



Request for Proposals

Consulting Services – Community Solar Garden Feasibility and Design Study

June 2025

Project MCC-CD02-2506

Issued: June 18, 2025

Deadline: July 4, 2025

1. INTRODUCTION

1.1 Client

The client for this project is the Municipality of Colchester (“the Municipality”). The Municipality of Colchester is Nova Scotia's fourth largest municipality by population and area, stretching along both sides of the Bay of Fundy and up to the Northumberland Strait. Colchester is largely rural, with hundreds of small communities, two designated villages, and a large suburban population adjacent to the region's urban centre, the Town of Truro. Colchester's landscapes feature a mix of agricultural lands, forests, tidal rivers, and coastal areas, offering unique environmental and economic opportunities.

As part of the [Carbon-Free Colchester Community Energy & Emissions Plan \(CEEP\)](#), approved in 2022, the Municipality has established a climate target of producing net-zero emissions by 2050. Solar PV and other renewable energy sources are key elements of the Municipality's strategy to achieve that target. A community solar garden is specifically identified in the CEEP as a measure to enable residents to both reduce their greenhouse gas emissions and improve their resilience. Furthermore, community engagement during the CEEP process, as well as more recent surveys from organizations like Canadian Urban Sustainability Practitioners (CUSP) and Narrative Research, has revealed that energy poverty is a prevalent issue in Colchester County and Nova Scotia. The Municipality aims to maximize the co-benefits of the proposed project and all its climate initiatives to achieve greater social, economic, environmental, and health outcomes.

1.2 Project Description

The Municipality of Colchester is seeking the services of a qualified consulting firm to complete a feasibility study and preliminary system design for a grid-tied ground-mounted Community Solar Garden in the municipality. The solar garden will have a minimum capacity of four megawatts (4 MW) and a maximum capacity of seven and a half megawatts (7.5 MW).

The final deliverables of the proposed Community Solar Garden project must align with the requirements necessary to support the Municipality's application to the Province of Nova Scotia's *Community Solar* program. The study must present multiple options, as outlined below, and include both technical and financial analyses. It should also identify a recommended option to proceed with. This recommendation shall be sufficiently complete to allow the commencement of the detailed design phase of the project, which will involve the implementation of the selected option. Please note that the implementation phase will be the subject of a separate Request for Proposals (RFP).

The Municipality's Community Solar Garden project aims to give residents the opportunity to subscribe and receive a financial benefit on their utility bills. Rising energy costs are a significant issue for all residents of Nova Scotia, including Colchester, especially in the context of the current housing and affordability crisis. We view this project as an opportunity to move a project from the CEEP closer to implementation while simultaneously helping to increase energy affordability in the community. Equity will be an important focus of this project. We intend to develop subscriber criteria that prioritize residents who are equity-deserving and may have the highest need.

1.3 Project Objectives

The Community Solar Garden Feasibility and Design Study is a key step in developing a Community Solar Garden that will financially benefit members of the community who are most vulnerable to energy poverty and rising energy costs. A Community Solar Garden is an important part of Colchester's community emissions reduction strategy and will generate awareness and excitement in the community for renewable energy. It will also keep money in the community that would otherwise leave.

The specific goals of the *Community Solar Garden* are:

1. To develop a Community Solar Garden that enables residents to benefit from renewable energy in the form of reduced power bills, with an equity focus informed by engagement with the local community.
2. To help address energy poverty in Colchester and any partner communities.
3. To contribute to reducing greenhouse gas emissions in Colchester and any partner communities and reaching community climate action targets.
4. To build awareness and excitement about Community Solar and educate the community about the financial and environmental benefits of investing in renewable energy.
5. To implement a community energy generation project that will increase local energy sovereignty and keep money in the community that would otherwise leave.

The specific goals of the *Feasibility and Design Study* are:

1. To complete a study that meets the requirements for Feasibility Study and Business Case according to the Green Municipal Fund's *Community Energy Systems* "Study" stream:
<https://greenmunicipalfund.ca/funding/study-community-energy-systems>
2. To conduct all research and preparatory work to inform an application to the Province of Nova Scotia's *Community Solar* program:
<https://energy.novascotia.ca/renewables/community-solar-program>
3. To conduct all research and preparatory work required to implement a capital project and inform an application to the Green Municipal Fund's *Community Energy Systems* "Capital projects" stream:
<https://greenmunicipalfund.ca/funding/capital-project-community-energy-systems>
4. To understand the community's specific energy needs and determine how to best design and implement a Community Solar Garden to address those needs.
5. To develop a subscription program that prioritizes the needs of community members from equity-deserving groups, including in communications, enrollment processes, participation criteria, and program design.

2. WORK DESCRIPTION

2.1 Consulting Scope of Work

Colchester Municipality is seeking full engineering services to conduct a detailed feasibility study for a grid-tied ground-mounted Community Solar (photovoltaic) Garden in the Municipality, including and not limited to, electrical, structural, civil, environmental, and financial services. The final deliverables must include all necessary analyses, studies, and design documentation required for the Municipality's application to the Nova Scotia Community Solar Program.

The RFP services stated below are to be completed by October 31, 2025.

This Request for Proposals does not prescribe methods to be used, as the methods shall be informed by the expertise of the consulting team; however, it is the consultant's responsibility to ensure that the selected methods are compatible with the criteria for subsequent funding and program applications. The successful proponent shall apply current best practices to deliver a well-researched report that achieves the project objectives outlined in section 1.3. The following scope of work is illustrative and non-exhaustive.

The Consultant's responsibilities shall include but not be limited to:

- A. **Preliminary site selection** – To be developed in collaboration with the Municipality, this task includes a high-level evaluation of potential sites owned by the Municipality of Colchester and within the boundaries of the municipality for the proposed Community Solar Garden. Following contract award, the Consultant will work closely with the Municipality and its representatives to identify and confirm 2-4 suitable sites. The consultant is expected to conduct site visits and provide recommendations to the Municipality prior to initiating any feasibility study work.
 - Considerations include but are not limited to land availability, land-use and environmental considerations, shading, and proximity to utility infrastructure.
- B. **Site assessment** – For each identified site, the Consultant shall undertake site investigations, measurement, verification, data collection, and assessment of existing systems, including and not limited to electrical, civil, environmental, and structural as required to confirm existing conditions to prepare for new work. The Consultant shall visit the selected sites as required to confirm existing information prior to the start of any preliminary design work.
- C. **Detailed feasibility assessment for the preferred sites:** For two preferred sites selected by the Municipality based on recommendations from the Consultant, perform full feasibility assessments for solar gardens with 4MW and 7.5MW AC solar PV grid-tied capability, for a total of *four* assessments. The proposed MW AC capabilities are tentative and may be adjusted based on discussion between the Municipality and the successful proponent and the findings of the preliminary site selection process.

The feasibility assessments must include, at a minimum, the following tasks:

- Map Nova Scotia Power Inc. (NSPI) Infrastructure for each site.
- Prepare a comprehensive solar site assessment report, to be submitted to the Municipality of Colchester for review, utilizing specialized solar PV assessment software such as Helioscope, Aurora, or equivalent. The report must include a detailed evaluation of the solar resource at each selected site, incorporating two system capacity options (tentatively 4MW and 7.5MW). Each option should include an energy production analysis, assessment of historical electrical usage, financial analysis, 3D modeling, shading impact, and Class D cost estimate. The report must outline the

advantages and disadvantages of each option and provide a recommended option for the Municipality's consideration. The Municipality may request revisions or updates to the proposed options following the initial review.

- Conduct a 30-year life cycle cost analysis for each option to determine the most cost-effective solution in terms of greenhouse gas (GHG) emissions reductions.
- Recommend a strategy for ongoing tracking of energy consumption and carbon emissions to support long-term sustainability goals.
- Provide a detailed 30-year lifecycle cost analysis that compares the upfront investment and ongoing maintenance expenses with projected energy and cost savings. The analysis shall also estimate the lifetime greenhouse gas (GHG) emission reductions of the Community Solar Garden and quantifies the cost per kg of CO_{2e} reduced.
- Conduct a geotechnical study and recommend foundation options best suited to each selected site.
- Evaluate all existing electrical infrastructure.
- Assess local distribution system capacity, interconnection considerations, and easement for utility equipment.
- Complete low voltage and medium voltage electrical design. The single line diagram and the site plan shall show interconnection requirements up to NSPI primary (MV) infrastructure. Method of interconnecting to NSPI primary infrastructure is to be to NSPI's satisfaction.
- Provide a concept design and proposed location for a dedicated electrical building, which shall house the main electrical distribution equipment. This building must be a slab-on-grade, insulated, wood-framed structure, complete with HVAC systems as required.
- Include provisions for site area lighting, equipped with automatic controls as necessary to meet operational and safety requirements.
- Include all necessary coordination with NSPI, including the preparation and submission of interconnection request documentation. The successful proponent will be responsible for managing all aspects of utility coordination throughout the feasibility phase.
- Conduct a climate impact assessment.
- Conduct an Environmental Site Assessment (Phase 1), if applicable, and any other environmental assessment required by provincial or federal regulations. If no environmental assessment is required by law, the Consultant shall conduct an environmental assessment that meets the minimum requirements for application to the NS Community Solar program.
- Include all necessary civil engineering services, including but not limited to:
 - i. Analysis of existing site conditions and provision of survey data as required
 - ii. Confirmation of scope and service requirements in consultation with the Municipality
 - iii. Evaluation of vehicular circulation based on appropriate design vehicle(s)
 - iv. Assessment of parking needs, loading zones, and drop-off areas
 - v. Review and design of connections to existing infrastructure and on-site systems, including building service tie-in (if required).
 - vi. Security fencing required for site.

vii. Site drainage design.

All civil engineering work must be completed by a licensed Professional Engineer registered in the Province of Nova Scotia.

- Include all required structural engineering drawings including and not limited to the concrete footing for ground mount array. Structural engineering work shall be prepared by a professional structural engineer licenced in Nova Scotia.
- Provide a separate Class D cost estimate for each option (four total).
 - i. The Class D cost estimate shall include a breakdown of material and labour costs and shall include all costs related to electrical, civil, structural, and environmental as well as any cash allowance required to upgrade the NSPI network.
 - ii. Support each option with drawings and sketches including layouts, site plan, diagrams, elevations, details, electrical buildings layouts, etc.

The feasibility study and system design shall be developed in compliance with:

- The program requirements outlined in the Province of Nova Scotia's *Community Solar* program.
- Canadian Electrical Code 26th Edition CSA C22.1:24, or latest edition.
- National Building Code of Canada: 2020, or latest edition.
- Nova Scotia Power requirements (latest edition) including but not limited to: Electrical Bulletins, Utility Service Requirements, Generation Interconnection Procedures, etc.
- Government of Nova Scotia Electrical bulletins.

D. Solar PV system design and construction plan, including:

- Permitting requirements
- Site preparation requirements
- Decommissioning plan
- Risk management, quality assurance, and control
- List of requirements to include in a Design-Build RFP for detailed design and construction of the solar garden

E. Financial feasibility analysis, including:

- Optimal project size in MW AC
- Total project cost breakdown
- System financial modelling and expected payback calculations
- Proposed \$/kwh power purchase rate (based on Community Solar program criteria)
- Operation and maintenance costs for the installed equipment
- Recommended number of subscribers and min./max. kW per subscriber
- Financial benefit to participating subscribers
- Any other analyses required in the Community Solar financial template

2.2 Deliverables

The deliverable for this project is a full and detailed Community Solar Garden feasibility assessment, which shall include as a minimum:

1. Detailed review of findings for each task identified in section 2.1C and for each size/site combination
2. Solar PV System Design and Construction Plan
3. Report detailing the financial feasibility analysis and summary of results

4. Summary of feasibility assessment outcome and recommended option
5. Summary of coordination with NSPI
6. Appendices, including:
 - copies of data sheets and manufacturer documents of recommended equipment
 - copies of correspondence with NSPI

The complete study shall be stamped by a professional engineer registered in the province of Nova Scotia.

2.3 Municipal Staff Scope of Work

Part of the purpose of the Community Solar Garden Feasibility and Design Study is to understand the energy needs of the community and develop a model for a user-friendly and equitable subscription program. Concurrent to the Consultant's Scope of Work, municipal staff will undertake market research analysis and community engagement to inform the design of a subscription program for the Community Solar Garden. This work will be completed with support from the Clean Foundation's Community Climate Capacity program. This work provided by the Municipal staff shall not delay the delivery of this feasibility study.

2.4 Available Information

Municipal planning strategies, by-laws, and other planning documents are available on the Municipality of Colchester website: <https://www.colchester.ca/community-development>

Additional documents and data will be provided to the successful proponent upon request after the project kick-off.

2.5 Project Schedule

Unless specified, all dates are in 2025.

Request for Proposals issued	Wednesday, June 18
Proposal submission deadline	Friday, July 4
Award of contract (Tentative)	Wednesday, July 16
Kick-off meeting (Tentative)	Week of July 21-25
Project Completion	October 31

3. Proposals

3.1 Proposal Content

Proposals shall contain the following information:

- Brief description of the Consultant's understanding of project requirements.
- Detailed work plan, including the proposed approach, project management plan, project phases, activities, tools, frameworks, methods, resources required, and deliverables.
- Statement of any perceived challenges and risks this project may present and how the Consultant intends to mitigate those as part of their process.

- Brief description of the Consultant's organization (corporate profile) and a list of similar projects (minimum of 3) carried out in the last 10 years by the Consultant.
- A minimum of three (3) references from previous clients for projects of similar type and scope. Similar projects shall have minimum a minimum solar capacity of 1 MW.
- Resumes of key personnel to be deployed for the project, as well as an organizational chart for the project team showing lines of responsibility and roles.
- Profile and key personnel of sub-contractors/consultants proposed to be employed for the completion of the project and the scope of work that will be sub-contracted out to them.
- Gantt chart or equivalent showing the project schedule.
- Expected maximum response time to correspondence and how the proponent plans to meet that commitment.
- Summary of potential adverse environmental impacts of proposed work plan and efforts that will be made to mitigate those impacts and maximize efficiencies.
- Consultant's fee and cost breakdown as referenced in section 3.4.

3.2 Inquiries

All questions related to this RFP should be directed to:

Joanna Burris, Sustainability Planner
Municipality of the County of Colchester
1 Church Street, Truro, NS, B2N 3Z5
Phone: (902) 897-3170
Email: jburris@colchester.ca

3.3 Proposal Submission

Proposals must be submitted by email with the subject line "CONSULTING FIRM NAME - Colchester Community Solar Study". Proposals must be in PDF format and will be received until **July 4, 2025, at 4:00PM**, local time. Submissions received after the deadline will be disqualified without being opened.

Please address submissions to:

Joanna Burris
jburris@colchester.ca

The Client will proceed with private openings. Proponents will be advised of the results after the Contract has been awarded.

3.4 Fees, Expenses, & Disbursements

Payment shall be made as work is completed and upon receipt of detailed invoices. The Consultant may also wish to propose a payment schedule for work components or milestones.

The proposal shall include a schedule of fees and expenses detailing the hourly rates for project team members, an estimate of the amount of time each member will devote to the project, and the resulting cost *excluding HST*, all subtalled by task. A breakdown of estimated disbursements and expenses *excluding HST* shall similarly be included. Fees and expenses for meetings with the Client shall be included in the proposed total cost.

The Municipality of Colchester wishes to firmly establish the total cost of the contract work prior to entering a Contract. The Municipality requires that proponents supply a detailed estimate of the total cost including all fees, expenses, and disbursements. Actual costs that exceed the estimated total cost without prior written approval of the Municipality will not be paid.

3.5 Tax

The Accepted Consultant shall pay all Federal and Provincial Taxes as required by the appropriate enactments. The Accepted Consultant shall indicate on each application for payment, as a separate amount, the Harmonized Sales Taxes that the Municipality is legally obligated to pay. This amount will be included in payments to the Accepted Consultant.

In the event of changes in applicable tax legislation to provide additional tax relief during the course of this Contract, it is the intent of the Contract that any benefits therefrom shall accrue to the Municipality who shall deduct any overpayment of taxes from moneys due to the Accepted Consultant.

In the event of additional taxes being imposed during the course of the Contract, it is the intent of the Contract that the additional amounts paid by the Accepted Consultant will be reimbursed by the Municipality in accordance with the requirements of the applicable tax act.

4. Evaluation Criteria

Responses to this Request for Proposals will be reviewed by the Selection Committee and other specialists as appropriate. Proposals must comply with all requirements outlined in this document and all submissions will be evaluated and ranked against the following criteria and associated weights:

30% *Project approach, methodology, and management:*

- understanding of project and approach to the scope of the services required;
- management of project and suitability of the proposed work plan;
- compliance with the Project Objectives and Work Description; and
- ability to meet all project timelines.

30% *Consulting team information and experience:*

- team composition and representation by all necessary disciplines of the primary consultant and sub-consultants assigned to the project;
 - experience of the proponent and key team members with similar projects and the range of specified services;
 - proposed organizational structure and coordination of the individual team members including reporting relationships, identification of lead members, and communication;
 - availability of back-up personnel and/or provision to access specialized skills; and
 - results of reference checks for previous projects.
-

30% *Proposed costs, value for money, and acceptance of terms and conditions:*

- value for money represented by the proposed level of effort; and
- creative and cost-effective solutions

5% *Consideration of environmentally sustainable practices and approaches*

5% *Quality and completeness of submission*

5. General Conditions

5.1 Personnel

The Accepted Consultant is advised that the Client expects the project lead and key personnel listed in the proposal to perform the work indicated and written permission must be obtained before changing any key member of the work team. In the case of personnel being changed, the Client requires that the new personnel being assigned have a similar length and breadth of experience relevant to this project as the personnel being replaced and otherwise be acceptable to the Client.

5.2 Proposal Acceptance

The Client reserves the right to reject any or all proposals. The Client reserves the right to accept a proposal that is not the lowest price or to accept any proposal which it may consider to be in its best interests. The Client reserves the right to waive formality, informality, or technicality with the acceptance of proposals for this work. Any proposal not supported by the information requested in this RFP may be rejected. The Client reserves the right to negotiate with any proponent who has submitted a proposal or with other parties as deemed in the best interest of the Client.

This Request for Proposals is not to be construed as an offer. The Client reserves the right to not proceed with any or all aspects of this work without compensation for expenses to contractors.

This RFP does not guarantee any future work that may be included as part of the next phase for the implementation of the outcome of the feasibility study.

5.3 Media

The consultant shall not respond to requests for project related information or questions from the media. Such inquiries are to be directed to the Municipality of Colchester.

5.4 Proposal Validity

Proposals shall be valid for acceptance for a period of sixty (60) days from the closing date or such additional time as may be mutually agreed upon in writing.