

# 2017 GHG Inventory

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## Background:

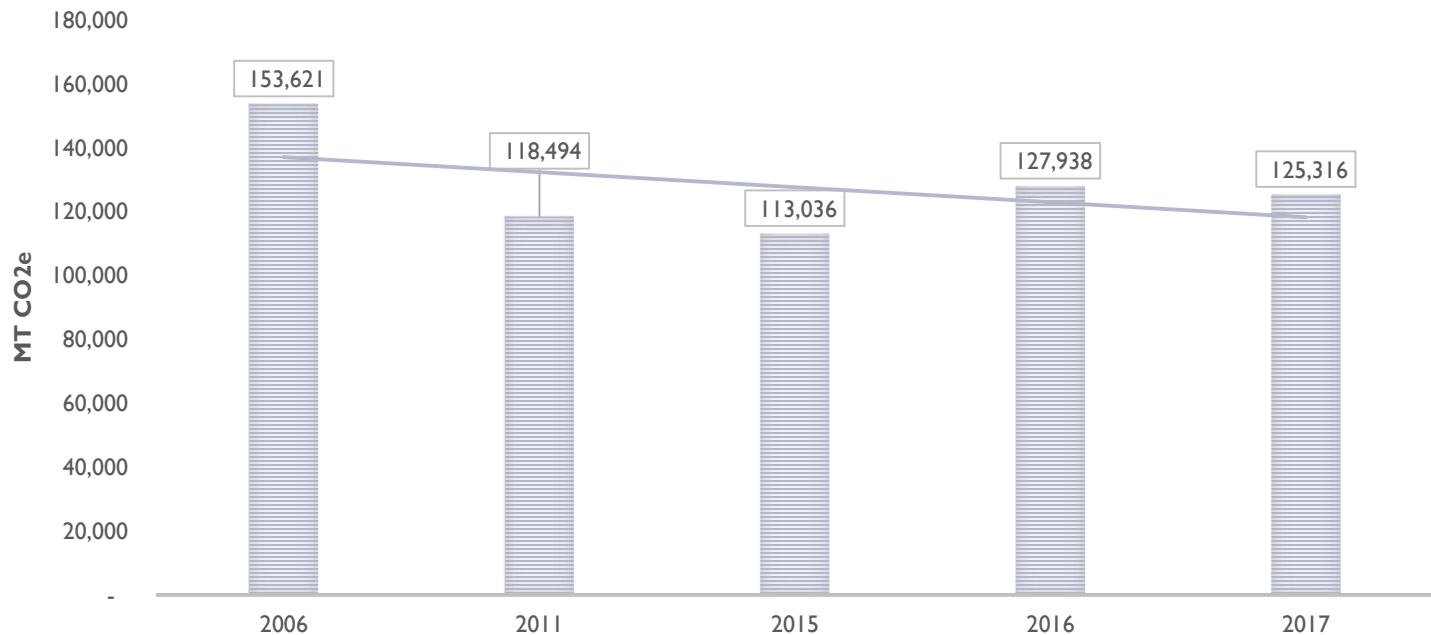
- ▶ Directive of U.S. Mayor's Climate Protection Agreement (2005)
- ▶ Scaled at Municipal Operation level and Community Activity level
- ▶ Annual collection of emissions-related data
- ▶ Base Year = 2006

# Objective:

- ▶ Air Quality and Greenhouse Gas Management is a key focus area of Denton's Sustainability Plan.
- ▶ By tracking and working to reduce GHG emissions, the city can save energy and money, strengthen the local economy, improve air quality, and preserve the quality of life in our community.

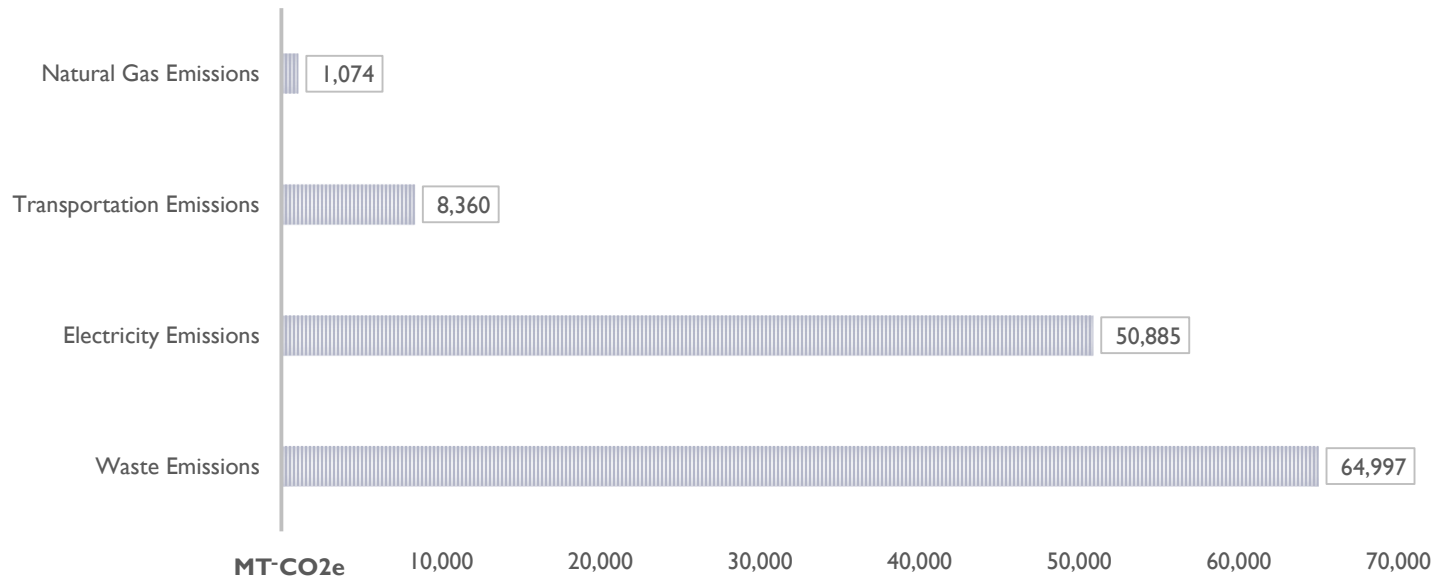
# Key Points: Municipal

## MUNICIPAL EMISSIONS BY YEAR



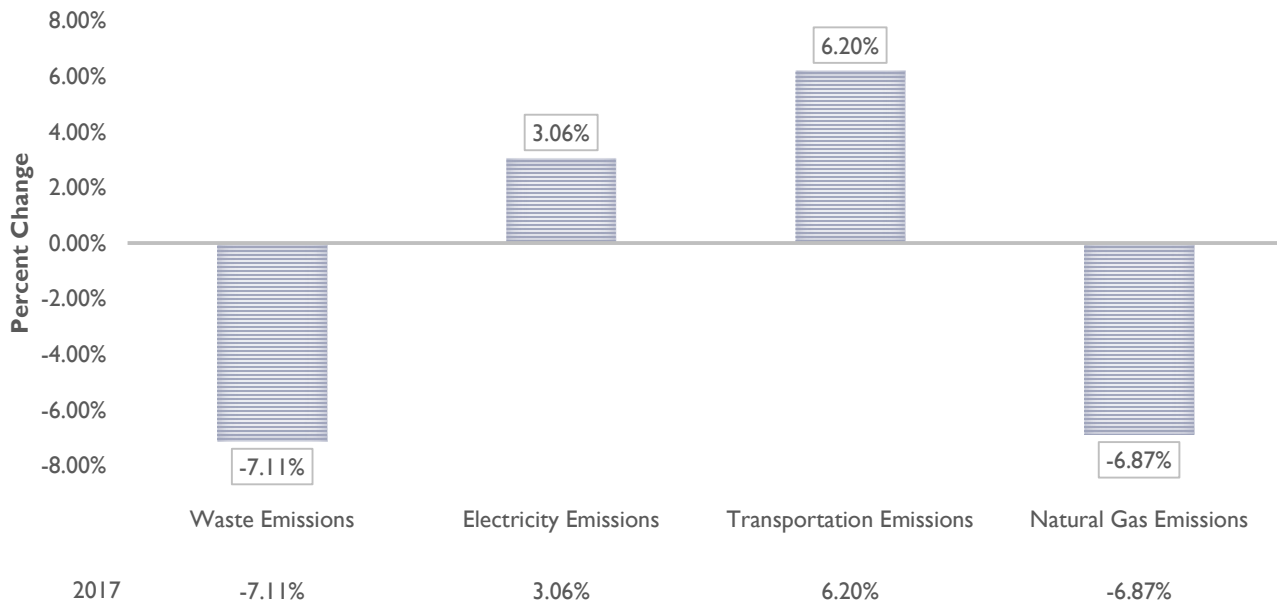
# Key Points: Municipal

## GHG DISTRIBUTION BY SOURCE



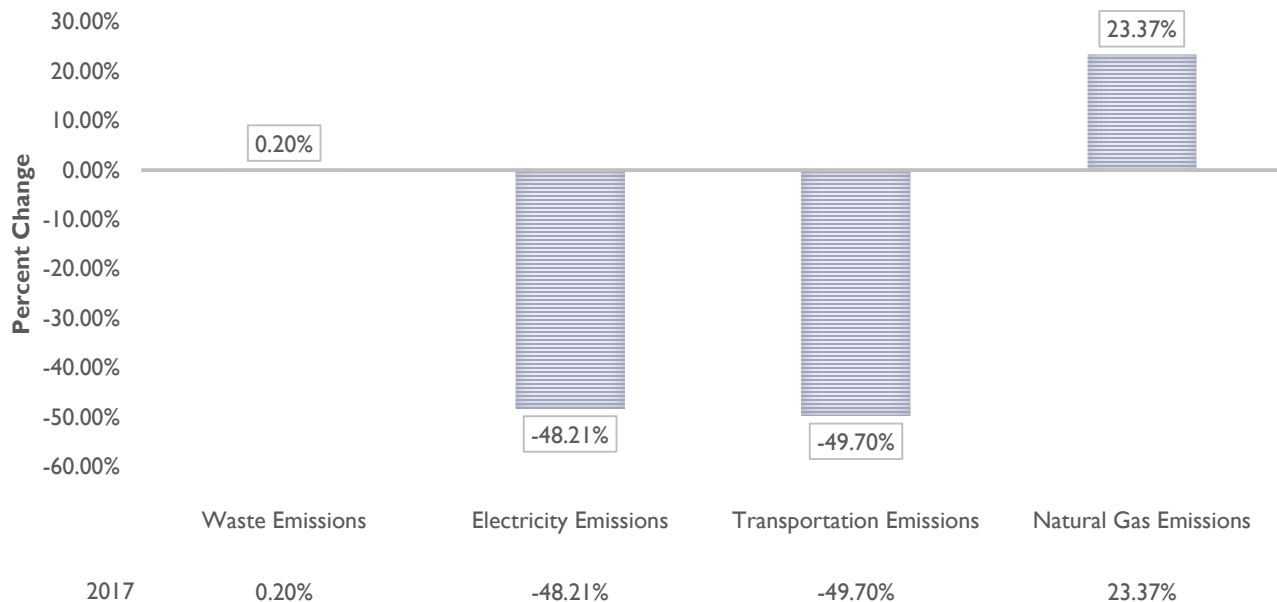
# Key Points: Municipal

## PERCENT CHANGE OVER YEAR



# Key Points: Municipal

## PERCENT CHANGE OVER BASE YEAR



# Key Points: Municipal

## ▶ Summary of Data

- ▶ Total GHG emissions are down by 23% since 2006.
- ▶ Per capita emissions are down by 49% since 2006.
- ▶ Electricity consumption for municipal operations decreased by nearly 3% compared to 2016.
- ▶ Due to changes in fuel sources of electricity and the associated emission factors, the total MTCO<sub>2</sub>e for electricity increased by 3% compared to 2016.



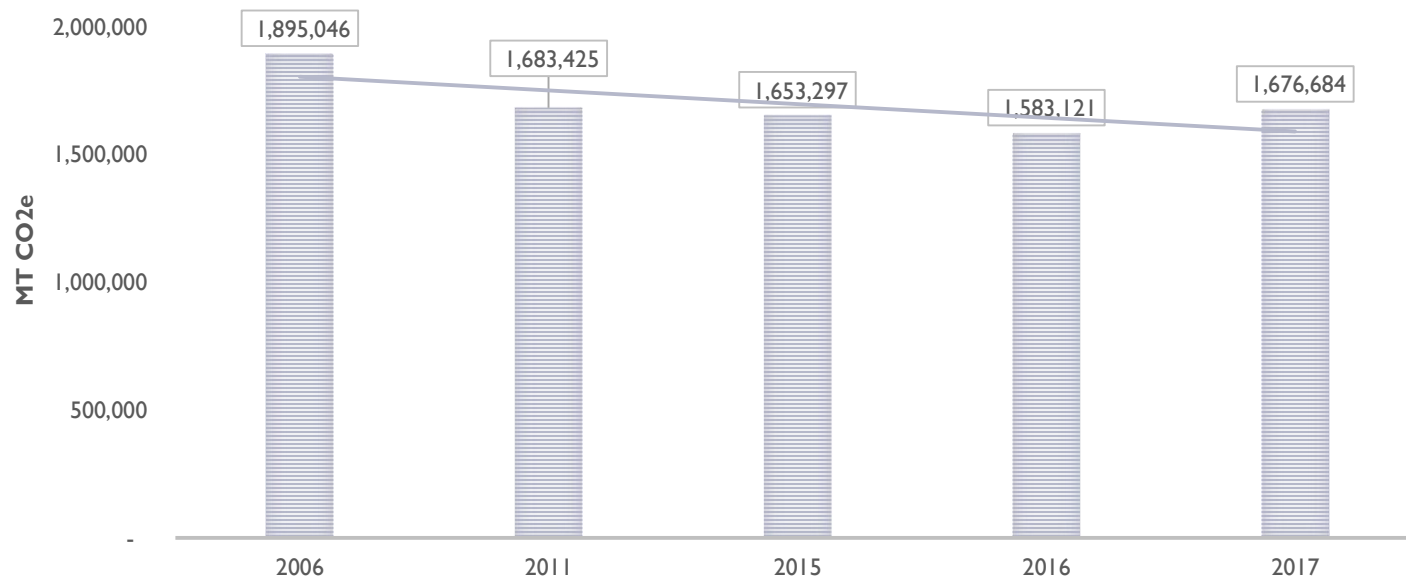
# Key Points: Municipal

## ▶ Summary of Data

- ▶ Natural Gas consumption for heating and cooling continues to decrease (since 2011).
- ▶ An increase in diesel and biodiesel fuel consumption, compounded by an increase in the emission factors for these fuels, led the rise in transportation emissions.
- ▶ Fuel efficiency among light duty, unleaded fuel vehicles continues to improve (i.e. Green Fleet Policy).
- ▶ After observing an increase in waste emissions last year, there was a 7% decrease in 2017.

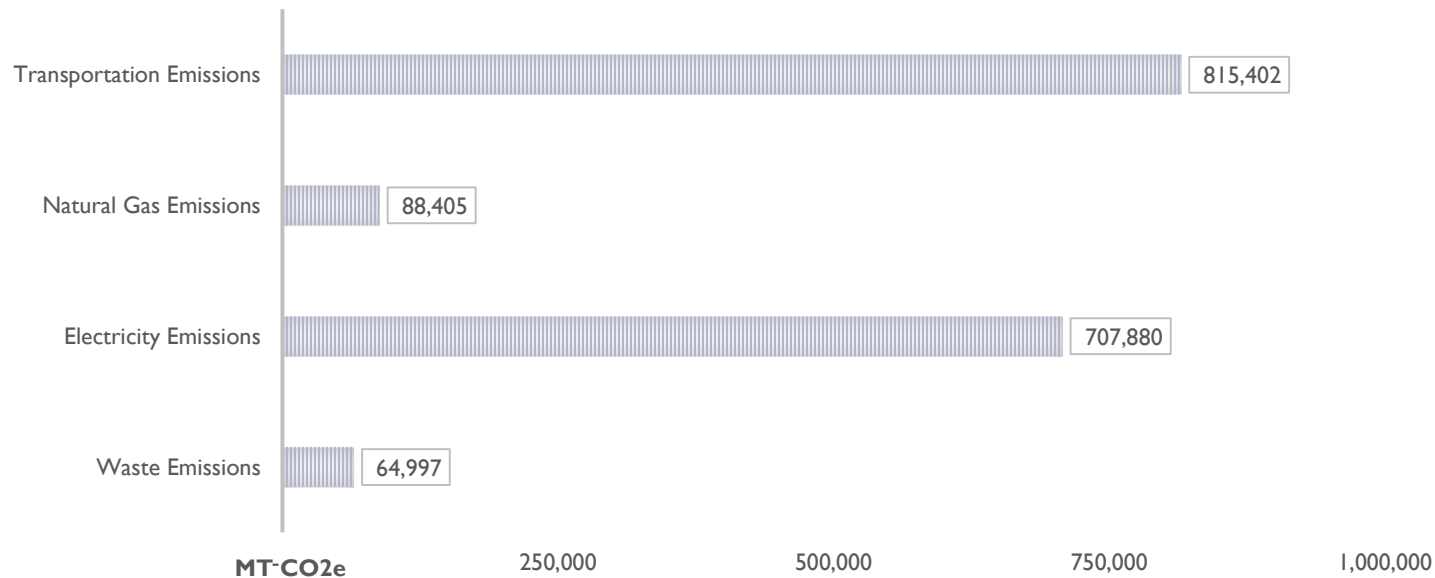
# Key Points: Community

## COMMUNITY EMISSIONS BY YEAR



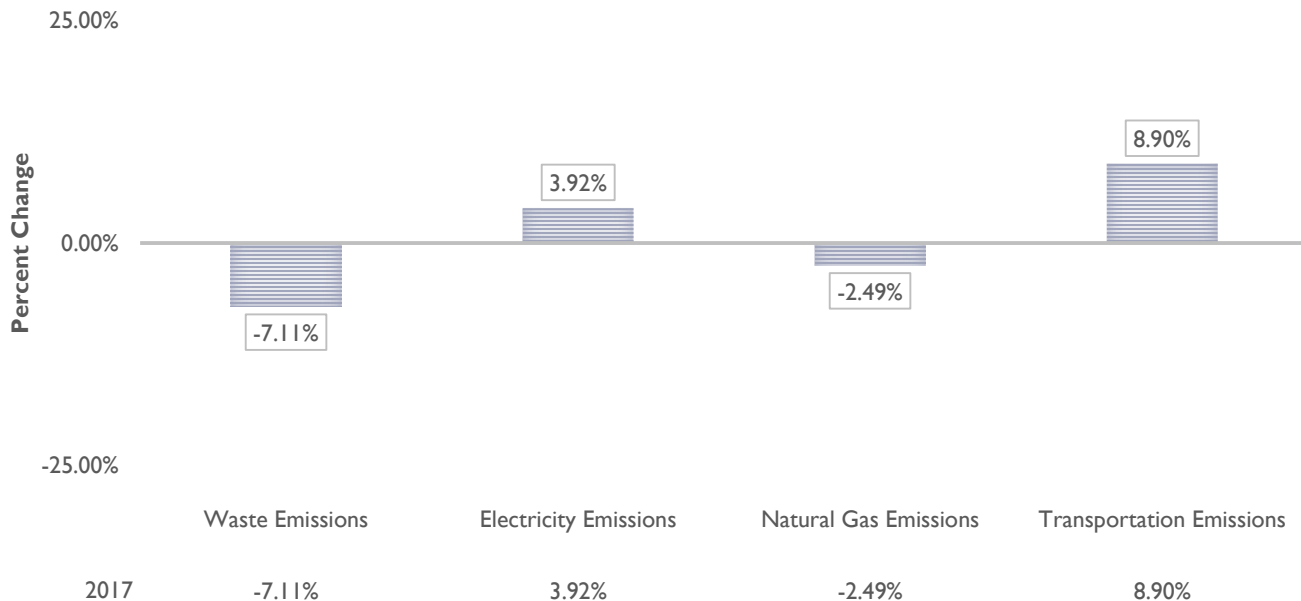
# Key Points: Community

## GHG DISTRIBUTION BY SOURCE



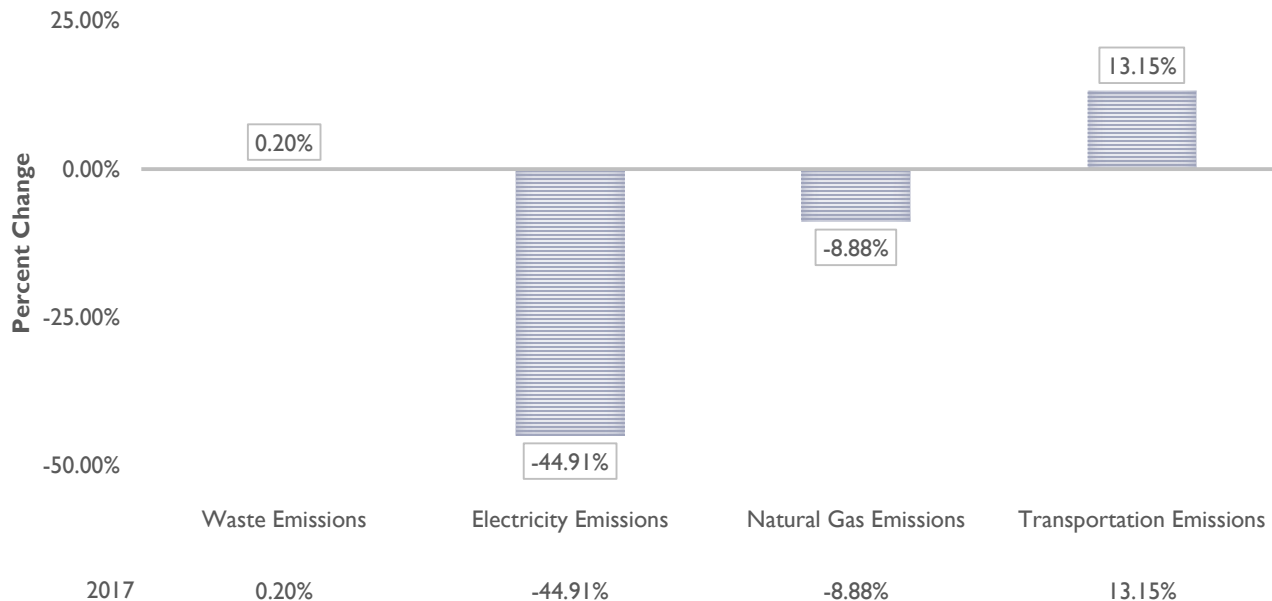
# Key Points: Community

## PERCENT CHANGE OVER YEAR



# Key Points: Community

## PERCENT CHANGE OVER BASE YEAR



# Key Points: Community

## ▶ Summary of Data

- ▶ Total GHG emissions are down by 13% since 2006.
- ▶ Per capita emissions are down by 41% since 2006.
- ▶ Electricity consumption on a per capita level continue to decrease, but total consumption increased compared to 2016. 75% of the electricity increases can be attributed to the Industrial sector.
- ▶ Total electricity emissions increased by 4%, which can mostly be associated with emission factor changes.

# Key Points: Community

## ▶ Summary of Data

- ▶ Natural gas emissions decreased community-wide by 2.5% compared to 2016. This was led by the residential sector, which decreased consumption rates by over 8%.
- ▶ Updated regional modeling for vehicle miles traveled (VMT) suggests an increase by nearly 9%.
  - ▶ Data can be spread over a five year period
  - ▶ ~2% per year growth is comparable to population growth rates

# Direction:

- ▶ Continue to improve communication methods between departments for more efficient data sharing.
  - ▶ Develop an online dashboard for GHG data sharing.
- ▶ Collaborate with DME to prepare for the incorporation of the Denton Energy Center emissions.
- ▶ Partner with Fleet to offer more education to staff about idling and fuel-conscious driving tactics.
- ▶ Continue to work with Facilities Management to test and implement energy/water efficiency measures.



# Questions:

