



Net-Zero Communities
Accelerator Program

Energy Mapping Exercise Final Report

January 2024

Submitted to:



WOODSTOCK
WHERE THE RIVERS MEET
- New Brunswick's First Town -

TOWN OF WOODSTOCK, NB

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About QUEST Canada

QUEST Canada is a registered Canadian charity that supports communities in Canada on their pathway to net-zero. Since 2007, QUEST has been facilitating connections, empowering community champions and advising decision-makers to implement efficient and integrated energy systems that best meet community needs and maximize local opportunities. QUEST develops [tools and resources](#), convene stakeholders and rights holders, and advise decision-makers — all with the goal of encouraging, assisting and enabling communities to contribute to Canada's net-zero goals.

QUEST Canada recognizes communities that have embraced these principles by referring to them as Smart Energy Communities.

Learn more about QUEST Canada and join the network at questcanada.org.

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1.0 EXECUTIVE SUMMARY

What is this Report About?

The Town of Woodstock participated in an energy mapping workshop facilitated by QUEST Canada, as part of the [New Brunswick Smart Energy Communities Accelerator Program](#).

This report summarizes the results of the exercise, including diverse stakeholder perspectives on the opportunities for energy efficiency, waste energy integration, renewable energy, land use and transportation with an eye to reduce energy costs and GHG emissions in the community.

The workshop was attended by representatives from the Town of Woodstock.

Who is it Intended For?

This report is intended to inform the municipal staff, councillors, stakeholders and the broader public about:

- Local strengths, achievements and impacts
- Opportunities to improve energy efficiency, integrate clean energy and improve transport as part of a Community Energy and Emissions Plan (CEEP)
- Targeting of measures and partnership facilitation

What are the Next Steps?

The report is intended to be used to inform future planning decisions. The results can be used to inform the CEEP, or specific projects and initiatives that the municipality or local stakeholders may wish to undertake.

As part of the NB Smart Energy Community Accelerator Extension Program, QUEST Canada also facilitated CEEP development and implementation workshops with the Town of Woodstock. The workshop included exercises to develop a community energy vision, set targets and goals, and identify who should be assigned as the lead responsible for each potential action, and which partners need to be involved. The exercises also created an assignment timeline, a target (e.g. percentage of GHG reduction), and identified whether each action needs funding, a study, or supporting policies.

QUEST Canada appreciates the opportunity to work with your municipality and local stakeholders to identify opportunities for integrated community-scale solutions to lower energy costs, reduce GHG emissions, and improve local resilience.

High Level Summary of Key Findings

Based on the results of the pre-survey and the workshop, The Town of Woodstock has the following strengths and opportunities to advance community energy and emissions reduction initiatives.

Table 1: Description of strengths and areas for improvement and opportunities

Areas	Key Areas for Improvement and Opportunities
Energy Efficiency	Energy efficiency retrofits for: <ul style="list-style-type: none"> ● Community properties (e.g., Mall) ● Schools ● Commercial, Industrial properties ● Various subdivisions – Bull subdivision, Keenan subdivision, Beardsley subdivision, Grafton subdivision
Waste and renewable heat	<ul style="list-style-type: none"> ● Waste heat sources: Wastewater treatment plant near Highway 165 ● Potential conversion to clean heat for the Town Hall on Main Street
Renewable power	Sources: <ul style="list-style-type: none"> ● Solar roof/ ground potential at Searle neighborhood
Land use	<ul style="list-style-type: none"> ● New residential and mixed-use development areas around Elm Street, Church Street, Water Street, and Foundry Street
Transportation	<ul style="list-style-type: none"> ● Potential New EV charging station at/on: <ul style="list-style-type: none"> ○ Irving Station on Tamarack Street ○ NBCC ○ Downtown area on Carleton Street ○ Motor Centre near the recreational area, on Connell Park Road ○ Mall on Connell Street ○ Sharpe Street
Energy networks	None identified
Other	None identified

2.0 COMMUNITY PROFILE

Woodstock, New Brunswick, has long been recognized for its historical charm and small-town ambiance. The population within the town's boundaries was 5,300 residents as of the 2016 census. After municipal reform / amalgamations, as of January 1, 2023, the population is now 12,300.

The Town of Woodstock is located 100 kilometres west of the Capital City, Fredericton; 300 kilometres west of the Nova Scotia border; 200 kilometres east from the Quebec border and 25 kilometres from the State of Maine border. Settled on the banks of the Meduxnekeag and St. John Rivers (at the intersection of the Trans Canada Highway at Exits 185 and 188, and I-95 at Exit 12), Woodstock was the first incorporated town in New Brunswick on May 1, 1856.

The town boasts some of the finest 19th Century Victorian heritage homes, churches and civic buildings. The town is a vibrant, prosperous community and the service centre of the Upper St. John River Valley. Woodstock is the retail and commercial hub of the agricultural, forestry and transportation sectors in the regional economy.

3.0 COMMUNITY ENERGY AND EMISSIONS MAP EXERCISE RESULTS

Goal

Provide participants with a hands-on energy mapping experience to enable them to share knowledge, discuss local opportunities and apply basic techniques for identifying opportunities in a spatial context, including planning local efficiency, clean energy, transportation, and land use actions.

Overview

The map exercise engaged multiple stakeholders, using a digital tool called Mural, to identify opportunities for their Community Energy and Emissions Plan and initiatives. The exercise enabled participants to denote these opportunities, and discuss various aspects and viewpoints. *Note that The Town of Woodstock has a large rural area.*

Here is a summary of the exercise:

Summary of Results

1. Energy Efficiency

Using [green stars and circles](#), the participants identified potential buildings and neighbourhoods for energy efficiency improvements. **These are listed here:**

- The Town's Mall on Connell Street could be a site for energy efficiency upgrades
- Schools— High School on Gallop Street, K-8 School on Helen Street, and K-8 School on School Street —have the potential for energy efficiency upgrades.
- Walmart and a Hotel on Gallop Street have the potential for energy efficiency upgrades
- Car dealership on Connell Street: an opportunity for energy efficiency upgrades
- Various subdivisions – Bull subdivision, Keenan subdivision, Beardsley subdivision, Grafton subdivision with potential for energy efficiency upgrades and could be future net-zero sites

2. Waste and Renewable Heat

Using [red stickers and stars](#), the participants identified potential waste and renewable heat opportunities. **These are listed here:**

- The wastewater treatment plant near Highway 165 is a potential waste heat source
- The Town Hall on Main Street could benefit from potential conversion to clean heat

3. Renewable Power

Using [green stickers and stars](#), the participants identified opportunities to integrate renewable power.

*Note that solar energy generation is becoming more popular in town compared to wind generation. Recent analysis has also shown that there aren't suitable locations/sites for wind energy within the town boundaries due to the required amount of space. **These are listed here:***

- Solar roof/ ground potential at the Searle Neighbourhood site on Hillsborough Rd

4. Land Use

Using various colors of shading, participants identified zones for densification, mixed-use, and restricted development. **These are listed here:**

- Various new residential and mixed-use development areas around Elm Street, Church Street, Water Street, and Foundry Street. *Note that these new developments will mostly start by 2024.*

5. Transportation

Using [yellow stickers](#), [purple lines](#), and [blue stars](#) participants identified opportunities for EV charging stations in various sites. *Note that there is no public transit in the Town of Woodstock. These are listed here:*

- Potential New EV charging station at Major destinations (e.g., Rebecca Schofield Accessible Playground on Cleveland Avenue), the Town Hall and The Operational Centre near Mill Creek Nature Park
- Potential New EV charging station at Irving Station on Tamarack Street, NBCC, Downtown area on Carleton Street, Motor Centre near the recreational area, on Connell Park Road, Mall on Connell Street, and on Sharpe Street

6. Map Images (photos of marked-up maps, and of the exercise)

Map 1:

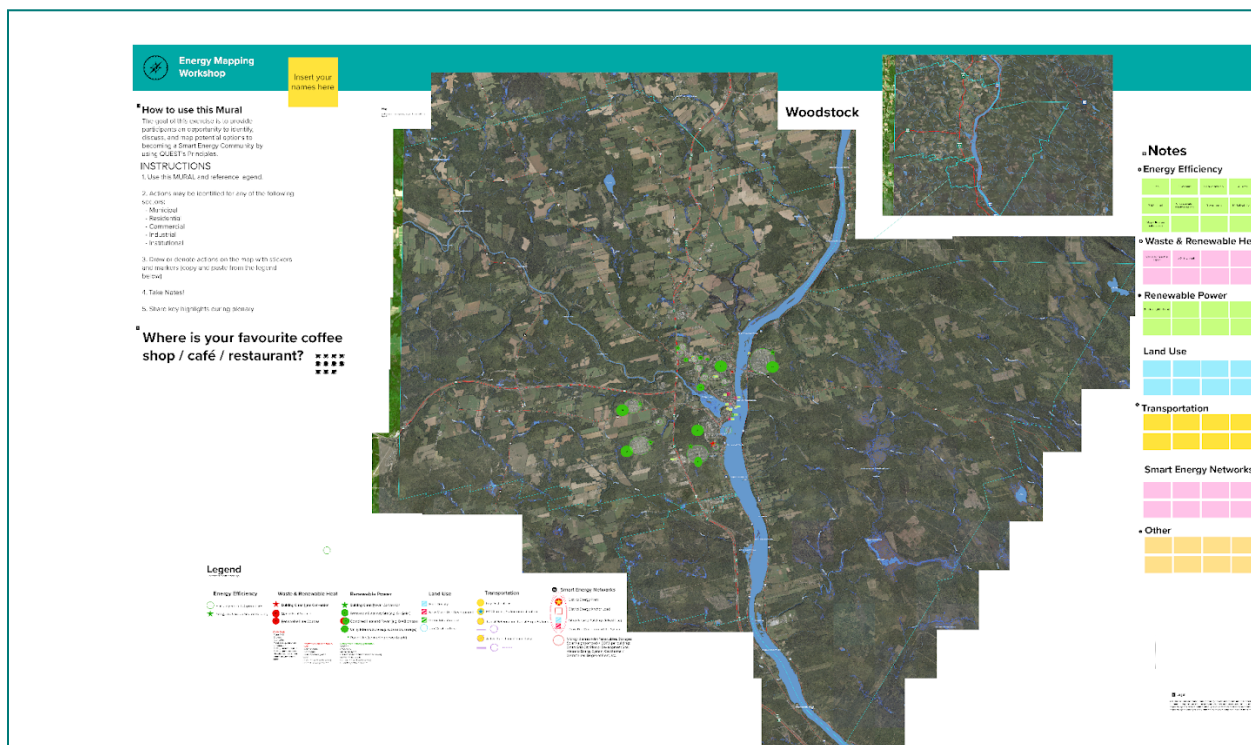


Image 2:



Image 3:



Image.4:

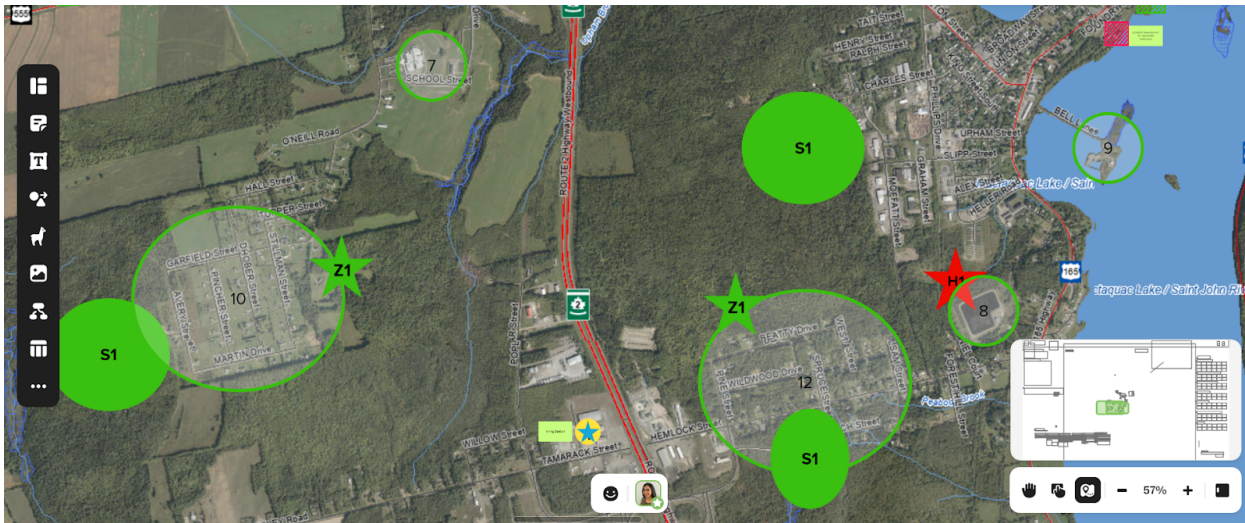
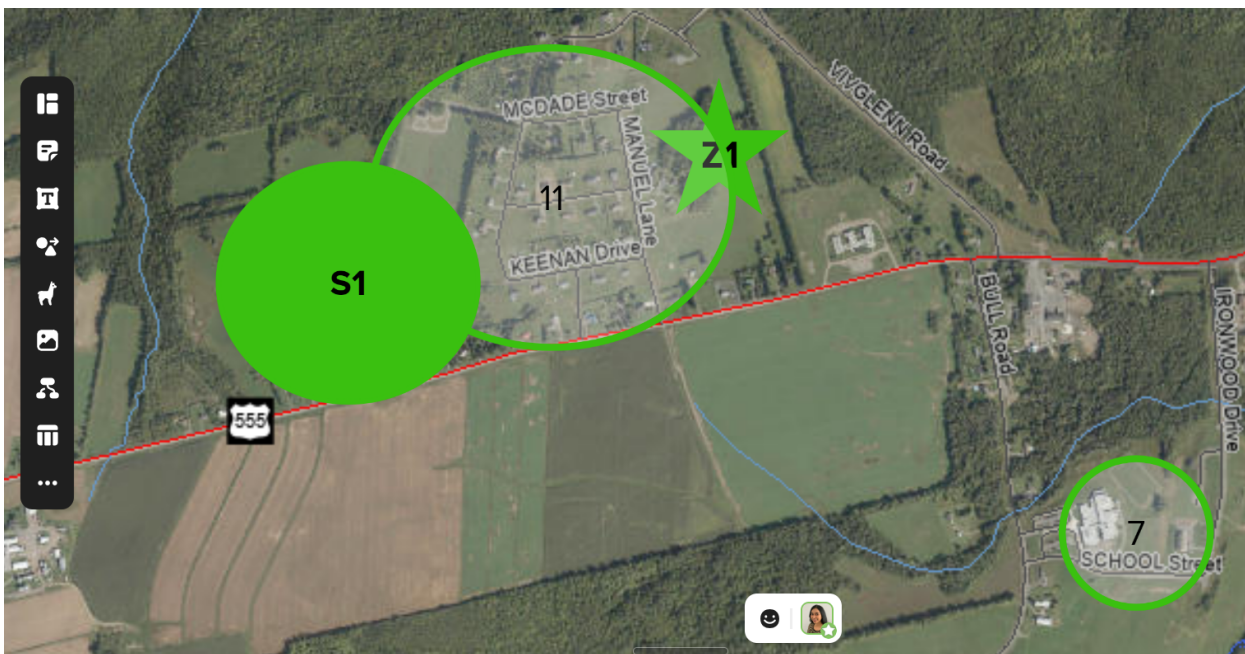


Image.5:



Disclaimer: Maps were produced with best available data at the time. Decisions based on map information should be taken into context, and QUEST Canada will not take responsibility for any damages caused by decisions made based on these maps.

5.0 SUMMARY OF RESULTS

5.1. Summary

The Town of Woodstock participated in a community energy and emissions mapping workshop facilitated by QUEST Canada, as part of the [New Brunswick Smart Energy Community Accelerator Extension Program](#). The workshop engaged diverse stakeholders and municipal staff, including through a map-based exercise where participants could identify local assets and strengths, as well as opportunities around energy efficiency, clean energy, transportation, land use and more. These opportunities were denoted on the map and discussed. The process ensured diverse viewpoints could be captured, and helped to establish a vision for a smart energy community. The key findings can be used to inform a CEEP, and pursue specific community energy and emissions initiatives.

5.2. Summary of Key Strengths and Things in Place

Through this workshop a number of local assets and strengths were identified. Here is a list of strengths:

- The town has an engaged and committed group of leaders interested in furthering the planning and action on smart energy initiatives in Woodstock.
- The mapping exercise illuminated several locations of significance within the community where smart energy activities could be implemented with great value to the community as a whole, such as the EV stations, waste heat sources, building clean heat conversion, and solar energy potential in various locations
- With the information gleaned during this workshop, the community is well-positioned to enhance energy efficiency, renewable energy or transportation plans for that area before the development plans are finalized

5.3. Opportunities Identified

Through this workshop a number of opportunities were identified:

- The Town and partners involved can follow the energy decision-making hierarchy to determine next actions
- The Town may review policies and ensure/develop alignment to the Town's energy plan (e.g. land use, climate change, etc.)
- The Town could continue to participate in the remaining activities in QUEST's Smart Energy, Community Accelerator Program — any relevant webinars
- The Town may continue building relationships with key partners/stakeholders in the community
- The Town may encourage greener housing, reducing heating/cooling by improved home insulation and optimised new building positioning. This can be done through education campaigns, permit requirements/incentives, or a community efficiency financing program

- The Town can encourage the integration of local, renewable, and conventional energy sources to meet community energy needs. This can include capturing and using waste energy in the community and increased use of solar options and/or wind energy
- The Town may encourage the electrification of transportation (e.g. charging stations), increase options for non-motorized transportation, and promote sharing of transportation (e.g. car share)
- The Town may consider land-use patterns that improve energy efficiency and reduce commuting, e.g. densification of the downtown core, Water Street, and new mixed-use developments
- The Town may create an awareness campaign about their intention to become a greener, more sustainable community. Every resident, business, and the Town itself can play a role in reducing energy consumption. The Town can promote the programs outlined by NB Power and communicate on the subject of sustainability through its website, social media, and newsletter. This can include constant reminders of ways to save energy. People seeing action toward savings will help
- The town can track energy consumption levels and communicate their changes. The more the community is involved and can share their energy-saving actions, the better
- The town can seek financial resources for implementing smart energy action items, including funds to mobilize financing initiatives that will help the community get started

5.4. Next Steps

The report can be used to inform future planning decisions, build on the Climate Change Action Plan/Community Energy and Emissions Plan, and help spur specific projects/initiatives that the municipality or local stakeholders may wish to undertake.

As part of the NB Smart Energy Community Accelerator Program, QUEST Canada also facilitated a CEEP implementation workshop with the Town. The workshop included an overview of the CEEP and the Smart Energy Community Benchmark Assessment results conducted in 2021. QUEST Canada then shared recommended strategies for governance, implementation, communication, stakeholder engagement, data gathering and monitoring progress through key performance indicators (KPIs).

6.0 CONCLUSION

This report highlights the consolidated results of the energy mapping exercise, for the Town of Woodstock, and identified opportunities for their CEEP, including for energy efficiency, harnessing local energy opportunities, improving land use, transportation, and more. Key findings can help inform your next steps, such as creating a CEEP and vision for a smart energy community.

QUEST Canada looks forward continued collaboration with the Town of Woodstock as part of the NB Smart Energy Community Accelerator Program. For any further information about this report or the Accelerator Program, please contact us at info@questcanada.org.

7.0 ANNEXES

1. Participant List

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