



# Greenhouse Gas Inventory Update

Office of Sustainability and Innovations

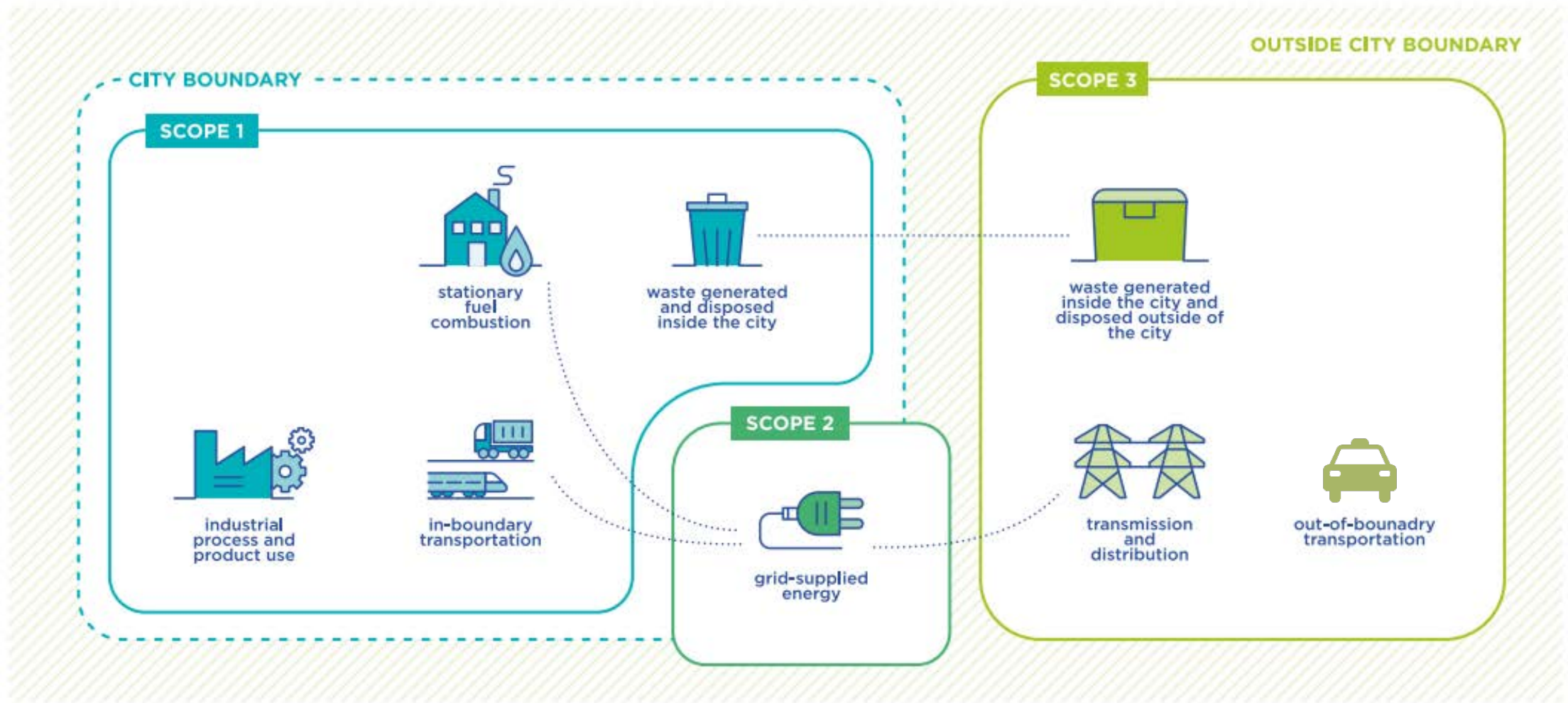
# OVERVIEW

- DATA
- GHG NUMBERS
- ANALYZING 2015 - 2018
- PROJECTED CHANGES
- TAKE AWAYS

The image features a dark background with a chalkboard filled with faint, white mathematical equations and numbers. In the foreground, a hand is visible on the right side, holding a piece of chalk and writing on the board. Overlaid on the center of the image are three overlapping circles: a light blue circle on the left, a light teal circle on the right, and a light grey circle at the bottom. The word "DATA" is written in a bold, black, sans-serif font across the center of these circles.

**DATA**

# SCOPE OF INVENTORY



# DATA SOURCES

## NATURAL GAS



## SOLID WASTE



## ELECTRICITY



## TRANSPORTATION



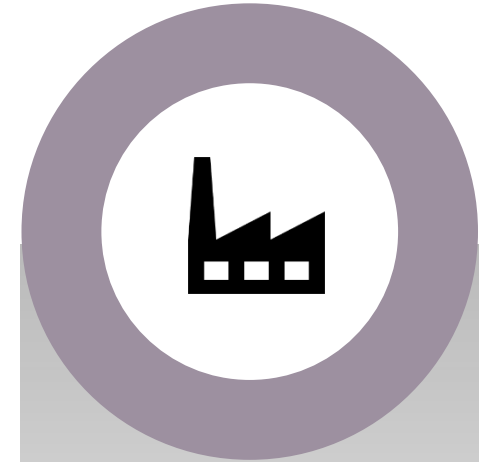
# DETAILS OF THE DATA



UM data had to be disentangled from DTE data



Other than UM, choice Natural Gas is not captured

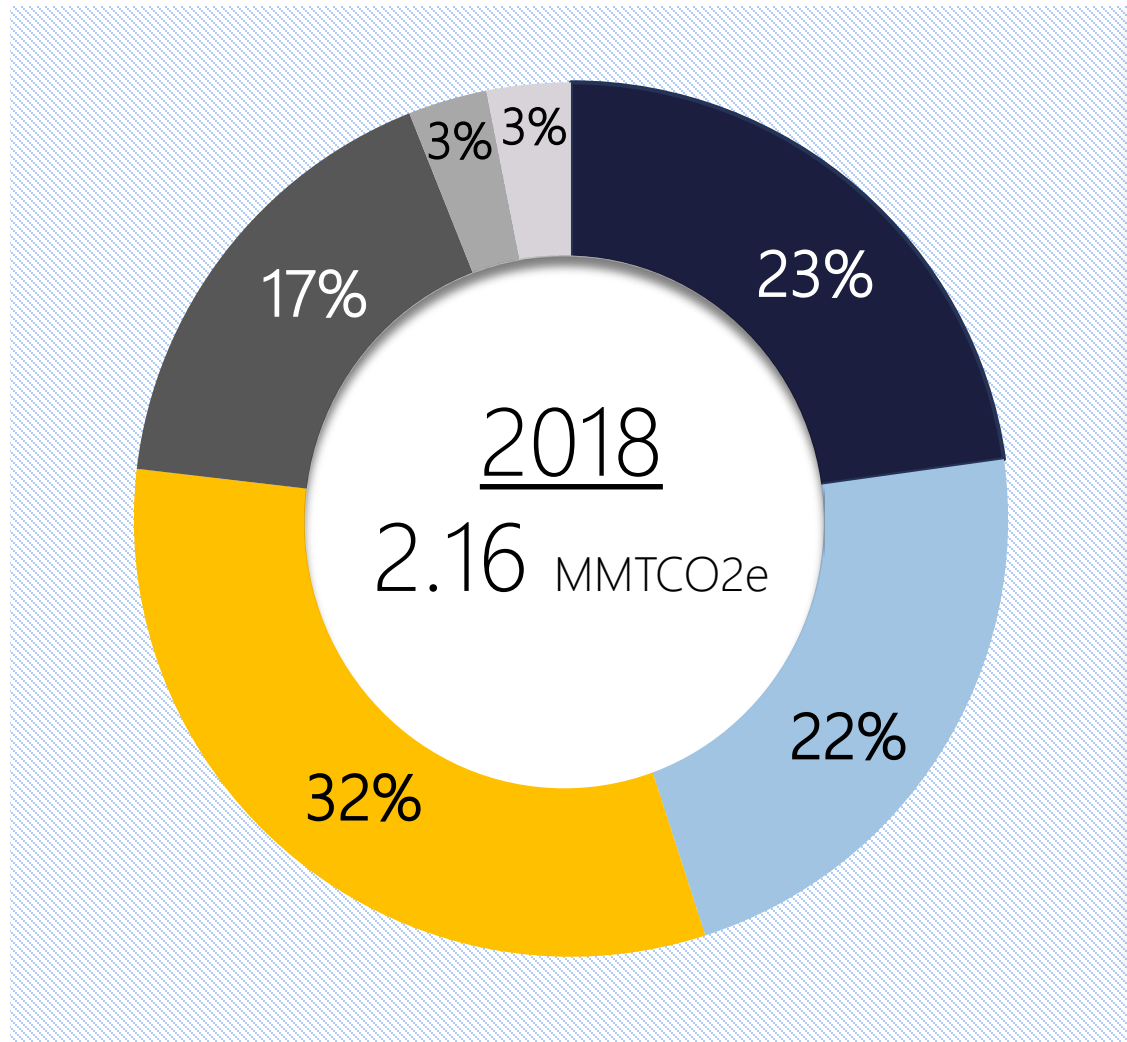







Distribution losses & fugitive emissions have now been included



# GHG NUMBERS

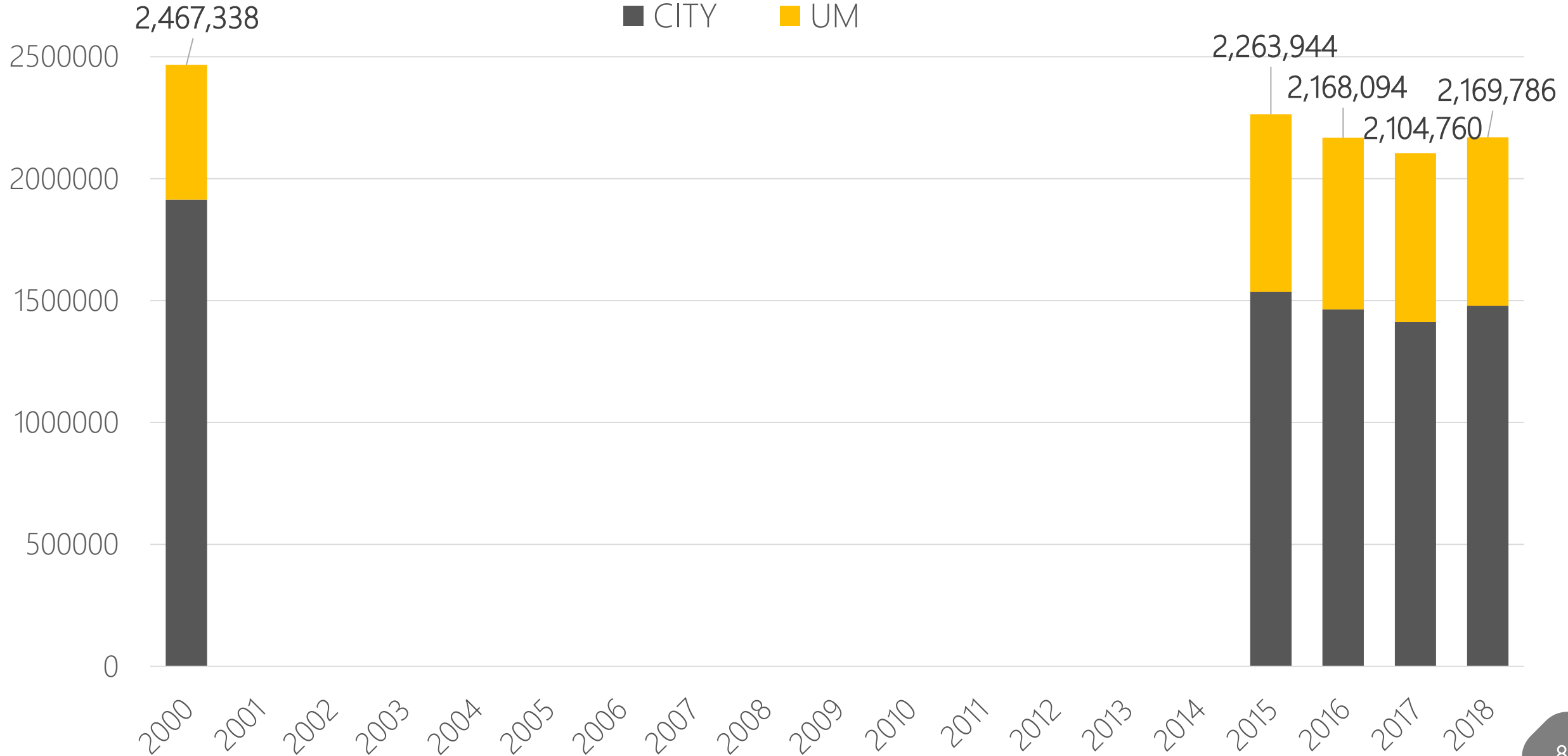
# SECTOR BREAKOUT



- RESIDENTIAL 
- COMMERCIAL/INDUSTRIAL 
- UNIVERSITY OF MICHIGAN 
- TRANSPORTATION 
- SOLID WASTE 
- PRODUCTION LOSSES 



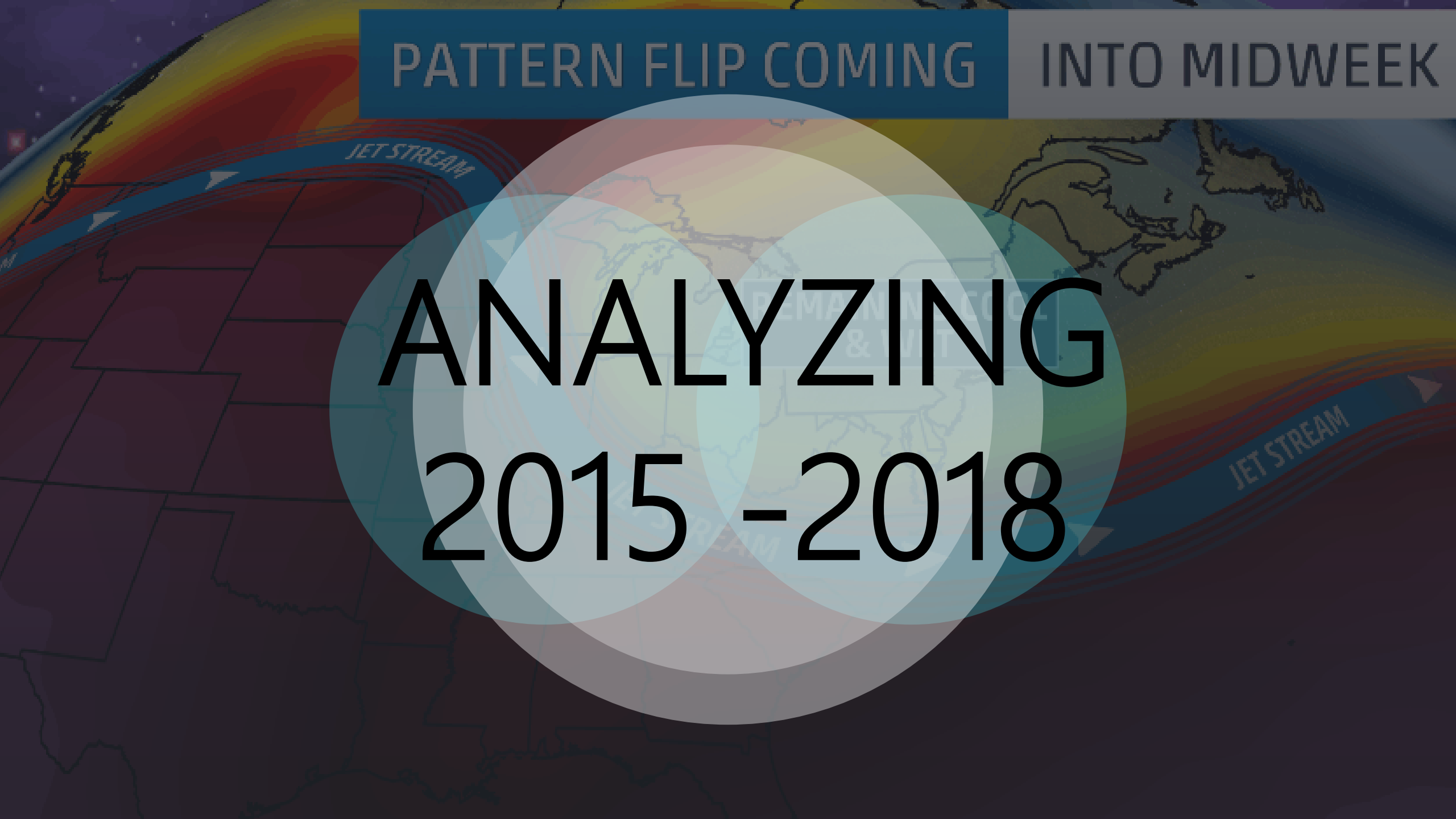
# COMMUNITY GHG EMISSIONS



PATTERN FLIP COMING

INTO MIDWEEK

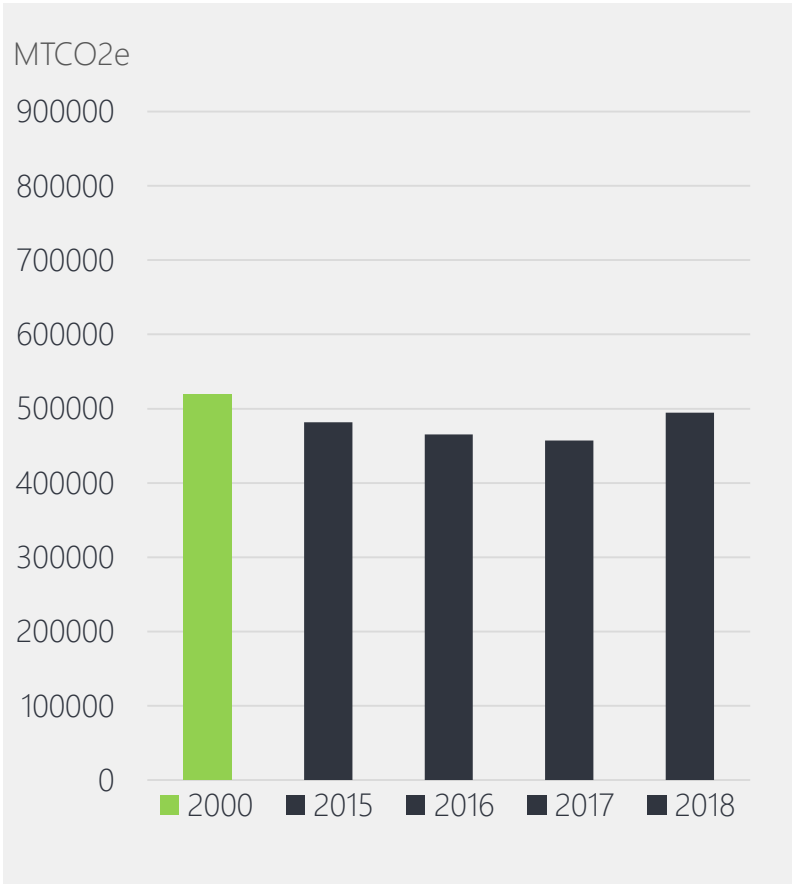
# ANALYZING 2015 - 2018



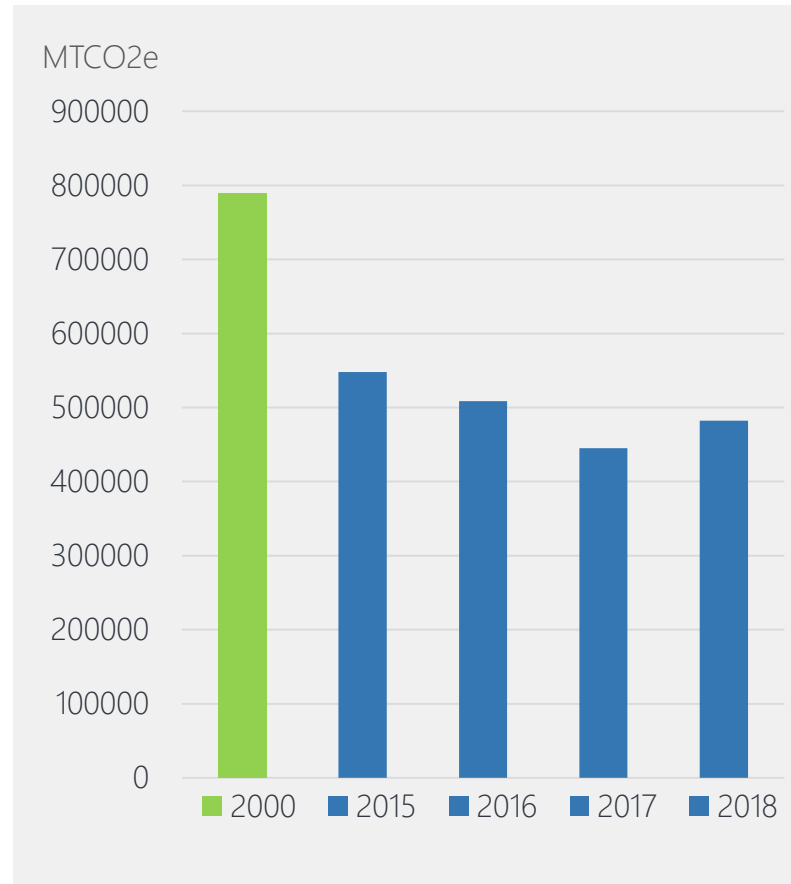
# STATIONARY SECTOR



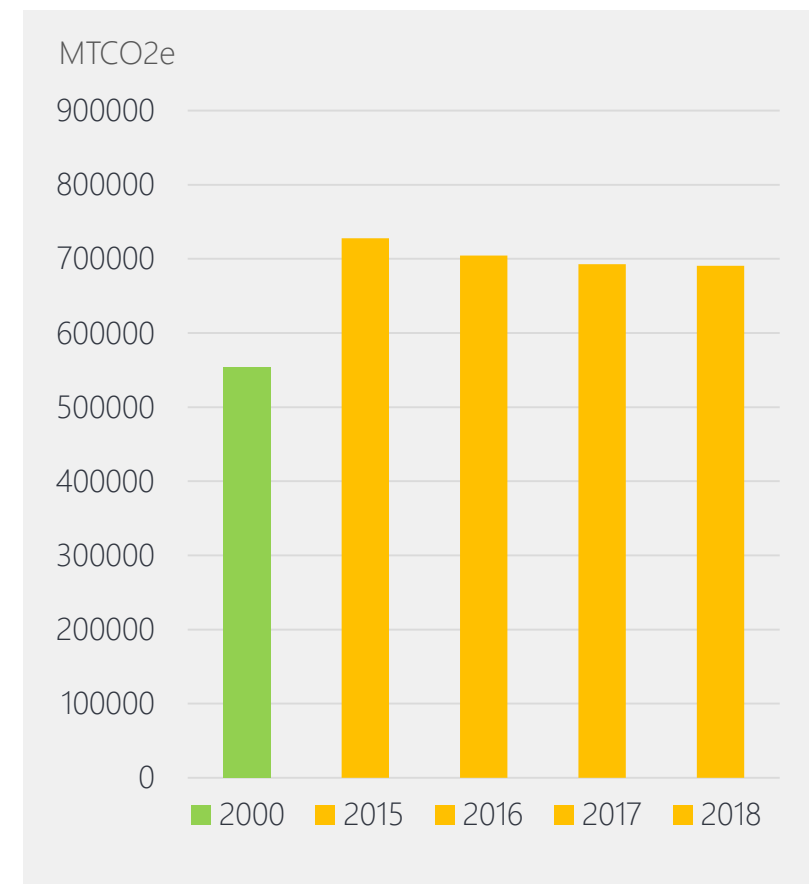
RESIDENTIAL 23%



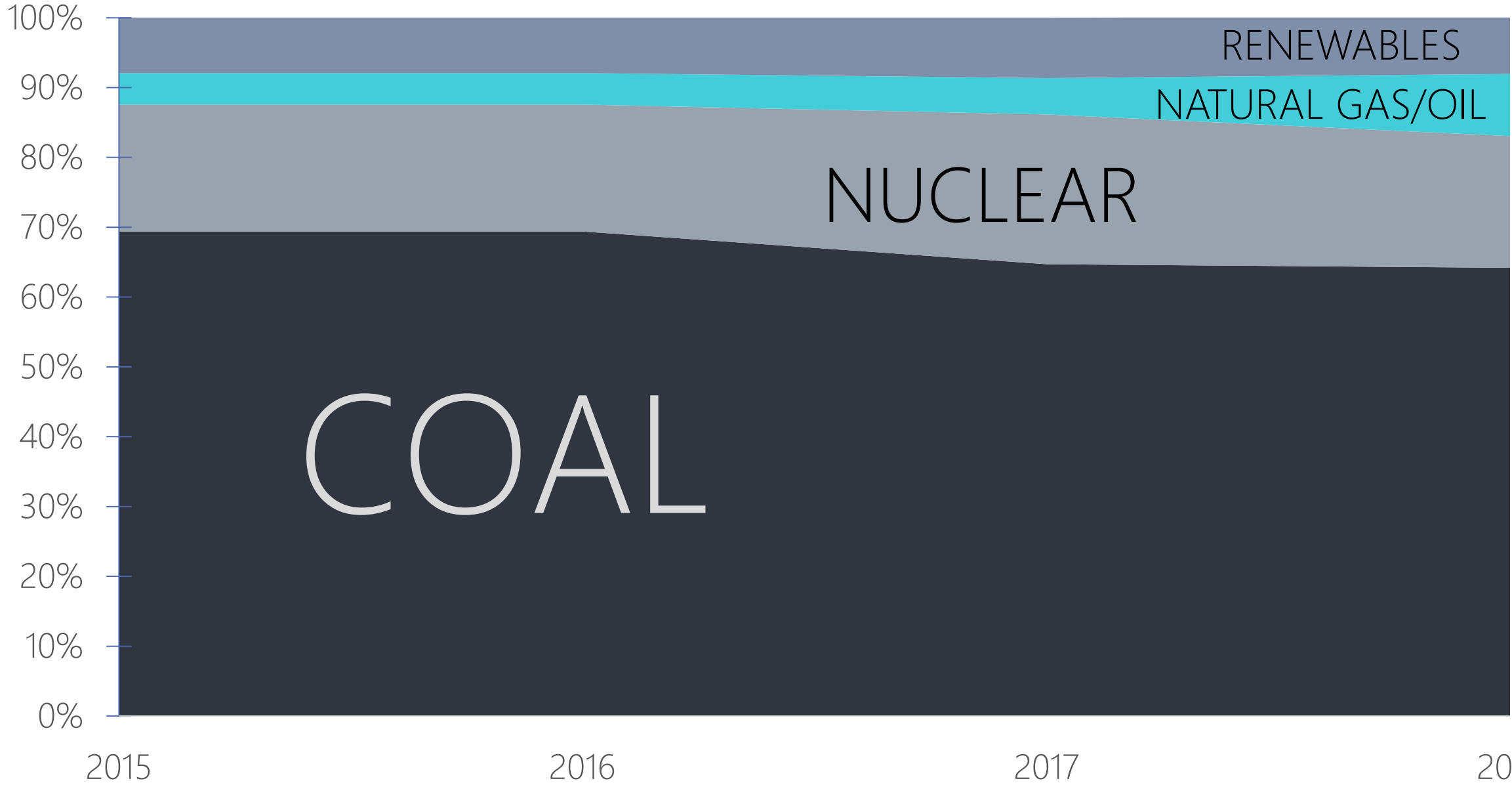
COMMERCIAL INDUSTRIAL 22%



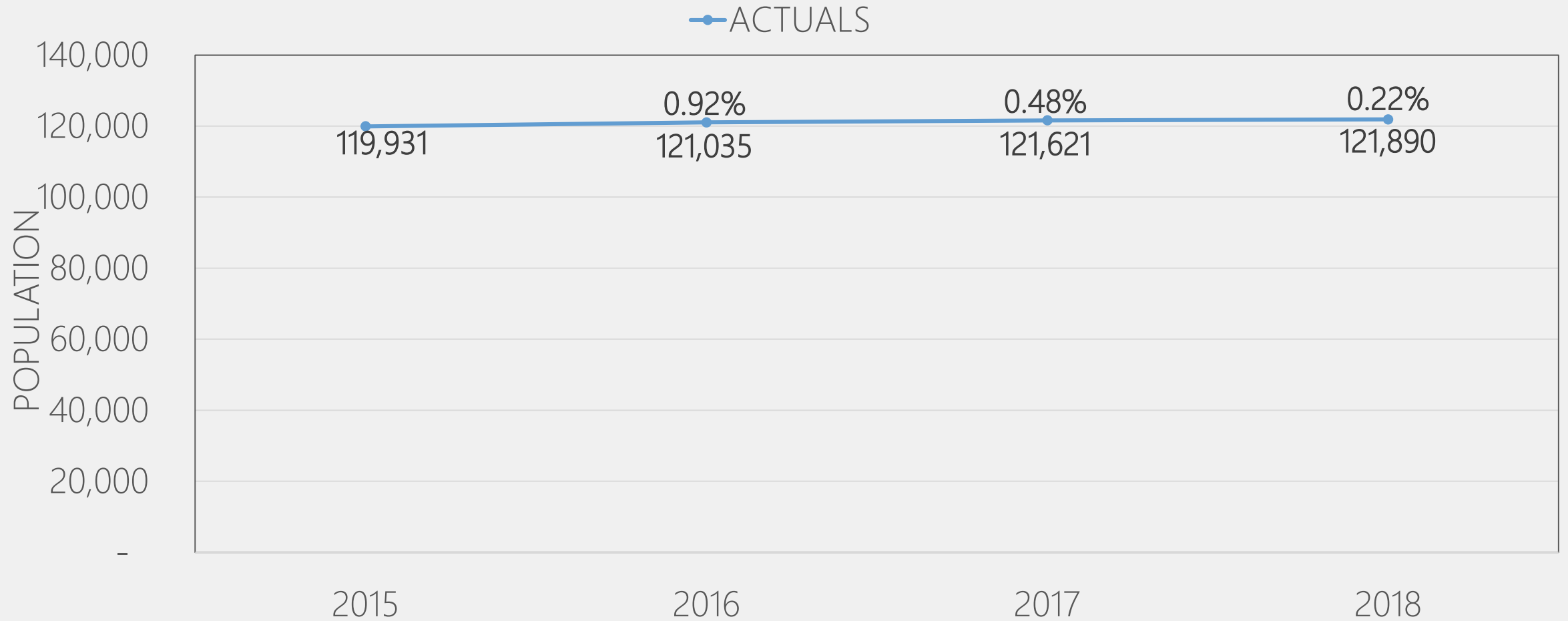
UNIVERSITY OF MICHIGAN 32%



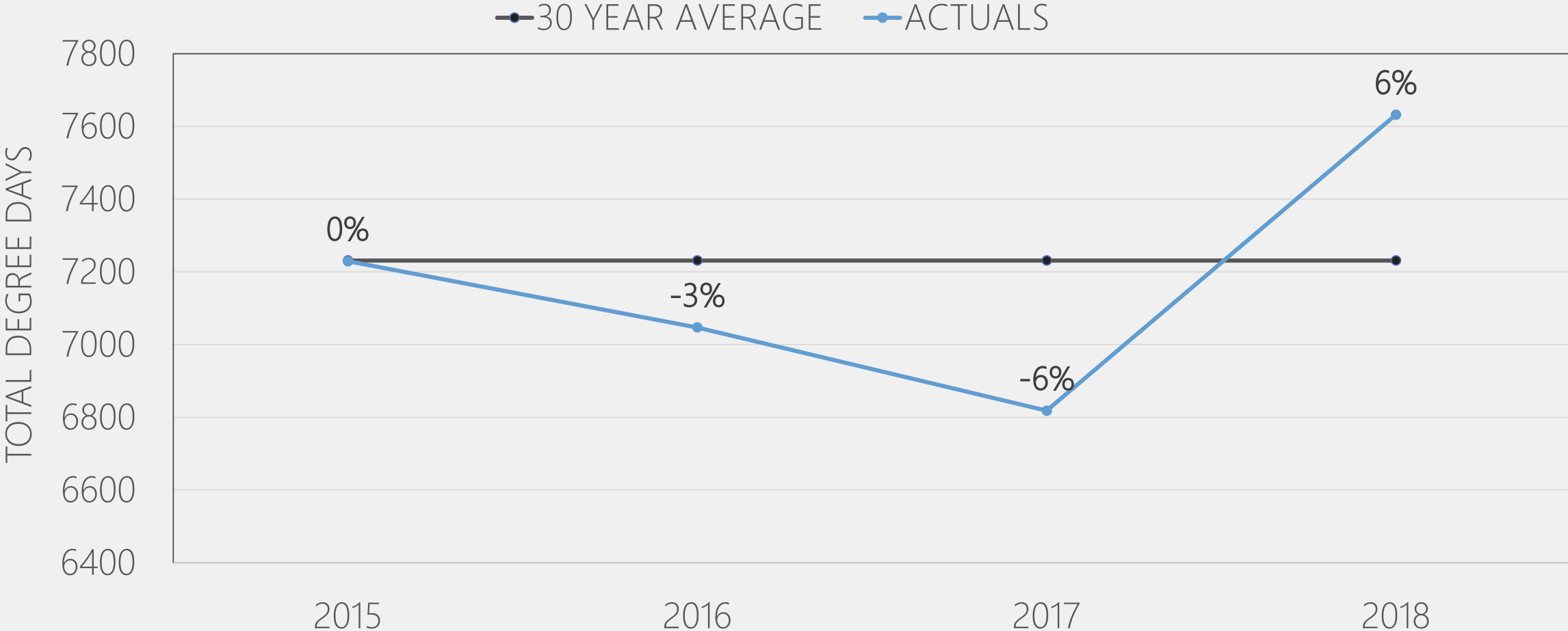
# DTE FUEL MIX



# POPULATION GROWTH

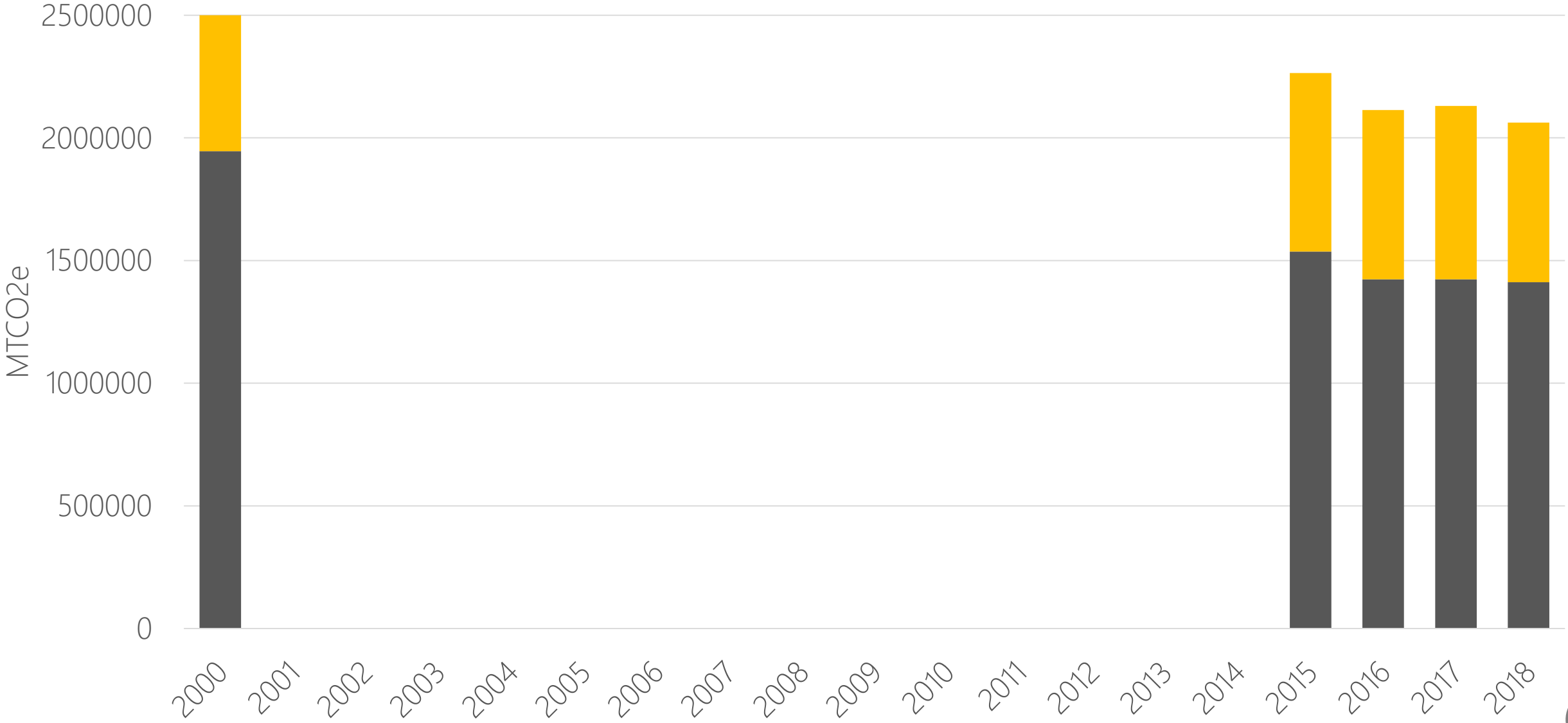


# WEATHER PATTERN



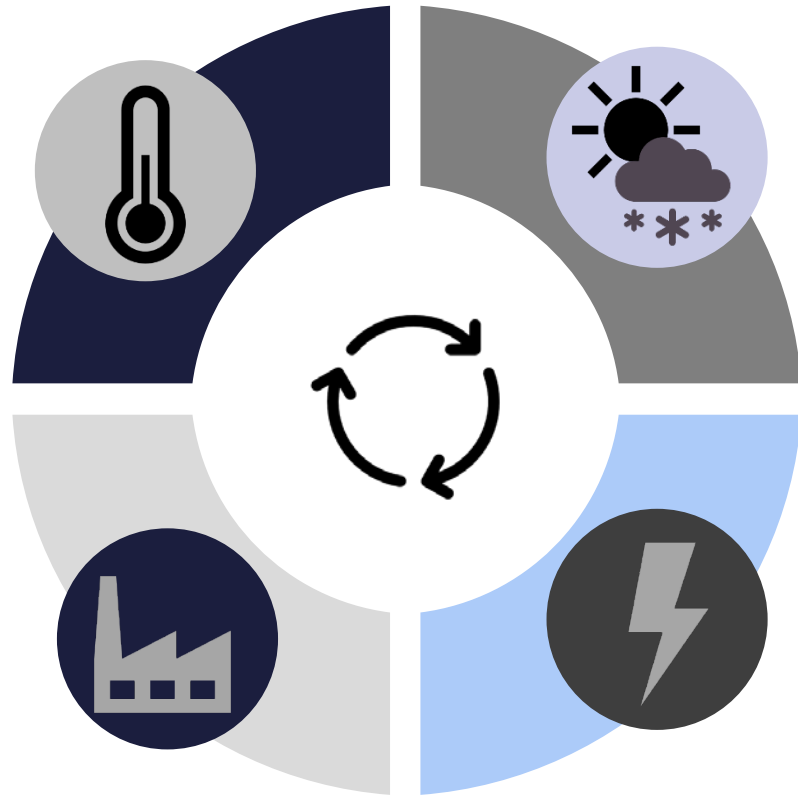
# WEATHER NORMALIZED

■ CITY ■ UM



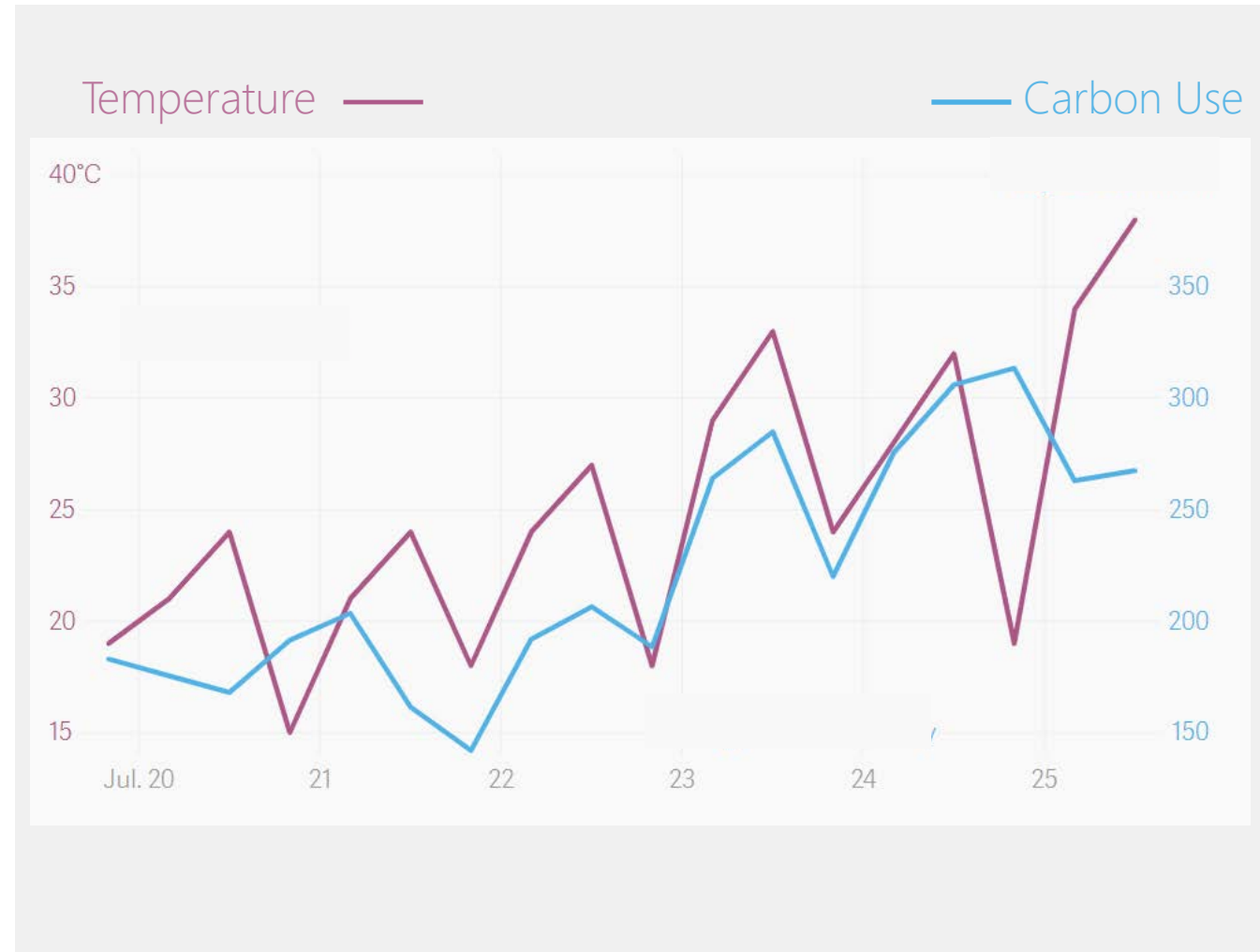
# CLIMATE FEEDBACK LOOP

CLIMATE CHANGE    EXTREME WEATHER



GHG EMISSIONS

ENERGY USE





The background features a dark, blurred cityscape at night. Overlaid on this are several large, semi-transparent circles in shades of light blue, teal, and grey. The text 'PROJECTED CHANGES' is centered within these circles.

# PROJECTED CHANGES



- Feb 2019 - UM President Schlissel's Commission on Carbon Neutrality made up of experts and regional representatives
- The Commission will be addressing:
  - Building standards
  - Energy consumption
  - Commuting
  - University travel
  - Food
  - General purchasing
  - Bio sequestration and offsets
  - Campus culture and communication
  - External collaboration
- Final recommendations Fall 2020

# 5-YEAR WORK PLAN

## RESIDENTIAL



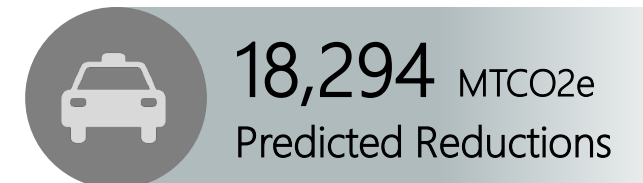
- Time of Marketing
- Net 0 Affordable Housing
- Green Rental Program
- Aging in Place Efficiently
- Efficiency and Solar in the Community
- Weatherization Expansion
- Resilience Hubs
- Ann Arbor Storm Smart
- Local Carbon Offset Program
- Sustaining Together Neighborhood Grant

## COMMERCIAL



- Grand Challenge
- Innovation Hubs
- Green Business Program

## ELECTRIC VEHICLES



- EV Readiness



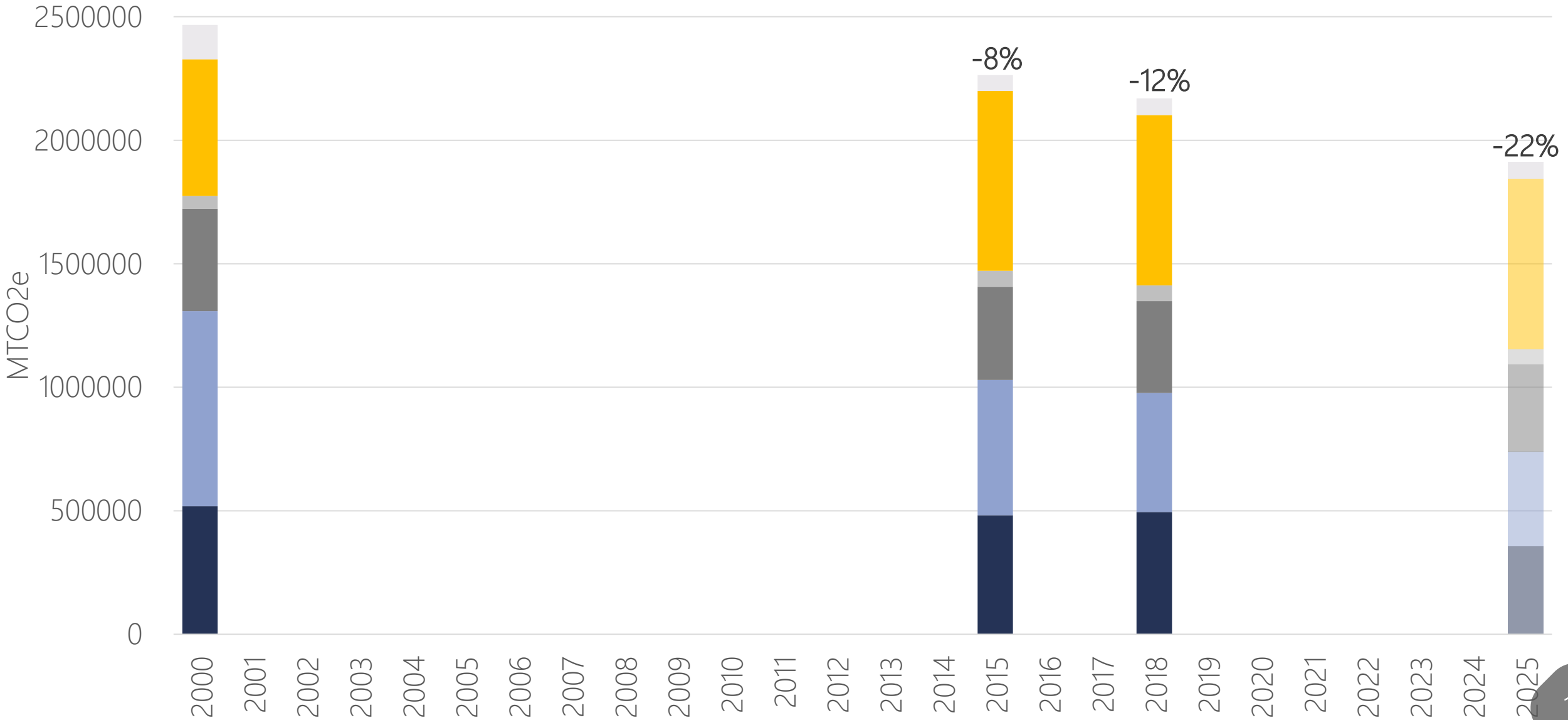
OFFICE OF SUSTAINABILITY AND INNOVATIONS

5-YEAR WORK PLAN

FISCAL YEAR 2020 – FISCAL YEAR 2025 APRIL 2019 | PREPARED BY THE OFFICE OF SUSTAINABILITY AND INNOVATIONS

# IMPACT OF 5 YEAR PLAN

Residential Com & Ind Transportation Solid Waste U of M Losses



# DTE'S INTEGRATED RESOURCE PLAN

2023

## RETIRING COAL PLANTS

ST. CLAIR  
RIVER ROUGE

## REPLACED BY

1,100 MW Natural Gas  
11 MW Solar  
693 MW Wind  
465 – 715 MW Volunteer  
Green Program  
1.75% Energy Efficiency



## EMISSION REDUCTIONS

YEAR	TARGETS
2023	33%
2030	50%
2040	80%

2040

## RETIRING COAL PLANTS

BELLE RIVER  
MONROE

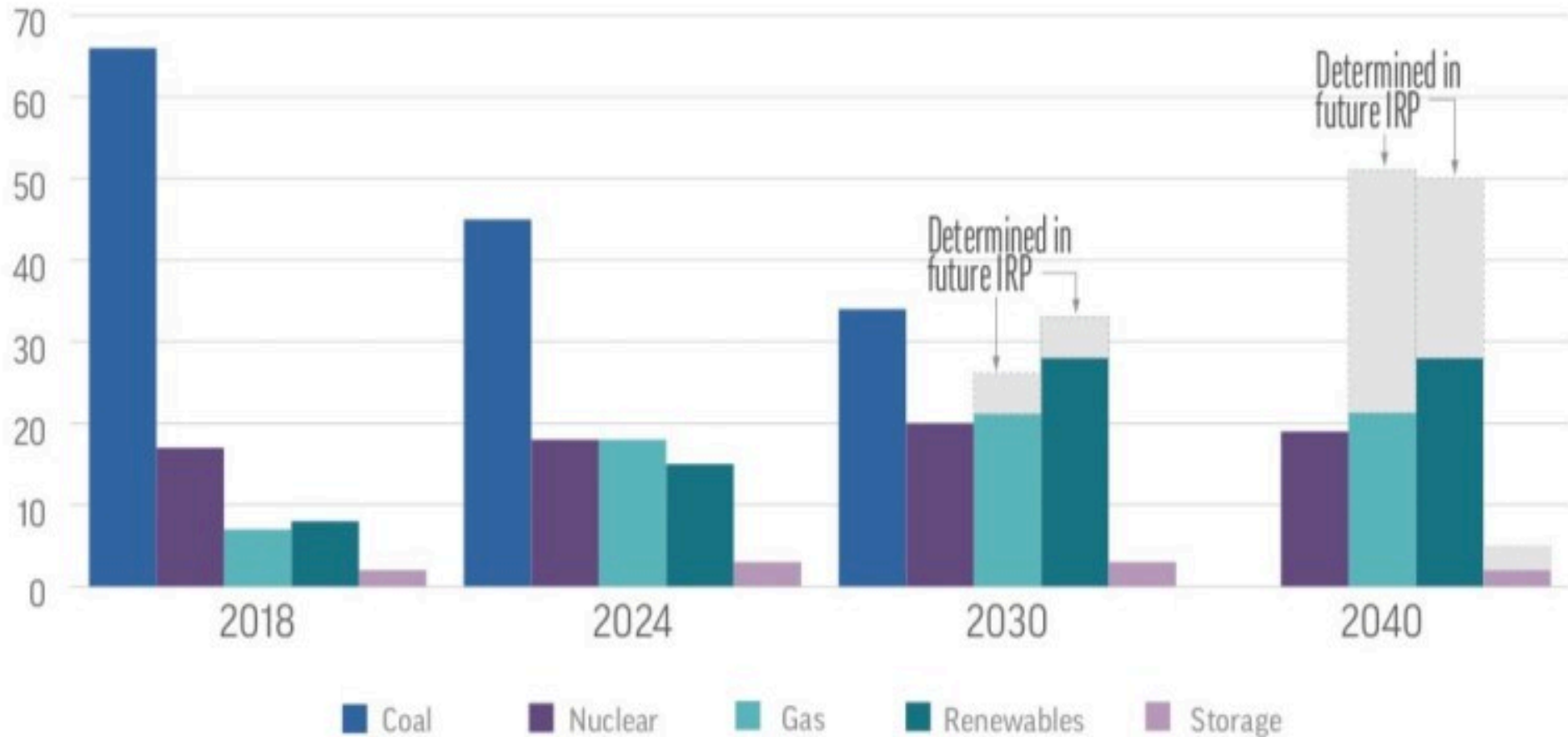
## REPLACED BY

Natural Gas / Solar mix yet  
to be determined – based  
in part on Volunteer Green  
Program

# POTENTIAL PATHS

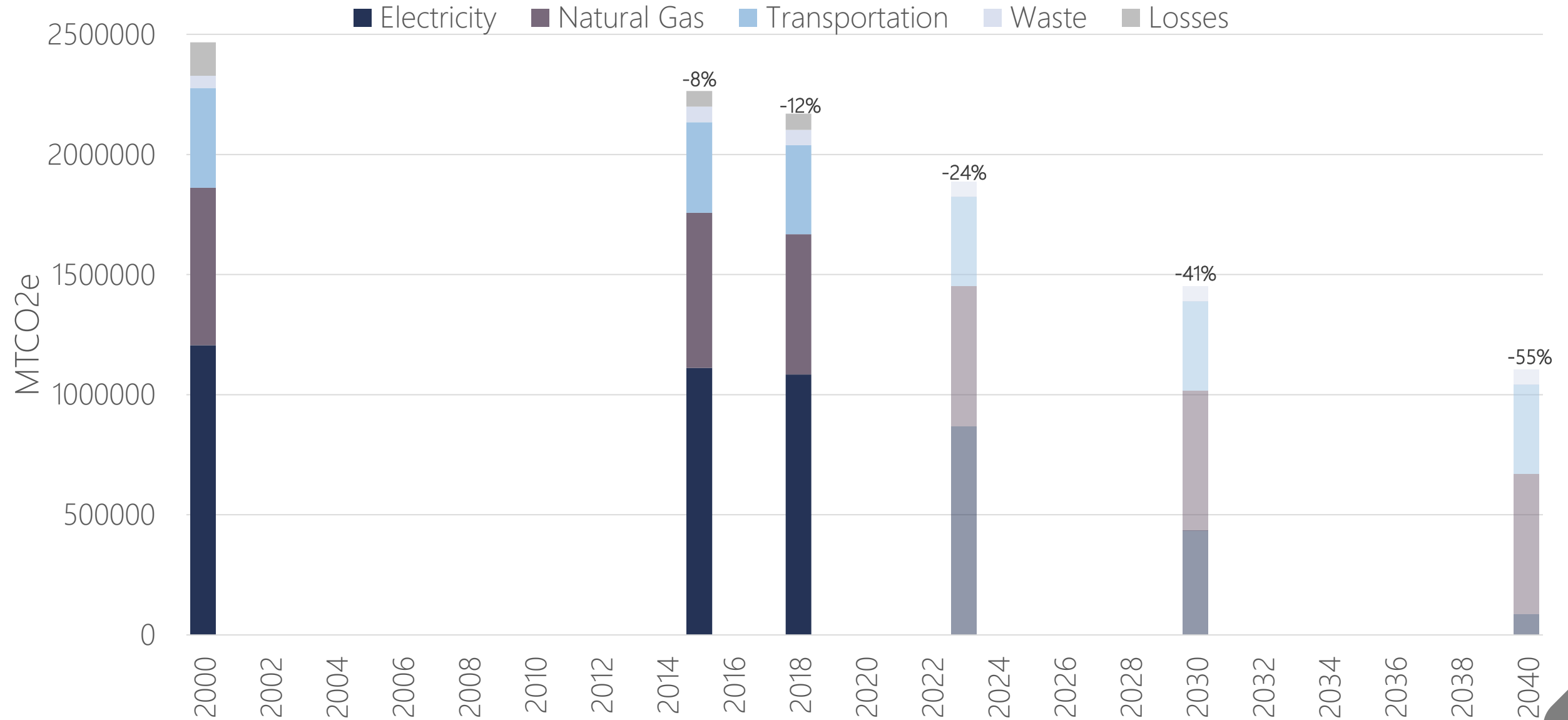
## DTE's GHG REDUCTION TARGETS

2023 – 33%      2030 – 50%      2040 – 80%



\*Based on current projections. Final percentages to be determined in future IRPs.

# IMPACT OF DTE FUEL MIX



The image features a central graphic with the text "TAKE AWAYS" in a bold, black, sans-serif font. This text is contained within a light blue circle that overlaps with a larger, semi-transparent white circle. The background is a collage of various takeout food containers, including white styrofoam boxes and brown cardboard containers, all featuring the "FOLLY PAKI" logo and phrases like "Enjoy" and "Thank you". Some containers are open, showing food items like broccoli, onions, and noodles. The overall aesthetic is clean and modern, emphasizing the convenience of takeout dining.

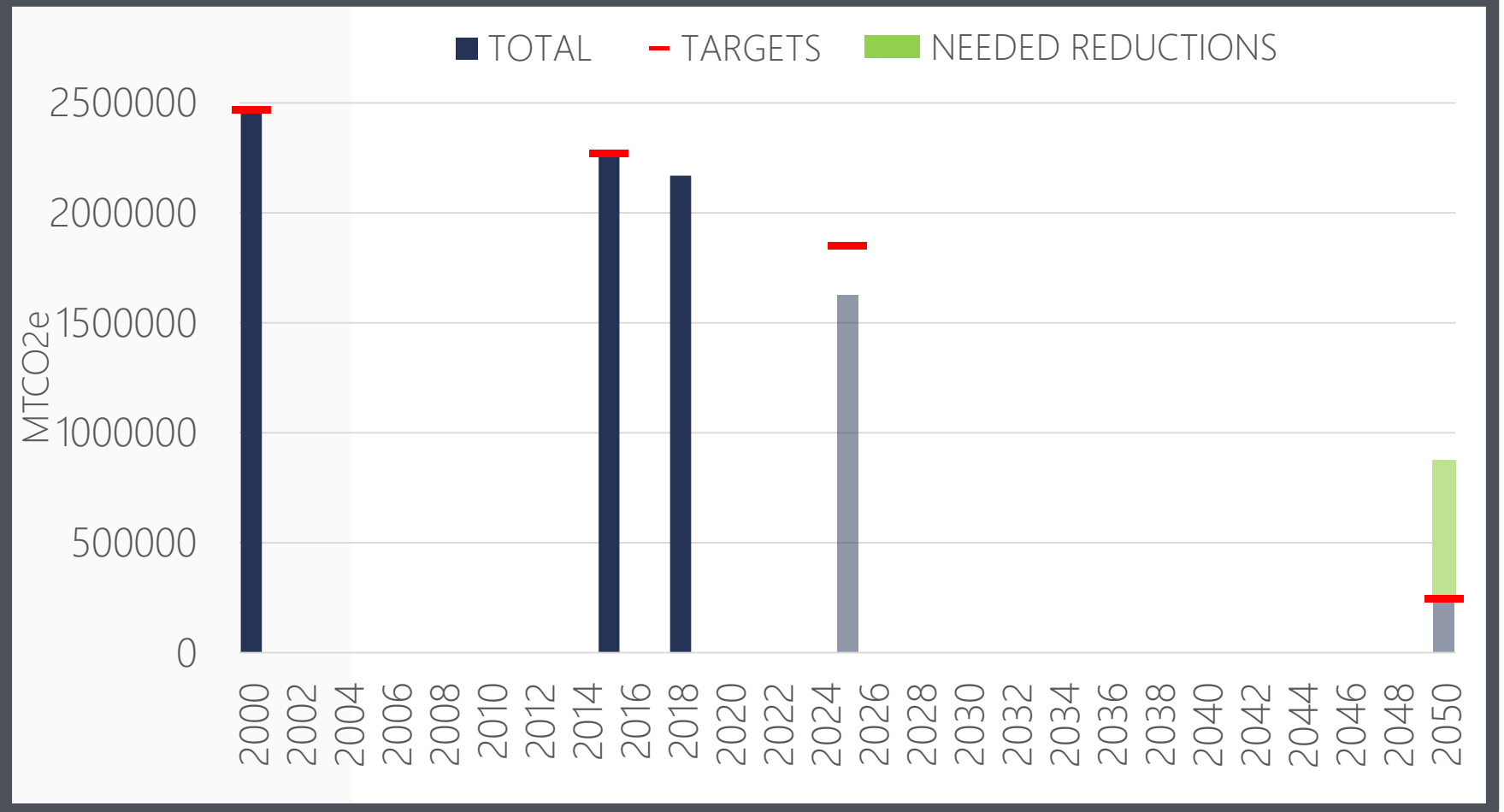
**TAKE  
AWAYS**



# TAKE AWAYS

- Climate Change Feedback Loops
- Projected Changes
  - University of Michigan 2020 Plans
  - OSI 5 year plan
  - Changes to DTE's Fuel Mix
- Transportation and Natural Gas emissions remain high in 2050

COMMUNITY REDUCTION TARGETS  
2015 – 8%      2025 – 25%      2050 – 90%





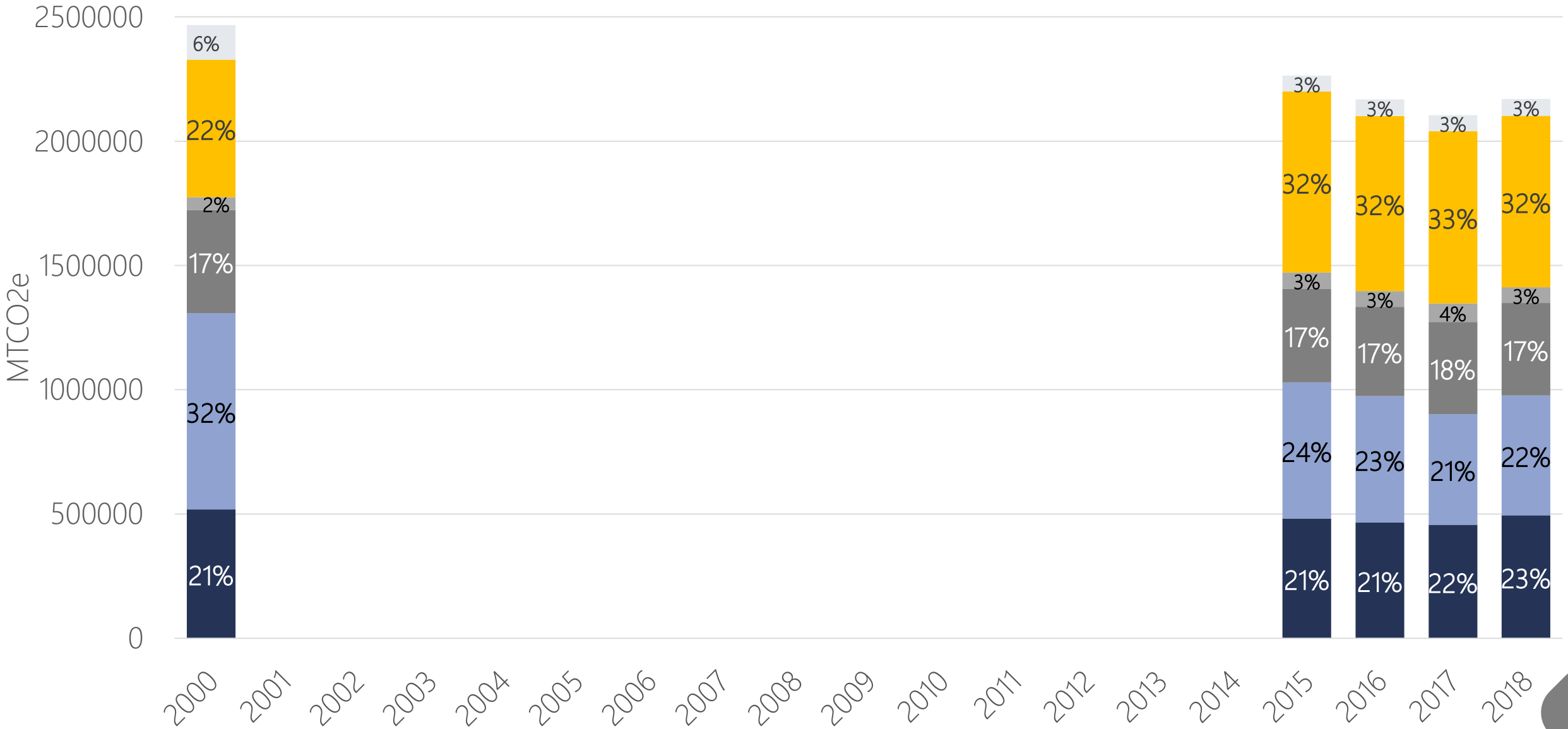
QUESTIONS?



BACK UP SLIDES

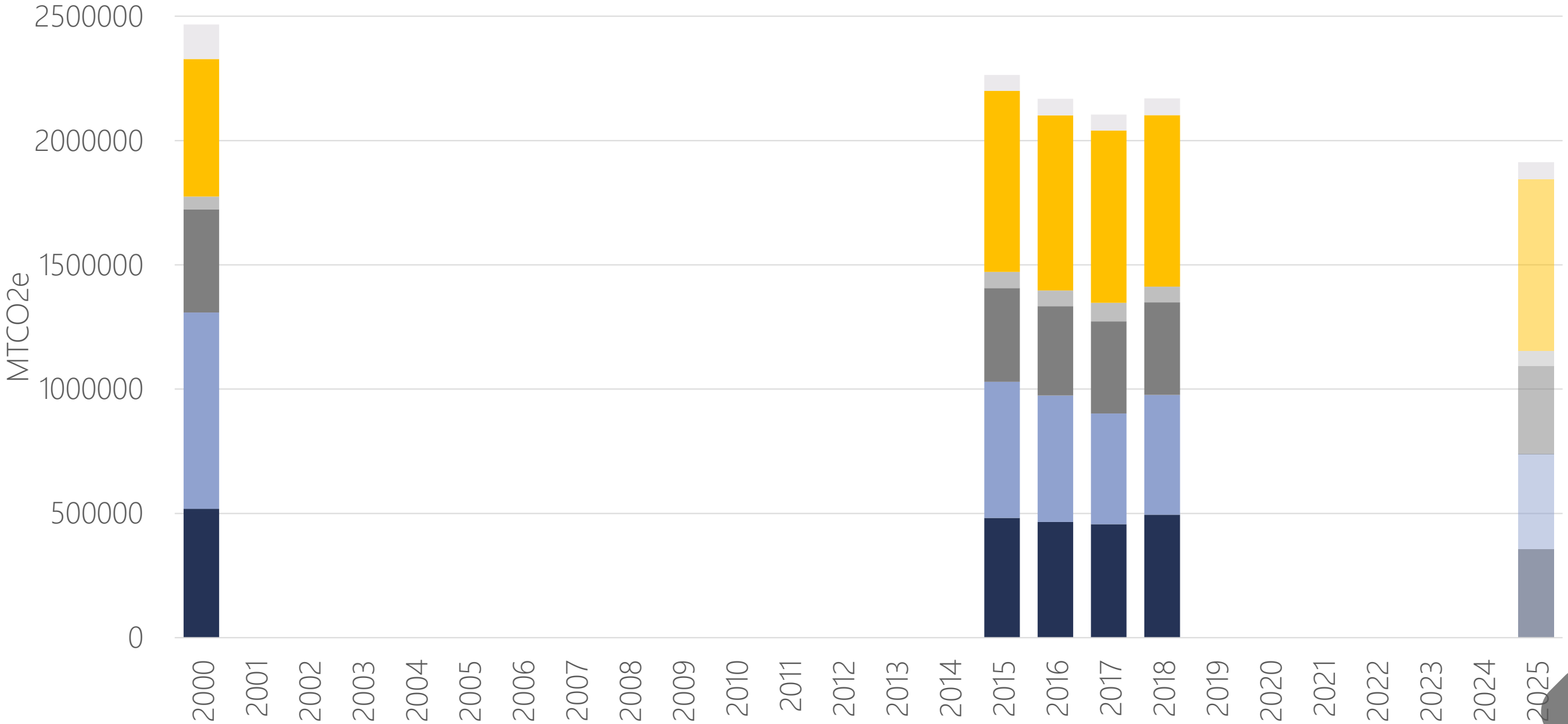
# COMMUNITY GHG EMISSIONS

Residential Com & Ind Transportation Solid Waste U of M Losses

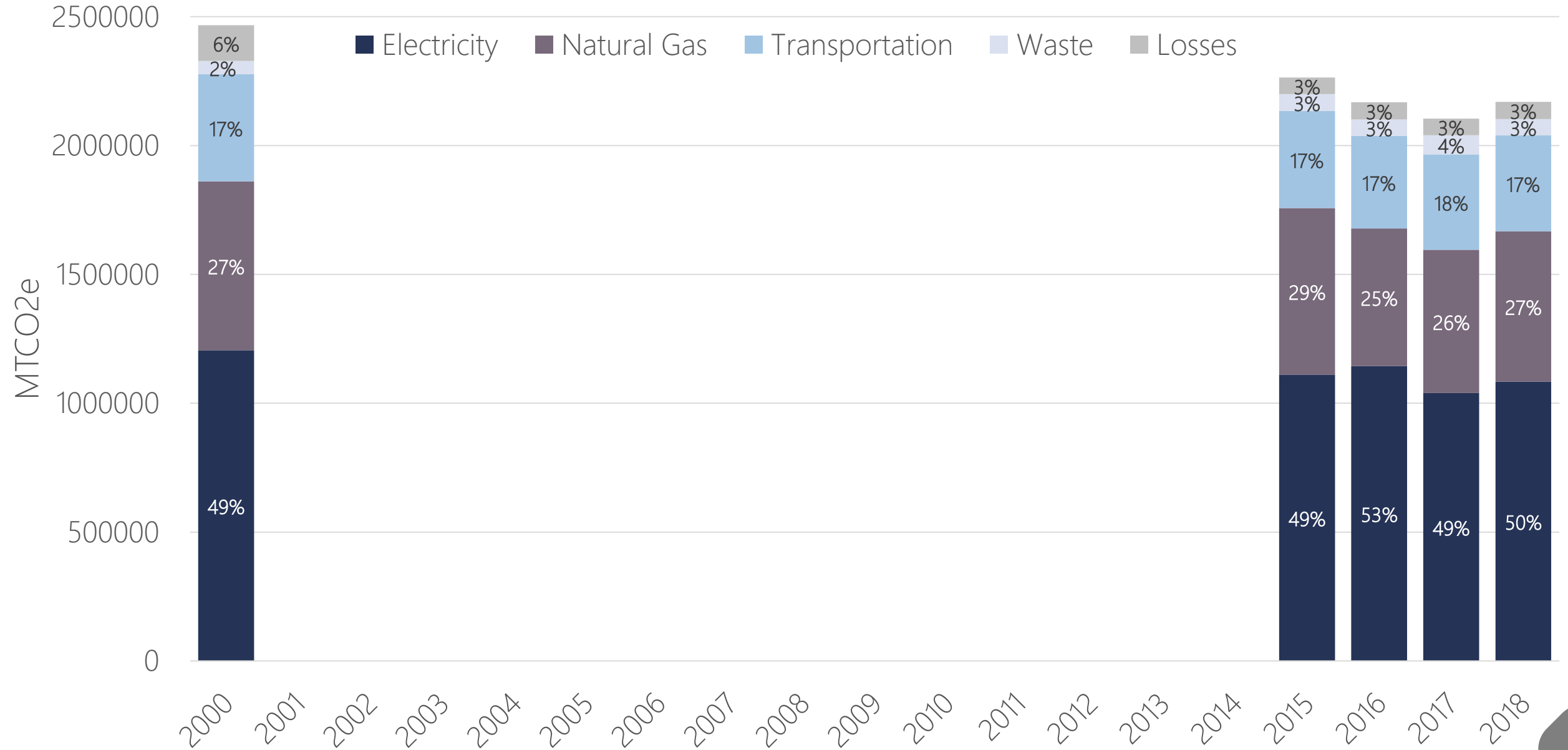


# COMMUNITY GHG EMISSIONS

Residential Com & Ind Transportation Solid Waste U of M Losses



# EMISSIONS BY SOURCE



# DTE PLANS – COMMUNITY GHGs

