

Greenhouse Gas Emissions and Waste Management

Council Working Group
May 25, 2017



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SUSTAINABILITY

CITY OF AUSTIN

Community Climate Plan



Austin COMMUNITY CLIMATE PLAN 2015



GOAL:

Net-zero community-wide greenhouse gas emissions by 2050

Adopted by City Council in June 2015

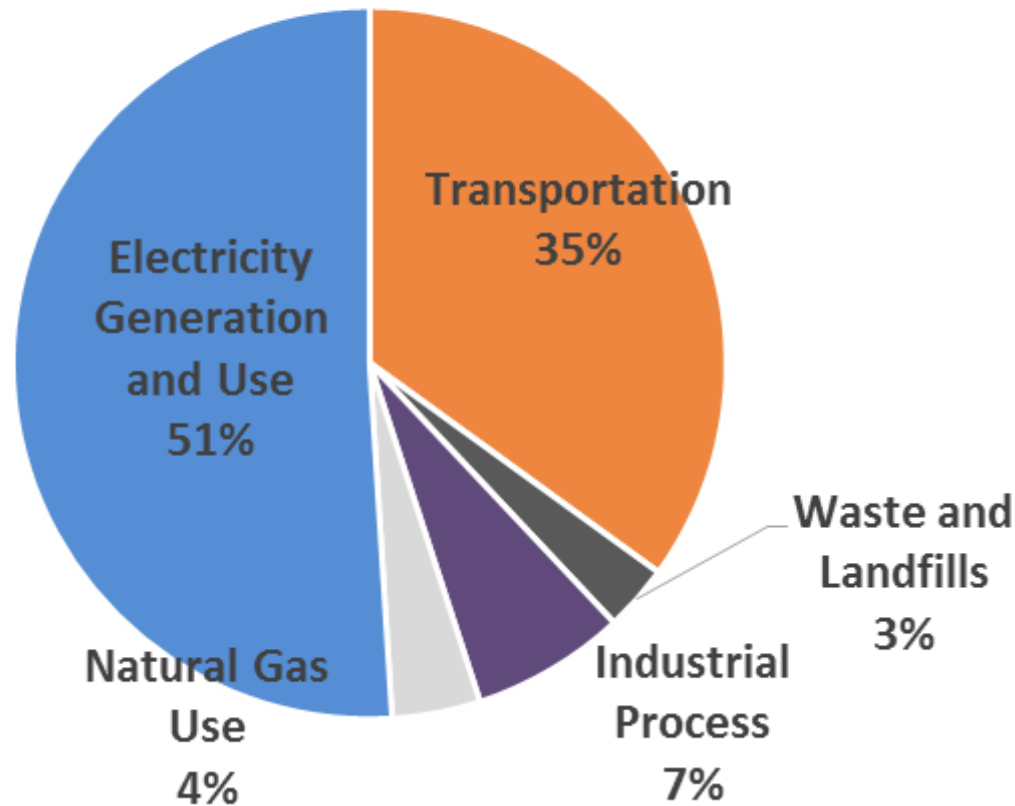


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Community Carbon Footprint

Total = 14 Million Metric Tons of CO₂e



Applicable Greenhouse Gases

- **Carbon Dioxide**

- Major source = burning fossil fuels
- 100 year global warming potential = 1

- **Methane**

- Major sources = burning fossil fuels, agriculture, landfills
- 2013 IPCC 5th Assessment Report:
 - Atmospheric lifetime = 12 years
 - 25 year global warming potential = 86
 - 100 year global warming potential = 34

Emissions Reduction Strategies

Electricity and Natural Gas

- Buildings and Integrated Efficiency
- Promote Behavior Change
- Resource Technologies

Transportation and Land Use

- Infrastructure and Service
- Land Use
- Demand Management
- Policy and Planning
- Vehicles and Fuel Efficiency
- Economic and Pricing Solutions

Materials and Waste Management

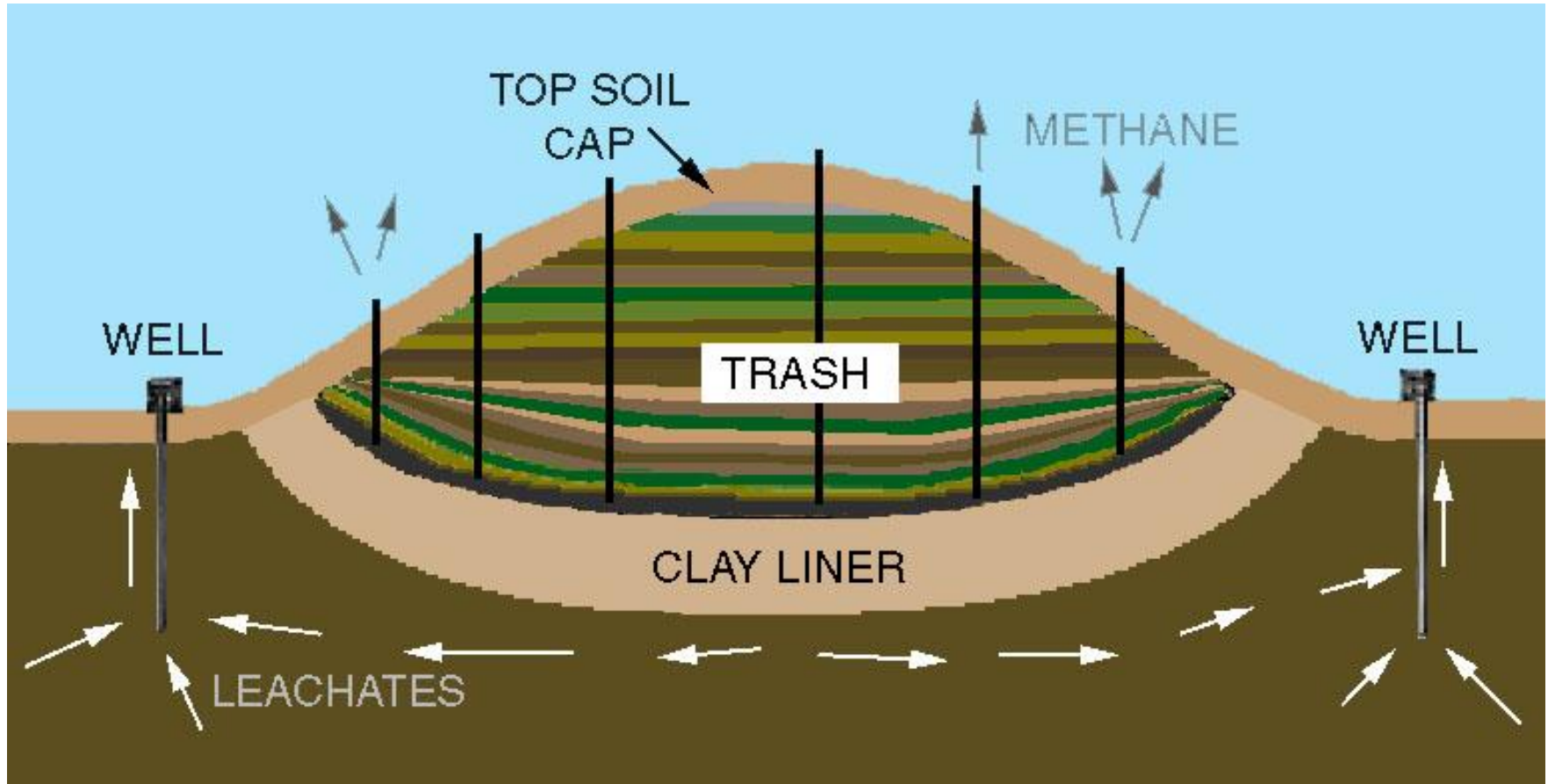
- Organics Diversion
- Purchasing
- Methane Management
- Recycle / Reduce / Reuse

Industrial Process

- Fuel Switching
- Process Optimization
- Capture and Destruction
- Local Offsets



Landfill Gas Collection and Usage



Landfill Gas Collection and Usage



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Landfill Gas Collection and Usage



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Landfill Gas Collection

Number of Gas Collection Wells

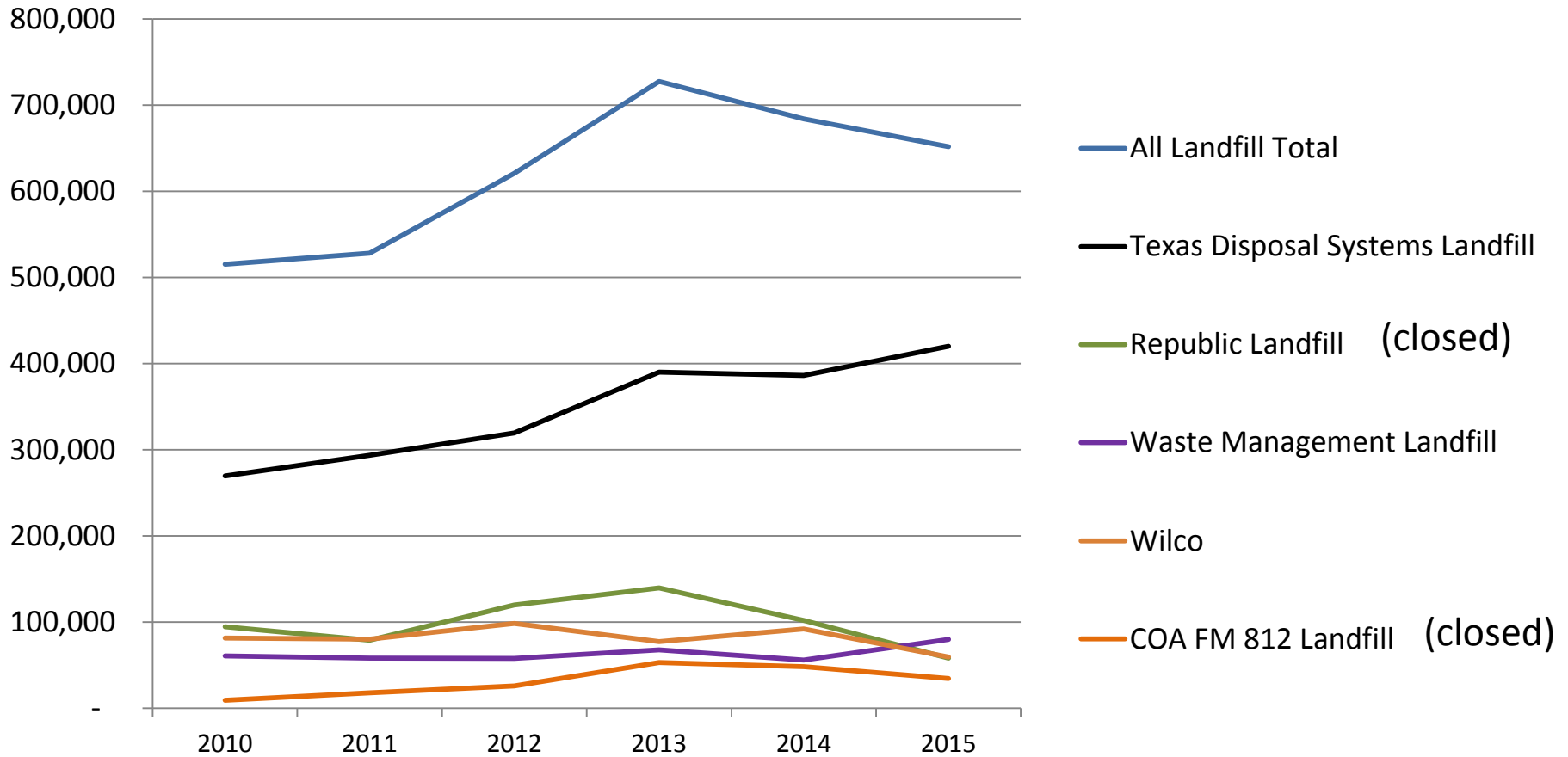
Year	FM 812	Republic	TDS	Waste Mngmnt	Wilco	Total
2013	67	222	6	126	50	471
2014	63	222	15	126	54	480
2015	63	222	15	128	68	496

Gas Collection System Capacity (cfm)

2013	1500	6000	700	3000	1200	12,400
2014	1500	6000	600	5200	3000	16,300
2015	1500	6000	600	5200	3000	16,300

Landfill Gas Emissions

metric tons CO₂e



40 CFR Part 98.340



Transportation Emissions

Downtown to WM Landfill = 11 miles

10 trucks per day X 44 miles per truck X 365 days =

1,638 metric tons CO₂e

Downtown to Creedmoor = 17 miles

10 trucks per day X 68 miles per truck X 365 days =

2,531 metric tons CO₂e

Downtown to Wilco Landfill = 35 miles

10 trucks per day X 120 miles per truck X 365 days =

4,433 metric tons CO₂e

Assuming all trucks are using Diesel and get 1mpg

Impacts

Greenhouse Gas Emissions

Truck Traffic

Neighborhood Impacts

- Odors, dust, particulates, and other air pollutants
- Groundwater pollution
- Litter
- Pests

Environmental Considerations

Minimize **neighborhood impacts**.

Minimize the **amount of fossil fuels** used for transportation.

Maximize the **capture, destruction, and beneficial reuse of methane** generated onsite.