

Dallas-Fort Worth Air Quality Improvement Plan

North Central Texas Council of Governments | 8.22.2024

Who We Are

Regional Planning Agency



Metropolitan Planning Organization (MPO)



Department of Energy-Designated Clean Cities Coalition

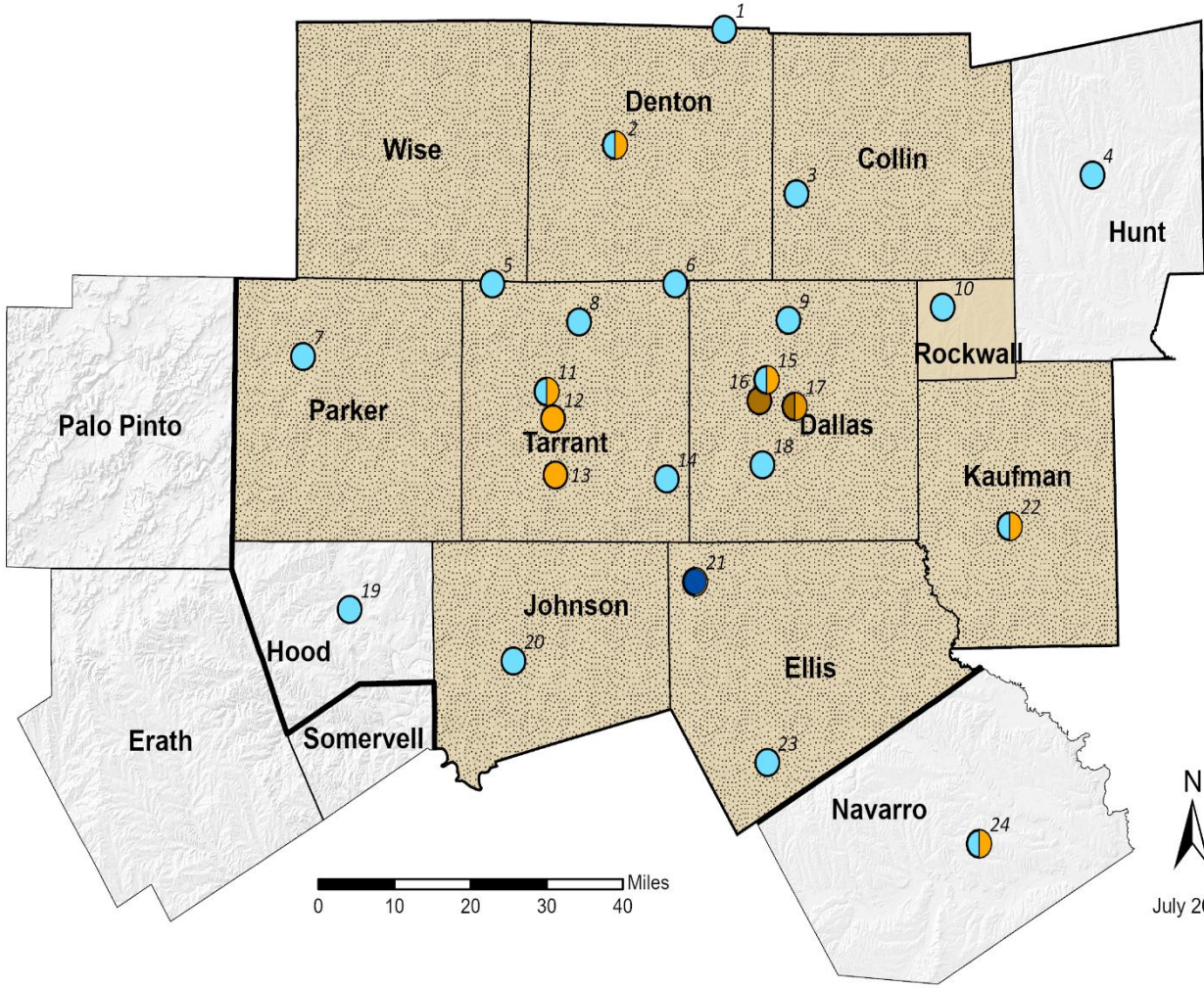


Legend

- Metropolitan Planning Area
- Counties Designated Nonattainment Under 2015 8-Hour Ozone NAAQS
- Counties Designated Nonattainment Under 2008 8-Hour Ozone NAAQS
- Out of Service (PM2.5 and Ozone)

Parameters

- Ozone
- PM10
- PM25
- PM25, Ozone
- PM25, PM10



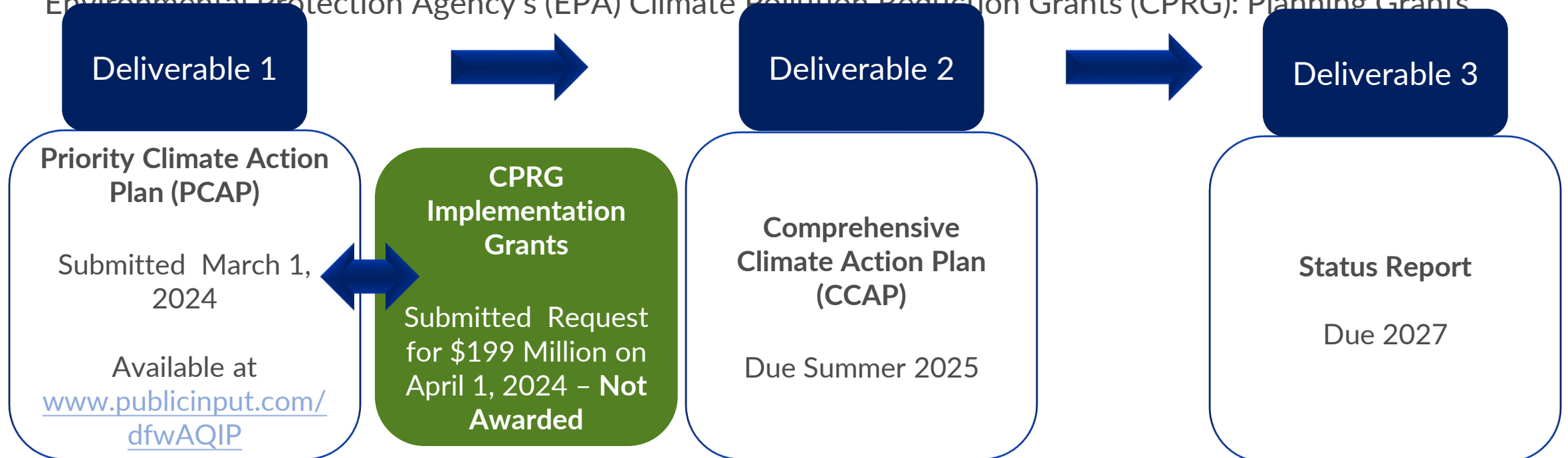
July 2024



Dallas-Fort Worth Air Quality Improvement Plan

Local governments in the region are collaborating with the North Central Texas Council of Governments (NCTCOG) to develop the **Dallas-Fort Worth (DFW) Air Quality Improvement Plan (AQIP)**

The DFW AQIP-Priority Climate Action Plan development is supported by funding from the Environmental Protection Agency's (EPA) Climate Pollution Reduction Grants (CPRG): Planning Grants



Air Pollution

Local Air Pollution

The Clean Air Act requires Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for six criteria pollutants which are harmful to human health:

<u>Criteria Pollutant</u>	<u>DFW Attainment Status</u>
Ozone*	✗
Lead	✓
Carbon Monoxide	✓
Nitrogen Dioxide	✓
Particulate Matter	Potential nonattainment designation – Feedback can be submitted through August 30 to TCEQ**
Sulfur Dioxide	Partial nonattainment in Navarro County due to aggregate plant



Greenhouse Gases (GHG)

Gases that trap heat in the atmosphere, resulting in the warming on the surface

Carbon Dioxide (CO₂)

Burning fossil fuels, solid waste, trees, and other biological materials, and as a byproduct in certain chemical reactions

Methane (CH₄)

Production and transport of coal, natural gas, and oil, the decay of organic waste and agricultural practices

Nitrous Oxide (N₂O)

Agricultural, land use, industrial activities, treatment of wastewater, combustion of fossil fuels

Fluorinated Gases

Synthetic gases emitted from household, commercial, and industrial applications and processes

www.epa.gov/ghgemissions/overview-greenhouse-gases

*If attainment is not reached by 2027, large emitters in the region will be subject to Section 185 Fees

** To provide comments on potential designation go to <https://www.tceq.texas.gov/airquality/sip/criteria-pollutants/sip-pm>

PCAP and CCAP

Priority Climate Action Plan (PCAP)

- Near-term (5 years), high-priority, implementation-ready measures
- Completed and available online

Tasks	Description
GHG Emissions Inventory	Calculate the GHG produced in the 16 counties in North Texas
Quantified GHG Reduction Measures	Identify and quantify benefits of measures
Low-Income/Disadvantaged Communities Benefits Analysis	Calculate the potential benefits to disadvantaged communities (DAC) through the deployment of GHG reduction measures
Review of Authority to Implement	Review GHG reduction measures to ensure they can be implemented
Funding Analysis*	Identify funding to implement measures

*Not required for PCAP, NCTCOG voluntarily included

Comprehensive Climate Action Plan (CCAP)

- Long-term (25 years) measures to meet emission reduction goals
- Currently developing; will be available in Summer 2025

Tasks	Description
All PCAP Tasks**	GHG EI, Quantified Reduction Measures, DAC Benefits Analysis, Review of Authority to Implement, and Funding Analysis
Workforce Analysis	Determine what workforce gaps exist and strategies to fill them
GHG Targets	Develop near-term and long-term targets for GHG reductions.
GHG Projections	Develop comprehensive sector-based emission projections for a near and long-term

** The first 5 required tasks from the PCAP table are still required in CCAP



PCAP Development

DFW AQIP: PCAP was developed with feedback from:

- Members of the public
- Local governments
- Non-profits
- NCTCOG committees
- And other stakeholders

Phase 1: Brainstorm Measures

August 2023 to October 2023

- 3 meetings to discuss potential measures with the region
- Drafting of surveys

Phase 2: Refine Measures

October 2023 to January 2024

- 9 meetings with community members
- Surveys open
- 4 meetings with collaborating agencies

Phase 3: Finalize

January 2024 to March 2024

- Incorporate feedback
- Post draft plan
- Submit to EPA

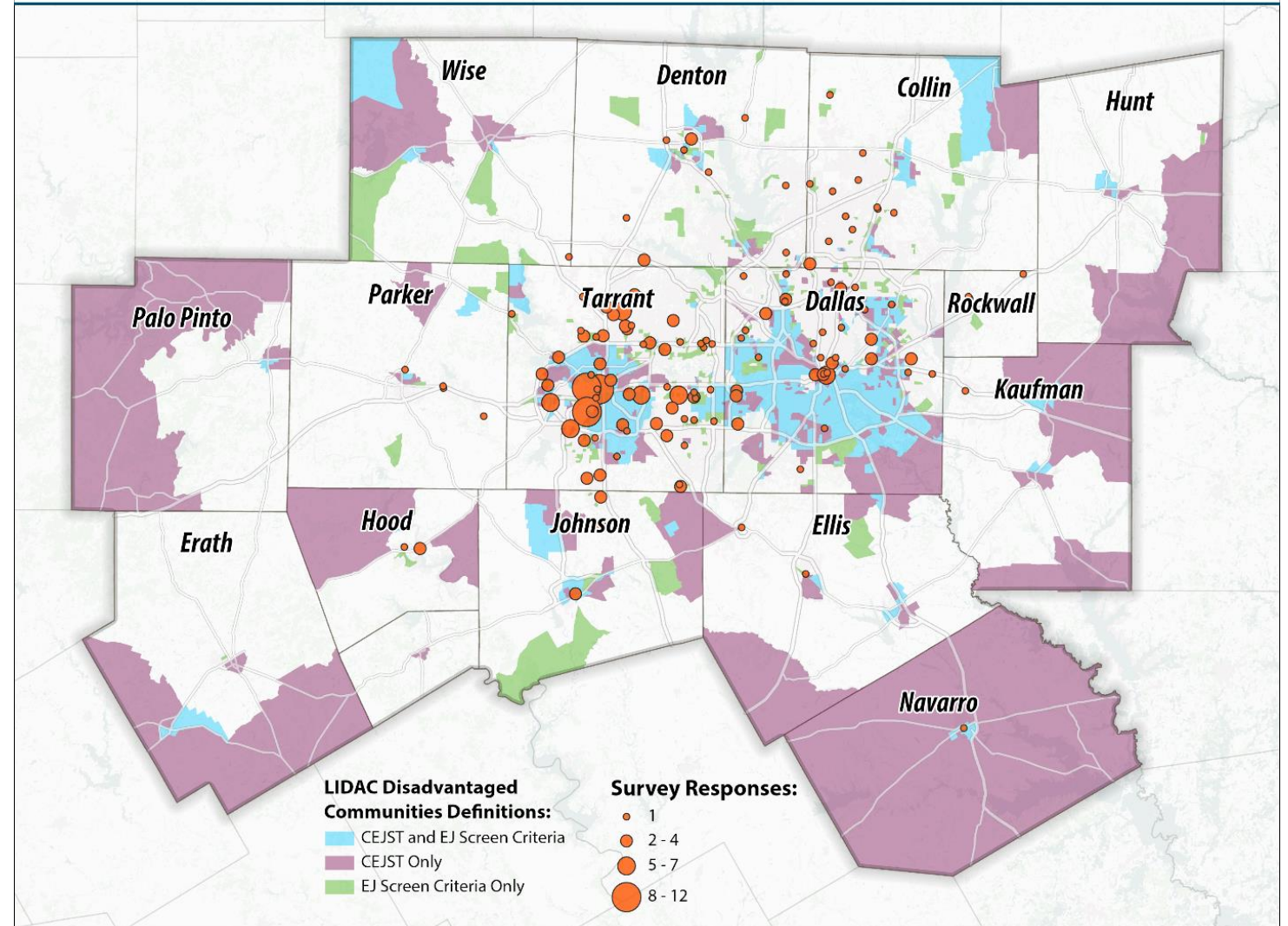
A summary of feedback received can be found at www.publicinput.com/dfwAQIP under “The Plan” tab, Appendices 1, 4, and 7



PCAP: Public Survey Key Takeaways

Survey Responses and LIDAC Communities in NCTCOG

- ~280 responses
- 45% of respondents in our region represent a low-income or disadvantaged community
- ~20 responses were outside of our region
- 12 counties represented
- ~400 comments in open text fields
- Biggest Concerns were Local Air Quality, Climate Change, and Public Health



Online Survey

www.publicinput.com/dfwaqip



PCAP- Greenhouse Gas Emissions Inventory

DFW 16-County MPA Carbon Dioxide Equivalent (CO₂e) = 105,435,559 Metric Tons in 2019

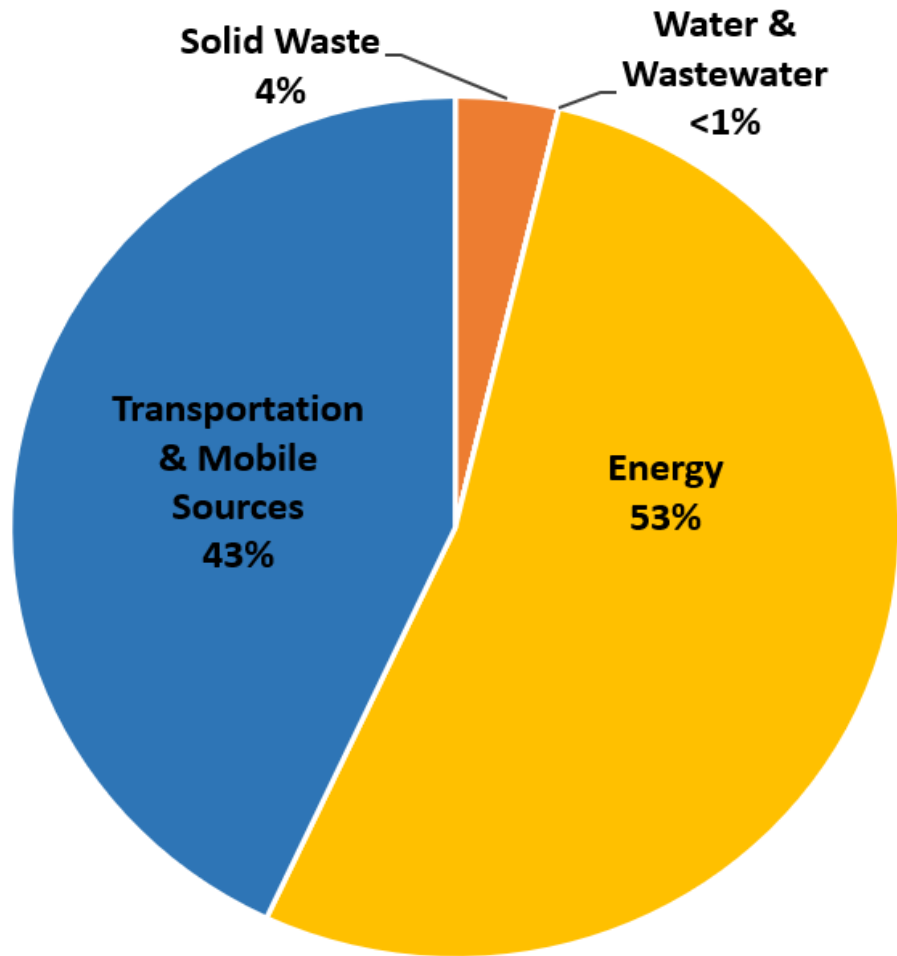


Photo Source: NCTCOG

Carbon Dioxide Equivalent CO₂e
=
Greenhouse Gases
(Carbon Dioxide CO₂
Methane CH₄
Nitrous Oxide N₂O)
x
Respective
Global Warming Potentials (GWP)

- DFW GHG EI is equivalent to:
- 27.1 coal-powered fire plants
 - 281 natural gas-fired power plants
 - ~7 trillion smartphones*

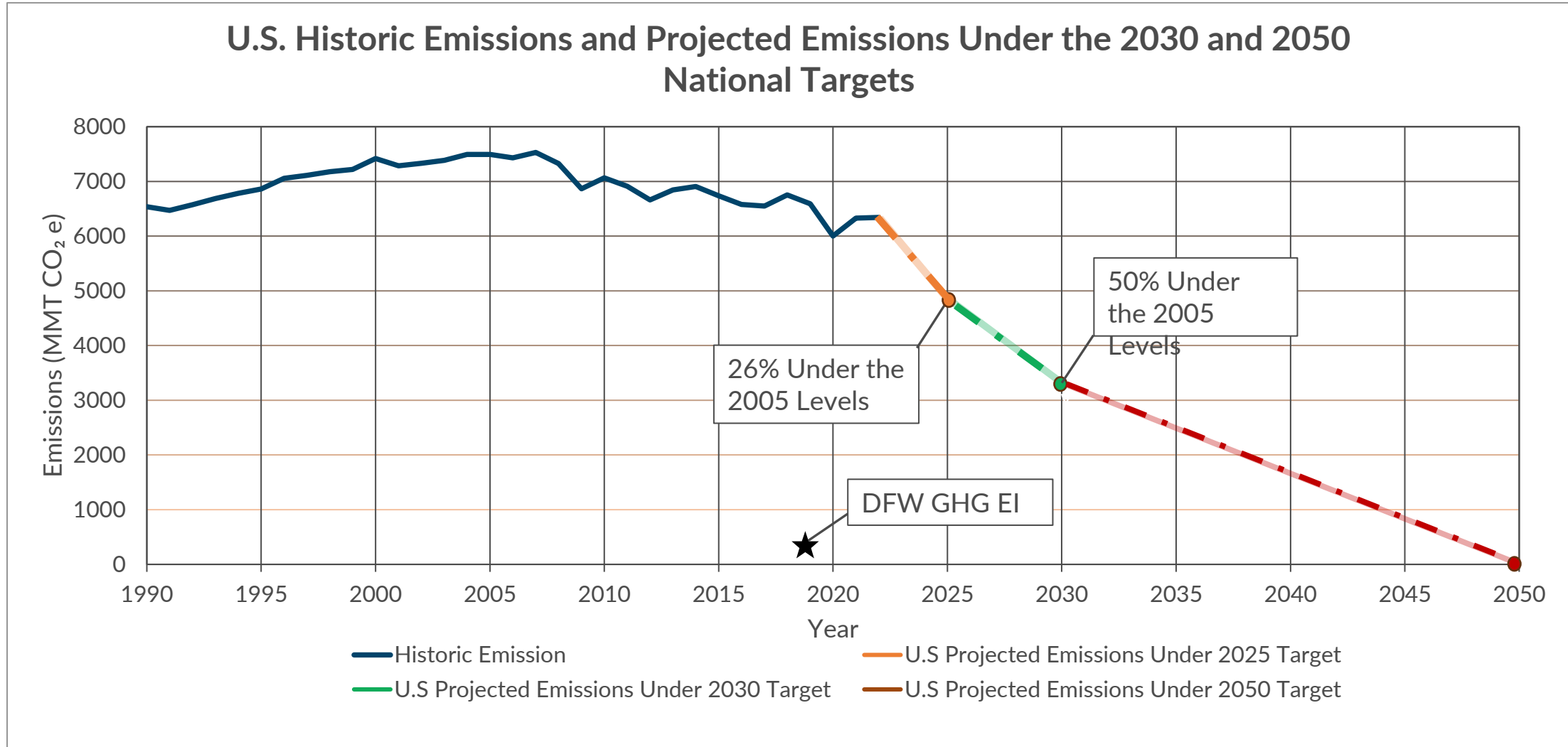
CCAP will update the GHG EI to utilize 2022 emissions data

*Source:
<https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results>



CCAP- Projections and Targets

NCTCOG must develop projections for the region and targets that are consistent with the U.S. targets



PCAP Measures

Measures are a policy, project, or program

PCAP measures can be included, removed, or updated for CCAP

Measures included in CCAP will need to be evaluated for emission reductions, community benefits, and workforce impacts

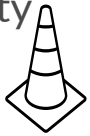
Sector	Number of Measures
Transportation	13
Energy	6
Water, Wastewater, and Watershed Management	9
Materials Management (Solid Waste)	6
Agriculture, Forestry, and Land Use (Green Space)	5
Cross-Sector	5



PCAP Benefits

Community Benefits: Other benefits beyond air quality improvements that will occur because of implementation of measures

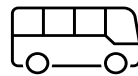
Increased Safety



Reduced Noise Pollution



Increase Access to Service and Amenities



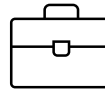
Water Conservation



Green Spaces and Community Beautification



Job Creation and Economic Development



Reduced Costs



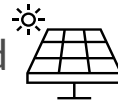
Improve Health and Well-Being



Increased Awareness and Engagement



Increased Resiliency and Adaptability



Greenhouse Gas and Criteria Air Pollutants Benefits: Improvements in air quality that will occur because of implementation of measures

Direct Climate Change Benefits



Benefits for Nonattainment Issues



NCTCOG Next Steps

Conduct Engagement to Develop CCAP!

- Two surveys are available at www.publicinput.com/dfwAQIP for implementing agencies and for members of the public
- Input can be emailed to dfwaqip@publicinput.com
- Sign up for e-blasts at www.publicinput.com/dfwAQIP to receive notifications of upcoming meetings and plan updates

Request or Identify Funding to Implement the PCAP



Texas Priority Action Plan

Industrial Sector

- Electrify industrial equipment to utilize hydrogen
- Promote energy efficiency in industry
- Decarbonize cement
- Reduce fugitive emissions from oil and gas activities, including abandoned wells
- Reduce flaring and capture methane from oil and gas activities

Electric Power Sector

- Upgrade transmission lines
- Promote nuclear and geothermal energy
- Add grid scale renewable energy storage
- Lower demand with load shifting, load management and energy efficiency
- Add infrastructure to capture, use and store carbon

Transportation Sector










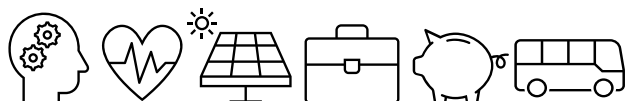

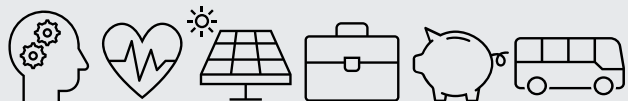
- Decarbonize ports
- Add infrastructure for electric vehicle charging and hydrogen fueling
- Expand programs for zero emissions trucks, school buses, government vehicles, and light-duty vehicles
- Create a medium- and heavy-duty third party scrappage program
- Decarbonize airports
- Promote low emission locomotives

Other Measures

- Create biofuels through methane capture
- Combine solar arrays with biogas at landfills
- Add solar to buildings
- Increase energy efficiency and weatherization
- Increase recycling and composting
- Promote sustainable agriculture practices
- Increase urban tree canopy

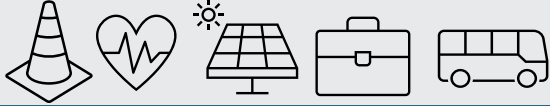

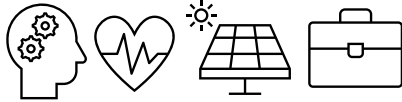



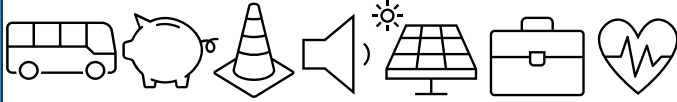



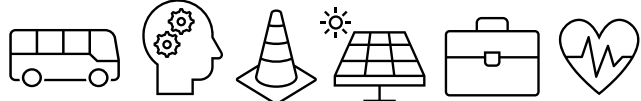



PCAP - Transportation Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Clean Vehicles and Equipment Program	Heavy-Duty Hydrogen Pilot Program Zero- and Near-Zero Freight and Work Low-Emission Non-Road Equipment Program		
Low Carbon Liquid Fuels Program	Build Infrastructure Provide Incentives For Utilizing Biofuels		
Regional Emissions Compliance Program	Fund Emissions Compliance Activities and Operations		Not quantifiable at time of plan completion
LED Streetlighting Program	Retrofit Streetlights with Light-Emitting Diodes (LEDs)		
Green Airport Planning Program	Increase Education/Best Practices to “Green” Airports		
Transit Enhancement Program	Increase Transit Frequency Enhance Mobility Hubs & Transit-Oriented Developments		
Transit Planning Program	Develop Regional Transit Plan		No direct benefits






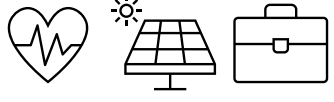

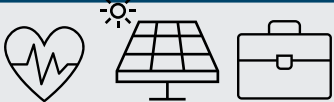


PCAP - Transportation Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Active Transportation Program	Improve/Expand Bicycle and Pedestrian Facilities		
Green Purchasing/Green Construction Program	Use Low Carbon, Recycled Content, and/or High-Efficiency Materials Employ Reduced-Emission Construction Methods		
Urban Heat Island and Green Spaces Program	Expand Use of Landscaping, Vegetation, and Tree Cover Develop Parks/Plazas/Open Spaces Preserve Existing Green Spaces		
Enhanced Regional Traffic Signal Timing Program	Bus Signal Prioritization Improve Signal Timing in the Region		
Transportation System and Truck/Rail Optimization Program	Technology and Multimodal Connectivity Improvements Road/Rail Grade Separations		
Vehicle Miles Traveled Reduction Program	Improve Job-housing-transportation balance Utilize Smart Infrastructure		

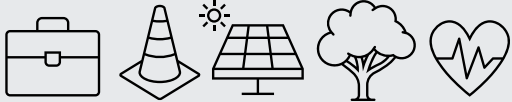







PCAP - Energy Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Public Sector Energy Efficiency and Refrigerant Transition Program	Increase Energy Efficiency LED Lighting Retrofits		
Energy Plans/Audits/Policies	Building Energy Performance Management Energy Audits For Organizations		No direct benefits
Green/Cool Roof Replacements	Cool/Green Roofs		
Distributed Energy and Resilience for Public Entities	Resilient Building Improvements Increase Grid Resiliency		
Advancing Energy Elements in Building Codes	Expand Regional Codes program		No direct benefits













PCAP- Water, Wastewater, and Watershed Management Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Implement Integrated Stormwater Management, Low-Impact Development, Green Stormwater Infrastructure, and Other Nature-Based Solutions	Rebates For Green Infrastructure Update Local Policy, Codes, Drainage Criteria Bioswales And Organic Stormwater Collection Install Smart Controls And Sensors Restore, Protect And Maintain Riparian Corridor		
Expand Contamination Detection and Pollution Prevention Measures	Provide Discharge Detection And Sampling Kits For Illicit Discharge Investigations	 Local Municipal Storm Sewer System Compliance	Not quantifiable at time of plan completion
Update Stormwater and Wastewater Conveyance Infrastructure	Install Smart Manhole Covers Utilize Trenchless Pipe Rehabilitation		
Increase Available Stormwater Detention Volumes	Augment Stormwater Detention Basin Storage		Not quantifiable at time of plan completion



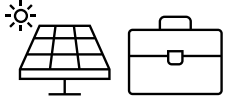

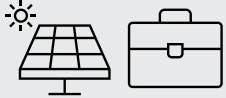
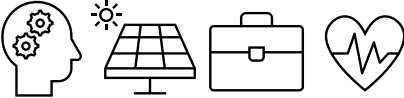



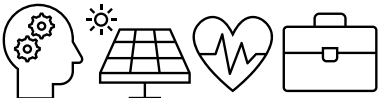



PCAP- Water, Wastewater, and Watershed Management Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Improve Water and Wastewater Treatment Process Efficiency	Increase On-site Renewable Energy Pursue Energy-efficient Disinfection Install Water-source Heat-pumps Biogas Capture		
Address On-Site Sewage Facility System	Repair Aging On-site Sewage Facility Sanitary Sewer Upgrades Provide Rebates To Upgrade On-site Sewage	 Reduction in Bacteria-Related Discharges in Area with Related Total Maximum Daily Loads;	
Improve Bio-solids Management	Thermal Waste-to-energy Facilities Waste-to-energy Facilities		
Support Effluent Reuse	Support Water Effluent Reuse Programs		
Improve Local Water Conservation	Explore Aquifer Storage Automated Metering Infrastructure		

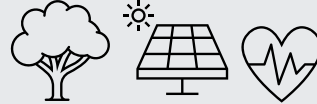

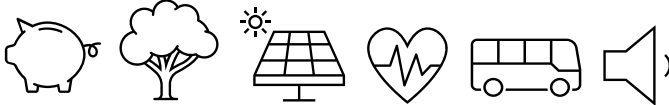








PCAP- Materials Management Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Expand Local Compost Opportunities to Reduce Organic Disposal	Residential Organics Pickup And Commercial Compost Incentivize Space For Community Compost And Recycling	 Limited Impacts in Other Areas (See Appendix 13)	
Divert Organic Waste into Waste-to-Energy Systems	Divert Waste And Other Organic Materials To Anaerobic Digestors To Be Converted Into Energy	 Other Benefits in Appendix 13	
Divert Construction and Demolition Debris (C&D)	Expand Regional Construction Material Prioritize Low-waste Construction Techniques Prioritize Deconstruction Methods	 Other Benefits in Appendix 13	Not quantifiable at time of plan completion
Upgrade Waste Disposal Facilities	Western Regional Materials Resource Landfill Gas Collection & Management Efficient Landfill Seals And Cover		
Implement Recycling and Transfer Facilities	Upgrade Facilities To Optimize Load Weight Construct Additional Recycling Centers		
Improve Waste Collection	Expand Waste Diversion Collection Networks Policy To Require Trip Planning Waste Trucks To Lower-emission Vehicles		


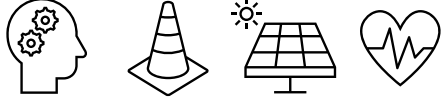

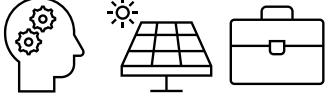
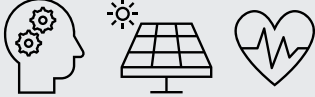


PCAP- Agriculture/Forestry/Land Use Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Promote the Expansion of Green Space	Regional Green Space Project Incentives For Commercial Property Owners To Create Or Maintain Green Space	 Other Benefits in Appendix 14	
Support Park Management and Maintenance	Municipal Park And Recreation Plan Lawn Care Equipment Replacement Program	 Other Benefits in Appendix 14	
Increased Forest Canopy	Increase Tree Shading Urban Forestry Floodplain And Floodway Urban Tree Canopy Assessments	 Other Benefits in Appendix 14	
Update Agricultural Management Practices	Manure And Livestock Management For Methane Reduction Convert Electric Irrigation Pumps		
Update Codes and Zoning Requirements to Promote Green Space Conservation and Preservation	Air Quality Review Into Zoning And Permitting Review Upgrade Landscaping Ordinances Tree Ordinances That Promote Urban Forestry		No direct benefits



PCAP- Cross-Sector Measures

Measure	Description	Community Benefits	Air Quality Benefits
Carbon Footprint App	Carbon Footprint Smartphone Application And Rewards Program		No direct benefits
Regional Air Quality Monitoring Program	Deploy Air Quality Monitors		No direct benefits
Tire Recycling Initiatives	Work with Local Governments to Adopt and Implement a Tire Recycling Policy		No direct benefits
Workforce Development	Develop Local Workforce To Enable Clean Energy Water System Improvements, Operations, And Maintenance Support “Green Program” Implementation		No direct benefits
Education and Outreach	Provide Education on Options Such as Group Renewable Energy Purchase and Energy Efficiency		No direct benefits



Contact Us



616 Six Flags Drive
Arlington, TX 76011



dfwaqip@publicinput.com



Publicinput.com/dfwaqip



Lori Clark
Senior Program Manager &
DFWCC Director
lclark@nctcog.org

Chris Klaus
Senior Program Manager
cklaus@nctcog.org

Susan Alvarez, P.E., CFM
Director of Environment &
Development
salvarez@nctcog.org

Savana Nance
Senior Air Quality Planner
snance@nctcog.org

Alyssa Knox
Environment &
Development Planner
aknox@nctcog.org

Corinne Buckley
Environment &
Development Planner
cbuckley@nctcog.org



Jenny Narvaez
Program Manager
jnarvaez@nctcog.org

Vivek Thimmavajjhala
Transportation System Modeler
vthimmavajjhala@nctcog.org

Daniela Tower
Air Quality Planner
dtower@nctcog.org

