



Town Of Concord, MA Addendum to 2016 GHG Inventory

Released: March 2021 by Kate Hanley

GHG inventories for 2008 (baseline) and 2016 were developed by Kim Lundgren Associates (KLA) in January 2019. This report serves as a revision to the 2016 GHG Inventory. In completing a 2019 GHG Inventory, more accurate data was found to be available that would more accurately account for 2016 emissions and provide the ability for more accurate tracking going forward. All inventory reports, as well as other sustainability and GHG reports, are available at concordma.gov/sustainability.

2016 GHG Inventory Addendum

In 2017, Concord set goals of 80% reduction in community-wide GHG emissions by 2050 and 25% reduction by 2030. The baseline year is 2008. To measure progress, Concord follows the Global Protocol for Community-Scale Greenhouse Gas Emission Inventories (GPC) to complete community-wide greenhouse gas inventories. GHG Inventories were completed by KLA in early 2019 for the years 2008 and 2016.

In March 2021, Kate Hanley, Director of Sustainability, used MAPC's tool following the GPC to complete a 2019 GHG Inventory. In completing the 2019 inventory, it was discovered that more accurate and specific data for vehicle emissions was available for 2016 than was used in the original 2016 inventory. More specifically, at the time that the original inventory was completed, the vehicle census data set included total VMT (vehicle miles traveled) for vehicles registered in Concord, but not specific VMT by vehicle types. KLA used national averages to assign total VMT to different vehicle types and sectors. It was found that data is now available for VMT by vehicle type (for example, average VMT traveled by gasoline passenger vehicles) registered in Concord, for the calendar year 2016. Using the assessor's database, Concord is also able to evaluate total number of vehicles by type registered in Concord.

Table 1: Revised 2016 Community-wide Emissions Summary by Sector

Sector	Total Emissions (MT CO2e)
Stationary Energy	140,072
Transportation	63,829
Waste	8,126
All	212,027

The Climate Action Advisory was presented with the option to revise the 2016 inventory using the Concord-specific VMT by vehicle type as well as the number of vehicles of different type registered in Concord from the assessor's database. The board advised revising the 2016 inventory using this methodology to be better align with the 2019 inventory and future inventories, and more accurately represent Concord's GHG emissions.

Table 1 displays the revised total emissions from the transportation sector for 2016 using this methodology.

Table 1 data should replace 2016 emissions data from the original 2016 inventory and should be used in future GHG analysis. The original 2016 inventory reported total transportation emissions of 84,754 MT CO2e. This suggested an increase in transportation emissions from 2008. With the revised GHG emissions for 2016 transportation emissions, we now see in Table 2 below that emissions in the transportation sector dropped between 2008 and 2016. From 2008 to 2019, emissions from the transportation sector dropped 26%.

Table 2: Community-wide Emissions Summary by Sector & Scope: 2008 – 2019 (with revised 2016)

Sector	2008 Total Emissions (MT CO2e)	2016 Total Emissions (MT CO2e)	2019 Total Emissions (MT CO2e)	Change from 2008 -> 2019
Stationary Energy	159,779	140,072	123,680	-23%
Transportation	80,100	63,829	59,527	-26%
Waste	7,011	8,126	8,685	24%
All	246,890	212,027	191,892	-22%

For additional information and analysis about Concord's emissions over time, refer to the 2019 Progress Report on Community GHG Emissions. For additional information on the GHG inventory methodology, refer to the 2019 GHG Inventory Methodology Report. Reports are available at concordma.gov/sustainability.