

Total Community Emissions by Sector vs. City Population

The total community greenhouse gas (GHG) emissions for 2020 was 2,125,723 metric tons of carbon dioxide equivalent (MT CO₂e).

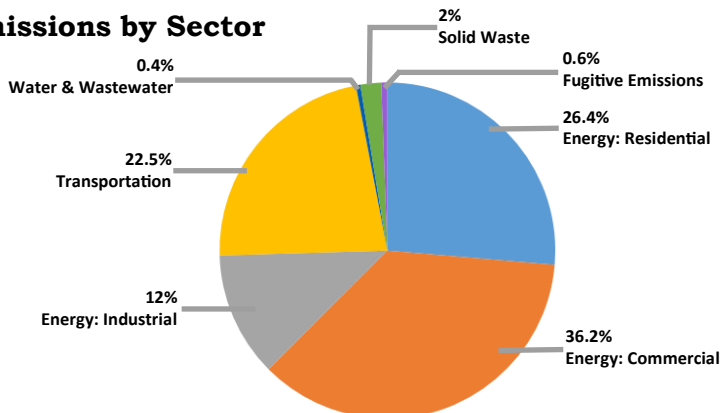
The cumulative total decreased by 173,990 MT CO₂e, or 7.6%, from the previous inventory year. This is a 10.8% reduction from the 2015 baseline.

The emissions per capita decreased by 8.6%, from 19 MT CO₂e/person in 2019 to 17.3 MT CO₂e/person in 2020.

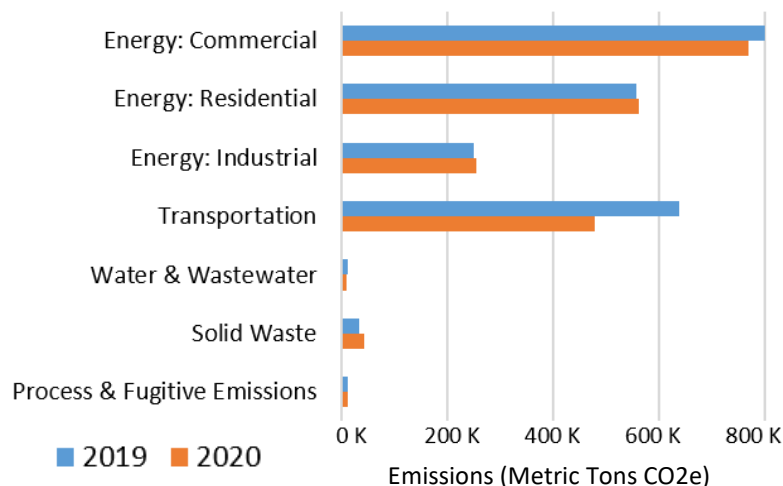
*Includes water & wastewater, solid waste, and fugitive emissions; see GHG percentages of individual sectors below.

2020 GHG Emissions by Sector

The energy sector remains the largest contributor to community GHG emissions at 75%, with the commercial sector as the single largest energy user. The transportation sector made up less than a quarter of total emissions and was smaller than residential energy for the first time, reflecting pandemic-induced changes. Solid waste and other emissions remained at less than 3% and had a relatively small contribution to total community emissions.



GHG Emissions by Sector: 2019 vs. 2020



Transportation emissions changed the most of any sector between 2019 and 2020, with emissions decreasing by more than 25%. An estimated 34 million (18.7%) fewer trips were taken in 2020 than in 2019.

In addition to transportation, the Community Contribution Analysis identified the following as drivers of emissions reductions: decreased commercial kWh per job, a cooler summer, a warmer winter, and energy savings from the Commercial Lighting Incentive Program.

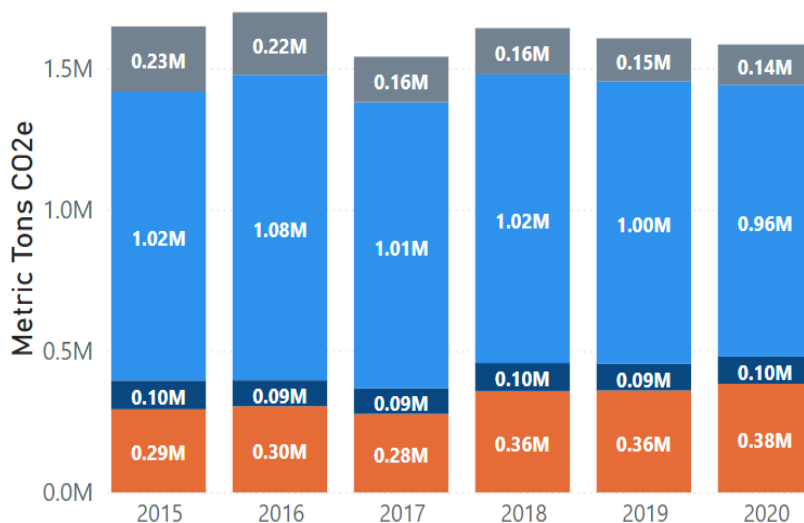
City of Columbia Renewable Energy Impact

The City of Columbia's electric utility is the largest provider of electricity in Columbia. In 2020, 15.4% of the electricity distributed by the City of Columbia's electric utility was from renewable sources. The electric utility's use of renewable energy resulted in 105k MT CO₂e avoided emissions in 2020. Avoided emissions are calculated using emissions factors from MISO SRMW, the source that additional energy would have been purchased from. Renewable energy used by the City of Columbia electric utility has a noticeable impact on both building energy emissions and total community emissions.

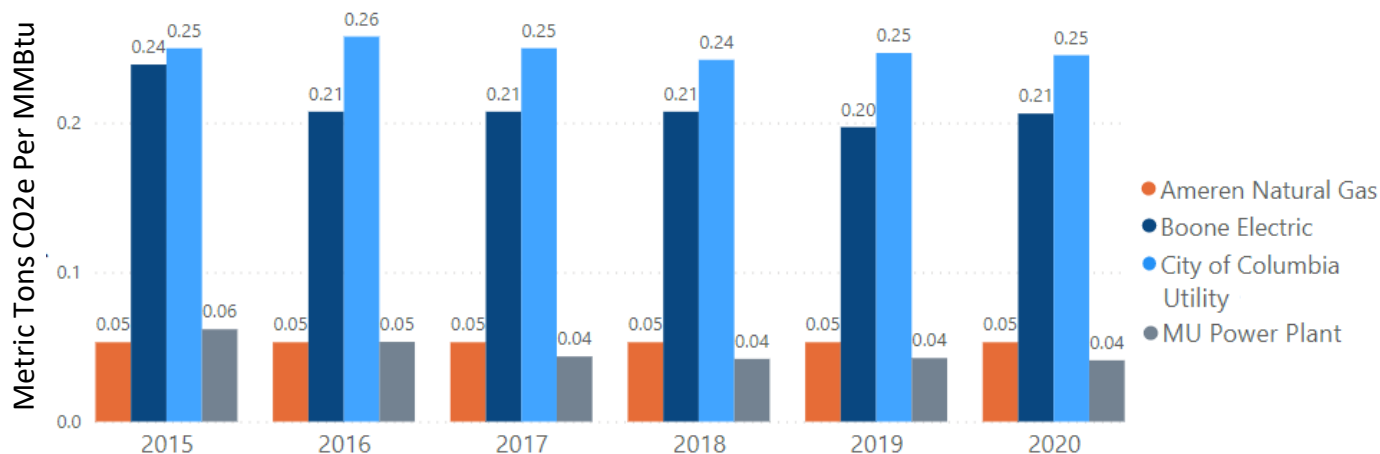
Yearly Emissions by Utility

The City of Columbia's electric utility has remained the largest provider of electricity and single source of emissions since the 2015 baseline year. Emissions from the City of Columbia utility have decreased by 0.06M MT CO₂e between 2015 and 2020. MU Power Plant emissions have decreased by 0.09M while Ameren natural gas emissions have increased by 0.09M. Most of the natural gas increase has occurred within the commercial sector.

● Ameren Natural Gas
 ● Boone Electric
 ● City of Columbia Utility
 ● MU Power Plant



Emissions Factors by Utility and Year



Emissions factors (EFs) represent the amount of greenhouse gases emitted (MT CO₂e) per unit of energy provided (MMBtu). This visual compares EFs by utility and year. The City of Columbia electric utility has continued to have the highest EF of the four utilities. Lowering EFs through increasing renewable energy supply is fundamental to achieving our emission reduction goals.