City of Sault Ste. Marie 2017 Community & Corporate Greenhouse Gas Emissions Inventory

Presented to: City of Sault Ste. Marie Council Meeting: February 24, 2020

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Agenda

- Overview
- Community & Corporate GHG Inventories
  - Results & Analysis
  - Local Energy & Climate Action
- Preliminary Recommendations
- Stakeholder Engagement
- Next Steps
- Conclusion

Project Overview

Purpose:

- Provide a baseline against which the community can measure progress towards the reduction of greenhouse gases (GHG)

Program:

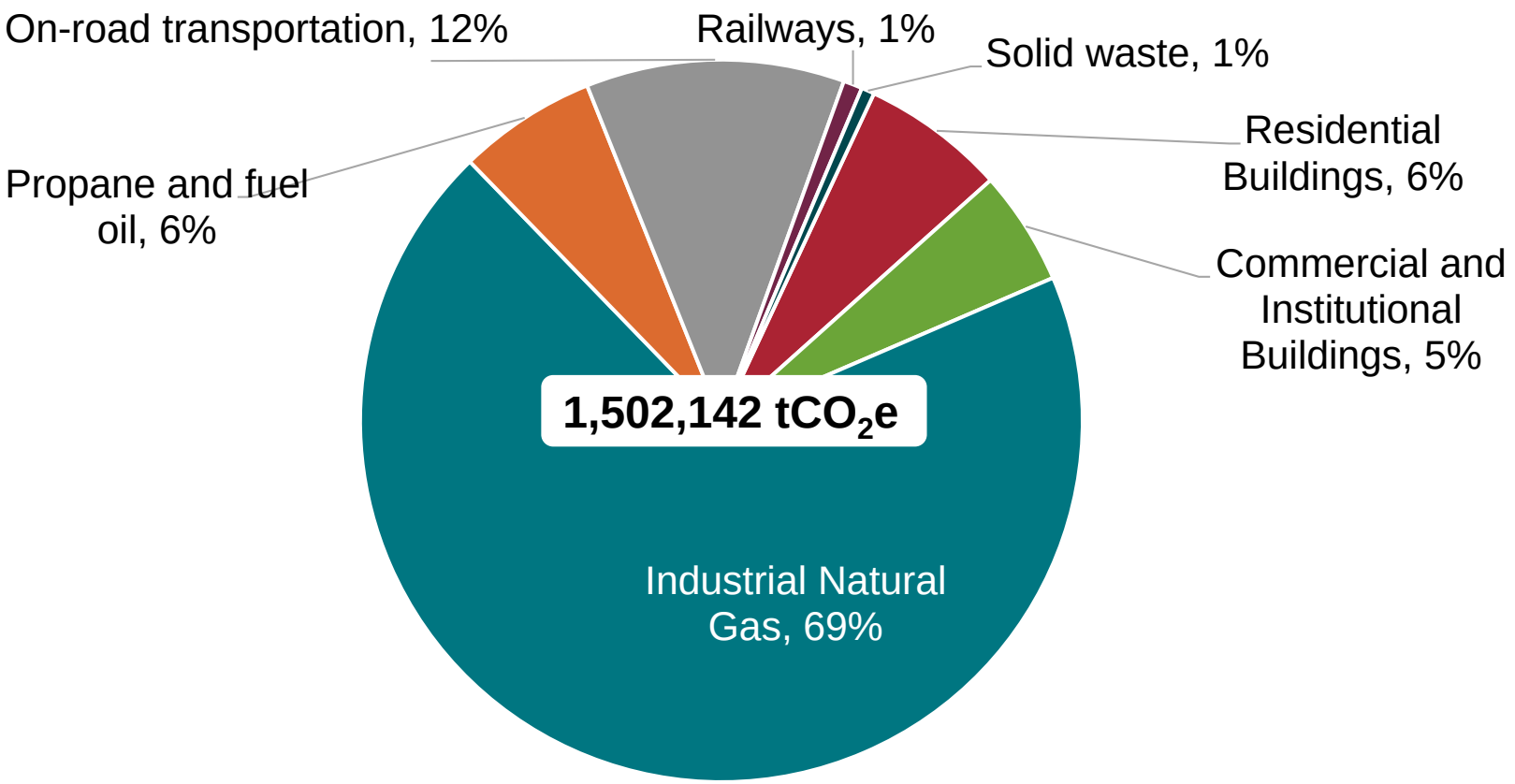
- Partners for Climate Protection (PCP) Program (over 350 participating municipalities across Canada)

Definitions*:

- ***Community Inventory:*** measurement of aggregate emissions generated by key activities within the territorial boundary of the local government.
- ***Corporate Inventory:*** a report of emissions from municipal operations that it controls.

*ICLEI – Local Governments for Sustainability and the Federation of Canadian Municipalities (FCM). (2014). PCP Protocol: Canadian Supplement to the International Emissions Analysis Protocol. Retrieved from: https://fcm.ca/sites/default/files/documents/resources/report/protocol-canadian-supplement-pcp.pdf

Results: Community GHG Inventory



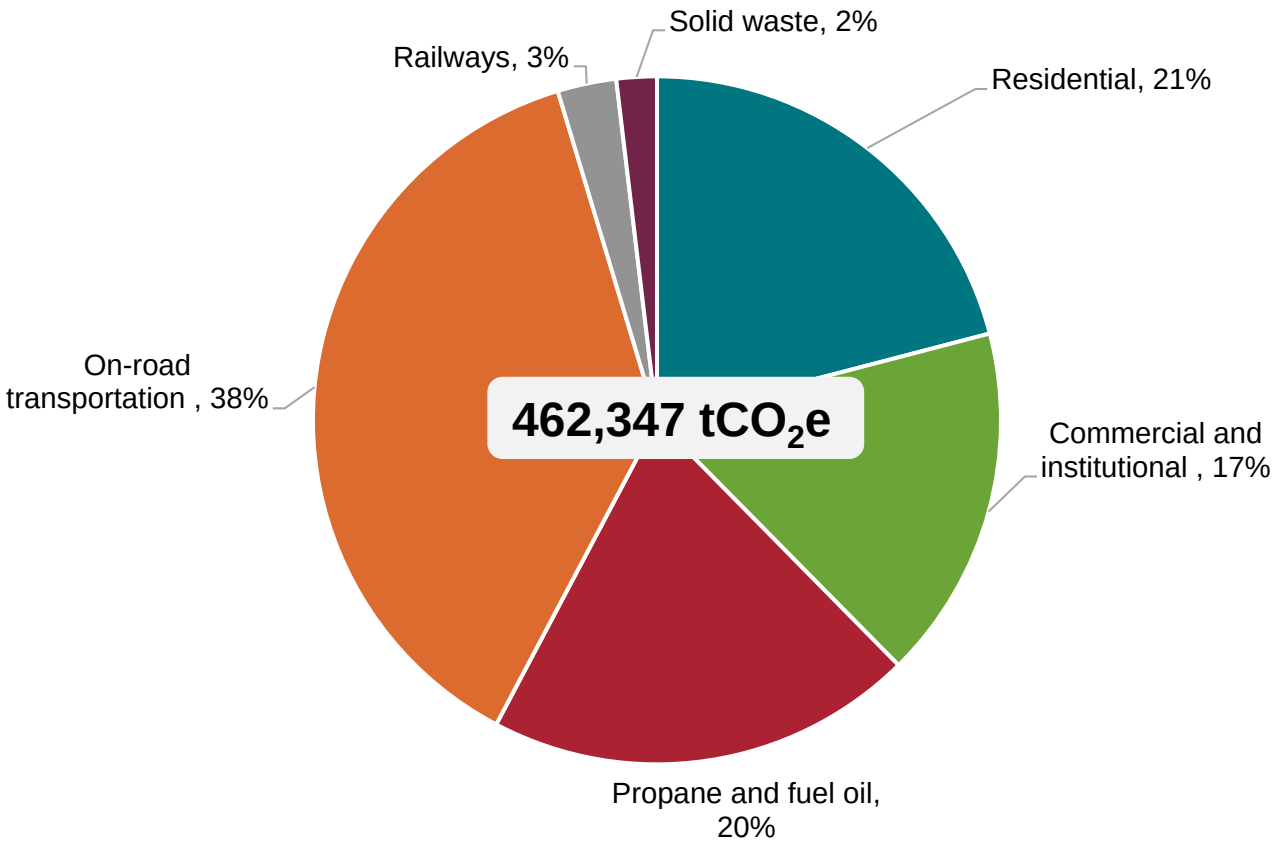
*Total community emissions are projected to rise to **1,727,032 tCO2e (or 14%)** based on an average annual population growth rate of 0.7% (as of 2017) by the year 2037 if no action is taken.*

Key Insights: Community GHG Inventory

- **Industrial emissions** are the highest sector of emissions in Sault Ste. Marie based on their consumption of **natural gas**
- Other cities, such as Hamilton, have **industrial facilities** which generate 70% of community emissions*
- The **second** largest source of emissions is from **on-road transportation**
- Sault Ste. Marie 2017 emissions resulted in **20.5 tonnes** of GHGs per capita (This is comparable to the Canadian national per capita emissions, which were recorded at 19.5 in 2017).
- High energy use from **natural gas** in the industrial sector coupled with a **lower population** result in higher per capita emissions
- Industrial emissions are monitored and regulated by the federal and provincial **governments**
- The GHG reduction plan will seek to explore **actions** in the energy, buildings, transportation, waste, land use and economic development sectors

*https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=195837

Results: Community GHG Inventory <u>without</u> industrial emissions



Local Energy & Climate Change Action

Preliminary **consultations** have occurred and will continue with **local industrial** and **energy partners** to understand their **positive** and **proactive** steps to reduce GHG emissions

Some local examples of large scale GHG reduction projects include:

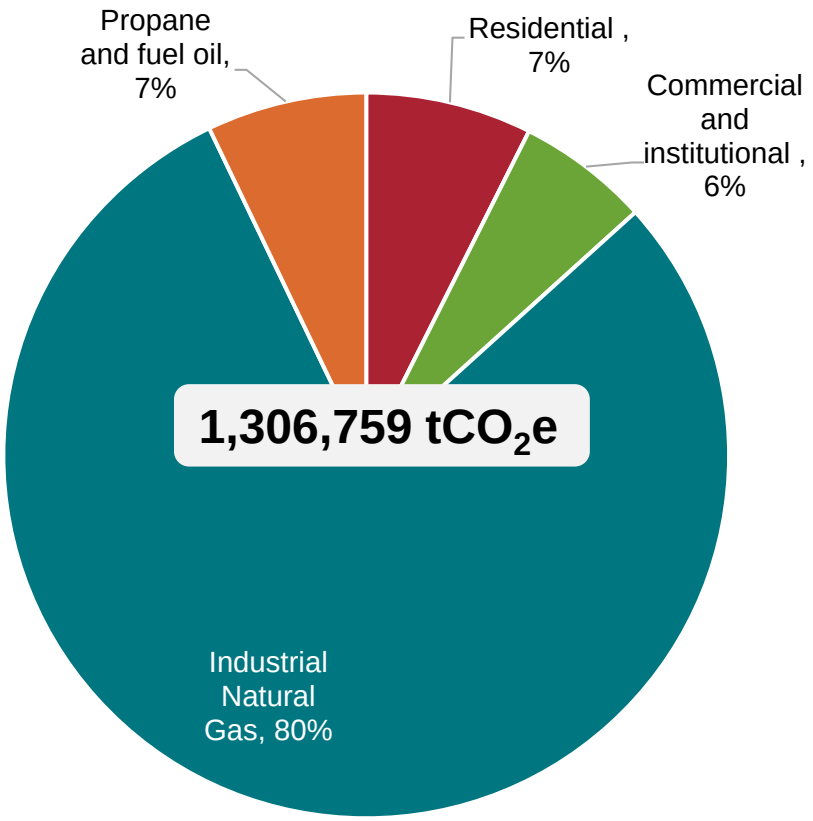
Algoma Steel Inc.

- 3 greenhouse gas reduction projects anticipated to reduce annual GHG emissions by approximately 79,000 tonnes are either complete or underway at Algoma.
- The company is actively investigating further opportunities.
- As a member of the Canadian Steel Producers Association Climate Change Working Group, Algoma is exploring technological advancements to deliver a step-change improvement in GHG emissions.

PUC Distribution Inc.

- The PUC Distribution's Smart Grid Project has a target of being operational in 2022 with an **estimated** potential to save energy savings worth 2,804 tonnes annually

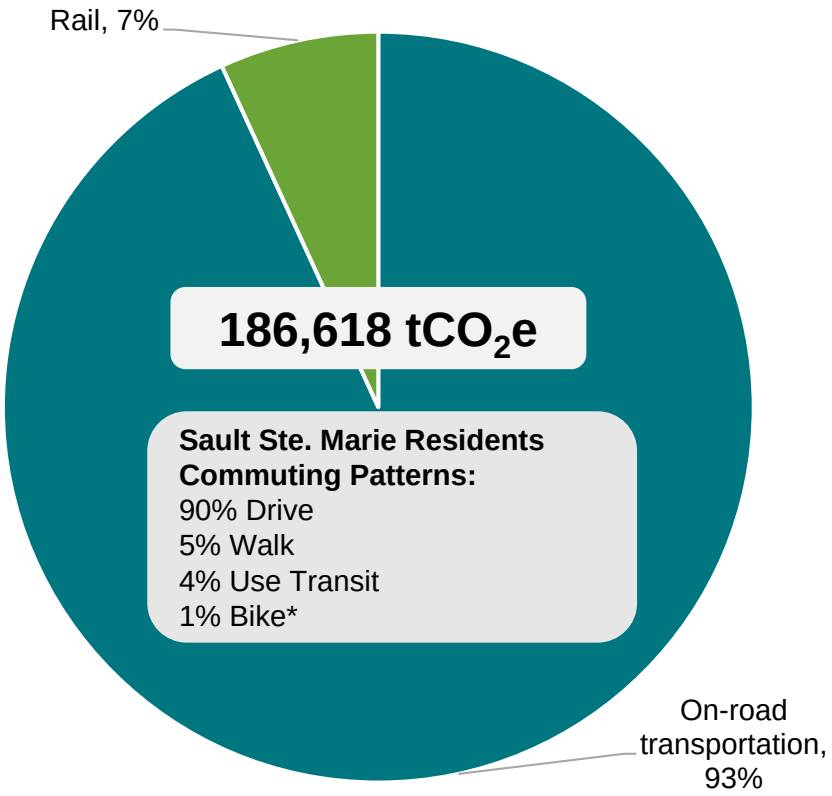
Community: Energy Emissions



Preliminary Recommendations

- ✓ Consult with local industrial facilities to understand their **current** and **planned** environmental and GHG reduction efforts.
- ✓ Encourage uptake in **energy efficiency retrofits** for existing buildings.
- ✓ Research policies **for efficient new builds** that go above the Ontario Building Code
- ✓ Explore the feasibility of **renewable energy** procurement; however, the business case must be evaluated based on current renewable energy cost effectiveness.

Community: Transportation Emissions

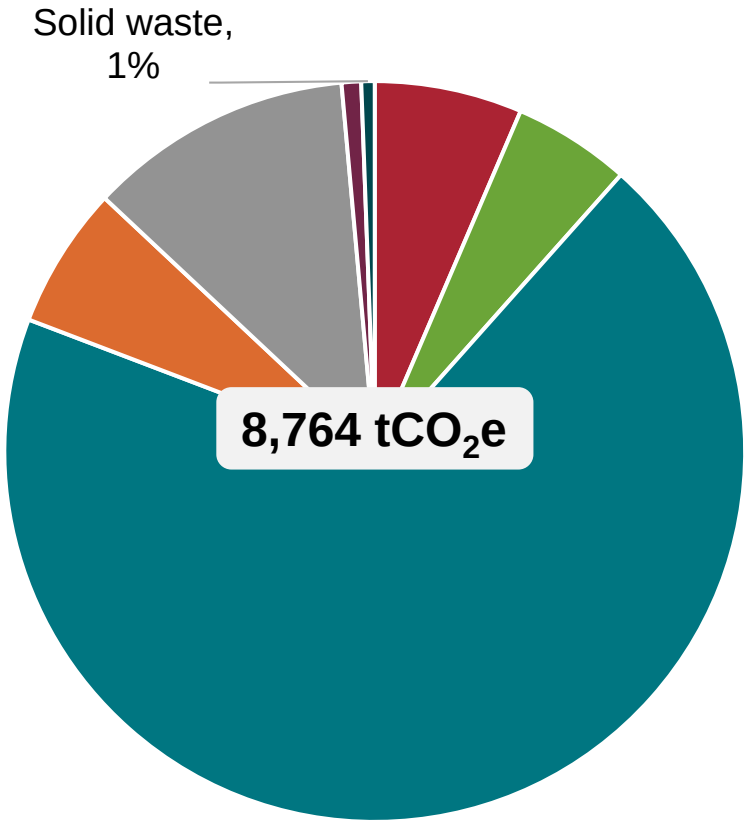


Preliminary Recommendations

- ✓ Explore opportunities to **increase** transit **ridership** and active transportation (e.g. Bike to Work Week May 31 – June 6, 2020)
- ✓ Review potential actions that **align** with existing City plans (e.g. Transportation Master Plan (2015), Green Fleet Plan (2011) and Cycling Master Plan (2007)
- ✓ Support transportation **electrification** opportunities (e.g. electric vehicles, charging stations, buses, etc.)
- ✓ **Increase education and awareness** about economic and health benefits related to active transportation

*Source: Canadian Municipal Barometer Background Data Series. (n.d.). Retrieved https://cmb-bmc.shinyapps.io/cmb1/

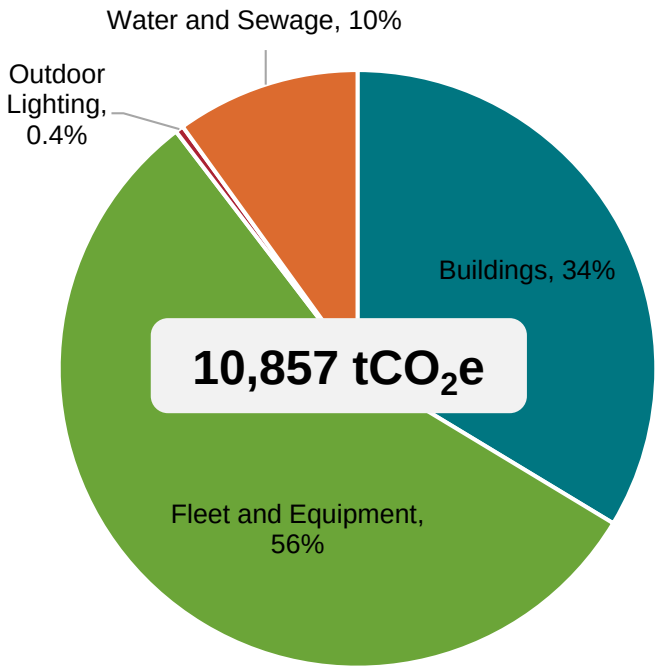
Community: Waste Emissions



Preliminary Recommendations

- ✓ Review strategies and policies that support ways to **divert waste**
- ✓ **Expand** landfill gas capture as part of landfill expansion plans and **review feasibility** of using the gas as a form of energy generation
- ✓ Conduct research regarding **organics** collection as part of waste diversion

Results: Corporate GHG Emissions Inventory



- In 2017, the City spent approximately **$8,394,614** on energy and fuel costs
- The majority of emissions come from **vehicle fleet and equipment**
- Building emissions mainly come from the use of **natural gas**
- **Streetlights** consumed the most energy for outdoor lighting
- **Water treatment plants** use of **natural gas** emissions created the most emissions in wastewater
- Since 2007, emissions have **decreased** across all sectors
- Total corporate emissions are projected to **rise** to 12,482 tCO_2e **(or 14%)** based on an average annual population growth rate of 0.7% (as of 2017) by the year 2037 if no action is taken
- To continue decreasing emissions the City must prioritize **energy management** and **energy efficiency** in existing assets and new builds

*The decrease may be due to different data sources used, and actions such as LED outdoor lighting and the elimination of coal to produce electricity in Ontario as of 2014

Conclusion

Preliminary Recommendations

- **Create** a committee or stakeholder working group to help identify achievable emission reduction targets and support the development of a local reduction plan
- **Educate** community about the GHG emissions inventory and seek input for the reduction plan (Open House, Online Survey, One-on-one consultations)
- **Incorporate** Climate Change considerations and the GHG inventory into the City of Sault Ste. Marie's Official Plan Update

Next Steps:

- Phase 2: Set GHG reduction targets and develop Community GHG Reduction Plan
- Phase 3: Preparatory work leading to implementation of GHG emissions reduction

*Actions to reduce GHG emissions **improve** public health, **support** competitiveness and innovation, **reduce** household, business and municipal energy costs*

Thank You. Questions?

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