

# **Newfoundland and Labrador Municipal Government Carbon Calculator Methodology Report**

Office of Climate Change, Energy Efficiency and Emissions Trading  
Executive Council  
Government of Newfoundland and Labrador  
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## List of Acronyms

|   |     |
|---|-----|
| Annual cost                             | AC  |
| Base charge                             | BC  |
| Diesel rate by location                 | DL  |
| Electricity GHG coefficient by location | ECL |
| Electricity rate by location            | EL  |
| Extra-long flight                       | EF  |
| Gasoline rate by location               | GL  |
| Greenhouse Gas                          | GHG |
| Heating oil rate by location            | HL  |
| Long flight                             | LF  |
| Medium flight                           | MF  |
| Number of bags                          | B   |
| Short flight                            | SF  |

## 1.0 Introduction

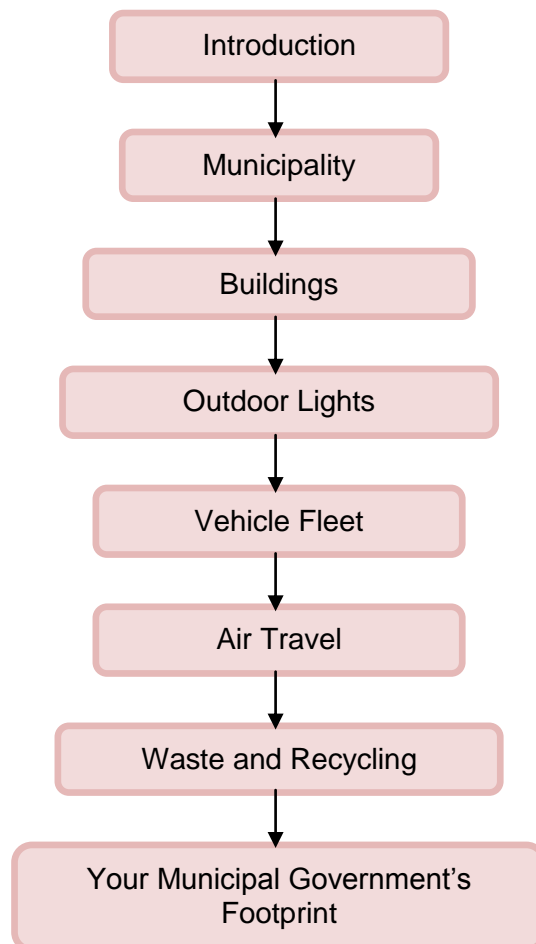
The Municipal Government Carbon Calculator allows municipal governments to estimate their greenhouse gas (GHG) emissions from their municipal operations. It includes the energy used in municipal buildings and services, such as transportation and waste.

This document outlines the data sources and calculation methodology that have been agreed upon for use in this calculator. The calculator data were updated May 2013 to keep in line with the latest carbon emission factors, energy prices and research.

## 2.0 Calculator Structure

Figure 1 shows a flow chart representation of the route through the Municipal Government Carbon Calculator.

Figure 1: High-level flow chart of the journey through the Municipal Government Carbon Calculator



One reason for the division into sections is to make each section a manageable size, but it also allows users to get an intermediate result, split into logical segments. This encourages completion of the entire calculator.

Due to the nature of the information needed to complete the calculator, the introduction includes a downloadable PDF for the user. This document is a checklist for the user to ensure that all information needed to complete the calculator is available before using the online tool. Again, this encourages the user to be prepared so they are able to complete the calculator.

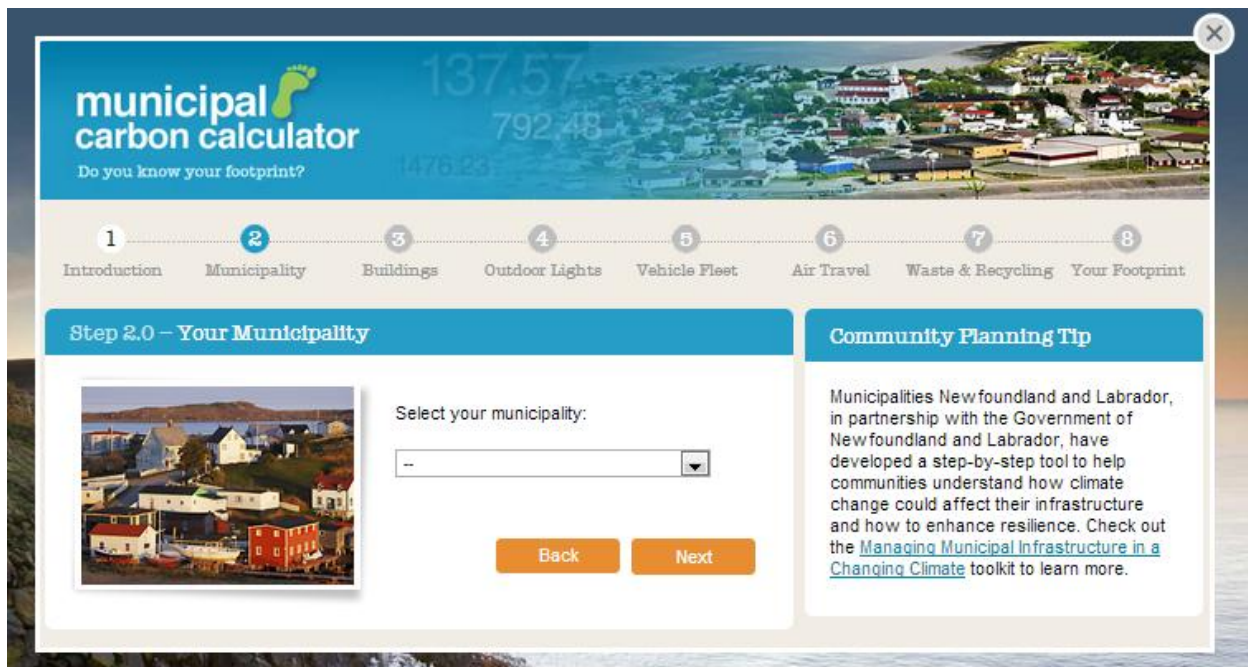
### 3.0 Required User Inputs

The GHG emission estimates produced by the calculator are based on user inputs. In the interests of accessibility and transparency, the calculator has been designed to be as user-friendly with as little data inputs as possible. Exact questions from the calculator can be found in Appendix A.

#### 3.1 Data Inputs for Location

##### Your Municipality

The calculator estimates energy consumption based on whether the user lives in Newfoundland or Labrador and in an on-grid or diesel generator community. Therefore, users are asked the name of their municipality to determine the emissions factor to be used for electricity GHG emissions from their municipal buildings and outdoor lighting. The location is also linked to the price of gasoline, diesel and heating oil prices for energy consumption. Average market prices for 2012 and GHG coefficients by municipality used in this calculator can be found in Appendix B.



## 3.2 Data Inputs for Buildings

The data input for buildings consists of 3 sections – owned buildings, building space provided to other entities and space received from other entities.


### 3.2.1 Your Buildings

This step of the calculator focuses on energy used in municipal buildings. The calculator estimates energy consumed by building based on the annual energy cost for each individual building that is owned or leased by the municipal government.

The most accurate way estimate the GHG emissions generated by energy use is to derive it from records of fuel purchased (i.e., fuel oil) and electricity purchased by the municipality over the course of a year. This information is available from utility bills and makes for a precise quantification of the GHG emissions.

The calculator uses the total annual energy cost and determines the building’s annual energy use by using a blended electricity rate<sup>1</sup> and average fuel prices for 2012<sup>2</sup>. Fuel consumption totals are then multiplied by an appropriate GHG emission factor. Electricity consumption is determined by the regional electricity grid intensity factor for Newfoundland and Labrador (see Appendix B).

Step 3.0 – Your Buildings



Enter the energy cost for each individual building that is owned or leased by your municipal government.

**Note:** Leave areas blank if not applicable to your municipality.

**Note:** If one building services two or more purposes, allocate cost to one building (e.g. If your fire hall is in your town hall).

| Building         | Electricity<br>Total Annual Cost (\$) | Heating Oil<br>Total Annual Cost (\$) |
|------------------|---------------------------------------|---------------------------------------|
| Town Hall        |                                       |                                       |
| Community Centre |                                       |                                       |
| Fire Hall        |                                       |                                       |
| Heritage Center  |                                       |                                       |
| Tourism Chalet   |                                       |                                       |
| Municipal Depots |                                       |                                       |
| Heavy Equipment  |                                       |                                       |
| Solid Waste      |                                       |                                       |
| Waste Water      |                                       |                                       |

<sup>1</sup> A blended rate was developed based on electricity source and location. Newfoundland Power and Newfoundland and Labrador Hydro were consulted.

<sup>2</sup> Public Utilities Board of Newfoundland and Labrador for 2012. Administrative data.

$$\text{GHG}_{\text{electricity 1}} = \frac{\text{AC} - (\text{AC} * 0.05)}{\text{EL}} * \text{ECL}$$

$$\text{GHG}_{\text{heating oil 1}} = \frac{\text{AC} - (\text{AC} * 0.05)}{\text{HL}} * 0.0028$$

$$\text{GHG}_{\text{Buildings 1}} = \text{GHG}_{\text{electricity 1}} + \text{GHG}_{\text{heating oil 1}}$$

Repeat for building 2, building 3, etc.

$$\text{GHG}_{\text{owned buildings}} = \text{GHG}_{\text{Buildings 1}} + \text{GHG}_{\text{Buildings 2}} + \text{GHG}_{\text{Buildings 3}}$$

### 3.2.2 Providing Building Space

The user is also asked if they provide building space to other entities (such as municipalities, organizations or private companies).

Step 3.1 – Providing Building Space



Do other entities (such as private companies, organizations or other municipalities) rent or lease any space in your municipal buildings?

Yes  No

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If the user indicates that their municipality does provide space to another entity, they are asked to estimate the percentage of each building that they own that is leased or rented to the municipality, business or organization.

The GHGs associated with this provided space is then subtracted from the total building footprint calculated in the previous step.

$$GHG_{\text{provided space}} = (GHG_{\text{Building 1}} * \% \text{ occupied by other entity}) + (GHG_{\text{Building 2}} * \% \text{ occupied by other entity}) + (GHG_{\text{Building 3}} * \% \text{ occupied by other entity}) + \dots$$

### 3.2.3 Receiving Building Space

The next component of buildings includes receiving building space. The user is asked if they rent or lease space from other entities that has not yet been included in the calculator.

Step 3.2 – Receiving Building Space



Does your municipal government share or lease space from another municipality (or other entity)?

Yes  No

Back
Next

If the user indicates the municipality does share or lease space from another entity, they are asked to input the total energy cost for those buildings and the amount that can be attributed to their municipality.

The GHG emissions related to this cost are then added to the total GHG emissions for buildings.

$$GHG_{\text{electricity 1}} = \frac{AC - (AC * 0.05)}{EL} * ECL$$

$$GHG_{\text{heating oil 1}} = \frac{AC - (AC * 0.05)}{HL} * 0.0028$$

$$GHG_{\text{Buildings 1}} = GHG_{\text{electricity 1}} + GHG_{\text{heating oil 1}}$$

Repeat for building 2, building 3, etc.




$$GHG_{\text{received space}} = (GHG_{\text{Building 1}} * \% \text{ used occupied by your municipality}) + (GHG_{\text{Building 2}} * \% \text{ used occupied by your municipality}) + (GHG_{\text{Building 3}} * \% \text{ used occupied by your municipality}) + \dots$$

$$GHG_{\text{total buildings}} = GHG_{\text{buildings- provided space}} + GHG_{\text{received space}}$$

### 3.3 Data Inputs for Outdoor Lights

For outdoor lighting, the calculator estimates GHG emissions based on the annual electricity cost. The amount of energy used is then determined depending on location and price of electricity.

Step 4.0 – Outdoor Lights



Enter the total annual energy cost for outdoor lights in your municipality.

\$  Street Lights

\$  Traffic Lights

\$  Softball/Soccer Field Outdoor Lights

Other +

\$

Back
Next


$$GHG_{\text{total lighting}} = \frac{AC - (AC * 0.05)}{EL} * ECL$$

### 3.4 Data Inputs for Vehicle Fleet

The vehicle fleet component includes GHG emissions from the municipal fleet, including any fire trucks, garbage trucks, maintenance vehicles and heavy equipment. The calculator also includes provisions to subtract any GHGs that are associated with proving services to surrounding communities as well as to add GHGs related to services provided to the municipality by another entity.

For the municipal vehicle fleet, the user is given the option to enter their fuel usage based on their total annual fuel cost for the year or their fuel cost by group. If they choose to lump all fuel costs together they are notified that they will not be able to remove the GHGs associated with providing services to a neighboring community.

**Step 5.0 – Vehicle Fleet**



Would you prefer to enter your annual fuel costs as:


Total annual fuel costs

Annual fuel costs per vehicle group (e.g. fire trucks, snow clearing, garbage trucks)

**Note:** Vehicle Fleet includes municipal vehicles for individual use and service provision.

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**Step 5.1 – Vehicle Fleet**



Enter the total cost of fuel consumed by your municipal fleet, including any fire trucks, garbage trucks, maintenance vehicles and heavy equipment.

\$  Gasoline (Total Annual Cost)

\$  Diesel (Total Annual Cost)

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$$GHG_{\text{gasoline}} = \frac{AC}{GL} * 0.002298$$

$$GHG_{\text{diesel}} = \frac{AC}{DL} * 0.002691$$

$$GHG_{\text{total vehicles}} = GHG_{\text{gasoline}} + GHG_{\text{diesel}}$$

If the user chooses to input their fuel by vehicle group they can then move on to answering questions regarding providing services to neighboring communities.

**Step 5.1 – Vehicle Fleet (2)**



Enter the total cost of fuel consumed by each group of vehicles in your municipal fleet.

| Vehicle Group                                  | Gasoline Total Annual Cost (\$) | Diesel Total Annual Cost (\$) |
|--|---------------------------------|-------------------------------|
| Town/City Vehicles (e.g. cars, pick-up trucks) |                                 |                               |
| Town Services                                  |                                 |                               |
| Garbage Truck(s)                               |                                 |                               |
| Snow-Clearing Equipment                        |                                 |                               |
| Street Sweeping Equipment                      |                                 |                               |
| Fire Truck(s)                                  |                                 |                               |
| Heavy Equipment (e.g. excavators, backhoes)    |                                 |                               |
| Other <span style="float: right;">+</span>     |                                 |                               |
| (please specify)                               |                                 |                               |
| <b>Total</b>                                   | 0                               | 0                             |

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Next

$$GHG_{\text{gasoline}} = \frac{AC}{GL} * 0.002298$$

$$GHG_{\text{diesel}} = \frac{AC}{DL} * 0.002691$$

$$GHG_{\text{total vehicles}} = GHG_{\text{gasoline}} + GHG_{\text{diesel}}$$

Repeat for vehicle 2, vehicle 3, etc.

$$GHG_{\text{total vehicles}} = GHG_{\text{vehicle 1}} + GHG_{\text{vehicle 2}} + GHG_{\text{vehicle 3}} + \dots$$

### 3.4.1 Shared Services That You Provide

The user is asked if their municipality provides services to a neighboring municipality. If so, they are asked to estimate the percentage of their services that were used by another municipality in the past year.

#### Step 5.2 – Shared Services That You Provide



Does your municipality provide services to a neighboring municipality (e.g. snow-clearing, garbage or fire services)?

Yes  No

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$$\text{GHG}_{\text{provided services}} = (\text{GHG}_{\text{vehicle 1}} * \% \text{ provided to other municipality}) + (\text{GHG}_{\text{vehicle 2}} * \% \text{ provided to other municipality}) + (\text{GHG}_{\text{vehicle 3}} * \% \text{ provided to other municipality}) + \dots$$

### 3.4.2 Services That You Receive

The user is first asked if their municipality receives any services from another municipality, private company or individual (e.g. contracting out snow clearing or garbage services).

#### Step 5.3 – Services That You Receive



Does your municipality receive any services from another municipality, private company or individual (e.g. contracting out snow clearing, garbage or fire services)?

Yes  No

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If the user receives services from another entity and the fuel cost is known, they are asked to enter the total fuel cost from the service and then estimate the percentage of their services that are used by their municipality.

### Step 5.3 – Services That You Receive (3)



For the services that your municipality receives from another municipality or private company, enter the total annual fuel costs incurred by the provider for the services.

**Note:** Contact your service provider to find out the total annual fuel for the applicable service. Then enter the total fuel cost for the service incurred by the provider. You will be asked in the next question which percentage of this is attributable to your municipality.

| Vehicle Group                                  | Gasoline Total Annual Cost (\$) | Diesel Total Annual Cost (\$) |
|--|---------------------------------|-------------------------------|
| Town/City Vehicles (e.g. cars, pick-up trucks) |                                 |                               |
| Town Services                                  |                                 |                               |
| Garbage Truck(s)                               |                                 |                               |
| Snow-Clearing Equipment                        |                                 |                               |
| Street Sweeping Equipment                      |                                 |                               |
| Fire Truck(s)                                  |                                 |                               |
| Heavy Equipment (e.g. excavators, backhoes)    |                                 |                               |
| Other <span style="float: right;">+</span>     |                                 |                               |
| (please specify)                               |                                 |                               |

$$GHG_{\text{gasoline}} = \frac{AC}{GL} * 0.002298$$

$$GHG_{\text{diesel}} = \frac{AC}{DL} * 0.002691$$

$$GHG_{\text{total vehicles}} = GHG_{\text{gasoline}} + GHG_{\text{diesel}}$$

Repeat for vehicle 2, vehicle 3, etc.

$$GHG_{\text{received services}} = (GHG_{\text{vehicle 1}} * \% \text{ used by your municipality}) + (GHG_{\text{vehicle 2}} * \% \text{ used by your municipality}) + (GHG_{\text{vehicle 3}} * \% \text{ used by your municipality}) + \dots$$

$$GHG_{\text{Total fleet and services}} = GHG_{\text{total vehicles}} - GHG_{\text{provided services}} + GHG$$

### 3.5 Data Inputs for Air Travel

The calculator estimates GHG emissions of air travel depending on the number of return trips per year and length of the trip in hours.

#### Step 6.0 – Air Travel



Enter the total number of annual **return** flights taken by all municipal councilors and staff.

Short Flights (0-2 hours each way)

Medium Flights (2-5 hours each way)

Long Flights (5-8 hours each way)

Extra long Flights (8+ hours each way)

The calculator uses emissions factors based on DEFRA’s methodology, with emissions factors of 0.180, 0.126 and 0.11 kgCO<sub>2</sub>/km travelled for short, medium and long haul flights respectively.<sup>3</sup> The formula used in the calculator is as follows.

$$\text{GHG}_{\text{air travel}} = (\# \text{ SF} * 2400 * 0.00018) + (\# \text{ MF} * 5000 * 0.00013) + (\# \text{ LF} * 10000 * 0.00011) + (\# \text{ EF} * 15000 * 0.00011)$$

### 3.6 Data Inputs for Waste and Recycling

The last component of the user’s carbon footprint is the waste, recycling and composting section.

The calculator estimates GHG emissions in this section by determining the amount of methane emitted by waste production levels and subtracts the emissions mitigated through recycling.

The user is first asked to enter the amount of waste - number of bags - that their household generates per week. The emissions from waste are based on an average weight of a bag of garbage as determined by the City of St. John’s.

<sup>3</sup> <http://www.ghgprotocol.org/calculation-tools/all-tools>

## Step 7.0 – Waste & Recycling



Enter the total number of bags of waste generated through your municipal operations each week.

| Building         | Number of Bags Per Week |
|------------------|-------------------------|
| Town Hall        |                         |
| Community Centre |                         |
| Fire Hall        |                         |
| Heritage Center  |                         |
| Tourism Chalet   |                         |
| <b>Total</b>     | 0                       |

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Next

### Waste

$$\text{GHG}_{\text{waste building 1}} = (B * 10 * 52/1000) * (73.35 * 21 / 1000)$$

Repeat for all buildings.

$$\text{GHG}_{\text{total waste}} = \text{GHG}_{\text{waste building 1}} + \text{GHG}_{\text{waste building 2}} + \text{GHG}_{\text{waste building 3}} + \dots$$

Once the GHG emissions produced by the user's household waste have been calculated, the user is then asked if they recycle and what specific streams of waste they recycle. The calculator then subtracts the number of GHG emissions mitigated by recycling the selected products.

## Step 7.0 – Waste & Recycling (3)



Which of the following do you recycle?

- Newsprint
- Fine paper
- Cardboard
- Aluminum
- Glass
- Plastics

| Building         | Number of Bags Per Month |
|------------------|--------------------------|
| Town Hall        |                          |
| Heritage Center  |                          |
| Municipal Depots |                          |
| Solid Waste      |                          |
| <b>Total</b>     | 0                        |

Table 11. Net recycling emissions

| Type       | Net recycling emissions (RE)<br>(kg CO <sub>2</sub> e/kg of waste) <sup>4</sup> |
|------------|---|
| Newsprint  | -2.81   |
| Fine Paper | -3.33   |
| Cardboard  | -3.34   |
| Aluminum   | -6.49   |
| Glass      | -0.1  |
| Plastics   | -3.63   |

$RE_{avg} = \frac{\text{Emissions from selected recycling products}}{\text{Number of selected products}}$

$GHG_{recycling\ building\ 1} = (B * 2.64 * 12 * RE_{avg} / 1000)$

Repeat for all buildings in section 3.

$GHG_{total\ recycling} = GHG_{waste\ recycling\ 1} + GHG_{waste\ recycling\ building\ 2} + GHG_{waste\ recycling\ 3} + \dots$

<sup>4</sup> Recycling Council of Alberta. (2005). Determination of the Impact of Waste Management Activities on Greenhouse Gas Emissions 2005 Update. Retrieved from: [http://www.recycle.ab.ca/uploads/File/pdf/GHG\\_Impacts\\_Summary.pdf](http://www.recycle.ab.ca/uploads/File/pdf/GHG_Impacts_Summary.pdf)



The total GHGs from waste is then totaled by adding the three lines of emissions.

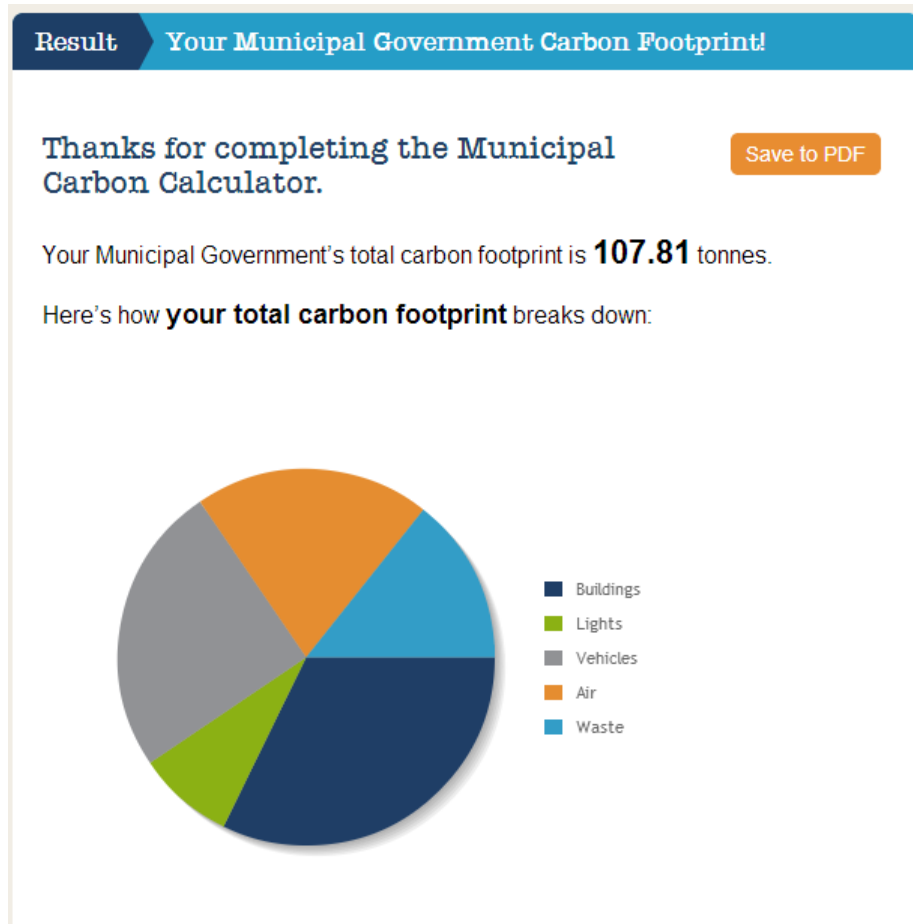
$$\text{GHG}_{\text{total waste and recycling}} = \text{GHG}_{\text{waste}} + \text{GHG}_{\text{recycling}}$$

## 4.0 Your Municipal Government Carbon Footprint

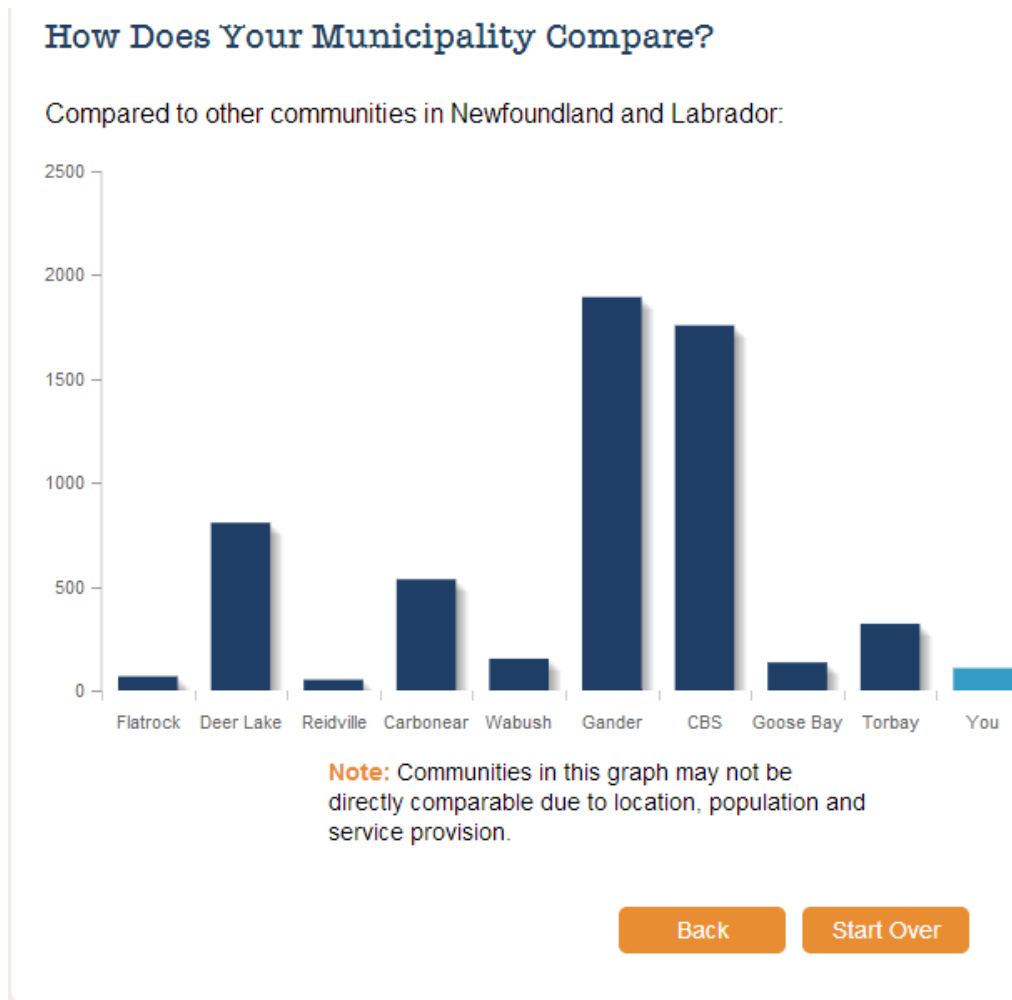
Once all components of the calculator are completed, the user is taken to the overall footprint result – which is a simple summation of the energy use in buildings, vehicle fleet, air transportation and waste components.

$$\text{GHG}_{\text{total waste and recycling}} = \text{Carbon Footprint} = \text{GHG}_{\text{buildings}} + \text{GHG}_{\text{vehicle fleets}} + \text{GHG}_{\text{air travel}} + \text{GHG}_{\text{waste}}$$

This total footprint can then be explored in a number of ways to allow the user to become more familiar with what their footprint means by putting it in context. The user’s footprint is first broken down into its different components through a pie chart so they can compare and contrast the sources of their emissions.



Then the municipality is compared to other municipalities around the province. This is meant as a reference point. No one community in Newfoundland and Labrador are exactly the same, however, by comparing their emissions to other communities it gives the user a sense of how high or low their footprint is. For example, Happy Valley-Goose Bay has low emissions because Central Labrador electricity comes from the Churchill Falls Hydroelectric Generating Station. This is a clean energy source, which means there is little greenhouse gas emissions associated with using electricity.



Lastly, the user is given tips. These tips provide municipal governments with ways save energy, reduce GHG emissions and lower operating costs of their municipal operations. These tips can be found in Appendix C.

## **Appendix A: Municipal Government Carbon Calculator Questions**

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## Step 1.0 - Introduction

The Carbon Calculator allows municipal governments to estimate their greenhouse gas (GHG) emissions from their municipal operations. It includes the energy used and waste produced at municipal buildings and services, such as transportation and street lighting.

In addition to calculating your carbon footprint, the calculator will provide tips and information on how to save energy, reduce your greenhouse gas emissions and lower your operating costs.

Before you start, compile all the information needed to successfully complete this carbon calculator.

IMPORTANT: Download our [checklist](#) for a complete list of the information you will need.

This information will include:

- Energy bills for buildings and outdoor lighting
- Fuel costs for vehicles and equipment
- Average waste and recycling generated at buildings
- Energy bills and fuel bills for any services provided to your municipality by another entity

Complete this document before beginning the carbon calculator.

---

## Step 2.0 -Municipality

1. Select your municipality: **Drop down menu**

---

## Section 3.0 – Your Buildings

This section requires information on the energy used in your municipal buildings.

2. Enter the energy cost for each individual building that is owned or leased by your municipal government.

*Note:* Leave entries blank if not applicable to your municipality.

*Note:* If you have more than one service of the below operations in the same building, allocate cost to one building (e.g. If your community center is in your town hall, place total electricity bill under town hall).

| Building         | Electricity<br>Total Annual Cost (\$) | Heating Oil<br>Total Annual Cost (\$) |
|------------------|---------------------------------------|---------------------------------------|
| Town Hall        |                                       |                                       |
| Community Centre |                                       |                                       |
| Fire Hall        |                                       |                                       |
| Heritage Center  |                                       |                                       |
| Tourism Chalet   |                                       |                                       |

| Building                        | Electricity<br>Total Annual Cost (\$) | Heating Oil<br>Total Annual Cost (\$) |
|---------------------------------|---------------------------------------|---------------------------------------|
| <b>Municipal Depots</b>         |                                       |                                       |
| Heavy Equipment                 |                                       |                                       |
| Solid Waste                     |                                       |                                       |
| Waste Water                     |                                       |                                       |
| Drinking Water Treatment        |                                       |                                       |
| <b>Sports facilities</b>        |                                       |                                       |
| Stadium                         |                                       |                                       |
| Swimming Pool                   |                                       |                                       |
| Softball/Soccer Field Buildings |                                       |                                       |
| Other (please specify)          |                                       |                                       |
| <b>Total</b>                    |                                       |                                       |

[If Other = option to keep adding]

### Section 3.1 – Providing Building Space

3. Do other entities (such as private companies, organizations or other municipalities) rent or lease any space in your municipal buildings?
- (a) Yes
- (b) No

### Section 3.1 (2) – Providing Building Space

[If Q3 = a]

4. Estimate the percentage of each building that you own that is leased or rented to another entity, such as another municipality, business or organization.

| Building                        | Estimated<br>Percentage Occupied<br>by Another Entity (%) |
|---------------------------------|---|
| Town Hall                       |   |
| Community Centre                |   |
| Fire Hall                       |   |
| Heritage Center                 |   |
| Tourism Chalet                  |   |
| <b>Municipal Depots</b>         |   |
| Heavy Equipment                 |   |
| Solid Waste                     |   |
| Waste Water                     |   |
| Drinking Water Treatment        |   |
| <b>Sports facilities</b>        |   |
| Stadium                         |   |
| Swimming Pool                   |   |
| Softball/Soccer Field Buildings |   |
| Other (please specify)          |   |
| <b>Total</b>                    |   |

[If Other = option to keep adding]

### Section 3.2 – Receiving Building Space

5. Does your municipal government share or lease space from another municipality (or other entity)?
- (a) Yes
  - (b) No

### Section 3.2 (2) – Receiving Building Space

[If Q5 = a]

6. Do you know the total energy costs for the buildings that you share or lease from another municipality or entity?
- (a) Yes
  - (b) No

### Section 3.2 (3) – Receiving Building Space

[If Q6 = a]

7. For the buildings that you rent or lease from another entity, enter the total annual energy costs of each building.

| Building                        | Electricity<br>Total Annual Cost (\$) | Heating Oil<br>Total Annual Cost (\$) |
|---------------------------------|---------------------------------------|---------------------------------------|
| Town Hall                       |                                       |                                       |
| Community Centre                |                                       |                                       |
| Fire Hall                       |                                       |                                       |
| Heritage Center                 |                                       |                                       |
| Tourism Chalet                  |                                       |                                       |
| Municipal Depots                |                                       |                                       |
| Heavy Equipment                 |                                       |                                       |
| Solid Waste                     |                                       |                                       |
| Waste Water                     |                                       |                                       |
| Drinking Water Treatment        |                                       |                                       |
| Sports facilities               |                                       |                                       |
| Stadium                         |                                       |                                       |
| Swimming Pool                   |                                       |                                       |
| Softball/Soccer Field Buildings |                                       |                                       |
| Other (please specify)          |                                       |                                       |
| <b>Total</b>                    |                                       |                                       |

[If Other = option to keep adding]

### Section 3.2 (4) – Receiving Building Space

[If Q6 = a]

8. Estimate the percentage of each shared building that can be attributed to your municipality.

| Building                        | Estimated Percentage Used by Your Municipality (%) |
|---------------------------------|--|
| Town Hall                       |  |
| Community Centre                |  |
| Fire Hall                       |  |
| Heritage Center                 |  |
| Tourism Chalet                  |  |
| <b>Municipal Depots</b>         |  |
| Heavy Equipment                 |  |
| Solid Waste                     |  |
| Waste Water                     |  |
| Drinking Water Treatment        |  |
| <b>Sports facilities</b>        |  |
| Stadium                         |  |
| Swimming Pool                   |  |
| Softball/Soccer Field Buildings |  |
| Other (please specify)          |  |
| <b>Total</b>                    |  |

[If Other = option to keep adding]

### Section 4.0 – Outdoor Lights

9. Enter the total annual energy cost for outdoor lights in your municipality.

| Lights                               | Electricity Total Annual Cost (\$) |
|--------------------------------------|------------------------------------|
| Street lights                        |                                    |
| Traffic lights                       |                                    |
| Softball/Soccer Field outdoor lights |                                    |
| Other (please specify)               |                                    |
| <b>Total</b>                         |                                    |

[If Other = option to keep adding]

## Section 5.0 – Vehicle Fleet

10. Would you prefer to enter your annual fuel costs as:

- (a) Total annual fuel costs
- (b) Annual fuel costs per vehicle group (e.g. fire trucks, snow clearing, garbage trucks)

*Pop-up:* If you enter your total fuel bill you will not be able to subtract any services you may provide to neighboring municipalities.

### Section 5.1 (2) – Vehicle Fleet

[If Q10 = a]

11. Enter the total cost of fuel consumed by your municipal fleet, including any fire trucks, garbage trucks, maintenance vehicles and heavy equipment.

|                          | Gasoline<br>Total Annual Cost (\$) | Diesel<br>Total Annual Cost (\$) |
|--------------------------|------------------------------------|----------------------------------|
| Total Annual Fuel Costs: |                                    |                                  |

### Section 5.1 (2) – Vehicle Fleet

[If Q10 = b]

12. Enter the total cost of fuel consumed by each group of vehicles in your municipal fleet.

| Vehicle Group                                 | Gasoline<br>Total Annual<br>Cost (\$) | Diesel<br>Total Annual<br>Cost (\$) |
|---|---------------------------------------|-------------------------------------|
| Town/City vehicles (e.g.cars, pick-up trucks) |                                       |                                     |
| Town Services                                 |                                       |                                     |
| Garbage Truck(s)                              |                                       |                                     |
| Snow-Clearing Equipment                       |                                       |                                     |
| Street Sweeping Equipment                     |                                       |                                     |
| Fire Truck(s)                                 |                                       |                                     |
| Heavy Equipment (e.g. excavators, backhoes)   |                                       |                                     |
| Other (please specify)                        |                                       |                                     |
| <b>Total</b>                                  |                                       |                                     |

[If Other = option to keep adding]

## Section 5.2 – Shared Services That You Provide

13. Does your municipality provide services to a neighboring municipality (e.g. snow-clearing, garbage or fire services)?

- (a) Yes
- (b) No



**Section 5.2 (2) – Shared Services That You Provide**

[If Q13 = a]

14. Estimate the percentage of your services that are used by another municipality in the past year.

| Vehicle Group                                  | Estimated Percentage Used by Another Municipality (%) |
|--|---|
| Town/City vehicles (e.g. cars, pick-up trucks) |   |
| Town Services                                  |   |
| Garbage Truck(s)                               |   |
| Snow-Clearing Equipment                        |   |
| Street Sweeping Equipment                      |   |
| Fire Truck(s)                                  |   |
| Heavy Equipment (e.g. excavators, backhoes)    |   |
| Other (please specify)                         |   |
| <b>Total</b>                                   |   |

[If Other = Add row - Need option to keep adding]

**Section 5.3 –Services That You Receive**

15. Does your municipality receive any services from another municipality, private company or individual (e.g. contracting out snow clearing, garbage services or fire services)?

- (a) Yes
- (b) No

**Section 5.3 (2) –Services That You Receive**

[If Q15 = a]

16. Do you know the total fuel costs for the services that you share or lease from another municipality or entity?

- (a) Yes
- (b) No

**Section 5.3 (3) –Services That You Receive**

[If Q16 = a]

17. For the services that your municipality receives from another municipality or private company, enter the total annual fuel costs incurred by the provider for the services.

*Note:* Contact your service provider to find out the total annual fuel for the applicable service. Then enter the total fuel cost for the service incurred by the provider. You will be asked in the next question which percentage of this is attributable to your municipality.

| Vehicle Group                               | Gasoline<br>Total Annual<br>Cost (\$) | Diesel<br>Total Annual<br>Cost (\$) |
|---|---------------------------------------|-------------------------------------|
| Town/City vehicles (e.g. pick-up trucks)    |                                       |                                     |
| Town Services                               |                                       |                                     |
| Garbage Truck(s)                            |                                       |                                     |
| Snow-Clearing Equipment                     |                                       |                                     |
| Street Sweeping Equipment                   |                                       |                                     |
| Fire Truck(s)                               |                                       |                                     |
| Heavy Equipment (e.g. excavators, backhoes) |                                       |                                     |
| Other (please specify)                      |                                       |                                     |
| <b>Total</b>                                |                                       |                                     |

[If Other = option to keep adding]

### Section 5.3 (4) –Services That You Receive

[If Q16 = a]

18. Estimate the percentage of these services that were used by your municipality in the past year.

| Vehicle Group                               | Percentage of fuel<br>(%) |
|---|---------------------------|
| Town/City vehicles (e.g. pick-up trucks)    |                           |
| Town Services                               |                           |
| Garbage Truck(s)                            |                           |
| Snow-Clearing Equipment                     |                           |
| Street Sweeping Equipment                   |                           |
| Fire Truck(s)                               |                           |
| Heavy Equipment (e.g. excavators, backhoes) |                           |
| Other (please specify)                      |                           |
| <b>Total</b>                                |                           |

[If Other = option to keep adding]

---

## Section 6.0 –Air Travel

19. Enter the total number of annual **return** flights taken by all municipal councilors and staff.

| Length of Flight<br>(one-way) | Number of Flights |
|-------------------------------|-------------------|
| Short flights (0-2 hours)     |                   |
| Medium flights (2-5 hours)    |                   |
| Long flights (5-8 hours)      |                   |
| Extra Long flights (8+ hours) |                   |

---

## Section 7.0 – Waste and Recycling<sup>5</sup>

20. Enter the total number of bags of waste generated through your municipal operations per **week**.

| Building                        | Number of Bags<br>Per Week |
|---------------------------------|----------------------------|
| Town Hall                       |                            |
| Community Centre                |                            |
| Fire Hall                       |                            |
| Heritage Center                 |                            |
| Tourism Chalet                  |                            |
| <b>Municipal Depots</b>         |                            |
| Heavy Equipment                 |                            |
| Solid Waste                     |                            |
| Waste Water                     |                            |
| Drinking Water Treatment        |                            |
| <b>Sports facilities</b>        |                            |
| Stadium                         |                            |
| Swimming Pool                   |                            |
| Softball/Soccer Field Buildings |                            |
| Other (please specify)          |                            |
| <b>Total</b>                    |                            |

[If Other = option to keep adding]

## Section 7.0 (2) –Waste and Recycling<sup>6</sup>

21. Do you recycle at your municipal buildings?

- (a) Yes  
 (b) No

---

<sup>5</sup> The emissions from waste are based on an average weight of garbage as determined by the City of St. John's.

<sup>6</sup> The emissions from recycling are based on an average weight of garbage as determined by the City of St. John's.

**Section 7.0 (3) –Waste and Recycling**

[If Q21 = a]

22. Which of the following do you recycle?

- a. Newsprint
- b. Fine paper
- c. Cardboard
- d. Aluminum
- e. Glass
- f. Plastics

23. Enter the total number of bags of recycling generated through your municipal operations per **month**.

| Building                        | Number of Bags Per Month |
|---------------------------------|--------------------------|
| Town Hall                       |                          |
| Community Centre                |                          |
| Fire Hall                       |                          |
| Heritage Center                 |                          |
| Tourism Chalet                  |                          |
| Municipal Depots                |                          |
| Heavy Equipment                 |                          |
| Solid Waste                     |                          |
| Waste Water                     |                          |
| Drinking Water Treatment        |                          |
| Sports facilities               |                          |
| Stadium                         |                          |
| Swimming Pool                   |                          |
| Softball/Soccer Field Buildings |                          |
| Other (please specify)          |                          |
| <b>Total</b>                    |                          |

**Appendix B: GHG Coefficients by Municipality**

| <b>Municipality</b>         | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|-----------------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Admirals Beach              | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Anchor Point                | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Appleton                    | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Aquaforte                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Arnold's Cove               | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Avondale                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Badger                      | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Baie Verte                  | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Baine Harbour               | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Bauline                     | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Bay Bulls                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Bay de Verde                | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Bay L'Argent                | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Bay Roberts                 | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Baytona                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Beachside                   | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Bellburns                   | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Belleoram                   | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| Birchy Bay                  | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Bird Cove                   | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Bishop's Cove               | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Bishop's Falls              | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Bonavista                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Botwood                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Branch                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Brent's Cove                | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Brighton                    | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Brigus                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Bryant's Cove               | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Buchans                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Burgeo                      | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Burin                       | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Burlington                  | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Burnt Islands               | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Campbellton                 | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Cape Broyle                 | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Cape St. George             | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Carbonear                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Carmanville                 | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Cartwright                  | 0.35                          | 0.00084500                   | 1.206                         | 1.520                      | 1.537                    |
| Centreville-Wareham-Trinity | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Chance Cove                 | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Change Islands              | 0.11416                       | 0.00010700                   | 1.098                         | 1.464                      | 1.485                    |
| Channel-Port aux Basques    | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Chapel Arm                  | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |

| <b>Municipality</b>       | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|---------------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Charlottetown             | 0.24                          | 0.00084500                   | 1.206                         | 1.520                      | 1.537                    |
| Clarenceville             | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Clarke's Beach            | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Coachman's Cove           | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Colinet                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Colliers                  | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Come By Chance            | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Comfort Cove-Newstead     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Conception Bay South      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Conception Harbour        | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Conche                    | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Cook's Harbour            | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Cormack                   | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Corner Brook              | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Cottlesville              | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Cow Head                  | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Cox's Cove                | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Crow Head                 | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Cupids                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Daniel's Harbour          | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Deer Lake                 | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Dover                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Duntara                   | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Eastport                  | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Elliston                  | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Embree                    | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Englee                    | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| English Harbour East      | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Fermeuse                  | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Ferryland                 | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Flatrock                  | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Fleur de Lys              | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Flower's Cove             | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Fogo                      | 0.11416                       | 0.00010700                   | 1.079                         | 1.427                      | 1.448                    |
| Fogo Island Region (Part) | 0.11416                       | 0.00010700                   | 1.079                         | 1.427                      | 1.448                    |
| Forteau                   | 0.23                          | 0.00084500                   | 1.119                         | 1.420                      | 1.449                    |
| Fortune                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Fox Cove-Mortier          | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Fox Harbour               | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Frenchman's Cove          | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Gallants                  | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Gambo                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Gander                    | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Garnish                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Gaskiers-Point La Haye    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Gaultois                  | 0.11416                       | 0.00010700                   | 1.187                         | 1.488                      | 1.468                    |

| <b>Municipality</b>                 | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|-------------------------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Gillams                             | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Glenburnie-Birchy Head-Shoal B      | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Glenwood                            | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Glovertown                          | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Goose Cove East                     | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Grand Bank                          | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Grand Falls-Windsor                 | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Grand Le Pierre                     | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Greenspond                          | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Hampden                             | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Hant's Harbour                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Happy Adventure                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Happy Valley-Goose Bay              | 0.03                          | 0.00000039                   | 1.066                         | 1.392                      | 1.420                    |
| Harbour Breton                      | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| Harbour Grace                       | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Harbour Main-Chapel's Cove-Lak      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Hare Bay                            | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Hawke's Bay                         | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Heart's Content                     | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Heart's Delight-Islington           | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Heart's Desire                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Hermitage-Sandyville                | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| Holyrood                            | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Hopedale                            | 0.21                          | 0.00084500                   | 1.287                         | 1.585                      | 1.596                    |
| Howley                              | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Hughes Brook                        | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Humber Arm South                    | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Indian Bay                          | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Irishtown-Summerside                | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Isle aux Morts                      | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Jackson's Arm                       | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Joe Batt's Arm-Barr'd Islands-Keels | 0.11416                       | 0.00010700                   | 1.079                         | 1.427                      | 1.448                    |
| King's Cove                         | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| King's Point                        | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Kippens                             | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| La Scie                             | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Labrador City                       | 0.03                          | 0.00000039                   | 1.086                         | 1.409                      | 1.440                    |
| Lamaline                            | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| L'Anse au Clair                     | 0.34                          | 0.00084500                   | 1.119                         | 1.420                      | 1.449                    |
| L'Anse au Loup                      | 0.17                          | 0.00084500                   | 1.119                         | 1.420                      | 1.449                    |
| Lark Harbour                        | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Lawn                                | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Leading Ticks                       | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |



| <b>Municipality</b>            | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|--------------------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Lewin's Cove                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Lewisporte                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Little Bay                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Little Bay East                | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Little Bay Islands             | 0.49                          | 0.00084500                   | 1.068                         | 1.436                      | 1.458                    |
| Little Burnt Bay               | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Logy Bay-Middle Cove-Outer Cov | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Long Harbour-Mount Arlington H | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Lord's Cove                    | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Lourdes                        | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Lumsden                        | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Lushes Bight-Beaumont-Beaumont | 0.11416                       | 0.00010700                   | 1.064                         | 1.434                      | 1.456                    |
| Main Brook                     | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Makkovik                       | 0.28                          | 0.00084500                   | 1.287                         | 1.585                      | 1.596                    |
| Mary's Harbour                 | 0.23                          | 0.00084500                   | 1.206                         | 1.520                      | 1.537                    |
| Marystown                      | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Massey Drive                   | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Mclver's                       | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Meadows                        | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Middle Arm                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Miles Cove                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Millertown                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Milltown-Head of Bay d'Espoir  | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| Ming's Bight                   | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Morrisville                    | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Mount Carmel-Mitchells Brook-S | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Mount Moriah                   | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Mount Pearl                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Musgrave Harbour               | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Musgravetown                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Nain                           | 0.31                          | 0.00084500                   | 1.287                         | 1.585                      | 1.596                    |
| New Perlican                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| New-Wes-Valley                 | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Nippers Harbour                | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Norman's Cove-Long Cove        | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Norris Arm                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Norris Point                   | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| North River                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| North West River               | 0.09                          | 0.00000039                   | 1.066                         | 1.392                      | 1.420                    |
| Northern Arm                   | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Old Perlican                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Pacquet                        | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |

| <b>Municipality</b>            | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|--------------------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Paradise                       | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Parker's Cove                  | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Parson's Pond                  | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Pasadena                       | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Peterview                      | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Petty Harbour-Maddox Cove      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Pilley's Island                | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Pinware                        | 0.18                          | 0.00084500                   | 1.119                         | 1.420                      | 1.449                    |
| Placentia                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Point au Gaul                  | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Point Lance                    | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Point Leamington               | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Point May                      | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Point of Bay                   | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Pool's Cove                    | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Port Anson                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Port au Choix                  | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Port au Port East              | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Port au Port West-Aguathuna-Fe | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Port Blandford                 | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Port Hope Simpson              | 0.36                          | 0.00084500                   | 1.206                         | 1.520                      | 1.537                    |
| Port Kirwan                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Port Rexton                    | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Port Saunders                  | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Portugal Cove South            | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Portugal Cove-St. Philip's     | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Postville                      | 0.33                          | 0.00084500                   | 1.287                         | 1.585                      | 1.596                    |
| Pouch Cove                     | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Raleigh                        | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Ramea                          | 0.51                          | 0.00084500                   | 1.118                         | 1.397                      | 1.419                    |
| Red Bay                        | 0.2                           | 0.00084500                   | 1.119                         | 1.420                      | 1.449                    |
| Red Harbour                    | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Reidville                      | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Rencontre East                 | 0.11416                       | 0.00010700                   | 1.187                         | 1.488                      | 1.468                    |
| Renews-Cappahayden             | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Rigolet                        | 0.28                          | 0.00084500                   | 1.287                         | 1.585                      | 1.596                    |
| River of Ponds                 | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Riverhead                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Robert's Arm                   | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Rocky Harbour                  | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Roddickton-Bide Arm            | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| Rose Blanche-Harbour Le Cou    | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Rushoon                        | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Sally's Cove                   | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Salmon Cove                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |

| <b>Municipality</b>            | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|--------------------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Salvage                        | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Samiajij Miawpukek             | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| Sandringham                    | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Savage Cove-Sandy Cove         | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Seal Cove (Fortune Bay)        | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| Seal Cove (White Bay)          | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Seldom-Little Seldom           | 0.11416                       | 0.00010700                   | 1.079                         | 1.427                      | 1.448                    |
| Sheshatshiu                    | 0.05                          | 0.00000039                   | 1.066                         | 1.392                      | 1.420                    |
| Small Point-Adam's Cove-Blackh | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| South Brook                    | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| South River                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Southern Harbour               | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Spaniard's Bay                 | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Springdale                     | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| St. Alban's                    | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| St. Anthony                    | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| St. Bernard's-Jacques Fontaine | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| St. Brendan's                  | 0.2                           | 0.00084500                   | 1.084                         | 1.422                      | 1.443                    |
| St. Bride's                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| St. George's                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| St. Jacques-Coomb's Cove       | 0.11416                       | 0.00010700                   | 1.086                         | 1.413                      | 1.435                    |
| St. John's                     | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| St. Joseph's                   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| St. Lawrence                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| St. Lewis                      | 0.24                          | 0.00084500                   | 1.206                         | 1.520                      | 1.537                    |
| St. Lunaire-Griquet            | 0.11416                       | 0.00010700                   | 1.079                         | 1.392                      | 1.414                    |
| St. Mary's                     | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| St. Paul's                     | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| St. Shott's                    | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| St. Vincent's-St. Stephen's-Pe | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Steady Brook                   | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |
| Stephenville                   | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Stephenville Crossing          | 0.11416                       | 0.00010700                   | 1.057                         | 1.371                      | 1.393                    |
| Summerford                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Sunnyside                      | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Terra Nova                     | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Terrenceville                  | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Tilt Cove                      | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |
| Tilting                        | 0.11416                       | 0.00010700                   | 1.079                         | 1.427                      | 1.448                    |
| Torbay                         | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Traytown                       | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Trepassey                      | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Trinity                        | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Trinity Bay North              | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Triton                         | 0.11416                       | 0.00010700                   | 1.059                         | 1.394                      | 1.416                    |

| <b>Municipality</b> | <b>Electricity Price (EL)</b> | <b>Electricity GHG (ECL)</b> | <b>Heating Oil Price (HL)</b> | <b>Gasoline Price (GL)</b> | <b>Diesel Price (DL)</b> |
|---------------------|-------------------------------|------------------------------|-------------------------------|----------------------------|--------------------------|
| Trout River         | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| Twillingate         | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Upper Island Cove   | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Victoria            | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Wabana              | 0.11416                       | 0.00010700                   | 1.027                         | 1.361                      | 1.382                    |
| Wabush              | 0.03                          | 0.00000039                   | 1.086                         | 1.409                      | 1.440                    |
| West St. Modeste    | 0.18                          | 0.00084500                   | 1.119                         | 1.420                      | 1.449                    |
| Westport            | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Whitbourne          | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Whiteway            | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Winterland          | 0.11416                       | 0.00010700                   | 1.057                         | 1.373                      | 1.395                    |
| Winterton           | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Witless Bay         | 0.11416                       | 0.00010700                   | 1.038                         | 1.355                      | 1.377                    |
| Woodstock           | 0.11416                       | 0.00010700                   | 1.054                         | 1.380                      | 1.402                    |
| Woody Point         | 0.11416                       | 0.00010700                   | 1.033                         | 1.373                      | 1.395                    |
| York Harbour        | 0.11416                       | 0.00010700                   | 1.023                         | 1.362                      | 1.384                    |

## **Appendix C: Municipal Government Carbon Calculator Tips**

## **Your Municipality**

### **1. Community Planning Tip**

Municipalities Newfoundland and Labrador, in partnership with the Government of Newfoundland and Labrador, have developed a step-by-step tool to help communities understand how climate change could affect their infrastructure and how to enhance resilience. Check out the [Managing Municipal Infrastructure in a Changing Climate](#) toolkit to learn more.

## **Your Buildings**

### **1. Energy Saving Tip**

How we design, build and operate buildings can offer opportunities for greater energy efficiency, lower energy costs, and reduced greenhouse gas emissions.

There are a variety of codes and standards that can help you build, renovate and operate buildings in the most energy-efficient manner.

These include:

- [Model National Energy Code for Buildings](#)
- [Leadership in Energy and Environmental Design \(LEED\)](#)
- [BOMA BEST](#)

### **2. Energy Management Tip**

Consider a green lease. Incorporating requirements to improve the energy and environmental performance of a building has many advantages. For a building owner, green leasing helps to maximize the return on investment from a particular building. For a tenant, green leases offer financial incentives, including the possibility of reduced rent as a result of increased energy efficiency, decreased water use or waste reduction.

To find out more, visit: <http://www.turnbackthetide.ca/for-businesses/buildings/green-leases.shtml#.UVQxFRzkv2s>

### **3. Energy Saving Tip**

Use motion detectors in your municipal buildings and using solar-powered lights for paths and walkways to save energy, increase security and lower energy bills.

### **4. Did you know?**

Space heating and cooling is responsible for 52.6% of the energy use in commercial and institutional buildings in Newfoundland and Labrador. Improving your insulation, installing ENERGY STAR windows, or something as simple as sealing air leaks can improve energy efficiency, lower heat bills, and reduce greenhouse gas emissions.

### **5. Energy Saving Tip**

"Multi-function" office devices combine print, copy, scan and sometimes fax capabilities into one unit. These save space and use less energy. Choose ENERGY STAR models to save the most energy and switch them off when they are not in use.

## 6. Did you know?

5% of the energy use in commercial and institutional buildings is used for lighting. Often, the energy costs associated with lighting could be cut by at least 30% by switching to energy-efficient options. These modern lighting systems also last longer (reducing maintenance costs) and produce superior light.

## 7. Energy Saving Tip

All computers have ENERGY STAR-certified models that use up to 65% less energy than regular models; laptops use even less energy in comparison to a standard desktop computer. So when buying new computers for your municipal buildings make sure to look for the ENERGY STAR label and buy laptops when possible.

## Outdoor Lights

### 1. Did you know?

Outdoor light fixtures, like many indoor light fixtures, have traditionally relied on high energy incandescent bulbs. A more energy efficient option is to use *high-pressure sodium lights*. These lights are 75-80% more energy-efficient than traditional incandescent light bulbs and last 10 times as long.

## Vehicle Fleet

### 1. Fuel Efficiency Tip

When buying new vehicles for your fleet check out Canada's Fuel Consumption Guide before purchasing ([http://oee.nrcan.gc.ca/transportation/tools/fuelratings/FCG2013\\_e.pdf](http://oee.nrcan.gc.ca/transportation/tools/fuelratings/FCG2013_e.pdf)). This allows fleet managers to consider the long-term "life-cycle" costs against the up-front purchase price.

### 2. Did you know?

10 seconds of idling wastes more fuel than restarting an engine. Many organizations, including the Provincial Government, have established anti-idling policies for its drivers and around public buildings. Fleet managers can adopt a similar approach to eliminate unnecessary idling. Not only does this save energy, money and reduce greenhouse gas emissions, it also improves local air quality.

### 3. Fuel Efficiency Tip

Performing regular maintenance is an easy way to improve the fuel efficiency of your fleet. Did you know that a tire that is under-inflated by 10% increases overall fuel consumption by 2% and using the wrong motor oil for your vehicle can increase your fuel consumption by another 2%. That's an easy 4 percent you can save on your fuel bill!

### 4. Did you know?

Cruise control is the most efficient way to drive on the highway because it maintains a consistent speed and smooth driving, while preventing accidental speeding. This will allow you to save fuel, but remember to slow down and switch out of cruise control when heading up large hills so your engine won't have to work so hard.

**5. Did you know?**

By reducing truck speeds from 115 km/h to 105 km/h, heavy trucks can improve fuel-efficiency by 7%.

**6. Did you know?**

Speeding, quick acceleration and hard stops - all considered aggressive driving - can increase fuel consumption by 25%. Driving smoothly is safer and more fuel efficient.

**7. Did you know?**

At 105 km/h, two-thirds of a truck's horsepower is being used to overcome drag. The adoption of a full suite of aerodynamic devices and devices for more fuel-efficient idling can reduce fuel consumption by 22%.

**8. Fuel Efficiency Tip**

The weight of heavy items in a vehicle will cause it to use more fuel. Lighten your load and save money by carrying only what you need.

**Air Travel**

**1. Energy Saving Tip**

Greenhouse gas emissions from air travel are particularly harmful because they are emitted so high in the atmosphere. To reduce how much you fly, especially for work, try video conferencing, teleconferencing or webinars to connect with people and share files.

**Waste and Recycling**

**1. Did you know?**

30% of the waste we generate in our province is organic material. When this material is buried in a landfill it generates methane, which is 21 times more powerful than carbon dioxide in its ability to trap heat in the atmosphere. Try setting up a composting initiative at work to cut down waste.

**2. Did you know?**

Paper products account for 37% of the waste we produce in Newfoundland and Labrador. Take action at your municipal buildings with simple steps like using recycled paper, setting your printer to print on both sides, and recycling used paper.

**3. Did you know?**

Each person in Newfoundland and Labrador generates 4.5 lbs. of waste per day. One easy way to reduce waste at work is by packing a waste-free lunch. Take action by packing food in reusable containers, wash and reuse real silverware, store juice, water or other beverages in a reusable bottle, and pack it all in a reusable lunch bag or tote.



## Summary Page

**Develop a Plan:** Adapt to climate change by understanding the vulnerabilities of your specific community and develop a plan. The [Municipal Resources for Adapting to Climate Change](#) toolkit includes resources and risk assessment tools for communities to take action on adapting to climate change.

**Use the Build Better Buildings Policy (BBB):** The Provincial Government recently adopted the BBB Policy to transform the way it builds and renovates buildings and buildings that receive funding from the province, such as some local government projects like town halls. This policy is available to the public so the next time your government or someone in your community is building or renovating a building, use the BBB Policy.

**Lead by Example:** Vision and commitment matter. Citizens look to local governments for leadership and governments can establish a plan that others can follow or take inspiration from. Local governments should show leadership and communicate to their community they are making a difference.

**Start a Community Green Team:** Establishing a community green team with a variety of individuals can help local governments expand their resources and know-how and benefit from advice and ideas, while simultaneously fostering greater community engagement in and ownership of the issues.

**Train Employees:** Fleet managers cannot directly control the driving style of employees, but increasing employees' awareness of fuel-saving driving habits is the first step. Fleet managers should distribute information to promote more fuel efficient driving styles or try creating competitions and reward employees who achieve the best fuel efficiency. To learn more visit: <http://www.turnbackthetide.ca/on-the-move/fleet-management.shtml#.UV1vbpPkv2s>

**Consider Contacting an Energy Service Company:** Some Energy Service Companies offer energy solutions to their clients, including the design and implementation of energy saving projects such as energy efficiency retrofits to municipal buildings or improved fleet management. Flexible funding arrangements to assist with the upfront capital costs are often possible. For example, an Energy Service Company may make the upfront capital investment and make a return by receiving a proportion of the value of the energy savings from the project for a defined period of time. To learn more visit: <http://www.turnbackthetide.ca/businesses/energy-performance-contracting.shtml>