Annual Summary Report on Progress towards CECAP Targets

Environment & Sustainability Committee
June 6, 2022

Carlos Evans, Director
Office of Environmental Quality & Sustainability

Purpose

To provide regular reporting on status consistent with requirements of CR 20-688 that adopted the CECAP:

> "***SECTION 5.*** *That the City Manager provide the Environment and Sustainability Committee or other designated City Council Committee with regular reporting concerning progress on CECAP implementation*."

Overview – "Big Picture"

- CECAP Targets/Goals
- Opportunities Moving Forward
- Questions

CECAP: Target Overview

NET ZERO ENERGY NEW CONSTRUCTION

ENERGY USE IN EXISTING RESIDENTIAL BUILDINGS

SOLAR POWER GENERATED

RENEWABLE ELECTRICITY PLANS

PUBLICLY AVAILABLE EV CHARGING

ELECTRIC FLEETS

SINGLE OCCUPANT VEHICLE TRAVEL MODE SHIFT

ORGANIC WASTE

PAPER WASTE

LANDFILL DIVERSION

WATER CONSUMPTION

WATER FOR INDIRECT REUSE

IMPAIRED WATERBODIES LISTED IN WATERSHED

GHG EMISSIONS FROM TREATMENT FACILITIES

CANOPY COVER CITYWIDE

URBAN HEAT ISLAND INDEX

PARK OR TRAIL ACCESS

HEALTHY, AFFORDABLE FOOD ACCESS

ACRES OF URBAN GARDENS

RESTAURANTS, FARM STANDS, OR MARKETS SOURCING FROM LOCAL PRODUCERS

GROUND LEVEL OZONE

AIR POLLUTANTS

Over-arching Targets from CECAP PP 37-38

GOAL 1: DALLAS' *BUILDINGS* ARE ENERGY EFFICIENT AND CLIMATE RESILIENT.

TARGETS:

Net zero energy new construction

- 100% starting in 2030

Energy use in existing residential buildings

- 10% of existing buildings reduce energy use 10% by 2030
- 10% of existing buildings reduce energy use 25% by 2050

PROGRESS:

Net zero energy new construction

- Policy/Specifications to be completed in FY 21-22

Energy use in existing residential buildings: [direct *data not available…*]

GOAL 1: DALLAS' *BUILDINGS* ARE ENERGY EFFICIENT AND CLIMATE RESILIENT.

OTHER NOTABLE SECTOR ASPECTS:

City Energy Efficiency Efforts

- 100 percent wind-generated energy
- 140 municipal buildings have had energy audits to guide decision-making
- April 13, 2022 City Council approved contract towards improving energy efficiency of 3 buildings to allow >57 percent energy savings moving forward

USDOE Better Climate Pledge

- Pledged to reduce Energy Use Intensity and to de-carbonize 140 City buildings in 10 years

GOAL 2: DALLAS GENERATES AND USES RENEWABLE, RELIABLE AND AFFORDABLE *ENERGY*.

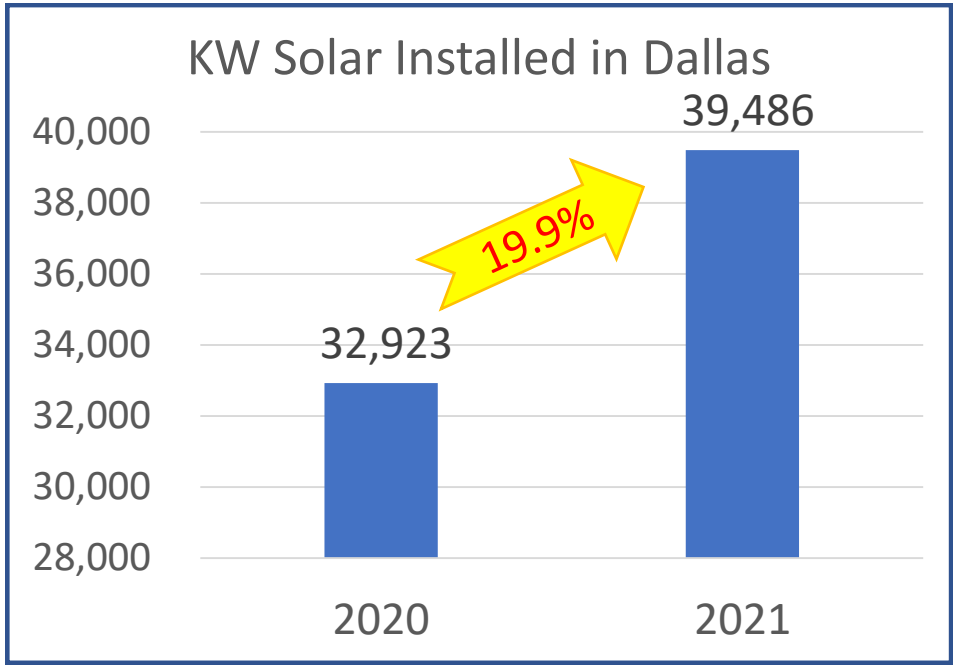
TARGETS

Solar power generated:

- 739,000 KW by 2030
- 3,695,000 KW by 2050

Renewable electricity plans

- 20% of residents + businesses enrolled by 2030
- 50% of residents + businesses enrolled by 2050



Renewable energy sources—geothermal energy, solar energy, and wood fuels—accounted for about **7%** of residential sector energy end use in 2020.

Data Sources: Solar Data: Oncor 2020 & 2021 Annual Distributed Renewable Energy Report to PUC
Residential Renewable Energy data: US Energy Information Administration
https://www.eia.gov/energyexplained/use-of-energy/homes.php

GOAL 2: DALLAS GENERATES AND USES RENEWABLE, RELIABLE AND AFFORDABLE *ENERGY*.

OTHER NOTABLE SECTOR ASPECTS: *Renewable Energy on City Facilities*

	Facility	Dept	KW
1	Naval Air Station Dallas*	BSD	45
2	Pleasant Grove Library*	LIB	48
3	Kiest Recreation Center	PKR	76.1
4	NE Dallas Police Department	DPD	83.2
5	North Central DPD	DPD	98.8
6	Southeast DPD	DPD	98.8
7	Fire Station #50	DFD	70.48
8	Prairie Creek Library*	LIB	48
9	Vickery Meadows Library*	LIB	60
		Subtotal, Existing:	**628.4**
10	Fretz Park Recreation Center	PKR	119.3
11	Pleasant Oaks Recreation Center	PKR	155.5
12	Dallas West Branch Library	LIB	148
		New Subtotal, Contracted April 13, 2022:	**422.8**
		TOTAL, City Solar:	**1,051.2**

Existing Energy Contract:
- 100% Wind Energy

Work in Progress:
Community Solar Study;
Affordable Housing Solar

GOAL 3: DALLAS' COMMUNITIES HAVE ACCESS TO SUSTAINABLE, AFFORDABLE, TRANSPORTATION OPTIONS.

TARGETS

Publicly available EV charging

- 1,500 outlets to support 39,000 vehicles by 2030; total shown as 1,160

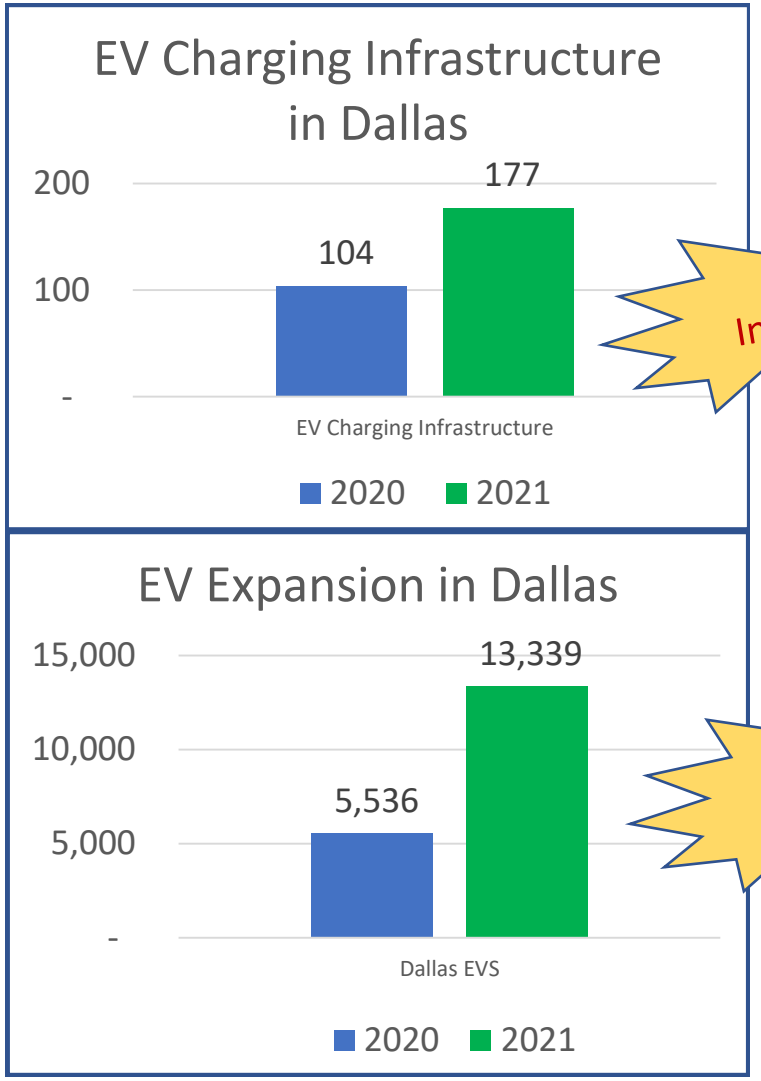
Electric fleets

- All new transit vehicle purchases by the City, DISD, DART fully electric by 2030
- 100% electrified fleet by 2040

Single occupant vehicle travel mode shift

- 88% to 79% in 2030
- 88% to 62% in 2050

Data Source:
https://www.dfwcleancities.org/evnt



GOAL 3: DALLAS' COMMUNITIES HAVE ACCESS TO SUSTAINABLE, AFFORDABLE, *TRANSPORTATION* OPTIONS.

OTHER NOTABLE SECTOR ASPECTS:

Electric fleet

- NREL Fleet Study to be complete in FY 21-22 to guide City efforts to fleet electrification

Single occupant vehicle travel mode shift

- Currently estimated in 2021 to be **79.8%** with goals of reduction from 88% to 79% by 2030
  and from 88% to 62% in 2050
- *However*, because of NAAQS non-attainment status, on June 10, 2021, the NCTCOG - Regional Transportation Council (RTC) approved **R21-04: Resolution establishing a Regional Single-Occupancy Vehicle Trip Reduction Target to Reduce Drive Alone Vehicle Trips in North Central Texas**. The resolution establishes a voluntary annual target to reduce SOV commute trips by **20** percent.

Data Source:
https://www.dfwcleancities.org/evnt

GOAL 4: DALLAS IS A ZERO *WASTE* COMMUNITY

TARGETS

Organic waste
- 35% diverted by 2030
- 80% diverted by 2050

Paper waste
- 60% diverted by 2030
- 90% diverted by 2050

Landfill diversion*
- 35% diversion in waste by 2030
- 45% diversion in waste by 2040

Organic Waste: NA

Paper Waste Diversion:
- **Estimated Residential Mix Paper to FCC (tons):** FY20-21: 22,273
  - (10% increase from 2018)
- **Estimated Corrugated Containers to FCC (tons):** FY20-21: 7,073
  - (11% increase from 2018)

- ***Landfill Diversion : ~ 19%***

GOAL 5: DALLAS PROTECTS ITS *WATER RESOURCES…..*

TARGETS

Water consumption

- 1% decrease (per-capita) annually

Water for indirect reuse

- 5% implementation by 2030
- 10% implementation by 2050

Impaired waterbodies (303(d) Listed Segments)

- 30%, 60% and 100% reduction by 2030, 2040 and 2050 *(Dallas MS4 Permit Area)*

GHG emissions from treatment facilities

- 45% reduction by 2035
- 100% reduction by 2050

Water Consumption:
Dallas FY2021: 175 GPCD (**4.7**% increase from 2020) Fiscal Year 2020.
Dallas' 10 year rolling average reduction: (-1.4%)

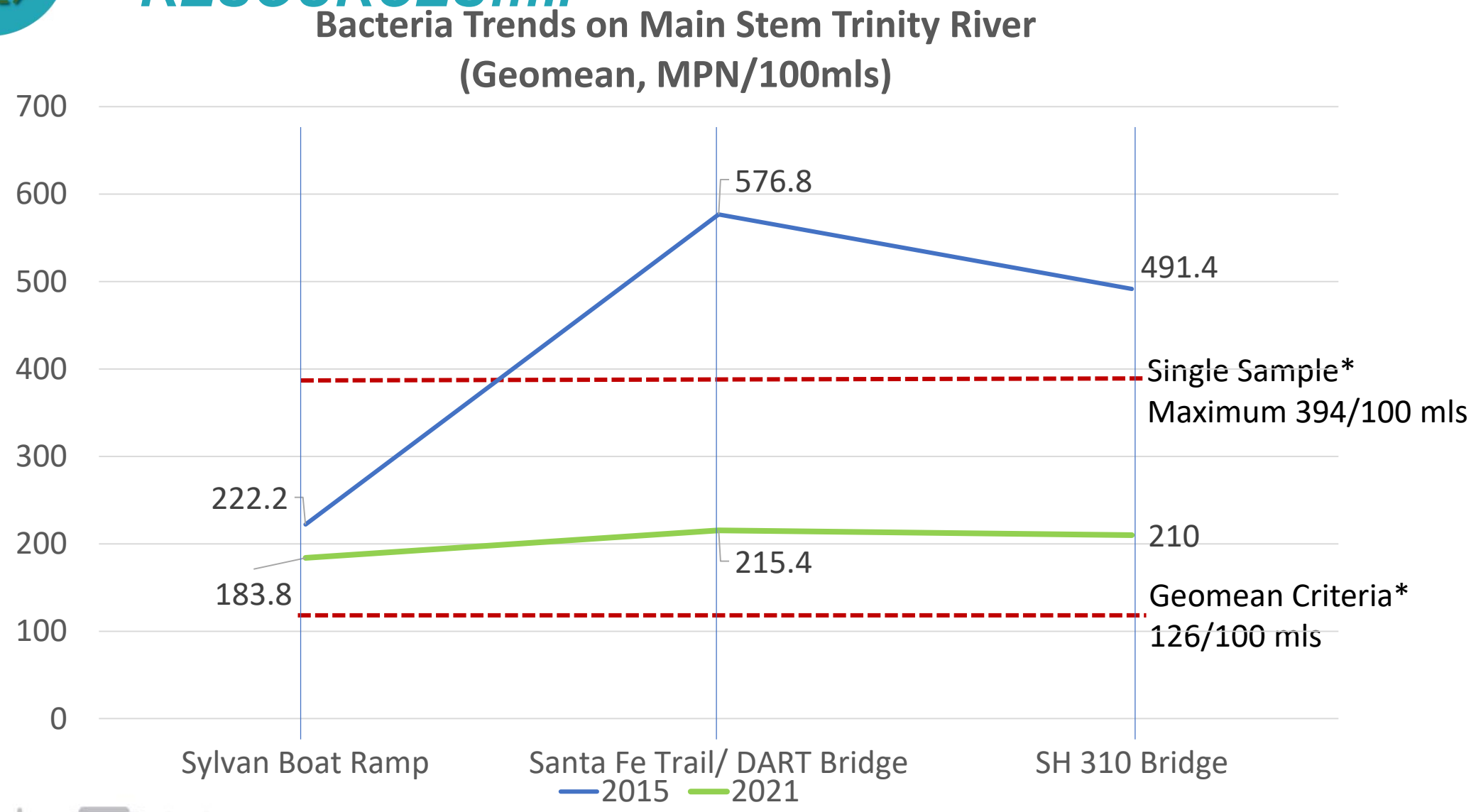
Water for Indirect Reuse: **3.65%** of DWU supplied water DWU was indirect reuse in 2021

Impaired Water Bodies: NA*

GHG Emissions from Treatment facilities: 100% RECS for power; emissions from sludge digestor used with cogeneration for onsite power generation

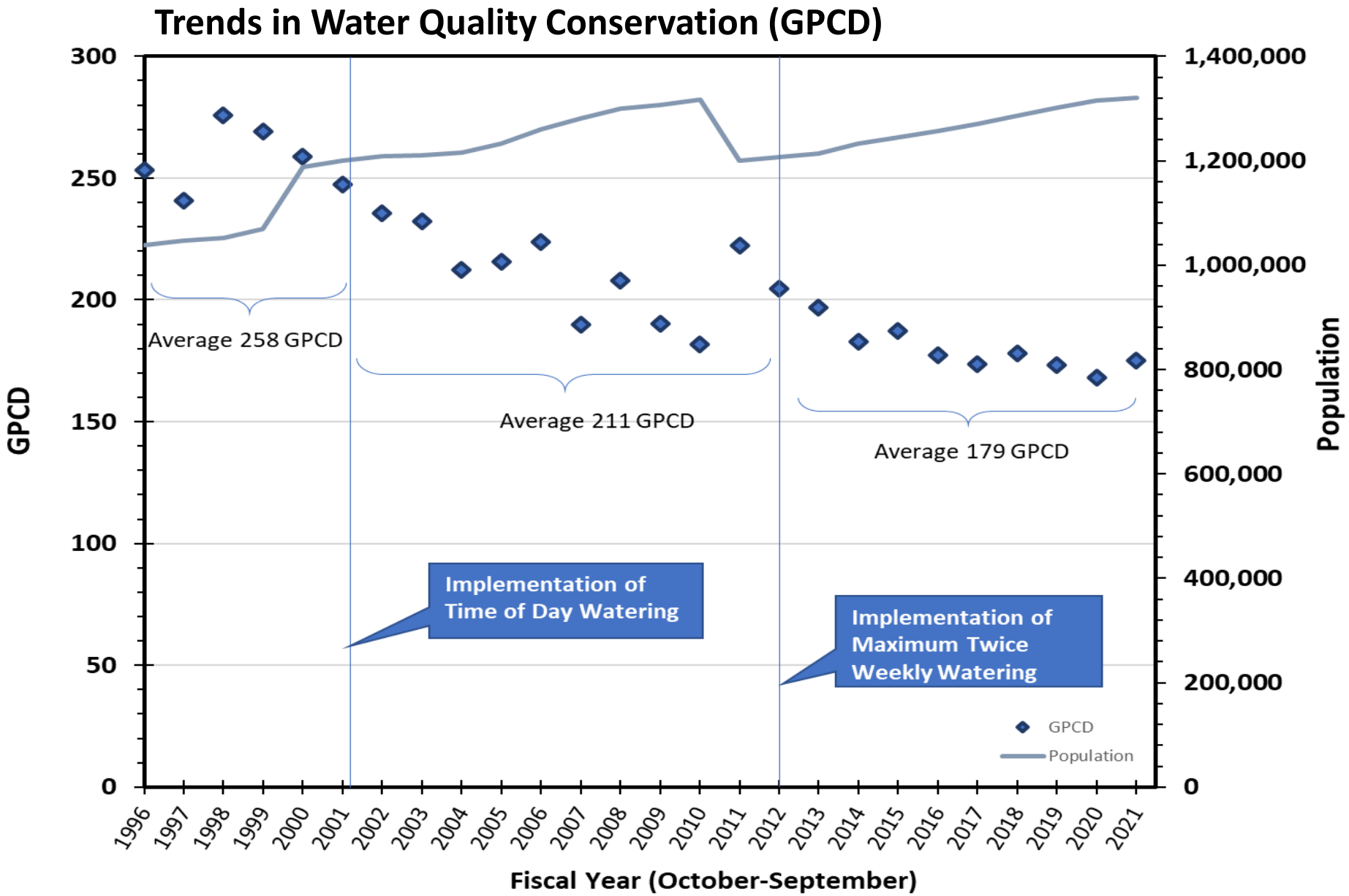
**** TMDL Plan underway, February, 2022***

GOAL 5: DALLAS PROTECTS ITS' *WATER RESOURCES…..*



* TAC Section § 307.10: Trinity Basin Designated Uses and Numeric Criteria, Appendix A

GOAL 5: DALLAS PROTECTS ITS' *WATER*



GOAL 6: DALLAS PROTECTS AND ENHANCES ITS ECOSYSTEMS, TREES AND *GREEN SPACES*

TARGETS

Canopy cover citywide

- 33% by 2030
- 37% by 2040
- 40+% by 2050

Urban heat island index

- 20% reduction by 2030
- 50% reduction by 2040
- 75% reduction by 2050

Park or trail access *(1/2 mile walk)*

- 80% of the population by 2030
- 90% of the population by 2040

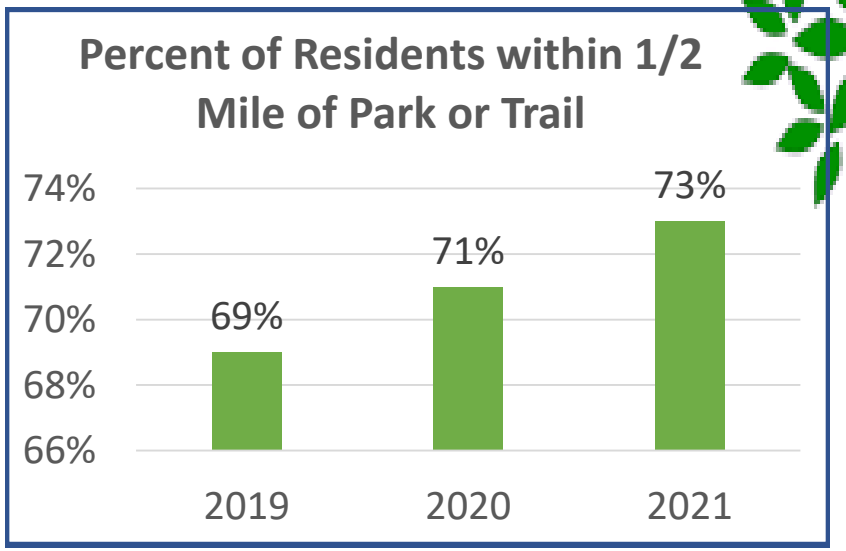
PROGRESS

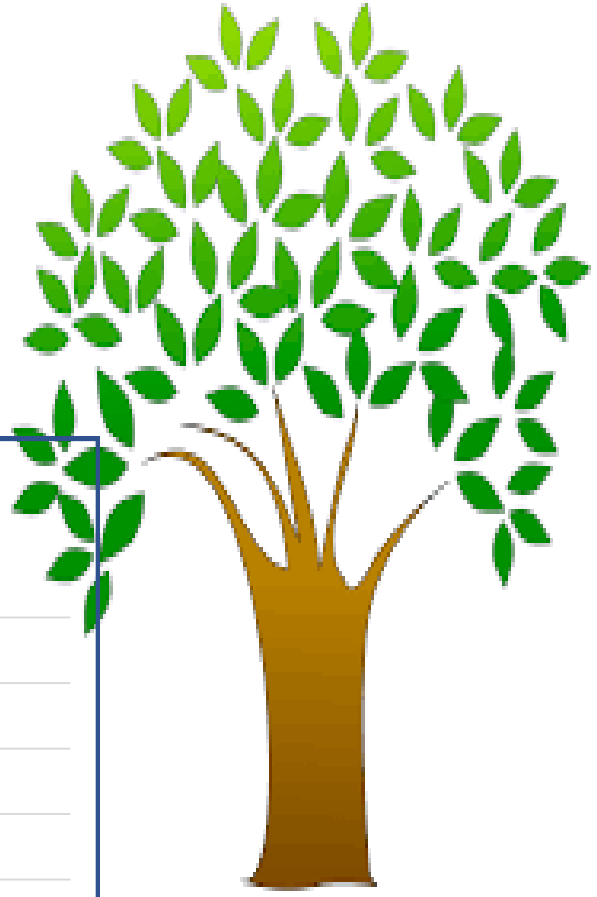
Canopy cover citywide

- Holding at 32%

Urban heat island index

(Updated data NA)





Data Source: Trust for Public Lands

GOAL 6: DALLAS PROTECTS AND ENHANCES ITS' GREEN SPACE…

Park Land Expansion & Tree Canopy Protection (Added 193.8 Acres + 26.5 acres under design/construction)

- Woody Branch Park: **82** acres, acquired by City of Dallas with Trust for Public Lands, April, 2021 (Reforestation Fund)
- South Oak Cliff Renaissance Park: **1.8** Acres, acquired by City of Dallas with Trust for Public Lands, November 2021 (RF)
- Parkdale Lake Park: **110** acres, donated by Oncor Electric to the City of Dallas, November, 2021
- Carpenter Park: **5.6** acres, opened for public use, May, 2021
- Southern Gateway Deck Park: **5.2** acres, under construction over I35 in North Oak Cliff
- Klyde Warren Park Expansion: **1.7** acres, under design over Walton Walker Freeway connection
- Fair Park Community Park: **14** acres, under design for Fair Park
- Hi-Line Connector Trail: several trail connections, construction contract approved, April 27, 2022

Tree Planting Efforts in 2021: (6,525 Trees)

- City planted about **2,600** trees through Branch Out Dallas (residential property)
- Parks Department planted about **1,400** trees through Branching Out Dallas
- Texas Trees Foundation planted ~**2,500** trees through Cool Schools, Breathe Easy Dallas, and other programs
- Trust for Public Lands planted ~ **75** trees in the Highland Hills neighborhood

GOAL 7: ALL DALLAS' COMMUNITIES HAVE ACCESS TO HEALTHY, LOCAL *FOOD*. (*Establishing Baseline*)

Objectives

- Build organizational capacity and partnerships.
- Improve **food access** in neighborhoods with low food access.
- **Reduce food miles** by encouraging local food production & consumption.
- Prepare the food system to be more **resilient** to extreme weather events.
- Prevent **food waste** through food donations, recovery, diversion and composting.

Targets

Healthy, affordable food access (<1/2 mile)

- 50% of the population by 2030
- 75% of the population by 2040
- 100% of the population by 2050

Urban gardens producing local food (acres)

- Increase in 20% by 2030
- Increase in 50% by 2040
- Increase in 75% by 2050

2021 Farm Acreage: 14.9 Acres

Sourcing from local producers

- Increase in 10% by 2030
- Increase in 25% by 2040
- Increase in 50+% by 2050

2021 Local Sources: ~ 8 percent

GOAL 8: ALL DALLAS' COMMUNITIES BREATHE CLEAN *AIR*.

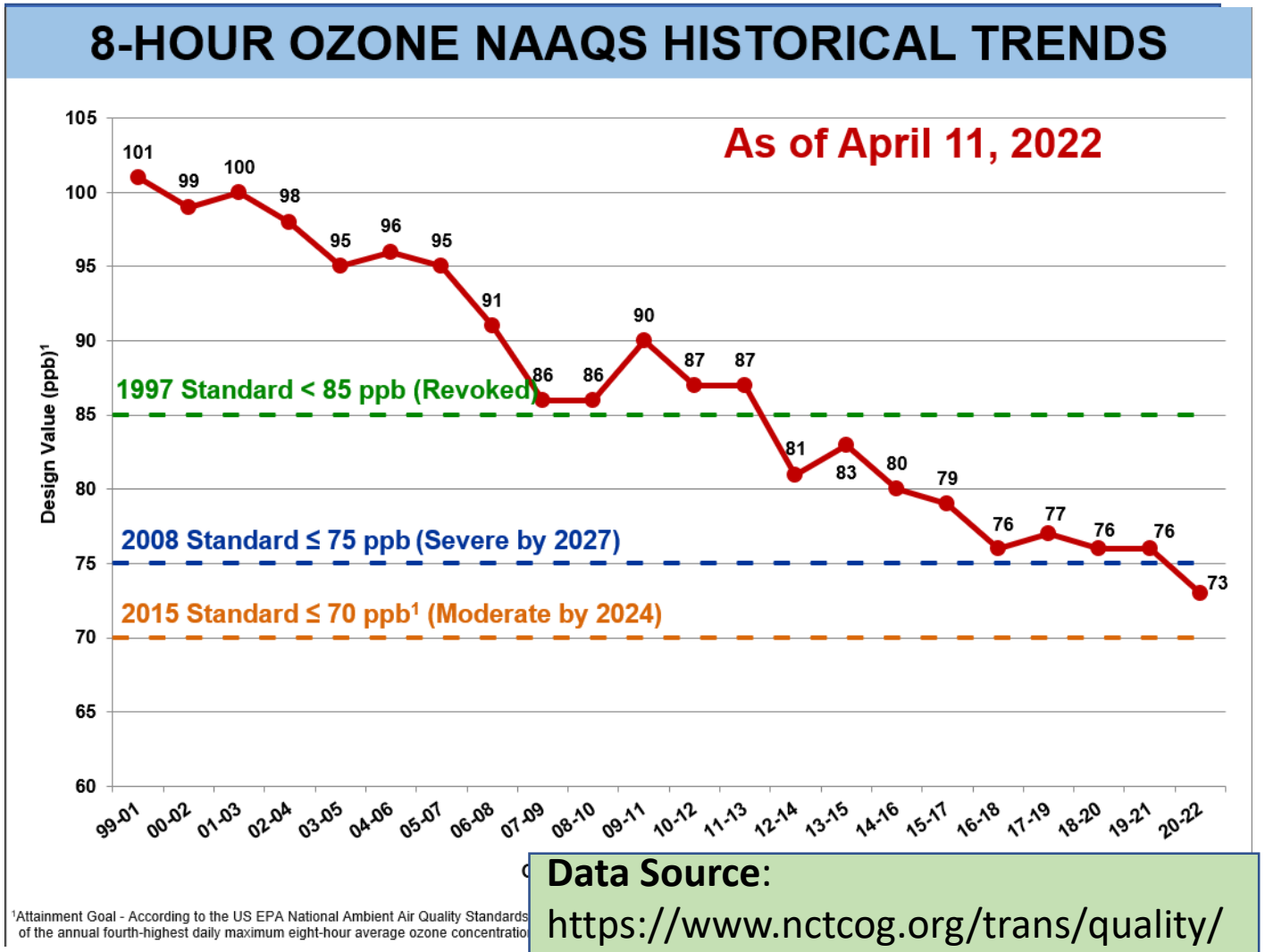
TARGETS

Ground level ozone

- Meet NAAQS attainment standard by 2030; maintain status through 2050

Air pollutants

- Maintain NAAQS attainment status through 2050 *(includes lead, carbon monoxide, nitrogen dioxide, particulate matter (PM_{10}), particulate matter ($PM_{2.5}$) and sulfur dioxide)*



Data Source: https://www.nctcog.org/trans/quality/air/ozone

GOAL 8: ALL DALLAS' COMMUNITIES BREATHE CLEAN *AIR*.

OTHER NOTABLE SECTOR ASPECTS:

Air Quality Regulatory Changes

- 2008 Ozone NAAQS: EPA determination of air quality progress: Dallas is one of seven nonattainment areas to be classified as "Severe" for 2008 ozone NAAQS with a deadline of **July 27, 2027** for compliance.
- 2015 Ozone NAAQS: EPA determination of air quality progress: Dallas is one of 31 nonattainment areas classified as "Moderate" for the 2015 ozone NAAQS, with a deadline of **August 3, 2024** for compliance.

GOAL 8: ALL DALLAS' COMMUNITIES BREATHE CLEAN *AIR.*

OTHER NOTABLE SECTOR ASPECTS (Continued):

Non-Regulatory Neighborhood Air Quality Program: (12 monitors in 2021; 39 more in 2022)

- City has implemented non-regulatory monitors in south Dallas and the Southwest Medical District to attain air quality data showing local trends in air quality in- and around schools with statistically higher prevalence of pediatric asthma.
- Staff are continuing this work in West Dallas, and other neighborhoods with similar concerns during 2022 to propose policy solutions.
- Staff are working with public health experts to develop and implement appropriate health interventions.

GOAL 8: ALL DALLAS' COMMUNITIES BREATHE CLEAN *AIR*.

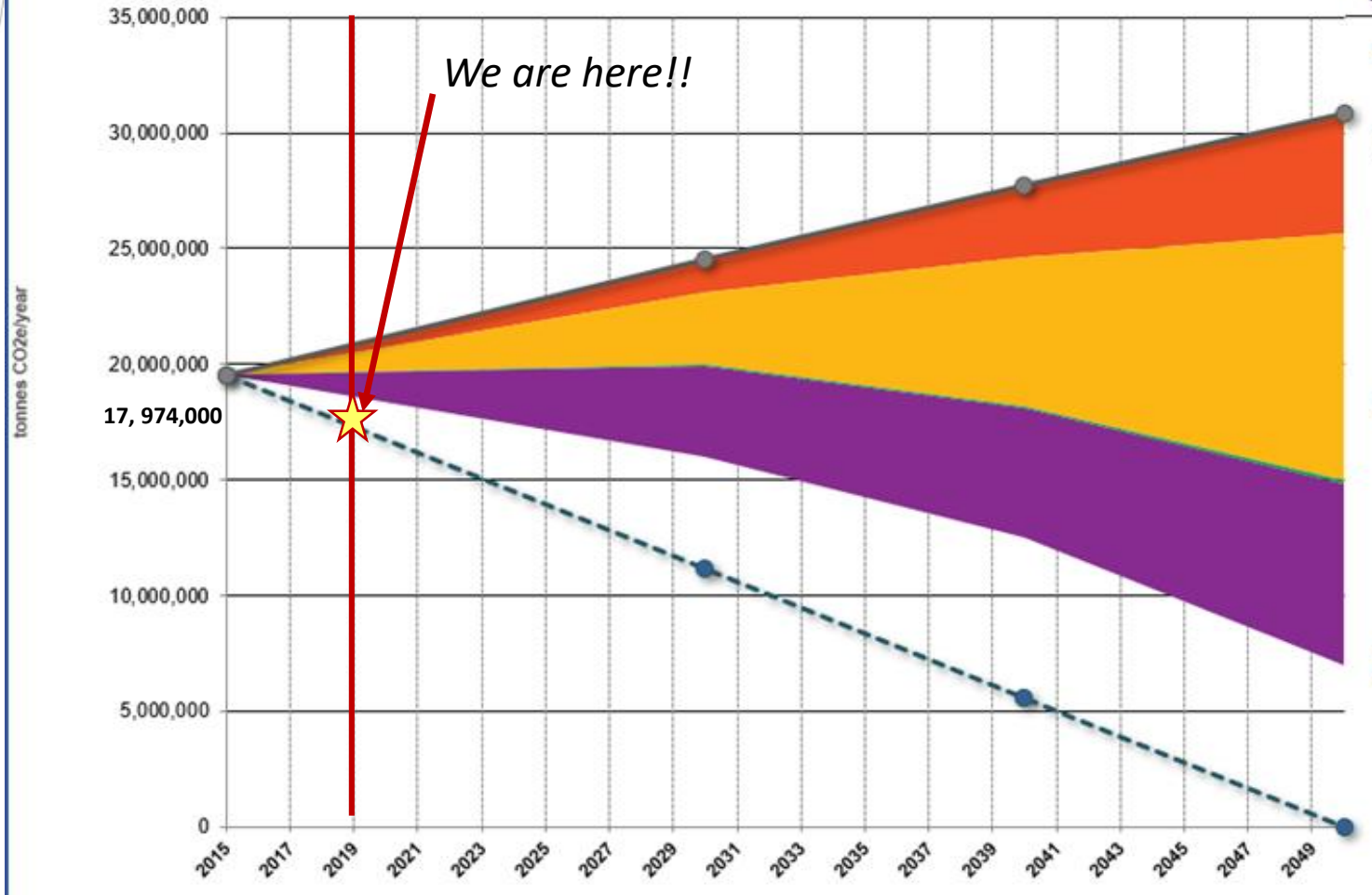
OTHER NOTABLE SECTOR ASPECTS (Continued):

Other Ongoing Air Quality Actions:

- Updating batch plant regulations to require public hearings; phase 2 may include buffers or other measures to reduce neighborhood impacts.
- Developing Environmental Equity Checklist for use on City projects to prevent inappropriate batch plant locations in/near critical receptors, particularly on City-construction efforts.
- Updating City policy concerning gas-powered landscape equipment.
- Updating Comprehensive Land Use Plan to address historic inappropriate legacy land use adjacencies.

Greenhouse Gas Inventory 2019 Update

2030 Target:	43%	2040 Target:	71%	2050 Target:	100.0%	National/Regional Actions:	Show within Sectors



tonnes CO2e/year	Emissions Metric
2015 Base Year Emissions Level	
19,529,660	Base Year
2030 Emissions Levels	
24,504,888	Baseline Forecast
42.9%	Target (% below 2015 base year level)
11,151,436	Allowable Emissions
16,019,934	Achieved w/ Actions
4,868,498	Achievement Gap
2040 Emissions Levels	
27,738,576	Baseline Forecast
71.4%	Target (% below 2015 base year level)
5,585,483	Allowable Emissions
12,499,844	Achieved w/ Actions
6,914,362	Achievement Gap
2050 Emissions Levels	
30,870,022	Baseline Forecast
100.0%	Target (% below 2015 base year level)
0	Allowable Emissions
6,972,026	Achieved w/ Actions
6,972,026	Achievement Gap

Legend:

- National/Regional Actions (All Sectors)
- Private Building Energy
- Municipal Building & Public Lighting
- Electricity Generation
- Baseline Forecast
- Solid Waste
- Wastewater
- Transportation
- Target Trajectory

From the IPCC Sixth Report (April 4, 2022)

B.2 **GHG emissions have increased since 2010 across all major sectors globally. An increasing share of emissions can be attributed to urban areas….**in particular increases from rising global activity in industry, energy supply, transport, agriculture and buildings. *(high confidence)*

C.7. B**uildings <u>are projected to approach net zero GHG emissions</u>** in 2050 if policy combining ambitious sufficiency, efficiency, and renewable energy measures, are effectively implemented and barriers to decarbonization are removed.

….**well-designed and effectively implemented mitigation interventions, have significant potential to contribute to achieving SDGs in all regions while adapting buildings to a future climate.**

From the IPCC Sixth Report (April 4, 2022)

C.7.2 Integrated design approaches to the construction and retrofit of buildings have led to increasing examples of zero energy or zero carbon buildings...

- **Design mitigation interventions include:** building typology, form, and multi-functionality and repurposing unused existing buildings to avoid using GHG-intensive materials and additional land.
- **Construction mitigation interventions include:** low-emission construction materials, highly efficient building envelope and the integration of renewable energy solutions.
- **Operations interventions include**: highly efficient appliances/ equipment, the optimization of of building use and low-emission energy

D.2.1 Sustainable urban planning and infrastructure design including green roofs and facades, networks of parks and open spaces, management of urban forests and wetlands, urban agriculture, and water-sensitive design can deliver both mitigation and adaptation benefits (*medium confidence*).

Available at: https://www.ipcc.ch/assessment-report/ar6/

Opportunities Moving Forward – Continue…

- Updating Green Building Policy for Net Zero Carbon and related specifications
- Building energy equity such as community solar and weatherization program
- Diversifying travel mode and fleet electrification
- Quantifying water quality improvements under the Municipal Separate Storm Sewer System (MS4) Permit
- Exploring opportunities to divert organic materials, like plant and food waste
- Implementing Urban Forest Master Plan
- Expanding green space and protecting existing tree canopy
- Ensuring local healthy food access and increasing local production
- Implementing neighborhood air quality monitoring program
- Updating 2017 Heat Island Study to assess improvement

APPENDICES

Sustainable Procurement Policy

- Resolution # 21-0908 adopted by Dallas City Council in May 26, 2021
- Is a "*comprehensive Sustainable Procurement Policy to guide procurement decisions to positively impact the City's social, economic, and environmental health*"
- Implemented through a Sustainable Procurement Working Group of affected departments
- Sustainable Procurement Working Group is charged with maintaining environmentally preferred products lists, identifying sustainability labels and standards to use in writing specifications, analyzing citywide purchases for efficiency and waste reduction opportunities, and making other recommendations related to the social, economic, and environmental aspects of contracting; these recommendations shall be included in the City's Administrative Directive 4-05, as appropriate.

CECAP & UN Sustainable Development Goals

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