



earth7care  
Thunder Bay  
sustainable by nature

ANNUAL  
REPORT  
2016

Photo: Brad Doff

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# What is EarthCare?

EarthCare Thunder Bay is a partnership between the City of Thunder Bay and the community to work together on issues of community sustainability, climate adaptation, and greenhouse gas reduction. Our mission is to lead the community in securing the environmental health of our region, and thereby improve the social, cultural and economic wellbeing of future generations.

There are 11 Working Group (WG)s that operate under the guidance of EarthCare, providing a point of entry for the participation and engagement of the public and other stakeholders in the implementation of the EarthCare Sustainability Plan. Each WG represents an area essential to community sustainability, focusing on issues of air, climate adaptation, community greening, education, energy, food, green building, land use planning, mobility (active transportation, transit, walkability), waste, and water. The WGs are made up of stakeholders representing all sectors: residential, industrial, commercial, and institutional. Together, they have worked to develop and implement the EarthCare Sustainability Plan.

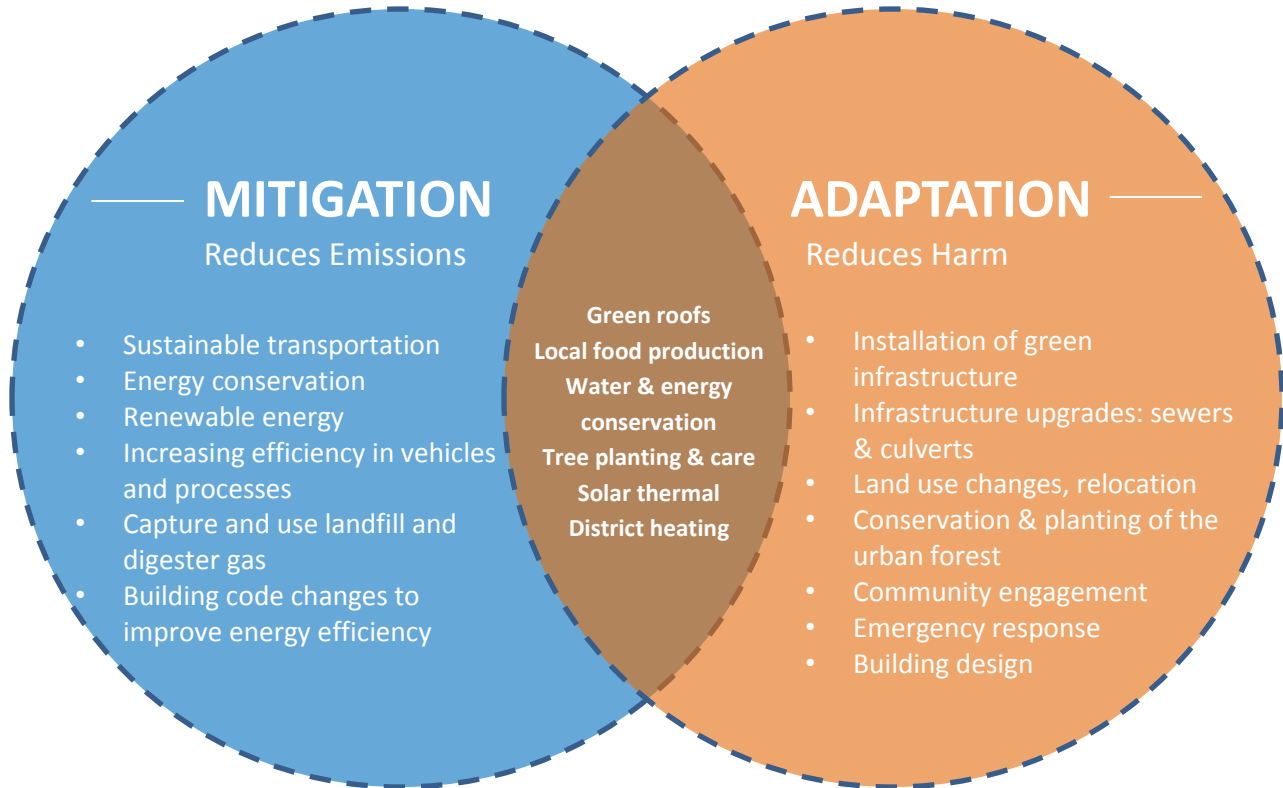
The Sustainability Plan is a strategic document, the implementation of which supports the goals of reducing greenhouse gas (GHG) emissions, becoming more climate-resilient, and creating a more sustainable Thunder Bay. The Plan encompasses everything that makes a community healthy and happy, supporting the pillars of the City's Strategic Plan: to be connected, healthy, vibrant and strong.



Evidence shows that trees and green-space help to reduce crime; that walkable cities not only reduce GHG emissions and improve air quality, but also improve social cohesion. Society's continuous consumption and waste of resources comes with a price, and the City of Thunder Bay is taking steps to reduce waste, to improve energy efficiency, to increase access to local foods, to provide options for active transportation, and to adapt to a changing climate. From a corporate perspective, the City is seeking to model best practices, to provide citizens of Thunder Bay with a high quality of life and best value services, and to reduce our long-term operating costs through the wise use of energy and resources.

# Introduction

EarthCare has always had a strong focus on climate mitigation – it has been the foundation of our programming since 2008 when the first Community Environmental Action Plan (CEAP) was released. However, over the past couple years, EarthCare has steadily been increasing its priority toward climate adaptation and in 2015 it saw the adoption of the City’s first Climate Adaptation Strategy. The Strategy ultimately aims to help build community resilience to reduce the risks inherent in climate change and take advantage of opportunities. By completing the Strategy, the City accomplished three of a five milestone process, and is now beginning its fourth milestone: implementation.



Climate adaptation is an important part of the sustainability equation. Both mitigation and adaptation help us envision a stronger blueprint and way forward to creating a more livable Thunder Bay.

In 2013, the new Sustainability Plan was built on a solid review of five years of implementing the CEAP, lessons learned, as well as meaningful and broad public consultation via open houses, surveys, and an online platform. The result is an even richer, strategic document that builds on our history of mitigation, but also further embeds adaptation.

Our community has come a long way since the adoption of the CEAP in 2008. The Sustainability Plan and now the Climate Adaptation Strategy reflects that sophistication and progression. Both documents now provide clear steps for moving forward and EarthCare will continue to represent the community by bridging community needs and wants with long-term planning of municipal investments that are resilient, evidence-based, and achieve multiple co-benefits.

Thank you to EarthCare staff, the WGs, and community partners who are building the vision for a sustainable community. The following Annual Report demonstrates progress achieved through EarthCare and its partners in both the community and the Corporation.

## Working Groups

Local action is one of the most meaningful and effective ways of addressing the challenges we face at a global scale. It also has the co-benefit of creating a more livable community. EarthCare has 11 WGs made up of a variety of stakeholders from across the community representing all sectors: residential, commercial, industrial, and institutional. Their meetings are open to the public, and new participants are always welcome.

### Sustainable Development



### Community Lifestyle



### Natural Environment



Our thanks also go to Council's EarthCare Advisory Committee (EAC) who advises on the overarching implementation of the Sustainability Plan.



**From l-r** Councillor Frank Pullia, Jane Todd, Brad Doff, Linda Douglas, Ashleigh Marchi, Shannon Costigan (Co-Chair), Councillor Andrew Foulds (Chair), Sandy Stiles, Dean Stamler, Michelle Warywoda. Missing: Lynn Duffield

## Why a Sustainability Plan?

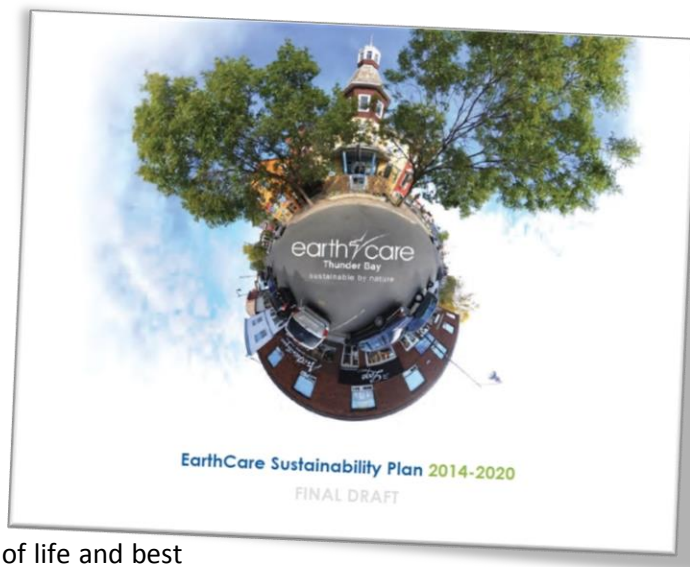
Long-term planning of municipal investments should be deliberate, evidence-based, achieve multiple co-benefits, and reflect community needs and wants. EarthCare tries to represent this balance at all times by providing an interface with the broader community to work on the overarching goal of the plan which is reducing GHG emissions and creating a more sustainable and resilient Thunder Bay.

Around the world, temperature and precipitation measurements are confirming that the climate is changing. Extreme weather events, which are costly and have social impacts, are becoming more frequent. Climate-related impacts expected to have implications in the region include intense precipitation and flooding, high winds and storms, and shifting ranges of pests and invasive species. There may also be longer fire seasons, which may impact Thunder Bay's excellent air quality.

Ontario has set greenhouse gas emission reduction targets of 15 percent below 1990 levels by 2020 and 80 percent below 1990 levels by 2050. It is widely accepted in the scientific community that industrialized countries, such as Canada, must reduce their GHG emissions by 80 percent by 2050 to avoid catastrophic climate change.

There are many factors that affect the amount of GHG emissions that Thunder Bay produces as a community. There are everyday choices that can minimize our footprint. Additionally, demographic and financial factors such as population, Gross Domestic Product, and economic profile, as well as the emissions intensity of fuel and electricity sources, have a significant effect on overall emissions. The Federation of Canadian Municipalities states that municipalities have direct or indirect control over almost half of Canada's GHG emissions. Municipal action has a very important role to play in tackling climate change.

While the City of Thunder Bay is the keeper of the plan, the plan is multi-sectoral in that many of its actions are undertaken by individuals, businesses, institutions, organizations, as well as the local government. The City of Thunder Bay is taking steps to create a more livable community, to reduce waste, to improve energy efficiency, to increase access to local foods, to provide options for active transportation, and to adapt to a changing climate. From a corporate perspective, the City is seeking to model best practices, to provide citizens of Thunder Bay with a high quality of life and best value services, and to reduce our long-term operating costs through the wise use of energy and resources.

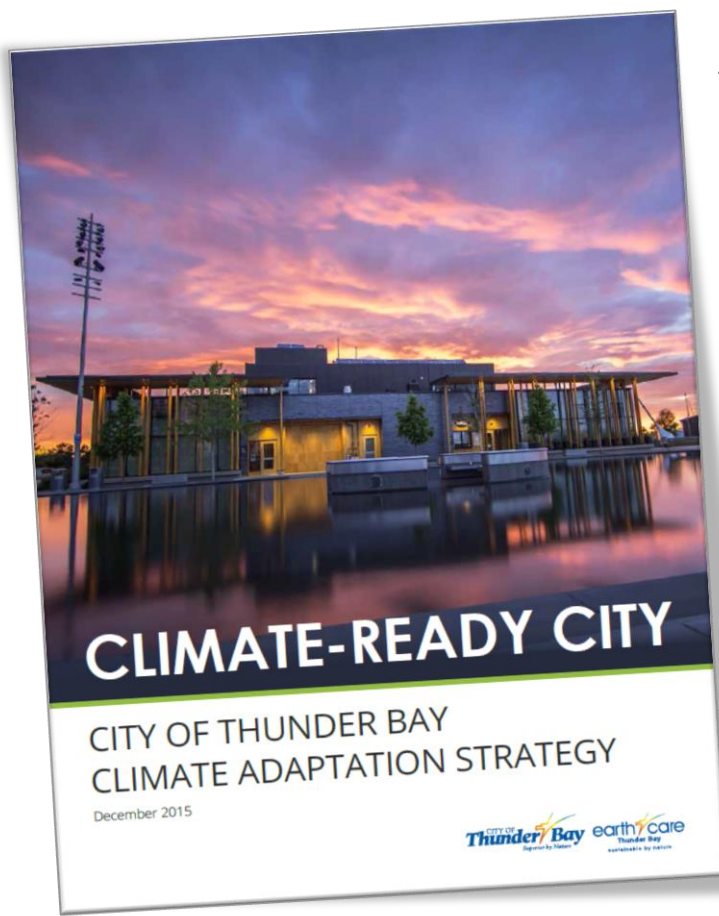


For more information or to download the Sustainability Plan, visit: [EarthcareThunderbay.ca](http://EarthcareThunderbay.ca)

## Why a Climate Adaptation Strategy?

Thousands of scientists around the world are warning that the earth's climate system has been changing in an unprecedented way since the 1950s. The impacts of these large changes in weather patterns are already being felt globally and locally. Prolonged heat waves, torrential rainstorms, windstorms, and droughts are increasing throughout Ontario. In Thunder Bay, severe storms, extreme rain events, and the extreme cold temperatures experienced in recent years show that these types of impacts have the potential to affect all City Departments and can incur high costs to the community as a whole. In the face of climate change, the City of Thunder Bay recognizes the need for adaptation. While mitigation is necessary to reduce the rate and magnitude of climate change, adaptation is essential to reduce the damages from climate change impacts that cannot be avoided. Integrating climate adaptation across the Corporation provides an opportunity to coordinate decision-making and planning efforts in order to reduce vulnerabilities and build resilience in all Departments, thereby minimizing the severity of the resulting impacts and taking advantage of opportunities.





The impacts of climate change have been recognized as an important issue in Canada, Ontario, the Great Lakes Region, and for the City of Thunder Bay. Ontario's Great Lakes Strategy (2012) lists climate change as one of the main challenges facing the cities in the Great Lakes basin and the Government of Ontario is taking measures to adapt to the unavoidable impacts of changing weather patterns. The Ontario Ministry of the Environment and Climate Change released a climate adaptation strategy and action plan in 2011 and a discussion paper in 2015 to address climate impacts and climate change in the province. Both documents acknowledge that adapting to climate change goes beyond the mandate of any one ministry, and recognize the need for adaptation in the communities where the consequences are felt. The Lake Superior Climate Change Impacts and Adaptation Report (2014), completed under the Lakewide Action Management Plan, also

states that it is important for stakeholders and partners in the Lake Superior region to work together to adopt and implement climate management strategies based on current knowledge, and to gather information to inform future climate change adaptation actions.

It is widely recognized that the impacts of climate change affect the services and infrastructure of local governments. Thankfully, municipalities possess many of the tools necessary to increase resilience such as emergency response groups, standards, codes, and official plans. The 2014 Ontario Provincial Policy Statement refers to climate change in a number of policies and mandates local planning authorities to support climate change adaptation through land use and development decisions. Ultimately, the purpose of developing a Climate Adaptation Strategy for the Corporation is to: 1) identify the potential impacts related to climate change in Thunder Bay and the risks they pose to our various service sectors and to our community; and, 2) propose possible actions to reduce risk and vulnerability associated with climate change impacts through adaptive measures. The strategy will complement existing municipal processes as well as ongoing climate adaptation initiatives of the Province of Ontario and will serve as a resource for other municipalities in Northern Ontario, particularly along Lake Superior's North Shore. Having a Climate Adaptation Strategy will also place the City in a strong position to access potential sources of funding as the federal and provincial governments integrate climate change adaptation and resilience considerations in infrastructure and asset planning decisions.

For more information or to download the Climate Adaptation Strategy, visit: [ClimateReadyCity.com](http://ClimateReadyCity.com)



# ENERGY

**Goal: To promote the wise use of energy and the transition to a carbon neutral future. By 2020 the community of Thunder Bay will reduce greenhouse gas emissions by 20% below 2009 levels.**

## Progress Highlights:

- In 2016, the overall GHG emissions for the Corporation decreased by 7.4 percent from 2009 baseline levels. Electricity related emissions declined by 24 percent and natural gas by 6% while gasoline related emissions increased by 8.6 percent and diesel emissions by 2.3 percent from 2009 levels. These 2016 figures were provided by the Asset Management Division of Community Services which monitors energy consumption and GHG emissions across the Corporation and reports annual consumption and emission totals to the Ministry of Energy under Ontario Regulation 397/11: Energy Conservation and Demand Management Plans.
- Continuous progress on implementation of Strategic Initiatives outlined in the Strategic Approach to Corporate Energy Management Plan.
- The City of Thunder Bay in strategic alliance with the Thunder Bay Hydro Sustainable Electric Energy Development (SEED Initiative) have developed renewable energy projects that include the landfill gas generating station at the Mapleward Road Solid Waste and Recycling Facility and rooftop solar PV installations on City buildings, which generated approximately 13,620,000 kWh's of renewable electricity in 2016.
- Continued the LED residential street light retrofit program.
- Continued to monitor GHG emissions.

*The detailed 2016 Corporate Energy Management Plan Update, outlining the progress the Corporation*

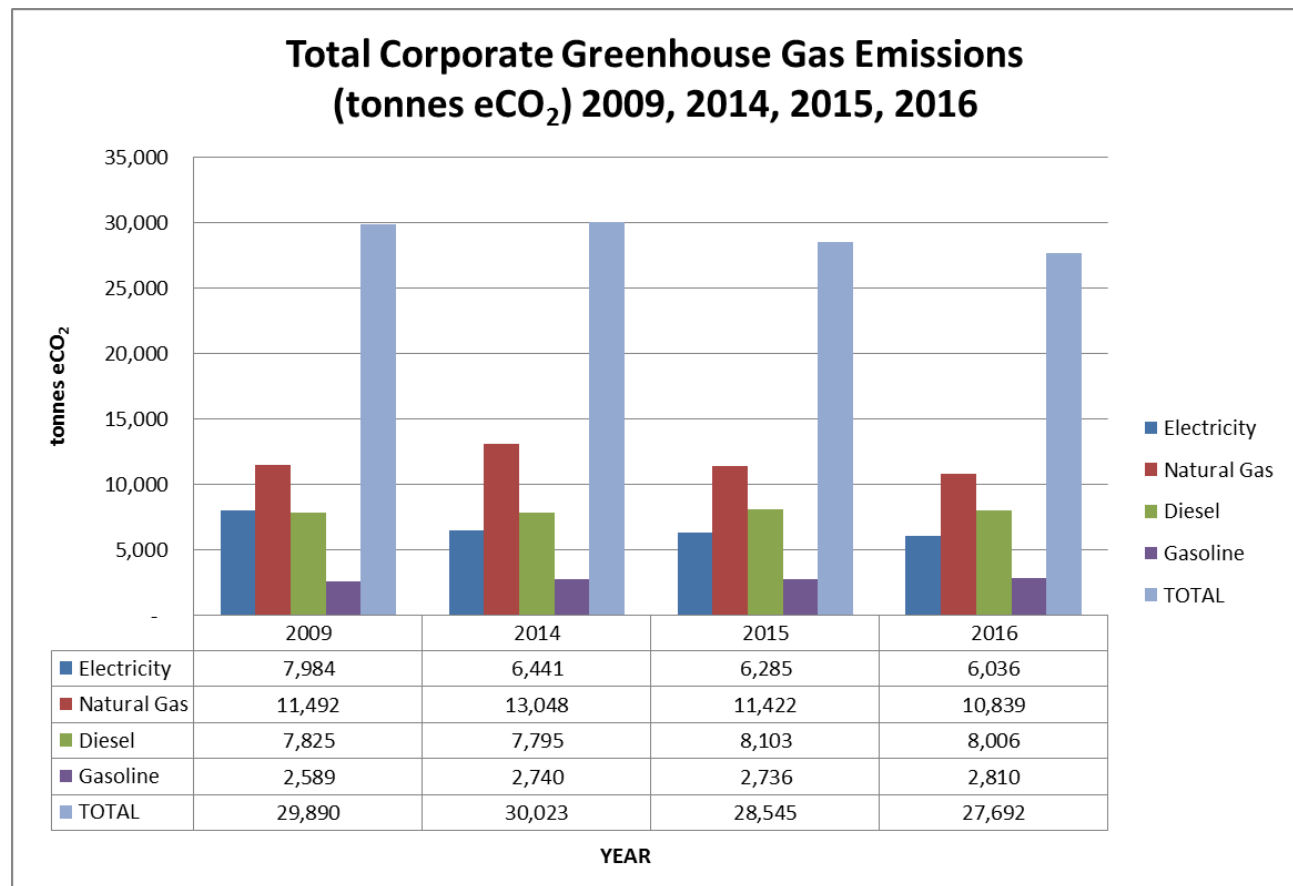


### Energy WG Members

Hugh Briggs, Lakehead University  
Vanessa DeGiacomo-Zwaresch, City of Thunder Bay  
(CTB), Energy Analyst  
Andrea Goold, Ontario Power Generation  
Larry Hogard, Superior Inspections  
Brad Doff, CTB, Sustainability Coordinator  
Kerstin Muth, Environment North, Chair  
Jane Todd, EAC Member & Citizen  
Bill Willis, Thunder Bay Hydro

has made towards reducing GHG emissions through energy efficient infrastructure projects and awareness, will be presented to Council November 2017 by the Asset Management Division.

The following charts are based on corporate tracking of data through the Asset Management Division:



## GREEN BUILDING / LAND USE

**Goal: Thunder Bay buildings minimize energy consumption and conserve resources.**

**Goal: To include and implement concepts surrounding smart growth and sustainability into the planning and patterns of land use within the community and the Corporation**

### Progress Highlights:

- EarthCare Thunder Bay hosted *Strong Community*, a series of talks with acclaimed speaker Charles Marohn of Strong Towns in October 2016. The series of events focused on building communities that are financially stable over the long term, the need to intensify growth, and the importance of increasing value for people in the City's neighbourhoods. Over 300 citizens attended the premiere Strong Community event on October 18, 2016.
- Since the Fall of 2016 EarthCare has continued creating dialogue with the community through Strong Community Idea Cafes which bring together community champions; initiated a dedicated newsletter distribution channel; and continues to meet with various partners and stakeholders regarding a community revitalization project scheduled for the Fall of 2017.
- LED lighting installed in various locations at the Canada Games Complex, Armstrong EMS Station, Balmoral Street Police Station, among others listed in the Corporate Energy Management Plan.



### Land Use WG Members

Brad Doff, CTB Sustainability Coordinator  
Gerry Broere, CTB, Director Asset Management  
Construction/Renovation Services  
Larry Hogard, Superior Inspections  
Sarah Kerton, CTB Sustainability Coordinator  
Patrick Larocque, Canadian Mortgage and  
Housing Corporation  
Don Rutledge, EcoSuperior  
Chris Todd, Citizen

*For a more comprehensive list of Green Building updates, refer to the Corporate Energy Management Plan Report scheduled for release later in 2017.*

# CLIMATE ADAPTATION



## Progress Highlights:

- EarthCare continued to lead the development of a Climate Adaptation Strategy for the Corporation of the City of Thunder Bay with the support of Council. Implementation of the Strategy began in 2016.
- EarthCare worked with the Planning Division to integrate climate adaptation consideration into the Official Plan Review as part of the document's introduction and as a guiding principle.
- EarthCare collaborated with Lakehead University and the Climate Adaptation Working Group on a Photovoice project (a research-based photo exhibit) to communicate the impacts of climate change to the community. The Photovoice project was completed in the Fall of 2016 and the exhibit will continue to be displayed in 2017 at various locations. There is also the potential to replicate this project in future years with different groups (i.e. work with the Crime Prevention staff to engage community members).



## Climate Adaptation Working Group Members

Shannon Costigan, Chair, EcoSuperior  
Jason MacLean, Professor, Lakehead University  
Wayne Fletcher, Citizen  
Heather McLeod, Citizen  
Heather Stowell, Citizen  
Ken Deacon, Professor, Lakehead University  
Ashleigh Marchl, Resolute Forest Products  
Julia Prinselaar, Eco Superior  
Paul Berger, Professor, Lakehead University  
Lindsay Galway, Professor, Lakehead University  
Roopa Rakshit, Board Member, Environment North  
Kristin Maenpaa, Blue Heron Consulting  
Kayla Dixon, Director of Engineering & Operations, City of Thunder Bay  
Brad Doff, Sustainability Coordinator, City of Thunder Bay  
Curniss McGoldrick, EarthCare, City of Thunder Bay



- External funding was obtained through ICLEI Canada to expand the online portion of the EarthCare Climate Adaptation Working Group Photovoice project ([climatechangetbay.com](http://climatechangetbay.com)) to create an online tool in 2017 to educate and engage Thunder Bay residents in building community resilience to climate change impacts.
- In 2016, EarthCare initiated the *My Changing Climate Photo Contest* to engage residents in the dialogue on climate change. The project is coordinated by EcoSuperior and supports action IV.i of the Climate Adaptation Strategy.
- The Mayor's Office and EarthCare created a memo for the AMO AGM & Annual Conference requesting multi-year dedicated funding to implement the Climate Adaptation Strategy and Stormwater Management Plan.
- EarthCare was recognized as an example of progressive municipal governance and was asked to share with various conferences, workshops, and webinars to audiences across Canada.
- 55.6 percent of Thunder Bay's residents have taken an emergency preparedness kit (an initiative of Thunder Bay Hydro)

“This is not just about coping with climate change, but prospering through it.”

- Canada's National Round Table on the Environment and Economy, 2012



## FOOD



### Progress Highlights:

- The Food Strategy started off 2016, by co-hosting the Flavour of the Northwest Food Forum in January. This event connected agricultural, food service, industrial, and hospitality stakeholders across Northwestern Ontario. Inspired by the keynote speaker, Chef Jamie Kennedy, and guided by field experts, attendees explored the ways in which they can work together to promote regional foods to visitors and local communities. Facilitated discussions strengthened the relationships among stakeholders as they talked about marketing techniques and the development of a culinary identity for the region.
- Early in 2016, the Food Strategy also brought together a partnership of 12 local agricultural associations and economic development organizations to support the development of and monitor the progress of the Thunder Bay and Area Food and Agriculture Market Study. The study was identified as a priority project in the Food Strategy's 2015 Implementation Plan as a way to form a comprehensive picture of the demand for locally grown and processed foods in the Thunder Bay area. The resulting information will assist in the growth of agricultural businesses and ultimately contribute to community economic development. The study is aimed to be completed by November 2017.

The quest for food security can be the common thread that links the different challenges we face and helps build a sustainable future.

- Jose Graziano da Silva



- In February 2016, the Food Strategy released its inaugural 2015 Community Food Security Report Card which is available for download on the website ([tbfoodstrategy.ca](http://tbfoodstrategy.ca)). In light of challenges to the local food system, the report card presents information on the many food security realities and initiatives that are taking place across the Thunder Bay area. The report paints a community-wide picture of how the Thunder Bay area is progressing towards a food secure and sustainable food system.
- In the spring, the Food Strategy began a conversation around backyard chickens. An Open House was held to facilitate a discussion about re-shaping the current zoning by-law to allow chickens in urban areas of Thunder Bay. This event brought out over 400 people and featured visits with chickens, a coop display, and the opportunity for the community to submit comments. While the bylaw was left unchanged, the dialogue challenged the community to reflect on their local food system.
- By the end of 2016, the City of Thunder Bay Supply Management raised its total percent spent on local and regional foods to 38 percent, a nearly 11 percent increase from 2015. The drivers behind this great success include the commitment of Thunder Bay City Council, the champions within Pioneer Ridge, trusting relationships with regional growers and innovative distributors, and investments in education, training, and empowerment.



The Food Action Network tracks the following indicators on an annual basis:

Indicator:	2008	2009	2010	2011	2012	2013	2014	2015	2016
# of community gardens	5	6	6	7	10	14	16	18	25
# of school gardens	2	2	3	4	8	16	16	16	24

For a more comprehensive list of food indicators please visit [tbfoodstrategy.ca](http://tbfoodstrategy.ca) directly.



### Food Strategy Steering Committee Members

Councillor Rebecca Johnson, Co-chair	Jane Todd, EarthCare Advisory Committee
Councillor Bernie Kamphof, Co-Chair, Oliver Paipoonge	Jody Mitchell, Roots to Harvest
Kendal Donahue, Coordinator, Food Strategy	Julee Boan, Boreal Program Manager, Ontario Nature
Ann Magiskan, Aboriginal Liason, CTB	Silva Sawula, Manager, TBDHU
Catherine Schwartz Mendez, Nutritionist, Thunder Bay District Health Unit (TBDHU)	Leslie McEachern, Manager, Dev. Services, CTB
Dan Munshaw, Manager, Supply Management, CTB	Thora Cartlidge, Planner, CTB
Ellen Mortfield, Executive Director, EcoSuperior	Brad Doff, Coordinator, EarthCare
Erin Beagle, Executive Director, Roots to Harvest	Karen O`Gorman, Councillor, Gillies
Gwen O`Reilly, Director, N. Ont. Women's Centre	Rudy Buitenhuis, Agriculture Devevelopment Advisor, Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
Henriet DeBruin, President, Thunder Bay Federation of Agriculture	Madge Richardson, Executive Direct, North Superior Workforce Planning Board (NSWPB)
Jim Stady, Owner, Eat Local Pizza	Tarlok Sahota, Director of Research and Business, Thunder Bay Agricultural Research Station (TBARS)
Julie Stachiw, Nutritionist, Regional Hospital	Volker Kromm, Executive Director, Regional Food Distribution

# MOBILITY



## Progress Highlights:

- Thunder Bay's first green bike lanes were painted at the intersections of Vickers Street / Miles Street and Vickers Street and Victoria Avenue.
- New buffered bike lanes were painted on Vickers Street from Cameron Street to Victoria Avenue.
- Green 'bike detector' boxes were painted on the east and west corners of Victoria Avenue at Vickers Street to show cyclists where to stand to activate the traffic lights.
- The stop signs along Windsor Street, from Algonquin Avenue to Clarkson Street, were changed to prioritize walking and cycling along that corridor.
- The TBDHU completed a Wayfinding Pilot Project in the Waterfront and Bay and Algoma business areas.
- Thunder Bay's first pedestrian crossover was installed at Algoma Street and Cornwall Avenue.
- 903 people successfully completed cycling skills courses in 2016; 15 new cycling instructors were trained and certified, including Police, teachers, and TBDHU staff; Safe Cycling received over \$35,000 from the Ministry of Transportation for cycling education program development.
- City of Thunder Bay was approved for \$325,000 from the Ministry of Transportation to build a new multi-use trail into Confederation College.
- 387 people participated in the Commuter Challenge, travelling 25,651 kms; avoiding 4,288kgs of CO<sub>2</sub>, saving 1,657L of fuel, and burning 444,290 calories.
- During the 2016 Commuter Challenge many people tried out different ways to get around:



204 people tried carpooling



205 people tried cycling



181 people tried walking



205 people tried transit



The Active Transportation Working Group tracks the following data each year both as indicators of overall community trends, and the impact of their efforts in implementing the Active Transportation objectives over the long term.

Indicator	2008	2009	2010	2011	2012	2013	2014	2015	2016
# of traffic injuries to pedestrians (CTB Traffic Collision Analysis Program)	73	28	46	43	52	33	26	59	43
# of uses of bike racks on buses	-	7,290	13,746	21,060	18,516	18,974	18,613	19,974	17,412
# of transit rider trips per capita	31.2	33	31.7	33.01	33.61	33.39	34.66	33.03	33.8
Traffic Volume (vehicle km traveled/ lane km on major roads – Ontario Municipal Benchmarking Initiative (OMBI) data – in millions)	1,472	1,333	1,361	1,372	1,334	1,280	1,280	1,326.8	1326.8
kms of bike-lanes and sharrows	0	0	10	20	29.8	31.7	33.6	36.5	37.64
kms of paved multi-use trails	35.4	36	36	41	46	47	49	51	55
Dedicated Active Transportation Funding (in thousands of \$)	-	28.5	130	130	135	135	180	250	250



### Mobility: Walkability Sub-Group Working Group Members

Joanna Carastathis, TBDHU, Chair  
 Mary Duquette, TBDHU  
 Jessly Bonifacio, TBDHU  
 Ashley Priem, EcoSuperior  
 Marilyn Grudniski, Little Lions Waldorf Daycare  
 Richard Boon, Canadian Diabetes Association  
 Susan Forbes, Citizen  
 Patricia Lambert, Accessibility Advisory Committee  
 John Paul Gamache, Accessibility Advisory Committee  
 Cathy Farrell, Citizen  
 Keith Nymark, Citizen  
 Caroline Cox, EcoSuperior

Adam Krupper, CTB, Mobility Coordinator  
 Brad Doff, CTB, Sustainability Coordinator  
 Mike Vogrig, CTB, Engineering  
 Ryan Love, CTB, Engineering  
 Werner Schwar, CTB, Parks and Open Spaces  
 Shahrzad Borjian, CTB, Transit  
 David Noonan, Citizen  
 Brian Spare, Accessibility Advisory Committee  
 Sarah Kerton, Citizen  
 Lindsay Galway, Lakehead University  
 Dean Stamler, EarthCare Advisory Committee  
 Ivana Vidjen, Citizen  
 Dana Earle, CTB Transit

# WASTE



## Progress Highlights:

Thunder Bay City Council made the decision to close two City owned Long-Term Care (LTC) facilities, Dawson Court and Grandview Lodge. The City's Supply Management Division's role in the 2016 project was to develop and implement a plan to empty the buildings of contents after the residents were relocated to their new homes.

It is estimated that the two decommissioned LTC Homes contained approximately 38 transport loads (380,000 kgs) of assets to be removed. Of this total, only 8,000 kgs or 2 percent of estimated total went to the landfill. The balance of assets were repurposed within the corporation, donated to non-profit agencies or recycled.

- Repurposed assets within Pioneer Ridge and elsewhere within the Corporation, 150,000 kgs
- Donated items to not-for-profit agencies, 200,000 kgs
- Recycled 22,000 kgs
- Waste Disposal 8,000

Donations were made to over 40 regional non-profit agencies. The majority of assets were redeployed regionally and some made it as far as Nicaragua.

- The Solid Waste System Financial Plan (SWSFP) was approved by Council in June 2016.
- The SWSFP was developed to meet the projected operating and capital needs of the Solid Waste and Recycling Services operations over the long term to support revenue requirements and borrowing requests. The plan was developed with the goal of achieving financial sustainability, full-cost recovery and affordability for consumers while maintaining the City's services for waste collection, diversion and disposal, including the operating and post-closure management of the landfill site. The plan also supports the advancement of solid waste and diversion programs and services consistent with the Solid Waste Management Strategy.

## Curbside Household Battery Collection Program

- Due to the success of the pilot program, the Curbside Battery Collection Program was added to the City's regular solid waste programming in 2016 and will take place once per year. Since its inception, the program has diverted 13 metric tonnes of household batteries from the landfill.

## Elimination of Free Disposal Week at Thunder Bay's Solid Waste and Recycling Facility (SWRF)

- For one week out of the year, the City previously allowed residents to dispose of unlimited quantities of waste at the City's SWRF free of charge. The program in essence 'rewarded' the generation of waste and certainly did not incentivize residents to look for re-use or recycling options. Loss of tipping fees were also a factor for this change.
- In order to remain consistent with the overarching objectives of the SWMS, this program was eliminated altogether. The elimination of this program is offset by other re-use programs, such as Treasure Exchange Days and the various re-use stores operating in the community.

The Waste WG tracks the following indicators on an annual basis:

Indicator:	2009	2010	2011	2012	2013	2014	2015	2016
<b>Amount diverted through the HHW Depot in Metric Tonnes</b>	165	276	362	235 <sup>1</sup>	266	247	271	268
<b>E-Waste diverted from landfill through City Programs (residential Sector), in metric tonnes (new indicator for 2016 report)</b>	100	253	237	248	229	240	305	312
<b>Organic waste diverted from landfill through City programs (Residential Sector) in Metric Tonnes</b>	1,181	1,384	1,351	1408	1072 <sup>2</sup>	2027	2,410	3951 <sup>3</sup>
<b>Total residential waste generated in Metric Tonnes</b>	50,100	52,800	55,400	62,200	52,319	51,592	49,329	48,569
<b>Total residential waste diverted in Metric Tonnes</b>	15,300	16,500	18,000	18,600	10,145	11,122	11,851	11,566
<b>% of residential solid waste diverted from landfill</b>	30%	31%	32.5%	30% <sup>4</sup>	20%	22%	24%	24%

<sup>1</sup> Hazardous waste shows a decrease in tonnage for 2012 - new weighing procedures as a result of the new Phase 1 Municipal Hazardous or Special Waste Program implemented last year affected this. Also, the flood may have had an impact on depot use, as the homes affected likely were not utilizing the depot as much in 2012.

<sup>2</sup> The diversion rate is down significantly as the composting diversion calculation was adjusted this year to reflect current industry practice (as identified through the SWMS consultation process in 2013).

<sup>3</sup> In 2016, the total organic waste diverted from the landfill (residential sector) has been adjusted to also account for the tonnage diverted from backyard composters.

<sup>4</sup> Residential waste generation is up significantly and therefore the diversion rate is down for 2012. This is a result of the increase in waste delivered to the Waste Facility due to the May 2012 flood clean up.



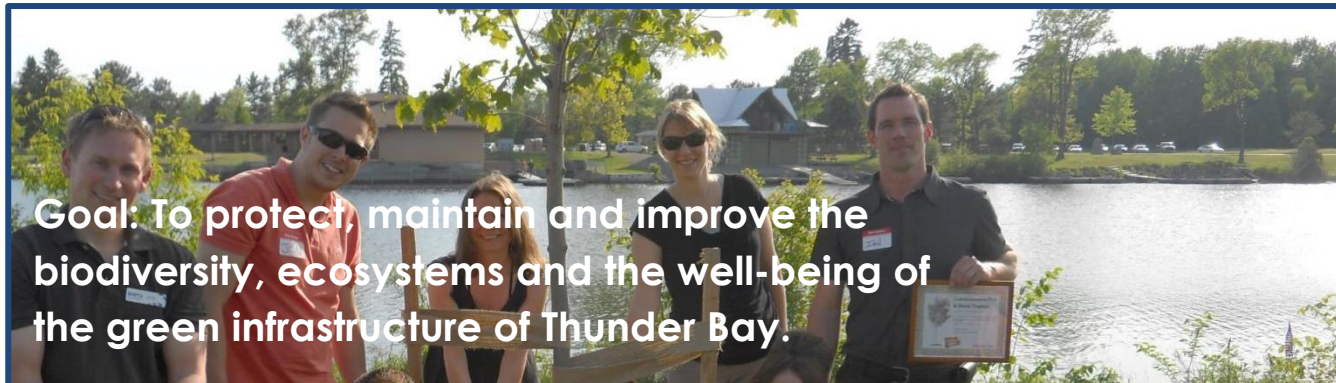


### Waste Working Group Members

Patrick Fenlon, PackPros Plus Ltd, Chair  
Glenn Berst, St. Joseph's Care Group  
Rod Bessel, Lakehead Public Schools  
Cathy Bevilacqua, CTB, Supply Management Div.  
Jay Eingold, Operations Supervisor, EcoSuperior  
Rebecca Johnson, City Councillor  
Sarah Kerton, CTB, Sustainability Coordinator  
Lucy Laframboise, Citizen  
Natasha Sozio, ReCool Canada  
Randy Mehagan, Thunder Bay Regional Health  
Sciences Center (RHSC)  
Dan Munshaw, CTB, Manager, Supply  
Management Division  
Jason Sherband, CTB, Manager Waste &



## COMMUNITY GREENING



**Goal: To protect, maintain and improve the biodiversity, ecosystems and the well-being of the green infrastructure of Thunder Bay.**

### Progress Highlights:

- The Citizen Pruner Program pruned 141 trees (bringing the total to 875 young trees pruned since 2010), trained nine new volunteers and contributed a total of 142 volunteer hours towards tree pruning.
- 23 trees were planted through the Tree Stewardship Program. 13 trees were planted through Commemorative Tree & Bench Program and 14 benches installed.
- The City's Urban Forestry Section completed its fourth year of the Tree Watering Bag program which offers two years of watering for newly planted boulevard and park trees.
- Arbor Day 2016 was held at the North End Rec Centre and involved the planting of 20 new large-caliper trees and 20 three year-old white spruce.
- City staff/ WG members presented on Thunder Bay's Green Infrastructure at the Association of Municipalities of Ontario annual conference
- The Ontario Invasive Species Center hosted a Garlic Mustard mapping/ locating exercise with the Field Naturalist and a 'Pull' with the Master Gardeners in the spring of 2016.
- Funding was renewed through the Northern Ontario Heritage Fund Corporation to support a one-year intern to coordinate the Image Route Planting project for the City, which is additionally supported by City's Clean, Green and Beautiful Committee and delivered under the Parks & Open Spaces Section. The development of marketing packages was completed, pre-selected businesses were contacted and landscaping plans were completed for the first phase along Arthur Street.
- City of Thunder Bay in partnership with the Emerald Ash Borer (EAB) Task Force continued presentations at ward meetings, City Council meetings, and held public open houses and published articles

### Citizen Pruner Program 2016



**141** young  
boulevard trees  
pruned in 2016!

in the media relating to next steps of EAB management in the city.

- City Council adopted administrations recommended 50 percent treatment active EAB management strategy.
- The Community Greening Working Group drafted the Biodiversity Score Card for Thunder Bay
- Continued with the outside Children's at the Thunder Bay Conservatory garden to teach techniques and provide vegetables grown in straw bales, raised gardens and planters. Teaching alternate techniques to increase yield of produce in smaller spaces along with promoting community involvement and participation.
- The continuation of the pollinator beds at the Conservatory and the demonstration bee hives which both promote the importance of pollinators in our ecosystem and how honey bees interact with the various plants found at the Conservatory.
- An increase in the number of pollinator beds throughout the City's signature parks using interpretive signage mounted on salvaged large tree stumps.
  - Established a partnership with Eco-Superior for Day Group participants to walk on City trails from the EcoSuperior Central Gardens to the Conservatory on Dease Street while learning about trees, shrubs, gardening and what the Conservatory does in the community.
- Continuing the transition of City flower beds to include perennials and not only annuals. Continuing the transition to use City produced wood mulch from Urban Forestry operations to cover City gardens which decreases the amount of manual weeding and watering requirements while returning nutrients back to the soil through decomposition.
- Providing free to the public, wood chips that are produced through Urban Forestry operations thus reducing operational costs to transport wood chips for disposal.



### Community Greening WG Members

Rena Viehbeck, CTB, Parks, Chair  
Lee Amelia, CTB, Parks, Chair  
Brad Doff, CTB, Sustainability Coordinator  
Lynn Duffield, EarthCare Advisory Committee  
Allan Hall, Citizen  
Susan Jaward, Thunder Bay Horticultural Society  
Curinss McGoldrick, CTB, Climate Adaptation Coordinator  
Werner Schwar, CTB, Coordinator Parks Planning  
Rod Seabrook, Trees Thunder Bay  
Heidi Strobl, FedNor  
James Taylor, CTB, Special Projects Asset Mngt.  
Shelley Vescio, CTB, City Forester  
Kayla Richard, CTB, Image Route Planting Intern  
Kathy Sakamoto- Citizen  
Kyle Jessiman, Citizen  
Blanca Lopez, Citizen  
Gail Willis, Water Working Group Chair  
Joan Dupuis, Citizen

**"You can gauge a  
country's real wealth  
by its tree cover"**

- Dr. Richard St Barbe Barker

The Community Greening Working Group tracks the following indicators on an annual basis to measure progress on the implementation of some of the associated objectives.

Indicator:	2009	2010	2011	2012	2013	2014	2015	2016
# trees planted annually vs. removals	-109	34	452	118	192	212	-416*	-1320
# trees planted through the tree stewardship program	97	59	60	78	40	38	42	23
% of municipality dedicated to parkland	5.1	5.1	4.6**	4.6	4.6	4.7	4.7	4.7

*\*The removals have increased due in a large part to the fact that we are now keeping record of all trees removed by Thunder Bay Hydro (268 in 2015, estimated 1,500 in 2016). As well, the City Golf courses removed a large number of mature trees (80 in 2015) that were dead or dying. There were also some subdivision plantings that were completed but not yet accepted, and therefore weren't registered as City ownership).*

*\*\*There was an actual increase in parkland within City limits in 2011. However, the calculating tools are much more accurate and now show 4.6 percent parkland space.*





# WATER



**Goal:** To ensure that water resources in the local watershed are protected and enhanced through the engagement of various stakeholders.

## Progress Highlights:

- Installation of a Bioswale at the Bare Point Water Treatment Plant to treat stormwater runoff. The various low impact development treatment systems at the site now treat up to 60 percent of the stormwater that falls on buildings and parking lots.
- The third annual Canada Water Week family event celebration hosted by the Water Working Group was held at the Baggage Building with over 400 in attendance.
- 11 schools requested 21 water presentations for Canada Water Week which reached a total of 160 students.
- 19 Rain Garden Rebates, coordinated by EcoSuperior and funded through the CTB, were offered to citizens to encourage the development of rain gardens throughout the city.
- The City of Thunder Bay Water Bar was again a staple at many outdoor events in the community. This year, there were 43 requests for the Water Bar.
- The first annual Rain Garden Self-Guided Tour, featuring five residential rain garden two municipal Low Impact Development (LID) sites had 119 registrants. This event was coordinated by EcoSuperior funded by the City's Rain Garden Rebate Program.
- The Drainage Rebate Program has been offered by the City of Thunder Bay through EcoSuperior since 2013. To date 541 applications have been received funding through the program, 308 applications for backwater valve installation, 333 for sump pump, sump pit and infiltration pit installation and 122 weeping tile disconnections from the sanitary sewer system.
- The *eXXpedition Great Lakes 2016* was a community-led initiative to raise awareness of the plastic pollution in our waters and its impacts on public health. 22 members of the public participated in the clean-up and removed 51 kg of debris from the river and shoreline.
- Two Low Impact Developments were constructed on Clayte Street, in May 2016.



- The City of Thunder Bay continues to fund EcoSuperior's Water Wise Programs which focuses on water conservation, water protection, and promotion of our Superior tap water.
- Funded by the City of Thunder Bay and delivered by EcoSuperior, 516 fully equipped rain barrels were sold to capture runoff and conserve water.

Since 1997, EcoSuperior has sold more than 9,700 rain barrels!

All the water that will ever  
be is, right now.

-National Geographic

The Water Working Group tracks daily per capita water use based on the total liters treated at the Bare Point Water Treatment Plant:

Indicator	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Liters of treated water per capita per day (residential & ICI sectors)	442	407	400	391	369	369	347	352	389	361



### Water Working Group Members

Jim Bailey, Remedial Action Plan Coordinator  
 Tammy Cook, CAO, LRCA  
 Shannon Costigan, EarthCare Advisory Committee  
 Dave Dutchak, CTB, Project Manager  
 Frank Edgson, Northshore Steelhead Association  
 Carl Goodwin, CTB, Process Engineer  
 Lucie Lavoie, EcoSuperior  
 Michelle McChristie, Great Lakes Advisor, MOE-CC  
 Curniss McGoldrick, CTB  
 Jamie Saunders, EcoSuperior

Werner Schwar, CTB, Supervisor, Parks Open Space  
 Sandy Stiles, Confederation College  
 Rob Stewart, Lakehead University  
 Gordon Van Fleet, Confederation College  
 Shelley Vescio, CTB, City Forester  
 Rena Viehbeck, CTB, Community Greening Chair  
 Jim Vukmanich, CTB, Chief Chemist  
 Aaron Ward, CTB, Project Engineer  
 Gail Willis, CTB Senior Technologist, Chair

# Going Forward

The EarthCare Sustainability Plan lays out the general direction that the community of Thunder Bay must take in order to reduce GHG emissions and continue transitioning to a more resilient, sustainable community. Throughout the Plan, needs are identified for continued local action, the importance of education, and the challenge of integrating environment, economy, and community. The Plan also demonstrates how citizens can make a difference at home, in the workplace, and in the community. It challenges the public to work with EarthCare to make Thunder Bay a sustainable city.

The Corporation of the City of Thunder Bay is the leader in bringing this Plan to fruition. Its ongoing implementation leads to many benefits, including a more resilient city in the face of a changing climate, enhanced community pride and health of local citizens, improved local environment, lower greenhouse gas emissions, cost savings, strengthened community partnerships, and the attraction and retention of new residents.

In 2017 EarthCare will focus on coordinating multiple *Strong Community* initiatives including the development of a neighbourhood pop-up event in the Fall. The City and EarthCare will also continue the coordination and installation of a new suite of low impact development projects throughout the community. This year we will also continue implementing the Climate Adaptation Strategy throughout the many divisions and departments within the Corporation and launching an enhanced climate adaptation website as a new portal for education and engagement with the community, among a variety of other working group projects.

The EarthCare Sustainability Plan presents an ambitious vision and a specific set of actions for the Corporation of the City of Thunder Bay and its citizens. It has been an encouraging journey since the plan was implemented in 2014. Now together, over the next five years, it will continue to take this community on an exciting journey that will create new opportunities and ultimately develop a stronger, more livable Thunder Bay.





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