The City of Saint John

Request for Proposals

for

Consulting Services - Community Energy Action Plan- Pathway to Net Zero (Plan)

Saint John, New Brunswick

Request for Proposals No.: 2022-094001P

Issued: Tuesday, July 5, 2022

Submission Deadline**:** Thursday, July 28th, 2022 at 4:00:00PM Atlantic time

TABLE OF CONTENTS

PART 1 – INTRODUCTION 3
- **1.1 INVITATION TO PROPONENTS 3**
- **1.2 RFP CONTACT PERSON 3**
- **1.3 TYPE OF CONTRACT FOR DELIVERABLES 3**
- **1.4 NO GUARANTEE OF VOLUME OF WORK OR EXCLUSIVITY OF CONTRACT 3**
- **1.5 CANADIAN FREE TRADE AGREEMENT (CFTA) 3**

PART 2 – THE DELIVERABLES 4
- **2.1 DESCRIPTION OF DELIVERABLES 4**

PART 3 – SUBMISSION AND EVALUATION OF PROPOSALS 5
- **3.1 TIMETABLE 5**
- **3.2 SUBMISSION INSTRUCTIONS 5**
- **3.3 STAGES OF PROPOSAL EVALUATION 6**

PART 4 – TERMS AND CONDITIONS OF THE RFP PROCESS 8
- **4.1 GENERAL INFORMATION AND INSTRUCTIONS 8**
- **4.2 COMMUNICATION AFTER ISSUANCE OF RFP 8**
- **4.3 NEGOTIATIONS, NOTIFICATION AND DEBRIEFING 9**
- **4.4 CONFLICT OF INTEREST AND PROHIBITED CONDUCT 11**
- **4.5 CONFIDENTIAL INFORMATION 12**
- **4.6 PROCUREMENT PROCESS NON-BINDING 13**
- **4.7 GOVERNING LAW AND INTERPRETATION 14**
- **4.8 DISPUTE RESOLUTION PROCEDURE 16**
- **4.9 INSURANCE REQUIREMENTS 16**

APPENDIX A – SAMPLE AGREEMENT 18

APPENDIX B – SUBMISSION FORM 24

APPENDIX C – PRICING FORM 28

APPENDIX D – REFERENCE FORM 29

APPENDIX E – THE DELIVERABLES 30

PART 1 – INTRODUCTION

1.1 INVITATION TO PROPONENTS

1) This Request for Proposals ("RFP") is an invitation by The City of Saint John (the "City") to prospective proponents to submit proposals for consulting services for the City's Community Energy Action Plan- Pathway to Net Zero (Plan) project, as further described in Part 2 – The Deliverables (the "Deliverables").

1.2 RFP CONTACT PERSON

1) For the purposes of this procurement process, the "**City Contact**" shall be:

Monic MacVicar, CCLP, CPPB
Procurement Specialist
Supply Chain Management
The City of Saint John
Email: supplychainmanagement@saintjohn.ca
Fax: (506) 658-4742

1.3 TYPE OF CONTRACT FOR DELIVERABLES

1) The City will issue a Purchase Order to the successful proponent for the scope of services detailed in this request for proposal.
2) The City may issue a Formal Agreement as per Appendix A to the successful proponent for the scope of services detailed in this request for proposal.

1.4 NO GUARANTEE OF VOLUME OF WORK OR EXCLUSIVITY OF CONTRACT

1) The City makes no guarantee as to the value or volume of the Deliverables. The contract to be negotiated with the selected proponent will not be an exclusive contract for the provision of the described Deliverables. The City may contract with others for the same as or similar to the Deliverables or may obtain the same as or similar to the Deliverables internally.

1.5 CANADIAN FREE TRADE AGREEMENT (CFTA)

1) Proponents should note that procurements falling within the scope of Chapter 5 of the Canadian Free Trade Agreement (CFTA) are subject to that chapter but that the rights and obligations of the parties shall be governed by the specific terms of this RFP. For further reference, please see the Internal Trade Secretariat website at https://www.cfta-alec.ca/.

[End of Part 1]

PART 2 – THE DELIVERABLES

2.1 DESCRIPTION OF DELIVERABLES

(1) This RFP is an invitation to submit offers for consulting services for the City's Community Energy Action Plan- Pathway to Net Zero (Plan) project, as further described in Appendix E – RFP Particulars – Section A - The Deliverables.

[End of Part 2]

PART 3 – SUBMISSION AND EVALUATION OF PROPOSALS

3.1 TIMETABLE

1) The RFP timetable is tentative only and may be changed by the City at any time.

Milestones	Dates
Issue Date of RFP	Tuesday, April 5, 2022
Deadline for Questions	Monday, July 18th, 2022 by 4:00 PM ADT
Deadline for Issuing Addenda	Tuesday, July 19th, 2022 by 4:00 PM ADT
Submission Deadline	Thursday July 28, 2022 by 4:00:00 PM ADT
Rectification Period	3 Days from Notification
Anticipated Deadline for Award	TBD

3.2 SUBMISSION INSTRUCTIONS

A. Proposals Shall Be Submitted at the Prescribed Location

1) Proposals shall be submitted at:

The City of Saint John
Supply Chain Management, 1st Floor
175 Rothesay Avenue
Saint John, New Brunswick, E2J 2B4 (the "**Prescribed Location**")

Attention: Monic MacVicar, CCLP, CPPB, Supply Chain Management

B. Proposals Should Be Submitted in Prescribed Manner

1) Proponents should submit one signed original and four bound copies along with one electronic copy (on a properly labeled CD or USB key in PDF format) of the technical proposal and supporting information, and one signed original copy and four bound copies along with one electronic copy (on a properly labeled CD or USB key in PDF format) of the financial proposal and supporting information.

2) The technical proposal should be sealed in an envelope, clearly indicating the proponent's name and address and marked: "**Technical Proposal: 2022-094001P – Consulting Services - Community Energy Action Plan- Pathway to Net Zero (Plan)**".

3) The financial proposal should be sealed in a separate envelope, clearly indicating the proponent's name and address and marked: "**Financial Proposal: 2022-094001P – Consulting Services - Community Energy Action Plan- Pathway to Net Zero (Plan)**".

4) In the event of a conflict or inconsistency between the hard copy and the electronic copy of the proposal, the hard copy of the proposal shall prevail.

5) Proposals sent by fax or email will be rejected.

C. Proposals Shall Be Submitted on Time

1) Proposals shall be submitted at the Prescribed Location on or before the Submission Deadline. Proposals submitted after the Submission Deadline will be rejected.

2) Immediately following the Submission Deadline, proposals will be publicly opened in the office of the City Contact, at the Prescribed Location. Only the names and addresses of the proponents will be made public.

D. Amendment of Proposals

1) Proponents may amend their proposals prior to the Submission Deadline by submitting the amendment in a sealed package to the Prescribed Location. The sealed package shall be prominently marked with the RFP title and number and the full legal name and return address of the proponent. Any amendment should clearly indicate which part of the proposal the amendment is intended to affect.

E. Withdrawal of Proposals

1) At any time throughout the RFP process, a proponent may withdraw a submitted proposal. To effect a withdrawal, a notice of withdrawal must be sent to the City Contact and must be signed by an authorized representative. The City is under no obligation to return withdrawn proposals.

3.3 STAGES OF PROPOSAL EVALUATION

1) The City will conduct the evaluation of proposals and selection of the top-ranked proponents in the following four stages described in further detail below:

Stage I – Mandatory Requirements and Rectification;
Stage II – Evaluation of Rated Criteria and Pricing;
Stage III – Selection and Final Negotiations

A. Stage I – Mandatory Requirements and Rectification

Submission and Rectification Period

Stage I will consist of a review to determine which proposals comply with all of the mandatory requirements. Proposals failing to satisfy the mandatory requirements as of the Submission Deadline will be provided an opportunity to rectify any deficiencies. Proposals satisfying the mandatory requirements during the Rectification Period, as described in Part 3 – Section 3.1 – Timetable will proceed to Stage II. Proposals failing to satisfy the mandatory requirements within the Rectification Period will be excluded from further consideration. The Rectification Period will begin to run from the date and time that the City issues its rectification notice to the proponents.

Mandatory Submission Forms

Other than inserting the information requested on the mandatory submission forms set out in this RFP, a proponent may not make any changes to any of the forms.

Submission Form (Appendix B)

Each proponent must complete the Submission Form and include it with their technical proposal. The Submission Form must be signed by an authorized representative of the proponent.

Pricing Form (Appendix C)

Each proponent must complete the Pricing Form and include it with their financial proposal. The Pricing Form must be completed according to the instructions contained in the form. Rates must be provided in Canadian funds, inclusive of all costs, applicable duties, overhead, and insurance costs, except for HST/GST.

Reference Form (Appendix D)

Each proponent must complete the Reference Form and include it with its technical proposal.

Other Mandatory Requirements

Each proposal must:

(a) Be in English.
(b) Be for the entire scope of work as described in Appendix E – The Deliverables. Incomplete proposals or proposals for only part of the Deliverables described in Appendix E shall be disqualified.

B. Stage II – Evaluation of Rated Criteria and Pricing

Stage II will consist of a scoring by the City of each qualified proposal on the basis of the rated criteria and the pricing in accordance Appendix E – Section 5.0 – Evaluation Criteria. The City intends to shortlist to up to Three (3) proponents, however, should the City deem it to be in its best interest, it may expand this number accordingly.

C. Stage III – Selection and Final Negotiation

Once the proposals have been evaluated as per Stage II, the top-ranked proponent may be selected to enter into direct negotiations.

During the negotiation, the City may provide the top-ranked proponent with any additional information and may seek further information and proposal improvements. After the negotiation, the top-ranked proponent may be invited to revise its initial proposal and submit its Best and Final Offer (BAFO) to the City.

[End of Part 3]

PART 4 – TERMS AND CONDITIONS OF THE RFP PROCESS

4.1 GENERAL INFORMATION AND INSTRUCTIONS

A. Proponents to Follow Instructions

1) Proponents should structure their proposals in accordance with the instructions in this RFP. Where information is requested in this RFP, any response made in a proposal should reference the applicable part, section, subsection or paragraph numbers of this RFP.

B. Information in RFP Only an Estimate

1) The City and its representatives shall not be liable for any information or advice or any discrepancies or errors or omissions that may be contained in this RFP or an Addenda, appendices, data, materials or documents (electronic or otherwise) attached or provided to the proponents pursuant to this RFP.

2) The City and its advisors make no representation, warranty or guarantee as to the accuracy of the information contained in this RFP or issued by way of addenda. Any quantities shown or data contained in this RFP or provided by way of addenda are estimates only and are for the sole purpose of indicating to proponents the general scale and scope of the work. It is the proponent's responsibility to obtain all the information necessary to prepare a proposal in response to this RFP.

C. Proponents Shall Bear Their Own Costs

1) The proponent shall bear all costs associated with or incurred in the preparation and presentation of its proposal, including, if applicable, costs incurred for interviews, or costs of negotiation and submission of BAFO.

4.2 COMMUNICATION AFTER ISSUANCE OF RFP

A. Proponents to Review RFP

1) Proponents shall promptly examine all of the documents comprising this RFP, and

   (a) Shall report any errors, omissions or ambiguities; and

   (b) May direct questions or seek additional information in writing by email to the City Contact on or before the Deadline for Questions. All questions submitted by proponents by email to the City Contact shall be deemed to be received once the email has entered into the City Contact's email inbox. No such communications are to be directed to anyone other than the City Contact. The City is under no obligation to provide additional information, and the City shall not be responsible for any information provided by or obtained from any source other than the City Contact.

2) It is the responsibility of the proponent to seek clarification from the City Contact on any matter it considers to be unclear. The City shall not be responsible for any misunderstanding on the part of the proponent concerning this RFP or its process.

B. All New Information to Proponents by Way of Addenda

1) This RFP may be amended only by an addendum in accordance with this subsection. If the City, for any reason, determines that it is necessary to provide additional information relating to this RFP, such information will be communicated to all proponents by addenda. Each addendum forms an integral part of this RFP.

2) Such addenda may contain important information, including significant changes to this RFP. Proponents are responsible for obtaining all addenda issued by the City. Addenda may be obtained from the City's website (www.saintjohn.ca) under the menu option "Tender and Proposals". In Appendix B, proponents should confirm their receipt of all addenda by setting out the number of each addendum in the space provided.

C. Post-Deadline Addenda and Extension of Submission Deadline

1) If any addendum is issued after the Deadline for Issuing Addenda, the City may at its discretion extend the Submission Deadline for a reasonable period of time.

D. Verify, Clarify and Supplement

1) When evaluating responses, the City may request further information from the proponent or third parties in order to verify, clarify or supplement the information provided in the proponent's proposal. The City may revisit and re-evaluate the proponent's response or ranking on the basis of any such information.

E. No Incorporation by Reference

1) The entire content of the proponent's proposal should be submitted in a fixed form, and the content of websites or other external documents referred to in the proponent's proposal will not be considered to form part of its proposal.

F. Proposal to Be Retained by the City

1) The City will not return the proposal or any accompanying documentation submitted by a proponent.

4.3 NEGOTIATIONS, NOTIFICATION AND DEBRIEFING

A. Selection of Top-Ranked Proponent

1) The top-ranked proponent, as established under Part 3 – Section 3.3 – Subsection 1.D – Stage IV – Final Ranking and Selection, will receive a written invitation to enter into direct contract negotiations with the City.

B. Timeframe for Negotiations

1) The City intends to conclude negotiations with the top-ranked proponent within 15 Business Days commencing from the date the City invites the top-ranked proponent to enter negotiations. A proponent invited to enter into direct contract negotiations should therefore be prepared to provide requested information in a timely fashion and to conduct its negotiations expeditiously.

C. Process Rules for Negotiations

1) Any negotiations will be subject to the process rules contained in this Part 4 and Appendix B will not constitute a legally binding offer to enter into a contract on the part of the City or the proponent. Negotiations may include requests by the City for supplementary information from the proponent to verify, clarify or supplement the information provided in its proposal or to confirm the conclusions reached in the evaluation, and may include requests by the City for improved pricing from the proponent.

D. Terms and Conditions

1) The terms and conditions described in Appendix A are expected to be included in the contract and form the starting point for negotiations between the City and the selected proponent.

E. Failure to Enter Into Agreement

1) Proponents should note that if the parties cannot conclude negotiations of a contract within the allotted 15 Business Days, the City may invite the next-best-ranked proponent to enter into negotiations. In accordance with the process rules in this Part 4 and Appendix B, there will be no legally binding relationship created with any proponent prior to the execution of a written contract.

2) With a view to expediting contract formalization, at the midway point of the above-noted timeframe, the City may elect to initiate concurrent negotiations with the next-best-ranked proponent. Once the above-noted timeframe lapses, the City may discontinue further negotiations with the top-ranked proponent. This process shall continue until a contract is formalized, until there are no more proponents remaining that are eligible for negotiations or until the City elects to cancel the RFP process.

F. Notification to Other Proponents

1) Other proponents that may become eligible for contract negotiations will be so notified at the commencement of the negotiation process. Once a contract is executed by the City and a proponent, the other proponents may be notified directly in writing and shall be notified by public posting on the City's website in the same manner that this RFP was originally posted of the outcome of the procurement process.

G. Debriefing

1) In addition to the notification as described in Part 4 – Section 4.3 - Subsection F – Notification to Other Proponents and upon written request from any proponent, the City may provide a more detailed oral

debriefing either by phone or in person, as required by the proponent. The written request shall be submitted to the City Contact no later than 15 Business Days after such notification.

2) The acceptance of the successful proposal shall not be discussed during a debriefing.

H. Procurement Protest Procedure

1) The parties shall attempt to negotiate all disputes in good faith.

2) In the event the parties are unable through good faith negotiations to mutually resolve any dispute, controversy or claim arising out of, in connection with, or in relation to the interpretation, performance or breach of this RFP, such dispute, controversy or claim shall be referred to the dispute resolution procedure in accordance to Part 4 – Section 4.8 – Dispute Resolution Procedure.

4.4 CONFLICT OF INTEREST AND PROHIBITED CONDUCT

A. Conflict of Interest

1) The City may disqualify a proponent for any conduct, situation or circumstances, determined by the City, in its sole and absolute discretion, to constitute a Conflict of Interest. For the purposes of this section, "Conflict of Interest" has the meaning ascribed thereto in Appendix B – Section H – Conflict of Interest.

B. Prohibited Proponent Communications

1) A proponent shall not engage in any Conflict of Interest communications and should take note of the Conflict of Interest declaration set out in Appendix B.

C. Proponent Not to Communicate with Media

1) A proponent may not at any time directly or indirectly communicate with the media or make any public comment in relation to this RFP, or any contract entered into pursuant to this RFP, without first obtaining the written permission of the City's project manager. Proponents will notify the project manager of any requests for information or interviews from the media.

D. No Lobbying

1) A proponent may not, in relation to this RFP or the evaluation and selection process, engage directly or indirectly in any form of political or other lobbying whatsoever to influence the selection of the successful proponent(s).

E. Illegal or Unethical Conduct

1) Proponents shall not engage in any illegal business practices, including activities such as bid-rigging, price-fixing, bribery, fraud or collusion. Proponents shall not engage in any unethical conduct, including other inappropriate communications, offering gifts to members of Common Council, employees, officers or other representatives of the City, deceitfulness, submitting proposals

containing misrepresentations or other misleading or inaccurate information, or any other conduct that compromises or may be seen to compromise the competitive process provided for in this RFP.

F. Past Performance or Inappropriate Conduct

1) The City may prohibit a proponent from participating in the procurement process based on past performance or based on inappropriate conduct in a prior procurement process.

2) Such inappropriate conduct shall include, but not be limited to the following:

   (a) All the conducts as described in Part 4 – Section 4.4;

   (b) The refusal of the proponent to honour its pricing or other commitments made in its proposal; or

   (c) Any other conduct, situation or circumstance determined by the City, in its sole and absolute discretion, to constitute a Conflict of Interest.

4.5 CONFIDENTIAL INFORMATION

A. Confidential Information of City

1) All information provided by or obtained from the City in any form in connection with this RFP either before or after the issuance of this RFP:

   (a) Is the sole property of the City and must be treated as confidential;

   (b) Is not to be used for any purpose other than replying to this RFP and the performance of any subsequent contract;

   (c) Must not be disclosed by the proponent to any person, other than persons involved in the preparation of the proponent's proposal or the performance of any subsequent contract, without prior written authorization from the City; and

   (d) Shall be returned by the proponents to the City immediately upon the request of the City.

B. Confidential Information of Proponent

1) A proponent should identify any information in its proposal or any accompanying documentation supplied in confidence for which confidentiality is to be maintained by the City. The confidentiality of such information will be maintained by the City, except as otherwise required by law or by order of a court or tribunal. Proponents are advised that their proposals will, as necessary, be disclosed, on a confidential basis, to the City's advisors retained for the purpose of evaluating or participating in the evaluation of their proposals. If a proponent has any questions about the collection and use of personal information pursuant to this RFP, questions are to be submitted to the City Contact.

4.6 PROCUREMENT PROCESS NON-BINDING

A. No Contract A and No Claims

1) The procurement process is not intended to create and shall not create a formal legally binding bidding process and shall instead be governed by the law applicable to direct commercial negotiations.

2) For greater certainty and without limitation:

   (a) This RFP shall not give rise to any Contract A based tendering law duties or any other legal obligations arising out of any process contract or collateral contract; and

   (b) Neither the proponent nor the City shall have the right to make any claims (in contract, tort, equity or otherwise) against the other with respect to the award of a contract, failure to award a contract or failure to honour a response to this RFP.

B. No Contract until Execution of Written Contract

1) The RFP process is intended to identify prospective proponents for the purposes of negotiating potential agreements. No legal relationship or obligation regarding the procurement of any good or service shall be created between the proponent and the City by the RFP process until the successful negotiation and execution of a written contract for the acquisition of such goods and/or services.

C. Non-Binding Price Estimates

1) While the pricing information provided in responses will be non-binding prior to the execution of a written contract, such information will be assessed during the evaluation of the responses and the ranking of the proponents. Any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact any such evaluation, ranking or contract award.

D. Disqualification for Misrepresentation

1) The City may disqualify the proponent or rescind a contract subsequently entered into if the proponent's response contains misrepresentations or any other inaccurate, misleading or incomplete information.

E. Cancellation

1) The City may cancel or amend the RFP process without liability at any time.

4.7 GOVERNING LAW AND INTERPRETATION

A. Governing Law

1) The terms and conditions in this Part 4:

(a) Are included for greater certainty and are intended to be interpreted broadly and separately (with no particular provision intended to limit the scope of any other provision);

(b) Are non-exhaustive (and shall not be construed as intending to limit the pre-existing rights of the parties to engage in pre-contractual discussions in accordance with the common law governing direct commercial negotiations); and

(c) Are to be governed by and construed in accordance with the laws of the province of New Brunswick and the federal laws of Canada applicable therein.

(d) This procurement is also subject to the following Policies, Legislation and Internal Trade Agreement(s) including:

a. Atlantic Trade and Procurement Partnership
b. Canadian Free Trade Agreement
c. City of Saint John Policy for the Procurement of Goods, Services and Construction
d. New Brunswick Procurement Act and Regulation 2014-93

(e) Reserved Rights

The City reserves the right to:

a) Reject an unbalanced Proposal. For the purpose of this section, an unbalanced Proposal is a Proposal containing a unit price which deviates substantially from, or does not fairly represent, reasonable and proper compensation for the unit of work bid or one that contains prices which appear to be so unbalanced as to adversely affect the interests of the City. The City reserves the right to use Proposals submitted in response to other like or similar Requests for Proposals as a guideline in determining if a proposal is unbalanced.
b) Amend or modify the scope of a project, and/or cancel or suspend the Proposal Solicitation at any time for any reason.
c) Require proponents to provide additional information after the Closing Date for the Proposal Solicitation to support or clarify their proposals.
d) Not accept any or all proposals.
e) Not accept a proposal from a proponent who is involved in litigation, arbitration or any other similar proceeding against the City.
f) Reject any or all proposals without any obligation, compensation or reimbursement to any proponent or any of its team members.
g) Withdraw a Proposal Solicitation and cancel or suspend the Proposal Solicitation process.
h) Extend, from time to time, any date, any time period or deadline provided in a Proposal Solicitation (including, without limitation, the Proposal Solicitation Closing Date), upon written notice to all proponents.
i) Assess and reject a proposal on the basis of

i. Information provided by references;
ii. The proponent's past performance on previous contracts;
iii. Information provided by a proponent pursuant to the City exercising its clarification rights under the Proposal Solicitation process;
iv. The proponent's experience with performing the type and scope of work specified including the proponent's experience;
v. Other relevant information that arises during a Proposal Solicitation process.

j) Waive formalities and accept proposals which substantially comply with the requirements of the Proposal Solicitation.
k) Verify with any proponent or with a third party any information set out in a proposal.
l) Disqualify any proponent whose proposal contains misrepresentations or any other inaccurate or misleading information.
m) Disqualify any proponent who has engaged in conduct prohibited by the Proposal Solicitation documents.
n) Make changes including substantial changes to the proposal documents provided that those changes are issued by way of an addendum in the manner set out in the Proposal Solicitation documents.
o) Select any proponent other than the proponent whose proposal reflects the lowest cost to the City.
p) Cancel a Proposal Solicitation process at any stage.
q) Cancel a Proposal Solicitation process at any stage and issue a new Proposal Solicitation for the same or similar deliverable.
r) Accept any proposal in whole or in part.

And these reserved rights are in addition to any other express rights or any other rights which may be implied in the circumstances and the City shall not be liable for any expenses, costs, losses or any direct or indirect damages incurred or suffered by any proponent or any third party resulting from the City exercising any of its express or implied rights under a Proposal Solicitation.

(f) Limitation Of Liability And Waiver

In every Proposal Solicitation, the City shall draft the documents such that each proponent, by submitting a proposal, agrees that:

a) Neither the City nor any of its employees, agents, advisers or representatives will be liable, under any circumstances, for any claims arising out of a Proposal Solicitation process including but not limited to costs of preparation of the proposal, loss of profits, loss of opportunity or any other claim.
b) The proponent waives any claim for any compensation of any kind whatsoever including claims for costs of preparation of the proposal, loss of profit or loss of opportunity by reason of the City's decision to not accept the proposal submitted by the proponent, to award a contract to any other proponent or to cancel the Proposal Solicitation process, and the proponent shall be deemed to have agreed to waive such right or claim.

4.8 DISPUTE RESOLUTION PROCEDURE

1) Any disputes and controversies arising out of, or in any manner relating to this RFP shall be subject to the following dispute resolution procedure:

   (a) All disputes arising out of, or in connection with, this RFP, shall within two Business Days of notice to the City Contact be referred for resolution to the dispute resolution monitor.

   (b) If the dispute resolution monitor cannot resolve a dispute within ten consecutive days, such dispute shall be documented in writing and identical copies shall be submitted for resolution to a qualified mediator agreeable to both parties.

   (c) The mediator shall be entitled to establish his or her own practices and procedures. Each party shall co-operate fully with the mediator and shall present its case to the mediator orally and/or in writing within ten consecutive days following the mediator's appointment. The mediation shall not be in the nature of arbitration as contemplated by the *Arbitration Act* (1992), New Brunswick, and the mediator's decision shall not be binding upon the parties, but shall be considered as a *bona fide* attempt by the mediator to judiciously resolve the dispute.

   (d) The decision of the mediator shall be rendered in a written report, not to exceed two pages in length, delivered to the parties within ten consecutive days following the last of such presentations. The fees of the mediator shall be shared equally by the parties.

   (e) The mediation shall be terminated upon: (i) the execution of a settlement agreement by the parties; (ii) a written declaration of one or more parties that the mediation is terminated; or (iii) a written declaration by the mediator that further efforts at mediation would not be useful.

   (f) The place of mediation shall be the City of Saint John and Province of New Brunswick.

   (g) If mediation is unsuccessful either party shall be entitled to pursue such other remedies as permitted by law.

4.9 INSURANCE REQUIREMENTS

The consulting engineering firm shall obtain and keep in force, during the full duration of this contract, an Errors and Omissions Liability policy with a minimum limit of two million dollars, and two million dollars per claim.

The policy shall include a clause stating that thirty days' notice of cancellation of this policy will be given to the City of Saint John, by the insurers. Provide evidence of this policy.

The consultant must provide proof of current coverage from WorkSafeNB prior to the start of the work.

The consultant shall provide evidence of the following insurance coverage:
General Liability with minimum limits of two million dollars per occurrence. The policy shall include:

- operations of the consultants in connection with this project;
- products and completed operations coverage;
- contractual liability with respect to this project;
- the City of Saint John added as an additional named insured;
- a cross-liability clause;
- non-owned automobile;
- thirty days' notice of cancellation of this policy will be given to the City of Saint John, by the insurers;
- Standard automobile insurance for owned automobiles with at least the minimum limits allowed by law.

[End of Part 4]

APPENDIX A – SAMPLE AGREEMENT

AGREEMENT

This Agreement made in duplicate copies this ____ day of _____, 2022.

BETWEEN: **THE CITY OF SAINT JOHN**, having its City Hall at 15 Market Square, Saint John, New Brunswick, a body corporate by Royal Charter, confirmed and amended by Acts of the Legislative Assembly of the Province of New Brunswick, hereinafter called the "City"

OF THE FIRST PART

and

XX a Consulting Firm, having offices located at XX in the City of Saint John and the Province of New Brunswick], hereinafter referred to as the "Consultant"

OF THE SECOND PART

WHEREAS the City issued Request for Proposal **XXP** for **XX Services** (the "Request for Proposal"); and

AND WHEREAS the Consultant submitted a technical proposal dated **XX, 2022** and a financial proposal, dated **XX, 2022** in response to the Request for Proposal (collectively, the "Proposal"); and

AND WHEREAS the Request for Proposal and the Proposal are attached hereto as Schedules "A" and "B" respectively and form part hereof;

AND WHEREAS the Financial Proposal forms part of the Proposal, is attached hereto as Schedule "C"; and

AND WHEREAS the Common Council at its meeting held on [Date] resolved that:

"That as recommended by the City Manager …"

NOW THEREFORE THIS AGREEMENT WITNESSETH, that in consideration of the mutual covenants and agreements herein and subject to the terms and conditions set out in the Request for Proposal and the Proposal, the parties for themselves, their successors and permitted assigns respectively, mutually agree as follows:

1. The Consultant shall perform the services and carry out the terms and conditions set out in the Request for Proposal and the Proposal.

2. The City shall pay the Consultant, in return for the services performed, fees as outlined in the financial proposal part of the Proposal, plus HST.

Term

3. The terms of this Agreement is for XX.

Termination

4. The City may immediately terminate this Agreement upon giving notice to the Consultant where:

    a. The Consultant makes an assignment for the benefit of its creditors, is declared bankrupt or commits an act of bankruptcy, becomes insolvent, makes a proposal or otherwise takes advantage of provisions for relief under the *Bankruptcy and Insolvency Act* (Canada)or similar legislation in any jurisdiction, or any other type of insolvency proceedings being commenced by or against the Consultant under the *Bankruptcy and Insolvency Act* (Canada) or similar legislation;

    b. The Consultant breaches any of the terms or conditions of the within Agreement;

    c. In the City's reasonable opinion, the Consultant, prior to or after executing this Agreement, makes a material misrepresentation or omission or provides materially inaccurate information to the City;

    d. The Consultant undergoes a change of control which, in the reasonable opinion of the City, adversely affects the Consultant's ability to satisfy some or all of its obligation under the within Agreement;

    e. The Consultant subcontracts for the provision of part or all of the services without first obtaining the written approval of the City.

The above rights of termination are in addition to all other rights of termination available at law, or events of termination by operation of law.

Performance

5. Both parties agree to do everything necessary to ensure that the terms of this Agreement take effect.

Non-Performance

6. The failure on the part of either party to exercise or enforce any right conferred upon it under this Agreement shall not be deemed to be a waiver of any such right or operate to bar the exercise or enforcement thereof at any time or times thereafter.

Indemnification

7. The Consultant hereby agrees to indemnify and hold harmless the Indemnified Parties from and against any and all liability, loss, costs, damages and expenses (including legal, expert and consultant fees), causes of action, actions, claims, demands, lawsuits or other proceedings, (collectively "Claims"), by whomever made, sustained, brought or prosecuted, for third party bodily injury (including death), personal injury and damage to real or tangible personal property, in any way based upon, occasioned by or attributable to anything done or omitted to be done by the Consultant, its subcontractors or their respective directors, officers, agents, employees or independent contractors in the course of performance of the Consultant's obligations under, or otherwise in connection with, this Agreement. The obligations contained in this paragraph shall survive the termination or expiry of this Agreement.

Remedies

8. Upon default by either party under any terms of this Agreement, and at any time after the default, either party shall have all rights and remedies provided by law and by this Agreement.

9. No delay or omission by either party in exercising any right or remedy shall operate as a waiver of them or of any other right or remedy, and no single or partial exercise of a right or remedy shall preclude any other or further exercise of them or the exercise of any other right or remedy. Furthermore, either party may remedy any default by the other party in any reasonable manner without waiving the default remedied and without waiving any other prior or subsequent default by the defaulting party. All rights and remedies of each party granted or recognized in this Agreement are cumulative and may be exercised at any time and from time to time independently or in combination.

Mediation

10. All disputes arising out or in connection with this Agreement, or in respect of any legal relationship associated with or derived from this Agreement, shall be mediated pursuant to the National Mediation Rules of the ADR Institute of Canada, Inc. Despite this Agreement to mediate, a party may apply to a court of competent jurisdiction or other competent authority for interim measures of protection at any time. The place of mediation shall be the City of Saint John and Province of New Brunswick.

Force Majeure

11. It is agreed between the parties that neither party shall be held responsible for damages caused by delay or failure to perform his undertakings under the terms of the Agreement when the delay or failure is due to fires, strikes, floods, acts of God, lawful acts of public authorities, or delays or defaults caused by common carriers, which cannot be reasonably foreseen or provided against.

No Assignment

12. This Agreement is not assignable. Any attempt to assign any of the rights, duties or obligations of this Agreement is void.

Time

13. This Agreement shall not be enforced, or bind any of the parties, until executed by all the parties named in it.

Notices

14. Any notice under this Agreement shall be sufficiently given by personal delivery or by registered letter, postage prepaid, mailed in a Canadian post office and prepaid courier, addressed, in the case of notice to the City of Saint John, to the Common Clerk, 15 Market Square, P. O. Box 1971, Saint John, New Brunswick, E2L 4L1 and in the case of notice to XX – XX, Saint John, New Brunswick, XX or to any other address as may be designated in writing by the parties, and the date of receipt of any notice by mailing shall be deemed conclusively to be 5 days after the mailing.

Amendments

15. No change or modification of this Agreement shall be valid unless it is in writing and signed by each party.

Acknowledgment of Terms and of Entirety

16. It is agreed that this written instrument embodies the entire agreement of the parties with regard to the matters dealt within it, and that no understandings or agreements, verbal or otherwise, exist between the parties except as expressly set out in this instrument.

Further Documents

17. The parties agree that each of them shall, upon reasonable request of the other, do or cause to be done all further lawful acts, deeds and assurances whatever for the better performance of the terms and conditions of this Agreement.

Validity and Interpretation

18. Descriptive headings are inserted solely for convenience of reference, do not form part of this Agreement, and are not to be used as an aid in the interpretation of this Agreement.

19. It is intended that all provisions of this Agreement shall be fully binding and effective between the parties, but in the event that any particular provision or provisions or part of one is found to be void, voidable or unenforceable for any reason whatsoever, then the particular provision or provisions or part of the provision shall be deemed severed from the remainder of this Agreement and all other provisions shall remain in full force.

Governing Law

20. This Agreement shall be governed by and construed in accordance with the laws of the Province of New Brunswick.

Successors, Assigns

21. This Agreement shall enure to the benefit of and be binding on the respective successors and permitted assigns of each of the parties.

Independent Legal Advice

22. The parties each acknowledge having obtained their own independent legal advice with respect to the terms of this Agreement prior to its execution.

Acknowledgment of Receipt of Copy

23. Each party acknowledges receipt of a true copy of this Agreement.

Defined Terms

24. When used in this Agreement, the following word or expression has the following meaning:

"**Indemnified Parties**" means the City, its officers, directors, employees, agents or independent contractors.

IN WITNESS WHEREOF the parties have affixed their respective corporate seals, attested by the hands of their respective officers duly authorized in that behalf on the day aforementioned.

SIGNED, SEALED & DELIVERED	)	**THE CITY OF SAINT JOHN**
In the presence of:	)	per
	)	
	)	_____
	)	Mayor
	)	
	)	_____
	)	Assistant Common Clerk
	)	
	)	
	)	Common Council Resolution:
	)	_____
	)	
	)	
	)	**XX**
	)	
	)	Per: _____
	)	Title:

APPENDIX B – SUBMISSION FORM

A. Proponent Information

Please fill out the following form, and name one person to be the contact for your response to this RFP and for any clarifications or amendments that might be necessary.	
Full Legal Name of Proponent:	
Any Other Relevant Name under which the Proponent Carries on Business:	
Street Address:	
City, Province/State:	
Postal Code/Zip Code:	
Phone Number:	
Fax Number:	
Company Website (If any):	
RFP Contact Person and Title:	
RFP Contact Phone:	
RFP Contact Facsimile:	
RFP Contact E-mail:	

B. Acknowledgment of Non-Binding Procurement Process

The proponent acknowledges that the RFP process will be governed by the terms and conditions of this RFP, and that, among other things, such terms and conditions confirm that this procurement process does not constitute a formal legally binding bidding process, and that there will be no legal

relationship or obligations created until the City and the selected proponent have executed a written contract.

C. Ability to Provide Deliverables

The proponent has carefully examined the RFP documents and has a clear and comprehensive knowledge of the Deliverables required under this RFP. The proponent represents and warrants its ability to provide the Deliverables required under this RFP in accordance with the requirements of this RFP for the rates set out in Appendix C and has provided a list of any subcontractors to be used to complete the proposed contract.

D. Mandatory Forms

The proponent encloses as part of the proposal the mandatory forms set out below:

FORM	INITIAL TO ACKNOWLEDGE
Submission Form	
Pricing Form **(in separate envelope marked "Financial Proposal")**	
Reference Form	

Notice to proponents: There may be forms required in this RFP other than those set out above. See the Mandatory Requirements section of this RFP for a complete listing of mandatory forms.

E. Non-Binding Price Estimates

The proponent has submitted its rates in accordance with the instructions in this RFP and in Appendix C. The proponent confirms that the pricing information provided is accurate. The proponent acknowledges that any inaccurate, misleading or incomplete information, including withdrawn or altered pricing, could adversely impact the acceptance of its proposal or its eligibility for future work.

F. Addenda

The proponent is deemed to have read and accepted all addenda issued by the City prior to the Deadline for Issuing Addenda. The onus remains on proponents to make any necessary amendments to their proposal based on the addenda. The proponent confirms that it has received all addenda by listing the addenda numbers or, if no addenda were issued, by writing the word "None" on the following line: _____. Proponents who fail to complete this section will be deemed to have received all posted addenda.

G. No Prohibited Conduct

The proponent declares that it has not engaged in any conduct prohibited by this RFP.

H. Conflict of Interest

For the purposes of this RFP, the term "**Conflict of Interest**" means:

(a) In relation to the RFP process, the proponent has an unfair advantage or engages in conduct, directly or indirectly, that may give it an unfair advantage, including but not limited to (i) having, or having access to, confidential information of the City in the preparation of its proposal that is not available to other proponents; (ii) communicating with any person with a view to influencing preferred treatment in the RFP process (including, but not limited to, the lobbying of decision makers involved in the RFP process); or (iii) engaging in conduct that compromises, or could be seen to compromise, the integrity of the RFP process; or

(b) In relation to the performance of its contractual obligations contemplated in the contract that is the subject of this procurement, the proponent's other commitments, relationships or financial interests (i) could, or could be seen to, exercise an improper influence over the objective, unbiased and impartial exercise of its independent judgement; or (ii) could, or could be seen to, compromise, impair or be incompatible with the effective performance of its contractual obligations.

If the box below is left blank, the proponent will be deemed to declare that:

(a) There was no Conflict of Interest in preparing its proposal; and

(b) There is no foreseeable Conflict of Interest in performing the contractual obligations contemplated in this RFP.

Otherwise, if the statement below applies, check the box.

❑ The proponent declares that there is an actual or potential Conflict of Interest relating to the preparation of its proposal, and/or the proponent foresees an actual or potential Conflict of Interest in performing the contractual obligations contemplated in this RFP.

If the proponent declares an actual or potential Conflict of Interest by marking the box above, the proponent must set out below details of the actual or potential Conflict of Interest:

_____

_____

_____

_____

I. Disclosure of Information

The proponent hereby agrees that any information provided in this proposal, even if it is identified as being supplied in confidence, may be disclosed where required by law or if required by order of a court or tribunal. The proponent hereby consents to the disclosure, on a confidential basis, of this proposal by the City to the City's advisors retained for the purpose of evaluating or participating in the evaluation of this proposal.

_____	_____
Signature of Witness	Signature of Proponent Representative
_____	_____
Name of Witness	Name
	_____
	Title
	_____
	Date

I have the authority to bind the proponent.

APPENDIX C – PRICING FORM

A. Consulting Fee

Provide total costs in the field below. Cost should be **without** the applicable taxes.

Total Cost (Numeric): _____

Total Cost (Written): _____

Consultants Name: _____

Signature:_____

APPENDIX D – REFERENCE FORM

Each proponent is requested to provide three references from clients who have obtained services as those requested in this RFP for each of the four (4) phases from the proponent in the last three years (may be up to 12 references).

Reference #1

Company Name:	
Company Address:	
Contact Name:	
Contact Telephone Number:	
Date Work Undertaken:	
Nature of Assignment, including deliverables:	

Reference #2

Company Name:	
Company Address:	
Contact Name:	
Contact Telephone Number:	
Date Work Undertaken:	
Nature of Assignment, including deliverables:	

Reference #3

Company Name:	
Company Address:	
Contact Name:	
Contact Telephone Number:	
Date Work Undertaken:	
Nature of Assignment, including deliverables:	

APPENDIX E – THE DELIVERABLES

1.0 BACKGROUND

The City of Saint John has been an early adopter and a leader of climate change adaptation and mitigation practices. Over the past years, the City developed and implemented innovative strategies, plans, policies programs and measures to improve the efficiency and resiliency of its own facilities and infrastructure, as well as the community in general.

The areas of focus for previous energy and GHG emissions saving measures included:

- City facilities and infrastructure
- Water and Sewer utility
- Electric Utility
- Public Transportation
- Active transportation
- Solid waste reduction
- Investing in "green" infrastructure
- Protecting and caring for green space

The City also implemented measures and action items to address the demands on its energy infrastructure and reduce GHG emissions.

The City of Saint John is committed to continue taking ambitious action to reduce greenhouse gas (GHG) emissions while encouraging economic development and ensuring affordable energy supply for its residents and businesses. Owning an electric utility (Saint John Energy), combined with having a strong heavy industrial economic base, puts the City of Saint John in an excellent position to leverage existing assets and rapidly reduce GHG emissions.

In 2019, Common Council has adopted the City of Saint John Climate Change Action Plan, through the following resolution:

"It is recommended that Common Council approve the following Climate Change Action Items, subject to the City's Long-Term Financial Plan and required community energy partnerships:

1) City of Saint John Corporate GHG and Energy Action Plan attached at Appendix A and,
2) City of Saint John Community GHG and Energy Action Plan attached at Appendix B and,
3) Corporate GHG Emission Target of 30% by 2025 below 2015 levels and,
4) Community GHG Emission Target of 9% by 2025 and 18% by 2035, below 2015 levels and,
5) City of Saint John Corporate Operation to be Carbon Neutral by 2040 and,
6) City staff to establish a governance structure to manage/monitor the implementation of the community and corporate energy action plan and,
7) City of Saint John shall consider climate change impacts and mitigation measures in all future decision to ensure that residents, the built environment, and infrastructure are protected and,
8) Approve the Declaration on Climate Change."

Since then, the City's Asset and Energy Management staff has been working diligently with various internal and external stakeholders, to develop and implement the climate change action plan items and achieve the desired outcomes.

The following list represents the activities and achievements of the City's Climate Change Action Plan to date:

1- Updated the Asset Management Policy to ensure that climate change mitigation and adaptation impacts are considered in all future decisions and that residents, the built environment, and infrastructure are protected.
2- Developed and implemented a municipal deep energy retrofit program focused on energy efficiency and renewal energy measures on the City's municipal and water utility facilities. This program is expected to reduce GHG emissions by 3912 tCO2e by the year 2022. This reduction is equivalent to 16% of the corporate GHG emissions relative to the year 2015.
3- Implemented various measures on the municipal fleet and transit buses. These measures include:
    a. Developing Green our Fleet Policy
    b. Fleet downsizing
    c. Fleet Telematics to track and monitor vehicles fuel consumption and efficiency
    d. Developing public transit and fleet low-carbon migration strategy

    These measures have resulted in 36% GHG emissions reduction in the corporate transportation sector, compared to 2015 levels.

4- Completed a community GHG emissions implementation plan in 2020.

5- Applied for funding and received $11 million from the Disaster Mitigation and Adaptation Fund (DMAF) toward the following projects:

    a. Refurbishment and raising of the Seawall near the waterfront
    b. Raising and upgrading the 10 lift stations along the Saint John River and relocating the union street electric substation.

    The objective of these projects is to mitigate risks associated with climate change events such as sea water rise, storm surge and flooding.

    On top of that, the City has received and invested grants for over $9 Million towards environmental initiatives related to climate change adaptation and mitigation.

6- In 2020, Council adopted Green zoning by-law to encourage the development of large renewal energy projects.

7- Council adopted "Green" as one of its priorities. In 2021, Common Council outlined its priorities for 2021-2026, focusing on growth and supported by five pillars that reflect the needs and interest of the Saint John resident. One of these pillars is "Green": "We encourage sustainable growth by continuing green practices and investing in climate adaptation initiatives with the implementation of the City of Saint John Corporate and Community GHG and Energy Action Plans".

8- Working with Saint John Energy to complete the Burchill wind energy project which will generate 42 MW of wind energy when completed in 2022. It will also result in GHG emissions reductions of 43,680 tCO2e, which is equivalent to 15% of the community's emissions from electrical power consumption. A portion of this wind energy will be used to offset the City's corporate emissions from electrical power consumption, through Renewal Energy Certificates (RECs).

9- Developing a District Energy System to provide green thermal energy to buildings located in the uptown core area. This project is currently in the planning phase. It is intended to harvest industrial waste energy, biomass energy, and waste energy from electrical power generation. The expected GHG emissions saving when this project is fully implemented are approximately 110,000 tCO2e.

10- Working with Saint John Energy to launch a Home Retrofit Program for the City of Saint John community. This program is aimed to incentivize residents to implement energy saving measures for their homes.

11- The City joined the "Race to Zero" campaign in November 2021, which entails a pledge at the head-of-organization level to:

   a. Reach (net) zero GHGs as soon as possible, and by mid-century at the latest, in line with global efforts to limit warming to 1.5C.
   b. Set an interim target to achieve in the next decade, which reflects maximum effort toward or beyond a fair share of the 50% global reduction in CO2 by 2030 identified in the IPCC Special Report on Global Warming of 1.5C Plan

2.0 PROJECT OBJECTIVES

The City has prepared this Request for Proposal (RFP) for Proponents interested in providing consulting services to the City of Saint John Community Energy Action Plan- Pathway to Net Zero (Plan). The requirements stated in this RFP are anticipated by the City at the time of writing this document, but they may change or be refined during the evaluation and award process.

The objective of this RFP is to engage a consulting firm specialized in community energy and action planning, to help the City of Saint John develop and implement a Saint John Community Energy Action Plan- Pathway to Net Zero. The Plan will build on past emissions reductions and include the development of a detailed roadmap to achieve the "Race to Zero" interim and final targets.

The proposed Plan requires the successful Proponent and the City, to work with the various community stakeholders including utilities, various levels of government, private businesses, etc. to successfully develop this pathway and ensure public engagement and buy in. The Plan shall be developed in consultation with the City's senior leadership team and staff, community stakeholders, and the public.

The Plan aims to enhance energy efficiency, enhance reliance on locally generated "green" energy, transition the City to low carbon economy, and achieve the "Race to Zero" interim and final targets. The Plan shall align with Council Priorities for "Environmental Stewardship", the City's Climate Change Action Plan, and Saint John Energy Objectives/Priorities for clean energy. In addition to supporting the City's Climate Change Action Plan,

the Plan shall support international, national, and provincial energy and climate change initiatives transitioning Canada to a low carbon economy by 2050.

3.0 SCOPE OF WORK

The City of Saint John will lead the project, with oversight to project deliverables and budget. The desired outcome is a well researched Plan that is conducted in collaboration with all stakeholders.

The scope of work includes the following tasks and steps:

1. Project Initiation: Confirm the Plan's scope of work, objectives, deliverables, and budget.

2. Review existing plans and information including the City's Climate Change Action Plan, neighbourhood plan, relevant policies, previous and current climate initiatives undertaken by the City and Saint John Energy, relevant Government policies and strategies, etc.

3. Build a simulation model capable of projecting GHG emissions till 2050, community-wide, for Business-As-Usual (BAU) scenario for the City of Saint John.

4. Develop low, medium, and high GHG emissions reduction scenarios for the community that can be achieved between 2023 and 2030 and between 2030 and 2050 to achieve net zero by 2050. The GHG emissions reduction scenarios should include the economic, environmental, and social benefits to the City and community at large as well as address energy poverty and concerns around, equity, diversity, and inclusion.

5. The sectors that need to be considered in the Plan include but are not limited to: transportation, water utility, solid waste, electric utility, residential, commercial/institutional, manufacturing/industrials (small to large industries), and land use.

6. Identify the combination of mitigation policy objectives (municipal, provincial, and federal), by-laws, actions, strategies.

7. Identify the municipal authority required including the resources.

8. Include cost estimation and schedules to the scenarios presented

9. Identify the challenges associated with the various scenarios

10. Conduct stakeholders' engagement and public consultation to harvest public feedback and gain support for the pathway to net zero. This works includes:
    - Identifying key stakeholders including environmental and social groups
    - Developing a methodology to conduct stakeholders' engagement. This methodology shall include stakeholders' engagement events and public consultation sessions
    - Compiling the results and feedback from stakeholders' engagement

11. Prepare and present a Draft Plan Report including:
    - Analysis of the output of item 3 to 10
    - Strategies, policies, by-laws, opportunities, challenges, resources, costs, etc. required to accomplish the scenarios requested, in order to achieve Race to Zero interim and final targets
    - A schedule for implementing all action items identified

    This draft report shall be presented to the City's Senior Leadership Team and Stakeholders.

12. Prepare Final Plan Report
    - Review information and feedback provided by the various stakeholders on the Draft Plan Report
    - Incorporate any changes into the Final Plan Report
    - Present Final Plan Report to the City's Senior Leadership Team and Stakeholders

13. Present the Final Plan Report to Council. This presentation shall be in person.

4.0 PROJECT SCHEDULE

The City of Saint John anticipates awarding no later than September 12, 2022. The successful Proponent shall complete the scope of work, including all deliverables, no later March 31, 2023.

5.0 EVALUATION

Proposals shall include the following sections and in this order of priority:

1. Table of Content
2. Statement of Understanding
3. Approach and Methodology
4. Qualifications and Team Composition
5. Milestones, Schedule, Assigned Staff and Roles (Presented in Chart format, not narrative)
6. Value Added
7. Costs and Remuneration

The following is an overview of the categories and weighting for the rated criteria relevant to the evaluation of proposals under this RFP.

Evaluation Criteria	Content	Weight
Quality	• Quality and completeness of submission	2.5%
Introduction and statement of understanding	• Understanding of the Development and Implementation of the City of Saint John Community Energy Action Plan- Pathway to Net Zero. • Set out team's approach Understanding of assignment • Understanding the role of the Proponent	15%
Approach and Methodology	• Approach to work • Proposals must provide a detailed work plan and proposed schedule consisting of a flowchart description of the required tasks and estimated durations of these tasks under normal circumstances. The Proponent must clearly describe the methods proposed for conducting the City of Saint John Community Energy Action Plan- Pathway to Net Zero. • For presentations and events that require stakeholders and public engagement, indicate the number of these events and whether they will be conducted in person or virtually.	25%
Proponent Profile	• Name, business address, telephone, website address of the firm(s); • Headquarters and regional business offices; • Date that the business was established and history of the firm(s); • Description of business structure (corporation, partnership, LLC); • Organization chart of the firm(s) or team assembled.	10%
Proponent Roles and Qualifications	• Key Personnel qualifications and experience, including a short biography of Key Personnel • Key Personnel roles and responsibilities • Two (2) references for Key Personnel • Resumes for Key Personnel • Demonstrated success and specialized experience in providing similar services of the type described in this RFP for at least three (3) projects of comparable size and scope. Provide references complete with addresses, contact person name, phone number, and e-mail address. • Evidence that the key management/personnel/staff/ support staff assigned to this project have the qualifications and experience to successfully provides the requisite services. Provide resumes of all proposed staff assigned to the Project.	15%
Availability	• Discuss availability of Key Personnel during the development of the Plan	7.5%
Value Added	• Additional information, specialized knowledge, and options	5%

Evaluation Criteria	Content	Weight
Proponent Costs and Remuneration	• Total fixed fee with the number of hours for each team member involved • Indicate the number of stakeholders and public engagement sessions and the associated costs • Indicate the number of in-person meetings and the associated costs • Disbursement cost estimates • Terms and conditions under which the Proponent might request a variation in the fixed fee • Fee schedule for Proponent including titles and hourly rates for additional services	20%

ATTACHEMENTS

- City of Saint John Climate Change Action Plan
- Corporate GHG Emissions and Energy Action Plan and Inventory
- Community GHG Emissions and Energy Action Plan and Inventory
- Race to Net Zero Council Report
- Green Zoning Development By-Law
- Council Priorities 2021-2016
- Community Energy Implementation and Monitoring Plan

SAINT JOHN

COUNCIL REPORT

M&C No.	2019-107
Report Date	May 02, 2019
Meeting Date	May 06, 2019
Service Area	Finance and Administrative Services

Approval by Council May 6, 2019

His Worship Mayor Don Darling and Members of Common Council

SUBJECT: City of Saint John Climate Change Action Plan

OPEN OR CLOSED SESSION

This matter is to be discussed in open session of Common Council.

AUTHORIZATION

Primary Author	Commissioner/Dept. Head	City Manager
Chair – Finance Committee	***Samir Yammine*** ***Ian Fogan*** ***Neil Jacobsen*** ***Kevin Fudge***	***John Collin***

RECOMMENDATION

It is recommended that Common Council approve the following Climate Change Action Items, subject to the City's Long-Term Financial Plan and required community energy partnerships:

1) City of Saint John Corporate GHG and Energy Action Plan attached at Appendix A and,
2) City of Saint John Community GHG and Energy Action Plan attached at Appendix B and,
3) Corporate GHG Emission Target of 30% by 2025 below 2015 levels and,
4) Community GHG Emission Target of 9% by 2025 and 18% by 2035, below 2015 levels and,
5) City of Saint John Corporate Operation to be Carbon Neutral by 2040 and,
6) City staff to establish a governance structure to manage/monitor the implementation of the community and corporate energy action plan and,
7) City of Saint John shall consider climate change impacts and mitigation measures in all future decision to ensure that residents, the built environment and infrastructure are protected and,
8) Approve the Declaration on Climate Change.

EXECUTIVE SUMMARY

The purpose of this report is to provide Council with an overall description of the City of Saint John vision, strategy and approach to address climate change across the organization and community at large. Additionally, this report is to seek Council approval to adopt the Community & Corporate GHG Action Plan and GHG emission targets that address Climate change impacts on the City Corporate operation and infrastructure as well as on residents and natural environment. The goal of the City Climate Change Action Plan is to position the City to address climate change impacts while pursuing economic development opportunities and transitioning to low carbon economy.

PREVIOUS RESOLUTION

In May 2016, Common Council (M&C 2016-121) requested staff develop a Community and Corporate GHG action plan to position the City to meet the goal of reducing GHG emissions while pursuing economic development goals

REPORT

The City's location on the Bay of Fundy, the St. John River, and the Kennebecasis River makes the community particularly susceptible to the effects of climate change and rising water levels. Additionally, the rising cost of energy and its impact on the City operating budget and community at large, as well as Canada, along with the commitment to reduce GHG emissions, has prompted many municipalities across Canada, including the City of Saint John, to take the necessary actions to adapt to climate change impacts.

Current Climate Change Actions and Initiatives

The following are a list of initiatives and actions that the City is taking to address climate change:

Municipal Energy Efficiency Program (MEEP)

The City of Saint John has been an early adopter of implementing energy efficiency measures in relation to municipal and water facilities. The City was one of the first, and one of the few, Canadian municipalities in Atlantic Canada to embark on creating a Municipal Energy Efficiency Program (MEEP). The program has been recognized regionally and nationally as best practice. The following are a list of environmental and economic benefits as of 2017:

- Reduced energy cost by over $2.3 Million
- Reduced Greenhouse Gas Emissions by over 9400 tons of CO2 or 24%
- Reduce Energy consumption by approximately 8.6 Million KWH and 35,000 GJ of Natural Gas and oil/propane or 30 %

- Received over $22 Million in Grants & Loans
- Implemented over 100 environmental initiatives

The City of Saint John shall capitalize on the success of the MEEP to transition the Corporate and Community to a low carbon economy as well as address climate change impacts.

Asset Management Policy

In March 2018, Common Council approved the Asset Management Policy that integrates climate change into decision-making on City's infrastructure assets such as roads, buildings, and water and wastewater systems.

The benefits of this policy are as follow:

- Increase the City's opportunity to obtain infrastructure funding from various level of governments and the Federation of Canadian Municipalities (FCM);
- Improve decision-making and risk management processes by considering the vulnerability of City assets to the effects of climate change; and
- Include asset management considerations in the City's capital and operating budget processes to better define and improve the City infrastructure's financial sustainability.

Climate Change Vulnerability Assessment Methodology and Analysis

The City of Saint John will be conducting vulnerabilities assessment on the City's critical assets such as roads, stormwater, buildings, etc. The vulnerabilities of municipal assets to climate events (both historic as well as expected future climate events) will be identified and quantified, and options to mitigate these vulnerabilities will be developed. This will increase the resiliency of municipal infrastructure during climate driven disasters, and will assist the planning and coordination of emergency response measures by the City of Saint John.

Climate Change Adaptation Plan

ACAP Saint John, with support from the Federation of Canadian Municipalities, has spent the past year working to develop a design-focused Climate Change Adaptation Study for three central neighborhoods in Saint John: the Central Peninsula, the Lower-West Side and the North End. This study included identifying three small neighborhood projects that will demonstrate climate adaptation in practice. The recently approved Rain Garden Project in Queen Square West is an example of one of these projects.

In collaboration with the City of Saint John, and through support from New Brunswick's Climate Change Secretariat, ACAP Saint John will also be developing

a Climate Change Adaptation Plan for the City. ACAP has recently initiated the second year of this project. The first year of this project saw the development of a steering committee consisting of stakeholders and city staff, identification of risks and vulnerabilities, and community engagement. The adaptation plan will incorporate Climate Change adaptation strategies for Stormwater management while identifying, assessing and mapping risks and vulnerabilities in the City, and developing adaptation methods to increase resiliency throughout Saint John. The project will provide a robust understanding of climate change related issues for adapting our region and direct both the City of Saint John and ACAP Saint John in on-the-ground adaptation actions and capital investments.

Project findings will be included in revised editions of the Municipal Plan and will influence the future growth and development of City neighborhoods and neighborhood dialogue. In-person discussions and community sessions hosted by both ACAP and the City of Saint John will be the primary means of community engagement and consultation, while ACAP will continue to engage citizens with best practices for Stormwater management and community placemaking projects through its well-established social media networks and local media outlets. Guides to building retrofits, rain-gardens and the value of green infrastructure will also be made available via printed and online materials.

ACAP will present its final Adaptation Plan to Council for adoption by March 2020.

Community Resilience Action Plan

The City of Saint John will work with six municipalities across Canada to develop a climate risk and vulnerability assessment, using a variety of tools/methods. The process will result in recommendations for improving resilience and adapting to climate change, **with a specific focus on the impacts of prolonged outages of energy supply on essential community services.** This project is part of the "Municipalities and Utilities Partnering for Community Resilience" led by QUEST.

QUEST is national organization, best known for its work to advance Smart Energy Communities in Canada, which not only reduce greenhouse gas emissions (GHGs) but also help improve resilience at a local level.

Deliverables:

- Climate risk and vulnerability assessment, with a particular view on the role of energy (Completed).
- Recommendations to improve resilience / reduce risk, with a focus on reducing the impact of climate change on energy / municipal services that depend on energy.
- Strategy to integrate recommendations with existing municipal processes and plans e.g. Climate Change Adaptation Plan, Asset Management Plan, Emergency Plan, etc.

- Access to a network of municipalities from across Canada that are actively working with their utilities to respond to the impacts of climate change.

What was accomplished to date:

- Conducted baseline survey
- Compiled climate data / projections
- Conducted 1st workshop in Saint John, to assess strengths and weaknesses (included presentations and 3 table-top exercises)
- Engaged energy utilities, Emergency Measures, Insurance Bureau, and Department of Environment to share lessons learned
- Conducted Detailed Hazard-Specific Analysis
- Prepared assessment report
- Monthly calls with all 6 participating municipalities

Next steps:

- Submit recommendations for consideration
- Hold workshop #2 to discuss recommendations, identify priorities (June 12, 2019)
- Produce report for each community (Fall 2019)
- Produce a guide for all Canadian Municipalities (December 2019)

Funding:

This project is supported through a grant provided by FCM's Municipalities for Climate innovation Program, Climate Adaptation Partner grants, and funded by the Government of Canada

CORPORATE & COMMUNITY GHG & ENERGY ACTION PLAN

General

In May 2016, Common Council (M&C 2016-121) requested staff to develop a Community and Corporate GHG action plan to position the City to meet the goal of reducing GHG emissions while pursuing economic development goals.

Both plans were completed in January 2019 by involving major community stakeholders in the planning, analysis and development of the action plan, strategy and GHG emission target.

The major stakeholders that were involved in the development of the community GHG plan are as follow:

- Saint John Energy
- Horizon Health
- Province of NB Department of Energy
- Sustainability SJ

- Quest
- Irving Oil
- Canaport LNG
- MCW Consultant
- Fundy Regional Solid Waste
- Commercial Properties
- Atlantica
- City of Saint John Various Departments
- NB Power Energy Efficiency Group
- Province of NB Environment and Local Government
- University of NB SJ Campus

The GHG Action Plan consists of the following:

- Goals
- Greenhouse Gas Emission Inventory
- Emission Reduction Target
- Action Plan and Strategy
- Benefits

Corporate GHG & Energy Action Plan

Goals

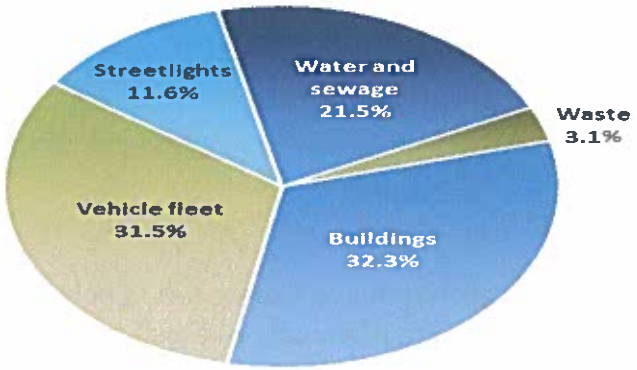
The following are the objectives and goals of the corporate GHG Action Plan:

- Reduce total energy use and GHG emissions
- Help community and business sectors with the lesson learned
- Advise Council and Senior Staff on Energy Policies, Standards, Guidelines and procurement of environmentally sound equipment
- Raise environmental efficiency awareness among staff
- Foster a shift towards low carbon technologies

Greenhouse Gas Emission Inventory

The following are the GHG emission inventory for the City of Saint John Corporate Operation including Fleet and Transit assets

GHG Emissions Breakdown by Sector Type (teCO2)



Energy Costs and eCO_2 Emission by Source

Energy Type	Total Use	Energy (GJ)	Total Cost ($)	Total eCO2 (t)
Electricity	48,111,540	173,202	4,089,481	13,471
Natural Gas	971,119	38,107	830,015	1,857
CNG	0	0	0	0
Diesel	2,037,035	78,018	2,193,854	5,466
District Energy	0	0	0	0
Ethanol Blend (10%)	0	0	0	0
Biodiesel (B5)	0	0	0	0
Biodiesel (B10)	0	0	0	0
Biodiesel (B20)	0	0	0	0
Fuel Oil	12,767	495	9,703	35
Gasoline	788,719	27,605	806,016	1,924
Propane	180,007	4,556	72,003	278
Waste	-	-	-	744
Total	-	**321,983**	**8,001,071**	**23,776**

Emission Reduction Target

City staff has established a GHG emission target of 30% by 2025 below 2015 levels. The target was established by conducting in house energy analysis and identifying energy saving opportunities for individual municipal and water facilities as well as for the corporate fleet.

Tons of CO_2 equivalent		Year Base 2015	Forecast 2025
1	Current Emissions	23 776,2	
2	Reduction Target		30,0%
3	Forecast emissions (target) (line 1 - line 4)		16 643,3
4	**Total reductions to be achieved** (line 1 - line 3)		**7 132,9**

Action Plan and Strategy

City staff has identified various actions and strategies to help achieve the GHG emission target by 2025. Each action/strategy was evaluated in terms of economic and environmental benefits and required capital investment. Further analysis is still required to develop an implementation plan for each strategy. Furthermore, additional action or strategy might be added to help achieve the GHG emission target.

The following are high level actions and strategies for the corporate plan:

- Fleet & Transit Strategy
  - Optimal Vehicle Replacement
  - Idle-free strategy
  - Electric Vehicle
  - Training & Education
- Deep Buildings Energy Retrofit
  - Energy Efficiency Measures
  - Peak Load Shedding
  - Renewable Energy Measures
  - Energy Monitoring & Tracking
  - Training & Education

Benefits

The implementation of the proposed energy saving measures will result in the following environmental and economic benefits:

- Over $2.2 Million annual savings
- 7,132 Tonnes of CO2 annually
- Carbon saving $356,000 (Assuming $50 per Tonnes of CO2)
- Over $300,000 annually saving in maintenance
- Displace over 250,000 GJ of NG (25 Years) and 360,000 liter of gasoline & diesel annually
- Divert over $50 Million (lifetime of the project) in energy into the local economy

The City has already implemented some of these measures in 2016/2017 and have resulted in the following early benefits:

- 9.7% reduction in GHG emission
- 2,295.8 Tonnes of CO2
- $229,000 annually

Community GHG & Energy Action Plan

Goals

The following are the objectives and goals of the community GHG Action Plan:

- Foster a shift towards low carbon technologies
- Increase energy efficiency for new and existing buildings
- Build awareness about energy investment and create a culture of energy conservation among residents, business, institutions, and industry
- Build knowledge, skills and technical capacity through partnerships
- Develop collaboration between the various community stakeholders

GHG Emission Inventory

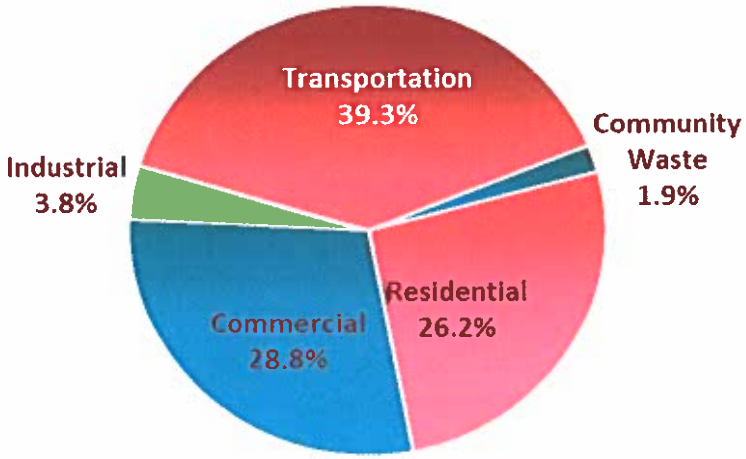
The following are the GHG emission for Saint John Community excluding large industries:

• Community Inventory Summary

Energy Usage and eCO_2 Emission by Source

Energy type	Total Use	Cost	Energy (GJ)	Total eCO_2 (t)
Electricity	955,491,860	$ 95,549,186.00	3,439,771	267,538
Fuel Oil	29,536,412	$ 23,629,129.90	1,146,013	80,787
Natural Gas	10,391,032	$ 238,993,733.33	407,744	19,770
Diesel - Buildings	0		0	0
Heavy fuel oil	2,958,875	$ 1,479,437.74	125,752	9,306
Propane - Buildings	4,420,006	$ 1,989,002.79	111,870	6,825
District Energy	0		0	0
Gasoline	68,613,182	$ 80,963,555.30	2,401,461	167,384
Diesel - transportation	32,599,587	$ 38,467,512.07	1,248,564	87,479
Ethanol Blend (10%)	686,446	$ 810,006.09	23,229	1,507
Biodiesel (B5)	0		0	0
Biodiesel (B10)	0		0	0
Biodiesel (B20)	0		0	0
Propane - transportation	12,441		315	19
CNG	1,266		48	4
Waste	-		-	12,534
Total	**1,104,711,108**	**$ 481,881,563.22**	**8,904,768**	**653,152.0**

GHG Emissions Breakdown by Sector Type (teCO2)



Emission Reduction Target

City staff, in cooperation with the various stakeholders, has established a GHG emission target of 9% by 2025 and 18% by 2035 below 2015 levels. The target was established by identifying energy saving opportunities for the various sectors: Transportation, Energy Efficiency, Renewal Energy Opportunities, along with others.

Community Energy & GHG Action Plan

Baseline and Target

	Tons of CO2 equivalent	Year Base 2015	Forecast 2025	Forecast CGHGEP 2035
1	Current Emissions	653,152		
2	Community Emissions Forecast (BAU Scenario)		*650,906*	*648,660*
3	Reduction Target		9.0%	18.0%
4	Forecast emissions (target) (line 1 - line 5)		594,368	535,585
5	**Total reductions to be achieved (line 1 - line 4)**		**58,784**	**117,567**
6	**Total reductions to be achieved (Including BAU Scenario)**		**56,538**	**113,075**

Action Plan and Strategy

City staff in cooperation with the various stakeholders such as Saint John Energy, Quest, NB Power Energy Group, Irving Oil, etc. has identified various actions and strategies to help achieve the GHG emission target by 2025. Each action/strategy was evaluated in terms of economic and environmental benefits and required capital investment. Further analysis is still required to develop an

implementation plan for the individual strategies. Furthermore, additional action and strategies might be added in order to achieve the GHG emission target.

The following are high level actions and strategies for the community plan:

- **Local Renewable Energy Production**
  - Renewable energy resources (Wind & Solar) of 6% of SJE's total energy by 2025
  - District Energy System
  - Improve SJE Load Factor from 71% to 75%
  - SJE System efficiency (2% by 2030)
- **Transportation**
  - Idle-free Strategy
  - Electric Vehicle Community Program (220 Vehicle by 2025)
  - Fuel Efficiency Driving
  - Efficient & Compact Vehicles
- **Energy Efficiency**
  - LED Lighting (60%)
  - Energy Efficiency Products (HP, DHW) for residential (25%/10%)
  - Energy Efficiency for commercial and residential (15%/10%)
  - Clean Energy Conversion (15%/10%)
- **Clothesline Program**

Benefits

The implementation of the proposed energy saving measures will result in the following environmental and economic benefits to the community:

- Over $44 Million annual savings
- 56,000 Tonnes of CO2 annually
- Carbon saving $2.8 Million (Assuming $50 per Tonnes of CO2)
- Displace over 1 Million of NG annually and 7.5 Million liter of gasoline & diesel annually
- Divert over $1.1 Billion (25 years) in energy into the local economy
- Local Green Energy Jobs

NEXT STEPS

Following is a list of action items that must be completed prior to implementing the proposed strategies for the corporate and community GHG action plans:

- Present the Plan to the Community
- Develop an Implementation and Monitoring Plan
- Establish a Governance Structure
- Prioritize the list of the Corporate projects
- Solicit Federal and Provincial Funding

STRATEGIC ALIGNMENT

The current climate change action strategies to address climate change mitigation and adaptation are clearly aligned with the following City plans, policies, Council Priorities, and provincial and federal government's strategy:

Plan SJ

- Reduces the City's ecological footprint and strives toward greater long term environmental sustainability for future generations
- Conserves energy and reduces energy use through sustainable building design, alternative energy systems and reduced auto dependence
- Develops effective policy on climate change and integrates mitigation and adaptation actions that can be influenced through land use policy
- Working with the Government of New Brunswick, the Government of Canada and relevant agencies to reduce local emissions of greenhouse gases

Integrated Community Sustainability Plan (ICSP)

- Saint John leads the nation as an example of a sustainable community
- Sustainability Themes on the Environment: We have an inherent responsibility and are dedicated to living in balance with our natural settings and decreasing our demands on finite natural resources

Council Priorities

Value Service Delivery: Saint John invests in sustainable City Services and municipal infrastructure. Our community is engaged and understands what is expected from service delivery.

Saint John Energy, Energy Efficiency and Renewal Initiatives

Paris Climate Change Agreement

As part of the Paris Climate Change Canada Agreement, the Federal Government has committed to reduce GHG emission by 30% by 2030 from 2005 levels

Province of New Brunswick's Climate Change Action Plan

Transitioning to a Low-Carbon Economy

SERVICE AND FINANCIAL OUTCOMES

The total costs of the current Climate Change Action Plan activities and initiatives are provided by the Federation of Canadian Municipalities, Province of NB Environmental Trust Fund, NB Power Energy Programs, Green Infrastructure Funding Programs and City of Saint John General Fund. Furthermore, the City of Saint will be seeking funds for future projects and initiatives from the following sources:

- Green Infrastructure Funding Program
- Integrated Bilateral Program
- NB Power Energy Efficiency Program
- Green Municipal Fund (GMF)
- Low Carbon Economy Fund Program
- ACOA Funding Programs
- Others such as industries, utilities, etc.

INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS

The current climate change action plans and programs have been reviewed by City of Saint John Growth and Community Development and Corporate Planning Departments, Saint John Energy and Quest. Additionally, community stakeholders were engaged in the development of the community GHG and Energy Action Plan. The City of Saint John will continue working with Saint John Energy and other stakeholders to establish a governance structure to manage and monitor the successful implementation of the action items and strategies.

ATTACHMENTS

Appendix A- Corporate GHG and Energy Action Plan
Appendix B- Community GHG and Energy Action Plan

Climate Change Declaration

Approve by Council May 6, 2019

WHEREAS, it is well established that climate warming is causing significant disruptions to the world's climatic systems, increasing the frequency of extreme weather events and posing other significant risks such as drought, forest fires, floods and rising sea levels, and that these disruptions in our climate pose threats to our natural environment, our health, our jobs and economy, and,

WHEREAS, Local governments are essential to the successful implementation of the urgent measures required to limit the global climate impact, and,

WHEREAS, Local governments around the world are taking new actions to avoid the worst impacts of climate breakdown and calling on senior levels of government for a more urgent response, and,

WHEREAS, the City of Saint John's Asset Management Policy requires Climate Change to be considered in all capital investment decisions

WHEREAS, the City of Saint John has been taking action on sustainability and has as a Corporate Plan to reduce greenhouse gas emissions, and

WHEREAS, the City of Saint John is also a participant in the Community Greenhouse Gas Action Plan.

THEREFORE BE IT RESOLVED;

That Common Council of the City of Saint John endorse the Climate Change Action Plan as presented to Council on May 6, 2019.

That Council call upon our Federal and Provincial governments to support the City of Saint John in its efforts to deal with Climate Change and to do what is necessary and required now to create a safe and liveable future for our generation and those who follow.

That the City Manager provides regular updates to Common Council on the City's Climate Change Action Plan including new initiatives, challenges and successes.

City of Saint John Corporate GHG & Energy Action Plan

January 2019

Realised with the Union of the Municipalities of New Brunswick

Consulting team YHC ENVIRONNEMENT

Financed by FCM

New Nouveau Brunswick
Your Environmental Trust Fund at Work
Votre Fonds en fiducie pour l'Environnement au travail

The preparation of this plan was carried out with assistance from the Green Municipal Fund, a Fund financed by the Government of Canada and administered by the Federation of Canadian Municipalities. Notwithstanding this support, the views expressed are the personal views of the authors, and the Federation of Canadian Municipalities and the Government of Canada accept no responsibility for them.

CONTENTS

Corporative GHG Inventory & Action Plan

I. Introduction 3

II. Strategy 6

III. Town profile 10

IV. Inventory 13

V. Action Plan 19

VI. Appendix 45

Annexe 1 GHG Inventory (Spreadsheet) .....

Annexe 2 GHG Action Plan (Spreadsheet) .....

Annexe 3 Municipal Energy Efficiency Program (MEEP) .....

I. Introduction

A. Context

The simple fact of having asked for a greenhouse gas inventory and an action plan to reduce it already demonstrates the willingness of Saint John's elected officials and municipal leaders to do their part in the protection of air quality and the environment!

Communities across Canada are facing the effects of climate change. Some have to deal with greater droughts, others with more violent storms. For example, shorter and warmer winters accentuate coastal erosion and damage to infrastructure, which is less well protected due to loss of coastal ice. Such repercussions will cost municipalities and their communities millions of dollars and the implementation of adaptation and mitigation measures in and for communities seems inevitable today. Municipal governments have a leading role to play in climate protection. They have direct or indirect control over nearly half of Canada's greenhouse gas (GHG) emissions (350 million tons).

Canada's goal is to reduce its GHG emissions by 30% below 2005 levels under the Paris Agreement.

I. INTRODUCTION

B. UMNB CCEI & PPC

CLIMATE CHANGE AND ENERGY INITIATIVE (CCEI) - Municipalities in New Brunswick are increasingly aware of environmental challenges they face, and are particularly concerned with actual and future impacts of climate change. The City of Saint John joined the Climate Change and Energy Initiative of the Union of Municipalities of New Brunswick, to reinforce its efforts to advance in the Partners for Climate Protection program (PCP). The UMNB initiative fits perfectly in the global and national context of addressing climate change, following the Paris Agreement (COP 21).

The UMNB CCEI aims to offer support to members to realize their corporate and community GHG inventories and Local Action Plan, as well as integrate the QUEST Community Energy Planning approach.

THE PARTNERS FOR CLIMATE PROTECTION (PCP) PROGRAM is a network of Canadian municipal governments that have committed to reducing greenhouse gases (GHG) and to acting on climate change. Since the program's inception in 1994, over 300 municipalities have joined PCP, making a public commitment to reduce emissions. PCP membership covers all provinces and territories and accounts for more than 65 per cent of the Canadian population**.** PCP is the Canadian component of ICLEI's Cities for Climate Protection (CCP) network, which involves more than 1,100 communities worldwide. PCP is a partnership between the **Federation of Canadian Municipalities (FCM) and ICLEI** — Local Governments for Sustainability.

As a member of UMNB, the City of Saint John has agreed to participate in CCEI.

Link to: ACTION-GHG Saint John

I. Introduction

C. Partners for Climate Protection Program (PCP) - Method

UMNB CCEI allows participating municipalities to complete the first 3 steps of the Partners for Climate Protection (PCP) program. Steps 4 and 5 consist of the implementation of action plans and the monitoring and reporting of results.

MILESTONE 1 CREATING A GREENHOUSE GAS EMISSIONS INVENTORY AND FORECAST

A greenhouse gas inventory brings together data on community and municipal energy use and solid waste generation in order to estimate greenhouse gas (GHG) emissions in a given year. The forecast projects future emissions based on assumptions about population, economic growth and fuel mix.

MILESTONE 2 SETTING AN EMISSIONS REDUCTIONS TARGET

An emissions reduction target can be established at any time. The target is normally set, however, following the development of an emissions inventory and forecast or after the quantification of existing emissions reduction measures.

MILESTONE 3 DEVELOPING A LOCAL ACTION PLAN

A Local Action Plan (LAP) is a strategic document that outlines how your municipality will achieve its greenhouse gas (GHG) emissions reduction target. The LAP covers municipal operations and the community.

II. Strategy

A. City of Saint John - CCEI Objective and Strategy

City of Saint John CCEI aims to design and implement projects:

- ✓ Which will be examples and role models for New Brunswick and other communities in Canada;
- ✓ Which will improve the quality of life of communities and can guarantee a better environment and economic benefits (energy savings, income, job creation);
- ✓ Which will develop expertise for UMNB members and for New Brunswick.

The strategy is based on the following principles:

1. Build an action plan and portfolio of environmentally and economically successful projects;
2. Design model and innovative projects;
3. Set ambitious and achievable reduction targets;
4. Build on existing programs and funds: for example, FCM and GMF programs, Environmental Trust Fund, NB Power programs, etc. ;
5. Maximize benefits for participating municipalities, their region.

II. Strategy

B. Plan SJ policies that would support the Community and Corporate Energy Plan

1. NE-4 Encourage reduced automobile emissions by promoting a more compact, mixed-use development pattern and making walking, cycling and transit use viable transportation choices.

2. NE-5 Work with the Government of New Brunswick, industry and other agencies to develop and implement clean air initiatives, including emission reduction strategies.

3. NE-7 Reduce emissions from City Infrastructure, including buildings and fleets, through corporate purchasing and operating policies that support the Municipal Energy Efficiency Program.

4. NE-37 Continue to improve the energy efficiency of municipal service delivery, including facilities, equipment, fleet, street-lights, and procurement through the Municipal Energy Efficiency Program.

5. NE-38 Explore and encourage the development and use of alternative energy sources, such as solar, wind, geothermal, biomass and energy recovery.

6. NE-39 Encourage excellence in energy efficiency in new development in retrofitting of existing development.

7. NE-40 Support public education and action on the use of alternative energy sources and energy efficiency measures.

8. NE-41 Work with relevant agencies to develop and implement an Energy and Greenhouse Gas Emissions plan for the City.

9. TM-12 Encourage and promote the use of the active transportation network by residents as a healthy transportation choice by undertaking such initiatives as public education campaigns, mapping of the network and way-finding signage.

10. TM-22 Recognize and promote public transit as an important component of a sustainable urban transportation system which contributes to economic development and helps the City achieve its environmental goals and objectives.

11. TM-23 Provide effective fiscal support for efficient, affordable, safe and convenient transit services linking major employment, commercial, residential and recreational areas.

12. NE-42 Work with the Government of New Brunswick, the Government of Canada and relevant agencies to support research efforts that better quantify the predicted impacts of climate change.

13. NE-43 Proactively plan for climate change by taking action to manage the effects of climate change and minimizing adverse impacts through the development of a Climate Change Plan in partnership with other levels of government.

(continued)

B. PLAN SJ POLICIES THAT WOULD SUPPORT THE COMMUNITY AND CORPORATE ENERGY PLAN

14. NE-44 Mitigate local contributions to climate change by:

a. Working with the Government of New Brunswick, the Government of Canada and relevant agencies to reduce local emissions of greenhouse gases;

b. Working with the Government of New Brunswick and Saint John Energy to explore renewable sources of energy;

c. Supporting initiatives to increase public awareness and action on the reduction of greenhouse gas emissions;

d. Encouraging excellence in emissions reduction and green building standards for all development; and

e. Recognizing that a variety of initiatives, such as the development of complete communities, increasing economic diversification, offering a range of transportation choices and encouraging local food production all contribute to mitigation of greenhouse gas emissions.

15. MS-1 Ensure the first priority for the City is to maintain and upgrade existing municipal servicing systems.

16. MS-7 Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to optimize service delivery over the life of an asset.

C. GHG Emission Reduction Target

For PCP and GMF, the GHG emission reduction targets of participating municipalities are set on a voluntary and non-binding basis. It is important that the targets are ambitious while being realistic both in their importance (projected reductions) and in their duration (year of maturity).

Before setting the reduction targets and the action plan timeline, we took into account:

- PCP and GMF recommendations.
- The objectives of the Government of New Brunswick.
- The GHG reduction potential of the municipality and its community.

The PCP and GMF make the following recommendations:

- For **the Corporate component**, that is, the municipality itself, the recommended target is -20% over the reference year, within 10 years. Thus, if the reference year is 2015, the year of maturity will be 2025.
- For the **Community component,** that is to say citizens, businesses, etc., the recommended target is -6% over the base year, within 10 years.

**** The New Brunswick's Climate Change Action Plan "Transitioning to a Low-Carbon Economy" (2017) - The provincial government will:*** *31 - Establish specific GHG emission targets for 2020, 2030 and 2050 that reflect a total output of:*
a - 14.8 Mt by 2020;
b - 10.7 Mt by 2030; and
c - 5 Mt by 2050.

III. City Profile

Profile of the municipality and its geographical context

The City of Saint John is located in southern New Brunswick, in the County of Saint John, of which it is the chief City. Saint John is 415 kilometers west-northwest of Halifax, 915 kilometers east of Montreal and 650 kilometers northeast of Boston. Located at the mouth of the Saint John River on the edge of the Bay of Fundy, the City, with its port, occupies an important place in the economy of the Maritimes. Saint John is the oldest incorporated municipality in Canada and the second largest City in New Brunswick after Moncton.

Municipal composition

- 1 mayor, 2 general councillors and 8 neighborhood councilors
- 682 full time employees and seasonal staff and 203 police employees

Municipal infrastructures

- 183 buildings, lighting, water and sewage
- 429 vehicles and motorized equipment

Profile of the community

The population of Saint John in 2016 was 67,575 inhabitants spread over an area of 315.96 km^2, a density of 213.9 hab./km^2. It experienced a population decrease of 3,6% from 2011 to 2016. The City had 33,801 private dwellings in 2016, of which 30,208 were occupied by full time residents. 81% of dwellings were built before 1991.

The official languages spoken by the Saint John population are 86% English, 0,15% French, and 13% both French and English.

In Saint John:

- **Public library**
- **University**
- **Elementary School**
- **Middle School**
- **High School**
- **Harbor**
- **Airport**
- **Ferry**
- **City Transit**
- **Bus Rapid Transit**
- **Taxi Service**
- **Camping**
- **Marina**
- **Outlets**
- **Shopping Centers**
- **Market Square**
- **Parks**
- **Beaches**
- **Ice Rinks**

Skateboarding Parks
Play Parks
Sporting Facilities
Golf Courses
Aquatic Facilities
Trails

III. City Profile

CLIMATE CHANGE AND ENERGY INITIATIVE (CCEI)

Municipalities in New Brunswick are increasingly aware of environmental challenges they face, and are particularly concerned with actual and future impacts of climate change. The City of Saint John joined the Climate Change and Energy Initiative of the Union of Municipalities of New Brunswick, to reinforce its efforts to advance in the Partners for Climate Protection Program (PCP).

The UMNB initiative fits perfectly in the global and national context of addressing climate change, following the Paris Agreement (COP 21).

The UMNB CCEI aims to offer support to members to realize their corporate and community GHG inventories and Local Action Plan, as well as integrate the QUEST Community Energy Planning approach.

- Climate Change and Energy Initiative (CCEI) of the Union of Municipalities of New Brunswick, 2017
- City of Saint John, NB, Saint John City Market energy upgrades, 2018
- Asset Management Policy and Strategy, 2017
- Municipal Energy Efficiency Program (MEEP), 2014
- Our Saint John, Integrated Community Sustainability Plan, 2009
- Member – Partners for Climate Protection program, FCM, 2006

The City of Saint John has eight public electric charging stations* on its territory.

*Listed by PlugShare (July 2018)

Municipal Energy Efficiency Program (MEEP)

Goals and Objectives:

- ✓ Reduce total energy use and GHG emissions by 35%
- ✓ Assist other municipalities, communities and business sectors using lessons learned
- ✓ Advise Council and Senior Staff on energy policies, standards, guidelines and procurement of environmentally sound equipment
- ✓ Raise energy awareness amongst staff

Provincial, National and International Awards

- Premier's Award - Energy Efficiency 2011- Commercial Energy Efficiency Champion
- Top 13 in North America for Best Energy Management Practices
- Milton F. Gregg Conservation Award
- FCM-CH2M Hill Sustainable Community Award 2008: Energy
- Canadian Association of Municipal Administrators (CAMA) 2004: Environmental Award
- Government of New Brunswick Community Recognition Award
- Premier's Award - Energy Efficiency for New Construction of Police Headquarters and Transit Operations Building
- 2017 Smart Community Award Presented by QUEST

Environmental, Social and Economic Benefits

The City of Saint John has been early adopter of new advances, technologies, and approaches and a strong promoter of efficiency awareness amongst staff and management. The MEEP has proven to be successful in reducing energy costs and GHG emissions, and this success has showcased the City as a leader in Sustainable Energy Management. Following are some of the accomplishment and benefits of the MEEP as of 2015:

- Energy savings of over $2.3M
- Reduced energy consumption by approximately 8.6M KWH and 49,000 GJ of natural gas and oil/propane, or 30%, from baseline
- Greenhouse gas emissions reduced by 9400 tons of CO_2, or 24%, from baseline, with emission reductions expected to meet and exceed the 35% reduction target by 2020 as indicated in the MEEP objectives
- Help other NB municipalities such as Moncton and Fredericton to undertake their own climate change and energy efficiency initiatives
- Capital Investment of over $5 million in energy efficiencies measures to reduce GHG emissions

Corporate GHG Inventory

IV. Inventory

The City of Saint John has joined the Climate Change and Energy Initiatives Program by commissioning UMNB and YHC Environnement to develop an inventory of its GHG emissions that will be used to develop an action plan that includes a suite of measures. to control and reduce GHG emissions from their sources.

Saint John's emissions inventory consists of two separate components. The first is emissions from the activities of the municipal administration (the Corporate) and the second covers the entire territory of the Municipality (the Community).

This document covers the Greenhouse Gas Emission Inventory for the 2015 reference year of the Corporate Component of the City of Saint John. The relevant additional elements are detailed in the appendices.

IV. Inventory

A. Summary

The corporate component consists of five emission sectors which, in Saint John's case, are responsible for approximately 23 776 tons of CO_2 equivalent. The two largest corporate GHG emission sectors are buildings and vehicle fleet. The former produce 32.5% of corporate GHGs, the latter generate 31.1%. Water and sewage is responsible for 21.6% of the Municipality's emissions, streetlights 11.7% and finally 3.1% of emissions are attributed to municipal waste.

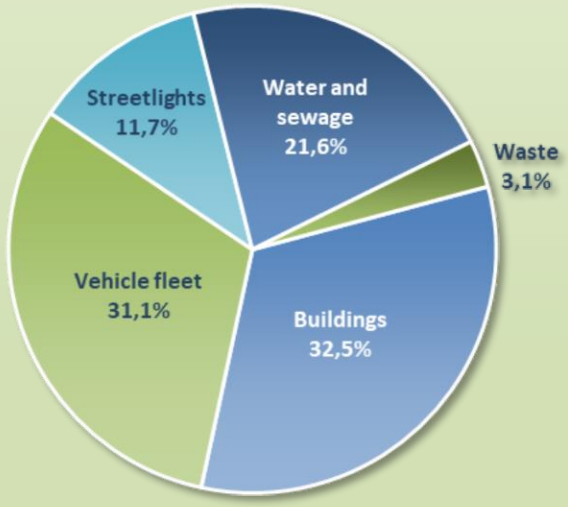
Table 1 :

Corporate GHG Emissions for the base year

GHG (tons eCO2)	2015
Buildings	7 737
Vehicle fleet	7 390
Streetlights	2 771
Water and sewage	5 134
Waste	744
Total	23 776
Population	67 575
GHG per capita (teCO2)	0,4

Graph 1 :

Corporate GHG Emissions Breakdown by Sector ($teCO_2$)



IV. INVENTORY

A. SUMMARY (continued)

In 2015, the energy consumption of the various corporate activities of the Municipality was the source of 23 031.8 tons of emissions (CO_2 equivalent). For its energy needs, Saint John uses electricity, natural gas, fuel oil and propane for heating and two types of fuels for vehicles. Electricity, natural gas, fuel oil and propane are devoted to the energy demand of buildings and other infrastructure. Gasoline and diesel are used by the fleet of vehicles and various equipment and tools of the municipal administration.

TABLE 2 : CORPORATE GHG EMISSIONS AND ENERGY CONSUMPTION BY TYPE

Energy	2015					
	Volume	Units	($teCO_2$)	%	(Gj)	%
Electricity	48 111 540	kWh	13 471,2	58,5%	173 201,5	53,8%
Natural Gas	971 119	m3	1 857	8%	38 107	12%
CNG	0	Liters	0	0%	0	0%
Diesel	2 037 035	Liters	5 466,2	23,7%	78 018,4	24,2%
Gasoline	788 719	Liters	1 924,1	8,4%	27 605,2	8,6%
District Energy	0	Gj	0	0%	0	0%
Ethanol Blend (10%)	0	Liters	0	0%	0	0%
Biodiesel	0	Liters	0	0%	0	0%
Fuel Oil	12 767	Liters	34,9	0%	495,4	0%
Propane	180 007	Liters	277,9	1,2%	4 556,0	1,4%
Waste	-		-		-	
Total			**23 031,8**		**321 983,2**	

IV. Inventory

B. Corporate Emissions Forecast

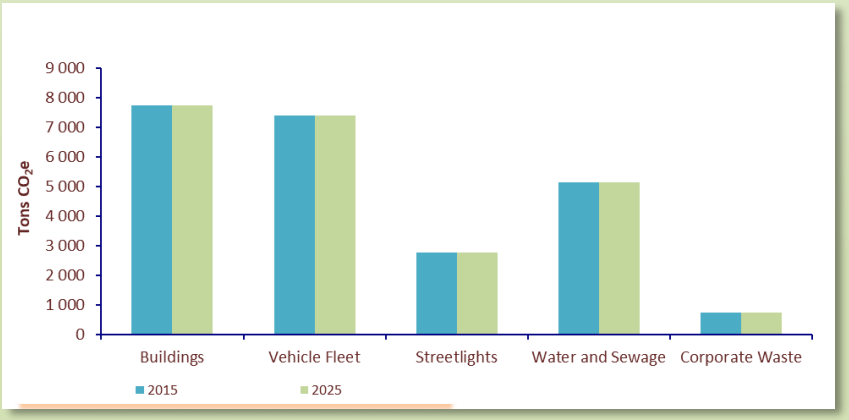
The corporate inventory of GHG emissions is only valid for the reference year. The forecast emissions seek to show how inventory emissions will evolve at the end of the action plan (2025), based on a business as usual scenario (BAU), i.e. without any direct intervention from the decision makers. Factors such as demographic change or economic conditions are taken into account in determining future levels of current emissions.

For Saint John, the business as usual scenario anticipates that, apart from the present action plan reduction, the level of the corporate GHG emissions will remain stable.

Table 3 :

Corporate Emissions Forecast by Sector

	Current emissions	% Change Expected**	Emissions in Forecast year
Buildings	7 736,8	0,0	7 736,8
Vehicle Fleet	7 390,3	0,0	7 390,3
Streetlights	2 770,6	0,0	2 770,6
Water and Sewage	5 134,1	0,0	5 134,1
Corporate Waste	744,4	0,0	744,4
Émissions total (t CO_2e)	**23 776,2**		**23 776,2**



IV. Inventory

B. Corporate Emissions Forecast (continued)

The portrait of the corporate inventory of GHG emissions is only valid for the reference year. The projected emissions, seek to present how inventory emissions will evolve at the end of the action plan (2025), based on a business as usual scenario, ie without any direct intervention of the decision-makers. Factors such as demographic change or economic conditions are taken into account in determining future levels of current emissions.

For Saint John, the business as usual scenario anticipates that, apart from the present action plan reduction, the level of the corporate GHG emissions will remain stable. This action plan is expected to bring them down by 30% (Graph 2).

Table 4 :

Corporate Information

Base Year	**2015**
Forecast Year*	**2025**
Reduction Target by Forecast Year* (%)	**30,0%**

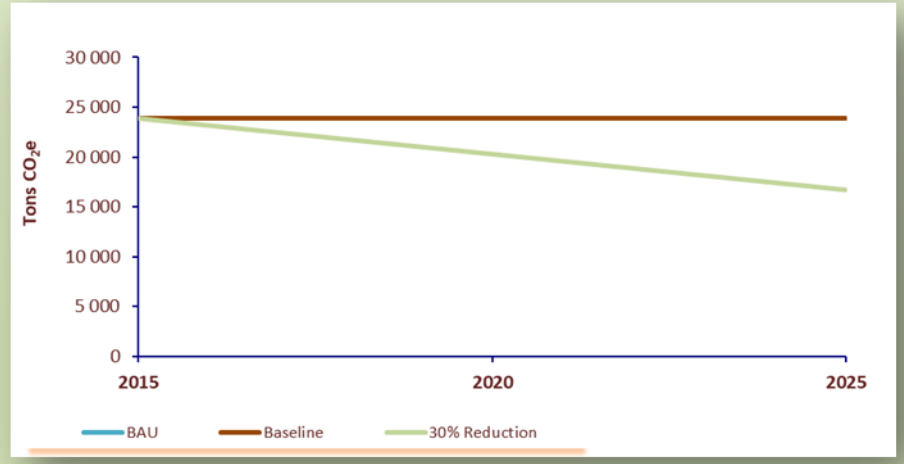
Baseline: 2015 (Base year)

BAU: Business as usual scenario forecast (when BAU scenario predicts no change in GHG emissions, it equals to Baseline)

2025: Action Plan deadline

Graph 2 :

Forecast of corporate GHG emissions until 2025



V. Action Plan

GHG & Energy Action Plan

V. Action Plan

A. Strategy for GHG Reduction and Project Selection

Corporate Action Plan

As noted in Section II - Strategy, for PCP and GMF, the GHG emission reduction targets of participating municipalities are set on a voluntary and non-binding basis.

Taking into account the context of the Municipality, the corporate plan proposes the achievement of a target of 30% reductions in GHG emissions for 2025 according to the reference year 2015.

Table 5 :

Objectives and Year

Objectives and year set by Saint John:		
Corporate Action plan :		
		• Reduction Target : 30%
		• Base year : 2015
		• Forecast year : 2025

V. Action Plan

A. Strategy for GHG Reduction and Project Selection

Guiding Principles

The approach behind the development of the City of Saint John's Action Plan as part of UMNB's CCEI is to develop an action plan that includes projects which :

1) **Improve the quality of life of communities (better environment and savings)**
   - ✓ Generate GHG emission reductions that meet the goals and needs of the community ;
   - ✓ Allow as much as possible to generate energy savings that guarantee the sustainability of the actions of the Municipality and its community.
2) **Use community resources to develop the expertise of UMNB and New Brunswick members**
   - ✓ Optimize the use of community resources and know-how to maximize socio-economic benefits;
   - ✓ Help develop local and regional expertise to increase the knowledge of communities and New Brunswick..
3) **Will become examples and models for New Brunswick and other communities in Canada**
   - ✓ The projects must enable UMNB member municipalities to stand out/take leadership, to respond to challenges of climate change for New Brunswick communities, to protect the environment, improve the quality of life, and become role models for action and resilience.

V. Action Plan

A. Strategy for GHG Reduction and Project Selection

Global Approach

«Good practice» projects

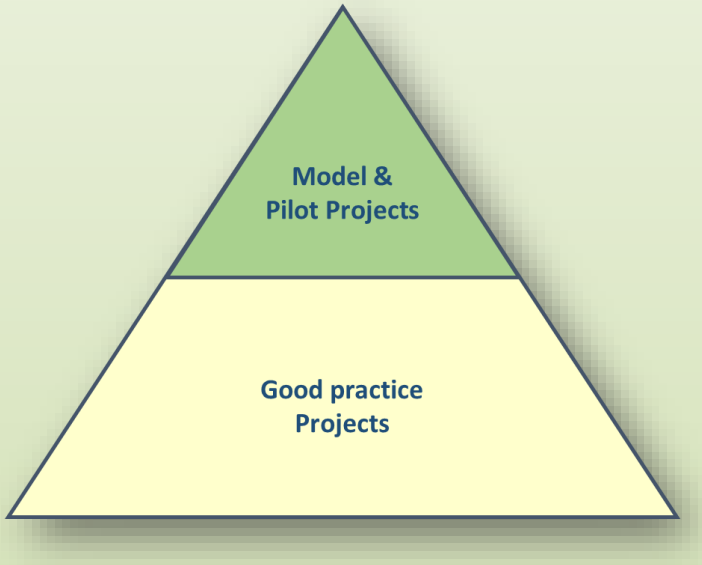
The action plan prioritises projects considered as "good practices". These projects correspond to the application of, for example, measures and technologies supported by the programs of New Brunswick Power, the Government of New Brunswick or Canada.

✓ These "Good Practice" projects form the basis of the Action Plan.

Model projects & UMNB pilot projects

As part of UMNB's CCEI, the action plan also proposes to municipalities two types of model projects & pilot projects :

- **Transport electrification & EV integration in the community**



V. Action Plan

B. Reference Level and Target

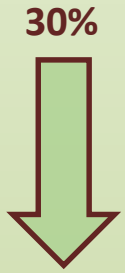
The goal of the City of Saint John's Corporate Action Plan is to reduce greenhouse gas emissions by 30% by 2025 from their 2015 baseline.

For Saint John, the emissions calculated for the year 2015 allow us to estimate the reductions required to reach the target set by the Municipality's action plan to approximately 7 132.9 tons or 30%.

Table 6 :

Baseline and Target

	Tons of CO_2 equivalent	Year Base 2015	Year Forecast 2025
1	Current Emissions	23 776,2	
2	Reduction Target		30,0%
3	Forecast emissions (target) (line 1- line 4)		16 643,3
4	**Total reductions to be achieved** (line 1- line 3)		**7 132,9**



V. Action Plan

C. Analysis of the Projected Results of the Action Plan

Achieving the objective of Saint John's Action Plan would mean that the level of corporate GHG emissions for the year 2025 be at 16 501.7 tons of eq. CO_2. This is a decrease of 7 274.5 tons from the 2015 emissions level of 23 776.2 tons of eq. CO_2. This represents a potential reduction of 30.6%, which is 0.6 percentage points above the target of 30% and 141.6 tons more than the targeted reduction of 7 132.9 tons (see Table 6).

Table 7 :

Analysis of the Outcome of the Action Plan

		Total reductions	
		$eCO_2(t)$	%
1	Current Emissions (Base year)	23 776,2	100,0%
2	Early action results	2 295,8	9,7%
3	Expected reductions in the Action Plan	4 978,7	20,9%
4	**total Reductions** (line 2 +line 3)	**7 274,5**	**30,6%**
5	**Level of anticipated emissions** (forecast year) (line 1- line 4)	**16 501,7**	**69,4%**
6	**Gap with the target**	**141,6**	**0,6%**

V. Action Plan

D. Project Portfolio – Early Actions

Some projects have been completed or initiated by the City of Saint John between the reference year of the inventory (2015) and the year of adoption of the action plan presented (2019). These early actions have contributed to the municipality's effort to reduce corporate GHG emissions. The action plan identified the completion of seven (7) projects whose estimated reductions were estimated at 2 295.8 tons of CO_2 equivalent.

Table 8 :

Project Projects completed prior to the adoption of the Action Plan (Early Actions)

	Projects (Measures, Actions, Technologies)		Total GHG reductions (tons)
	Buildings ; Water & Sewage		312,2
1	*EA 1* Energy Efficiency (Natural gas)	Multiple buildings	129,2
2	*EA 2* Energy Efficiency (Propane)	Buildings (West Garage)	8,8
3	*EA 3* Energy Efficiency (Electricity)	Multiple buildings	159,2
4	*EA 4* Energy Efficiency (heating oil)	Buildings (Public Garden)	15,0
	Vehicle Fleet		73,2
5	*EA 5* Optimal Replacement Policy	Number of units 143	57,4
6	*EA 6* Saint John Transit - Fleet renewal	Number of units 3	15,8
	Streetlights		1 910,4
7	*EA 7* Streetlight replacement	Number : 8100	1 910,4
	TOTAL		2 295,8

D. Project Portfolio – Early Actions

1. Description - Early Actions (2016-2019)

The City of Saint John has carried out several measures, actions and realizations. The action plan we are currently working on cannot integrate them all because their positive impact is already pointed out in the 2015 inventory. "Early actions" are those initiated or carried out between the base year of the inventory (2015) and the year of adoption of the action plan (2019).

	Buildings (multiple buildings)	Base year : 2015	
1	Natural gas use	432 261	m3
2	Cost of natural gas	369 454	$
3	GHG emissions from natural gas use	826,75	eCO_2 (t)
4	**Savings**	**15,62**	**%**
5	Natural gas use reduction	67 533	m3
6	**GHG emissions reduction**	**129,17**	**eCO_2 (t)**
7	Annual savings	57 721	$

	Buildings (West Garage)	Base year : 2015	
1	Propane use	17 437	Liters
2	Cost of propane	6 975	$
3	GHG emissions from propane use	26,92	eCO_2 (t)
4	**Savings**	**32,69**	**%**
5	Propane use reduction	5 700	Liters
6	**GHG emissions reduction**	**8,80**	**eCO_2 (t)**
7	Annual savings	2 280	$

D. Project Portfolio – Early Actions

2. Description - Early Actions (2016-2019) (continued)

The City of Saint John has carried out several measures, actions and realizations. The action plan we are currently working on cannot integrate them all because their positive impact is already pointed out in the 2015 inventory, "Early actions" are those initiated or carried out between the base year of the inventory (2015) and the year of adoption of the action plan (2019).

	Buildings (multiple buildings)	Base year : 2015	
1	Electricity use	5 495 123	kWh
2	Cost of electricity	467 085	$
3	GHG emissions from electricity use	1 538,63	eCO_2 (t)
4	**Savings**	**10,34**	**%**
5	electricity use reduction	568 454	kWh
6	**GHG emissions reduction**	**159,17**	**eCO_2 (t)**
7	Annual savings	48 319	$

	Buildings (Public Garden)	Base year : 2015	
1	Heating oil use	12 767	Liters
2	Cost of heating oil	9 703	$
3	GHG emissions from heating oil use	34,92	eCO_2 (t)
4	**Savings**	**43,08**	**%**
5	Heating oil use reduction	5 500	Liters
6	**GHG emissions reduction**	**15,04**	**eCO_2 (t)**
7	Annual savings	4 180	$

V. Action Plan

D. Project Portfolio – Early Actions

3. Description - Early Actions (2016-2019) (continued)

The City of Saint John has carried out several measures, actions and realizations. The action plan we are currently working on cannot integrate them all because their positive impact is already pointed out in the 2015 inventory, "Early actions" are those initiated or carried out between the base year of the inventory (2015) and the year of adoption of the action plan (2019).

	Saint John Transit - Fleet renewal	Base year : 2015	
1	Number de vehicles	3	
2	Fuel consumption	33 577	litres
3	Fuel cost	36 169,06	$
4	**GHG emissions**	**90,10**	**eCO_2 (t)**
5	Average efficiency gains due to renewal of fleet	0	
6	**Total Reductions in GHG Emissions**	**15,77**	**eCO2 (t)**

		Base year : 2015			
	Optimal Replacement Policy	Gasoline		Diesel	
1	Number de vehicles	109		34	
2	Fuel consumption	305 953	litres	149 691	litres
3	Fuel cost	313 842	$	165 789	$
4	GHG emissions	746,38	eCO_2 (t)	401,69	eCO_2 (t)
5	Number of vehicles to be replaced	109		34	
6	Average efficiency gains due to renewal of fleet	5,0%		5,0%	
7	Reduction of GHG emissions after conversion	37,3	eCO2 (t)	20,1	eCO2 (t)
8	**Total Reductions in GHG Emissions**	**57,40**	**eCO2 (t)**		

D. Project Portfolio – Early Actions

4. Description - Early Actions (2016-2019) (continued)

The City of Saint John has carried out several measures, actions and realizations. The action plan we are currently working on cannot integrate them all because their positive impact is already pointed out in the 2015 inventory, "Early actions" are those initiated or carried out between the base year of the inventory (2015) and the year of adoption of the action plan (2019).

	Streetlights	Base year : 2015	
1	Total lighting consumption	9 685 380	kWh
2	Cost of electricity for lighting	823 257	$
3	GHG emissions from lighting electric consumption	2 712	eCO_2 (t)
4	**Efficiency gains after conversion**	**70,4%**	
5	Annual consumption after conversion	2 862 346	kWh
6	Annual energy savings due to conversion	6 823 034	kWh
7	Annual savings due to conversion (for City of Saint John)	116 500	$
8	**Reduction of GHG emissions after conversion**	**1910,4**	**eCO2 (t)**
	Note : The capital investment of the conversion is provided by Saint John Energy		

V. Action Plan

D. Project Portfolio

The most recent measures, technologies and programs have been analyzed and evaluated. They form the basis of the action plans produced by YHC Environnement. Then, based on the 2015 inventory data, as well as the characteristics and needs of the City of Saint John, the development of the Project Portfolio was completed.

The action plan contains thirteen (13) projects whose potential reductions are estimated at 4 978.7 tons of CO_2 equivalent (see Table 9).

V. Action Plan

D. Project Portfolio

Project Portfolio Summary

Table 9 : Corporate Project portfolio

		Projects (Measures, Actions, Technologies)		Total GHG reductions (tons)
	Buildings			2 835,2
1	*B1*	Buildings (Municipal Garages)	Energy Efficiency (Elec. Natural gas & propane) & Renewable Energy	349,4
2	*B2*	Buildings (Sport & Leisure Buildings)	Energy Efficiency (Electricity & Natural Gas) & Renewable Energy	420,3
3	*B3*	Buildings (Management & Commissions)	Energy Efficiency (Electricity & Natural Gas) & Renewable Energy	1 969,8
4	*B4*	Buildings (Fire stations)	Energy Efficiency (Electricity & Natural Gas) & Renewable Energy	95,7
	Vehicle Fleet			806,9
5	*VF 1*	Optimal Replacement Policy - rental vehicles	Number of vehicles : 27	4,3
6	*VF 2*	Optimal Replacement Policy	Number of vehicles : 175	97,3
7	*VF 3*	Optimal replacement policy (SJT)	Number of vehicles : 31	442,0
8	*VF 4*	Corporate Idle-free Policy	Number of vehicles : 268	114,5
9	*VF 5*	Telemetry & Idle-free Policy	Number of vehicles : 87	63,0
10	*VF 6*	Electric Vehicle	Number of vehicles : 2	1,5
11	*VF 7*	Electric Vehicle (Saint John Transit)	Number of vehicles : 2	86,7
12	*VF 8*	Hybrid Vehicle	Number of vehicles : 4	2,0
	Water and Sewage			1 336,6
13	*WS1*	Water & Sewage	Energy Efficiency (Electricity)	1 336,6
	TOTAL			4 978,7

V. Action Plan

D. Project Portfolio

1. Buildings (Municipal Garages) - Energy Efficiency (Elec. Natural gas & propane)

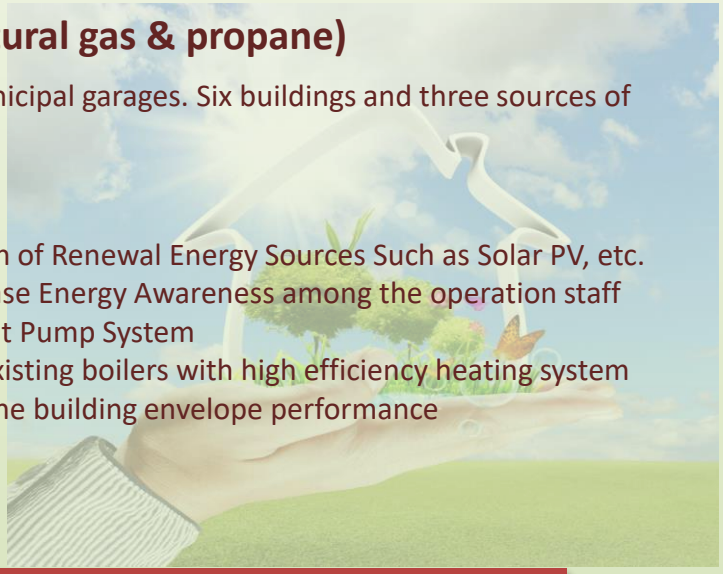
City of St John plans to implement several energy conservation measures at its municipal garages. Six buildings and three sources of energy are targeted.

Among planned actions, there are:

- Upgrade the lighting System to LED
- Upgrade the Energy Management Control System (ECMS)
- Energy Optimization

Overall estimated GHG reductions: 55%

- Installation of Renewal Energy Sources Such as Solar PV, etc. and Increase Energy Awareness among the operation staff
- Install Heat Pump System
- Replace existing boilers with high efficiency heating system
- Increase the building envelope performance



	Buildings (Municipal Garages)	Base year : 2015 Electricity		Natural Gas		Propane	
1	Energy Use (Consumption)	1 397 644	kWh	114 627	m3	17 437	Liters
2	Energy Costs	118 800	$	97 972	$	6 975	$
3	GHG emissions	391	eCO_2 (t)	219	eCO_2 (t)	27	eCO_2 (t)
4	Average efficiency gains	68	%	34	%	32	%
5	Energy Use reduction	950 500	kWh	38 991	m3	5 500	Liters
6	**Total Reductions in GHG Emissions**			**349**	**eCO2 (t)**		
7	Annual savings (2025)			129 380	$		
8	Capital investment			699 500	$		
9	Projects' benefits (2019-2025)			322 450	$		
10	**Net Capital investment (Investment - cost reductions)**			**377 050**	**$**		
	Further technical and financial feasibility study may be required to validate numbers						

V. Action Plan

D. Project Portfolio

2. Buildings (Sport & Leisure Buildings) - Energy Efficiency (Electricity & Natural Gas)

City of St John plans to implement several energy conservation measures at its sports an leisure buildings. Multiple buildings, such as arenas, parks, ball fields, etc., and two sources of energy are targeted.

Among planned actions, are:

- Upgrade the lighting System to LED
- Upgrade the Energy Management Control System (ECMS)
- Energy Optimization
- Install Solar Hot Water System

Overall estimated GHG reductions: 49%

- Installation of Renewal Energy Sources Such as Solar PV, etc. and Increase Energy Awareness among the operation staff
- Install High Efficiency Motors for the Compressors
- Replace existing boilers with high efficiency heating system
- Increase the building envelope performance
- Install Air to Air Heat pump system in some areas

	Buildings (Sport & Leisure Buildings)	Base year : 2015 Electricity		Natural Gas	
1	Energy Use (Consumption)	2 751 899	kWh	45 428	m3
2	Energy Costs	233 911	$	38 827	$
3	GHG emissions	771	eCO_2 (t)	87	eCO_2 (t)
4	Average efficiency gains	49	%	48	%
5	Energy Use reduction	1 352 000	kWh	21 916	m3
6	**Total Reductions in GHG Emissions**	**420,26**	**eCO2 (t)**		
7	Annual savings (2025)	153 260	$		
8	Capital investment	1 406 400	$		
9	Projects' benefits (2019-2025)	**340 430**	$		
10	**Projects' savings (2019-2025)**	**1 065 970**	**$**		
	Further technical and financial feasibility study may be required to validate numbers				

V. Action Plan

D. Project Portfolio

3. Buildings (Management & Commissions) - Energy Efficiency (Electricity & Natural Gas)

City of St John plans to implement several energy conservation measures at its management buildings. Multiple buildings, such as Tourists information Centre, City Hall, Transit Buildings, etc., and two sources of energy are targeted.

Among planned actions, are:

- Upgrade the lighting System to LED
- Install Solar Lights
- Upgrade the Energy Management Control System (ECMS)
- Installation of Renewal Energy Sources Such as Solar PV, etc. and Increase Energy Awareness among the operation staff
- Install Heat Pump System
- Increase the building envelope performance
- Energy Optimization

Overall estimated GHG reductions: 34%

	Buildings (Management & Commissions	Base year : 2015 Electricity		Natural Gas	
1	Energy Use (Consumption)	15 623 969	kWh	745 610	m3
2	Energy Costs	1 328 037	$	637 273	$
3	GHG emissions	4 375	eCO_2 (t)	1 426	eCO_2 (t)
4	Average efficiency gains	37	%	26	%
5	Energy Use reduction	5 722 770	kWh	193 272	m3
6	**Total Reductions in GHG Emissions**	**1 969,82**	**eCO2 (t)**		
7	Annual savings (2025)	730 341	$		
8	Capital investment	3 088 400	$		
9	Projects' benefits (2019-2025)	**3 147 899**	$		
10	**Net Capital investment (Investment - cost reductions)**	**-59 499**	**$**		
	Further technical and financial feasibility study may be required to validate numbers				

V. Action Plan

D. Project Portfolio

4. Buildings (Fire Stations) - Energy Efficiency (Electricity & Natural Gas)

City of St John plans to implement several energy conservation measures at its fire station stations. All eight buildings and two sources of energy are targeted.

Among planned actions, are:

- Install LED lighting and Lighting Control
- Install Heat Pump System at Fire Station #1, #5 and #7
- Install Heat Pump DHW Tanks at Fire Station #1,#8
- Upgrade the ECMS & Energy Optimization
- Install High Efficiency Motors for the Compressors
- Replace Existing Boilers at fire #4,#8 with Biomass or Heat Pump Technology
- Install 40 KW Solar PV system
- Upgrade building envelope
- Install Heat recovery system

Overall estimated GHG reductions: 24%

	Buildings (Fire stations)	Base year : 2015 Electricity		Natural Gas	
1	Energy Use (Consumption)	965 707	kWh	65 453	m3
2	Energy Costs	82 085	$	55 943	$
3	GHG emissions	270	eCO_2 (t)	125	eCO_2 (t)
4	Average efficiency gains	22	%	29	%
5	Energy Use reduction	211 000	kWh	18 986	m3
6	**Total Reductions in GHG Emissions**	**95,68**	**eCO2 (t)**		
7	Annual savings (2025)	36 745	$		
8	Capital investment	273 000	$		
9	Projects' benefits (2019-2025)	**60 825**	$		
10	**Net Capital investment (Investment - cost reductions)**	**212 175**	**$**		
	Further technical and financial feasibility study may be required to validate numbers				

D. Project Portfolio

5. Transportation - Optimal Replacement Policy - rental vehicles

The City of Saint John, each year, rents some vehicles for seasonal needs.

This rental fleet is regularly renewed with recent models.
The City prioritizes the smallest models that meet his needs.

	Base year : 2015			
Optimal Replacement Policy - rental vehicles	**Gasoline**		**Diesel**	
1 Number de vehicles	23		4	
2 Fuel consumption	27 469	litres	6 912	litres
3 Fuel cost	29 198	$	7 198	$
4 GHG emissions	67,01	eCO_2 (t)	18,55	eCO_2 (t)
5 Number of vehicles to be replaced	23		4	
6 Average efficiency gains due to renewal of fleet	5,0%		5,0%	
7 Reduction of GHG emissions after conversion	3,4	eCO2 (t)	0,9	eCO2 (t)
8 Total Reductions in GHG Emissions	**4,28**	**eCO2 (t)**		

D. Project Portfolio

6. Transportation - Optimal Replacement Policy

The City of Saint John has a fleet replacement policy that aims to optimize fleet size and usage. Vehicles are replaced based on a formula that takes into account:

- Their age
- Their general state
- Their usage (mileage)

In addition, once a vehicle has reached its useful life, the City assesses whether better management of the remaining fleet could prevent its replacement or it could be replaced by a smaller vehicle.

As a result, this project includes a cleaner vehicle purchase policy component.

		Base year : 2015			
	Optimal Replacement Policy	Gasoline		Diesel	
1	Number de vehicles	121		54	
2	Fuel consumption	387 979	litres	372 840	litres
3	Fuel cost	390 823	$	397 246	$
4	GHG emissions	946,49	eCO_2 (t)	1000,49	eCO_2 (t)
5	Number of vehicles to be replaced	121		54	
6	Average efficiency gains due to renewal of fleet	5,0%		5,0%	
7	Reduction of GHG emissions after conversion	47,3	eCO2 (t)	50,0	eCO2 (t)
8	**Total Reductions in GHG Emissions**		**97,35 eCO2 (t)**		

V. Action Plan

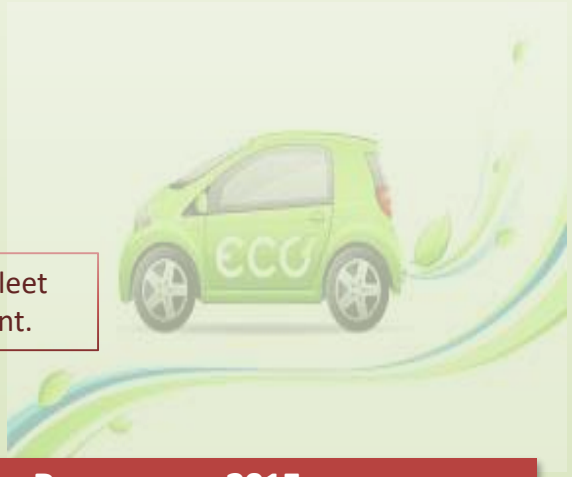
D. Project Portfolio

7. Transportation - Optimal Replacement Policy (Saint John Transit)

The vehicle replacement policy of the municipality is as follows:

- Trucks and light vehicles: after 10 years
- Transit buses : after 17 years

Thus, at the end of this action plan (2015-2025), a large number of the vehicles of the bus fleet will be replaced. In addition, the City plans to optimize the fleet size to make it more efficient.



Optimal replacement policy (SJT)	Base year : 2015	
1 Number de vehicles	47	
2 Number of vehicles to be replaced	31	
3 Fuel consumption	941 145	litres
4 Fuel cost	1 013 799	$
5 GHG emissions	2525,50	eCO_2 (t)
6 Average efficiency gains due to renewal of fleet	17,5%	
7 **Total Reductions in GHG Emissions**	**441,96**	**eCO2 (t)**

V. Action Plan

D. Project Portfolio

8. Transportation - Idle-free Policy

Idling refers to running a vehicle's engine when the vehicle is not in motion. Idling occurs when car owner is warming up or cooling down a vehicle, drivers are stopped at a red light, waiting while parked outside a business or residence, or otherwise stationary with the engine running. For the average vehicle with a 3-litre engine, every 10 minutes of idling costs 300 milliliters (over 1 cup) in wasted fuel – and one half of a liter (over 2 cups) if your vehicle has a 5-liters engine.

For a successful anti-idling campaign includes
- the adoption of a speed reduction regulation
- carrying out an awareness-raising campaign
- the acquisition and installation of permanent signs

	Corporate Idle-free Policy	Base year : 2015 Gasoline		Diesel	
1	Number of units	173		95	
2	Fuel consumption *	491 215	litres	681 259	litres
3	Fuel cost *	506 876	$	734 112	$
4	GHG emissions *	1198,33	eCO_2 (t)	1828,11	eCO_2 (t)
5	Average fuel wasted idling	25 189	litres	19 760	litres
6	Average fuel economy	5,1%		2,9%	
7	GHG emissions reduction	61,45	eCO2 (t)	53,02	eCO2 (t)
8	Fuel savings ($)	25 992	$	37 644	$
9	**Total GHG Emissions reduction**		**114,47**	**eCO2 (t)**	
10	Total fuel savings ($)		63 636	$	
11	Saving per tonne of GHG reduced		556	/ t eCO2	
	* **Cumulative effects of replacement policy are roughly taken into account**				

D. Project Portfolio

9. Transportation – Telemetry & Idle-free Policy Telemetry

Telemetry is a particularly effective measure to improve energy efficiency and the GHG emissions related to vehicle use. This is a management measure that makes it possible to optimize the use of vehicles.

An information gathering module retrieves the electronic data from the vehicle in order to optimize the efficiency of its use by changes in behavior. The management of this information is carried out by means of computer software and enables the vehicle manager to obtain reports according to the parameters he has previously established.

Telemetry combined with idle-free policy allows fuel savings exceeding 10%

	Telemetry & Idle-free Policy	Base year : 2015 Gasoline		Diesel	
1	Number of units	70		17	
2	Fuel consumption *	198 858	litres	53 963	litres
3	Fuel cost *	198 094	$	56 728	$
4	GHG emissions *	485,12	eCO_2 (t)	144,81	eCO_2 (t)
5	Average fuel economy		**10,0%**		
6	GHG emissions reduction	48,51	eCO2 (t)	14,48	eCO2 (t)
7	Fuel savings ($)	19 809	$	5 673	$
8	**Total GHG Emissions reduction**		**62,99**	**eCO2 (t)**	
9	Total fuel savings ($)		25 482	$	
10	Saving per tonne of GHG reduced		404,53	/ t eCO2	
	*** Cumulative effects of replacement policy are roughly taken into account**				

D. Project Portfolio

10. Technical Sheet - Electric Vehicle

Electric cars

Use electrical energy to power an electric motor, they also reduce society's dependence on environmentally damaging fossil fuels while lowering greenhouse gas emissions and air pollution. Electric cars are cost effective, good for the environment and deliver great performance.

Fully Electric Cars are powered 100% by electricity and have zero tailpipe emissions.

City of Saint John plans to replace two of its cars by full electric models.

Nissan Leaf (2018) versus Chevrolet Aveo (2010)	Base year : 2015	
1 Total kilometers travelled	13 317 km	
2 Number of targeted units	2	
3 Energy saved per year (Gj and $)	22,26	680 $
4 GHG emissions reduction (tonnes and %)	1,48	68,1%

V. Action Plan

D. Project Portfolio

11. Technical Sheet - Electric Vehicle (Saint John Transit)

Electric cars

Use electrical energy to power an electric motor, they also reduce society's dependence on environmentally damaging fossil fuels while lowering greenhouse gas emissions and air pollution. Electric cars are cost effective, good for the environment and deliver great performance.

Fully Electric Cars are powered 100% by electricity and have zero tailpipe emissions.

Saint John Transit plans to buy two full electric buses for 2020 in replacement of two diesel buses.

	Disel vs electric bus	Base year : 2015	
1	Total kilometers travelled	64 805	km
2	Number of targeted units	2	
3	Diesel use (GJ and $)	1 613	45 375 $
4	GHG emissions from diesel use (tons)	113	eCO_2 (t)
5	Electricity use of replacement buses (GJ and $)	338	7 987 $
6	GHG emissions from electricity use (tons)	26	eCO_2 (t)
7	GHG emissions reduction (tonnes and %)	86,72	76,7%

D. Project Portfolio

12. Technical Sheet - Hybrid Vehicle (Saint John Transit)

Electric cars

Use electrical energy to power an electric motor, they also reduce society's dependence on environmentally damaging fossil fuels while lowering greenhouse gas emissions and air pollution. Electric cars are cost effective, good for the environment and deliver great performance.

Hybrid Electric Cars have small battery packs for short all-electric driving distances before a gasoline engine or generator turns on for longer trips.

City of Saint John already has two hybrid cars and plans to add four more hybrid models at its fleet.

Daimler Smart versus Chevrolet Volt (2018)	Base year : 2015	
1 Total kilometers travelled	31 302 km	
2 Number of targeted units	4	
3 Energy saved per year (Gj and $)	29,32	893 $
4 GHG emissions reduction (tonnes and %)	1,95	39,4%

V. Action Plan

D. Project Portfolio

13. Water and Sewage - Energy Efficiency (Electricity)

City of St John plans to implement several conservation measures to its Water and sewage facilities some of which are :

- Upgrade the lighting System to LED
- Upgrade the Energy Management Control System (ECMS)
- Energy Optimization
- Investigate new water treatment technology
- Installation of Renewal Energy Sources Such as Solar PV, etc. and Increase Energy Awareness among the operation staff
- Install variable-frequency drive (VFD) where applicable
- Install High Efficiency Motors & Pumps where applicable
- Install Energy Meters
- Develop and Implement a demand response strategies through load shifting, shedding or on site generation

Overall estimated GHG reductions: 27%

	Water & Sewage	Base year : 2015	
1	Electricity use	17 477 448	kWh
2	Electricity cost	1 485 583	$
3	GHG emissions from electric consumption	4 894	eCO_2 (t)
4	Efficiency gains	27,3	%
5	Electricity use reduction (kWh)	4 782 000	kWh
6	**GHG emissions reduction (tons)**	**1 336,57**	**eCO_2 (t)**
7	Annual savings (2025)	478 200	$
8	Capital investment	3 331 000	$
9	Projects' benefits (2019-2025)	1 335 000	$
10	**Net Capital investment (Investment - cost reductions)**	**1 996 000**	**$**
	Further technical and financial feasibility study may be required to validate numbers		

VI. APPENDIX

The methodology and references are available on request.

City of Saint John Community GHG & Energy Action Plan

January 2019

Realised with the Union of the Municipalities of New Brunswick

Consulting team YHC ENVIRONNEMENT

Financed by FCM

New Nouveau Brunswick
Your Environmental Trust Fund at Work
Votre Fonds en fiducie pour l'Environnement au travail

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- We want to thank Eddie Oldfield - Spatial QUEST for its technical contribution with the mapping, the workshops organisation and all the work provided.
- We also want to present special thanks to all stakeholders and municipal employees who have contributed to achieve the UMNB CCEI.

CONTENTS

I. Introduction 3
II. The Plan's Strategy 5
III. The Community's profile 10
IV. The Plan's Summary 20
V. The Inventory 27
VI. The Plan 36
VII. Appendix 59

I. Introduction

Communities across Canada are facing the effects of climate change. Some have to deal with greater droughts, others with more violent storms.

Municipal governments have a leading role to play in climate protection. They have direct or indirect control over nearly half of Canada's greenhouse gas (GHG) emissions (350 million tons).

Canada's goal is to reduce its GHG emissions by 30% below 2005 levels under the Paris Agreement.

The CLIMATE CHANGE AND ENERGY INITIATIVE (CCEI)

Municipalities in New Brunswick are increasingly aware of environmental challenges they face, and are particularly concerned with actual and future impacts of climate change.

The **City of Saint John** joined the Climate Change and Energy Initiative of the Union of Municipalities of New Brunswick, to reinforce its efforts to advance in the Partners for Climate Protection Program (PCP). The UMNB initiative fits perfectly in the global and national context of addressing climate change, following the Paris Agreement (COP 21).

THE PARTNERS FOR CLIMATE PROTECTION (PCP) PROGRAM

THE PARTNERS FOR CLIMATE PROTECTION (PCP) PROGRAM is a network of Canadian municipal governments that have committed to reducing greenhouse gases (GHG) and to acting on climate change. Since the program's inception in 1994, over 300 municipalities have joined PCP, making a public commitment to reduce emissions. PCP membership covers all provinces and territories and accounts for more than 65 per cent of the Canadian population. PCP is the Canadian component of ICLEI's Cities for Climate Protection (CCP) network, which involves more than 1,100 communities worldwide. PCP is a partnership between the Federation of Canadian Municipalities (FCM) and ICLEI — Local Governments for Sustainability.

Saint John is engaged:

- ✓ Climate Change and Energy Initiative (CCEI) of the Union of Municipalities of New Brunswick, 2017
- ✓ Member – Partners for Climate Protection program, FCM, 2016
- ✓ City of Saint John, NB, Saint John City Market energy upgrades, 2018
- ✓ Our Saint John, Integrated Community Sustainability Plan, 2009

SAINT JOHN

I. INTRODUCTION

In addition to the Corporate GHG Action Plan, the Community GHG & Energy Plan 11is the UMNB CCEI second foundation stone. The Plan brings a powerful and dynamic tool to help communities for smart and sustainable development allowing to reduce its carbon print.

What is a Community GHG & Energy Plan?

***The Plan** is a long-term plan that identifies ways to reduce GHG emissions and to support the Municipality's local economy by increasing its competitiveness, helping to create local or regional jobs in the energy sector, improving energy efficiency, and improving energy security.*

In 2018, planning and coordinating energy use and GHG emission reduction at the community level remains innovative especially for smaller size communities outside metropolitan areas. However, in cities or communities where it has been done, it has resulted in some of the most efficient, and from an energy standpoint, most cost-competitive cities in the world, with resulting reductions in associated environmental impacts.

The communities that are leaders have taken an integrated energy systems approach looking at the potential for innovation in how energy is sourced, generated, consumed, re-captured, conserved, stored, and delivered. ***The UMNB CCEI's Community GHG & Energy Plan** will be a "living document", in that the actions taken by the Municipality and community stakeholders are expected to grow and change over time.*

Why a Community & GHG Energy Action Plan?

***The Plan** is great tool to face community transformation challenges encountered in New Brunswick: Climate change impacts, population growth or decline, development growth and economic transformation.*

Those challenges push municipalities and communities to examine ways to reduce its cost of services while continuing to maintain and enhance the quality of life. And how energy is used, and the cost of that energy to residents as well as to the municipality, is an important factor. Smart solutions also reduce environmental impacts associated with the consumption of energy. A good strategy and planning can enhance prosperity by making the municipality more economically competitive.

Enhancing access to energy efficiency, conservation and demand-management opportunities can also have a positive effect on the local retail and service industry. Businesses that increase the energy efficiency of their facilities and operations can improve their competitiveness in the marketplace.

II. The Plan's Strategy

Vision

The vision of the Plan is to achieve a community that is efficient and economically viable in how it reduce its carbon footprint, uses energy through development and retrofits, land use and transportation planning, renewable or clean energy generation, conservation and improve local energy security.

Goals

The vision is supported by a series of goals that bring focus to mitigating climate change, improving energy performance within the community and creating economic advantage:

1. **Foster a shift towards low carbon technologies.**
2. **Increase energy efficiency for new and existing buildings.**
3. **Foster a shift towards 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 conservation amongst residents, business, institutions, and industry.**
8. **Build knowledge, skills, and technical capacity through partnerships that deliver innovative energy solutions at the local scale.**

II. The Plan's Strategy

The principles provide direction for the development of the projects and initiatives presented in the Plan. To build and implement an action plan and portfolio of environmentally and economically successful projects all proposed solutions, projects, or initiatives should consider these principles:

1. **Advocate for urgent action to address climate change**
2. **Set achievable reduction targets**
3. **Maximize benefits for the municipality and the community**
4. **Ensure and enhance a sustainable energy system**
5. **Maximize efficient use of energy**
6. **Design model and innovative projects**
7. **Build on existing programs and funds: for example, FCM and GMF programs, Environmental Trust Fund, Saint John Energy programs, etc.**
8. **Create a competitive and economic advantage for the Community**
9. **Demonstrate global leadership**

GHG Emission Reduction Target *9% for 2025 and 18% for 2035*

For the Community Plan, GHG emission reduction target is set on a voluntary and non-binding basis. It is important that the targets are ambitious while being realistic both in their importance (projected reductions) and in their duration (year of maturity). Before setting the reduction targets and the action plan timeline, we took into account:

- ✓ **PCP and GMF recommendations is -6% over the base year, within 10 years.**
- ✓ **The objectives of the Government of New Brunswick.***
- ✓ **The GHG reduction potential of the municipality and its community.**

**** The New Brunswick's Climate Change Action Plan "Transitioning to a Low-Carbon Economy" (2017) - The provincial government will:*** *31 - Establish specific GHG emission targets for 2020, 2030 and 2050 that reflect a total output of:*
a - 14.8 Mt by 2020;
b - 10.7 Mt by 2030; and
c - 5 Mt by 2050.

II. The Plan's Strategy

Timeline For efficiency, the choice of a pertinent timeline is essential. Because the scope of the Community Plan is important and imply major technological and behavioral changes, we recommend a 20 years timeline. However, for reviewing and monitoring process the Community Plan propose a 10 year step in 2025 concordance with the **Corporate GHG Action Plan**.

Approach and developing the Plan

Background data was collected via energy distributors in New Brunswick and from various other provincial and federal sources. Electricity data was provided by NB Power, Saint John Energy and Perth Andover Electric and Light Commission.

For all participant, a workshop was held to do a mapping exercise through a community GHG & energy planning process. The workshop allowed the team, the municipality and its stakeholders to identify areas or sectors where GHG reduction projects, conservation and efficiency measures could be focused, to assess the potential for local generation, particularly renewable energy, and look at the energy implications of future growth and prosperity. Webinars were held with each participants to finalize the Corporate GHG & Energy Action Plan as well as to prepare the final workshop to complete the Community GHG & Energy Action Plan. Each municipality CCEI manager invited to workshops and webinars, stakeholders they considered important to assist, councillors and municipal employees.

Each Community Plan includes a presentation document and more importantly is also build with a series of tool joined in annexes:

- Annexe A: Project's description with implementation procedures
- Annexe B: Excel Projects Sheets with GHG and energy data calculation
- Annexe C: Mapping document for Workshop (Spatial Quest)

As final step, the Community and the Corporate plan are submitted to the Participant Municipality to be adopted by resolution.

YHC Environnement, an energy planning and environment consultant, was retained by UMNB to provide services to produce inventories, action plans and the various tool needed. Spatial Quest was hired to do the GHG and energy mapping related to workshop's organisation and as liaison agent with the concerned stakeholders in New Brunswick.

II. The Plan's Strategy

Plan SJ policies that would support the Community and Corporate Energy Plan

1. NE-4 Encourage reduced automobile emissions by promoting a more compact, mixed-use development pattern and making walking, cycling and transit use viable transportation choices.

2. NE-5 Work with the Government of New Brunswick, industry and other agencies to develop and implement clean air initiatives, including emission reduction strategies.

3. NE-7 Reduce emissions from City Infrastructure, including buildings and fleets, through corporate purchasing and operating policies that support the Municipal Energy Efficiency Program.

4. NE-37 Continue to improve the energy efficiency of municipal service delivery, including facilities, equipment, fleet, street-lights, and procurement through the Municipal Energy Efficiency Program.

5. NE-38 Explore and encourage the development and use of alternative energy sources, such as solar, wind, geothermal, biomass and energy recovery.

6. NE-39 Encourage excellence in energy efficiency in new development in retrofitting of existing development.

7. NE-40 Support public education and action on the use of alternative energy sources and energy efficiency measures.

8. NE-41 Work with relevant agencies to develop and implement an Energy and Greenhouse Gas Emissions plan for the City.

9. TM-12 Encourage and promote the use of the active transportation network by residents as a healthy transportation choice by undertaking such initiatives as public education campaigns, mapping of the network and way-finding signage.

10. TM-22 Recognize and promote public transit as an important component of a sustainable urban transportation system which contributes to economic development and helps the City achieve its environmental goals and objectives.

11. TM-23 Provide effective fiscal support for efficient, affordable, safe and convenient transit services linking major employment, commercial, residential and recreational areas.

12. NE-42 Work with the Government of New Brunswick, the Government of Canada and relevant agencies to support research efforts that better quantify the predicted impacts of climate change.

13. NE-43 Proactively plan for climate change by taking action to manage the effects of climate change and minimizing adverse impacts through the development of a Climate Change Plan in partnership with other levels of government.

(continued)

II. The Plan's Strategy

Plan SJ policies that would support the Community and Corporate Energy Plan

14. NE-44 Mitigate local contributions to climate change by:

a. Working with the Government of New Brunswick, the Government of Canada and relevant agencies to reduce local emissions of greenhouse gases;

b. Working with the Government of New Brunswick and Saint John Energy to explore renewable sources of energy;

c. Supporting initiatives to increase public awareness and action on the reduction of greenhouse gas emissions;

d. Encouraging excellence in emissions reduction and green building standards for all development; and

e. Recognizing that a variety of initiatives, such as the development of complete communities, increasing economic diversification, offering a range of transportation choices and encouraging local food production all contribute to mitigation of greenhouse gas emissions.

15. MS-1 Ensure the first priority for the City is to maintain and upgrade existing municipal servicing systems.

16. MS-7 Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to optimize service delivery over the life of an asset.

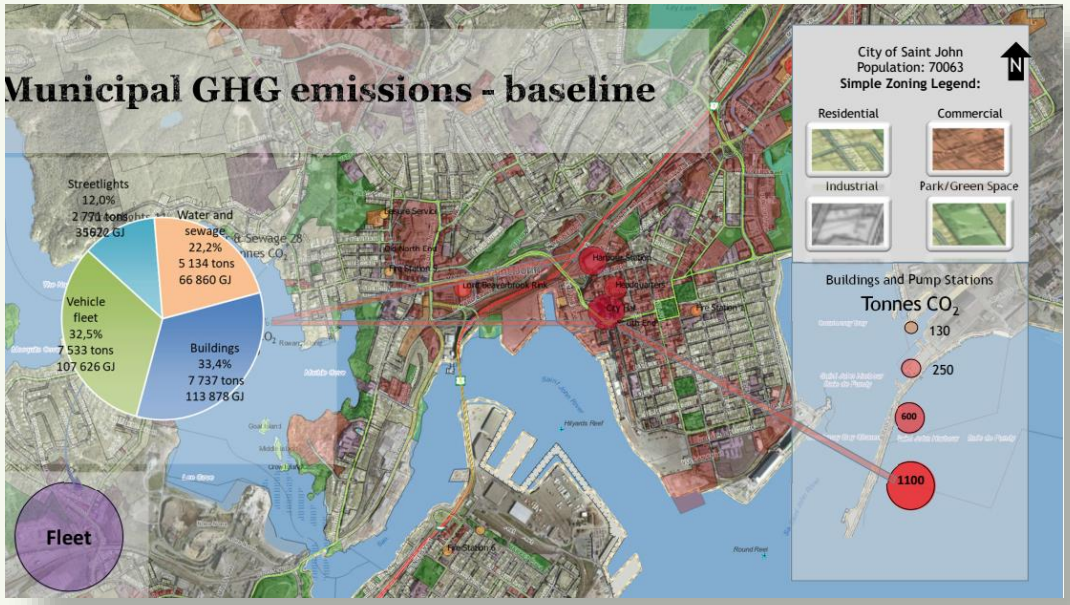
III. The Community's Profile

The City of Saint John *is located in southern New Brunswick, in the County of Saint John, of which it is the chief City. Saint John is 415 kilometers west-northwest of Halifax, 915 kilometers east of Montreal and 650 kilometers northeast of Boston. Located at the mouth of the Saint John River on the edge of the Bay of Fundy, the City, with its port, occupies an important place in the economy of the Maritimes. Saint John is the oldest incorporated municipality in Canada and the second largest City in New Brunswick after Moncton.*

The population of Saint John in 2016 was 67,575 inhabitants spread over an area of 315.96 km2, a density of 213.9 hab./km2. It experienced a population decrease of 3,6% from 2011 to 2016. The City had 33,801 private dwellings in 2016, of which 30,208 were occupied by full time residents. 81% of dwellings were built before 1991.

The official languages spoken by the Saint John population are 86% English, 0,15% French, and 13% both French and English.

Picture 1: Saint John's Map



III. The Community's Profile

Saint John's *dedication to excellency and to be a social leader in New Brunswick and in Canada is well illustrated by the number of awards received through the years.*

Awards for City &/or Its Amenities

2017 - 20 of the Most Beautiful Canadian Cities to Live In, Slice.ca

2012 - Top 7 Intelligent Communities Award, Intelligent Communities Forum (ICF)

2010 - Cultural Capital of Canada Designation, Government of Canada, Canadian Heritage and Official Languages

City Organization & Services

2017 - Showcase Award for Engineering Excellence, Assoc. of Consulting Engineering Companies –NB (ACEC-NB) – Spruce Lake Barge Facility

2016 - CAMA Willis Award for Innovation, Canadian Association of Municipal Administrators (CAMA) - One Stop Development Shop

2016 - Laserfiche Run Smarter® Award - Best Records Management category

2014 - URISA Exemplary Systems in Government (ESIG) Award, Distinguished System/Single Process System – Zone SJ Map Viewer

2013 - Community Recognition Award, Province of New Brunswick – Saint John Municipal Energy Efficiency Program (MEEP)

2013 - Premier's Award for Energy Efficiency, project - Commercial New Construction, One Peel Plaza,

2012 - Willis Award for Innovation, Canadian Association of Municipal Administrators (CAMA) – Plan SJ

2012 - Showcase Award for Engineering Excellence, Assoc. of Consulting Engineering Companies –NB (ACEC-NB) - Eastern Wastewater Treatment Facility

2011 - Premier's Award for Energy Efficiency, project - Commercial New Construction, Saint John Transit

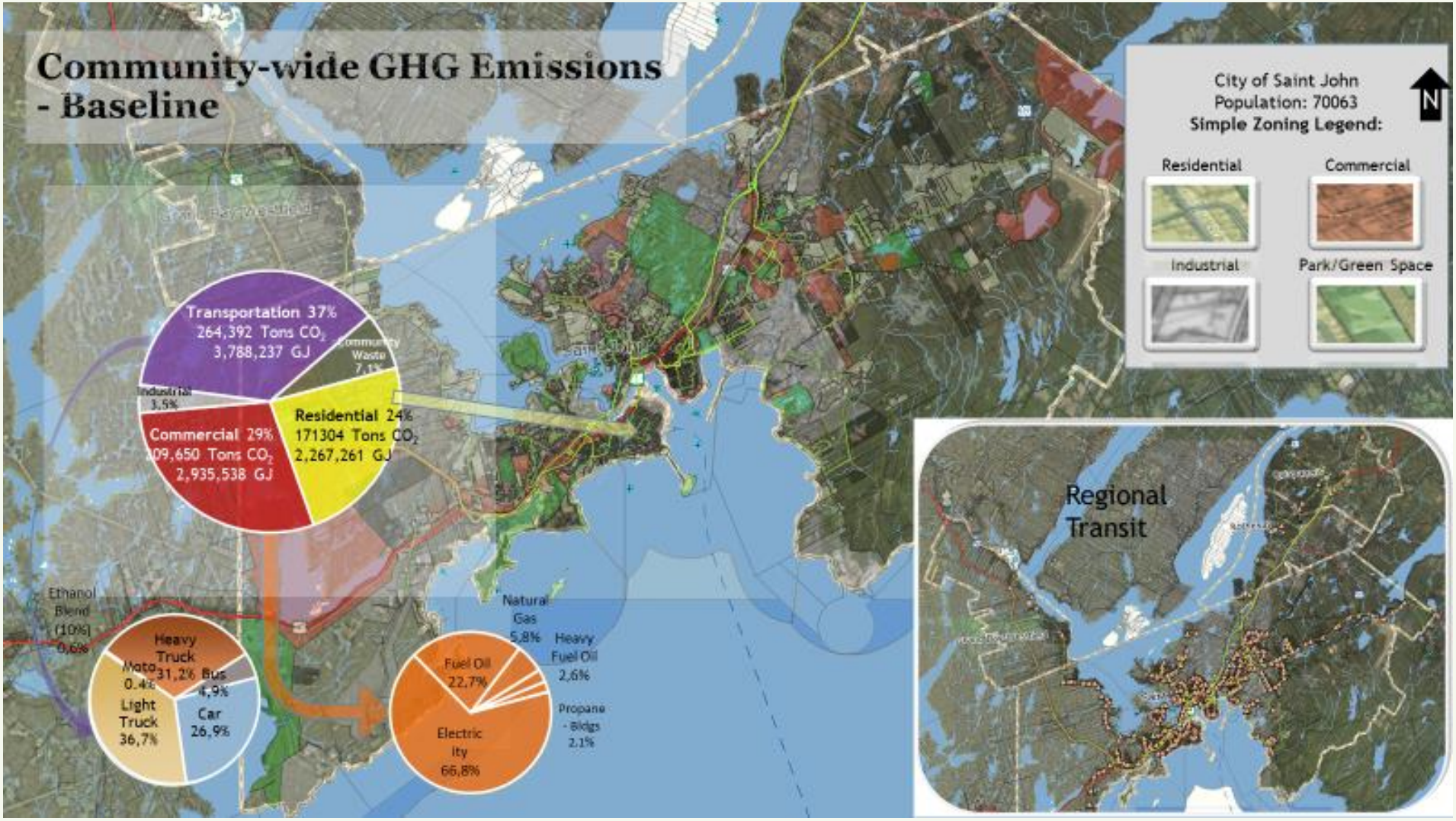
2011 - Premier's Award for Energy Efficiency, Energy Efficiency Champion - Commercial Sector, City of Saint John

2010 - Milton F. Gregg Conservation Award, Conservation Council of New Brunswick – Saint John Sustainable Energy Management Team

2008 - Federation of Canadian Municipalities (FCM)-CH2M HILL Sustainable Community Award, Energy - Saint John Municipal Energy Efficiency Program (MEEP).

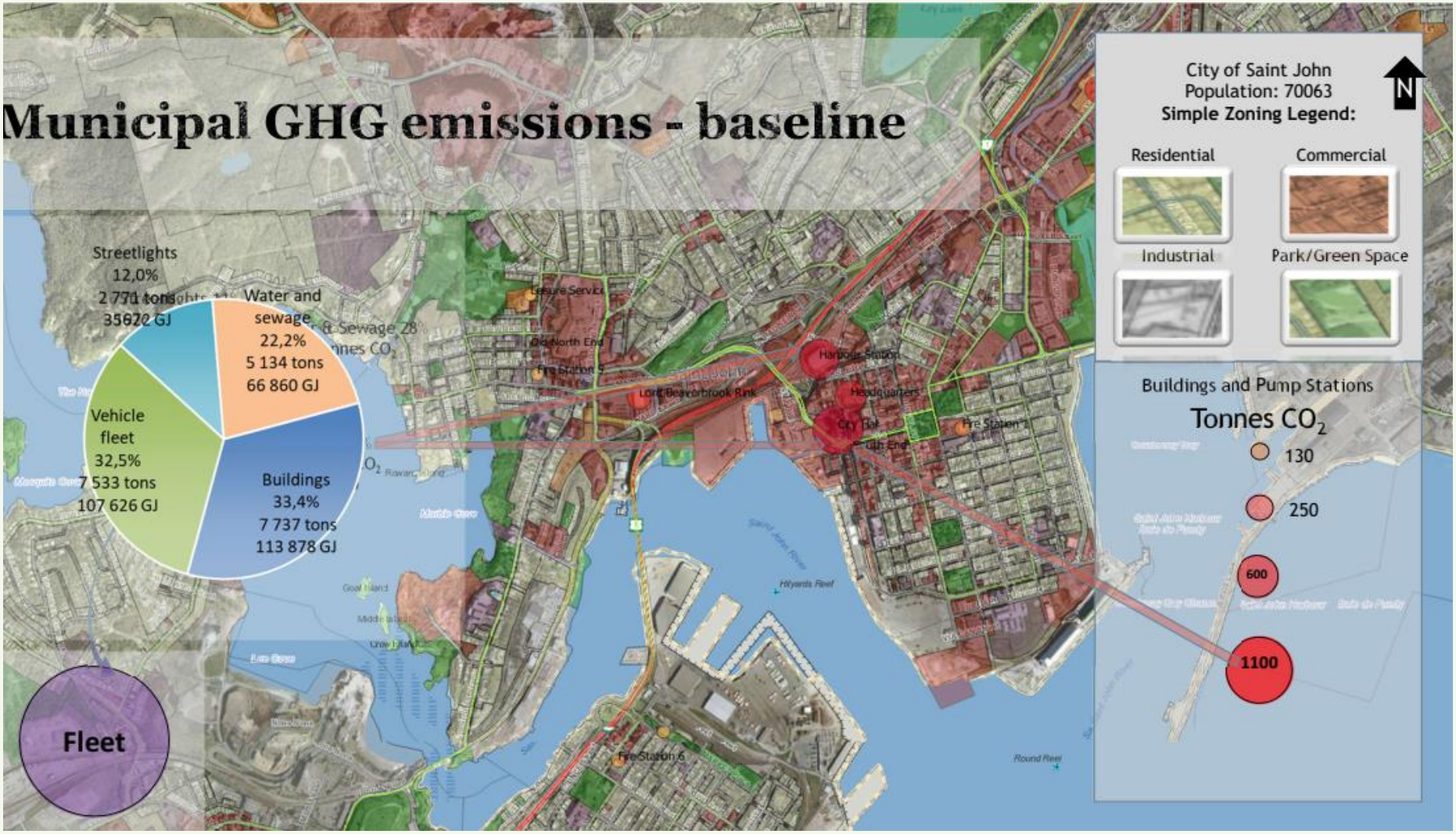
III. The Community's Profile

Picture 2: Saint John's GHG Community Emissions Map



III. The Community's Profile

Picture 3: Saint John's GHG Municipal Emissions Map



III. The Community's Profile

Picture 4: Saint John Transit Regional services

The Saint John Transit Commission *was established in 1979 to provide scheduled transit service to the city. It is the largest public transit system in New Brunswick in terms of both mileage and passengers. Ridership on Saint John Transit's system is about 2.1 million passengers per year.*

Saint John Transit's ridership is approximately 50 percent higher than the average for Canadian cities with a population of between 50,000 and 150,000.

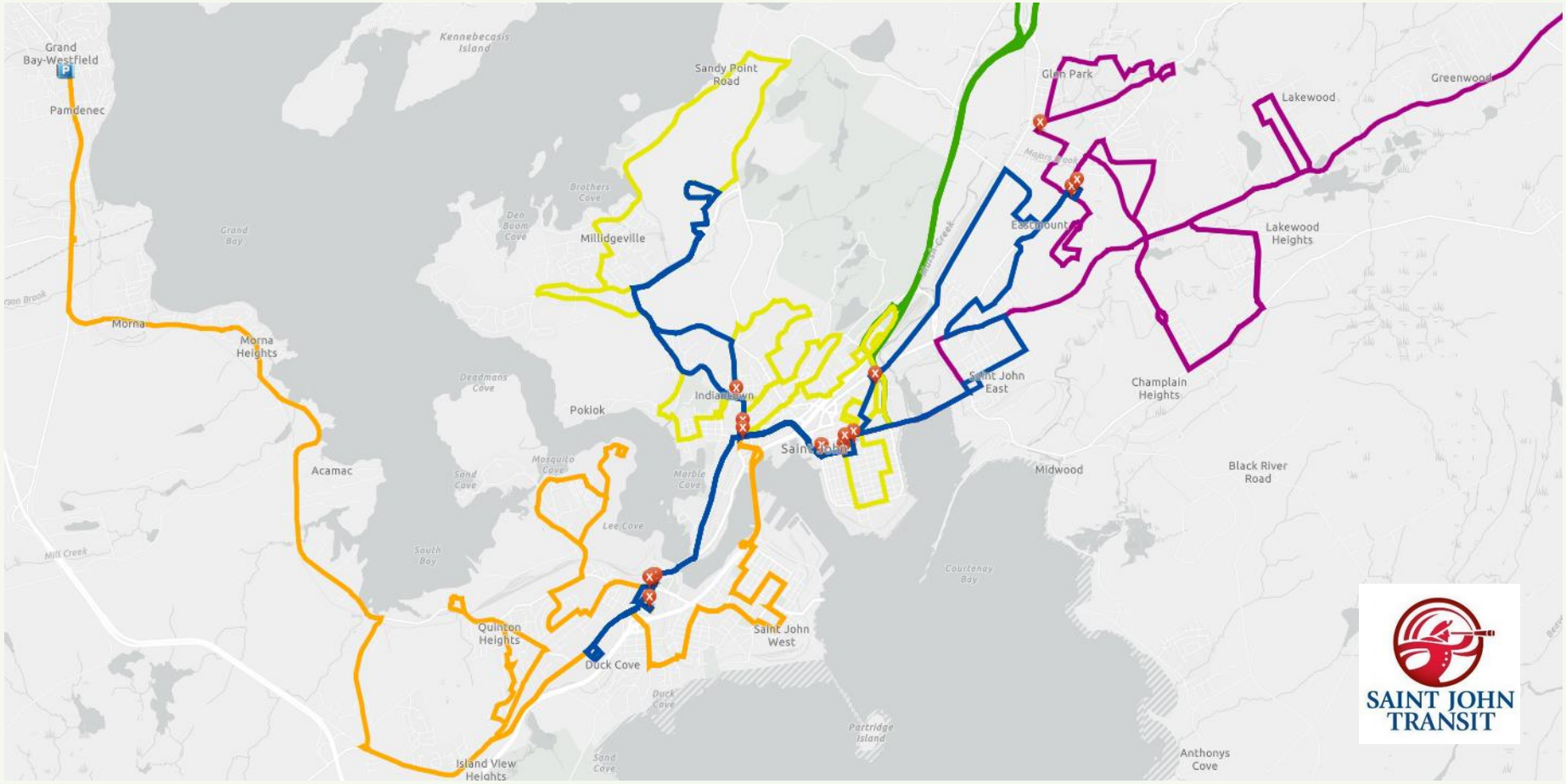
Governed by a Commission, Saint John Transit is dedicated to high standards of customer service through innovative programs and commitment to the community.

Demographics

- ✓ *Saint John has had public transit since 1869.*
- ✓ *Seven day-per-week service—29 separate workday routes—covers every area of the city, including high-traffic areas (Uptown and East side, university and hospital service).*
- ✓ *Routes cover approximately 515 kilometers of city streets.*
- ✓ *Ridership on Saint John Transit is about 2.7 million passengers per year; the highest in the province.*
- ✓ *Saint John Transit is currently experiencing a significant increase in passenger levels.*
- ✓ *Saint John Transit receives about 50 percent of its operating costs from the fare box, which makes it one of the most self-sufficient services in Canada for cities of similar size.*

III. The Community's Profile

Picture 5: Saint John Transit Routes



III. The Community's Profile

Saint John Energy (SJE) is 100% owned by the City of Saint John, and accountable to 36,400 residential, commercial and industrial customers for reliable service at rates that are among the lowest in the region.

SJE owns and operates the electricity grid and serves all connected customers and also provides energy services including the installation, maintenance, and rental of electric hot water heater units and mini split heat pump units. On average, residential rates are 10% lower and commercial rates are 3% lower than other utilities in New Brunswick. This is due in part to an excellent relationship with NB Power, the supplier of wholesale electricity.

Facts

- ✓ *36,400 customers*
- ✓ *94 full-time employees*
- ✓ *760 km of distribution line (590 overhead & 170 underground)*
- ✓ *22,000 poles*
- ✓ *13 substations*

III. The Community's Profile

Environment, Saint John Energy *continuously works to reduce environmental footprint and help customers do the same through energy conservation. In 2017, SJE achieved all environmental objectives and targets with 100% environmental regulation compliance. SJE also updated its Environmental Management System to the ISO 14001:2015 Standard. And 2018 marks the 20th year that Saint John Energy operations have been certified as meeting this internationally recognized standard of environmental performance.*

SJE has over 9,300 smart meters in-market. Saint-John Energy's award-winning Energy Star Most Efficient rated mini-split ductless heat pump rental program, established in 2016, was the first of its kind in Canada and now provides over 3,200 customers with safe, efficient and affordable home heating.

Energy conservation *is a key priority for SJE who not only encourage customers to reduce and conserve energy, but continuously looks for ways to do so within its operations. The utility actively finds ways to reduce overall costs and to benefit its customers. One of these many initiatives was installing LED street lights, which not only last longer and require less maintenance, but are more energy efficient.*

SJE is founding member of Sustainable Saint John, a grassroots program dedicated to advocacy, education and engagement on environment-related initiatives through a network of like-minded, local organizations.

In 2018, SJE developed a Smart Grid Roadmap with the aspirational view to provide state of the art enhancements to its electricity distribution grid which will maximize energy efficiency, provide environmental benefits, enhance system operations, contribute to the regional economy, and induce customer participation. Following the Smart Grid Road Map, SJE developed a framework to support the Community Energy Plan . This framework sets forth to quantify general targets and timelines, and to identify a number of specific initiatives.

Managing Peak Demand and Smart Grid

- *Smart Grid Roadmap and smart Grid demonstration projects*
- *Operational efficiencies from smart grid projects*
- *Peak demand reduction projects*

Exploring Renewable Generation Projects

- *Embedded renewable energy projects – solar PV and wind energy*

Increasing Efficient Consumer products

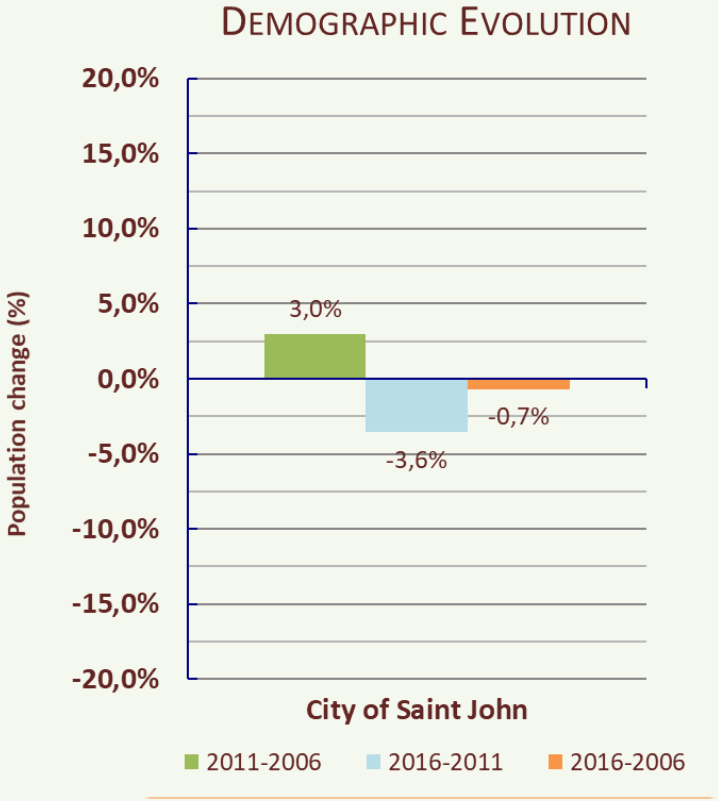
- *Mini-split heat pump rental program*
- *Water heater rental program*
- *New energy efficient products and energy-saving initiatives*
- *Electric Vehicle residential charging units*

SJE's Plan aims to integrate renewable energy generation to the system, to decrease energy demand, and to increase overall energy efficiency.

III. The Community's Profile

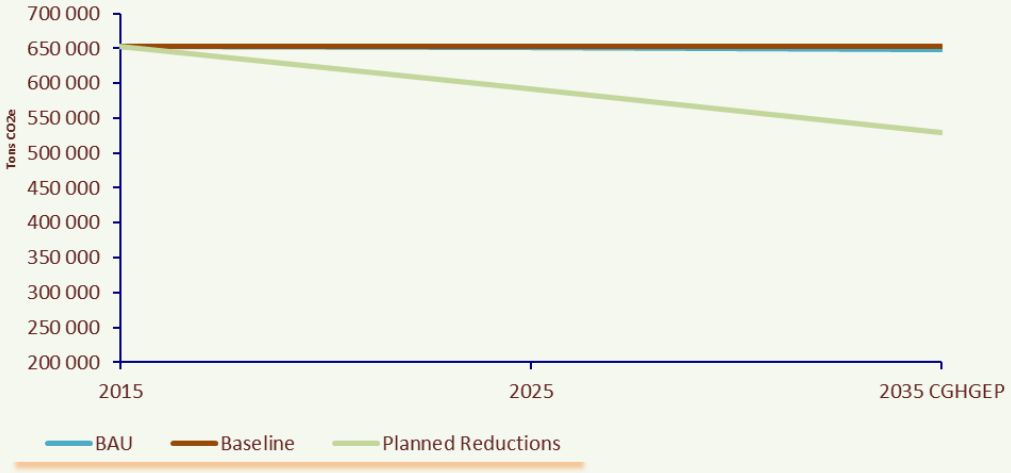
Challenges

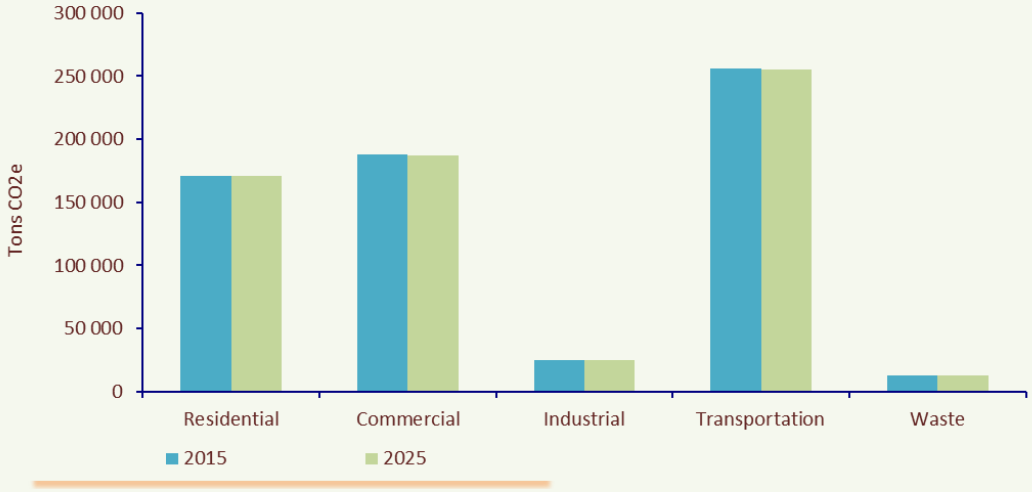
- ✓ The City of Saint John and its community are facing challenges related to population decrease: almost 4% between 2011 and 2016.
- ✓ For the City, while its responsibilities and expenses remain similar or increase, tax and other incomes are decreasing in time. However energy needs are difficult to curb down.
- ✓ In the last 3 years, but also prior to 2015 with the Municipal Energy Efficiency Program (MEEP) adopted in 2008, many actions (called the Early Actions), reflected in the Corporate GHG Action Plan, were taken to reduce energy consumption and had significant positive impacts on the GHG emission reduction.
- ✓ For the Community, to curb down energy consumption and GHG emission, investment will be needed to help citizens to adopt cleaner and more efficient equipment.
- ✓ To provide regional services to growing neighborhood municipalities impacts energy needs and community GHG evolution.
- ✓ The main challenge for Saint John, the City and its Community, is to find solutions to reduce energy consumption, to produce clean energy and imperatively generate income as well as a good return on investment.



III. The Community's Profile

The business as usual scenario anticipates that, apart from the present action plan reduction, the level of the community GHG emissions will decrease by 0.7%. This action plan is expected to bring them down by 9% in 2025 and by 18% in 2035.





IV. The Plan's Summary

A. The Plan

The Plan aims to help Saint John and its Community to face main challenges.

- **Reduce dependency on fossil energies**
- **Curb down energy use, expenses and reduce GHG emissions**
  - Promote individual and collective energy efficient habits:
    a. Implement an ongoing anti-idling campaign & fuel efficient driving all across the community
    b. Increase at least by 15% clothes line usage
  - Promote energy efficient technologies:
    a. LED lighting to replace 60% all lights in the community
    b. 6 000 commercial and industrial consumers to reduce their electricity use by 10% (Target set by Saint John Energy)
    c. At least 15% of residential consumers to improve their non-electrical energy efficiency for an average of 10%
    d. At least 20% of commercial and industrial consumers to improve their non-electrical energy efficiency for an average of 10%
  - Promote energy wise decision-making : smaller vehicles are in average 20% more fuel efficient
- **Foster a shift towards low carbon transportation solutions integrating EV infrastructure, promotes alternative fuel vehicles**
  - Use existing programs and incentives to increase the number of Electric and Hybrid Cars and to install more Charging Stations

IV. The Plan's Summary

A. The Plan (continued)

- **Implement low capital project & strategy to generate good return on investment overcome tax income stagnation**
- **Generate income with local renewable energy production:**
  A. District Energy
- **Support and collaborate with Saint John Energy to achieve their 6% renewable energy production target**
  A. Solar Farms – PV
  B. Wind Turbine Farms
- **Diversify transportation alternatives by supporting public transit services**

IV. The Plan's Summary

Saint John Energy – Supportive Community Energy Plan 2019 in support of The City of Saint John

Targets and Initiatives *The general targets for the SJE's Energy Use Effectiveness Plan are:*

1. Increase SJE's annual system load factor from 71% to 75% by 2025. *An increase in system in load factor will result in a lower energy demand during peak times, and more smooth energy usage throughout the day. The reduction of peak power demand will improve total system operations, reduce stress on electricity delivery assets, and displace high-cost emitting generation during peak times. The load factor target will be achieved through several demand response initiatives such as the development of demand prediction algorithms, managed energy storage assets, smart dispatchable assets, conservation voltage reduction, and fleets of controllable energy loads.*

- **Target Demand Reduction of 25 MW, and t/yr of 1,170 t/yr GHG.**

2. Offer products that allow customers to reduce energy by 10% by 2025*. Reducing customers' energy usage will result in less generation production, less greenhouse gases overall, and lower costs to the end users. The load reduction targets will be achieved by installing more efficient energy products in bundles at customers' homes – e.g. mini split heat pumps, ultra high efficiency hot water heaters.*

- **Target Energy Reduction of 9,400 MW/yr, and 2,632 t/yr of GHG**

3. Provide infrastructure to allow for the integration of embedded renewable energy resources of 6% of SJE's total energy needs by 2025. *The integrated renewable energy assets will be predominately wind energy projects and utility-scale solar PV plants. SJE plans to accommodate the first wave of renewable energy projects by 2022, and have a connection-ready process and system by 2025 for additional larger projects. The renewable energy generated will displace emitting generation in the system and reduce greenhouse gases.*

- **Target Vehicle conversion of 20, and 60 t/yr of GHG.**

(continued)

IV. The Plan's Summary

Saint John Energy – Supportive Community Energy Plan 2019 in support of The City of Saint John

Targets and Initiatives *The general targets for the SJE's Energy Use Effectiveness Plan are:*

4. Provide initial pilot installations for residential EV chargers for 20 vehicles by 2025. *The pilot installations will be part of the overall Community Program, which will consist of the provision of several public electric vehicle ("EV") charging stations as well as the introduction of a residential home charger rental program. The use of electric vehicles will reduce combustion emissions and greenhouse gases. This target is consistent with NB Power's province-wide target for EV chargers.*

- **Target Vehicle conversion of 20, and 60 t/yr of GHG.**

5. Increase *SJE's system operational efficiency by 2% by 2025. The modernization of the grid will result in operational efficiencies utilizing more efficient transformers, and upgrading the electrical infrastructure. This will result in more streamlined power flow and lower distribution losses.*

- **Target losses reduction of 24 mWhr/yr and 6.75 t/yr of GHG.**

6. *Increase SJE's operational productivity by 2% by 2025. Implementing state of the art grid information systems will result in increased operational productivity such as lowering downtime, reducing windshield time for operational crews, decreasing maintenance timelines and costs, and providing more efficient customer service. These efficiencies will be derived by the use of several smart informational technologies, such as AMI, GIS, Self-Healing Networks, Intelligent Fault Indicators and Smart Sensors throughout the system.*

AMI infrastructure will eliminate 2 maintenance vehicles from the SJE fleet.

- **Target Vehicle elimination of 2, and 6 t/yr of GHG.**

IV. The Plan's Summary

B. The Strategy

Strategy's Summary

Implementation and monitoring Procedures

General Procedures

1	Annual sectorial review meeting	
2	Annual Community GHG & Energy Action Plan Update	Reaching PCP Milestone 4
3	Annual or biennial inventory update (Community & Corporate)	Reaching PCP Milestone 5
4	Project Portfolio Revision: New & Retrieved Project	

Project Portfolio Procedures

	Residential	
R 1	**LED lighting**	
1	Annual activity review report	Status, project implementation development
R 2	**Energy efficiency (Residential buildings)**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
R 3	**Clean Energy Conversion**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
R 4	**Energy efficiency - Residential - Clothes Line Program**	
1	Annual activity review report	
2	Annual activity review report	Status, project implementation development

IV. The Plan's Summary

B. The Strategy (continued)

	ICI	
ICI 1	**LED lighting**	
1	Annual activity review report: Status, project implementation development	
ICI 2	**Energy efficiency (commercial buildings)**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
	SJE's Supportive Community Energy Plan Targets for 2025	
R 1	**SJE Energy efficiency (Residential/Commercia/Industrial)**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
R 2	**Increase Annual Load Factor**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
R 3	**Facilitate Fuel Switching (EV's)**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
R 4	**Increase Operational Productivity**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
R 5	**SJE Renewable Energy Strategy**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
3	According to potential volume - Carbon Credit Registration process: Year status, registered credits, etc.	

IV. The Plan's Summary

B. The Strategy (continued)

	Transportation	
T 1	**Electric Vehicle Community Program**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	EV purchase information
T 2	**Idle-free Policy**	
1	Annual activity review report	Status, project implementation development
	Branding operation & policy revision Drive through	
T 3	**Fuel-efficient driving**	
1	Annual activity review report	Status, project implementation development
T 4	**More efficient & compact vehicles**	
1	Annual activity review report	Status, project implementation development
	Branding operation	
	Local Renewable Energy Production	
RE 1	**District Heating**	
1	Annual activity review report	Status, project implementation development
2	Monitoring activities	GHG & GJ reduction evaluation
3	According to potential volume - Carbon Credit Registration process: Year status, registered credits, etc.	
RE 4	**Hydroelectricity - Turbine**	
1	Annual activity review report	
2	Monitoring activities	Status, project implementation development
3	According to potential volume - Carbon Credit Registration process: Year status, registered credits, etc.	

Community GHG Inventory

V. The Inventory

The City of Saint John has joined the Climate Change and Energy Initiatives Program by commissioning UMNB and YHC Environnement to develop an inventory of its GHG emissions that will be used to develop an action plan that includes a suite of measures. to control and reduce GHG emissions from their sources.

Saint John's emissions inventory consists of two separate components. The first is emissions from the activities of the municipal administration (the Corporate) and the second covers the entire territory of the Municipality (the Community).

This document covers the Greenhouse Gas Emission Inventory for the 2015 reference year of the community component of the City of Saint John. The relevant additional elements are detailed in the appendices.

V. The Inventory

A. Summary

The community component consists of five emission sectors. For Saint John, the total emissions of the community is approximately 653 152 tons of CO_2 equivalent. Most of these came from transportation that is 39.3%. Commercial generated 28.8% of emissions, residential 26.2%, industrial 3.8% and finally 1.9% of emissions are attributed to the community waste.

The Community, with its 67 575 inhabitants has a per capita emission rate of 9.7 tons of CO_2 equivalent.

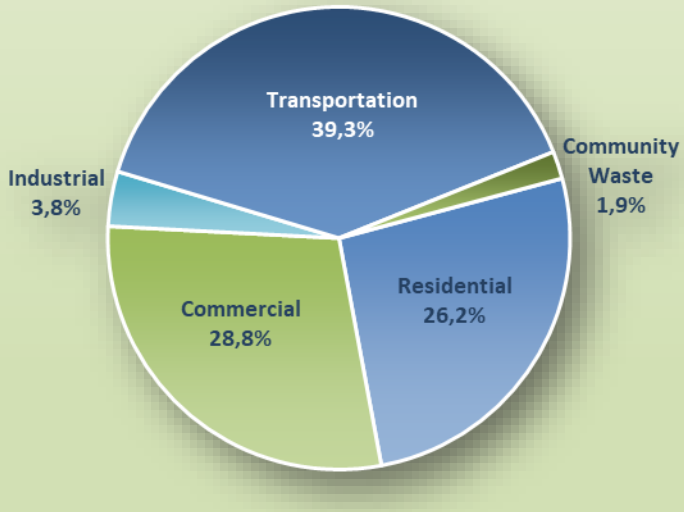
Table 1 :

Community GHG Emissions for the base year

GHG (tons eCO_2)	2015
Residential	171 288
Commercial	187 917
Industrial	25 020
Transportation	256 393
Community Waste	12 534
Total	653 152
Population	67 575
GHG per capita (teCO2)	9,7

Graph 1 :

Community GHG Emissions Breakdown by Sector ($teCO_2$)



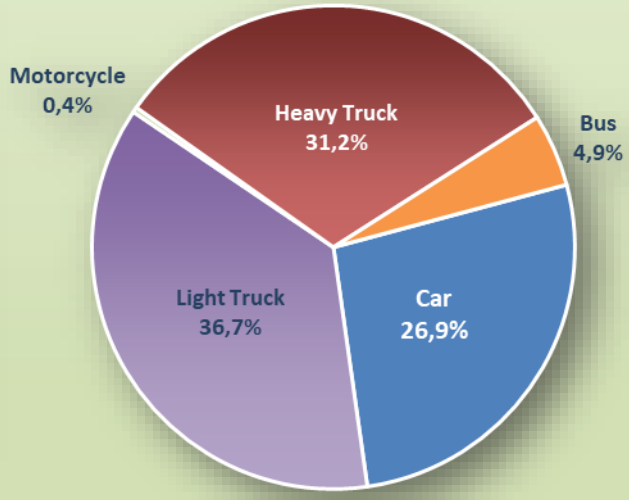
B. TRANSPORTATION

For the year 2015, the Saint John community had 56 795 vehicles numbered on its territory. With 256 393 tons of eq. CO_2, the transportation sector is responsible for a large part (39.3%) of greenhouse gas emissions of the community (see Graph 1). Emissions from the sector come from five (5) subclasses; light truck because of their large number, form the category that generates the most emissions from GHG, with 36.7% of the total sector. Heavy Truck is in second place with 31.2%, follow car 26.9%, bus 4.9%, and finally motorcycle with 0.4%.

TABLE 2 :
TRANSPORTATION GHG EMISSIONS BREAKDOWN BY VEHICLE TYPE ($teCO_2$)

Vehicle Type	2015			
	Number	%	($teCO_2$)	%
Car	27 377	48,2%	69 015,5	26,9%
Light Truck	23 982	42,2%	94 107,6	36,7%
Motorcycle	1 910	3,4%	907,1	0,4%
Heavy Truck	3 304	5,8%	79 913,6	31,2%
Bus	222	0,4%	12 449,0	4,9%
Total	**56 795**		**256 393**	

GRAPH 2 :
TRANSPORTATION GHG EMISSIONS BREAKDOWN BY VEHICLE TYPE ($teCO2$)



C. Industrial, Commercial and Institutional Buildings (ICI)

In 2015, an estimated 384 225 tons of eq. CO_2, greenhouse gas emissions from come from Saint John's residential and industrial, commercial and institutional (ICI) sectors. Electricity gets noticed as first source of GHG emissions with 267 538 tons of eq. CO_2. Fuel oil and natural gas assume 80 787 and 19 770 tons, heavy fuel oil and propane emit 9 306 and 6 825 tons eq. CO_2.

TABLE 3 :

COMMUNITY GHG EMISSIONS AND ENERGY CONSUMPTION BY TYPE

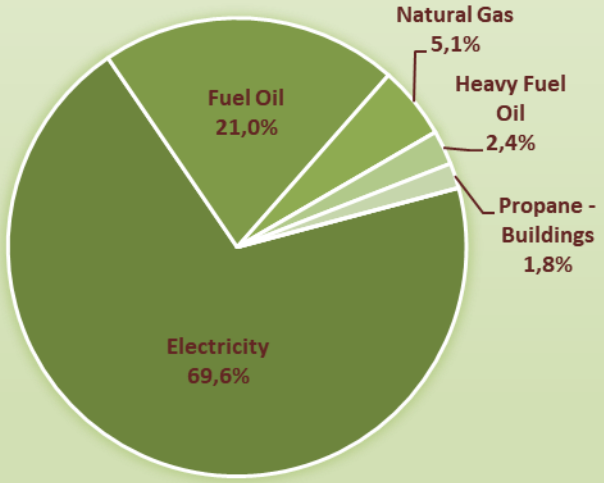
Energy	2015					
	Volume	Units	($teCO_2$)	%	(Gj)	%
Electricity	955 491 860	kWh	267 538	69,6%	3 439 771	65,8%
Fuel Oil	29 536 412	Liters	80 787	21,0%	1 146 013	21,9%
Natural Gas	10 391 032	m3	19 770	5,1%	407 744	7,8%
Diesel - Buildings	-	Liters	-	-	-	-
Heavy Fuel Oil	2 958 875	Liters	9 306	2,4%	125 752	2,4%
Propane - Buildings	4 420 006	Liters	6 825	1,8%	111 870	2,1%
District Energy	-		-	-	-	-
Total			**384 225**		**5 231 150**	

V. The Inventory

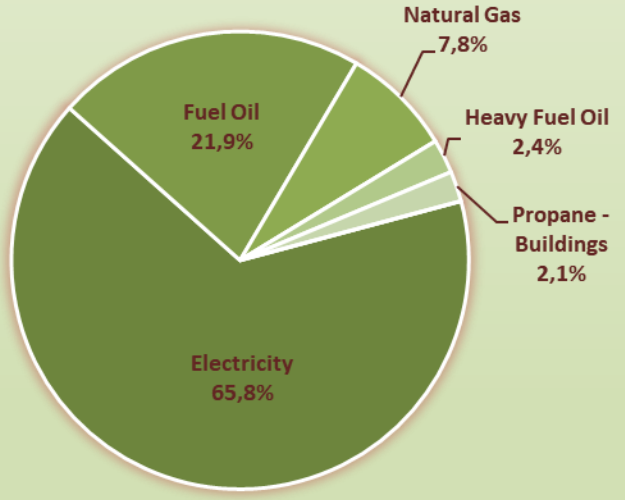
C. Industrial, Commercial and Institutional Buildings (ICI) (continued)

Electricity produces 69.6% of the sector's emissions and meets 65.8% of the Saint John Territory's energy needs for the residential sector and ICI. Fuel oil, natural gas, heavy fuel oil and propane accounted for 21.0%, 5.1%, 2.4% and 1.8% of greenhouse gases, respectively, and together they 21.9%, 7.8%, 2.4% and 2.1% of their energy demand in their sectors for the Saint John community.

Graph 3 :
Residential and ICI GHG Emissions Breakdown by Energy Type ($teCO_2$)



Graph 4 :
Residential and ICI Energy Consumption Breakdown by Energy Type (GJ)



D. Community Waste

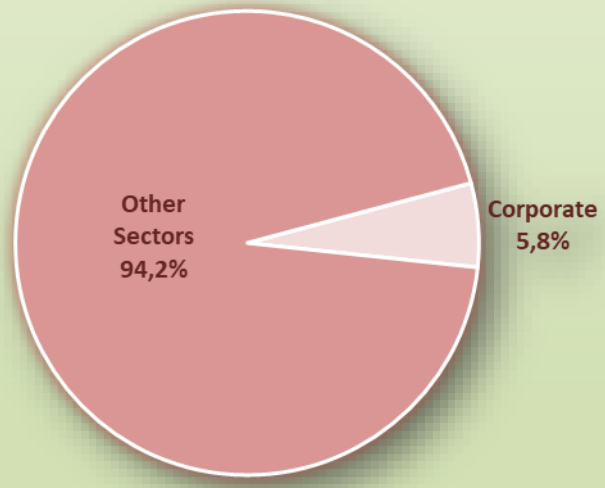
In 2015, the 36 050 tons of Saint John's solid waste produced 12 534 tons of eq. CO_2 greenhouse gas. They are responsible for 1.9% of the total emissions of the Community (see Graph 1).

The estimated share of corporate emissions is 731.9 tons of eq. CO_2 (5.8% of the total) which would correspond to nearly 1 785 tons of waste.

TABLE 4 :
COMMUNITY LANDFILL WASTE BY CATEGORY

Waste Category	2015			
	tons	%	(teq. CO_2)	%
Corporate	1 785	5,0%	731,9	5,8%
Other Sectors	34 265	95,0%	11 802,1	94,2%
Total	**36 050**		**12 534,0**	

GRAPH 5 :
COMMUNITY LANDFILL WASTE GHG EMISSIONS BY CATEGORY (TECO_2)



E. Community Emissions Forecast (continued)

The projected emissions, seek to present how inventory emissions will evolve at the end of the action plan, based on a business as usual scenario, ie without any direct intervention of the decision-makers. Factors such as demographic change or economic conditions are taken into account in determining future levels of current emissions.

For Saint John, the business as usual scenario anticipates that, apart from the present action plan reduction, the level of the community GHG emissions will decrease by 0.7%. This action plan is expected to bring them down by 9% in 2025 and by 18% in 2035.

TABLE 6 :
COMMUNITY INFORMATION

Base Year	2015	
Forecast Year*	2025	2035 CGHGEP
Reduction Target by Forecast Year* (%)	9,0%	18,0%

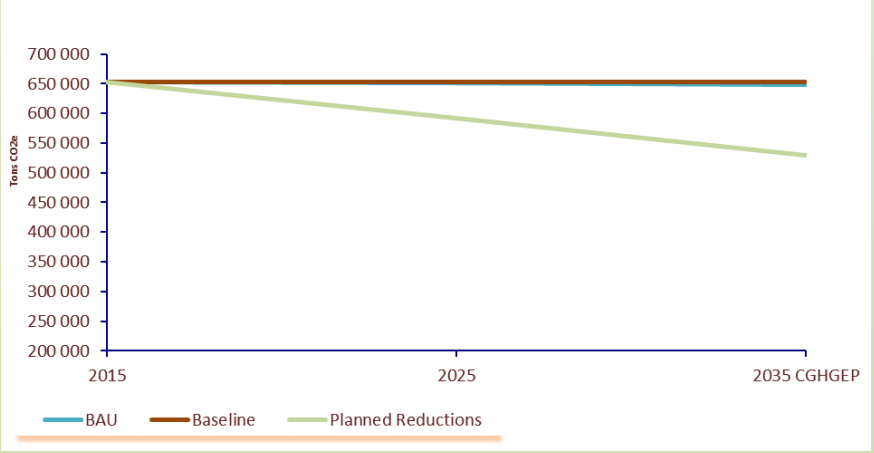
Baseline: 2015 (Base year)

BAU: Business as usual scenario forecast

2025: Action Plan deadline

CGHGEP or CEP: Community Greenhouse Gases Energy Planning. Long term projects requiring a longer horizon than the current action plan.

GRAPH 6 :
COMMUNITY EMISSIONS FORECAST



COMMUNITY PLAN

VI. The Plan

A. Strategy for GHG Reduction and Project Selection

Community Action Plan

As noted in Section II - Strategy, for PCP and GMF, the GHG emission reduction targets of participating municipalities are set on a voluntary and non-binding basis.

Taking into account the context of the City, the community plan proposes the achievement of a target of 9% reductions in GHG emissions for 2025 and 18% reductions in GHG emissions for 2035 according to the reference year 2015.

Table 7 :
Community Information

Objectives and year set by Saint John:		
Corporate Action plan :		
		• **Reduction Target : 9% and 18%**
		• **Base year : 2015**
		• **Forecast year : 2025 and 2035**

VI. The Plan

A. Strategy for GHG Reduction and Project Selection

Guiding Principles

The approach behind the development of the City of Saint John's Action Plan as part of UMNB's CCEI is to develop an action plan that includes projects which :

1) **Improve the quality of life of communities (better environment and savings)**
   - ✓ Improve the quality of life of communities (better environment and savings) ;
   - ✓ Generate GHG emission reductions that meet the goals and needs of the community ;
   - ✓ Allow as much as possible to generate energy savings that guarantee the sustainability of the actions of the Municipality and its community.
2) **Use community resources to develop the expertise of UMNB and New Brunswick members**
   - ✓ Optimize the use of community resources and know-how to maximize socio-economic benefits;
   - ✓ Help develop local and regional expertise to increase the knowledge of communities and New Brunswick..
3) **Will become examples and models for New Brunswick and other communities in Canada**
   - ✓ The projects must enable UMNB member municipalities to stand out / take leadership, to respond to challenges of climate change for New Brunswick communities, to protect the environment, improve the quality of life, and become role models for action and resilience.

VI. The Plan

A. Strategy for GHG Reduction and Project Selection

Global Approach

«Good practice» projects

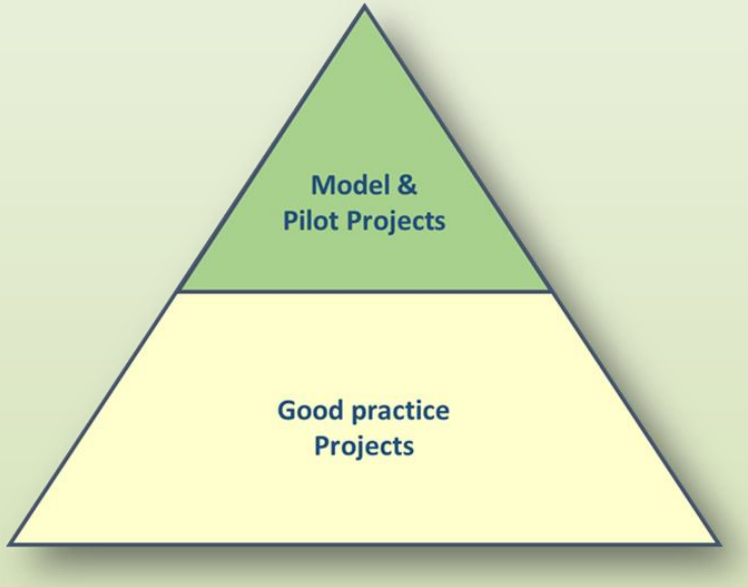
The action plan prioritises projects considered as "good practices". These projects correspond to the application of, for example, measures and technologies supported by the programs of New Brunswick Power, the Government of New Brunswick or Canada.

✓ These "Good Practice" projects form the basis of the Action Plan.

Model projects & pilot projects

As part of Saint John's CCEI, the action plan also proposes s three types of model projects & pilot projects :

- **Transport electrification & EV integration in the community**



VI. The Plan

B. Reference level and target

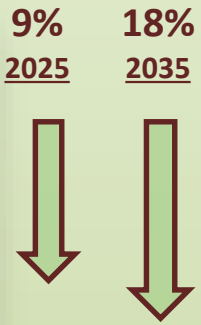
The goal of the City of Saint John's Community Action Plan is to reduce greenhouse gas emissions by 9% by 2025 and 18% by 2035 from their 2015 baseline.

For Saint John, the emissions calculated for the year 2015 allow us to estimate the reductions required to reach the target set by the Community's action plan to approximately 58 784 tons or 9% by 2025 and 117 567 tons or 18% by 2035.

Table 8 :

Baseline and Target

	Tons of CO2 equivalent	Year Base 2015	Forecast 2025	Forecast CGHGEP 2035
1	Current Emissions	653 152		
2	Community Emissions Forecast (BAU Scenario)		***650 906***	***648 660***
3	Reduction Target		9,0%	18,0%
4	Forecast emissions (target) (line 1 - line 5)		594 368	535 585
5	**Total reductions to be achieved (line 1 - line 4)**		**58 784**	**117 567**
6	**Total reductions to be achieved (Including BAU Scenario)**		**56 538**	**113 075**



VI. The Plan

C. Analysis of the Projected Results of the Action Plan

Achieving the objective of Saint John's Action Plan would mean that the level of community GHG emissions for the year 2025 be at 592 883 tons of eq. CO_2. This is a decrease of 60 269 tons from the 2015 emissions level of 653 152 tons of eq. CO_2. This represents a potential reduction of 9.2%, which is 0.2 percentage points above the target of 9% and 1 486 tons more than the targeted reduction of 58 784 tons (see Table 8).

Table 9 :

Analysis of the Outcome of the Action Plan

		Total reductions		Forecast CGHGEP 2025
		$eCO_2(t)$	%	
1	Current Emissions (Base year)	653 152	100,0%	
2	Early action results	0,0	0,0%	
3	Expected reductions in the Action Plan	60 269	9,2%	
4	**Total Reductions (line 2 + line 3)**	**60 269**	**9,2%**	
5	**Level of anticipated emissions (forecast year) (line 1 - line 4)**	**592 883**	**90,8%**	
6	**Gap with the target (Action Plan 2025)**	**1 486**	**0,2%**	
7	**Considering BAU Scenario (2025)**	**3 732**	**0,3%**	**9,6%**

VI. The Plan

D. Project Portfolio

The most recent measures, technologies and programs have been analyzed and evaluated. They form the basis of the action plans produced by YHC Environnement. Then, based on the 2015 inventory data, as well as the characteristics and needs of the Community of Saint John, the development of the Project Portfolio was completed.

The action plan contains seventeen (17) projects whose potential reductions are estimated at 60 269 tons of CO_2 equivalent (see Table 10).

VI. The Plan

D. Project Portfolio

Project Portfolio Summary

Table 10 : Community Project portfolio

	Projects (Measurs, Actions, Technologies)			Total GHG reductions (tons)
	Residential			5 857
1	*R 1*	LED lighting		2 118
2	*R 2*	Energy efficiency (Residential buildings)		369
3	*R 3*	Clean Energy Conversion	Conversion rate : 35%	2 673
4	*R 4*	Energy efficiency - Residential - Clothes Line Program		696
	ICI			8 312
5	*ICI 1*	LED lighting		6 710
6	*ICI 2*	Energy efficiency (commercial buildings)		1 602
	SJE's Supportive Community Energy Plan Targets for 2025			19 893
7	*SJE 1*	SJE Energy efficiency (Residential/Commercia/Industrial)		2 632
8	*SJE 2*	Increase Annual Load Factor		1 170
9	*SJE 3*	Facilitate Fuel Switching (EV's)	See Electric Vehicle Community Program	-
10	*SJE 4*	Increase Operational Efficiency		7
11	*SJE 5*	Increase Operational Productivity		40
12	*SJE 6*	SJE Renewable Energy Strategy	SJE Target 6%	16 044
	Transportation			22 753
13	*T 1*	Electric Vehicle Community Program	EV Units: 220	243
14	*T 2*	Idle-free Policy		16 020
15	*T 3*	Fuel-efficient driving		4 859
16	*T 4*	More efficient & compact vehicles		1 631
	Local Renewable Energy Production			3 454
17	*RE 1*	District Energy System		3 454
	TOTAL			**60 269**

D. PROJECT PORTFOLIO

1. Infrastructure (lighting) - LED lighting (Residential/Commercial/Industrial)

(Project #: R1 & ICI1)

LED technology is more reliable with a much longer life span compared to other types of lighting. According to Hydro-Quebec : "Most LED bulbs last about 25,000 hours, while incandescent lightbulbs last only 1,000." So if they're on 8 hours a day, 365 days a year, LED bulbs could last more than 8 years". In the community, voluntary conversions and those made through information, awareness and incentive campaigns reduce electricity consumption.
It is assumed that 60% of the incandescent bulbs will be replaced by LED bulbs at the end of this action plan.

	LED lighting	Base year : 2015		
		GJ	kWh	Ratio
1	Total residential energy consumption	2 267 261	629 794 834	
2	Estimated residential lighting power consumption	82 528	22 924 532	3,64%
3	Total CI sector energy consumption	2 317 362	643 711 632	
4	Estimated commercial lighting power consumption	248 421	69 005 887	10,72%
5	Total industrial energy consumption	357 221	99 228 038	
6	Estimated industrial lighting power consumption	13 003	3 611 901	3,64%
7	Efficiency gains due to conversion		55%	
8	Conversion rate for 2025		60%	
9	Annual energy conversion reduction (residential)		7 565 096	kWh
10	Annual Energy Conversion Reduction (CI)		22 771 943	kWh
11	Annual Energy Reduction in Conversion (Industries)		1 191 927	kWh
12	Reduction of GHG emissions from conversion (residential)		2 118	t. eq. CO_2
13	Conversion GHG emission reduction (CI)		6 376	t. eq. CO_2
14	Reduction in Conversion GHG Emissions (Industries)		334	t. eq. CO_2
15	**Reduction of GHG emissions from conversion (all sectors)**		**8 828**	**t. eq. CO_2**

Note:
Line 12- Table 10, Project 1 R 1
Lines 13 & 14- Table 10, Project 5 ICI 1

VI. The Plan

D. Project Portfolio

2. Infrastructure (heating, cooling & envelope) - Energy efficiency (Residential buildings)

(Project #: R2)

In addition to Saint John Energy Targets and Initiatives which provide efficiency solutions to power consumers, the City of Saint John intends to develop energy efficiency programs and incentives that aim other forms of energy used for heating purposes in the residential sector (natural gas, fuel and propane).

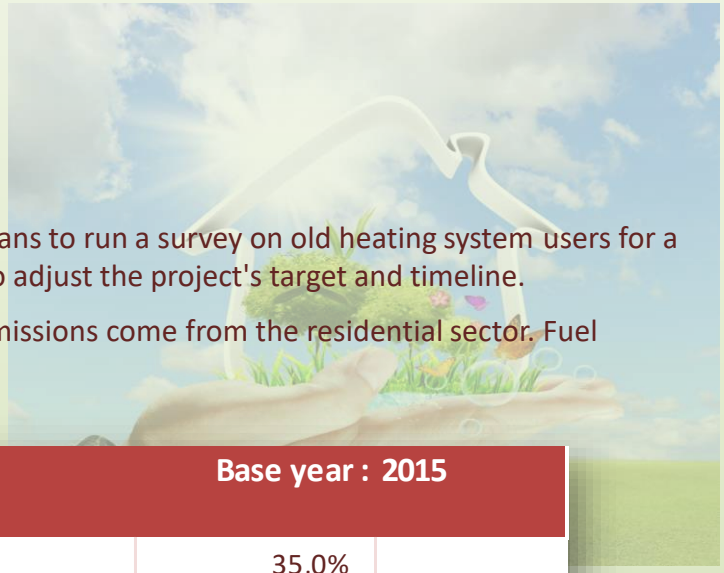
According to the community inventory, more than 26% of the community's GHG emissions come from the residential sector.

The average implementation rate of these measures is set at 15%. The average efficiency of all these measures is set at 10%.

	Energy efficiency (Residential buildings)		Base year : 2015	
1	Energy saving (estimated)		10,0%	
2	Participating households (number and %) *		4 532	15,0%
3	Energy saved per year (Gj)		5 487	
4	**Reduction of GHG emissions (tonnes and %)**		**369**	**1,5%**
	* Rough estimation			
5	**Estimation details**			
6	Total electricity Consumption	n/a	Gj	See SJE project
7	Energy use for heating purposes	65,94%		
8	Electric Consumption - heating	n/a	Gj	See SJE project
9	Fuel consumption - heating	309 363	Gj	see below
10	Natural gas and Propane consumption - heating	56 426	Gj	
11	Electricity consumption GHG emissions	n/a	eCO_2 (t)	See SJE project
12	**Fuel consumption GHG emissions**	**21 808**	**eCO_2 (t)**	
13	Natural gas and propane GHG emissions	2 801	eCO_2 (t)	
14	GHG emissions targeted	24 609	3,8%	
15	Projects' rate of implementation	15%	**Target to set**	
16	Total community emissions	653 152	eCO_2 (t)	
17	Average energy efficiency gain	10,0%	**Target to set**	
18	Number of Dwellings in the community	30 210		
19	Participating households	4 532	Rough estimation	
	See Clean Energy Conversion project			

VI. The Plan

D. Project Portfolio



3. Infrastructure (heating, cooling) - Clean Energy

(Project #: R3)

Saint John wishes to increase use of cleaner sources of energy. The municipality plans to run a survey on old heating system users for a better understanding of their number, needs and demands. The survey will allow to adjust the project's target and timeline.

According to the community inventory, more than 26% of the community's GHG emissions come from the residential sector. Fuel furnaces are less efficient that electric heater.

	Clean Energy Conversion		Base year : 2015	
1	Energy conversion		35,0%	
2	Participating households (number and %) *		10 574	35,0%
3	Energy saved per (Gj)		49 974	
4	**Reduction of GHG emissions (tonnes and %)**		**2 673**	**8,0%**
	* Rough estimation			
	Estimation details			
5	Heating oil consumption	475 944	Gj	
6	Heating oil GHG emissions	33 551	eCO_2 (t)	
7	**Projects' rate of implementation**	**35%**	**Target**	
8	Number of Dwellings in the community	30 210		
9	Participating households	10 574	Rough estimation	
10	Electricity needs (result of conversion)	116 606	Gj	
11	Electricity GHG Emissions (result of conversion)	9 069	eCO_2 (t)	
12	Residual Heating Oil consumption	309 363	Gj	
13	Residual Heating GHG Emissions	21 808	eCO_2 (t)	
14	**GHG reduction**	**2 673,5**	eCO_2 (t)	

D. PROJECT PORTFOLIO

4. Infrastructure (heating, cooling) - Energy efficiency - Residential - Clothes Line Program

(Project #: R4)

Saint John wishes to promote simple yet efficient measures that will reduce energy costs and carbon footprint of its citizens. According to the community inventory, more than 26% of the community's GHG emissions come from the residential sector. Clothes lines have multiple advantages : Low installation/repair cost, saves money, zero GHG emission, etc.

The average implementation rate of these measures is set at 15%.

	Infrastructure (heating, cooling)	Base year : 2015		
1	Energy saving (estimated)		7,5%	
2	Participating households (number and %)		4 144	13,7%
3	Energy saved per year (kWh)		2 486 356	
4	**Reduction of GHG emissions (tons and %)**		**696**	**0,1%**
	Estimation details			
5	Average electric clothes Dryer consumption per household	100	kWh / month	
6	Total power use for clothes drying	1 200	kWh / year	
7	Number of Dwellings in the community	30 210		
8	Ratio of households with an electric clothes dryer	91,4%		
9	Annual estimated power used by laundry dryers	33 151 414	kWh / year	
10	Total estimated GHG emissions of laundry drying	9 282	eCO_2 (t)	
11	**Clothes lines efficiency**	**100%**		
12	**Clothes lines use rate**	**50%**	**6 months / year**	
13	**Projects' rate of penetration**	**15%**		
14	Participating households	4 144		
15	Energy reduction	2 486 356	kWh	
16	GHG reduction	696		
17	Energy savings	263 305	$	
18	Total community emissions	653 152	eCO_2 (t)	

D. PROJECT PORTFOLIO

5. Infrastructure (heating, cooling & envelope) - Energy efficiency (Commercial buildings)

(Project #: ICI2)

In addition to Saint John Energy Targets and Initiatives which provide energy efficiency solutions to electrical power consumers, the City of Saint John intends to develop energy efficiency programs and incentives that aim other forms of energy (natural gas, fuel and propane) used for heating purposes in the commercial, institutional and industrial sector.

According to the community inventory, more than 28 % of the community's GHG emissions come from the commercial and institutional sector.

Improving energy efficiency is therefore a key means of reducing overall community emissions.

The average implementation rate of these measures is set at 20%. The average efficiency of all these measures is set at 10%.

	Energy efficiency (commercial buildings)		Base year : 2015	
1	Energy saving (estimated)		10%	
2	Energy saved per year (Gj)		25 324	
3	**Reduction of GHG emissions (tonnes and %)**		**1 602**	**2,0%**
	Estimation details			
4	Total electricity Consumption	n/a	Gj	See SJE project
5	Energy use for heating purposes	48,35%		
6	Electric Consumption - heating	n/a	Gj	See SJE project
7	Fuel consumption - heating	772 414	Gj	
8	Natural gas and Propane consumption - heating	493 766	Gj	
9	Electricity consumption GHG emissions	n/a	eCO_2 (t)	See SJE project
10	Fuel consumption GHG emissions	54 450	eCO_2 (t)	
11	Natural gas and propane GHG emissions	25 644	eCO_2 (t)	
12	GHG emissions targeted	80 094	12,3%	
13	**Projects' rate of implementation**	**20%**	**Target to set**	
14	Total community emissions	653 152	eCO_2 (t)	
15	**Average energy efficiency gain**	**10,0%**	**Target to set**	

VI. The Plan

D. Project Portfolio

6. Infrastructure (heating, cooling & envelope) – SJE Energy efficiency (Residential/Commercial/Industrial)

(Project #: SJE1)

Saint John Energy Targets and Initiatives - Offer products that allow subscribing customers to reduce energy usage by 10% by 2025. Reducing customers' energy usage will result in less generation production, less greenhouse gases overall, and lower costs to the end users. The load reduction targets will be achieved by installing more efficient energy products in bundles at customers' homes.

According to the community inventory, 69,6 % of the community's GHG emissions come from the residential sector.

The project aims to reach 6000 customers.

	SJE Energy efficiency (Residential/Commercia/Industrial)	Base year : 2015	
1	Energy saving (estimated)	10,0%	
2	Participating customers (number)	6 000	
3	Energy saved per year (Gj ; kWh)	33 839	9 399 600
4	**Reduction of GHG emissions (tonnes and %)**	**2 632**	**1,0%**

See also Summary of Supportive Community Energy Plan 2018

D. PROJECT PORTFOLIO

7. Infrastructure – SJE Energy efficiency (Energy Optimization)

(Project #: SJE2, SJE3, SJE4, SJE5)

Saint John Energy Targets and Initiatives - Offer products that allow subscribing customers to reduce energy usage by 10% by 2025. Reducing customers' energy usage will result in less generation production, less greenhouse gases overall, and lower costs to the end users. The load reduction targets will be achieved by installing more efficient energy products in bundles at customers' homes.

	Energy optimization SJE Energy Plan	Base year : 2015	
1	Energy saving (estimated) *	0,6%	
2	Energy saved per year (Gj ; kWh) *	1 673	6 024 000
3	**GHG reduction**	**1 217**	eCO2 (t)
	* Rounded figures		

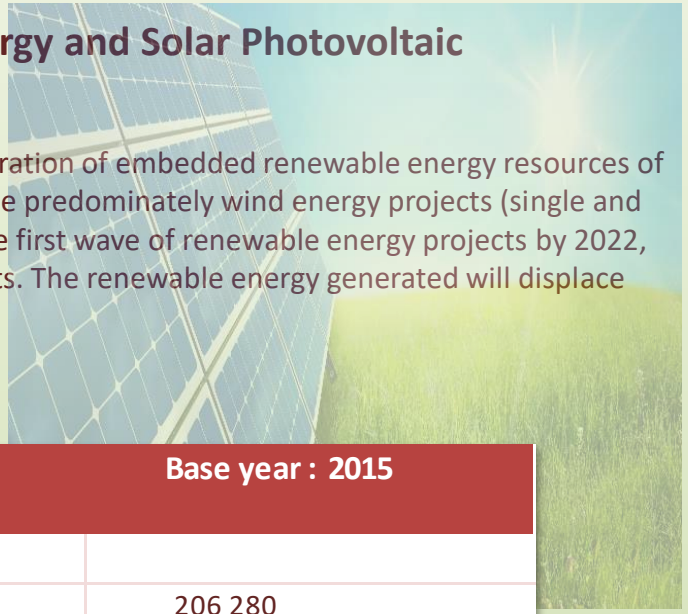
See also Summary of Supportive Community Energy Plan 2018

VI. The Plan

D. Project Portfolio

8. Saint John Energy Renewable Energy Production – Wind Energy and Solar Photovoltaic

(Project #: SJE6)



Saint John Energy Targets and Initiatives - Provide infrastructure to allow for the integration of embedded renewable energy resources of 6% of SJE's total energy needs by 2025. The integrated renewable energy assets will be predominately wind energy projects (single and multi-turbine projects) and utility-scale solar PV plants. SJE plans to accommodate the first wave of renewable energy projects by 2022, and have a connection-ready process and system by 2025 for additional larger projects. The renewable energy generated will displace emitting generation in the system and reduce greenhouse gases.

	SJE Renewable Energy Strategy		Base year : 2015	
1	**Energy conversion**	**Target starting year** **2025**		
2	Energy saved per (Gj)		206 280	
3	**Reduction of GHG emissions (tons and %)**		**16 044**	**6,0%**
	Estimation details			
4	Electricity consumption (all sectors)	3 439 771	Gj	
5	Electricity consumption (all sectors) GHG emissions	267 538	eCO_2 (t)	
6	Renewable Electricity Production	206 280	Gj	
7	Renewable Electricity Production	57 300 000,0	kWh	
8	Renewable Electricity Production ratio	6,0	%	
9	**GHG reduction**	**16 044,0**	**eCO_2** (t)	
10	GHG reduction for all sector electricity use (%)	6,0	%	

VI. The Plan

D. Project Portfolio

Saint John Energy – Summary of Supportive Community Energy Plan 2019

	Major Target	Current Initiatives Underway	Target Figure for 2025	GHG Factor	GHG Saved at Target t/year
	Energy optimization				
1	**Increase Annual Load Factor**	SMART Grid Demonstration Project Integrated System Manger Utility Batteries Generator Disptaching Transformer Tap Changers Controllable Water Heaters, Baseboard Heaters and Heat Pumps	Demand Savings of 25 MW 6 000 MWhr shifted from Peak to OffPeak (2 hr/day x 120 days/yr)	0,463 t/MWhr Peak, 0,268 t/MWhr OffPeak	1 170,0
4	**Facilitate Fuel Switching (EV's)**	Residential Charging Pilot Program Future Charging Stations **	20 residential charging stations pilot	3 t/yr/vehicle	See Electric Vehicle Community Program
5	**Increase Operational Efficiency**	Capital Planning Amorphous Core Transformers ** Overhead Conductor Upgrades ** Underground Conductor Upgrades **	24 MWhr	0,280 t/MWh	6,7
6	**Increase Operational Productivity**	Regulatory Planning Capital Planning Advanced Metering Infrastructure (AMI) ** Intelligent fault sensing devices **	Elimiation of 2 full time service vehicles	3 t/yr/vehicle	40,0
	Energy efficiency				
2	**Reduce Energy Usage**	Mini-split Heat Pumps Next Gen Consumer Products ** Customer Outreach	Annual Energy Savings of 9 400 MWhr 6 000 customers: 10% of 15,6 MWhr each	0,280 t/MWh	2 632,0
	Renewable Energy Production				
3	**Integrate Embedded Generation**	Utility Embedded Generation Policy Distribution Infrastructure ** Embedded Wind Energy Projects ** Community Solar Projects **	Annual Energy Produced of 57 300 MWhr 6% of 955 000 MWhr	0,280 t/MWhr	16 044,0
	Total				**19 892,7**

** Requires Funding and/or Budget Approvals

D. PROJECT PORTFOLIO

9. Transportation - Electric Vehicle Community Program

(Project #: T1)

The EV Community Program is proposed for the Community GHG and Energy Planning timeline. The program is related to the NB Climate Action Plan and will help the community to integrate EV and gradually replace conventional vehicle use.

Information : EV use electrical energy to power an electric motor, they also reduce society's dependence on environmentally damaging fossil fuels while lowering greenhouse gas emissions and air pollution. Electric cars are cost effective, good for the environment and deliver great performance. There are two kinds of electric car:

Fully Electric Cars are powered 100% by electricity and have zero tailpipe emissions. Fully electric cars can travel 200-400 km on a single charge.

Plug-in Hybrid Electric Cars have small battery packs for short all-electric driving distances (20-80 km) before a gasoline engine or generator turns on for longer trips.

			Base year :	2015
			Target year :	2025
1	GHG Offset Target - eCO_2 (t)		**243**	
2	Target number of EV units for 2025	Minimum & maximum	79	220
3	*NB CCAP Target for EV units for 2025 (estimated)*	*Total & annually*	*886*	*111*
4	GHG emissions reduction (tonnes and %)	Minimum	243	0,0%
5		Maximum	675	0,1%
6	Transport GHG emissions reduction (%)	Maximum & Minimun	0,3%	0,1%
7	Savings per year (Minimum & maximum)		80 960 $	246 620 $
8	Number of car & light Truck		51 359	
9		Minimum & maximum	0,2%	0,4%

D. PROJECT PORTFOLIO

9. Transportation - Electric Vehicle Community Program (continued)

Charging Station : In 2018, Saint John counts 27 public N2 charging stations (CS) on its territory. Number of public charging stations should be increased locally and regionally. We estimates that EV owners should have private level 2 charging station (500 to 800$).

EV-Charging Station (Installed & planned)		
Location	*Comment*	*Number*
	Total	27
400 Chesley Dr, - Ocean Steel & Construction - SJEnergy - Flo		1
57 Union St, SJEnergy - Flo		1
65 Carleton St, Peel Plaza Parking Garage - SJEnergy - Flo		1
183 Rothesay Ave, Brett Chevrolet Cadillac - SJEnergy - N3 Flo		1
1265 Loch Lomond Road, Loch Lomond Mitsubishi - No network		1
906 Grandview Ave, NBCC Saint John - No network		1
4241 Loch Lomond Rd, Saint John Airport - FLO Addenergy		1
· Rockwood Park	*Proposed W1*	1
· Uptown SJ	*Proposed W1*	1
· McAllister Mall	*Proposed W1*	1
· Lancaster Mall	*Proposed W1*	1
· Reversing Falls (stone hammer)	*Proposed W1*	1
· Cruise Ship Terminal (Water Street)	*Proposed W1*	1
· University / Hospital	*Proposed W1*	1
· Tucker Park (by UNB and Hospital)	*Proposed W1*	1
· Irving Nature Park	*Proposed W1*	1
· Tourism Info Building	*Proposed W1*	1
· Commercial Drive (East mall)	*Proposed W1*	1
· Lansdowne Plaza	*Proposed W1*	1
· Main Street North, and Main Street West, and Waterloo Area (for developm	*Proposed W1*	1
· Harbour Station	*Proposed W1*	1
· Port	*Proposed W1*	1
· Seniors Home	*Proposed W1*	1
· Refinery / East Industrial Park	*Proposed W1*	1
· Dominion Park	*Proposed W1*	1
· Shamrock Park	*Proposed W1*	1
· Little River Reservoir	*Proposed W1*	1

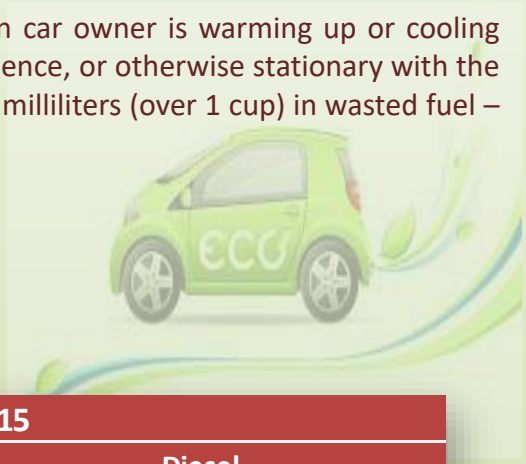
D. PROJECT PORTFOLIO

10. Transportation - Idle-free Policy

(Project #: T2)

Idling refers to running a vehicle's engine when the vehicle is not in motion. Idling occurs when car owner is warming up or cooling down a vehicle, drivers are stopped at a red light, waiting while parked outside a business or residence, or otherwise stationary with the engine running. For the average vehicle with a 3-litre engine, every 10 minutes of idling costs 300 milliliters (over 1 cup) in wasted fuel – and one half of a liter (over 2 cups) if your vehicle has a 5-liters engine.

For a successful anti-idling campaign includes
- the adoption of a speed reduction regulation
- carrying out an awareness-raising campaign
- the acquisition and installation of permanent signs



	Idle-free Policy	Base year : 2015 Gasoline		Diesel	
1	Number of units	52 593		3 701	
2	Fuel consumption	68 613 182	liters	32 599 587	liters
4	GHG emissions	167 384	eCO_2 (t)	87 479	eCO_2 (t)
5	Average fuel wasted idling	5 654 799	liters	829 024	liters
6	Average fuel economy	8,2%		2,5%	
7	GHG emissions reduction	13 795	eCO2 (t)	2 225	eCO2 (t)
9	**Total GHG Emissions reduction**		**16 019,68**	**eCO2 (t)**	

D. PROJECT PORTFOLIO

11. Transportation - Fuel-efficient driving

(Project #: T3)

Driving can significantly influence fuel consumption. We assume in this project that community drivers, through incentives, promotional campaigns and economic reasons, will gradually integrate these principles of effective behaviour.

According to Natural resources Canada, Adopting these five fuel-efficient driving techniques can reduce fuel consumption and carbon dioxide emissions by as much as 20 percent (20%):

1. Accelerate gently
2. Maintain a steady speed
3. Anticipate traffic
4. Avoid high speeds
5. Coast to decelerate

Fuel-efficient driving	Base year : 2015	
1 Community transportation emissions	256 393	eCO_2 (t)
2 Total community emissions	653 152	eCO_2 (t)
3 Number of targeted units	5 466	
4 Reduction of GHG emissions (tonnes and %)	**4 859**	**0,74%**

VI. The Plan

D. Project Portfolio

12. Transportation - Compact vehicles

(Project #: T4)

The community vehicle fleet is becoming more fuel-efficient and fuel-efficient, consuming about 20% less fuel. Change is achieved through targeted incentives, public awareness, a gradual change in transportation patterns, or the availability of more attractive business models.

More efficient & compact vehicles		Base year : 2015	
1	Community transportation emissions	256 393	eCO_2 (t)
2	Total community emissions	653 152	eCO_2 (t)
3	Number of targeted units	2568	
4	**Reduction of GHG emissions (tonnes and %)**	**1631**	**0,25%**

D. PROJECT PORTFOLIO

13. Renewable Energy Production – District Energy System

(Project #: RE1)

The City of Saint John aims to take leadership in terms of sustainable energy by implementing and managing sustainable energy policies and measures, with the goal of reducing green house gas emissions, reducing energy costs, and improving the efficiency of the City's infrastructure.

The City of Saint John isn't focused solely on operations. The policies and measures are also intended to affect the wider community. For instance, Brunswick Square, St. Joseph's Hospital and other public buildings will be part of the district energy project, which takes thermal energy that's a by-product of industry and turns it into an efficient way to heat buildings.

	Base year: 2015	Target Year				TOTAL
	District Energy System	2025	2030	2035	3040	2025-2040
1	Total Energy saved (Gj)	52 988	96 198	61 755	230 000	440 941
2	**Total GHG reductions (t eCO2)**	**3 454**	**4 747**	**3 250**	**11 349**	**22 800**
3	Total GHG reductions per floor area (t eCO2/Sq.Ft)	0,004	0,003	0,003	0,006	0,004

VII. APPENDIX

Partners for Climate Protection program (PCP) - Method

PARTNERS FOR CLIMATE PROTECTION PROGRAM (PCP) - METHOD

UMNB CCEI allows participating municipalities to complete the first 3 steps of the Partners for Climate Protection (PCP) program. Steps 4 and 5 consist of the implementation of action plans and the monitoring and reporting of results.

MILESTONE 1 CREATING A GREENHOUSE GAS EMISSIONS INVENTORY AND FORECAST

A greenhouse gas inventory brings together data on community and municipal energy use and solid waste generation in order to estimate greenhouse gas (GHG) emissions in a given year. The forecast projects future emissions based on assumptions about population, economic growth and fuel mix.

MILESTONE 2 SETTING AN EMISSIONS REDUCTIONS TARGET

An emissions reduction target can be established at any time. The target is normally set, however, following the development of an emissions inventory and forecast or after the quantification of existing emissions reduction measures.

MILESTONE 3 DEVELOPING A LOCAL ACTION PLAN

A Local Action Plan (LAP) is a strategic document that outlines how your municipality will achieve its greenhouse gas (GHG) emissions reduction target. The LAP covers municipal operations and the community.

COMMON COUNCIL REPORT

M&C No.	2021-286
Report Date	October 27, 2021
Meeting Date	November 01, 2021
Service Area	Utilities and Infrastructure Services

Her Worship Mayor Donna Noade Reardon and Members of Common Council

SUBJECT: **City of Saint John Race to Zero Pledge**

AUTHORIZATION

Primary Author	Commissioner/Dept. Head	City Manager
Samir Yammine	***J. Brent McGovern***	***John Collin***

RECOMMENDATION

It is Recommended that Council direct the Mayor to sign on to the Cities Race to Zero pledge attached at Appendix A.

EXECUTIVE SUMMARY

The purpose of this report is for the City to join the Race to Net Zero in response to Council Motion on September 20, 2021: "RESOLVED that the matter Cities Race to Zero be referred to the City Manager for a staff review with a timeline of the end of October, if possible".

The pledge to join the Cities Race to Zero clearly compliments and aligns with work already planned and it also aligns well with Council's newly adopted priority for Green – valuing the environment. More specifically, this recommended action in accordance with Council's Priorities demonstrates environmental stewardship and leadership by protecting our natural environment, it also aligns with the City of Saint John Climate Change Action Plan, Plan SJ, the Asset Management Policy and Move SJ.

By joining the Race to Zero, the City of Saint John will be the first City in New Brunswick to make this pledge. See Appendix C for a list of Canadian Cities who have joined the Race to Zero.

PREVIOUS RESOLUTION

1- M&C 2019-107- City of Saint John Climate Change Action Plan
2- M&C 2020-271- City of Saint John Climate Change Adaptation Plan

3- M&C 2018-068 Update the City of Saint John Asset Management Policy to integrate climate change into decision-making about infrastructure assets, such as roads, buildings, and water and wastewater systems.

REPORT

Background

Over the years, the City of Saint John has been a leader in climate change and has taken significant action to address demands on energy infrastructure, reduce greenhouse gas emissions, ensure community infrastructure is resilient to climate events, and support sustainability efforts through active transportation, waste reduction, transit, green infrastructure, and the care of local green spaces. The City has become a recognized leader across the country for environmental leadership and community collaboration and has won several regional and national environmental and energy awards.

Additionally, the City is working closely with Saint John Energy and private businesses and companies to advance clean energy projects such as: Burchill Wind Project (42 MW) and District Energy System (DES). The City is also for example implementing a Municipal Deep Energy Retrofit Program, developing a Public Transit and Fleet Low Carbon Migration Strategy, implementing a Climate Adaptation Plan and working with Saint John Energy on residential home energy retrofit programs.

The Cities Race to Zero pledge compliments and aligns with the City of Saint John Climate Change action plan.

Cities Race to Zero pledge principles

By joining the Cities Race to Zero, the City is pledged to do the following:

1. Publicly endorse the following Principles:
    a) We recognize the global climate emergency.
    b) We are committed to keeping global heating below the 1.5°Celsius goal of the Paris Agreement.
    c) We are committed to putting inclusive climate action at the centre of all
        a. urban decision-making, to create thriving and equitable communities for everyone.
    d) We invite our partners – political leaders, CEOs, trade unions, investors, and civil society – to join us in recognizing the global climate emergency and help us deliver on science-based action to overcome it.

2. Pledge to reach net-zero in the 2040s or sooner, or by mid-century at the latest, in line with global efforts to limit warming to 1.5°Celsius.

3. Set an interim target to achieve in the next decade, which reflects a fair share of the 50% global reduction in CO2 by 2030 identified in the IPCC Special Report on Global Warming of 1.5°Celsius.

4. Immediately proceed to planning at least one inclusive and equitable climate action as listed on www.citiesracetozero.org that will help to place your city on a resilient pathway consistent with the 1.5°Celsius objective of the Paris Agreement and begin implementation no later than 2022.

5. Report progress annually, beginning no later than 2022, to your usual or the recommended reporting platform.

Analysis

As of October 18, 2021, there are 21 Cities who have joined the Race to Zero (See Appendix C for list of Cities)

Additionally, FCM's Big City Mayors Caucus released a statement (See Appendix B) declaring support for the Cities Race to Zero and urging all Canadian Cities to join.

City staff have reviewed various documents related to the Cities Race to Zero and have consulted with CDP (Carbon Disclosure Project – a global environmental non-profit working with over 800 cities from around the world to advance this initiative) and other municipalities that have joined this race.

City staff have found that the pledge “Race to Zero” aligns with work already planned within the Council Priorities to demonstrate environmental stewardship and leadership and with the City Climate Change Action Plan objectives.

See Appendix D, for more detailed analysis and evaluation of the individual pledge along with the action required to meet this pledge.

STRATEGIC ALIGNMENT

The Cities Race to Zero pledge is clearly aligned with work already planned and with Council Priorities, policies, and plans, namely: the Green Council priority, the City of Saint John Climate Change Action Plan, Plan SJ, Asset Management Policy and Move SJ.

SERVICE AND FINANCIAL OUTCOMES

The proposed pledge will not result in any significant additional resources. This pledge is aligned with the City existing climate change plan, asset management policy, Plan SJ, active transportation plan, etc. and will result in significant short and long term environmental, social, and economic benefits to the City and community at large. City staff will continue working closely with the various utilities, private sectors, community stakeholders, various levels of government

and government agencies to identify energy opportunities and external sources of funding to ensure the community and City's infrastructure are resilient to climate change and aligned with the federal and provincial policies and goals to reduce GHG emissions.

INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS

City staff have reviewed various documents related to the Cities Race to Zero and have consulted with CDP (Carbon Disclosure Project - global environmental non-profit working with over 800 cities from around the world to advance this initiative) and other municipalities that have joined this race. Staff have found that the pledge "Race to Zero" is aligned with the Council Priorities and with the City Climate Change Action Plan objectives.

Additionally, Saint John Energy's leadership have reviewed the report prepared by City Staff and are supportive of the recommendation as it aligns with SJE's vision to be a utility leader supporting the transition to net zero.

ATTACHMENTS

Appendix A - Pledge Form
Appendix B - FCM's Big City Mayors Caucus statement
Appendix C - List of Cities who have joined the Race to Zero
Appendix D - Evaluation/Analysis of the Pledge

BY-LAW NUMBER C.P. 106-20
A LAW TO AMEND THE MUNICIPAL PLAN BY-LAW

Be it enacted by The City of Saint John in Common Council convened, as follows:

The Municipal Plan By-law of The City of Saint John enacted on the 30th day of January, A.D. 2012 is amended by:

1) Deleting a portion of Section 7.8 Energy Efficiency and replacing it with the following:

   "Policy NE-38

   Explore and encourage the development and use of alternative energy sources, such as solar, wind, geothermal, biomass, and energy recovery. Wind and solar energy developments shall occur in the Green Energy zone."

2) Deleting a portion of Section 2.4 The Rural Areas and replacing it with the following:

   "Lands outside the Primary Development Area are generally described as Rural Areas and are not provided with municipal water and wastewater services. The Rural Areas will support limited growth and development which will be carefully controlled through Municipal Plan policy in order to encourage most development to take place within the Primary Development Area. Rural Areas include three sub-categories described as Rural Resource Areas.

   Rural Resource Areas are primarily undeveloped lands with the potential for rural resource activity such as pits and quarries, forestry uses, and alternative energy development, such as wind and solar. New resource uses may be permitted in Rural Resource Areas provided the proposal meets the criteria outlined in the Land Use Chapter of the Municipal Plan, and relevant provisions of the Zoning Bylaw."

ARRÊTÉ N° C.P. 106-20
ARRÊTÉ MODIFIANT L'ARRÊTÉ RELATIF AU PLAN MUNICIPAL

Le conseil communal de The City of Saint John, étant réuni, édicte ce qui suit :

L'Arrêté concernant le plan municipal de The City of Saint John, édicté le 30 janvier 2012, est ainsi modifié :

1) Le Plan municipal est modifié par suppression, à la section 7.8 Efficacité énergétique, de la politique NE-38 et son remplacement par ce qui suit :

   « Politique NE-38

   Étudier et encourager le développement et l'utilisation de sources d'énergie de remplacement telles que l'énergie solaire, éolienne, géothermique, de biomasse, et la récupération d'énergie. Les parcs éoliens et solaires seront aménagés dans la zone d'énergie verte. »

2) Le Plan municipal est modifié par suppression d'une partie de la section 2.4 Secteurs ruraux et son remplacement par ce qui suit :

   « Les terrains situés hors du principal secteur de développement sont généralement considérés comme des secteurs ruraux et ne reçoivent pas les services municipaux d'alimentation en eau et d'évacuation des eaux usées. Les secteurs ruraux accueilleront une croissance et un développement limités, qui seront soigneusement contrôlés grâce à des politiques du plan municipal qui encourageront la majeure partie du développement à se diriger vers le principal secteur de développement. Les secteurs ruraux comprennent trois sous-catégories appelées secteurs de ressources rurales.

   Les **secteurs de ressources rurales** sont surtout des terrains non aménagés qui peuvent se prêter

3) Deleting a portion of Section 2.5 Lands Common to the Primary Development Area and the Rural Areas and replacing it with the following:

"The Parks and Natural Areas and the Federal Transportation categories apply to lands within the PDA and to the Rural Areas.

Parks and Natural Areas are currently in a primarily natural state or would benefit from re-naturalization and are not generally appropriate locations for development. Park and Natural Areas include wooded lands, lake shores, rivers, coastlines, and important geology and habitat.
Through specific policies in Chapters 3 and 7, such as the provision of wildlife corridors, protection of environmentally sensitive/significant areas, and guidelines for watersheds, riparian, coastal and estuarine areas, the lands are intended to form a system of natural areas to conserve ecosystems. Due to the large provision of Park and Natural Areas in largely inaccessible areas of the city, green energy developments, as defined within the City's Zoning By-law, are appropriate, subject to required municipal, provincial, and federal approvals."

4) Deleting a portion of Section 3.6.1. Rural Resource Area and replacing it with the following:

"The majority of lands within the City's Rural Areas are located in the Rural Resource Area designation. These lands are intended to facilitate resource related activities, where appropriate, such as forestry operations, wind and solar energy development, agriculture, fisheries, and extraction activities, including pits and quarries. Limited residential and other land uses may be contemplated."

Policy LU-95

Create the Rural Resource Area designation on the Future Land Use map (Schedule B). Council

à une exploitation de ressources rurales comme les carrières et ballastières, les utilisations forestières et le développement des énergies de remplacement, telles que l'énergie éolienne et solaire. De nouvelles utilisations liées à l'exploitation de ressources peuvent être autorisées dans les secteurs de ressources rurales, pourvu que la proposition satisfasse aux critères formulés dans le chapitre sur l'utilisation des sols du plan municipal et les dispositions pertinentes de l'arrêté de zonage. »

3) Le Plan municipal est modifié par suppression d'une partie de la section 2.5 Terrains communs au principal secteur de développement et aux secteurs ruraux et son remplacement par ce qui suit :

« Les catégories des parcs et aires naturelles et des secteurs de transport fédéral s'appliquent aux terrains dans le principal secteur de développement aussi bien qu'à ceux des secteurs ruraux.

Les **parcs et aires naturelles** sont actuellement dans un état essentiellement naturel ou bénéficieraient d'une renaturalisation et ne sont généralement pas des endroits propices au développement. Les parcs et aires naturelles comprennent des terrains boisés, des rives de lacs, des rivières, des côtes ainsi que des sites géologiques et des habitats importants. Grâce à des politiques particulières énoncées aux chapitres 3 et 7, notamment l'aménagement de corridors fauniques, la protection de secteurs écosensibles ou écologiquement importants et des directives concernant les bassins hydrographiques et les zones riveraines, côtières et estuariennes, il est prévu que ces terrains formeront un système d'aires naturelles afin de conserver les écosystèmes. En raison de la grande quantité de parcs et aires naturelles dans des secteurs de la municipalité qui sont, en grande partie, inaccessibles, les aménagements d'énergie verte, au sens de ce terme défini dans

intends that land within the Rural Resource Area designation shall generally remain in their natural state, or subject to regulation and required approvals, be used for appropriate resource uses, including forestry operations, wind and solar energy development, agriculture uses, including livestock operations and the fishery, and extraction activities, including pits and quarries.

Provide that wind and solar energy developments may be located in the Rural Resource Area designation provided that the land is rezoned to the Green Energy zone. The Green Energy zone defines the specific performance standards for their operation, and the rehabilitation of operative and inoperative wind and solar energy developments. In considering applications to rezone a property to the Green Energy Zone, Council shall ensure the proposed use can demonstrate compliance with the following:

a) The proposal is in conformity with the goals, policies and intent of the Municipal Plan;
b) Compatibility with and/or minimal impact on existing adjacent land uses;
c) Submission of measures to mitigate storm water drainage, noise, and other impacts.
d) Where appropriate, the provision of visual screening for solar energy developments;
e) Shall not be located within municipally owned Parks including, but not limited to Rockwood Park;
f) All application policies from Section I-2

l'arrêté de zonage de la municipalité, seront permis, sous réserve des approbations municipales, provinciales et fédérales requises. »

4) Le Plan municipal est modifié par suppression d'une partie de la sous-section 3.6.1 Secteur de ressources rurales et son remplacement par ce qui suit :

« La plupart des terrains dans les secteurs ruraux de la municipalité se trouvent à des endroits désignés comme secteurs de ressources rurales. Leur raison d'être est de faciliter, aux endroits appropriés, les activités liées aux ressources, par exemple les opérations forestières, les parcs éoliens et solaires, l'agriculture, la pêche et les activités d'extraction, y compris les carrières et les ballastières. Des utilisations résidentielles limitées et d'autres utilisations des sols pourront être envisagées. »

Politique LU-95

Établir la désignation de secteur de ressources rurales sur la carte d'utilisation future des sols (annexe B). L'intention du conseil est que les terrains ayant la désignation de secteur de ressources rurales demeurent généralement à leur état naturel ou que, sous réserve des règlements et des approbations requises, elles servent à des utilisations appropriées liées aux ressources, y compris les opérations forestières, les parcs éoliens et solaires, des utilisations agricoles – y compris les fermes d'élevage – et la pêche, et des activités d'extraction – y compris les carrières et les ballastières.

Prévoir que les parcs éoliens et solaires peuvent être exploités dans la désignation de secteur de ressources rurales, pourvu que les terrains soient rezonés zone d'énergie verte. La zone d'énergie verte prescrit les normes spécifiques de rendement de leur exploitation et la remise en état des parcs éoliens et solaires exploités ou non. Lorsqu'il étudie les demandes visant à rezoner une propriété en zone d'énergie verte,

5) Deleting a portion of Section 3.7.1. Parks and Natural Areas and replacing it with the following:

"Policy LU-110

Create the Park and Natural Areas designation on the Future Land Use map (Schedule B). Council intends that the Park and Natural Areas designation will permit a range of conservation and appropriate recreational land uses permitted in the City's major regional and community parks, environmentally sensitive or significant areas, lands that are located adjacent to watercourses, lands adjacent to the City's coast lines, estuarine areas, significant archaeological and geological sites, historic sites, designated heritage places and cemeteries. Council may permit commercial recreation uses in the Park and Natural Area designation subject to appropriate standards in the Zoning Bylaw. Council may permit wind and solar energy development in the Park and Natural Areas designation outside of the Primary Development Area, subject to federal and provincial environmental approvals and conditions and standards in the Zoning By-law.

When reviewing an application for re-zoning, refer back to Policy LU-95"

6) Adding the following as Policy LU-80.2 immediately following Policy LU-80.1:

"Policy LU-80.2

Heavy Industrial lands along King William Road may be considered for Green Energy Development subject to criteria outlined in Section I-2 and 3.6.1"

le conseil s'assurera qu'il pourra être démontré que l'utilisation proposée respecte ce qui suit :

a) la proposition est conforme aux objectifs, aux politiques et à l'intention du plan municipal;
b) la compatibilité avec les utilisations actuelles des sols adjacents et une incidence minimale sur celles-ci;
c) la présentation de mesures visant à atténuer les effets, notamment au niveau du drainage des eaux pluviales et du bruit;
d) là où ils conviennent, la présence d'écrans visuels pour dissimuler les parcs solaires;
e) elle n'est pas située à l'intérieur d'un parc municipal, y compris notamment le parc Rockwood;
f) l'ensemble des mesures de mise en œuvre prévues à la politique I-2. »

5) Le Plan municipal est modifié par suppression de la politique LU-110 à la sous-section 3.7.1 Désignations communes d'utilisation des sols et son remplacement par ce qui suit :

« Politique LU-110

Établir la désignation de parcs et aires naturelles sur la carte d'utilisation future des sols (annexe B). L'intention du conseil est que la désignation de parcs et aires naturelles permette diverses utilisations des sols à des fins de conservation et de loisirs appropriées qui sont permises dans les grands parcs régionaux et communautaires de la municipalité, les zones écosensibles ou écologiquement importantes, les terrains en bordure des cours d'eau, les terres côtières de la municipalité, les terrains estuariens, les sites archéologiques et géologiques importants, les lieux d'intérêt historique, les lieux du patrimoine désignés et les cimetières. Le conseil peut permettre des utilisations commerciales récréatives dans les

secteurs désignés comme parcs et aires naturelles, sous réserve de l'adoption de normes appropriées dans l'arrêté de zonage. Il peut aussi permettre l'aménagement de parcs éoliens et solaires dans les secteurs désignés comme parcs et aires naturelles qui se trouvent à l'extérieur du principal secteur de développement, sous réserve de l'obtention des autorisations environnementales fédérales et provinciales et de la conformité aux conditions et aux normes prescrites par l'arrêté de zonage.

Au moment de l'examen d'une demande de rezonage, se reporter à la politique LU-95.

6) Le Plan municipal est modifié par insertion, immédiatement après la politique LU-80.1, de la politique LU-80.2 qui suit :

« Politique LU-80.2

Les terrains situés dans le *secteur d'industries lourdes* longeant le chemin King William peuvent être considérés en vue d'aménagements d'énergie verte, sous réserve des critères énoncés à la section I-2 et la sous-section 3.6.1. »

- all as shown on the plans attached hereto and forming part of this by-law.

- toutes les modifications sont indiquées sur les plans ci-joints qui font partie du présent arrêté.

IN WITNESS WHEREOF The City of Saint John has caused the Corporate Common Seal of the said City to be affixed to this by-law the **** day of ****, A.D. 2019 and signed by:

EN FOI DE QUOI, The City of Saint John a fait apposer son sceau communal sur le présent arrêté le ** **** 2019, avec les signatures suivantes :

_____

Mayor/Maire

_____

Common Clerk/Greffier communal

First Reading	- October 7, 2019	Première lecture	- le 7 octobre 2019
Second Reading	- October 7, 2019	Deuxième lecture	- le 7 octobre 2019
Third Reading	-	Troisième lecture	-

GROW

We value smart growth.

We enable population and business growth by focusing on key infrastructure investments, strategic communications, service delivery, and partnerships to achieve growth initiatives that align with the principles of smart growth in PlanSJ.

Outcomes & Objectives

Population Growth

- Grow our population at a rate of 2% annually by the end of Council's term.
- Develop, embrace, and reinforce a strong brand for Saint John.

Economic Growth

- Achieve 3% annual property tax base growth and on-going work to increase the target.
- Work with partners to create opportunities to attract and grow businesses including development of the waterfront and industrial parks.

GREEN

We value the environment.

We encourage sustainable growth by continuing green practices and investing in climate adaptation initiatives with the implementation of the City of Saint John Corporate and Community GHG & Energy Action Plans.

Outcomes & Objectives

Environmental Stewardship

- Demonstrate environmental stewardship and leadership by protecting our natural environment; adapting and mitigating the risks on city infrastructure associated with climate change.
- Implement climate change plans to reduce green house gas emissions.
- Align emerging trends and best practises to improve our response to climate change.

BELONG

We value a welcoming community.

We enhance the quality of life and social well-being in a safe place to live; offering recreation, arts, and cultural opportunities that align with PlanSJ, PlaySJ and other related plans.

Outcomes & Objectives

Livable Neighbourhoods

- Strengthen neighbourhood groups that offer programming to the community.
- Improve quality of life with targeted long-term neighbourhood planning.
- Facilitate a mix of affordable housing in all of our neighbourhoods.

Vibrant City

- Cultivate community pride and unity by promoting beautification, arts, culture, and heritage.
- Foster diversity and inclusion.
- Maintain regional and district parks and enhance Dominion Park.
- Improve recreation programming, facilities and infrastructure.

MOVE

We value sustainable transportation choices.

We offer safe, accessible travel options for the movement of people and goods through trails, paths, sidewalks, and roads that align with MoveSJ and related plans.

Outcomes & Objectives

Transportation & Mobility

- Connect neighbourhoods with safe, accessible, and integrated transportation options.
- Achieve a balance among transportation choices that meet community needs.
- Create a modern transit service based on data, innovation, and best practices.

PERFORM

We value the best use of our resources.

We ensure the City is accountable for results in delivering public service by adhering to its plans, policies, procedures, and best practices.

Outcomes & Objectives

Financial Health

- Ensure accountable and transparent financial management that adheres to the Long-Term Financial Plan.
- Leverage viable opportunities to generate alternate sources of revenue.

Transparent & Accountable

- Establish a performance management program to achieve results and drive continuous improvement.
- Enhance the business models, outcomes, and reporting of the City's agencies, boards, and commissions.

Core Service Delivery

- Enhance the customer service experience and response including the timely and consistent communication on service expectations.
- Explore opportunities for cost-sharing and working together in the region to efficiently deliver public service.

FINAL REPORT:

Recommendations for City of Saint John Corporate and Community GHG and Energy Action Plan Implementation and Monitoring

Submitted to: City of Saint John. February 2020

Submitted by:

QUEST

"Your Environmental Trust Fund at Work"

Acknowledgments

Lead Authors

Eddie Oldfield of QUEST

The preparation of this report was carried out with support from the City of Saint John, thanks to funding assistance from the NB Environmental Trust Fund. Notwithstanding this support, the views expressed are the personal views of the authors, and the Government of New Brunswick accepts no responsibility for them.

About QUEST

QUEST is a national non-government organization that works to accelerate the adoption of efficient and integrated community-scale energy systems in Canada by informing, inspiring, and connecting decision-makers. The organization commissions research, communicates best practices, convenes government, utility, and private-sector leaders, and works directly with local authorities to implement on-the-ground solutions. QUEST recognizes communities that have embraced these principles by referring to them as Smart Energy Communities. Visit us at www.questcanada.org.

TABLE OF CONTENTS

Executive Summary **4**

Background 4

What this Report Covers 5

Who Participated in the Workshop 5

Key Recommendations / Outcomes 5

Potential Next Steps 10

1.0 Governance **12**

1.1 Introduction 12

1.2 Oversight and Coordination 12

1.3 Committee Structure 14

1.3.1 Internal Committee(s) 14

1.3.2 External Stakeholder Advisory Committee 16

1.4 Communications Governance 18

1.5 Data Governance 19

2.0 Data and Key Performance Indicators **19**

2.1 Introduction 19

2.2 Key Tools 20

2.3 Key Data 21

2.3.1 For Updating GHG Inventories 21

2.3.2 For Monitoring Progress on CEP Implementation: 22

2.3.3 for Energy Mapping 22

2.4 Key Performance Indicators 24

2.5 Quality Control Measures 29

3.0 Communications and Engagement **30**

3.1 Introduction 30

3.2 Public Engagement and Communications 30

3.3 Stakeholder Engagement 33

4.0 CEP Actions - Implementation Strategies **38**

5.0 Conclusion **39**

6.0 ANNEXES **40**

Executive Summary

Background

The City of Saint John's location on the Bay of Fundy, the St. John River, and the Kennebecasis River makes the community particularly susceptible to the effects of climate change and rising water levels. Additionally, the rising cost of energy and its impact on the City operating budget and community at large, along with the commitment to reduce GHG emissions, has prompted many municipalities across Canada, including the City of Saint John, to take the necessary actions to adapt to climate change impacts and to reduce GHG emissions associated with energy use. The City of Saint John and SJ Energy also aim to be energy self-sufficient.

The City of Saint John developed a corporate and community GHG inventory, as well as a Corporate and Community Energy Plan, as part of the UMNB Climate Change and Energy Initiative in 2017-2018. These are part of the Climate Change Action Plan adopted in City Council on May 6, 2019, enabling the City of Saint John to achieve the first three milestones of the Federation of Canadian Municipalities and ICLEI's Partners for Climate Protection Program.

The Community Energy Plan identifies ways to reduce GHG emissions and support the local economy, increase competitiveness, create jobs, improve energy efficiency, and keep energy dollars local. The Community Energy Plan contains seventeen 17 projects whose potential reductions are estimated at 60 269 tons of CO^2 equivalent, by 2025 (or a 9% reduction in community GHG emissions below 2015 levels). Further targets include an 18% reduction in the community, by 2035, and a corporate target of achieving carbon neutral by 2040. As per Council Report (M&C No. 2019-107), the implementation of the proposed energy saving measures can result in over $44 Million annual savings, a carbon saving of $2.8M (Assuming $50/tonne), and divert over $1B over 25 years into the local economy.

In the short term, this includes obtaining at least 6% of energy from renewable sources by 2025 (including 20 MW to 40 MW wind farm and community solar), improving energy efficiency and fuel switching in the residential and commercial building stock, energy conservation initiatives (e.g. clothesline program), improving active transport, fuel efficient driving, and uptake of electric vehicles and charging stations, and expanding district energy system using industrial waste energy and geothermal sources.

At the same time as adopting the Plan, Council adopted a resolution to develop a governance structure and implementation strategy. The community context needed to be incorporated into the development of a governance structure, communications and stakeholder engagement strategy, key performance indicator framework, and the prioritization and implementation of actions within the plan.

The City of Saint John and QUEST engaged community stakeholders to help develop a governance strategy for implementing community-side actions to achieve local environmental and economic benefits. This report summarizes recommendations and workshop results.

What this Report Covers

The City of Saint John, in partnership with QUEST, hosted a Community Energy Plan Implementation workshop on February 6, 2020, with funding from NB Environmental Trust Fund. The workshop engaged local stakeholders and municipal staff, to help establish a governance framework for implementing the Community Energy Plan (CEP), as well as strengthened collaboration between community partners for implementation, building awareness, and contributing to key performance indicators.

The workshop included an overview of the Community Energy Plan and an overview of the results from the Getting to Implementation assessment conducted by QUEST in 2019. QUEST then shared recommended strategies for governance, implementation, communications & stakeholder engagement, data gathering & monitoring progress (KPIs). Through four table top discussions, local stakeholders helped to inform, compare and select strategies presented below.

This report contains a summary of the workshop and table-top discussions, and preferred strategies are highlighted directly below, in 'Key Recommendations / Outcomes'.

Who Participated in the Workshop

Representatives of: City of Saint John, SJ Energy, NBCC, ACAP SJ, NB Department of Energy, SJRHF, Town of Quispamsis, Elias Management Group, Fundy Regional Service Commission, Liberty Utilities, Atlantica Centre for Energy, Citizen, NB Power, NB Department of Environment and Local Government, MCW, University of Guelph, University of New Brunswick, QUEST. Further stakeholders were engaged online, and as part of the original CEP development process.

See Annex 7 for a list of workshop participants. All participants agreed to be invited to a meeting of the external/stakeholder advisory committee, once established.

Key Recommendations / Outcomes

Governance *(See Section 1 for details from the workshop)*

Participants expressed support for a **Regional approach**. The actions in the Saint John CEP are similar to the actions in the CEPs of Grand-Bay Westfield, Rothesay, and Quispamsis (albeit different sized communities). This means that many of the Saint John CEP actions (e.g. anti-idling, residential and commercial energy efficiency retrofits, clean energy conversions, and promoting EV network) can be achieved more cost-effectively using a regional approach. Public outreach or communications activities can also be delivered with more consistency across the region.

It was recommended the City of Saint John could work with neighboring communities and Fundy Regional Service Commission, to **establish a Regional Coordinator position**. The Regional Coordinator would be responsible to ensure advancement of CEP actions, stakeholder engagement, data gathering for key performance indicators, support communications activities, and develop funding proposals. A sample job description, skills and credentials needed, are included in Annex 2.

To create a Regional Coordinator position, requires developing a budget proposal for 2021, which would be cost shared; an accountability framework to the member municipalities; and finalization of a Work Plan (which can be informed by this report).

Participants indicated there is a need to **maximize limited resources**, and that such a position might need funding. This can include: cost sharing between member municipalities, local energy utilities (SJ Energy and NB Power), and funding from NB Environmental Trust Fund and the Federation of Canadian Municipalities (e.g. staff grant, project funding). As a fall-back option (should a regional approach not be feasible), the City could hire a FT staff person and use savings from efficiency actions, to help cover costs. Possible funding options are included in Annex 4.

Participants also recommended to **establish an Internal Committee** (to meet monthly at first, then quarterly), and to **establish an External stakeholder advisory committee** (to meet quarterly or bi-annually). A template for **Terms of Reference** for internal and external committees are included in Annex 1.

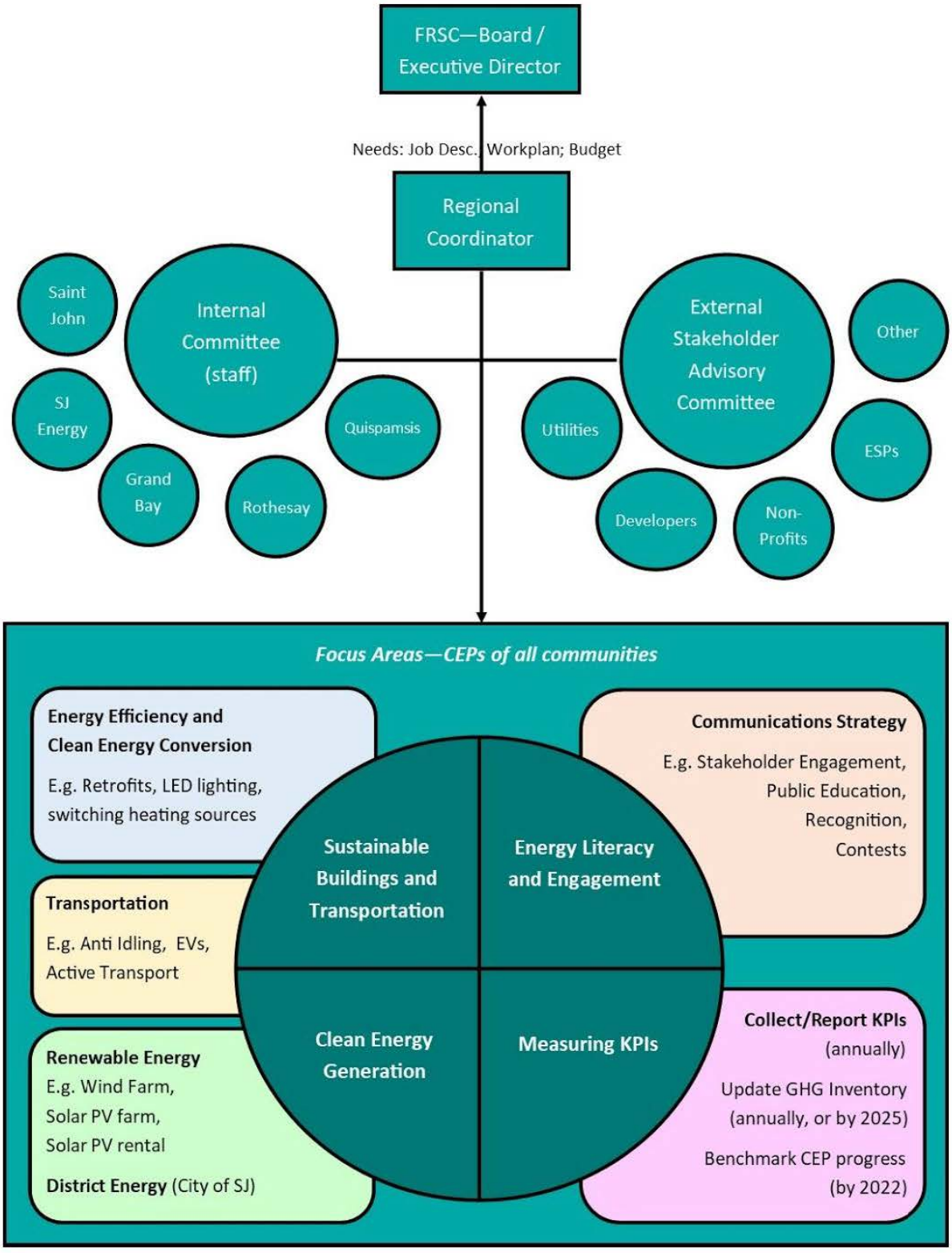
In brief, the Internal committee would focus on municipally-led actions (which can support both corporate and community-side GHG reduction initiatives), including to bring forward studies, pilots, projects, policies, and funding proposals, as well as collect data for measuring key performance indicators. It would involve municipal staff, neighboring municipal representatives, and council representation (if possible).

The External stakeholder advisory committee would focus on community-side actions, and involve a diverse range of stakeholders. The regional coordinator and co-chairs would interface between the committees, stakeholders, and member municipalities.

Participants indicated that each committee should **deal with both mitigation and adaptation initiatives,** but may need to form sub-working groups or clear agendas with optional components.

Based on the workshop results, the following chart illustrates a possible governance structure:

Figure 1: Potential Governance Structure



Data / Key Performance Indicators *(See Section 2 for details from the workshop)*

Participants recommended updating the GHG inventory annually or by target year 2025, as well as Benchmarking CEP Progress (annually, or by 2022), and updating energy maps to support planning and education (when possible). The data required is described in Section 2. This would be led by the Regional / CEP Coordinator, with support of both internal (staff) and external (stakeholder) committees, and key data providers.

Participants selected preferred **tools/methods** to be used, including:

- Create a data dictionary / registry of sources
- Meetings of Internal and External Committees (annual reporting)
- PCP Milestone Tool, and/or Spreadsheet, for updating GHG inventory
- QUEST Smart Energy Communities Benchmark tool
- Surveys and requests for information as needed
- And others.

Participants also identified/selected **Key Performance Indicators** across several categories, that should be collected annually in order to measure the impact and benefits of implementing the Community Energy plan. See Section 2 for a full list of KPIs and data sources. Some of the most important KPIs include:

- Total energy usage (residential, commercial, institutional, transport) for all fuels
- Amount spent on energy vs saved through efficiency programs
- Amount of GHG emissions reduced, change in total year over year
- Total MW of clean energy produced
- Local Success Stories
- And several others.

Communication *(See Section 3 for details from the workshop)*

Participants selected and prioritized methods for communicating with the public, and for engaging stakeholders in the community. These activities would be led by the Regional / CEP Coordinator, with support of municipal communications departments, and stakeholder advisory committee.

Some of the top methods for **public communication** include:

- New Webpage (regional) - see sample content in Annex
- Social Media (of all 4 municipalities) - see sample content in Annex
- Contests and Events
- Annual Progress Report
- Bill Inserts or Online (e.g. SJ Energy, SJ Water)

Some of the top methods for **stakeholder engagement** include:

- Email list-serve and teleconference with stakeholders
- External Stakeholder Advisory Committee meetings
- Workshops or Focus Groups
- Networking Events
- Ambassador Program

CEP action strategies *(See Section 4 for details from the workshop)*

QUEST prepared 20 draft strategies for implementing each of the CEP actions. For each action, participants determined a priority, cost level, lead responsible, partner actions, and preliminary strategy for implementation, and identified whether it needs a study, funding, or supporting policy. See Section 4, for prioritized actions. The Action Sheets are included as separate Annexes (individual PDF documents that can easily be shared).

In summary, the **high priority actions** are (to start by 2021):

- Encourage energy efficiency
- Encourage clean energy conversion
- Encourage active transportation
- Encourage anti-idling and fuel-efficient driving
- Introduce energy efficiency bundles/rental programs by SJ Energy
- Tesla battery storage in 2020.

Participants recommended to **study and/or pilot measures first** and **access funding** (e.g. via FCM Green Municipal Fund, NB Environmental Trust Fund) for implementing the actions as well as to support stakeholder engagement and communications activities.

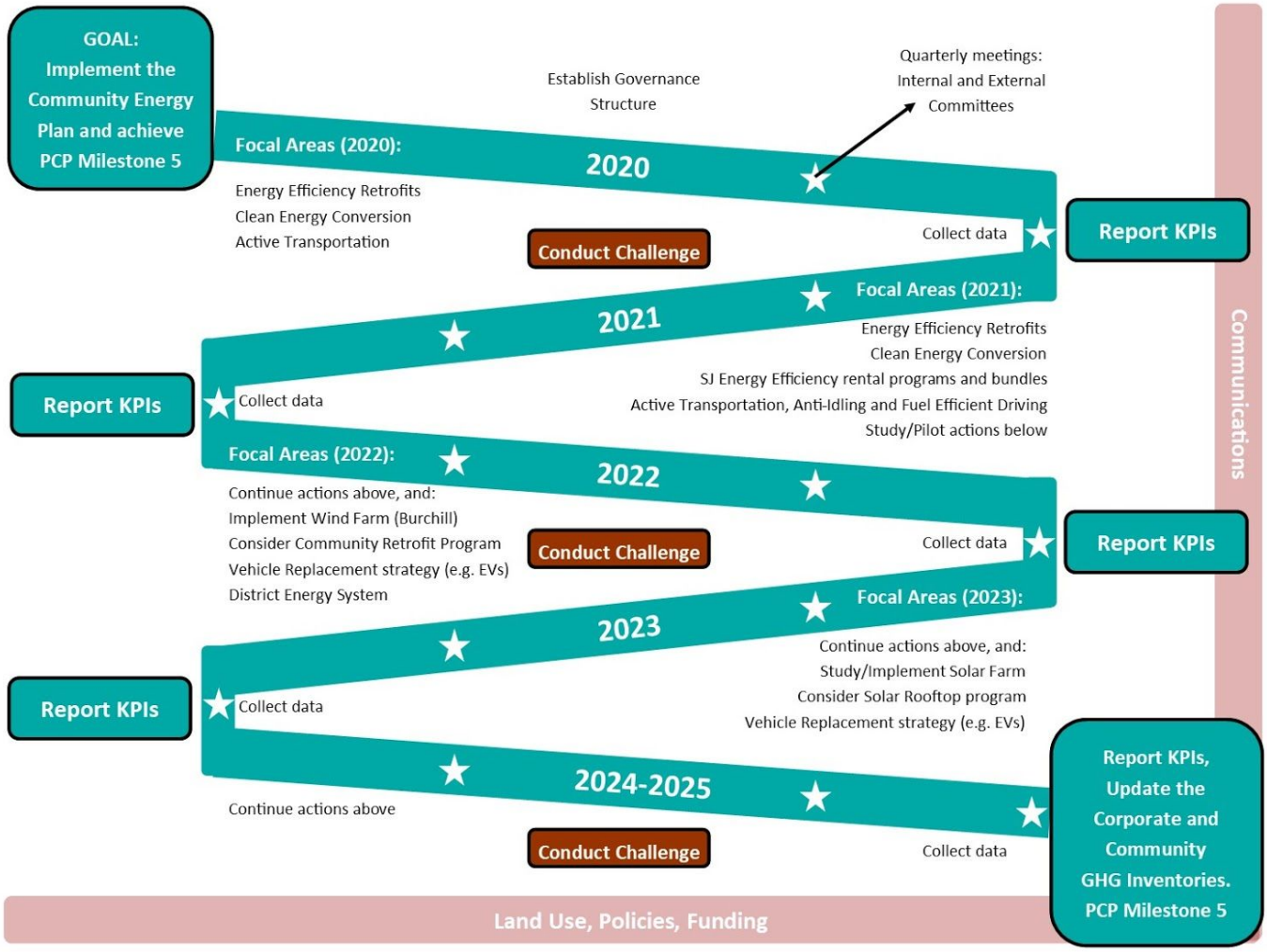
Participants identified the following **policies** that may be needed to support CEP actions:

- Extend corporate anti-idling policy, to commercial fleets, and specific zones in the community
- Adopt Building Codes - National Energy Code for Buildings, minimum energy performance standards, requirements to make new buildings solar-ready, connect to district energy (if in proximity), and get Energy Performance Rating upon sale of properties.
- Consider Land Use or Zoning amendments to encourage densification, enable clean energy production, as well as expand active transportation networks.
- See Actions sheets for other suggestions specific to each action.

It is recommended that the Internal Committee review, and present policy options to City Council. There are many other ways to embed the CEP in municipal processes, policies, and plan reviews. See Annex 3 for details on how to embed the CEP.

Based on the selection and prioritization of CEP actions, the following graph illustrates a possible roadmap for implementation:

Figure 2: Preliminary Roadmap for Implementation



Potential Next Steps

- Council to review and approve governance structure recommendations, and next steps.
- Examine potential for establishing regional coordinator, at Fundy Regional Services Commission, to support Saint John, Quispamsis, Rothesay, and Grand Bay-Westfield, to advance CEP Actions (e.g. public education, anti-idling, energy efficiency, etc). Through facilitating dialogue QUEST found this option has support in principle from the four municipalities, Fundy Regional Services Commission, SJ Energy, and others. See sample job description in the Annex.
- If the first option proves unfeasible, examine the potential to hire a dedicated city staff.
- Obtain funding (e.g. NB ETF, FCM GMF, SJ Energy, NB Power), for Coordinator position, convening committees, advancing CEP Actions, and communications / public education.

- Appoint Co-Chairs and form Internal and External Committees. See sample Terms of Reference in Annex. These committees will be responsible for coordination, advancing CEP actions, reporting on KPIs, applying for funding, and to support community outreach. Hold inaugural meetings of each committee, and schedule meetings (2020-2025).

- A budget can then be developed based on annual priorities / studies. Include requests into annual budgets and prepare funding proposals (e.g. to NB ETF or FCM GMF), where needed. Some actions require no capital investments, only small amounts of labor time (e.g. communications support), or outsourcing (e.g. design, marketing, studies, etc). Each of the Action Sheets in the Annex (one for each CEP Action) identifies it's priority, timeframe, and level of cost (e.g. none, low, medium, high).

- Launch studies or pilots, according to implementation timeline. Analyse outcomes, develop full-scale community-side projects or capital projects, based on financial/technical feasibility, where needed. Each of the Action Sheets (for each CEP Action) identifies whether a study or pilot is needed.

- Bring related policy decisions to council, as recommended by internal and external committees, or as identified within each Action Sheet. Policy Decisions rest with Council.

- Align with programs offered by SJ Energy, NB Power, FCM, Federal and Provincial Governments, whenever possible. These programs provide incentives for successful implementation of CEP related actions, including: energy efficiency, clean energy conversion, renewable energy, transportation, public education, and other related initiatives.

- Create Data Dictionary, ensure collection of data for Key Performance Indicators (KPIs) annually. Request stakeholders to provide data for measuring KPIs on an annual basis. See Section 2 for more details on collection methods and selected KPIs.

- Report to FCM for PCP Milestone 4 - include schedule of implementation, results of early actions, description of stakeholder engagement.

- Report to FCM for PCP Milestone 5 - once most actions in the CEP are implemented, GHG reduction targets achieved, and GHG inventories (corporate and community) updated.

- Report successes, impacts, and benefits to the community through annual report card. Conduct further outreach throughout the year, as needed in alignment with CEP actions and Adaptation plan.

1.0 Governance

1.1 Introduction

At the same time as adopting the Community Energy Plan, Council adopted a resolution to develop a governance structure and implementation strategy. Communities that have introduced new governance models to oversee and implement their plans have consistently proven that doing so will ensure that the CEP remains top-of-mind for elected officials, local government staff and community stakeholders. New governance models provide a platform for political, staff and community stakeholders to convene regularly. In some cases, they provide the legal framework needed to implement projects. This can ensure that a process is in place to monitor and report regularly on the implementation of the CEP.

The community context needed to be incorporated into the development of a governance structure for the implementation of the Saint John CEP, as well as the CEPs of neighboring municipalities. **Below are presented key governance options,** including for oversight and coordination, stakeholder engagement and communications, and data/monitoring key performance indicators. **Following this, is a summary of the discussion and options selected by participants during the workshop, February 6, 2020.**

1.2 Oversight and Coordination

The options discussed during the first tabletop session on February 6, include:

a) **Option 1:** The City can **assign an existing staff member,** e.g. corporate energy manager, to oversee *corporate* energy actions, as well as ensure that the *community* is leading by example by engaging stakeholders/coordinating taskforce, gathering data, reporting progress, ensuring good communication, and finding ways to ensure that energy and emissions are considered in all decisions. However, it may be challenging for one person to manage implementation of both the corporate and community energy plans.

b) **Option 2:** The City can **assign to another existing staff member** or **hire a new staff member** to oversee *community* energy actions, engaging stakeholders/coordinating taskforce, gathering data, reporting progress, ensuring good communication, and finding ways to ensure that energy and emissions are considered in all decisions. Embedding the CEP into job descriptions helps to keep a focus on implementation and makes sure it does not get overlooked. A staff person that sits at a management level is often well-suited to oversee CEP development and implementation. A manager remains equally as close to senior management/council as it does to staff and stakeholders working to implement the plan on the ground.

c) **Option 3: Regional / cost-shared resource:** collaborate with nearby communities such as Quispamsis and Grand Bay-Westfield, and regional service commission, about the possibilities of a shared staff person, which could also be partly funded by FCM. A sample job description and skills and credentials needed, are included in Annex 2.

d) **Option 4: Engage student / PT:** use funding from the NB Environmental Trust Fund or FCM (or municipal budget) to advance studies, surveys, projects within the CEP on an annual basis or as needed.

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
All have challenges, but need 1 person at a minimum to coordinate. Option A (existing staff member) may seem ideal, but there is a lot on everyone's plate, budget is a major challenge and there is a hiring freeze. Would be difficult to assign. Communities are looking for ways to work better regionally. Need a regional person Full Time for CEP advancement. If you don't start with a regional approach, it is hard to get that later. Could pilot regional approach for a year, and make adjustments if needed (second someone for a year. Need scope of work / detailed job description). Could cost share with neighboring communities, Fundy Service Commission, SJ Energy, local industry, and/or NB DELG. Could obtain funding in part from NB ETF or FCM. Could be funded in part through energy savings. Other Provinces (e.g. BC Hydro) have implemented similar cost-shared arrangements. Questions include: what is the cost share arrangement; who would they report to (e.g. Board + Member communities); where would they sit (e.g. City of Saint John). Needs accountability. This could include reporting to governing board, and to each member municipality (needs to be clear in work description). Need a champion dedicated to seeing the CEP implementation through within each municipality, but would also be ideal to have a municipalities work together to support plans. Saint John, Grand Bay-Westfield, Rothesay, and Quispamsis all have CEPs, that closely align. Plans, targets, and reporting can stay separate, but there should still be regional coordination (e.g. achieve regional efficiencies through delivery of common anti-idling strategy and other CEP actions, delivery of common communications strategy, and data gathering).	**1st choice:** Option **C/3** = Regional coordinator could focus on advancing CEP actions, support communications and stakeholder engagement to get community buy-in, coordinate with each municipality and each committee, and ensure reporting on KPIs. Regional Service Commission is well poised to provide capacity (hire / partial funding). **2nd choice:** Option B, but would need funding for new hire (executive or management level). Or, a University or College student could also be contracted for specific CEP actions, awareness campaigns, etc. However, relying on a student and ETF funding does not ensure continuity and oversight. Student may not have knowledge needed for coordinating CEP implementation. **Other notes:** Not preferred: Option A (assign to existing staff) It was noted that the Corporate Plan belongs within Engineering / Asset Management (where it is currently). However, the Community Plan should not be in Asset Management or Engineering, it should be in Community Planning and Growth (and should have a lead point of contact). **Next steps:** ● Approve governance structure: regional coordinator, internal and external committees. ● Establish Regional Coordinator position (develop budget, workplan, etc, and Seek approval of the Board of the Fundy Regional Service Commission). If this proves unfeasible, need plan B (hire staff). ● Appoint lead person in each community. ● Organize inaugural meetings of the committees (see below). ● Advance the priority actions for 2020 to 2025.

Peer mentorship is important. Reach out to other communities that have done this - e.g. Waterloo, Oakville, Guelph. [Editor's note: QUEST contacted Waterloo region following the workshop, to obtain insight into the regional approach and coordinator role.] Each community could have a lead staff person (PT), build into existing job descriptions. The lead staff could participate in the internal committee. They should also coordinate inter-departmentally (within each municipality), or form their own internal committees.	

1.3 Committee Structure

It is recommended to have separate internal and external (community-wide) governance committees. A committee would oversee the community-wide implementation of the CEP, identify issue-based short term actions, enable coordination and communication, support data gathering, and monitor/report on progress.

Participants discussed whether CEP objectives can be accomplished within existing committee structures or if a new structure should be introduced, and whether the committees should address both climate mitigation and adaptation or be done by separate committees. Below are presented the options for committee structure. Following this is a summary of the discussion and options selected by participants during the workshop, February 6, 2020.

1.3.1 Internal Committee(s)

CEPs cross many departmental boundaries and consequently require early and ongoing inter-departmental coordination and collaboration. Engagement should take place at the senior management and junior/intermediate staff level. Embedding the CEP into job descriptions helps to keep a focus on implementation and makes sure it does not get overlooked. An internal committee should have a Terms of Reference stating objectives, roles, responsibilities and key performance indicators to report on.

a) **Option 1: Create task force, council committee, or assign to existing committee**
Consider creating a Committee of Council, Mayor's Task Force, or assigning to existing committee, to oversee CEP implementation. A council-level committee or task force can be responsible for policy and structural decisions, and participants can act as community leaders for the CEP. Council members on the committee could act as a liaison between the committee and council by advocating for council adoption of recommendations, policies or bylaws, and ensure adequate staffing and other resources are available. Community stakeholders may be on the committee, Staff would attend meetings as a resource. Minutes would be reported to the City Council.

b) Option 2: And/Or, establish a Staff Committee:
Consider establishing a staff committee, including staff involved in the implementation of cross-sectoral actions in the CEP and/or liaising with the appropriate community stakeholders to manage implementation. These staff members should be responsible for gathering data, monitoring Key Performance Indicators, and providing technical support for the implementation of actions in the CEP including analysis, feasibility studies, data, stakeholder support, etc. It can include meetings of department managers/leads and/or inter-departmental staff meetings. The committee would be chaired by the lead coordinator/oversight person.

c) Option 3: Assign to existing Committee, for example: Finance Committee, Growth Committee?

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
Councils change, so a council committee might be exposed to risk (of not continuing). Should keep management separate from council, except for decisions needed on policy, bylaws, structure, or funding. Existing committees are already too busy. Can reach out to other committees when needed (Finance, Growth, etc). A staff committee creates additional time burden on staff. Want to avoid committees slowing down progress on actions. However, the issue <u>needs</u> its own committee. A staff committee would involve multiple departments, and report to council. A staff committee could have council representation. A staff committee could involve and receive reports from neighboring communities, municipally owned utilities, and the Fundy Service Commission. Should have regional inclusion and focus. Report to Council(s). Report on progress/achievements implementing CEP. Need Scope of Work and/or Terms of Reference. Could do subcommittees for specific projects. A pilot stage could be done as long as there is funding or is self-funded.	**1st Choice: Option B/2** = staff committee **Meet monthly** or quarterly. Monthly meetings can highlight progress and really keep things moving, but quarterly meetings may be a more reasonable burden. The committee would involve Staff, council representation, Fundy Service Commission, and neighboring community representatives. Needs a mix of skill sets. Should have co-chairs, including regional coordinator. **2nd choice: Option A and B** (1&2) **Should committees address both mitigation and adaptation?** **<u>Yes</u>** (but need clear agenda, different parts of meetings) These could be split into sub-committees. **Next Steps:** ● Approve governance structure: including regional coordinator, internal and external committees. ● Select/Appoint staff across departments, and a council rep.

Peer mentorship is important. Reach out to other communities that have done this - e.g. Waterloo, Oakville, Guelph [Editor's note: QUEST contacted Waterloo region following the workshop, to obtain insight into the regional approach and coordinator role.] QUEST could be engaged to provide guidance. Neighboring communities could set up their own internal committees / designate to existing committee, to ensure internal support for CEP actions, support communications and community engagement.	• Invite lead representatives from surrounding communities • Councils in each community can approve staff participation in a regional staff committee, and/or form their own internal committees for cross-departmental coordination. • Organize inaugural meetings of the staff level committee, after next municipal election. Finalize scope of work and Terms of Reference • Advance the priority actions for 2020 to 2025.

1.3.2 External Stakeholder Advisory Committee

Below are some options for an external committee. An external committee should have a Terms of Reference - stating objectives, roles, responsibilities, and key performance indicators to report on etc. The options discussed during the first tabletop session on February 6, include:

a. **Option 1: Create a community-wide stakeholder committee or advisory group**, to maintain ongoing support for CEP implementation activities, with participation from energy utilities, the real estate sector (e.g. developers, builders), local non-profits, school boards, academic institutions, large energy users, fuel suppliers, chamber of commerce, and others. The committee could have informal participation of council members or staff. The committee should meet on an ongoing basis - schedule annual, bi-annual, or quarterly meetings (open to public). Partner organizations could commit annually to actions from a list of options, provide progress reports, contribute to Key Performance Indicators, integrate with municipal communications, as well as collaborate on innovative projects. This strategy was used by and Oakville Energy Task Force. **Stakeholder meeting frequency:** quarterly or bi-annually **TBD**

b. **Option 2: Assign to existing non-profit or establish an external non-profit -** perhaps co-funded by utility, province, and neighbouring municipalities, and seek additional funds for advancing key measures in the CEP. It can also provide an interface between the City and external stakeholders, ensure sustainability of CEP implementation over the long term, and reports to non profit governance committee. This strategy was used by Our Energy Guelph, and Sustainable Waterloo Region,

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
Pros/Cons, Preferences Goal is implementation. Need to ensure regional engagement. Many of the stakeholders would be similar for Saint John and surround municipalities, so one regional stakeholder advisory committee makes the most sense. Start first with internal committee (described above), then consider regional/advisory committee. Could be chaired or co-chaired by Fundy Service Commission, Sustainable SJ (non-profit), etc. May still need staff / lead persons for each municipality appointed to committee. Need a regional approach/structure - e.g. larger advisory committee. To help influence, but not in charge. Meet less frequently than internal committees. Should be advisory only, provide input / report toward KPIs, collaborate to implement specific actions, advise Municipalities on implementation of their plans. Start with a streamlined group - less members, then once better established have more advisors. Should include a broad assortment of stakeholders and include youth, as well as expertise to help implement. Could facilitate community engagement / events at least quarterly. E.g. luncheons, meetings, etc. Need NB ETF funding to support committee. **Who is interested to participate? / who should be involved?** All participants indicated agreement to be invited to the external committee. Some of the groups include: Elias Management Group, ACAP SJ, Quispamsis, Sustainable SJ, Community Coordinator at School District, University, and Community College, SJ Energy, Others could include Chamber of Commerce, SJ Transit, Active transportation groups	**Option / Frequency / Members / Coordinator:** **1st Choice: Option A/1** = **establish an external stakeholder advisory committee.** Meet **Quarterly** at a minimum. Produce annual report. Can be co-chaired, by non-profit/ service commission. **2nd Choice:** Option B/2 **Who should Chair?** Fundy Service Commission, Sustainable SJ or other non-profit such as ACAP SJ. Could be called “Fundy Energy initiative” if a regional approach is adopted. Should have co-chairs for the external committee. Rotate if need be. **Should committee address both mitigation and adaptation?** **Yes** (but need a clear agenda). These topics could be split into sub-committees. People could be assigned to different roles, can choose to participate in both aspects or just one (for efficient use of time). **Next Steps:** ● Approve governance structure ● Contact prospective members (see list of stakeholders involved in CEP development and recent workshop). ● Schedule and Hold inaugural meeting, on date: June or later if necessary. ● Advance priority CEP actions ● Committee Chair and Regional Coordinator to interface between internal and external committees. ● Build awareness of programs and incentives, contests, etc, in alignment with CEP actions ● Prepare report to public on community-side progress and achievements.

1.4 Communications Governance

In addition to identifying a lead coordinator and committee structure, the community should determine who is responsible for effective communications related to the CEP. The options discussed during the first tabletop session on February 6, include:

A. **Option 1:** Communications Department (note: limited resources, would need funding)
B. **Option 2:** Communications Department with support of Coordinator or Committee
C. **Option 3:** Coordinator or Committee with support of Communications Department
D. **Option 4:** Collaborating with nearby communities about the possibilities of a shared staff person, and communications budget.
E. **Option 5:** Collaborating with community partners to conduct outreach
F. **Option 6:** External body (e.g. if a non-profit was created/mandated)

A related decision is where the webpage/online information will be housed:

A. City website
B. New webpage (regional microsite linked by each municipal webpage)

Responsibilities could include: Design of messaging / material; Preparing annual public updates; Maintaining Webpage, Dashboard, and Social Media; Promoting partner activities, offerings, successes; News releases, or bill inserts, with energy efficiency tips and calls to action. *See:* Communication and Awareness Strategy, Section 3.

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
Pros/Cons, Preferences Depends on how they are resourced / how it is cost-shared SJ Communications Department is small and has limited resources Could use NB ETF or FCM GMF funding Contract a person to start, or local agency Needs to be a permanent thing (that is communicated) but need resources to hire a person or cover costs - e.g. shared duties between communications departments, CEP/regional coordinator, and outsource as needed	**Most Preferred: Options D & E = Managed by Regional coordinator** / Services Commission, with support of internal/external committees, neighboring municipal communications staff sharing outreach/communications material. Contract out services if needed. **As an alternative:** Option C (staff) and Option E (Collaborating with external stakeholders) Or Could also contract someone/agency to start with. E.g. to design and develop outreach materials. **Where should website be housed? Create New Webpage (Option B) for region,** and promoted via social media of each municipality, and through events. Webpage should include a dashboard of progress. See Communications Strategy, and sample content in Annex. **Or, if city staff coordinator** (no regional position): Option A (new page on city website)

1.5 Data Governance

In addition to identifying a lead coordinator and committee structure, the community should determine who is responsible for effective data gathering and monitoring. The process of gathering data and monitoring KPIs should be embedded into the work plans of key staff, and in terms of reference of stakeholder committee. The options discussed during the first tabletop session on February 6, include:

A. **Option 1:** Designated staff lead / coordinator
B. **Option 2:** Internal Committee
C. **Option 3:** External Committee and Stakeholders
D. **Option 4:** External body (e.g. if a non-profit was created/mandated)
E. **Option 5:** combination of the above, with support of Communications (data requests)

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
Pros/Cons, Preferences Need to ensure data is correct - so re-baseline / audit data in the GHG inventory Needs to be a community level responsibility Universities/Colleges could do this, offer independent 3rd party Could use dashboard on website to show public info - see data and communications strategies	**Preferred Options: A&B&C = Managed by Regional coordinator**, with support of internal and external committees, including key data providers. (i.e. to collect community side data) Information is coming from internal and external reporting. Staff would be responsible to collect data where needed. Stakeholders would report data/highlights annually. May need technical support (e.g. outsource or student), to compile and present data.

2.0 Data and Key Performance Indicators

2.1 Introduction

Monitoring and reporting on implementation can build ongoing support among elected officials, staff and community stakeholders. Precise, measurable and defensible data, when presented on an ongoing basis, can increase the overall confidence and support of senior decision makers. When the CEP is monitored on an annual basis, successes can be celebrated which can in turn help build further support for implementation. The data can also provide frequent feedback loops to identify strengths and weaknesses as well as possible course corrections, if applicable.

The City of Saint John needs to adopt a strategy for collecting data in order to monitor progress, measure key performance indicators, and report on energy and GHG reductions as part of the FCM-ICLEI Partners for Climate Protection Program. The options discussed during the third tabletop session on February 6, for tools that can be used, data sources, and key performance indicators, include:

2.2 Key Tools

The options for tools discussed during the workshop, are listed below:

A. **Meetings of the Committee, Reports from Stakeholders and Department Heads.** CEP reporting is coordinated annually by the <XYZ>, and presented to <XYZ>
B. **PCP Milestone Tool** for creating and updating corporate and community GHG Inventories https://pcptool.ca/ and reporting outcomes of CEP measures to FCM.
C. **QUEST's Smart Energy Communities Benchmark** to measure your progress across all CEP actions and advance implementation https://smartenergycommunities.ca/
D. **PCP Hub** for connecting with the national PCP network, access information resources, and ask questions of your peers: http://www.pcphub.fcm.ca/index.html
E. **Conduct surveys** for community side actions: e.g. to determine how many households participate in anti-idling, clothesline program, efficiency, heat conversion, purchasing EVs. Student work: e.g. anti idling surveys at schools.
F. **Request Data/Information from partners** i.e. aggregate energy use data, uptake in efficiency programs.
G. **Create Data Dictionary and Registry of Sources.** Invite community partners to commit to updating the City on an Annual basis. This could be done via email, survey method, mail (CD-rom) or via webpage with simple reporting form and ability to upload files.
H. **A dashboard** is used to display progress within key activity categories, plus a description of the status for each individual activity.

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
Can't manage what you can't measure. Need a baseline of information. The GHG Inventory is a starting point. Need to re-baseline data (verify data, targets). This could include: Natural Gas and Heating Oil consumption (residential, commercial); prevalence of LEDs, CFLs, and Incandescents; etc For some actions GHG target may be high. Should compare KPIs year over year. Key is standardization using FCM tools. Could also use Portfolio Manager, Google Environmental Insight (for Vehicle Movement), MS Excel for fleet data, and billing channel to collect data monthly. Data can be used for investors / economic development (retrofit potential in SJ).	**Participants indicated the most important step is the creation of a data dictionary or registry of sources, and agreements with data providers to report annually.** **In addition, participants see value in <u>all options</u>, as needed:** A - Internal and external committees can help ensure data is collected for reporting purposes. B - PCP Milestone tool can be used, if all can use it to report GHG reductions, and supplemented with spreadsheets. C - Use Benchmark by 2022 to measure progress D - Use PCP Hub to learn from others E - Depending on capacity, conduct surveys to collect community side data F - Request community data for Quantitative Reporting -> community groups -> builds relationships G - Create Data Registry > for accountability H -> for showcasing to progress to the community / use standard matrix (not necessary, nice to have) +Portfolio Manager for building energy efficiency reporting +traffic counters, billing channels, Google analytics

2.3 Key Data

The community should determine whether to obtain data for GHG Inventories, as well as CEP Implementation Progress, and Energy Mapping. Participants discussed each of the following options:

2.3.1 For Updating GHG Inventories

A consistent methodology is particularly important for primary indicators, such as energy use and GHG emissions, as a range of methodologies can be used to create an emissions inventory. Inventories should be consistent with the methodology used for the **baseline inventory of 2015** (or at least the inventories should be adjusted to be consistent with each other). The GHG inventory can be compiled using the same spreadsheet as the baseline inventory, or using the PCP Milestone Tool (https://pcptool.ca/). If rigorous data is difficult to obtain, try developing assumptions. Be explicit about any assumptions made in the monitoring and reporting process. The process of gathering data and monitoring KPIs should be embedded into the work plans of key staff, and in terms of reference of stakeholder committee.

Electricity and Natural Gas: For municipal, residential and commercial emissions (and energy costs), the best sources are utility consumption data for electricity and natural gas. This data can be requested by contacting your account manager with each utility. You may also want to request information on how many households/businesses took advantage of efficiency programs and what the resulting total energy/GHG reductions are. Local stakeholders can also report on energy / GHG emissions reduction, e.g. from improving efficiency, integrating clean energy, etc.

Propane and Heating Fuels: Consumption estimates for propane and heating fuels are nearly impossible to get from the distributor, although it's worth asking. If it's not available, you can use per capita or per household estimates and scale it down to your municipality using population or number of households. This is a good source. You can also ask COHA for input.

Waste Emissions: For waste emissions, you can use the methane commitment model using the total tonnage of waste landfilled and information on waste composition. This is option 4 in the PCP tool for calculating waste emissions. The total amount of landfilled waste can of course be provided by the municipality's waste manager/waste department or regional waste commission. Waste composition data can be obtained through waste surveys, or else default values can be used. Default values are listed in the PCP Protocol.

Transportation emissions are a bit more challenging, but there are a few ways to calculate it.

1. Estimate annual GHG emissions based on the total kilometres travelled by vehicles within the community, taking into account vehicle fuel efficiency for each vehicle class. This is the most accurate and recommended approach. Total vehicle kilometres travelled within the community can be calculated using traffic counts and transportation modeling done by the City, or by estimating the number of vehicles in the community and the average distance travelled per vehicle. The latter sources can come from the provincial ministry of transportation and/or Statistics Canada.

2. Estimate GHG emissions based on the amount of fuel sold at fueling stations within the community. Data on fuel sold within the municipal boundary can be obtained from fuel dispensing facilities or distributors. Kent Group can provide this data for a fee. Fuel data must be broken down by vehicle class (e.g. light-duty, heavy duty, etc.) and fuel type (e.g. gasoline, diesel). If fuel sale data is not available according to vehicle class, it can be estimated based on total fuel sales and vehicle registration data for each vehicle class. If data is only available at the regional scale, it can be scaled down using scaling factors such as registration or licensing data. Fuel data is more inaccurate though, since fuel could be purchased in your municipality but then burned outside the municipality, and/or fuel could be purchased elsewhere but burned within the municipality.

Resulting GHG emissions reductions from individual actions in the CEP, can be measured in different ways. See Actions Sheets in Annex, and KPIs listed below (section 2.4).

2.3.2 For Monitoring Progress on CEP Implementation:

Consider providing a formal opportunity (annually) for the CEP Coordinator and community stakeholders to share measurable progress, for example hold a year-end stakeholder committee session and release a request for information. Progress reports and results can be presented in the form of ongoing Key Performance Indicators (such as the number of energy efficiency retrofits and/or the amount of kilowatt hours and gigajoules reduced), or secondary performance indicators. Or they can be presented in the form of anecdotes (such as short case studies highlighting successes, new programs or actions). Meaningful engagement such as this can unlock other opportunities and strengthen the value of the CEP.

QUEST's Smart Energy Communities Benchmark (https://smartenergycommunities.ca/) is a tool that the City of Saint John can use to check their progress on community energy planning relative to their peers. The Benchmark allows communities to assess their energy processes, policies, programs, and projects and gives them an accessible visual snapshot of their progress as compared to Canadian best practices. The Benchmark is made up of 10 indicators and a scoring framework designed to measure and track the progress of a community's energy-smart journey. The indicators describe the key components of an energy-smart community. The first five identify the local capacity and resources that need to be in place, and the second five describe the effective management and integration of infrastructure to use, move, and source energy as efficiently as possible. With this data in hand, the City of Saint John and it's energy utilities can show elected officials, stakeholders, and citizens the strengths of their community energy leadership and emissions reductions, and areas where ambition needs to be increased. The Benchmark assists communities in reaching their energy-smart goals and contains resources to assist communities in increasing their scores over time.

2.3.3 for Energy Mapping

An energy map illustrates spatial information about energy end use in a community over time. It can visually identify opportunities for reducing energy use (e.g. targeting energy efficiency programs), opportunities for shifting modes of transportation (e.g. transit projects), potential sources of energy (e.g. solar, biomass), and opportunities for distributed energy resources (e.g. district energy systems). A map can illustrate energy end-use or energy intensity, related GHG

emissions, renewable resource potential (wind, solar, biomass), and potential reductions from implementing measures.

For municipal, residential and commercial emissions (related to energy use), the best sources are utility consumption data for electricity and natural gas, which can be tied to the building stock. Transportation emissions can be modelled based on flow rates, percentage of trucks vs cars, vehicle kms travelled, and related emissions ratings. The City also has access to energy technical mapping assessment (focused on grid scale Solar PV and Wind), district heat mapping, and solar rooftop analysis, as well as transportation and land use maps. This data can be integrated using the City's GIS / mapping software, and could be published online with appropriate constraints to protect privacy (e.g. aggregating energy usage).

Consider the following when developing an energy map:

- Before developing an energy map, consider the overall objectives of your CEP. Use the energy map as a strategic tool to illustrate opportunities to achieve those objectives.
- Many energy data providers may not provide parcel-level information due to privacy constraints, however parcel-level data is often not needed to illustrate energy opportunities in your community. Consider developing a map at a postal code scale. If possible, identify energy intensity by land use type, or building type or by hectare or m2.
- Maps should include key roads and/or buildings to help viewers orient themselves, and labels for key identifiers.
- Consider developing a variety of maps to illustrate energy use in buildings and transportation
- Energy maps can be presented to stakeholders and the public, for planning & education.

Participants discussed the merits, pros and cons, of each option above. Discussion points and the resulting recommendation are as follows:

Discussion Notes:	Decision:
Annual updates seem to be a standard approach **Participants identified organizations which can contribute to KPIs:** Saint John Energy, Saint John Water, NB Power Other energy distributors: propane, natural gas, heating oil, gas/diesel, etc JD Irving SJ Transit Neighboring municipalities Waste Commission / Fundy Service Commission Province (e.g. licensed vehicles, etc) Need large emitters at the table. Energy Service and Technology Providers Participants in CEP activities (e.g. events, contest, programs/incentives)	**3.1 GHG Inventory:** YES **Frequency:** Annually, but don't only use annual averages. Aim for first update in 2021 and final update in 2025. Create a data dictionary. If preparing an annual update is too cumbersome, the GHG inventory could be renewed every 4 years (or by 2025). **Lead:** Would require collaboration between City staff and Regional Coordinator. Feed data to one responsible person (e.g. coordinator). Notes: Mid priority **3.2 Report and Benchmark Progress:** YES **Frequency:** annually or by 2022. Also use dashboard/webpage - Real Time visual. Depends on each project when reporting should begin/occur. **Lead:** Regional Coordinator. Notes: High priority

Could hold annual congress of stakeholders to come together to provide information to whoever is responsible. A different community could host each year. Annual energy consumption is steady, but seasons can be quite dramatic (extreme weather).	**3.3 Energy Mapping:** YES **Frequency:** annual if possible or within 3 years. Stakeholders can contribute information. Can be housed at City of Saint John (GIS). Can update later / after GHG inventory and Benchmark. **Lead:** GIS Department Notes: Low priority Need resources to do reporting

2.4 Key Performance Indicators

CEPs have the potential to lead to significant economic, health, social, resilience, and environmental benefits. It is important to select key performance indicators to measure and report on progress implementing your CEP and reducing GHG emissions. Consider obtaining data for energy, GHG emissions and other Key Performance Indicators for an **annual report card.** Indicators should be measurable (i.e. data is available), should require a reasonable effort to track, and should be cost-effective to track. Many of the indicators will already be reported on (corporately), but are more challenging to track for the community - thus need community partners to assist in reporting achievements, reductions in energy and GHG emissions.

There are a few key performance indicators that should be used (measured annually), as the City implements their corporate and community energy plans. Create a report card with these KPIs (across sectors: residential, commercial, industrial, transportation etc). These indicators can be collected by the municipality, with data from local utilities for community-wide energy use, as well as community partner data. These include:

- Amount ($) spent on energy (corporate, and community side), annually
- Amount ($) saved through efficiency measures (corporate, and community side)
- Amount of GHGs (CO^2 equivalent) reduced (corporate, and community side)
- Change in total tonnes of GHGs, three-year average and year to year
- MW of Clean Energy produced, three-year average and year to year
- Number of partners or stakeholders engaged
- Number of actions achieved in the CEP
- Other local co-benefits: e.g. improved air quality, more active population, etc

There are also key performance indicators for each of the actions identified in the Community Energy Plan. These can include success stories, annual progress reports, and data from community partners. Indicators relate to:

- Environmental benefits (GHGs)
- Economic development and financial benefits
- Land use and development
- Transportation
- Waste reduction
- Distributed energy resources
- Water conservation
- Others

Participants recommended creating an **annual report card** with the KPIs (listed below), across each sector. Show people what the $ savings are. Include this in communications and outreach strategy. Below are examples of KPIs that relate to actions in the City of Saint John's CEP. **Participants discussed the merits, pros and cons, of each KPI. Discussion points and the resulting recommendation are as follows:**

CEP Action Types	Key Performance Indicators	YES / NO	Data Sources	Priority / Frequency of Data Collection
Energy Efficiency: For example: residential and commercial efficiency retrofits, clean energy conversion (heating), LEDs	Identify $ spent on energy, vs saved through efficiency programs (community side)	yes	Utility (SJ Energy, NB Power, Facilities, Liberty Utility, Irving) Meter Data	High
	Analysis of where energy spending goes (e.g. local, provincial, abroad)	Only if possible	Utility. Note: can be challenge, hard to look at supply chain	Low
	Total savings associated with energy efficiency and conservation measures / change in energy use (total and per capita), three year average and year to year. Also need building age	yes	Utility + city + energy/building professionals	Mid - year to year/ 3 year average
	Energy use (aggregated by sector) and per capita.	yes	Utility (SJ Energy, NB Power, Facilities, Liberty Utility, Irving)	High
	GJ (energy) and GHG reductions for each action	yes	Utility (SJ Energy, Facilities, Liberty Utility, Irving). Needs modeling. Compare SJ vs rest of NB	High
	# of households/businesses engaged (e.g. LED lighting, efficiency retrofits, clothesline). # of rebates given (e.g. LEDs) for measures that qualify for incentives from NB Power or SJ Energy	yes	Utility programs have this information. Can also use surveys and contest data. Collect Success Stories Compare SJ vs NB	High
	Residential, Commercial, and Industrial Success Stories	yes	Source from community, See communications and engagement strategy	High

Water Conservation For example: Clothesline program	Total water use (total and per capita) and percentage change, three year average and year to year Water Metering / Peak Demand reduction (# of participants) Clothesline program # of participants and reduction in loads	Yes Currently residents are at a flat rate. Yes	City No meters, hard to get / need smart meters Only if information is available. Some water meters measure both - should be partnership with SJ Energy.	Low Low Low
Distributed Energy Resources For example: Rooftop solar, Community Solar Farm or Wind Farm, Clean Energy Conversion (heating), and District Heat	Spending on local distributed energy resources (e.g. solar PV, solar heating, CHP, etc)	if possible	Local retailers/installers, utility incentive programs, and survey, energy tech providers	Low
	GJ or MW of Clean Energy produced	Yes	Need both generation capacity and energy produced, from SJ Energy and owners. Energy utilities may need to calculate this.	High
	# of households/businesses engaged (e.g. clean energy conversion - for heating).	Yes	SJ Energy (e.g. heat pump rentals, RE suppliers, installers)	High
	# of households installing heat-pumps, could be based on # of upgrades to electricity entrance	Yes	Utilities: Incentive programs, rental program, and upgrades to electric entrances, + installers	High
	Residential, Commercial, and Industrial Success Stories	Yes	See communications and engagement strategy	High
	Annual Load of district heat subscribers, seasonal load requirements, estimated GHG reduction/offset	If possible		Low
Land Use For example: green space, green energy zones, redeveloped brownfields	Development footprint: change in the area (km squared) of developable land and area zoned as non-buildable, or green space, or green energy zone, three year average and year to year. Use density measure instead.	yes	Already Collected by City Building permits Collect 3 year average / trends Also identify people per square kilometer.	High

Transportation For example: Anti Idling and Fuel Efficient Driving initiative; Encouraging uptake in fuel efficient, compact or electric vehicles; Active Transportation initiatives	# of vehicle owners not idling / reduced idling time	Yes, if possible	Schools, Surveys, Contests, or estimated	Low to Mid
	Annual average daily flow of traffic (vehicles/day) # of vehicles from outside coming into SJ	Yes	Counters Already used in road design Google Analytics	High
	# of vehicle kms/trips reduced	Yes	City Surveys/Contests Google Analytics	High
	# of EVs purchased/registered in Saint John. This can be tracked through provincial statistics, and by offering discounts at dealers for home charging units.	Yes	City. Province. Dealerships. EV program. Contests or challenges +SNB - vehicles registered	Mid
	# of fuel efficient vehicles purchased/registered in SJ, replacing older vehicles. This can be tracked through provincial statistics, or offering a discount at dealers	Yes	City. Province. Dealerships. EV program. Contests or challenges +SNB - vehicles registered	Mid
	Ridership on public transportation / Transit ridership per capita	Yes	City already collects through SJ Transit + COMEX	High
	kilometres of bicycle lanes constructed or dedicated, # of users cycling for utilitarian purposes	Yes	City staff. Bike counters. Separate out protected bike lanes.	High
	Pedestrian counts	Yes	Use Wi-Fi. Could be better coordinated	Mid
	Need more benchmarks for transportation anti-idling	yes		
Waste E.g. organic waste diversion	Quantity of waste recovered, diverted, or recycled; tonnes of organic solid waste diverted from landfill	yes	Regional commission already collects this	Mid

Air Quality	Baseline studies on air quality, number of days with poor air quality	Yes	Province already collects this (Department of Environment and Local Government). Combine all air quality readings from Environment Canada and NB DELG. Pollutants / data can confuse people. Be careful how communicate this data	High
	Ground level ozone criteria hours exceeding 50 ppb			
	Annual average sulphur dioxide concentration			
	Annual average nitrogen dioxide concentration			
	Annual average inhalable particulate matter concentration			
	Hospitalization rate for respiratory illness per 100,000 people - and associated health care costs	Less important	NB Department of Health /Health Authorities May not be easy to correlate statistics to CEP implementation	Low
Economy	Total savings associated with energy efficiency and conservation measures / change in energy use (total and per capita), three year average and year to year	Yes	City SJ Energy NB Power (for larger region)	High
	Unemployment rate / percentage change	n/a		
	# of jobs created in sectors related to energy efficiency, clean energy, clean technologies, etc.	Yes, if possible	City Stakeholder reports Various employers	High
	Number of businesses with environmental certification (e.g. LEED, CBIP)	Yes	Certifiers Chamber of Commerce	Mid
	Real median income - reveals whether purchasing power is increasing or decreasing relative to inflation.	Yes	City	Low
	Property values (change)	Yes	City	Low

Satisfaction	Decision Trust: surveyed feeling among residents that local decision-makers have the best interest of the community in mind most or all of the time (percentage and change)	yes	Would require extra surveys	Low to Mid
	Decision-input: surveyed satisfaction among residents with opportunities to provide input to community decision-making (percentage)	yes	Involve stakeholders in the process Would require extra surveys Do it regularly	Mid
	Surveyed satisfaction rate: e.g. with active transport improvements, community energy projects, etc	yes	This one is most useful Would require extra surveys	High
Other Actions / Other notes	Measuring increase in value of residential property based on energy efficient updates Could also focus on less KPIs - environment and for economic	yes		High

2.5 Quality Control Measures

When collecting and integrating data for updating the GHG inventory, CEP implementation progress, or energy mapping, consider the following measures to ensure quality control:

- Create Data Dictionary and Registry of Sources (MetaData). Have partners commit to provide annual updates to the City for monitoring purposes.
- Check sample of input data for errors. Clarify data questions with providers.
- Check that the assumptions for methods, data, etc, are documented

If using internal Spreadsheet software to track data:

- Identify spreadsheet modifications that could provide additional controls or checks on quality
- Ensure that adequate version control procedures for electronic files have been implemented
- Check where emission units, conversion factors, etc. are properly labelled
- Check that conversion factors are correct (e.g. kWh to GJ, CO^2 coefficients)
- Check the data processing steps (equations) in the spreadsheets

3.0 Communications and Engagement

3.1 Introduction

To ensure the successful implementation of the CEP, a communication strategy needs to be developed to best inform and inspire the public, engage stakeholders, promote programs and incentives, catalyse action, and communicate results and benefits to the community. Below are some options to be considered as part of a communication strategy.

Participants recommended the communications strategy be coordinated and implemented by the Regional Coordinator, with support of municipal communications departments and stakeholder committee. In addition, the City communications department should be involved in both the internal and external committees. Funding may need to be secured for certain communications related initiatives.

3.2 Public Engagement and Communications

There are several channels the City can use to educate, inform, and engage the public. Consider an approach of going ***to*** the community with engagement. **Participants discussed the merits, pros and cons, of the following methods, identified leads, priority, frequency etc.. Discussion points and the resulting recommendation are as follows:**

Method	Description	Who leads	Priority	Cost	Frequency
Webpage (hosted by City or new external site?)	Content should include visual depiction and simple explanation of the GHG emissions in the community, the GHG emissions reduction target, high level objectives and measures within the CEP, links to programs/incentives, policies, tips and guidance, contact information, and annual achievements. **See Annex 6 for sample content.**	New Regional Webpage (e.g. hosted by FRSC) or City	**High**	No or low cost	Should have static content and be updated frequently / as needed.
Social Media	**Facebook, Twitter,** LinkedIn, Instagram. Content should include CEP details progress on actions/impacts, highlights of success stories, calls to action, contests. **See Annex 6 for sample content.** Social media should link to fact sheets, success stories, and progress report, and should link back to the webpage. All neighboring muni SM can also be used.	Regional coordinator with the support of City + partners	**High**	No or low cost	Should be as frequent as possible

Media	Newspaper, Radio, TV	Maybe - prefer CBC radio. Can also do ads	**Medium**	None to low	occasional
Bill Inserts	Content should encourage residents and businesses to improve efficiency, promote programs/incentives, share facts, etc. Could be done **online (e.g. pop-up) instead** of paper?	City + SJ Energy + SJ Water	**Medium**	Low	Bill cycle or online.
Open Houses	Content should focus on updating the public on CEP progress and opportunities to participate.	Not needed	**Medium**	n/a	n/a
Fact Sheets	Showing progress achieved / impact of CEP measures, tips/guidance, etc use as bill inserts, **or** use social media and website instead	Regional coordinator	Low	Low	Promote facts on website, update annually
Online Dashboard	To display progress within key activity categories, plus a description of the status for each individual activity. It is a good visual tool for media, the public, and investors.	Region. Combine with website if possible	**High**	If you create a dashboard, it needs to be updated frequently or almost real-time. May have a cost for maintaining.	
Simulator Tool	The City has already done some innovative engagement including the **simulator tool** for the budget. This model could be replicated to engage citizens in helping the City decide how to reach its GHG reduction targets and be coupled with annual energy savings.	Maybe. Could use Google Insights, or Etholo, or other	Low	Higher Cost to create an interactive tool Concerns in terms of of cost and complexity	
Events	Hold Networking events, Awards Gala, Attend Markets, Festivals, Provincial Holidays/events, with a table display or speaker. Also join other community events.	Could be the City, local event partners, or FRSC.	**High**	Leverage existing events (as many as possible) eg. Green Drinks. Have Pop-Up display.	
Annual Progress Report	An annual progress report should be sent to elected officials, staff and community stakeholders. It should also be made publicly available. An annual report can be used to communicate successes at council, staff and stakeholder meetings,	Regional coordinator with support of City, and committees	**High**	Mid	Annual

	as well as public events. If possible, develop visually compelling materials to communicate implementation progress, impacts (e.g. reducing GHGs and energy costs), highlights of success stories, partner achievements, areas of need, and opportunities. Holds us accountable.				
Contests	Promote seasonal opportunities/contests to reduce energy use, increase active transport and transit ridership, etc Could include contests between homeowners for energy savings, or between residents of each municipality. Community Recognition could be made for good GHG reductions (e.g. Star Program).	Region or City	**Mid to High**	Great idea - should be occasional. There is a low to mid cost to run contests, offer incentives, and engage the public.	
Engage Schools / Youth groups	Promote awareness and early actions with help of community partners. Can partner with school board, schools, and other stakeholder groups. Go to their events. Kids can help change grandparents view.	Not identified	**High**	Not identified	
Other	E.g. webpage for rooftop solar pre-feasibility assessment, using Google				
Partner Actions / notes	Can't just be the City promoting awareness. Neighbouring municipalities, and local stakeholders need to support raising awareness. SJ Energy could engage via its newsletters Need good calls to action. Need to communicate benefits / value proposition for different audiences. Limited Resources, may need some funding (e.g. NB ETF)				

3.3 Stakeholder Engagement

All capacity holders and stakeholders should be engaged in the internal/external committees and be invited to register (annually) for newsfeed/updates. **Participants discussed the merits, pros and cons, of the following approaches, determining who leads, priority, and frequency. Discussion points and the resulting recommendation are as follows:**

Approach	Description	Who Leads, Priority, Cost, Frequency, Start
Ongoing teleconference and email correspondence	Engage and inform stakeholders through regular updates (e.g. email listserve) including calls to action, meeting announcements, celebrating successes, requests for information, and discussion threads related to CEP implementation. Also use webpage and SM CEP/ REgional Coordinator to build engagement / partnerships plan.	High priority / frequency. Led by coordinator and committee chairs. Minimum quarterly. + newsletter
Stakeholder committee	Purpose: Provide updates, monitor and report on implementation, identify opportunities, integrate initiatives, gain commitments etc (see Governance section)	High Priority. Led by coordinator / co-chairs Quarterly Vs annual at a minimum
One on one meetings	Purpose: identify CEP objectives, stakeholder objectives, where is alignment, pursue collaborative opportunities, gain commitments. Early days, meeting between City, utilities, and other key stakeholders. Over time, this will happen at the committee level.	Low priority Led by coordinator, and as needed between municipalities, utilities, and stakeholders
Workshops and focus groups	Obtain targeted feedback on concepts, approaches, to implementing CEP measures. Can be done in person, by teleconference or online: Survey Monkey (builds ownership and feedback loop)	High Priority Mid-cost Annual Led by coordinator
Attend Stakeholder meetings	City participates in meetings hosted by stakeholders to present information about CEP and obtain support (e.g. associations)	When invited Low cost
Networking Events and Charrettes	Host networking events for stakeholders; or Charrettes to engage in dialogue for implementing new actions Optional exercise if there is a topic or a need.	High priority Low to mid cost External committee to coordinate this.

Open Houses	Highlight CEP measures, impacts, and opportunities for participation.	No / Low
Ambassador Program	Recognize business leaders and Encourage local stakeholders to be leaders for advancing CEP measures, communicating benefits	High Priority (shows leadership) Led by coordinator Low Cost Annual
Declaration	Invite partners to sign a declaration to generate awareness. Enable new partners to join each year. Do annual Awards.	Mid Priority (shows leadership)
Other	Can do all of these, all have merit, but we should use them all and pick and choose when to do what. All of these have a place depending on the action you want to achieve of the barriers you want to overcome. Go to where people are (e.g. curling clubs, golf clubs, seniors homes, schools). Go door to door Lots of University and Seniors. Make it easier for them to be involved. Share success stories. Use conferences and community events to share message	

Why and How to engage Key Stakeholders

All stakeholders should be engaged in the committees and be invited to register (annually) for newsfeed/updates. **Below we present why and how to engage key stakeholders:**

Stakeholder Type	Why engage this stakeholder	How to engage
Provincial government	The Provincial government and respective agencies are placing a growing emphasis on energy and emissions. The City's CEP is a platform to achieve energy and GHG reductions while facilitating economic growth and can directly help achieve provincial goals. Health care costs represent a large, and increasing portion of provincial budgets and community energy planning can help to reduce these costs.	Engage Manager-level staff in ministries including but not limited to energy, land use/municipal affairs, environment and economic development. Ensure ongoing engagement with the manager and/or appointed staff person.

	Provincial government oversees policies and programs that may impact or be impacted by community energy planning. They may also have technical expertise needed for CEP implementation. They may also have energy end use data and Key Performance Indicator data needed to monitor implementation progress and report on outcomes.	Reach out to any contacts you may have in the provincial government and their respective agencies with a mandate related to community energy, in order to establish the appropriate liaison / points of contact.
Energy Utilities	Electricity, natural gas and thermal energy distributors are critical partners for CEP implementation. The business models of energy distributors are evolving. The CEP aims to reduce overall energy consumption and GHG emissions and as a result can act as a direct pathway to allow energy distributors to expand DSM/CDM efforts in the community. The CEP also calls for distributed energy resources, electric vehicle charging, etc. Energy distributors can support CEP actions that reduce community-wide energy use during peak demand, provide technical expertise in managing infrastructure and experience delivering programs and projects. They may also provide aggregated energy end use data to develop energy inventories, and if applicable, energy maps, and to measure reductions. The City has access to development data that may not be available to energy distributors, but could provide insights with respect to future land use and energy needs.	Reach out to executive leaders, DSM/CDM staff or energy planning staff, with an invitation for a one-on-one meeting / recurring in-person meeting to align on projects, needs, data availability, and engage on stakeholder committee. Energy distributors often have strong relationships with facilities departments. This may be a good entry point for communication if your utilities does not yet have a community energy planning contact person.
NGOs and Associations	NGOs can help implement CEP measures, and engage with community stakeholders and the public to advance the implementation of actions. NGOs may be well-positioned to measure and communicate measurable impacts of CEP implementation, as well as communicate the need for CEP support with the provincial government.	Engage with Executives and staff, one on one meetings to determine partnership potential, and involve in stakeholder committee. Support and promote local initiatives and community co-benefits/impact. Participate in local events.
Real Estate (e.g. Developers, homebuilders, Building owners and operators,	There is a growing mismatch between the high demand for energy efficiency buildings and homes and the supply. Similarly, there is a growing demand for compact, mixed-use neighbourhoods and communities. There is an untapped opportunity for	Reach out (e.g. via Chamber of Commerce, real estate association, etc) to request expressions of interest.

Architecture firms, Real estate agents)	developers and homebuilders to grow sales by enhancing the level of energy efficiency within new and existing building stocks. Increasing concerns from building owners and operators about the growing cost of energy as a proportion of overall building operating costs. Developers that own buildings will experience a reduction in the cost per square foot of operating a building in the long-term by incorporating energy efficiency and distributed energy measures. Can make commitments to implement projects that align with the CEP, such as community retrofit or energy efficiency projects, distributed energy resources in building projects, and projects that encourage integrated land use and transportation. The implementation of demonstration projects.	Consider reaching out to executives and senior/junior staff, including those with an engineering, architecture and/or planning designation. Hold one-on-one meetings, and engage in committee. Provide non-prescriptive, performance-based requirements and/or incentives for building efficiency, distributed energy resources and integrated land use and transportation, to enable developers to incorporate cost effective and contextually appropriate technologies into developments. Engage in discussion about updating building codes, policies, or bylaws; new developments; harnessing distributed energy resources, efficiency programs, and district heat.
Local Business and Industry	Increasing concerns from building owners and operators about the growing cost of energy as a proportion of overall building operating costs. Businesses have unique opportunities to reduce peak demand, improve efficiency, integrate waste energy and renewable energy sources. Businesses can take advantage of efficiency programs to reduce energy costs, and incorporate energy distributed energy measures (e.g. rooftop solar), and can engage employees / promote conservation and fuel efficiency. They may also be able to provide incentives at Points of Purchase, and help promote to the public. Businesses may also offer energy services, incentives, or technologies that can help the community achieve CEP targets, and contribute to economic growth. Industry may have opportunities for process improvements, peak demand reduction.	Reach out (e.g. via Chamber of Commerce) to request expressions of interest, or to identify businesses with an interest in community energy and efficiency. Engage business executives or staff, with an invitation for a one-on-one meeting to align on projects, and engage them on stakeholder committee. Identify opportunities to collaborate. Recognize business leadership through a Digital Button, green award, or ambassador program.

Academia	Schools have opportunities to reduce peak demand, improve energy efficiency, fuel switch, integrate small scale renewable resources, and engage students through curriculum. Community College and Universities provide opportunities to engage faculty/students in research, studies, engineering projects, etc. related to implementing the CEP.	Engage Dean, Faculty, with an invitation for a one-on-one meeting, and engage them on stakeholder committee. Invite Faculty and students to participate in studies, pilots, or projects, related to implementing the CEP.
Neighboring Municipalities	Saint John commuter-shed includes Grand Bay-Westfield, Rothesay, and Quispamsis. All these communities have CEPs, and are pursuing similar initiatives. In some cases, it makes sense to partner on CEP measures (e.g. promoting anti-idling, active and public transportation improvements, doing community retrofit programs, procuring charging stations etc). This can help to minimize cost and eliminate risk of duplication, while ensuring citizens and businesses have equal and consistent access to programs, incentives, and opportunities to participate, not to mention consistent messaging in the region.	Engage the CAO/Town Clerk, or CEP coordinator, in each neighboring municipality, with an invitation for a teleconference, and to participate on stakeholder committee. Explore the potential to share a human resource.

4.0 CEP Actions - Implementation Strategies

Note: All CEP Action Sheets are included as separate PDF attachments. Participants reviewed all the action strategies provided by QUEST, and assigned for each one: a lead, priority, timeframe, cost, and whether it needs a study, funding, or supporting policy. Participants also identified preferred strategies and partner actions. Overall, participants felt there was a need to establish the governance structure, and then focus on conducting studies (where needed) and piloting actions first. See Action Sheets attached.

In summary, the high priority actions are (to start by 2021):

- Encourage Energy Efficiency (commercial)
- Encourage Clean Energy conversion
- Encourage Active transportation
- Encourage Anti-Idling and fuel-efficient driving
- Introduce Energy Efficiency bundles/rental programs by SJ Energy
- Tesla battery storage in 2020.

The medium priority actions are (to start by 2022):

- Expand Energy efficiency offerings (commercial and residential),
- Consider undertaking a Community Retrofit Program
- Continue to encourage clean energy conversion, active transportation, and anti-idling.
- Encourage LED Lighting replacement
- Implement Wind Farm (Burchill wind project)
- Study and Implement Solar Farm (e.g. Spruce Lake Industrial Park)
- Expand District Energy system
- Promote switching to EVs and fuel efficient vehicles (depending on incentives)

The low priority actions are:

- Clothesline promotion program

Other actions, with no priority assigned:

- SJ Energy Optimization (ongoing)
- Implement rental programs for: Rooftop Solar and storage, EV charging units
- Community and Business Energy Challenge (annual)
- Public education / communications throughout (ongoing)

Utilities (SJ Energy and NB Power) already offer programs/incentives, will expand those; and pilot smart grid e.g. storage, renewables, smart metering. Need to align CEP actions with utility programs/plans/incentives that may become available. It was noted there is a huge opportunity for energy efficiency in Saint John, and a need for an energy efficiency strategy for low-income housing (e.g. using FCM GMF funding) and Heritage buildings, although challenges exist.

So many travel from surrounding communities - need a regional focus on transportation. Although Transit is covered under the Corporate Plan, it needs action on the community side (for public outreach, planning etc). Also, there is a need to add Active Transportation, including to encourage active transportation / cycling connections. These are included in the Annex. Finally, the City Idling bylaw for fleets could be extended to include private fleets and zones.

5.0 Conclusion

QUEST appreciates the opportunity to work with the City of Saint John on this project, and engage local stakeholders in developing recommendations for CEP governance, implementation, communications and key performance indicators.

This report summarizes the proposed recommendations and feedback received during the workshop on February 6, 2020. It also provides useful information and templates, that can be used to advance the CEP actions, communicate with the public, engage stakeholders, and report on key performance indicators, on an ongoing basis.

As a next step, Saint John, neighboring municipalities, and the regional services commission, can explore establishing a regional coordinator and committees. This includes establishing an internal (staff) committee and external stakeholder advisory committee, to provide support for implementing the Community Energy Plan.

6.0 ANNEXES

ANNEX 1 - Template Terms of Reference for internal and external committees

Internal/Staff Committee Terms of Reference

Co-Chairs: TBD

Objective: The objective of the CEP Staff Committee is to bring together municipal professionals (across Departments)to ensure advancement of the Community Energy Plan. This committee would involve municipal staff, council representation, representatives of neighboring communities, Fundy Regional Services / partners. The Committee Chair will interact with the Regional Coordinator, the External Advisory Committee, and report to SJ Council.

Scope and issues to be addressed - The Staff Committee will:

- Stay current on urban and rural energy-related matters pertaining to Community Energy Planning and climate change impacts/science and adaptation measures, specifically in a municipal context
- Exchange knowledge, identify and address issues, and facilitate the advancement of actions in the Community Energy Plan, and Climate Change Adaptation Plan / Resilience
- Support community outreach and communications efforts (e.g. via municipal communication staff)
- Provide support for stakeholders, make policy recommendations, and develop funding applications
- Address issues brought up by the membership as they arise
- Gather data to help report on CEP progress and GHG reductions, as well as CC adaptation

Expectations: This committee recognises that roles and responsibilities will vary depending on the nature of the project or topic being discussed. Time commitment will also vary, but generally involves:

- Quarterly or Monthly teleconferences or meetings; Minutes compiled
- Sub-committees (e.g. mitigation vs. adaptation, or action/policy specific)
- Consultations as needed (e.g. community stakeholders, fund providers)
- Assist with policy recommendations and new project / funding applications

Participation: Led by the Chair, the Staff Committee will have representation from : Departments TBD; as well as representation from neighboring communities, Fundy Services Commission, SJ Energy.

Objectives - Priorities identified by the working group include:

1. Advance priority actions as part of implementation of Community Energy and Emissions Reduction Plans, and the Climate change adaptation and resilience plans
2. Support internal activities such as: Planning and Policy efforts, Communications
3. Launch studies and pilots, where needed
4. Gather and Report Data / KPIs
5. Other business: e.g. announcements, new funding, etc, as may arise

Meeting Schedule in 2020: TBD during inaugural meeting (suggested Monthly, then Quarterly)

Stakeholder Advisory Committee Terms of Reference

Co-Chairs: TBD

Objective: The objective of the CEP Stakeholder Committee is to bring together community stakeholders to ensure advancement of the Community Energy Plan.

Scope and issues to be addressed - The CEP Stakeholder Committee will:

- Stay current on urban and rural energy-related matters pertaining to Community Energy Planning, and climate change impacts/science and adaptation measures, specifically in a municipal context
- Exchange knowledge, identify and address issues, and facilitate the advancement of actions in the Community Energy Plan, and Climate Change Adaptation Plan / Resilience
- Act as a central resource for information gathering and sharing, knowledge exchange
- Gather data to help report on CEP progress and GHG reductions, as well as CC adaptation (KPIs)
- Support community outreach and communications activities
- Make recommendations for programs, projects, policies, etc.
- Collaborate on funding proposals / partnerships to deliver actions
- Launch studies and pilots, where needed

Expectations - This committee recognises that roles and responsibilities will vary depending on the nature of the project or topic being discussed. Time commitment will also vary, but generally involves:

- Quarterly teleconferences or meetings; Minutes compiled
- Sub-committees (e.g. mitigation vs. adaptation, or action/policy specific)
- Consultations as needed (community stakeholders, fund providers)
- Discuss policy recommendations and new projects / funding applications

Participation - the Stakeholder Committee will have representation from a diversity of organizations that are interested in engaging in activities related to the Community Energy Plan. This may include:

- Energy Utilities (SJ Energy, NB Power, Liberty, Irving, etc)
- Energy Service and Tech Providers
- Real Estate Developers
- Non-profit organizations (e.g. ACAP SJ, Sustainable SJ, Fundy Regional Services Commission)
- NB Department of Environment and Local Government, NB Department of Energy and Natural Resources
- Academic Institutions: NBCC, UNB

Objectives - Priorities identified by the working group include:

1. Share/Discuss strategies for advancing actions as part of implementation of Community Energy and Emissions Reduction Plans and Climate change adaptation and resilience plans
2. Gather and Report Data / KPIs
3. Peer-to-peer exchange
4. Other business: e.g. announcements, new funding, partnership development, etc, as may arise

Meeting / Call Schedule: Suggested Quarterly, or bi-annually.

ANNEX 2 - Skills Needed and Job Description Template

Skills and Credentials a dedicated staff person could have:

Knowledge and Skills of the Designated Staff Person

- Communication, stakeholder and community engagement
- Project management and facilitation
- Leadership, Change management, Strategic planning
- Familiarity with local government processes and legislation
- Policy and program development
- Energy literacy, Sustainability practices
- Quantitative data analyses (spreadsheet software)
- Mapping (geographical information system software)
- Business case development, Feasibility/financial analysis

Academic Credentials and Certifications

- Degree in planning, public policy, engineering, sustainability, environmental science, resource management, business, and/or communication
- Registered Professional Engineer or Planner, Member of Canadian Institute of Planners
- Certified Community Energy Manager (CCEM) or Certified Energy Manager (CEM)
- Registered Engineering Technologist
- LEED Professional Accreditation (LEED AP)
- Project Management Professional (PMP)

Sample Job description, *Based on Region of Waterloo, ON*

Full Time Temporary (3 Year Contract)

The Community Energy Program Manager (CEPM) is responsible for implementation of the Community Energy Investment Strategy (CEIS) for Waterloo Region, a collaborative undertaking by the Region, Area Municipalities, and Local Electric and Natural Gas Utilities.

The ideal candidate will provide leadership and coordination for the program, and serve as a champion for community energy investment projects. Specific roles include business plan and budget development, partnership facilitation, stakeholder engagement, promotion and awareness-raising (campaign and event organization), project initiation and support, grant application coordination, program monitoring, and progress reporting.

<u>Key Responsibilities</u>

Program Management – Develop annual work plans, with prioritized actions and budget implications, for approval by the Governance Committee. Work with partners and stakeholders to implement. Monitor, evaluate progress, and provide update reports.

Support Projects – Promote, develop and assess, from a technical and business perspective, project plans and proposals for key community energy initiatives involving multiple stakeholders. Coordinate discussions, and assist with solidifying commitments and securing resources.

Report/Advise – Prepare and deliver briefing materials, data reports, and presentations for Governance Committee approvals. Provide strategic advice and recommendations on issues involving multiple levels of consideration, impacts, and stakeholders.

Build Relationships – Establish and maintain relationships with key stakeholders and project partners, including all levels of government, and private sector, not-for-profit, and industry organizations. Support the development and negotiation of agreements with federal, provincial, municipal, private, and non-government organizations.

Community Engagement and Support – Raise energy awareness through targeted outreach, education, and by providing technical and business expertise. Work proactively with partners and stakeholders to advance community energy goals, and to coordinate communication efforts.

Research – Conduct research and studies (e.g. industry sector trends, development strategies, funding sources and programs). Synthesize information to support and inform CEIS. Determine/recommend best course of action in response to challenges and issues.

Desired Credentials (Related Knowledge, Skills and Abilities)

- Minimum undergraduate degree in a relevant field (e.g. engineering, environment science/studies, business administration), graduate degree in same or Certified Energy Manager (CEM) considered an asset
- 5 – 8 years of relevant work experience
- Combined technical (energy or engineering background) and business skill sets
- Understanding of and familiarity with:
    - Systems design thinking
    - All aspects of energy (electricity, natural gas, transportation fuels, etc.) and greenhouse gas emissions
    - Community energy planning and energy management principles
    - The opportunities and challenges associated with distributed generation and renewable energy implementation
    - Facility energy efficiency projects and audits impacting energy/fuel consumption
    - Energy conservation and demand side management principles, programs and incentives
- Successful track record of program management/implementation and partnership development, including experience leading initiatives with multiple stakeholders and competing interests
- Demonstrated ability to facilitate multi-stakeholder committees/discussions towards progressive action
- Proven expertise in developing innovative ways of engaging, influencing, and working with the community

- Effective written and verbal communication skills particularly in terms of presenting and reporting to decision-makers
- Applied research and data analysis skills using qualitative and quantitative methodologies to create and evaluate briefing materials, performance metrics, and project recommendations
- Familiarity with municipal processes (e.g. planning and development approvals) along with good business and political acuity
- Ability to exercise discretion and confidentiality regarding strategic directions, initiatives, and stakeholder interests
- Strong organizational skills, attention to detail, and the ability to work independently with minimal supervision
- Time management skills to manage multiple tasks, and to determine and achieve mandated deadlines amid shifting priorities and competing demands

Work Environment

The Community Energy Program Manager reports directly to the CEIS Governance Committee, with day to day oversight by Grand River Energy (GRE), a joint venture company owned by the local electric utilities created to enable the local development of Distributed Energy Resource technologies. Work takes place within an office environment located in Kitchener, Ontario, with occasional travel for partner/stakeholder meetings and site visits.

Compensation/Benefits

Compensation is commensurate with education and experience, and includes a competitive benefits package. The position is initially for a three year term and has the potential to be extended subject to funding availability and upon review/evaluation of the CEPM meeting the identified work plan goals and objectives.

Application Process

Interested and qualified applicants are invited to submit their resume including work experience, education and references to:

_____

Applications must be received by : _____

We sincerely thank all applicants for their interest in this position; however, only those selected for an interview will be contacted. If you are selected to participate in the recruitment process for the position to which you have applied and require a disability-related accommodation, please communicate this at time of notification of interview process.

Personal information is collected in accordance with the Municipal Freedom of Information and Protection of Privacy Act and will be used for the purpose of this employment opportunity only.

ANNEX 3 - Embed in Municipal Plans, Policies, and Processes

Although CEP measures are focused on community-side energy and GHG emissions reduction, the City has a critical role to ensure a supportive environment. Successful implementation of the CEP requires embedding measures within other municipal plans, policies, processes, and decisions. The lead coordinator and internal committee are best positioned to ensure the CEP is embedded into:

- Updates of Plans
- Council Strategic Plans (e.g. Plan SJ)
- Official Plans and Regulations
- Secondary Plans / Plan amendments
- Community Improvement Plans
- Zoning and building code by-laws
- Site Plan control
- Height and density bonusing
- Plan of Subdivision
- Development Permits
- Development Cost Charges
- Parking Charges
- Budget

This can be accomplished through regular meetings of an internal committee or by coordinating inter-departmentally (on a case-by-case basis, or as part of Plan review), through ongoing processes (e.g. through permitting), as well as through council decisions (e.g. new policies/bylaws, budget decisions). For example, the green energy zoning policy that was adopted by City Council, is supportive of community side renewable integration. The City of Saint John already has supportive policies embedded in Plan SJ:

1. N E 4 Encourage reduced automobile emissions by promoting a more compact, mixed use development pattern and making walking, cycling and transit use viable transportation choices.

2. NE 5 Work with the Government of New Brunswick, industry and other agencies to develop and implement clean air initiatives, including emission reduction strategies.

3. NE 7 Reduce emissions from City Infrastructure, including buildings and fleets, through corporate purchasing and operating policies that support the Municipal Energy Efficiency Program.

4. NE 37 Continue to improve the energy efficiency of municipal service delivery, including facilities, equipment, fleet, street lights, and procurement through the Municipal Energy Efficiency Program.

5. NE 38 Explore and encourage the development and use of alternative energy sources, such as solar, wind, geothermal, biomass and energy recovery.

6. NE 39 Encourage excellence in energy efficiency in new development in retrofitting of existing development.

7. NE 40 Support public education and action on the use of alternative energy sources and energy efficiency measures.

8. NE 41 Work with relevant agencies to develop and implement an Energy and Greenhouse Gas Emissions plan for the City

9. TM 12 Encourage and promote the use of the active transportation network by residents as a healthy transportation choice by undertaking such initiatives as public education campaigns, mapping of the network and way finding signage.

10. TM 22 Recognize and promote public transit as an important component of a sustainable urban transportation system which contributes to economic development and helps the City achieve its environmental goals and objectives.

11. TM 23 Provide effective fiscal support for efficient, affordable, safe and convenient transit services linking major employment, commercial, residential and recreational areas.

12. NE 42 Work with the Government of New Brunswick, the Government of Canada and relevant agencies to support research efforts that better quantify the predicted impacts of climate change.

13. NE 43 Proactively plan for climate change by taking action to manage the effects of climate change and minimizing adverse impacts through the development of a Climate Change Plan in partnership with other levels of government.

14. NE 44 Mitigate local contributions to climate change by:
    A. Working with the Government of New Brunswick, the Government of Canada and relevant agencies to reduce local emissions of greenhouse gases;
    B. Working with the Government of New Brunswick and Saint John Energy to explore renewable sources of energy;
    C. Supporting initiatives to increase public awareness and action on the reduction of greenhouse gas emissions;
    D. Encouraging excellence in emissions reduction and green building standards for all development; and
    E. Recognizing that a variety of initiatives, such as the development of complete communities, increasing economic diversification, offering a range of transportation choices and encouraging local food production all contribute to mitigation of greenhouse gas emissions

15. MS 1 Ensure the first priority for the City is to maintain and upgrade existing municipal servicing systems.

16. MS 7 Develop an asset management system that will inventory and manage the replacement of infrastructure in an effort to optimize service delivery over the life of an asset

ANNEX 4 - Funding for CEP Actions

It will be important for the lead coordinator, as well as internal and external committees, to identify and pursue funding in order to implement specific measures in the CEP. Partners may fund their own efforts, and below are some potential strategies to secure additional funding for CEP measures.

A good practice is to develop an annual budget for prioritized measures, considering the following over the expected life of the CEP:

- Not all actions need to be implemented immediately;
- Distinguish which actions will be implemented year over year;
- Determine potential partners, resources, and additional sources of funding, for each measure;
- An implementation budget should be developed for every year of the action plan and should be updated on an annual basis.
- Funding (e.g. from FCM) can be used to conduct studies, pilots, projects

Strategies to secure financial resources

Sources	Description
Budget	Create budget item/fund for CEP measures
Internal financing sources	• Property taxes, tax levies • Tax Increment Financing, Local Improvement Charges • User fees (on water, power and natural gas distribution system, waste.) • Development Cost Charges (DCCs) • Green bonds
Local Incentives and Rebates	• Development Cost Charge reductions • Local Improvement Charge financing (LIC) or Property Assessed Clean Energy (PACE) programs • Fee rebates/credits (on water and energy bills); local economic incentives for investing in energy efficiency for households and businesses, and new developments (e.g. tax holidays for businesses, faster permitting for developments meeting certain efficiency criteria)
New accounting/ decision-making tools	• Consider natural asset management approach - full cost accounting and valuation of natural assets • Estimate benefits from green infrastructure • Combine funding with Gas Tax revenue • Reinvest efficiency savings into low cost CEP measures, community engagement, etc.

Institutional grants and external sources of funding	Scan and submit funding applications to
	• Federal agencies and governments
	  ○ Natural Resources Canada
	  ○ Environment and Climate Change (ECC)
	  ○ Infrastructure Canada programs
	• FCM programs, including:
	  ○ Green Municipal Fund
	  ○ Municipalities for Climate Innovation Program
	  ○ Municipal Asset Management Program
	• Provincial programs and agencies (e.g. NB Environmental Trust Fund)

Loans	• FCM low-interest loan (GMF) • Municipal green bonds
Leverage private investments	• Engage private sector, to partner and financially support actions that improve community-side efficiency, clean energy or transport modes • Ensure local Chamber of Commerce or others support efforts of small enterprises to improve energy efficiency
Economy of scales and synergies at the local level	• Leverage existing initiatives or project by expanding / adapting their scope and collaborating with other departments (thinking beyond silos) • Take a regional approach - collaborate with neighbouring municipalities • When a measure involves several communities, cost-share (e.g. procurement)

FCM and ICLEI recently published a toolkit called On the money: Financing tools for local climate action, that explains how your municipality can leverage private and community investors to help you take action on climate change in your community. This toolkit includes tips on how to harness people power through group purchasing and community owned renewable power, break capital barriers with local improvements and energy performance contracts, and create a funding cycle with green revolving funds and green bonds.

The two following handbooks provide helpful, on-the-ground solutions to secure funding for energy resilient infrastructure that may be relevant to your community:

- Bridgewater Financing Mechanism Scoping Study (2019)
- Community Energy Investment Strategy for Waterloo Region (2018)

ANNEX 5 - Methods for measuring the economic impact of CEP

There are significant economic benefits from improving energy efficiency across the City of Saint John, and implementing the full range of measures identified in the CEP. It will be important to quantify the economic impact of CEP measures, to gain support from senior decision-makers and elected officials as well as community at large (public, businesses, energy stakeholders, service providers, etc).

Different methods of economic analysis serve different purposes and provide different information. All are relevant to assessing the economic, environmental, and social benefits of CEPs, and to increasing knowledge of the full economic impacts of these investments.

A thoughtful balance needs to be struck between informed decision-making and analysis paralysis. The economic analysis to support a CEP should only go as deep as is needed. This analysis can be undertaken by either the lead coordinator, or committee, and could accompany annual updates on CEP progress, making requests for funding or new policies/bylaws, engaging partners to advance key measures, and demonstrating economic, environmental, and social benefits in the community.

Method	Purpose
Community Energy Cost	Discuss total community energy use in a metric everyone understands, in order to generate different conversations with elected officials and stakeholders. (e.g. $ spent on energy / $ leaving the community)
Financial Feasibility	Screen and prioritize measures, programs, or portfolios to identify if, and when, the investment will break even
Levelized unit energy cost	Compare the per kWh or per GJ costs of different energy generating technologies across the expected lifetime of the asset.
Marginal abatement cost curve	Compare GHG emission reduction options according to which will cost the least or deliver the most financial savings, and according to their potential impact on GHG reductions
Community socio-economic benefits	Inform the decision-making process, and stakeholders, on the total value to the local community and economy of a CEP, considering how expenditures recirculate through local businesses, households, and governments
Cost benefits	Screen and prioritize measures, programs, or portfolios to identify if benefits over time exceed initial costs, and to identify a portfolio of measures that maximize the economic, environmental, and social benefits from CEP implementation.

ANNEX 6 - Sample Webpage and SM Content

Webpage	**Content should include visual depiction and simple explanation of:** ● Energy spending, energy use and GHG emissions in the community, as a pie chart (e.g. tons of CO2 by sector) ● The GHG emissions reduction target (total tons of CO2) ● A short list of objectives and measures identified within the CEP ● Annual achievements: actions taken, impacts (e.g. energy/GHGs reduced, energy costs reduced, energy dollars staying in community) ● Easy button/link to get engaged, or subscribe to updates ● Hyperlinks to documents, programs/incentives, policies, news, contests ● Downloadable tips and guidance for improving energy efficiency at home and for business, as well as any incentives ● Description of governance structure: E.g. Lead Coordinator, Committee and its Members ● Contact information ● Testimonials
Social Media	**Use the City's Facebook, Twitter, LinkedIn, Instagram, or create a new SM account for the purpose of promoting CEP progress. Content should include:** ● Did you know? E.g. community spends X on energy, emits X GHGs? ● Describe specific measures identified in the CEP, benefits to the community, and update on progress on actions/impacts ● Tips and guidance for improving energy efficiency at home and for business, as well as any incentives. Promote anti-idling, clothesline program, etc. ● Share highlights of success stories ● Release Calls to Action ● Promote local contests ● Respond to requests for information

ANNEX 7 - List of Participants

List of Participants

Saint John CEP Implementation Workshop

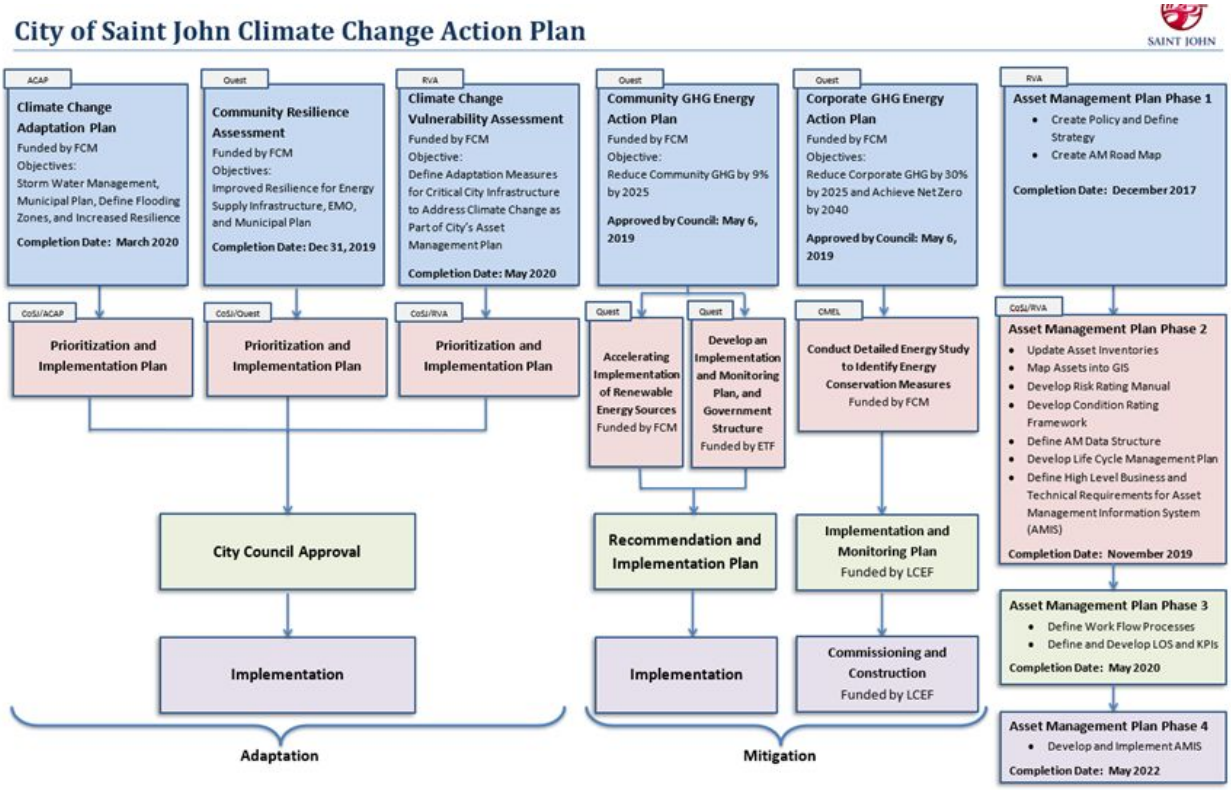
February 6, 2020

Name	Organization
Don Darling, Mayor	City of Saint John
Todd Allen	SJ Energy
Darin Lamont	SJ Energy
Samir Yammine	City of Saint John
Arliss Wilson	NBCC
Bailey Brogan	ACAP SJ
Jamylynn McDonald	ACAP SJ
Jaclyn Mitchell	City of Saint John
Orry Lyttle	NBCC
Dave Sollows	NB Department of Energy
Jeff McAloon	SJRHF
Jody Kliffer	City of Saint John (planning)
Nick Cameron	Fundy Regional Service Commission and SJ Cycling
Lisa Caissie	City of Saint John
Patrick Bramish	City of Saint John
Cathy Snow	Town of Quispamsis
Jodi Stringer-Webb	NBCC
Ian Fogan	City of Saint John

Wallace Floyd	Elias Management Group
Brenda MacCallum	Fundy Regional Service Commission
Chris Elias	Elias Management Group
Mark McCatchson	Elias Management Group
Zen Hiew	Liberty Utilities
Neil Jacobsen	Atlantica Centre for Energy
Mike Bonna	Citizen
Sara Mudge	NB Power
Susan Atkinson	NB Department of Environment and Local Government
Emil Olsen	Town of Quispamsis
Carmen Travis	MCW
Rebecca Jahns	University of Guelph
Alexi	University of New Brunswick
Mitch	QUEST
Alex Benzie	QUEST
Cheryl Ratchford	QUEST
Robert J. Kerr	QUEST Senior Associate
Eddie Oldfield	QUEST

All participants agreed to be invited to a meeting of the external stakeholder advisory committee, once established.

ANNEX 8 - SJ Climate Change Action Plan



ANNEX 9 - CEP Action Sheets (attached separately)