

2020 | CASE STUDY

ECONOMIC IMPACT OF COMMUNITY ENERGY PLANS

SAINT JOHN, NB

INTRODUCTION

The project ran from June 2019 to March 2020.

The goals were to:

- Create a compendium of research
- Apply economic development impact analysis to three New Brunswick municipalities
- Develop a model for other New Brunswick municipalities to determine the local economic impact of their Community Energy Plans

Saint John was one of several municipalities identified to work with QUEST to align the initial project research with Saint John's Community Energy Plan and related local economic conditions.

THE SITUATION

ABOUT SAINT JOHN

Saint John is a port city located on the Bay of Fundy in the province of New Brunswick, Canada. Saint John is the oldest incorporated city in Canada; established by royal charter on May 18, 1785. The port is Canada's third largest port by tonnage. Saint John has a population of 67,575 over an area of 315.82 km² (121.94 sq mi). Greater Saint John covers a land area of 3,362.95 km² (1,298.44 sq mi) across the Caledonia Highlands, with a growing population of 126,202 as of 2016.



SAINT JOHN

Saint John derived its economy from maritime industries such as shipping, fishing, and shipbuilding. Since 2003, shipbuilding has ended on the scale it once was, forcing

the city to adopt a new economic strategy. Saint John maintains industrial infrastructure in the city's East side such as Canada's largest oil refinery.

Saint John Energy, formerly known as the Power Commission of the City of Saint John and Civic Hydro, is the electrical utility reseller of power purchased from NB Power in Saint John, New Brunswick. It was founded in 1922 and now serves over 36,000 customers. The utility sells 950GWh of electricity annually, however the utility has no electrical generating capacity of its own.

COMMUNITY ENERGY PLANS

The Saint John Community Energy Plan, developed in January 2019, is formally called the [Saint John Community GHG & Energy Action Plan](#). The plan has several high-level objectives that seek to reduce energy and GHG emissions, transition to low-carbon technologies and infrastructure and increase local renewable energy production.

The Community GHG & Energy Action Plan eight key goals that support the plan's vision of achieving a low carbon and smart energy community in an economically viable way.

Key goals of the GHG & Energy Action Plan

1. Foster a shift toward low carbon technologies.
2. Increase energy efficiency for new and existing buildings.
3. Foster a shift toward low carbon transportation that integrates EV infrastructure, promotes alternative fuel vehicles, low carbon fuel options, as well as public transit and active transportation as mechanisms to reduce the number of vehicles on the road.

4. Create or help adaptive, sustainable, affordable, and reliable local renewable and clean energy supply.
5. Design, build and revitalize neighbourhoods as complete communities that offer multi-modal transportation options.
6. Create new market opportunities for innovative energy solutions that are attractive for local and new businesses, and through high quality, affordable, clean energy services foster retention and growth of existing businesses and industries.
7. Build awareness about energy investment and create a culture of energy conversation amongst residents, businesses, institutions, and industries.
8. Build knowledge, skills, and technical capacity through partnerships that deliver innovative energy solutions at the local scale.

Goal #6 provides a strong link to pursue positive economic impact through the implementation of the **Community GHG & Energy Action Plan** and to be consistent with one of the key principles of the Plan which is to “create a competitive and economic advantage for the community”.

ECONOMIC DEVELOPMENT

In 2019, with extensive consultation with community stakeholders, Economic Development – [Greater Saint John tabled its Economic Development Plan 2019-2021](#).

The strategy is based on four areas of focus and four strategic goals of 2019 to 2021.

Four Focus Areas

1. Workforce development
2. Entrepreneur development
3. Business investment & innovation
4. Marketing greater Saint John

Four Strategic Goals

1. 2.5% increase in employment per year
2. 2.5% increase in labour per year
3. 0.5% increase in Gross Domestic Product
4. 1 index pt increase in consumer confidence per year

Implementing the Community Energy Plan has the potential to support all of the focus areas and strategic goals, particularly in the areas of keeping energy dollars in the community, creating jobs and attracting investment.

The current Economic Development Plan has a strong potential to align with the goals of the Community Energy Plan, specifically with:

- The three-year Workforce Development goal of securing significant investment in energy
- The innovation strategy to leverage Saint John Energy as an important regional asset in developing innovative energy solutions
- The Saint John’s foundational strengths that include energy infrastructure and support capabilities

THE RESULTS: THREE POTENTIAL ECONOMIC IMPACTS

QUEST’s research shows that economic impact, through the implementation of Community Energy Plans, is manifest in three key ways:

1. Keeping more energy dollars in the pockets of consumers as a result of significant energy efficiency and spending those dollars in other sectors of the local economy
2. Attracting investment and the resulting job creation from local energy infrastructure that drives reduced energy use, such as solar system installers, combined heat and power designers and technicians, etc.
3. Attracting major corporate actors in the transitioning energy economy that are seeking

to enter regional, national and North American markets

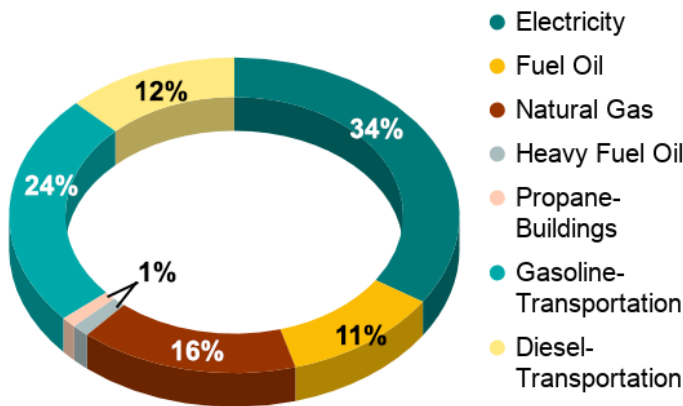
KEEP THE MONEY LOCALLY

To determine the impact resulting from items #1 and #2, QUEST provided a high-level analysis of potential job creation impact from a key recommendation of the **Community GHG & Energy Action Plan**:

“At least half of residential and commercial [buildings] improve their energy efficiency”

Based on a 2015 baseline, the related fuel used to heat, cool and light Saint John homes, businesses, offices and institutional buildings is shown in the following figure:

Saint John - Primary and Secondary Energy Distribution Percentage of Total GJ



Based on unit fuel estimates prices generally available, it is estimated that total energy annual costs are approximately \$300 million. If we assume that a 9% reduction in these costs can be achieved through the targets of the **Community GHG & Energy Action Plan** then we are able to determine that, at today’s energy prices, approximately \$27 million could remain annually in the community as a result of energy conservation and the related costs.



CREATE JOBS

Jobs are created from this economic impact in three ways:

- **Direct Jobs** (Investment Phase) - These are jobs created directly as a result of the activities that drive energy cost reduction - for example, home insulation companies, residential solar installers, etc.
- **Indirect Jobs** (Savings Phase) - These are the jobs created in the supply chains that deliver goods and services to the direct job category.
- **Induced Jobs** (Savings Phase) - These are jobs that are created when the newly hired workers in the direct or indirect categories re-spend their new earnings on local goods and services.

Calculating job impacts is determined by using known typical multipliers¹ for job creation in the status-quo local economy. For example, in a typical multi-faceted local economy, 17 jobs are created per million of spending. Energy-related activity has a higher job-creation effect at an estimated 20 jobs per million of spending. In the saving phase, dollars that are no longer going to utilities (estimated nine jobs per million) are then being spent in the general economy at 17 jobs per million.

Phase	Investment Phase	Savings Phase
Pre-CEP Implementation Multiplier (Jobs/\$M)	17 (Average)	9 (Utility)
Post Implementation Multiplier (Jobs/\$M)	20	17 (Average)
Net Job Creation Benefit (Jobs/\$M)	3	8

To achieve the goal of a \$27 million reduction in energy costs will drive an estimated investment of \$216 million (based on an estimated 8-year simple payback).

Applying the estimated investments and the estimated energy cost reductions we have a local impact of **648 jobs during the investment phase** and **216 person-years of employment for at least 20 years** during the savings phase.

¹ These multipliers are made available by the American Council for an Energy Efficient Economy: [Fact Sheet How Does Energy Efficiency Create Jobs?](#). Specific sector-based multipliers for Saint John are not available. The figures shown are provided to illustrate order of magnitude and comparisons among economic sectors.

ATTRACT MAJOR CORPORATE ACTORS

Aligning energy, climate and economic development policy and strategy can have a very positive impact on attracting resources and investment to the community. This is strongly reflected in the alignment of the **Community GHG & Energy Action Plan** and the **Economic Development Plan 2019-2021**. Specifically, the recommended Economic Development priority of taking advantage of two local opportunities in the closed potash mines and the local natural gas fields.

CONCLUSION

Saint John has demonstrated significant policy and strategy alignment that recognizes the economic development potential of implementing Community Energy Plans through the community-involved development of both their **Community GHG & Energy Action Plan** and **the Economic Development Plan 2019-2021**.

As Saint John continues to pursue its energy, climate and economic development goals it would likely benefit further from developing energy efficiency strategies programs for their homes, businesses and institutions that keep energy dollars in the local economy.

Attracting investment into the community through strong policy and strategy alignment is a key signal to investors and product and service providers.

Saint John has done an excellent job of understanding their local situation and turning them into very scalable opportunities that will economically benefit the citizens of Saint John.

To learn more about QUEST,
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