

**SCHEDULE E**  
**Form of Completion Report for Plans**

GMF number:	15055
Name of the Recipient:	Town of Bridgewater
Phone, fax, e-mail, and address of lead contact:	Phone: (902) 541-4390 Fax: (902) 543-6876 e-mail: Leon.deVreede@bridgewater.ca Address: 60 Pleasant St, Bridgewater, Nova Scotia, B4V 3X9
Date of the Report:	February 26, 2018

**1. Summary of the Initiative**

a. Please briefly describe the Plan that was prepared as part of this planning exercise.

*The Bridgewater Community Energy Initiative, branded as “Energize Bridgewater” is a community-wide initiative to accelerate the transition of the community of Bridgewater, Nova Scotia (population 8,600) toward a “clean energy economy”. Started in 2016, the initiative has resulted in practical energy demonstration projects, innovative new partnerships, and new knowledge and skills. Through this initiative, the Town of Bridgewater and its network of Energy Partners are engaging a broad cross-section of the community to achieve these ambitious goals by taking concrete action on innovative energy solutions. The community’s shared vision and commitments have been recorded in the Community Energy Investment Plan (CEIP) that has mapped out an economically-viable “Energy Shift” toward a clean local energy economy over 33 years, and recommends practical financial tools that will make energy solutions more affordable for residents, businesses, and organizations. The Plan recommends the investment of \$374 million to achieve an 80% reduction of greenhouse gas emissions from the community – while generating significant return on that investment.*

b. What was the objective in preparing the Plan (i.e., what was the Recipient trying to achieve, and why)?

*In pursuing this project, the Town sought to achieve the following goals:*

- 1. Put the community on a path toward deep energy reductions and infrastructure transformation*
- 2. Re-imagine the community’s relationship to “energy” in all its forms*
- 3. Address critical concerns such as energy conservation, renewable energy generation, energy poverty and affordability, and the community’s long-term energy security*
- 4. Demonstrate economic development opportunities that will come from a transition to a sustainable energy future*

5. Exercise community-wide leadership in energy sustainability

A set of 10 Desired Outcomes were established at the start of the project to measure success toward achieving these goals. These Outcomes were evaluated in the attached Project Evaluation report. There were many reasons for pursuing this work, including:

- Energy poverty is a significant social issue in our community and Council felt strongly about addressing it. The Town is also concerned about the related issues of energy security and long-range energy risk mitigation.
- The Town is branding itself as a ‘green’ community, and clean energy was determined to be an important area of exploration
- The Town is concerned about its environmental impacts, including its GHG emissions. Council has stated its desire to participate in meeting global, national, and provincial climate change mitigation targets
- The Town suspected that energy transition could be a significant economic development opportunity for the community

c. If the lead applicant is not a municipality, please briefly explain why the lead applicant undertook this Initiative.

*Not applicable*

d. Please summarize the activities completed as part of this Initiative, as per Schedule A. Note: Your summary should build on the information you included in your previous Progress report(s). Please ensure to briefly (four to five sentences) explain how the Plan was prepared—that is, what was the approach (or methodology) that was taken to meet the community’s objectives. If applicable, please describe any public consultation process that was used in developing the Plan (e.g. describe items such as how stakeholders were identified and engaged in the preparation of the Plan; the visioning process that was used; any community surveying techniques that were used and so forth).

<b>Project Phases</b>	<b>Implementation Status</b>
<b>Phase 1: Prepare for Planning Process</b>	Complete (see previous progress report)
<b>Phase 2: Create Sustainability Vision</b>	Complete (see previous progress report)
<b>Phase 3: Assess Current Situation</b>	Complete (see previous progress report)
<b>Phase 4: Develop Action Plan</b>	Completed in June 2017.
<b>Phase 5: Develop Implementation and</b>	Completed in October 2017. Community Energy Investment Plan public and stakeholder consultations completed. Public validation

<b>Monitoring Strategy</b>	event branded as “Energize Nova Scotia Discovery Fair” and held October 27-28. Draft Plan prepared for Council approval. Living Energy Laboratory projects round 2 delayed until 2019, and Energize Bridgewater website retooling was delayed into Phase 6.
<b>Phase 6: Approval</b>	Completed in February 2018. Council approval for CEIP achieved on January 8. Final documentation produced during this Phase also include Sustainable Bioenergy Supply report, Energize Nova Scotia Discovery Fair final report, Project Evaluation report, and BCEI Toolkit.

*To develop the CEIP, the Town made use of technical strategies sourced from across Canada and internationally. The energy and economic model that underlies the Plan is contained in an advanced community-scale energy scenario software called CityInSight, courtesy of consulting firms Sustainability Solutions Group and whatIf? Technologies.*

*For CEIP development and stakeholder engagement, Energize Bridgewater made use a community-based stewardship model that fosters deep engagement and community-wide ownership of the process and its outcomes. An example of how core community stakeholders were selected is reflected in the composition of the Bridgewater Community Energy Initiative Advisory Committee, which oversaw the development of the Plan. The text below is an excerpt on membership from the Terms of Reference for the Committee:*

- *Three (3) residents of the Town of Bridgewater, including at minimum one (1) renter and one (1) homeowner. Priority will be given to applicants who self-identify as: youth (under 35 years of age), senior (65 years of age and older), or low-income (annual household salary is below the Low Income Cut-off).*
- *Two (2) stakeholders from the Energy sector, including at minimum one (1) energy utility and one (1) energy product or service supplier.*
- *Two (2) stakeholders from the Building sector, including at minimum one (1) developer and one (1) building product or service supplier.*
- *One (1) stakeholder from the Transportation sector.*
- *One (1) stakeholder from the Business or Economic Development sectors.*
- *One (1) stakeholder from the Social Services sector serving vulnerable or low-income residents of Bridgewater.*
- *One (1) representative of the Municipality of the District of Lunenburg.*
- *One (1) Councillor.*

*High visibility elements such as the Bridgewater Energy Partnership and the Energize Nova Scotia Discovery Fair educated stakeholders and are already achieving long-term commitment and participation, and will allow for shared monitoring of the Plan’s results. The program supports continuous learning and capacity building for all stakeholders. Through programs such as the Energy Partnership, the Living Energy Laboratory, and collaborations with other municipal units, it is setting the community up for long term enquiry and competence in the field of energy.*

*Finally, Energize Bridgewater is designed as an action-oriented initiative that has delivered early solutions to energy challenges through the Energy Partnership and the Living Energy Laboratory projects. The initiative builds on existing success stories, reflecting the program's true goal of social mobilization.*

e. Were there any significant changes to the scope or costs of the Project as described in the Agreement or in a previously submitted Project Progress Report (if applicable)? If so, please briefly explain why.

*A small number of actions and deliverables were delayed to later Phases – these are described in the phasing table above and in the previous progress report. Beyond these superficial changes, there were no substantial changes to the project compared to what was proposed. Project costs came in higher than expected, but these were able to be mitigated for through in-kind contributions and external funding from the Province of Nova Scotia.*

f. How much did the preparation of the Plan cost, and how was it paid for?

*The total cost of the project came to \$235,269, which was comprised of \$152,799 in eligible cash costs, \$1,885 in ineligible cash costs, \$61,684 in in-kind contributions from the Town of Bridgewater, and \$18,900 in external in-kind contributions. Cash costs were paid for by the Green Municipal Fund (43%), the Town of Bridgewater (33%), the Province of Nova Scotia (13%), and corporate sponsorships and donations (11%).*

g. Roughly how long (in months) did it take to prepare the Plan?

*The full process to develop the CEIP, including early project design and fundraising, began in June 2015 and lasted until the final draft was produced in December 2017 – 31 months. When considering only the time that incurred in cash costs, and the eligible timeframe for costs covered by GMF funding, the process started in April 2016 – so 21 months.*

h. How is the Plan related to existing plans, practices, guidelines or policies within the municipality, and how does it contribute to achieving the municipality's sustainability goals?

*The CEIP is strongly aligned with, and relates directly back to, the Town's Integrated Community Sustainability Plan (2010), Municipal Climate Change Action Plan (2013), Energy Management Plan for Facilities (2015), and its membership in the Partners for Climate Protection Program in order to achieve Milestones 2 and 3 in the Community stream. The Plan achieves a number of actions and outcomes called for in those plans and policies, and provides further guidance on their implementation.*

*The implementation of the CEIP has now become incorporated into Council's 3-year Community Economic Development Action Plan as one of its central pillars. Revisions to the Municipal Planning Strategy and the Land Use By-Law will also take place as a result, in order to bring the Town's land-use policies and regulations in line with the new energy objectives.*

## **2. Community Context**

a. Please provide a brief (five to six sentences) profile of the community that is the object of this Plan, including population, geographic area, demographics, and general economic conditions. (Note: This information is readily available from the Community Profiles section of the Statistics Canada website at [www.statcan.ca](http://www.statcan.ca).)

*Bridgewater is located on Nova Scotia's beautiful South Shore, about 100KM from Halifax. Known as "the best place in Atlantic Canada to raise a family", and the "main street of the South Shore", Bridgewater offers a large range of public and private services and employment to its 8,700 residents and to the people of the South Shore. Home to a Michelin factory, significant retail space, and the Lunenburg campus for of the Nova Scotia Community College, the community is active and vibrant throughout the year. In recent years our municipality has been focusing increasingly on sustainability programs and education. The community is developing a reputation for its green leadership activities and is increasingly becoming a model for rural communities and small towns throughout Atlantic Canada and beyond.*

b. Briefly (two to three sentences) indicate the size and structure of the municipal government, and the approximate number of full-time municipal employees.

*The Town of Bridgewater provides municipal services including streets, water, sewer, storm water, fire protection, policing, recreation, engineering, building, and planning services to the community of Bridgewater. In 2017, the Town started up a fixed route transit pilot program which is already demonstrating success and is likely to be continued. The Town employs approximately 80 full time staff.*

### **3. The team: Who Was Involved?**

a. Briefly (four to five sentences) indicate who was involved in developing this Plan, and their affiliations. Include both municipal staff and officials who managed the preparation of the Plan, and any consultants who worked on the Plan.

*The project was led by the Bridgewater Planning Department under the leadership of the Director of Planning (Jessica McDonald). The project lead was the Sustainability Planner (Leon de Vreede). Project guidance was provided by a 12-member BCEI Advisory Committee which included community stakeholders and one Town Council representative (Councillor Graves). The Committee was Chaired by the representative from Michelin North America (Reno Roy). The main project consultant was Sustainability Solutions Group (SSG), under the leadership of Yuill Herbert. SSG was responsible for the formal planning, analysis, and writing work that was involved in the development of the CEIP. Other consultants retained for the project included whatIf? Technologies Inc (energy & economic modelling), the Bluenose Coastal Action Foundation (communications & event planning support), IndEco Strategic Consulting (community engagement), the Mersey Tobeatic Research Institute (bioenergy research), and Dalhousie*

*University's School of Planning (student project for Craig Dedels: energy issues in the rental housing sector).*

b. Was there a Project champion who was instrumental to the completion of the Plan? If so, please include his or her name, title and contact information, and describe his or her role in the preparation of the Plan.

*The overall lead and champion for the project was the Town of Bridgewater's Sustainability Planner. Roles included project management, contractor management, budget management, reporting to Council, project research, volunteer management, community engagement, report writing and review, and summer staff supervision.*

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#### **4. Environmental, Economic and Social Benefits of the Initiative**

For the questions in this section: If the answer to the question is clearly outlined in the Plan itself, it is sufficient to indicate the section and page number(s) of the Plan on which the information can be found.

a. What environmental goals/objectives and targets were established in the Plan?

*Through the implementation of the CEIP, GHG emissions from the town of Bridgewater can decline from 385,000 tCO<sub>2</sub>e (tonnes of CO<sub>2</sub> equivalent) in 2011 to 74,000 tCO<sub>2</sub>e in 2050, a decrease of 80% and equivalent to taking nearly 36,000 cars off the road. By 2050, total energy consumption can be reduced by 37%, or almost 1 million GJ per year- for comparison, this is equal to approximately 38,000 cords of dried hardwood.*

b. What social goals/objectives and targets were established in the Plan?

*Through the implementation of the CEIP, overall energy costs will decline substantially in all sectors and for all residents. We project, for example, that average residential energy expenditures per household per year could rise to \$6,957 by 2050 under a business-as-usual scenario, or drop to \$1,534 (-78%) by implanting the actions in the Plan. This has marked benefits especially for vulnerable sectors of the community where energy poverty is high. The CEIP also makes the community's energy systems more resilient to economic shocks and climatic disruptions by prioritizing solutions that lower our dependency on externally sourced energy, by*

*driving down energy consumption, by increasing local energy generation and ownership, and by increasing the skill and capacity of the community to innovate its own energy solutions.*

*Energize Bridgewater recognizes the value of Mi'Kmaq teachings and is actively consulting with local First Nations groups on the implementation of the Plan and the development of new energy partnerships.*

c. What economic goals/objectives and targets were established in the Plan? Please include any anticipated financial savings resulting from operational efficiencies included in the Plan.

*The CEIP has been framed as an economic development strategy, rationalizing the investment of \$374 million in green infrastructure for the community. Previous discussions on environmental issues have tended to pit economic development versus the environment. The CEIP achieves both environmental and economic outcomes, stimulating investment, generating employment opportunities, reducing energy costs and reducing GHG emissions at the same time. Through this investment, an average of 115 person-years of employment would be added to the economy per year, with a cumulative total of over 3,700 person-years of employment created by 2050.*

*The CEIP also pays for itself. In 2012, cost of energy to the community was \$88 million, and by 2050 energy costs are projected to rise to \$206 million per year. Alternatively, by implementing the CEIP, energy costs in 2050 can fall to \$56 million per year, a decrease of 81%. As a result, the community can save over \$2 billion in energy costs over 33 years. Nearly all of the 20 plus actions contained in the CEIP generate financial returns and represent investment opportunities for the municipality, businesses, residents, and utilities.*

## **5. Outcomes and Next Steps**

a. How will your community be using the Plan (i.e., what happens now that the Plan is finished)?

*Bridgewater Town Council has already placed the CEIP as one of the three central pillars of its 3-year Community Economic Development Action Plan. Priority actions over that three-year horizon are identified on page 45 of the CEIP. The Town is actively pursuing funding opportunities to bring in the necessary resources to assist with Plan implementation.*

b. How will the Plan be implemented?

*Implementation of the Plan falls primarily to the Bridgewater Planning Department, under the leadership of the Director of Planning and the Sustainability Planner, for whom the implementation of the Plan will occupy nearly 100% of his time commitment for the foreseeable future. Already, the Town has hired a 12-month Planning and Sustainability Intern who will assist with implementation. Additional staff capacity is being developed, but is contingent to a large extent on grant funding. Consultants will be brought on board as necessary to assist with specific research and design activities including the development of local financing tools, and the*

*deployment of 3 “signature energy projects”: a district energy system, a community-scale solar PV farm, and a neighbourhood energy retrofit program.*

c. Do you anticipate any changes to municipal operations, policies or programmes as a result of having prepared this Plan? If so, please describe these changes.

*The Town divested itself of its energy utility in 1970 – the current policy agenda is explore the feasibility of returning to that service area. The Town’s services are already changing and expanding as they relate to energy. In 2016, the Town was one of the first communities in Canada to launch a Property Assessed Clean Energy (PACE) financing program, that has proven to be successful and that the CEIP calls for significant scaling-up. The Town will also explore opportunities to develop local energy investment and development structures, including but not limited to CEDIFs (Community Economic Development Investment Funds), energy utilities, and a municipal green bond program.*

## **6. Lessons Learned and Knowledge Sharing**

In answering the questions in this section, please consider all aspects of the preparation of the Plan— from the initial planning through each of the essential tasks until the Plan was completed.

a. If your municipality was planning to undertake the preparation of this kind of plan again, what (if anything) would you do *differently* (based on your experience with the preparation of this Plan), and why?

*As is described in our attached Project Evaluation report, the Energize Bridgewater initiative was highly successful at achieving its desired goals and outcomes. A similar approach would be used if the initiative were to be repeated.*

b. If your municipality was planning to undertake the preparation of this kind of plan again, what (if anything) would you want to do *in the same way* (based on your experience with the preparation of this Plan), and why?

*The project’s main success drivers have been:*

- *Framing the energy shift as an economic development opportunity rather than a burden to the community. Emphasis is on generating investment-ready actions.*
- *Initiating a thoughtful and thorough multi-layered community engagement effort with many local partners and high visibility activities*
- *Conducting the energy and economic analysis in an advanced, high precision and dynamic modelling environment that is able to quantify the community’s relationship with energy and energy infrastructure through stocks and flows.*

c. What barriers/challenges (if any) did your municipality encounter in undertaking the preparation of this Plan, and how were they overcome?



**Lack of community engagement:** Energize Bridgewater uses a community-based stewardship model that fosters deep engagement and community-wide ownership of the process and its outcomes. High visibility elements such as the Bridgewater Energy Partnership and the Energize Nova Scotia Discovery Fair educate stakeholders and achieve long-term commitment and participation, and shared monitoring of the Plan's results.

**Lack of community capacity:** Energize Bridgewater supports continuous learning and capacity building for all stakeholders. Through programs such as the Energy Partnership, the Living Energy Laboratory, and collaborations with other municipal units, it is setting the community up for long term enquiry and competence in the field of energy.

**Lack of understanding of barriers:** Energize Bridgewater frames barriers to behaviour change as a root cause of sustainability inaction. Through the Culture & Behaviour Change Assessment, the initiative has assessed real and perceived barriers to change, increasing the effectiveness of its action plan and program recommendations.

**Lack of trust in clean energy as a viable investment:** the advanced energy modeling approach employed by Energize Bridgewater has created a compelling business case for energy transition. Framing clean energy as an investment rather than a cost is already creating demonstrable motivation for action by the Town's partners.

**Loss of momentum:** Energize Bridgewater is designed as an action-oriented initiative that has delivered early solutions to energy challenges through the Energy Partnership and the Living Energy Laboratory projects. The initiative builds on existing success stories, reflecting the program's true goal of social mobilization.

d. Aside from the Final Plan, has your work resulted in anything else that could be of use to another municipality (for example, a new policy for sustainable community development, a series of model by-laws, the design of a new operating practice, a public consultation manual, check-lists, a measurement tool to assess progress in moving towards greater sustainability, etc.)? If so, please describe the item(s) briefly here, and include a copy of the item(s) when submitting this report, so that it can be shared with other communities.

*Energize Bridgewater innovations that can be replicated by other municipal units are captured in the attached Municipal Toolkit. It is our intention to widely disseminate these learnings.*

e. Would you like to showcase your Plan through an FCM webinar or workshop?

*Yes – we would be pleased to disseminate our Plan and our learnings. Our Municipal Toolkit is designed specifically to support that effort.*

## 7. Publicity and Outreach

a. Has the Initiative received any recognition, media coverage, or notable public support? If so, please describe briefly (three to four sentences).

*Yes – we were recognized by the Federation of Canadian Municipalities at the 2018 Sustainable Communities Conference where we were awarded two more Milestones through the Partners for Climate Protection program, for the completion of the CEIP. We were offered an opportunity to showcase our work and to speak to other municipalities interested in similar programs. We were also offered a speaking role in a workshop for small and rural communities. On March 13, 2018, we will be presenting the CEIP and the Municipal Toolkit to Nova Scotia membership of the QUEST network in Halifax. Beyond these major events, we have given webinars and talks to municipalities in Nova Scotia and across the country who are interested in similar programs.*

b. Is there a website where more information about the Initiative can be found? If so, please provide the web address with links to the relevant section.

Yes: [www.energizebridgewater.ca](http://www.energizebridgewater.ca)

## 8. Contacts

a. Please provide the name and coordinates (title, full address, phone, fax and email) of someone who can be contacted for more information about the Plan.

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b. In the event the contact is no longer available, please provide general contact information for the lead applicant, such as the administrative office of the municipal department that coordinated the Project or some other general contact for the Recipient/lead applicant.

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