

North Texas Regional Integration of Sustainability Efforts (RISE) Coalition

Public Meeting July 9, 2021

Texas



RISE Coalition Website: <u>https://www.nctcog.org/envir/development-excellence/rise-coalition</u> RISE Coalition Committee Page: <u>https://www.nctcog.org/envir/committees/regional-integration-of-sustainability-</u> efforts-ris



July 9, 2021 RISE Coalition Public Meeting Agenda

1) Welcome

- 2) RISE Coalition Program Update NCTCOG will provide an update on the regional projects underway.
- 3) RISE Educational Update NCTCOG Sustainable Materials Management Program Update
- **4)** Featured Roundtable Presentation Danielle McClelland and Susan Alvarez (City of Dallas)
- 5) Participant Roundtable
- 6) Next Meeting Date
- 7) Adjournment

2. RISE Program Update

FY2021 RISE Focus Areas:

- Regional Emissions Assessment
- Emissions Impact Analysis and Mitigation/Adaptation
- Strategy Development
- Urban Heat Island Reduction Strategy Analysis
- Food Diversion and Waste Reduction Programs

2. RISE Program Update

Regional Emissions Assessment Regional GHG Inventory

- 12-county Metropolitan Planning Area
- NCTCOG initiating data collection related to Energy, Waste, Water, and Wastewater
 - Working with Federal, State, and Regional data
 - Contacting individual cities, counties, special districts to provide needed data to fill gaps
 - For reference and information, the data points for the regional GHG inventory are included on the next slide. NCTCOG is working to collect the data needed to fill the gaps

NCTCOG GHG Inventory Cohort

- Call for interested cities open until July 30, 2021
- Participants:
 - Cedar Hill Fort Worth Lev
 - Denton
 Frisco
 - Farmers Branch Grapevine

Lewisville Mesquite Plano

North Central Texas Council of Governments - Local and Regional Greenhouse Gas Emission Inventory (nctcog.org)

Jenny Narvaez; jnarvaez@nctcog.org

Data Inputs for GHG Inventories (Waste, Water/Wastewater, and Wastewater Treatment Sectors)

WASTE	WATER/WASTEWATER	WASTEWATER TREATMENT
 Waste Sent to Combustion Facility (per facility) Tons of Waste Fossil CO2 (metric tons) CH4 (metric tons) Biologic CO2 (metric tons) 	Electricity Usage and Units	 Emissions from Wastewater Treatment Energy Use Electricity Used and Units Natural Gas Used and Units Volume of Water Treated and Units (optional) Population Served (optional)
 Waste Sent to Landfill (per facility) Tons of Waste Landfilled 	Natural Gas Usage and Units	 Emissions from the Combustion of Digester Gas – Site Specific Calculation Type Population Served Gas Production (scf/day) Is energy recovered from combustion? Gas Composition (%CH4) (if applicable) Do you have gas composition or heat content? Heat Content (btu/scf) Wastewater generation and treatment location
 Waste Sent to Compost Facility (per facility) Tons of Waste Composted 	 Indicators Water Consumed (million gallons per year) (optional) Population served (optional) 	 Emissions from the Combustion of Digester Gas – Population Based Calculation Type Is energy recovered from combustion? Population Served Wastewater generation and treatment location
 Waste Transportation Tons of Waste Round Trip Distance to Facility (miles) Transport Fuel 	Allocation from Treatment System	 Emissions from Flaring of Digester Gas Digester Gas Produced Destruction Efficiency Population Served Fraction of CH4 in Digester Gas Wastewater generation and treatment location
 Landfills (per facility) CH₄ (metric tons) 	 Process Intensities Water Consumption Water Gallons per Day per Capita 	 Nitrification/Denitrification Process N2O from Wastewater Treatment Nitrification/Denitrification as a step in the treatment process Population Served Wastewater generation and treatment location Industrial Commercial Discharge Multiplier
 Waste Combustion Facilities (per facility) Fossil CO2 (metric tons CO2) CH4 (metric tons CH4) N2O (metric tons N2O) Biologic CO2 (metric tons CV2) Indicators - Waste Combusted (tons)/Electricity Generated (kWh) 	 Energy Use Water Source (ground, surface, etc) Percent of total gallons from source Gallons from source Distribution kWh/million gallons Extraction kWh/million gallons Total kWh/million gallons Conveyance kWh/million gallons Total kWh Treatment kWh/million gallons 	 Process N2Ofrom Effluent Discharge to Rivers and Estuaries Do you have daily N load data from your effluent discharge? Daily N Load (kg N/day) Population Served Wastewater Generation and Treatment Location
 Composting Facilities (per facility) Amount of Waste Composted Waste Type 		 Fugitive Emissions from Septic Systems – Population Based Calculation Type Population Served

Data Inputs for GHG Inventories (Energy Sectors)

RESIDENTIAL ENERGY	COMMERCIAL ENERGY	INDUSTRIAL ENERGY
 Electricity Used Units from Grid (kWh) Units from Natural Gas (MMBtu) Units from Other Fuels 	 Electricity Used Units from Grid (kWh) Units from Natural Gas (MMBtu) Units from Other Fuels 	 Electricity Used Units from Grid (kWh) Units from Natural Gas (MMBtu) Units from Other Fuels
Emission Factors	Emission Factors	Emission Factors
Number of Households (optional)	Square Footage (optional)	Industrial Employees (optional)
Population (optional)	Commercial Workforce Size (optional)	Industrial Establishments (optional)
	Commercial Establishments (optional)	People Served by Facility (optional)
		Gallons Wastewater/Drinking Water Output Treated (optional)
		Operating Hours (optional)
		Households (optional)

Data Inputs for GHG Inventories (Transportation Sectors)

ON-ROAD	OFF-ROAD
 Vehicle Miles of Travel Location Travel Type Amount 	 Type of Off-Road Vehicle Aviation Water Rail Public Transit Utility
Emission Factors	Emission Factors
Fuel Type	Fuel Type
Fuel UseUnits	Fuel UseUnits
Population (optional)	Fuel QuantityUnits
Percent Motorcycles	Vehicle Type
Percent Passenger Vehicles	
Percent Light Trucks	
Percent Heavy Trucks	

THE GREENHOUSE GAS (GHG) EMISSION REDUCTION TOOLKIT



250,000+

DALLAS

PLANO

ARLINGTON

FORT WORTH

DFW INTERNATIONAL

AIRPORT

RESEARCHED CITIES

CITIES WITHIN NCTCOG

100,000-250,000

DENTON

IRVING

GRAND PRAIRIE

MESQUITE

GARLAND

FRISCO

CARROLLTON

RICHARDSON

LEWISVILLE

50,000-100,000

FLOWER MOUND

MANSFIELD

ROWLETT

NORTH RICHLAND

HILLS

EULESS

DESOTO

WYLIE

GRAPEVINE

ROCKWALL

WAXAHACHIE

CORINTH

RICHLAND HILLS

FARMERS BRANCH

Inform GHG emission reduction in the Dallas-Fort Worth region

- Strategy Catalogue \odot >50,000 **Equitable Community Engagement** \odot STRUCTURE CEDAR HILL Main Strategy Recommendations 1. DECATUR Context 2. COPPELL
 - 3.
 - **GHG Inventory Results**
 - Sector-specific Sections 4.
 - Strategy Catalogue 5.

ENERGY-RELATED POLLUTION CONTROL SOURCES

AREA SOURCE NON-ROAD	AREA SOURCE: OIL & GAS ON-ROAD	POINT SOURCE BIOGENICS	TEXAS CITIES	US CITIES	REGIONAL COGS	NGOs
ENERGY EFFICIENCY ENERGY CONSERVATION & DEMAND RESPONSE	ERGY STRATEGY EMPHASIS A GRID OPTIMIZATION ENERGY WORKFORCE TRAINING & EDUCATION	REAS RENEWABLE ENERGY CLEAN TRANSPORTATION	HOUSTON SAN ANTONIO AUSTIN	ATLANTA ORLANDO NEW YORK CITY	KANSAS CITY REGION SOUTHEAST FLORIDA REGION METROPOLITAN WASHINGTON	EXPONENTIAL ROADMAP C40 CITIES/ MCKINSEY ENVIRONMEN TAL DEFENSE FUND



2. RISE Program Update

Urban Heat Island Reduction Strategy Analysis

Food Diversion and Waste Reduction Programs

DOE Technical Assistance for Waste-to-Energy Assessment

 Partners include Lewisville, Plano, DFW Airport, Toyota Motors North America

EPA Organic Waste to Renewable Natural Gas

- Issued RFP on July 2: <u>https://www.nctcog.org/agency-administration/purchasing/open-solicitations</u>
- Will convene Advisory Group in early Fall
- Past Roundtables posted here: <u>http://conservenorthtexas.org/event-archive</u>
- Upcoming Roundtable: NCT Food Waste Collection Networks Roundtable
 July 12, 2021

2:00 p.m. – 3:30 p.m.

RSVP: <u>https://www.addevent.com/event/Dx7060251</u>

July 06, 2021

DOE Announces Technical Assistance for Local Governments on Waste-to-Energy



Phase 1 Selections from the Waste-to-Energy Technical Assistance for Local Governments Program. Image courtesy of NREL.

The U.S. Department of Energy (DOE) <u>Bioenergy Technologies Office</u> (BETO) and National Renewable Energy Laboratory (NREL) are pleased to announce the Phase 1 selections for the <u>Waste-to-Energy Technical Assistance for Local Governments Program</u>.

This technical assistance program was created to mobilize national laboratory analyses and technical expertise around energy and resource recovery from organic waste streams (e.g. food waste, sewage sludge, animal manure, as well as fats, oils, and greases). The insights and analyses will provide an avenue for municipalities and tribal governments to make informed decisions about closing waste loops and generating additional value streams from waste.

Read more

https://www.energy.gov/eere/articles/doe-announces-technicalassistance-local-governments-waste-energy

3. Educational Update

North Central Texas Solid Waste Sustainability Programs

Cassidy Campbell, NCTCOG

Regional Solid Waste Planning

NCTCOG is the designated regional solid waste planning agency for North Central Texas

- Stores a Closed Landfill Inventory
- Promotes education and outreach
- Administers a pass-through grant program
- Supports the solid waste advisory committee, the Resource Conservation Council
- Provides local governments with technical assistance
- Coordinates with partners to implement and advance materials management programs in North Central Texas.
- Maintains a Regional Solid Waste Management Plan

Funded by the TCEQ

Planning for Sustainable Materials Management (2015 – 2040)

The 2015 Regional Plan was updated and structured to reflect the Environmental Protection Agency's (EPA) Waste Management Hierarchy.

An emphasis on source reduction and recycling/composting is carried through the plan as the most preferred options for waste management.

The Regional Plan focuses on five goal areas:

- Support Materials Management Education and Training
- Promote Creation and Expansion of Waste Management Programs
- Measure Regional Waste Reduction Efforts
- Support Innovative Technologies for Other Waste
- Promote Collaborative and Public/Private Sector Partnerships

NCTCOG is currently working to update the Regional Plan by January 2022

https://www.nctcog.org/nctcg/media/Environment-and-Development/Documents/Materials Management/2015_North_Central_Texas_Regional_Solid_Waste_Management_Plan_10_15_15.pdf





2020 Regional Solid Waste Composition

TOTAL =

46.5%



Source: NCTCOG Waste Characterization Study by Burns and McDonnell. 2020

2020 Regional Recycling Composition



North Texas contamination rate *estimated at* 30%

- Includes following material categories:
- Non-recyclable OCC
- Other non-recyclable paper
- Non-recyclable plastic*
- Non-recyclable glass
- Organics*
- C&D
- Problem material
- Fines and other organics

*higher percentage than typical MRF audit due to material category differences and handling

Know What To Throw

- Regional education campaign aimed at reducing contamination and increasing participation
- Designed to teach residents how to recycle more and recycle right
- Messaging is simple, consistent, and high-level
- Outreach focus: social media
- Launch Point: <u>TimetoRecycle.com</u>









Explosives





Sharps

Food Contaminated



15 7/12/2021

Government Entity Recycling & Purchasing of Recycled Materials (SB 1376)

- A government entity shall establish a recycling program for the separation and collection of recyclable materials, provide procedures for collecting and storing recyclable materials, evaluate and modify the program as necessary, and establish education and incentive programs to ensure participation (exemptions apply)
- Toolkit includes:
 - Memo to region
 - Interactive map to help determine if compliance is required
 - Links to TCEQ rules
 - Links to NCTCOG resources including Time to Recycle, Know What to Throw, Regional Electronics Contract, Solid Waste Grants



Solid Waste Grants

- Since 2004, over 250 grants, exceeding \$16 million, have been awarded to over 50 recipients in the 16-county region.
- In FY 2020-2021, NCTCOG funded 17 grants totaling~\$1.3M, for topics including:
 - HHW collection,
 - Disaster debris management,
 - Recycling, and more.



Maintaining Landfill Capacity into the Future

Western Region Waste Capacity Study

- Develop alternatives for preserving and increasing waste capacity
- Technical study wrapping up this summer
- Initiate implementation actions in coordination with participating local governments and other partners

Landfill Capacity (years at current rates of disposal)

When growth rates are factored, capacity is 15 to 20 years

REMAINING YEARS OF CAPACITY ON AVERAGE, THE REGION HAS <u>20-25</u> YEARS AT CURRENT DISPOSAL RATES



Project website:

7/12/2021

https://www.nctcog.org/envir/materialsmanagement/western-region-solid-wastecapacity-study

North Texas Trash Free Waters

- A collaborative effort between NCTCOG, H-GAC and The Meadow's Center
- Funded by US EPA's Trash Free Waters Program
- Project area includes more than 50% of Texas' total population

Partner with Texas-based restaurants to reduce the use of single-use plastic



Project Webpage: <u>https://www.nctcog.org/environment-</u> <u>development/watershed-management/trash-free-waters-</u> <u>project</u>





7/12/2021

Additional NCTCOG Resources

- NCTCOG Materials Management Website: https://www.nctcoq.org/envir/materials-management
- NCTCOG Regional Solid Waste Management Plan: <u>https://www.nctcog.org/envir/materials-management/materials-management-</u> <u>plan</u>
- NCTCOG Solid Waste Grants: <u>https://www.nctcog.org/envir/materials-</u> <u>management/grants</u>
- NCTCOG Regional Electronics Recycling Contract: <u>https://www.nctcog.org/envir/materials-management/regional-electronics-recycling-contract</u>
- NCTCOG Closed Landfill Inventory: <u>https://www.nctcog.org/envir/materials-</u> management/closed-landfill-inventory

Additional NCTCOG Resources

- NCTCOG Illegal Dumping: <u>https://www.nctcog.org/envir/materials-management/illegal-dumping</u>
- Western Region Waste Capacity Study: <u>https://www.nctcog.org/envir/materials-</u> management/western-region-solid-waste-capacity-study
- Regional Recycling Project (Know What To Throw): https://www.nctcog.org/envir/materials-management/regional-recycling-survey-and-campaign
- Senate Bill 1376 Toolkit: <u>https://www.nctcog.org/envir/materials-management/sb-1376-resources</u>

Outreach Websites:

- Time To Recycle: http://www.timetorecycle.com/
- Trash Free Texas: https://www.trashfreetexas.org/

4. Featured Roundtable Presentations

City of Dallas' Local Solid Waste Management Plan Outcomes, Updates, and CECAP Solid Waste Goals

Danielle McClelland, Division Manager – Zero Waste

Susan Alvarez, Assistant Director for Environmental Quality and Sustainability

CECAP: Dallas is a Zero-Waste Community

Regional Implementation of Sustainability Efforts

Susan Alvarez, PE, CFM Assistant Director

Danielle McClelland Manager - Zero Waste Division Office of Environmental Quality & Sustainability

July 9, 2021



City of Dallas

Overview

- Background
- CECAP Zero Waste Objectives
- Local Solid Waste Plan Update Status
- Community Feedback







CECAP Plan Focus & Goals

- Dallas uses renewable, reliable, and affordable **energy**
- Dallas' buildings are energy efficient and resilient
- Dallas communities have access to energy efficient, affordable transportation options
- Dallas is a Zero-waste community
- Dallas protects its water resources and its communities from flooding & drought
- All Dallas communities have access to healthy, local food
- All Dallas communities breathe clean air
- Dallas protects its ecosystems that in turn, protect public health





(MBLF)

Estimated landfill life of 35 years Receives ~1.8M tons/ year City crews deliver ~23% or 400,000 tons annually Other 77% comes from multiple sources



Environment & Sustainability

Background – MBLF Waste Composition*

- Based on waste audit of 5.2 tons from residential and commercial collections
- Greatest opportunities are in organics, paper, and construction & demolition (C&D)







Background – Regional Waste Composition*



*Source: North Central Texas Council of Governments, 2018

- Based on waste audit of 5.4 tons of residential waste from 10 cities, including Dallas
- Greatest opportunities are organics, paper, and plastic



Programmatic Opportunities & Constraints

Multifamily	Commercial
 Singular industry Homogenous waste stream Relatively uniform operations Universal professional	 Includes multiple industries Widely variable waste stream Operations vary and can include
organizations accessible for	front of house and back of house No universal professional
education All are subject to City Code	organizations accessible for
enforcement and registration ~1,200 properties subject to	education No central enforcement authority ~39,400+ businesses potentially
MFRO	subject to commercial recycling*

*Based on City of Dallas, Dallas Water Utilities Billing Data, 2019/ Dallas Central Appraisal District Property Database, 2019





Low Income vs Landfills

Median annual household income by census block vs landfills and solid waste transfer stations





"Climate change affects all, but not all people are affected equally." - Jacqueline Patterson, Director of the NAACP Environmental and Climate Justice Program

(Source: Smart Growth for Dallas, 2020)



Ideas from Community Outreach Efforts

- Separation of bulk and brush to allo composting/ wood waste diversion
- Mandatory recycling for all
- Source reduction
- City education about waste management
- City enforcement actions





CECAP Waste Sector Objectives



DRAFT September 2011



🗃 City of Dallas

Local Solid Waste Management Plan 2011 - 2060

This plan was funded through a solid waste management grant provided by the Texas Commission on Environmental Quality through the North Central Texas Council of Governments. This funding does not necessarily indicate endorsement of the plan's findings and recommendations.

CP₂**Y**

Risa Weinberger & Associates



 Create opportunities to go beyond recycling towards refuse, reuse and repair

 Operate a clean, green and efficient waste system

• Generate energy from organics



Waste Objectives + Actions

Create opportunities to go beyond recycling...

- Actively promote source reduction, universal recycling/ composting
- Develop a comprehensive green procurement plan along with a sustainable procurement policy





Waste Objectives + Actions

Operate a clean, green and efficient waste system

- Improve solid waste, recycling and bulky, brush waste collection efficiency
- Explore potential for electric collection trucks
- Expand efforts to reduce illegal dumping
- Encourage development of material markets focusing on creating new economic opportunities
 - Update & implement Long Range Solid Waste Management Plan (AKA Zero Waste Plan)
 - Update Emergency Debris Management



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Environment & Sustainability

Waste Objectives + Actions

Generate Energy from organics

- Continue to capture gas and expand capacity from landfill for reuse;
- Adopt an ordinance to implement a City-wide organics management Program





LSWMP Update Overview







🔁 City of Dallas

2011 - 2060



HDR

- Multiple initiatives focused on increasing diversion
- 50 year planning period



- Nine solid wasterelated goals developed as part of CECAP
- LSWMP Update to build on CECAP results and incorporate stakeholder engagement efforts



Evaluate goals from 2011 LSWMP

Focus on developing nearterm strategies while still identifying key long-term issues



Environment & Sustainability

Future Strategic Direction

- Zero Waste is a philosophy and often includes visionary goals.
- Other large cities in Texas face similar challenges to meet or adjust high recycling rate goals.
- Key part of LSWMP Update to provide strategic direction and goals based on past goals and new updates.









Supporting CECAP Solid Waste-Related Goals

1. Actively Promote Source Reduction, Recycling and Composting to the Dallas Community	2. Develop a Comprehensive Green Procurement Plan	3. Improve Solid Waste, Recycling and Brush/Bulky Waste Collection Frequency
4. Improve Potential for Electric Waste Collection Vehicles	5. Update and Implement the Zero Waste Management Plan	6. Expand Efforts to Reduce Illegal Dumping by Implementing Recommendations Identified in the Litter and Illegal Dumping Assessment Study
7. Encourage the Development of Material Markets Focusing on Creating New Economic Opportunities	8. Continue to Capture Gas and Expand Capacity from Landfill for Reuse and Evaluate for City Operations	9. Adopt an Ordinance to Implement a City-wide Organics Management Program



Winin Stakeholder Engagement Options

Leveraging the results of CECAP, the City is pursuing the following stakeholder engagement options:



Stakeholder Engagement Toolkit



Online Survey



Community Meetings and Events



Task Force & City Council Presentations



Stakeholder Interviews



LSWMP Update Key Milestones (Draft)



Indicatos City Council Task Eorco/Subcommittoo Drosontations



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City of Dallas

Questions and Comments



5. Participant Roundtable

Do you have something to share?

Areas for collaboration? Current happenings in your community? Waste diversion goals? Waste diversion success stories? 6. Next Meeting Dates

<u>Next Public Meeting</u>:

To Be Determined

Committee Website and Public Meeting Materials:

https://www.nctcog.org/envir/committees/regional-integration-of-sustainability-efforts-ris

NCTCOG RISE Coalition Contacts

Tamara Cook, AICP Senior Program Manager Environment and Development 817-695-9221 tcook@nctcog.org

Brian Salvesen Planner Environment and Development 817-695-9220 bsalvesen@nctcoq.org Lori Clark

Air Quality Program Manager Transportation 817-695-9232 Iclark@nctcog.org Jenny Narvaez Program Manager Transportation 817-608-2342 jnarvaez@nctcog.org

Dorothy Gilliam Air Quality Planner II Transportation 817-704-5675 Dgilliam@nctcog.org



Thank you!