering the City of Summerside on its quest to become a smart city and work towards a zero-carbon city this is but one step towards that goal.

SUMMERSIDE AN INNOVATION LEADER

SUMMERSIDE … ADDRESSING RENEWABLE ENERGY AND CLIMATE STRATEGIES HEAD ON

CANADA: addressing the nation's priorities

The Summerside Sunbank Project is a local initiative that will directly impact Canada's sustainable development and economic priorities in the following ways.

1. Enable economic sustainability and growth in the Atlantic region through development of a sustainable energy infrastructure which will:

- Mitigate the cost variability and future cost increase of power, improve service quality and reliability, and expand capacity for future growth;
- Enhance green energy supply for businesses seeking to be leaders in reducing their environmental footprint;
- Increase the retention and generation of wealth within the region by $21M in incremental GDP, boost labour income by $10M and provide indirect economic benefits of $7M.

2. Establish an innovative model for smart communities which will:

- Demonstrate how utilities can integrate renewable energy and storage solutions to enhance sustainability and resilience, while showcasing a platform for learning and innovation;
- Attract investment and partnership of technology companies wishing to test green products and services, and learn to build business models;
- Enhance the country's profile as a technology and innovation leader;
- Establish a case study for successful partnership in building community infrastructure.

3. Create a cleaner energy-independent environment which will:

- Reduce power imports for Summerside Electric from 58% to 38% and generate approximately 30,000 MWh per annum in solar PV electricity;
- Directly reduce CO_2 emissions by 21,000 tones annually;
- Leverage storage for the future growth required in the region's electric systems.

4. Enrich economic and social conditions which will:

- Increase annual incremental taxation revenue to over $4.0 million;
- Increase spending on food, shelter services, transportation, health and personal care, recreation and gifts, and charitable donations in excess of $7.0 million annually.

PRINCE EDWARD ISLAND: addressing the province's priorities

The Summerside Sunbank Project is a local initiative that will directly impact the Province of PEI's sustainable development and economic priorities in the following ways.

1. Develop a sustainable energy infrastructure which will:

- Mitigate the cost variability and future cost increase of power, improve service quality and reliability, and expand capacity for future growth, including growth from new technologies such as electric/hybrid vehicles;
- Enhance green energy supply for businesses seeking to be leaders in reducing their environmental footprint;
- Increase the retention and generation of wealth within the Province by $21M in incremental GDP, boost labour income by $10M and provide indirect economic benefits of $7M;
- Support 210 full-time equivalent jobs, generating incremental taxation revenue of over $3.8 million annually.

2. Establish an innovative model for smart communities which will:

- Demonstrate how utilities can integrate renewable energy and storage solutions to enhance sustainability and resilience, while showcasing a platform for learning and innovation;
- Attract investment and partnership of technology companies wishing to test green products and services, and learn to build business models;
- Enhance the Province's profile as a technology and innovation centre;
- Establish a case study for successful partnership in building community infrastructure.

3. Create a cleaner energy-independent environment which will:

- Reduce power imports for Summerside Electric from 58% to 38% and generate approximately 30,000 MWh per annum in solar PV electricity;
- Directly reduce CO2 emissions by 21,000 tonnes annually;
- Leverage storage for the future growth required in PEI's electricity system.

4. Enrich economic and social conditions which will:

- Generate over $21 million of incremental gross domestic product;
- Boost labour income by over $10 million;
- Increase annual incremental taxation revenue to over $4.0 million;
- Increase spending on food, shelter services, transportation, health and personal care, recreation and gifts, and charitable donations in excess of $7.0 million annually.

THE PROMISE OF LEADERSHIP

Summerside's ambition is to integrate innovative solutions within the community for the benefit of stakeholders globally. Together, we will work to ensure we stay ahead of the curve when it comes to shaping technology, research and community advancement. It is our belief that by leveraging our unique, controlled and clustered infrastructure, Summerside can establish its leadership in the global picture.

Given Summerside's strengths in green technology, we are well positioned to grow and attract investment and to succeed in advancing our community's position with our Provincial and Federal partners.

The Summerside Sunbank Project originates with the mandate of environmental stewardship, economic prosperity and social responsibility. It will enhance economic development and social and environmental opportunities for the community through furtherance of our position as a leader in innovation.

IMPACTS AT A GLANCE

PEI Energy Strategy	Project Outcome	Our Impact
Efficiency	✓	Reduce Import Cost Variability
Conservation	✓	Extending the Life of Built Infrastructure
Renewables	✓	Increase Renewable Generation from 42% to over 62%
Cost Effective Actions	✓	Increase GDP Spending by over $3.8 Million Annually
Creating Economic Development Opportunities	✓	Creating over 200 Full Time Jobs and $3.8 million in annual Provincial Revenue
Energy Savings (Import Reduction)	✓	Reduce our Imports from 55% to 37%
GDP Increase	✓	Over $21 Million in additional GDP Activity
Advances in Alternative Renewables	✓	21 MWh's of New Renewable Technology in PEI
Smart Grid Advancement	✓	Further Utilization of our Grid Modernization Program
Renewable Leadership	✓	Cements Summerside and PEI as true Leaders
Federal Priority Alignment	✓	GHG Reduction, Renewable Advancement, Environmental, Economic, Social Advancement
Establishment of Full-Scale Utility Testing	✓	First of its kind in PEI, Atlantic Canada and Canada

Come and grow with us!

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