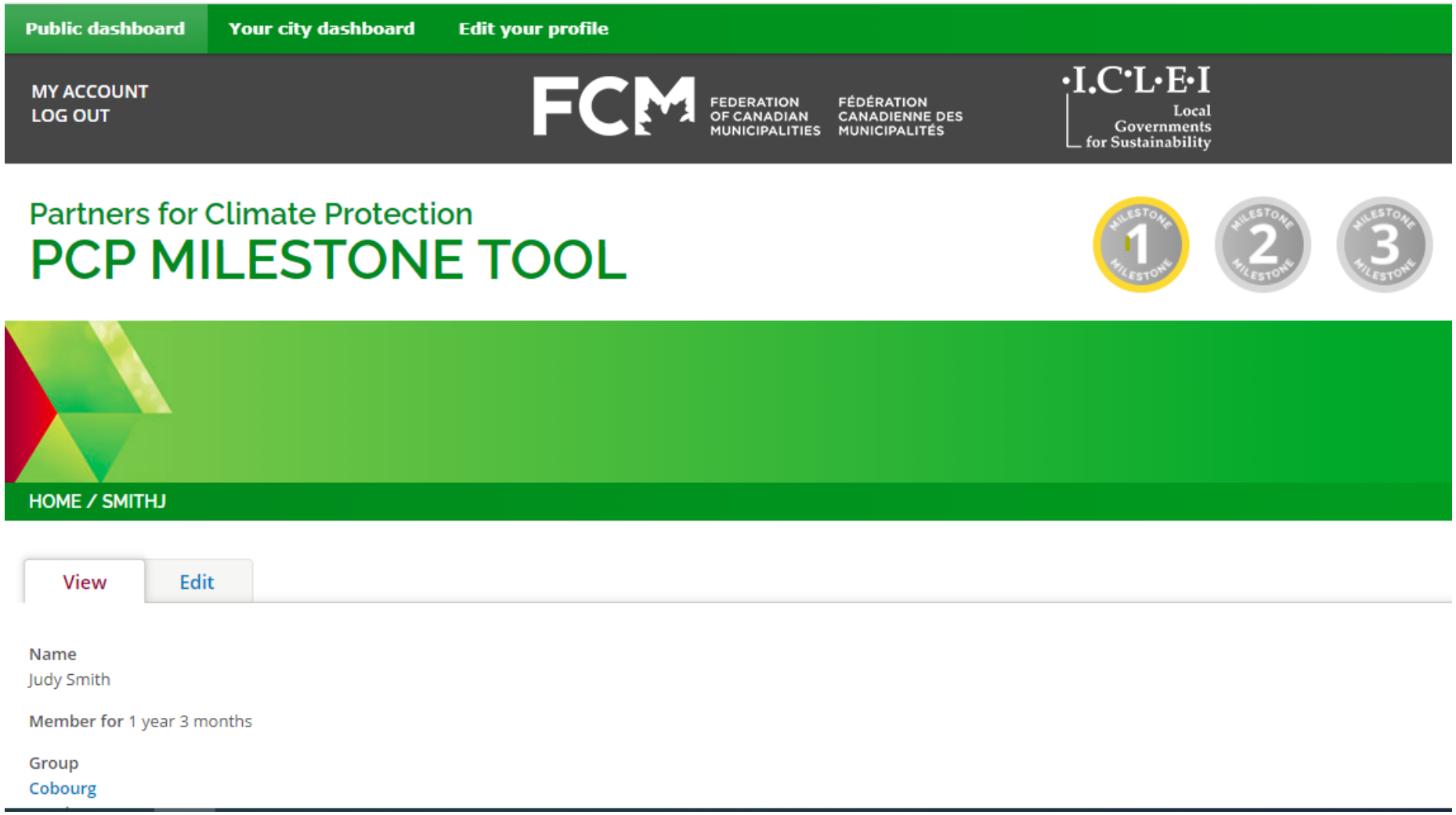
October 2020

Town of Cobourg
Climate Action Plan for Future Generations

Update 2020 to 2050

Thank You

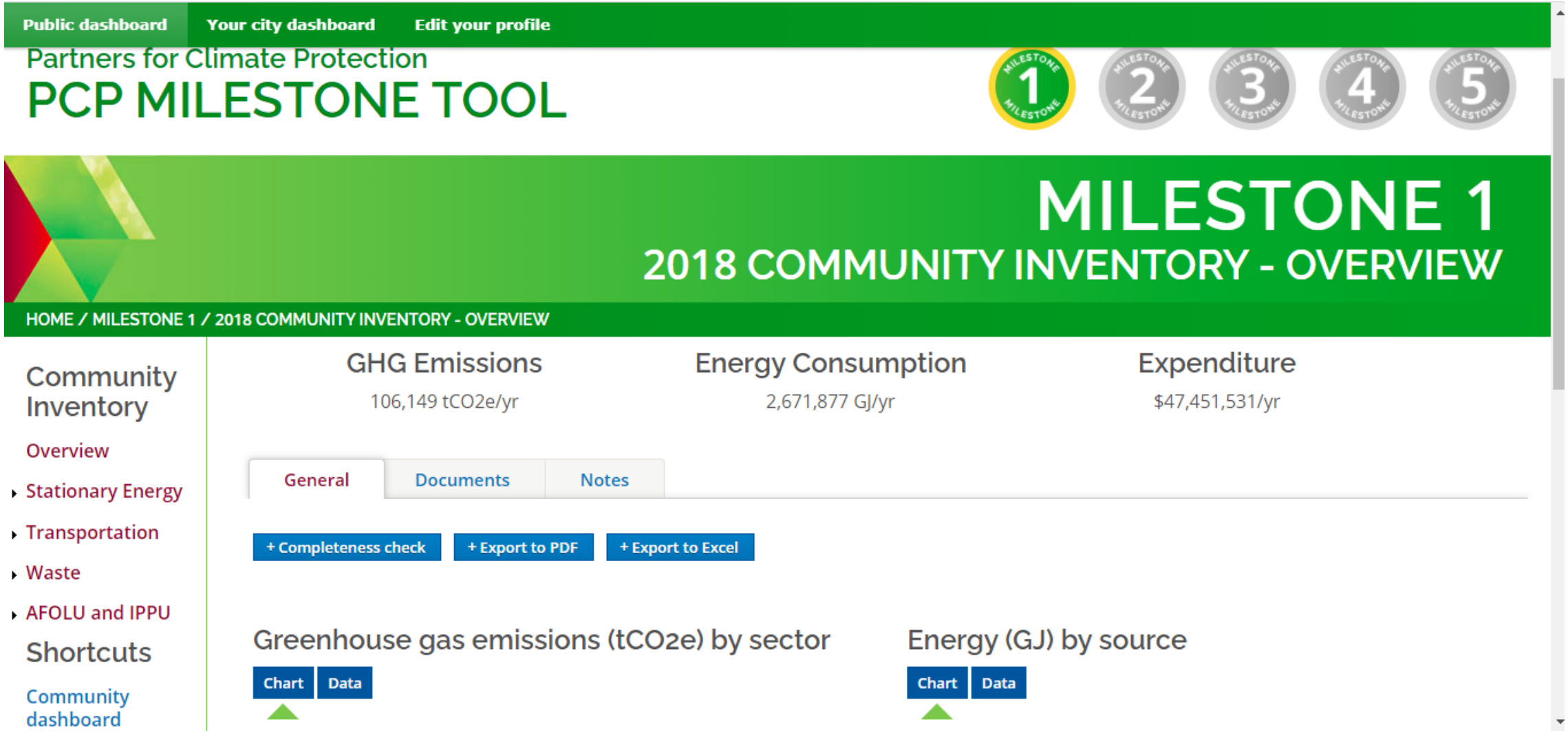
- Mayor John Henderson and Cobourg Council
- The Town of Cobourg Staff: Glenn McGlashon, Rob Franklin, Brent Larmer, Ian Davey, Laurie Wills, Neil Stewart, Chris Barnes, Rene Champagne, Jason Johns, Teresa Behan, Melanie Chatten, Ashley Purdy, Joanne Taylor and former CAO Stephen Peacock,
- Sustainable Cobourg, Pres. Gudrun Ludorf-Weaver
- The Sustainability and Climate Change Advisory Committee of the Town of Cobourg, Chair Minnie de Jong
- Lakefront Utilities Services Inc.: Pres. Dereck Paul, Mark Turney, Danielle D'Sousa and Kenneth Hutton
- Enbridge/Union Gas Ltd. Xi (Sissi) Wang, Cindy Ni and Melissa Van Kesteren
- County of Northumberland, CAO Jennifer Moore, Mobashir Pannu, Adam McCue, Kaela Esseghiaer and Jennifer Hardy-Parr



The greenhouse gas calculator from FCM used to update the Town of Cobourg Climate Action Plan.


Public dashboard
Your city dashboard
Edit your profile
MILESTONE 1
INTRODUCTION
HOME / MILESTONE 1 / INTRODUCTION
Introduction
Corporate dashboard
Community dashboard
Introduction
Milestone 1 is the foundation for any climate change or community energy strategy. Milestone 1 involves creating a greenhouse gas emissions inventory and forecast by gathering data on community and municipal energy use and solid waste generation. Your work on Milestone 1 reveals how your community or municipal organization consumes energy and generates waste. The inventory process also provides the necessary baseline data against which your progress will be measured. By measuring emission levels at regular intervals, you will be able to see whether your community or municipal organization is reducing its emissions or continuing along a business-as-usual trajectory.

How it works.



An example of a module in the calculator

Community Analysis

In 2007 the manufacturing sector was the biggest contributor to GHG emissions - 34%

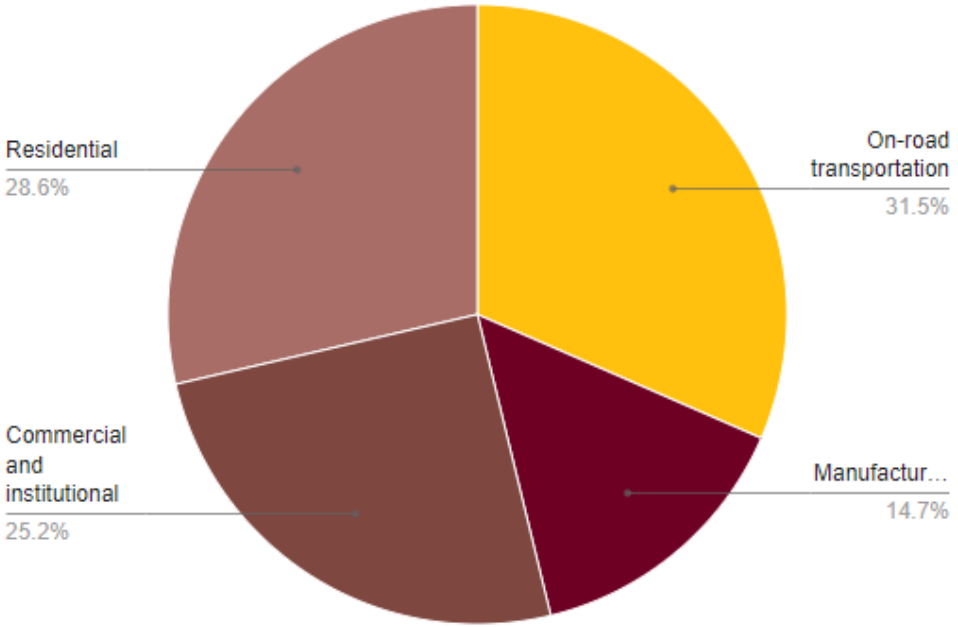
Today, it is the smallest, responsible for less than 15% of all GHG emissions in the community.

What has changed?

- **Energy use in manufacturing has dropped 33% due to company losses and efficiency.**
- **GHG emissions have fallen also because electricity has been 'decarbonized' by the removal of coal from the grid.**
- **GHG emissions from manufacturing are less than one quarter of what they were in 2007.**

Vehicles and homes are the biggest contributors to GHG emissions in Cobourg today

All Vehicles 32%



All Homes 29%

Total cost to Cobourg for fuel and electricity has dropped $13 Million since 2007 from $60 Million to $47 Million*

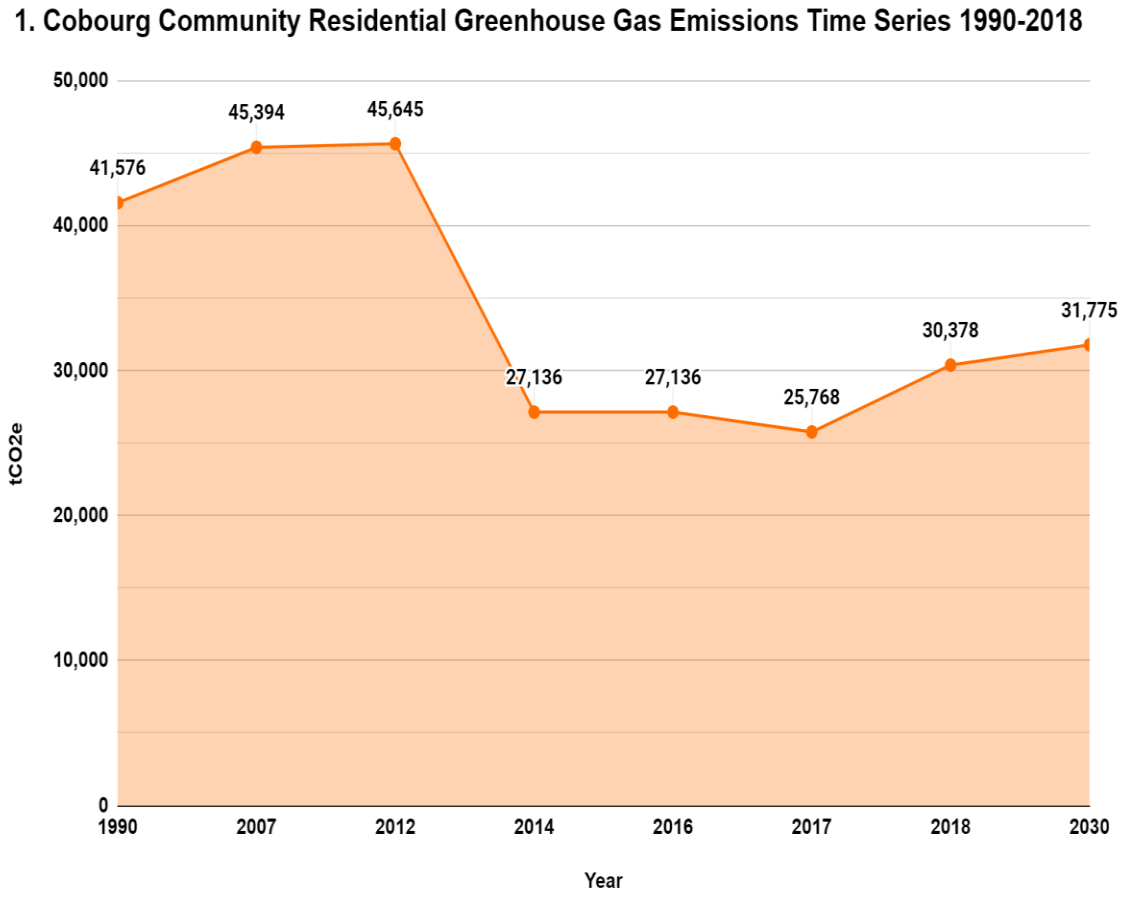
***In 2007 $59,982,767 and in 2018 it was $47,299,108**

Industrial energy demand dropped 38% and industrial energy expenditures dropped $12M between 2007 and 2017

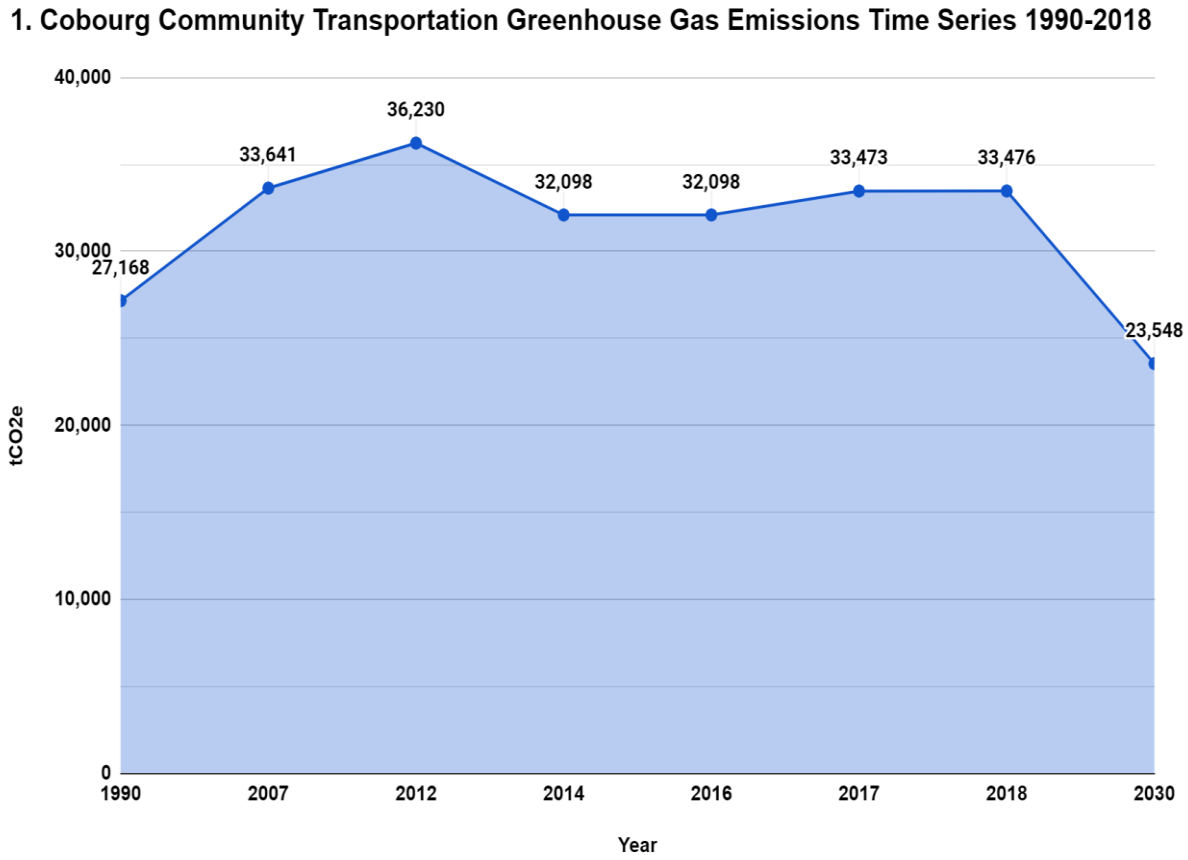
The Kraft Plant closure in 2008 may have had the biggest effect on industrial energy use and expenditures.

Today residential and vehicle energy use dominate.

Total Residential Energy Use incl. Target Year 2030



Total Vehicle Energy Use incl. Target Year 2030



In 2008 Cobourg set a target of reducing emissions 23,037 tonnes from 202,165 tonnes CO_2e in 2007 to 179,132 tonnes CO_2e by 2012.*

Kyoto Target

6% below 1990 levels by 2012

Cobourg's Goal… **11.8%**

***Screen capture from original Cobourg GHG Inventory Report July 2008**

After passing their first Climate Action Plan in 2010, Cobourg spent almost $100,000 on greenhouse gas reduction measures including:

- substituting a solar thermal heating system for natural gas on the YMCA Community Pool

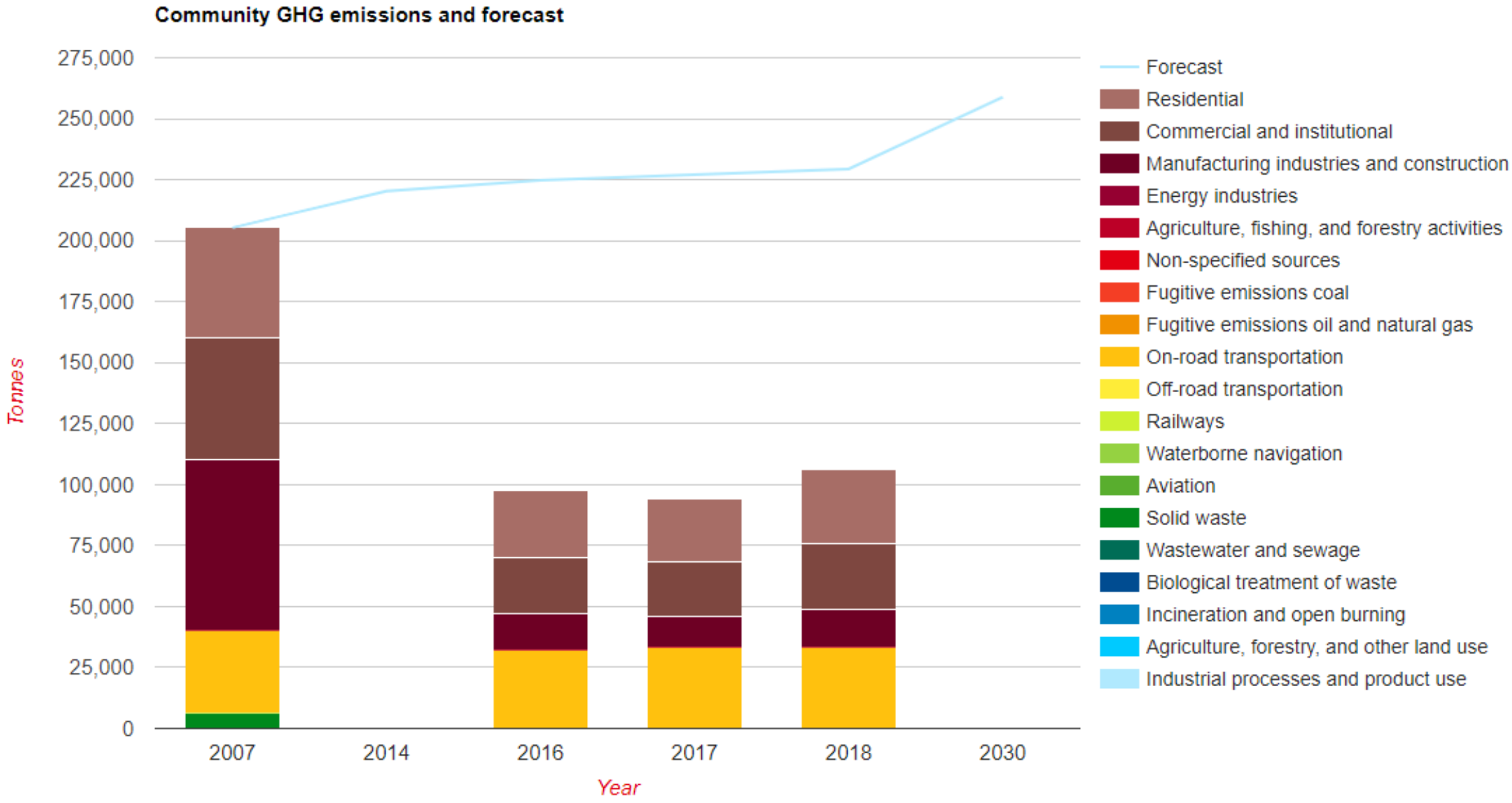
- the purchase of a smaller service and hybrid vehicles for staff travel

- retrofitting streetlights to induction lighting

By 2016 GHG emissions were down to 97,438 by best estimates, a drop of 52% from 2007.
We met the Kyoto target.

GHG emissions have risen slightly since, yet by 2018 we surpassed the provincial and federal GHG target of a 30% reduction in greenhouse gas emissions below 2005 levels by 2030. In fact, we have made a 47% reduction below 2005 GHG levels*.

*** 2007 data is used as a surrogate for 2005 because it is the best real data available from the original 2008 Town of Cobourg GHG Inventory Report, July 2008.**


Community GHG emissions and forecast
275,000
250,000
225,000
200,000
175,000
150,000
125,000
100,000
75,000
50,000
25,000
0
Tonnes
2007
2014
2016
2017
2018
2030
Year
Forecast
Residential
Commercial and institutional
Manufacturing industries and construction
Energy industries
Agriculture, fishing, and forestry activities
Non-specified sources
Fugitive emissions coal
Fugitive emissions oil and natural gas
On-road transportation
Off-road transportation
Railways
Waterborne navigation
Aviation
Solid waste
Wastewater and sewage
Biological treatment of waste
Incineration and open burning
Agriculture, forestry, and other land use
Industrial processes and product use

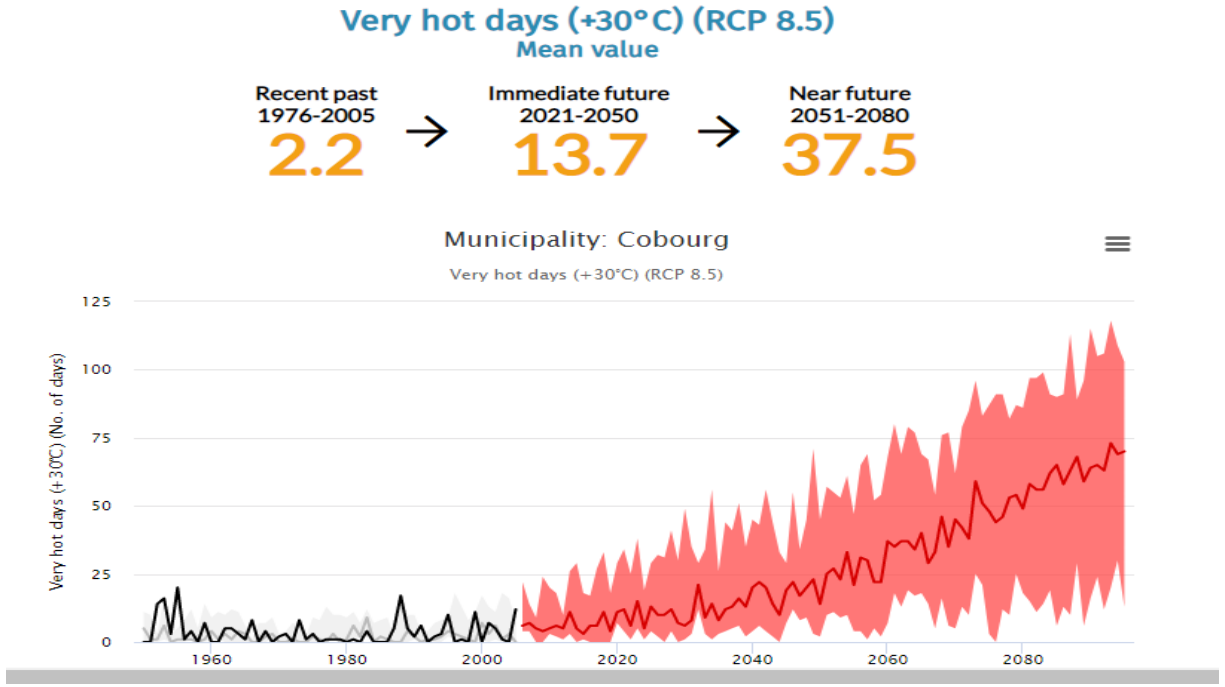
The next target is an 80% to 100% reduction in GHG emissions by 2050 below 2005 levels. We should start on that now. It is a race against time.

https://youtu.be/9SvlT6z5nhc

Why? Because we are already implementing the carbon future our children will inherit.

Impacting the future level of greenhouse gas emissions is not a choice, it is already *implicit* in everything we do. The real choice is whether we exercise that power and influence *now, while we still can.*

Climate scientists say we have 10 years to flatten the curve to prevent serious runaway climate change.



Consequently, the Town of Cobourg has declared a Climate Emergency

Pop P

NOW THEREFORE BE IT RESOLVED THAT Council of the Town of Cobourg declare a Climate Emergency conveying its recognition that we are facing an unprecedented crisis requiring unprecedented climate mitigation measures; and

FURTHER THAT, in response to this Climate Emergency, Council deem the need to reduce the effects that the Town of Cobourg is contributing to the climate crisis by way of the following actions:

1. That Council create a staff position on a one (1) year contract basis, under the supervision of the Chief Administrative Officer to develop a Request for Proposal (RFP) for the Integrated Community Sustainable Plan (ICSP) and Green Design Standards and manage the project through to completion;

Next Steps

- **Working with Community partners and Town staff**
- **Planning for energy efficiency in the short term and in the long term**
- **Taking advantage of federal and provincial incentives**
- **Regular annual reporting on our progress**

Defining Measures to Reduce our GHG Emissions

- **Measures need to address the most critical sectors vehicles and buildings both residential, commercial and institutional.**
- **Measures need to support equity and access to funds for low income residents.**
- **Measures need to be affordable.**
- **The greatest needs should be tackled first, i.e. housing retrofits, vehicle and home decarbonization.**
- **Measures should also be judged by their ability to deliver the most gain with the least pain[cost].**

A full list of measures opportunities

Updated 07/12/18

ID	Sector	Measure Type	Me	Measure Name	Year Implemented	Implementation Cost	Missing Information
				Community Measures			
R1	Residential	Absolute Emissions Reduction		ecoEnergy Audits and Retrofits	2008		Cost, Emission Affected
R2	Residential	Absolute Emissions Reduction	✔	GJSI Electricity Reduction Target - Residential	2015	5,804,601	Emission Reduction
R3	Residential	Absolute Emissions Reduction		Union Gas Energy Savings Kits Installed from 2007-2012	2007	0	✔
R4	Residential	Energy Efficiency: Appliances and Equipment		Refrigerator Roundup (2007-2018)	2007		Cost
R5	Residential	Energy Efficiency: Appliances and Equipment	✔	GJSI Reduction Target - Heating and Cooling Incentive Program	2015	67,875	✔
R6	Residential	Energy Efficiency: Buildings	✔	Ontario Electric Support Program	2015		Cost, Affected Energy Source(s)
R7	Residential	Energy Efficiency: Buildings	✔	Energy Star Homes Program			Cost, Affected Energy Source(s)
R8	Residential	Energy Efficiency: Buildings	✔	Home Reno Rebate			Year, Cost, Affected Energy Source(s)
R9	Residential	Energy Efficiency: Buildings	✔	Home Weatherization (low income) Program			Year, Cost, Affected Energy Source(s)
C1	Commercial	Absolute Emissions Reduction	✔	GJSI Electricity Reduction Target - Commercial	2016		Cost, Emission Affected
C2	Commercial	Energy Efficiency: Buildings	✔	Existing Building Commissioning Program			Year, Cost, Affected Energy Source(s)
C3	Commercial	Energy Efficiency: Buildings	✔	Programs for Multi-Site Customers			Year, Cost, Affected Energy Source(s)
C4	Commercial	Energy Efficiency: Buildings	✔	High Performance New Construction Initiative			Year, Cost, Affected Energy Source(s)
C5	Commercial	Energy Efficiency: Buildings	✔	New Home Construction Business Initiative			Year, Cost, Affected Energy Source(s)
C6	Commercial	Energy Efficiency: Buildings	✔	Social and Assisted Housing Provider Incentives			Year, Cost, Affected Energy Source(s)
C7	Commercial	Energy Efficiency: Equipment and Lighting		Canadian Tire Store Re-lamping	2008		Cost, Affected Energy Source(s)
C8	Commercial	Energy Efficiency: Equipment and Lighting		Relamping with Luxlite induction lighting for commercial/institutional sector	2008		Cost
C9	Commercial	Energy Efficiency: Equipment and Lighting	✔	GJSI Micro Grid Project			Year, Cost
C10	Commercial	Energy Efficiency: Equipment and Lighting	✔	Canadian Tire Rooftop Solar Installation	2008		Year, Cost, Affected Energy Source(s)
C11	Commercial	Energy Efficiency: Equipment and Lighting	✔	Solar Installation on CPN sites			Year, Cost, Affected Energy Source(s)
C12	Commercial	Energy Efficiency: Equipment and Lighting	✔	Business Refrigeration Incentive			Year, Cost, Affected Energy Source(s)
C13	Commercial	Energy Efficiency: Equipment and Lighting	✔	Small Business Lighting Incentive Program			Year, Cost, Affected Energy Source(s)
C14	Commercial	Energy Efficiency: Equipment and Lighting	✔	Retrofit Program Incentives			Year, Cost, Affected Energy Source(s)
C15	Commercial	Energy Efficiency: Equipment and Lighting	✔	Ontario Energy Audit Funding			Year, Cost, Affected Energy Source(s)
C16	Commercial	Energy Efficiency: Equipment and Lighting	✔	Energy Manager Incentive Program			Year, Cost, Affected Energy Source(s)
C17	Commercial	Energy Efficiency: Equipment and Lighting	✔	Process & Systems Program			Year, Cost, Affected Energy Source(s)
C18	Commercial	Energy Efficiency: Equipment and Lighting	✔	Demand Response Program			Year, Cost, Affected Energy Source(s)
C19	Commercial	Energy Efficiency: Equipment and Lighting	✔	Energy Management Training &Support			Year, Cost, Affected Energy Source(s)
C20	Commercial	Energy Efficiency: Equipment and Lighting	✔	Monitoring and Targeting Systems			Year, Cost, Affected Energy Source(s)
I1	Industrial	Absolute Emissions Reduction	✔	GJSI Electricity Reduction Target - Industrial	2016		Cost, Emission Affected
I2	Industrial	Energy Efficiency: Buildings	✔	High Performance New Construction Initiative			Year, Cost, Affected Energy Source(s)
I3	Industrial	Energy Efficiency: Equipment and Lighting		Re-lamping with Luxlite Induction Lighting	2009		Cost
I4	Industrial	Energy Efficiency: Equipment and Lighting	✔	Roving Energy Manager Audits	2016	0	Energy Reduction
I5	Industrial	Energy Efficiency: Equipment and Lighting	✔	Community Power Northumberland Rooftop Solar Installations			Year, Cost, Affected Energy Source(s)
I6	Industrial	Energy Efficiency: Equipment and Lighting	✔	Retrofit Program Incentives			Year, Cost, Affected Energy Source(s)
I7	Industrial	Energy Efficiency: Equipment and Lighting	✔	Process & Systems Program			Year, Cost, Affected Energy Source(s)
I8	Industrial	Energy Efficiency: Equipment and Lighting	✔	Demand Response Program			Year, Cost, Affected Energy Source(s)
I9	Industrial	Energy Efficiency: Equipment and Lighting	✔	Venture 13 Rooftop Solar	2019	214,000	✔
T1	Transportation	Change in Fuel Type		EBS Cars fuel economies based on city driving	2010		Cost
T2	Transportation	Change in Fuel Type		EBS Trucks fuel economies based on city driving	2010		Cost
T3	Transportation	Change in Fuel Type		Hybrid Cars fuel economies based on city driving	2009		Cost, Vehicle Type, VKT Affected, Fuel Type-Before/After, Vehicle Efficiency Before/After
T4	Transportation	Change in Fuel Type		Hybrid Trucks fuel economies based on city driving	2009		Cost
T5	Transportation	Change in Fuel Type	✔	Toyota Mirai	2020		Cost
T6	Transportation	Change in Fuel Type	✔	Electric Cars	2016		Cost
T7	Transportation	Increase in Fuel Efficiency		Mid Sized Cars	2008		Cost, Vehicle Type, VKT Affected, Fuel Type-Before/After, Vehicle Efficiency Before/After
T8	Transportation	Increase in Fuel Efficiency		Small Cars	2008		Cost
T9	Transportation	Increase in Fuel Efficiency		Trucks	2008		Cost, Vehicle Type, VKT Affected, Fuel Type-Before/After, Vehicle Efficiency Before/After
T10	Transportation	Increase in Fuel Efficiency		Trucks - Anti Idling Bylaw	2009	1,000	Vehicle Type, VKT Affected, Fuel Type Before/After, Vehicle Efficiency Before/After
T11	Transportation	Other VKT Reduction		Cars - Anti Idling Bylaw	2009	4,000	✔
T12	Transportation	Walking/Biking	✔	Town takes responsibility for plowing winter sidewalks	2020		Cost, PKT Affected, Occupancy Factor Before/After, Fuel Type Before/After, Vehicle Efficiency Before/After
W1	Waste	Waste Recycling		Recycle Clean - Improvements in recycling collection system	2008	2,200,000	✔
W2	Waste	Waste Recycling		Recovery of Aluminum from parks and streets	2008	40,000	✔
W3	Waste	Waste Recycling	✔	Municipal Recycle Program	2018		Cost, Waste Type Affected
W4	Waste	Waste Reduction		Plastic Bag Recycling	2010		Cost
				Corporate Measures			
B1	Buildings	Change in Energy Source			2006	5,000	Name (was this measure just an example?)
B2	Buildings	Change in Energy Source	✔	Lakefront Garage Solar Installation MicroFit	2016		Cost, Use Before/After, Cost Before/After
B3	Buildings	Energy Efficiency: Buildings	✔	Insulate the Fire Hall Theatre Attic when roof is replaced			Year, Cost, Affected Energy Source(s)
B4	Buildings	Energy Efficiency: Buildings	✔	Insulate the Fire Hall (addition) roof when roof is replaced	2018		Cost, Affected Energy Source(s)
B5	Buildings	Energy Efficiency: Buildings	✔	Insulate the Fire Hall (original) roof when roof is replaced	2018	48,113	Affected Energy Source(s)
B6	Buildings	Energy Efficiency: Buildings	✔	Insulate the Fire Hall (addition) roof when roof is replaced	2023	27,758	Affected Energy Source(s)
B7	Buildings	Energy Efficiency: Buildings	✔	Police Station (original) roof replacement	2018	1,223	Affected Energy Source(s)
B8	Buildings	Energy Efficiency: Buildings	✔	Police Station (addition) roof replacement	2027	42,320	Affected Energy Source(s)
B9	Buildings	Energy Efficiency: Buildings	✔	Solar Ontario Solar Water heating system to heat Centennial pool	2009	11,550	✔
B10	Buildings	Energy Efficiency: Equipment and Lighting	✔	Victoria Hall HVAC (boiler?) Replacement	2018	477,886	Affected Energy Source(s)
B11	Buildings	Energy Efficiency: Equipment and Lighting	✔	Victoria Hall Chiller Replacement	2023	829,913	Affected Energy Source(s)
B12	Buildings	Energy Efficiency: Equipment and Lighting	✔	Replace HVAC system in Fire Hall Theatre			Year, Cost, Affected Energy Source(s)
B13	Buildings	Energy Efficiency: Equipment and Lighting	✔	Fire Hall (original) HVAC Replacement			Year, Cost, Affected Energy Source(s)
B14	Buildings	Energy Efficiency: Equipment and Lighting	✔	Fire Hall (addition) HVAC Replacement	2023	391,066	Affected Energy Source(s)
B15	Buildings	Energy Efficiency: Equipment and Lighting	✔	Police Station (addition) HVAC Replacement	2026	258,733	Affected Energy Source(s)
B16	Buildings	Energy Efficiency: Equipment and Lighting	✔	Solar Rooftop Installations on CCC and in Northam Industrial Park			Year, Cost, Affected Energy Source(s)
VF1	Vehicle Fleet	Switch to Public Transport	✔	Free public transportation for children in the summer who have a library card	2009	0	PKT Affected, Occupancy Factor Before/After, Fuel Type Before/After, Vehicle Efficiency Before/After
S1	Streetlights	Energy Efficiency: Lamp and Ballast		Re-lamping every streetlight in Cobourg with Luxlite induction lamps	2008	1,250,000	✔
S2	Streetlights	Energy Efficiency: Lamp and Ballast	✔	Oil Circuit Breaker Replacement	2016		Cost, Energy Reduction, Cost per GJ
WS1	Waste/Sewage	Energy Efficiency: Buildings	✔	Filter Buildings Upgrades	2015		Cost, Affected Energy Source(s)
WS2	Waste/Sewage	Energy Efficiency: Equipment and Lighting		Ultra Low Flush Toilets Installation	2009	0	✔

A Running Start Vehicles

Electrification of:

- Passenger vehicles
- Fleets
- Transit
- Ambulances

Biofuels for

- Heavy trucks
- Plows

A Running Start - Housing

- **Neighbourhood Deep Retrofits**
- **A Revolving Low-interest Long-term Community Fund for Retrofits.**
- **Green Development Standards for new builds and large renovations.**
- **Incorporating community gardens, parks and trees, bike sharing, car-sharing, EV charging –'complete neighbourhoods'**

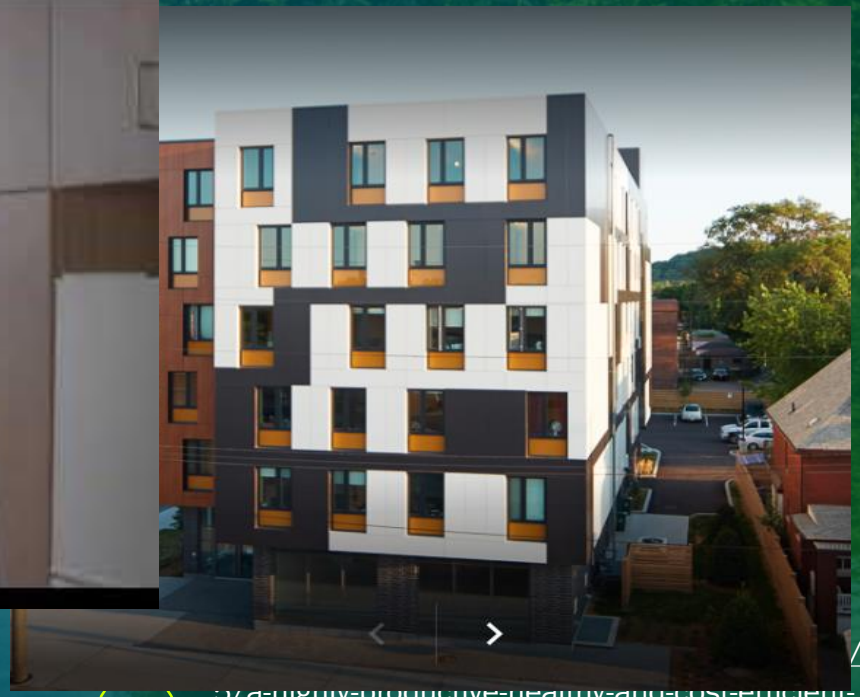
A Running Start - Microtransit

- **Smaller more energy efficient bus transit**
- **Hybrid or electric vehicles**
- **On demand door to door service**
- **No fixed route**
- **Accessible to handicapped and able-bodied residents.**
- **Equality of service**
- **Bike racks on front**
- **Okotoks Transit Example:**
- **https://www.youtube.com/watch?v=9nkjAFL6kA8&feature=youtu.be**

A Running Start – Ending Energy Poverty

- **Build affordable housing that is net zero energy and net zero ghg**
- **Work with landlords and condo boards to retrofit existing buildings to a Passive House Standard.**
- **Pass operational energy savings onto tenants.**
- **Make used electric vehicles accessible to low income residents through low interest long term loans, and a car sharing program.**

Example of Social and Affordable Housing and the Passive House Standard - Indwell [not for profit] Passive House Projects in Ontario



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5/a-highly-productive-healthy-and-cost-efficient-work-environment-a-passive-house-office-building/

A Running Start – Protect our Vulnerable Populations

- **Provide resilient housing that protects residents from extreme weather events and power outages.**
- **Establish a neighbourhood level program to check on vulnerable people during times of emergency**
- **Set a Maximum Temperature Bylaw to protect from heatwaves.**

More to come
-Town Corporate GHG emissions Inventory and in-house GHG Reduction Measures
- Appendices

Judy Smith, Environmental Officer County of Northumberland
Nov 2 2020