

# Municipality of North Perth

## 2021/2022 Carbon Footprint Reduction and Compensation Strategy Report

### Purpose:

1. To outline the progress that the Municipality of North Perth has made in reducing/compensating our carbon footprint in 2021.
2. To outline the actions that the Municipality of North Perth will be taking in 2022 to reduce and compensate for our carbon footprint.

### 2021 Progress

#### A. Carbon Reduction

In 2021, fuel and electricity quantities were monitored in all aspects of the Municipality's operations. The results are listed and compared to 2017, 2018, 2019 and 2020 figures in the below charts:

#### 2017-2018 North Perth Carbon Comparison

	2018		2017		Year Difference
Product	Quantity	kgCO2	Quantity	kgCO2	kgCO2
Electricity	5,367,526.18 kWh	220,068.57	5,180,400.71 kWh	212,396.43	
Propane	25,594.40 L	38,647.54	27,425.50 L	41,412.51	
Natural Gas	285,563.71 m <sup>3</sup>	536,574.72	187,616.71 m <sup>3</sup>	352,531.80	
Furnace Oil	27,549.10 L	75,071.30	22,970.00 L	65,593.25	
Gasoline	31,646.91 L	72,439.78	33,601.06 L	76,912.83	
Diesel	153,656.87 L	409,188.24	153,181.45 L	407,922.20	
<b>Totals</b>		<b>1,351,990.16</b>		<b>1,156,769.02</b>	<b>198,221.15</b>

#### Comments:

- Emissions increase of 198,221.15 kgCO2 in 2018
- Increase is attributed to the first full-year operation of the Steve Kerr Memorial Complex (electricity and natural gas)

#### 2018-2019 North Perth Carbon Comparison

	2019		2018		Year Difference
Product	Quantity	kgCO2	Quantity	kgCO2	kgCO2
Electricity	4,247,254.18 kWh	174,137.42	5,367,526.18 kWh	220,068.57	
Propane	14,008.7 L	21,153.14	25,594.40 L	38,647.54	
Natural Gas	122,545.03 m <sup>3</sup>	230,262.11	285,563.71 m <sup>3</sup>	536,574.72	
Furnace Oil	11,106.1 L	30,264.12	27,549.10 L	75,071.30	
Gasoline	52,294.14 L	119,701.29	31,646.91 L	72,439.78	
Diesel	154,115.8 L	410,410.38	153,656.87 L	409,188.24	
<b>Totals</b>		<b>985,928.46</b>		<b>1,351,990.16</b>	<b>-366,061.70</b>

Comments:

- Emissions decrease of 366,061.70 kgCO<sub>2</sub> in 2019
- Solar power contributed to savings of 21,721 kgCO<sub>2</sub> in 2019

#### 2019-2020 North Perth Carbon Comparison

	2020		2019		Year Difference
Product	Quantity	kgCO <sub>2</sub>	Quantity	kgCO <sub>2</sub>	kgCO <sub>2</sub>
Electricity	5,953,372.26 kWh	244,088.28	4,247,254.18 kWh	174,137.42	
Propane	38,418.50 L	58,011.94	14,008.7 L	21,153.14	
Natural Gas	213,870.79 m <sup>3</sup>	401,863.21	122,545.03 m <sup>3</sup>	230,262.11	
Furnace Oil	15,225.40 L	41, 489.22	11,106.1 L	30,264.12	
Gasoline	48,124.18 L	110,156.25	52,294.14 L	119,701.29	
Diesel	134,768.30 L	358,887.18	154,115.8 L	410,410.38	
<b>Totals</b>		<b>1,214,496.08</b>		<b>985,928.46</b>	<b>228,567.62</b>

Comments:

- Emissions increase of 228,567.62 kgCO<sub>2</sub> in 2020
- Solar power contributed to savings of 33,704 kgCO<sub>2</sub> in 2020

#### 2020-2021 North Perth Carbon Comparison

	2021		2020		Year Difference
Product	Quantity	kgCO <sub>2</sub>	Quantity	kgCO <sub>2</sub>	kgCO <sub>2</sub>
Electricity	6,246,508.68 kWh	256,106.86	5,953,372.26 kWh	244,088.28	
Propane	21,720.50 L	32,797.96	38,418.50 L	58,011.94	
Natural Gas	209,747.32 m <sup>3</sup>	394,115.21	213,870.79 m <sup>3</sup>	401,863.21	
Furnace Oil	10,084.40 L	27,479.99	15,225.40 L	41, 489.22	
Gasoline	48,339.15 L	110,648.31	48,124.18 L	110,156.25	
Diesel	157,523.29 L	419,468.77	134,768.30 L	358,887.18	
<b>Totals</b>		<b>1,240,617.10</b>		<b>1,214,496.08</b>	<b>26,121.02</b>

Comments:

- Emissions increase of 26,121.02 kgCO<sub>2</sub> in 2021
- Solar power contributed to savings of 35,333 kgCO<sub>2</sub> in 2021

## B. Carbon Compensation

North Perth's Carbon Compensation Strategy is to plant three trees per tonne of CO2 emitted (Base Year 2014).

	kgCO2	tCO2	Trees per Tonne	Total Trees to be Planted
<b>Total Emissions for 2014</b>	1,316,433.18	1,316.43	3	3,949
<b>Total Emissions for 2015</b>	1,173,282.36	1,173.28	3	3,520
<b>Total Emissions for 2016</b>	1,159,595.29	1,159.60	3	3,479
<b>Total Emissions for 2017</b>	1,156,769.02	1,153.77	3	3,461
<b>Total Emissions for 2018</b>	1,351,990.16	1,351.99	3	4,056
<b>Total Emissions for 2019</b>	985,928.46	985.93	3	2,958
<b>Total Emissions for 2020</b>	1,214,496.08	1,214.50	3	3,644
<b>Total Emissions for 2021</b>	1,240,617.10	1,240.62	3	3,722

Comments:

- In 2019, approximately 1050 trees and 300 shrubs were planted on municipal lands, drains and boulevard plantings.
- In 2020, approximately 2700 trees and 1000 shrubs were planted on municipal lands, drains and boulevard plantings.
- In 2021, approximately 1700 trees and 1000 shrubs were planted on municipal lands, drains and boulevard plantings.

## 2021/2022 Projects and Activities

### A. Carbon Reduction

- Greenhouse gas reduction plan presented to and adopted by Municipality of North Perth Council in October 2021

### B. Carbon Compensation

- Some planned plantings for 2022 include:
  - Working in collaboration with MVCA to plant trees at the Steve Kerr Memorial Complex
- Continue to naturalize vacant green spaces in the municipality – will be developing a list of vacant properties that could be planted.
- Continue reporting on planted trees for more effective tracking.
- Grant funding has been received under Municipal Modernization Program – Intake 2 to implement a Paperless Software Solution to allow key functions of the municipality to be paperless.
- Council of the Municipality of North Perth designated an 8-acre portion of land at Robert Mathers Park as a Memorial Naturalized Park area.
- Continue reporting on solar panels at Steve Kerr Memorial Complex. Lifetime savings from 2018-2021 is \$279,060.00 and 90,758 kgCO2.
- Continue partnership with the Regional EV Charging Network Strategy implementing the installation of Level 2 and Level 3 (DC Fast Charging) stations for public use.

## Carbon Footprint Reduction Target

Original target was to reduce our carbon footprint by 10 percent (131.6 tonnes) by 2025. A 10-year average will be used since fuel consumption is weather based. Based on the below chart, North Perth's carbon footprint has seen an overall reduction from 2014 to 2020.

	kgCO2	tCO2	Difference tCO2
<b>Total Emissions for 2014</b>	1,316,433.18	1,316.43	
<b>Total Emissions for 2015</b>	1,173,282.36	1,173.28	-143.15
<b>Total Emissions for 2016</b>	1,159,595.29	1,159.60	-13.68
<b>Total Emissions for 2017</b>	1,156,769.02	1,156.77	-2.83
<b>Total Emissions for 2018</b>	1,351,990.16	1,351.99	195.22
<b>Total Emissions for 2019</b>	985,928.46	985.93	-366.06
<b>Total Emissions for 2020</b>	1,214,496.08	1,214.50	228.57
<b>Total Emissions for 2021</b>	1,240,617.10	1,240.62	26.12
<b>Total Reduction in tCO2</b>			-75.81

## Goals Moving Forward

1. Increase reporting on trees being planted for more effective and comprehensive tracking.
2. Continue to naturalize vacant green spaces in the municipality.
3. Reduce North Perth's carbon footprint by 25% by 2025 (Base Year 2014). GHG emission reduction opportunities will be identified in North Perth's community-wide GHG emission reduction plan.