



INFORMATION UPDATE

TO:	Agriculture and Rural Affairs Advisory Committee
DATE:	September 9, 2019
SUBJECT:	Corporate Climate Change Task Force Request
WARD(S) AFFECTED:	City Wide
SUBMITTED BY:	Trevor Imhoff, Chair Corporate Climate Change Task Force Senior Project Manager – Healthy Environments Division Healthy and Safe Communities Department City of Hamilton
SIGNATURE:	

The purpose of this Information Update is to inform the Agriculture and Rural Affairs Advisory Committee on the direction of the Corporate Climate Change Task Force (CCCTF). It was requested the CCCTF provide an update on whether it would be including the investigation of the effects of climate change on agriculture and the role of agriculture in supporting the City of Hamilton in reducing its Green House Gas (GHG) emissions in it's corporate-wide climate change adaptation and mitigation work plan.

As the Agriculture and Rural Affairs Advisory Committee is well-aware, Agriculture contributes approximately \$1 billion to the Hamilton economy¹. Furthermore, 79% of Hamilton's land mass, or approximately 219,504 acres is considered rural and agriculture represents the backbone to rural life².

GHG Emissions from Agriculture

In 2018 the City of Hamilton through the Bay Area Climate Change partnership between Mohawk College and City of Burlington retained Sustainability Solutions Group, a leading consulting firm in GHG emissions inventory and forecasting to undertake an updated GHG inventory for both Hamilton and Burlington as well as to create a forecast model using their patented CityInSight model. This model is capable of generating future GHG emission scenarios based on low carbon scenarios. This type of forecasting is essential to prioritize actions that will have the most impact on reducing GHG emissions.

OUR Vision: To be the best place to raise a child and age successfully.

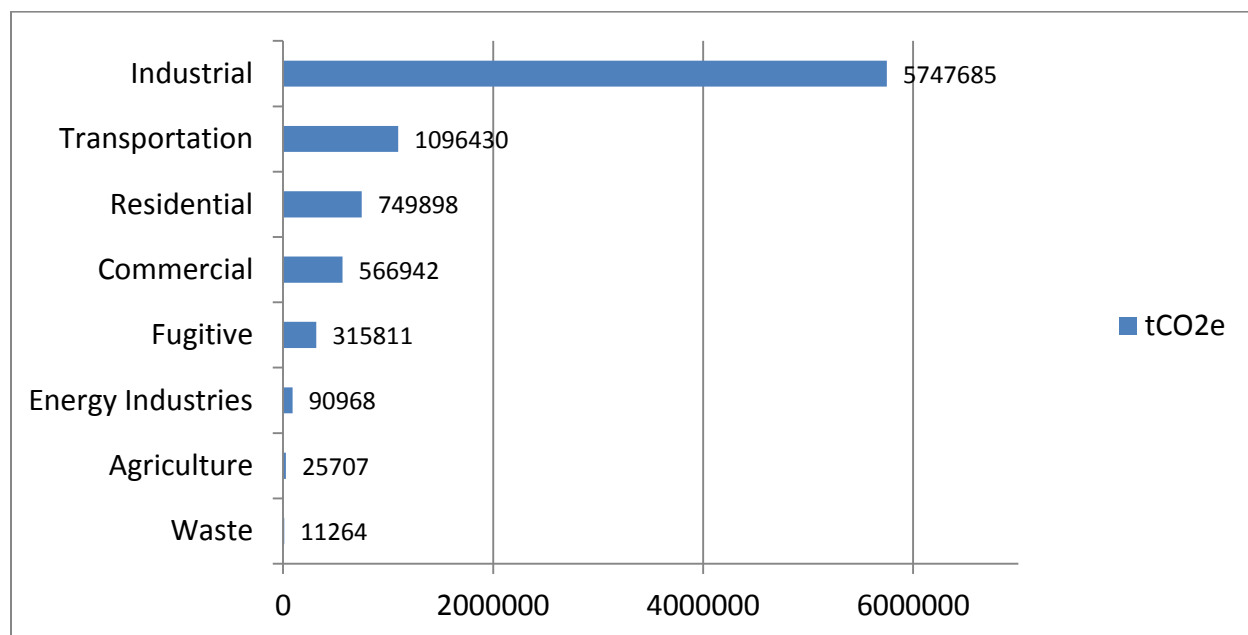
OUR Mission: To provide high quality cost conscious public services that contribute to a healthy, safe and prosperous community, in a sustainable manner.

OUR Culture: Collective Ownership, Steadfast Integrity, Courageous Change, Sensational Service, Engaged Empowered Employees.

The agriculture sector was excluded in Hamilton's GHG emissions inventory due to its small emissions contribution. However the City of Hamilton reports annually on GHG emissions by sector and includes agriculture into that analysis.

The City of Hamilton utilizes data from the Federal National Inventory Report and Statistics Canada in order to calculate GHG emissions from the agricultural sector in Hamilton. The estimated GHG emissions from agriculture for the 2016 inventory year were approximately 25,707 tCO₂e. Figure 1.0 below is a bar-graph showing total GHG emissions by sector for the City of Hamilton.

Figure 1.0 GHG Emissions by Sector for City of Hamilton, 2016



According to Sustainability Solutions Group GHG emissions inventory for 2016 Hamilton's emissions was estimated at 8,578,998 tonnes carbon dioxide equivalent (tCO₂e)³. Adding agriculture to this, Hamilton's total GHG emissions is approximately 8,604,704 tCO₂e.

Therefore it is estimated that agriculture represents approximately 0.3% of total emissions in Hamilton. Hamilton is a unique City with an intense industrial core, however even if you exclude industry from the calculation, agriculture still represents less than 1.0% of total GHG emissions.

Climate Change Impacts

Climate change represents both opportunities and threats to the agriculture sector. Climate change will impact not only the ability to grow crops, but the distribution chain and transport side of the agriculture sector as well. It is projected that longer growing seasons may represent an opportunity for the agriculture sector here in Canada, however future local impacts caused by climate change are projected to include:

- An annual increase in temperatures of approximately 1.5°C in the 2020s, 3.0°C in the 2050s, and 4.8°C in the 2080s
- Changes in precipitation with annual precipitation days of 118 increasing to 126 days in the 2020s, 132 days in the 2050s, and 137 days in the 2080s.
- Intensity, duration, and frequency of extreme weather events, such as heavy rain events, ice storms
- An increase in the frequency of heat days (>30°C) and warm nights of 20 days in the 2020s, 33 days in the 2050s, and 48 days in the 2080s.

These impacts are projected to worsen because of climate change. Climate adaptation is a priority area for the CCCTF and it is expected the agricultural sector will be consulted through the process of creating a city-wide climate adaptation plan in addition to the existing consultation City staff have had with the agricultural community.

Local Food Production and Carbon Sequestration

The CCCTF does recognize the importance of food choices and the reduction in individual consumers' carbon footprint by making the choice to eat local. However, this is very difficult to measure and education/awareness through other avenues including the *Food Strategy* and *Eat Local Hamilton Map* would be a better way to engage citizens and promote local food production.

The CCCTF also recognizes the potential role agricultural lands have in sequestering carbon. It will be important that we all recognize the role the natural environment including forests, grasslands, wetlands and agriculture have in sequestering carbon and stormwater management. Potential carbon sequestration is a very scientific area of research and therefore would be more suited to be led by the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA).

Conclusion

The agricultural sector contributes a very small amount in regards to GHG emissions. However, because of the land mass and contribution of the agricultural sector to Hamilton's economy, it will be important that the agricultural community be consulted throughout the climate adaptation planning process. Other than this consultation it is not expected that any additional research or work plans would be created through the Corporate Climate Change Task Force.

City staff responsible for Hamilton's Food Strategy has indicated an opportunity to undertake a roundtable discussion at Hamilton's Food Strategy Forum in November 2019. There may be an opportunity for the creation of a community working group following the Food Strategy Forum dedicated to the agricultural sector that can collaborate/advise with the Corporate Climate Change Task Force, as well as advocate on behalf of the agricultural sector to other climate change related groups including the Bay Area Climate Change Office at Mohawk College. Key stakeholders including OMAFRA, Ontario Federation of Agriculture and local farm associations would be invited to partake in the Forum and discuss the connections between agriculture, local food production and climate change.

This would help to ensure the agricultural voice is heard through the climate adaptation process and help to provide additional expertise to ensure the agricultural community continues to remain prosperous in the face of a changing climate and a main economic factor in the City of Hamilton.

References

¹Invest In Hamilton.(2019).Hamilton Agribusiness and Food processing. Retrieved from: <https://investinhamilton.ca/industries/agri-business-and-food-processing/>

²City of Hamilton.(2019).Hamilton Agriculture Profile and Economic Impact Report. Retrieved from: <https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=183010>

³Sustainability Solutions Group.(2018).Hamilton and Burlington Low-Carbon Scenario and Technical Report 2016 to 2050. Retrieved from: <https://pub-hamilton.escribemeetings.com/filestream.ashx?DocumentId=195803>