

HOUSTON-GALVESTON  
CLEAN CITIES COALITION  
Q3 2024 STAKEHOLDERS MEETING

September 24, 2024

# Housekeeping

1. We are recording. The recording will be published on our website: [Houston-Cleancities.org](http://Houston-Cleancities.org)
2. PLEASE drop your name in the chat to help us with attendance

Thank You!

# Q3 Stakeholders Meeting

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## Agenda

1. Introductions – Vincent Sanders, METRO / HGCCC Chair
  1. [Word from our Host – Roadrunner Ltd.](#)
2. Presentations
  1. Microgrids – Micalah Spenrath, Houston Advanced Research Center (HARC)
  2. Update on Hydrogen Infrastructure Project – Jared Wright, Dallas – Fort Worth Clean Cities Coalition
3. Updates on Advisory Board and Subcommittees – J. Ben Finley, *HGCCC*
  1. Annual Survey
  2. Grants
  3. Events / Expo
4. Current Grant Funding Announcements and Updates – J. Ben Finley, *HGCCC*
5. Announcements:
  - a. Alternative Fuel Motor Fuel Tax Credit Webinar (Nov. 13)
  - b. SPEER Texas Energy Advocates University Program (TEA – UP) Workshop (April)
6. Adjourn meeting

# MICROGRIDS

Micalah Spenrath, Houston Advanced Research Center




**HARC**

# Microgrids

**101**

**Micalah Spenrath, PMP  
Manager, Policy & Energy  
Houston Advanced Research Center  
24 September, 2024**



HARC is a nonprofit research hub that provides independent analysis on energy, air, water, resilience, and climate equity issues.

We leverage research to develop and implement effective, impactful solutions and to inform policy.

[HARCresearch.org](https://HARCresearch.org)



# Agenda



Defining Microgrids



Benefits of Microgrids



Texas + Microgrids



Future of Microgrids

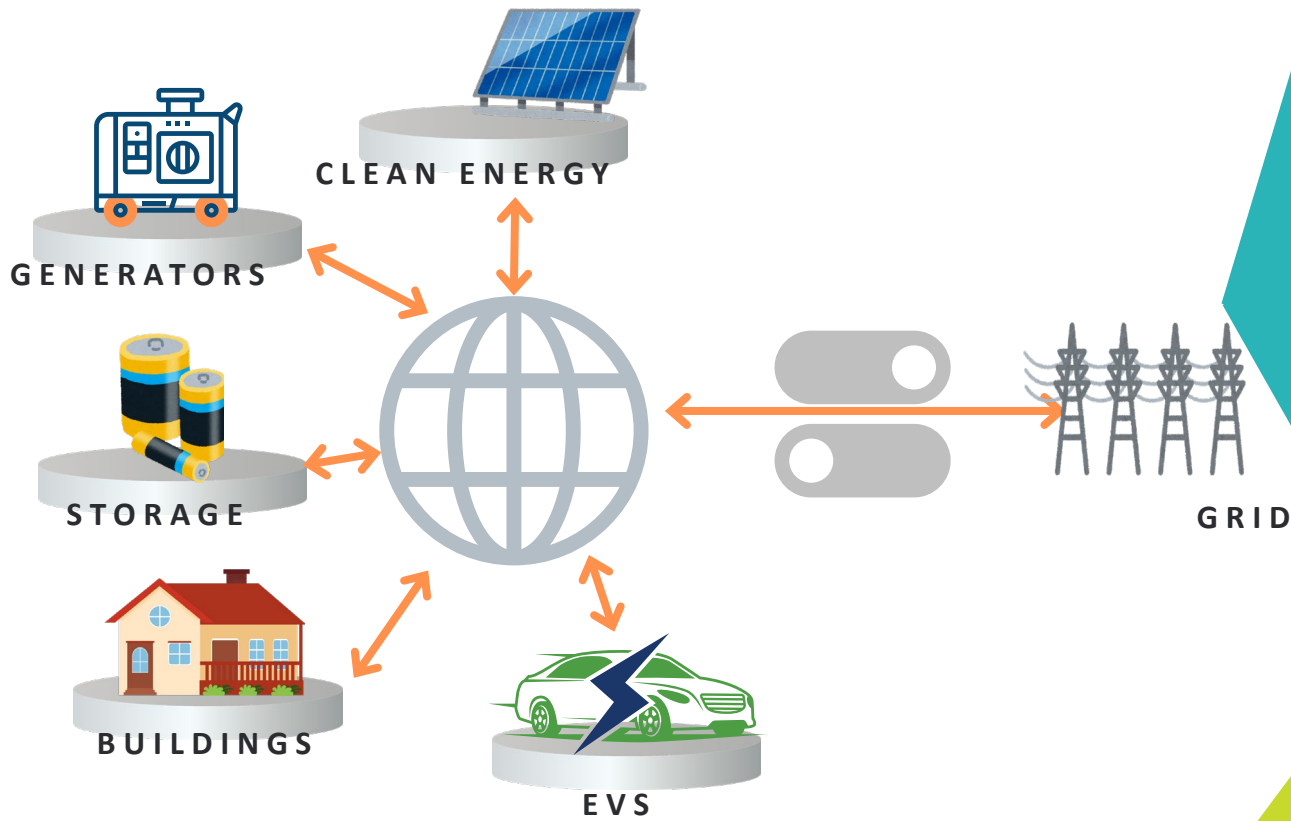


## What is a Microgrid?

- A microgrid is a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that act as a single controllable entity with respect to the grid<sup>[1]</sup>.
- Microgrids can be both grid-connected or islanded, improving reliability and resilience to grid disturbances.



# What is a Microgrid?



# Benefits



## Resilience

Microgrids can help communities avoid power outages and recover more quickly if load shed events occur.



## Cost Savings

Reduces energy costs by deploying clean energy, avoiding energy losses, and allowing consumers to shift their energy use depending on grid conditions (load shifting).



## Reliability

Locally generated power is less susceptible to perturbations at the state level, and microgrids can ensure more reliable and consistent provision of energy and offset congestion in highly constrained areas like Houston.



## Decarbonization

Reduces total emissions of the community by including renewable and low emissions technologies which may not be readily available through a utility.

# Decarbonization



- Most microgrids in Texas feature diesel or natural gas generation resources.
- If those components were replaced with renewable energy, microgrids would be vehicles for decarbonization.
- Add batteries for short-duration storage
- Consider hydrogen for storage 8h+



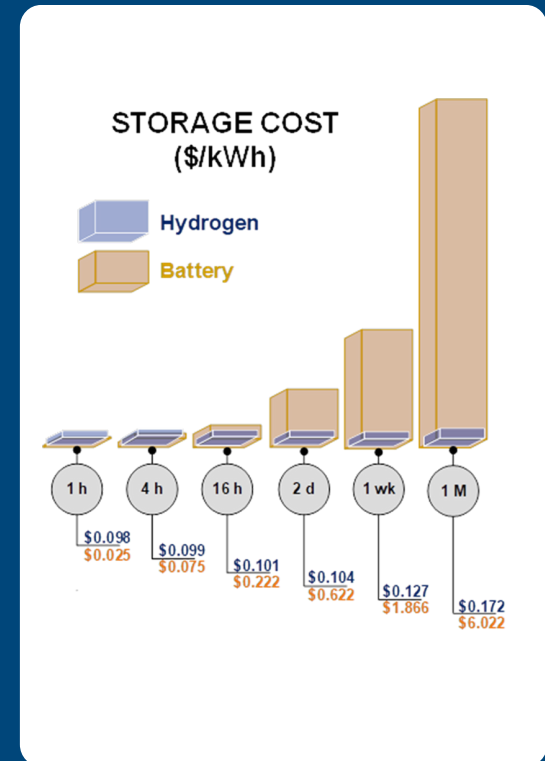
## **Decarbonization**

Reduces total emissions of the community by including renewable and low emissions technologies which may not be readily available through a utility.

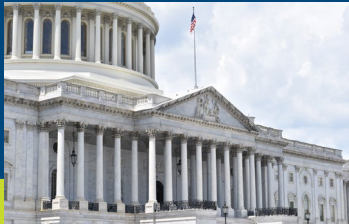
# Decarbonization



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# Texas & Microgrids



## Policy Uncertainty

- Texas does not have a clear, state-wide policy framework specifically for microgrids.
- Regulatory efforts for DERs have been slow to progress.
- Recent legislation represents the “camel’s nose under the tent”.



## Interconnection

- Variable statewide.
- ERCOT Systems < 1MW or systems > 1 MW that do not export do not need to register with ERCOT. Systems that must register follow the same registration requirements and timelines as other generation resources.



## Cost

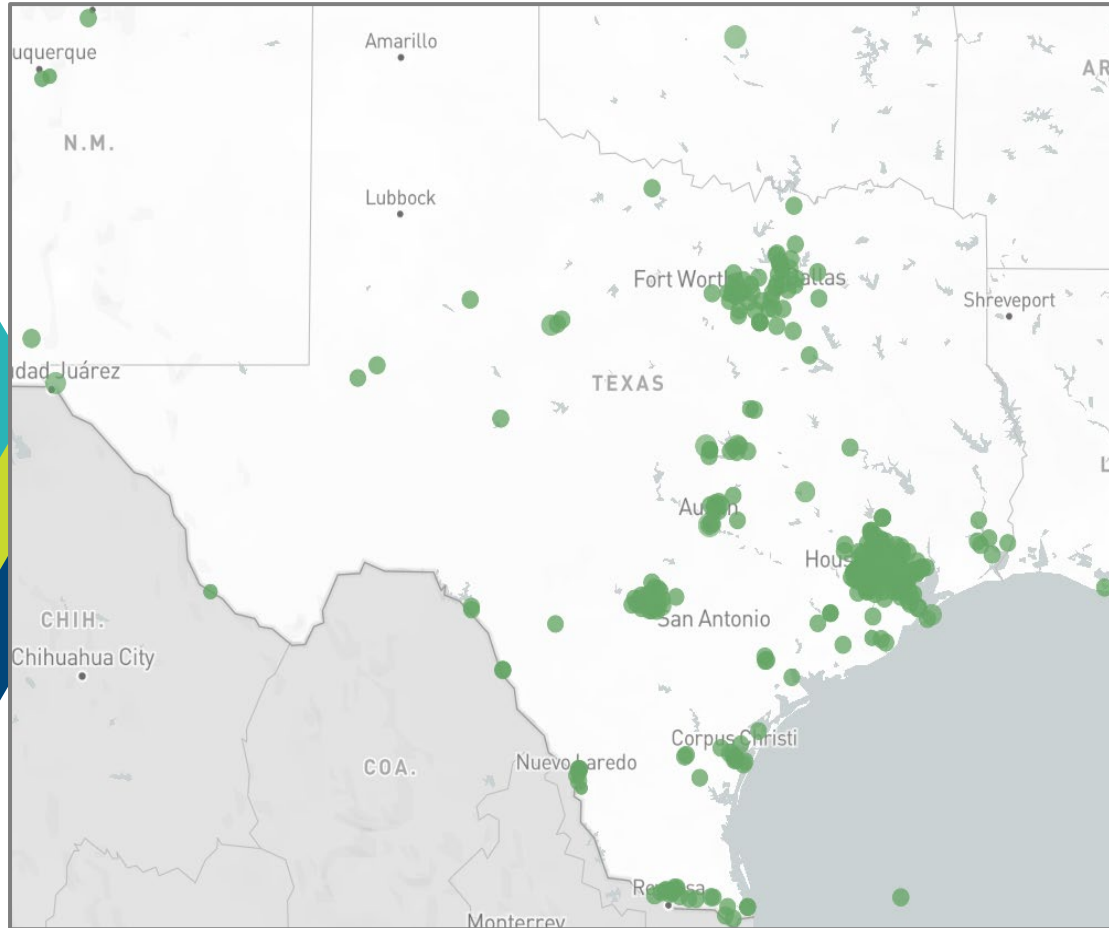
- High upfront cost can be a barrier to the deployment of microgrids.
- Avg \$2M-\$5M/MW



## Utilities

- Utility role in microgrids deployment is variable.
- Utility financial incentives may not be aligned with DER and microgrid deployment.

# Texas & Microgrids



Technology	Sites
Diesel	12
Natural Gas	302
Solar	8
Storage	9
Wind	1



## What's Next?

- Texas Energy Fund
  - Critical Facilities
- Utility Interest for Resilience
  - HB 2483
- PUCT Rulemakings
- State Policy Priority
- Deploying More Net Zero Microgrids
- Community Engagement



[HARCresearch.org](https://HARCresearch.org)





# Thank you!

## Microgrids 101

[MSPENRATH@HARC RESEARCH.ORG](mailto:MSPENRATH@HARC RESEARCH.ORG)

Micalah Spenrath, PMP  
Manager, Policy & Energy  
Houston Advanced Research Center  
24 September, 2024



# UPDATE ON HYDROGEN INFRASTRUCTURE PROJECT

Jared Wright, Dallas – Fort Worth Clean Cities Coalition



North Central Texas  
Council of Governments



Dallas-Fort Worth  
CLEAN CITIES

# NCTCOG Hydrogen CFI Project Update

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Jared Wright  
Senior Air Quality Planner  
September 24, 2024

# PROPOSAL APPROACH

Built upon IH-45 Corridor Zero Emission Vehicle Plan

- [NCTCOG - IH 45 Corridor Zero Emission Vehicle](#)

Conducted Call for Partners (CFP) ahead of proposal

- Requested publicly accessible medium-/heavy-duty zero-emission infrastructure projects
- CFP intended to solicit project teams for CFI application

Collaborated with internal departments and selected CFP project applicants to draft proposal

- Received letters of support from affected areas

Notified of award in January 2024



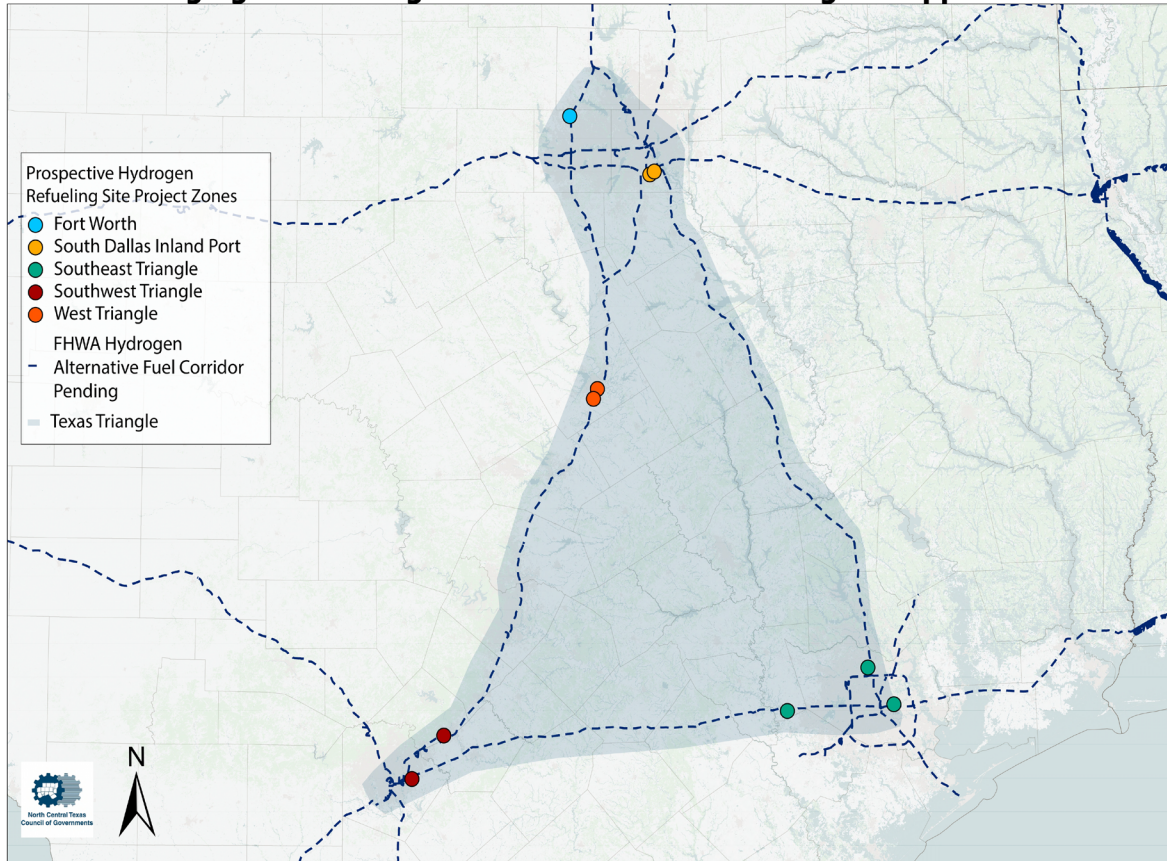
# PROJECT SCOPE

## Texas Hydrogen and Electric Freight Infrastructure Project (Tx-HEFTI)

\$70 million to construct 5 medium-/heavy-duty hydrogen refueling stations at existing truck stop locations

Project Zone	Potential Locations
Dallas	City of Dallas
Fort Worth	City of Fort Worth
West Triangle	City of Waco City of Robinson
Southwest Triangle	City of San Antonio City of New Braunfels
Southeast Triangle	City of Brookshire City of Houston

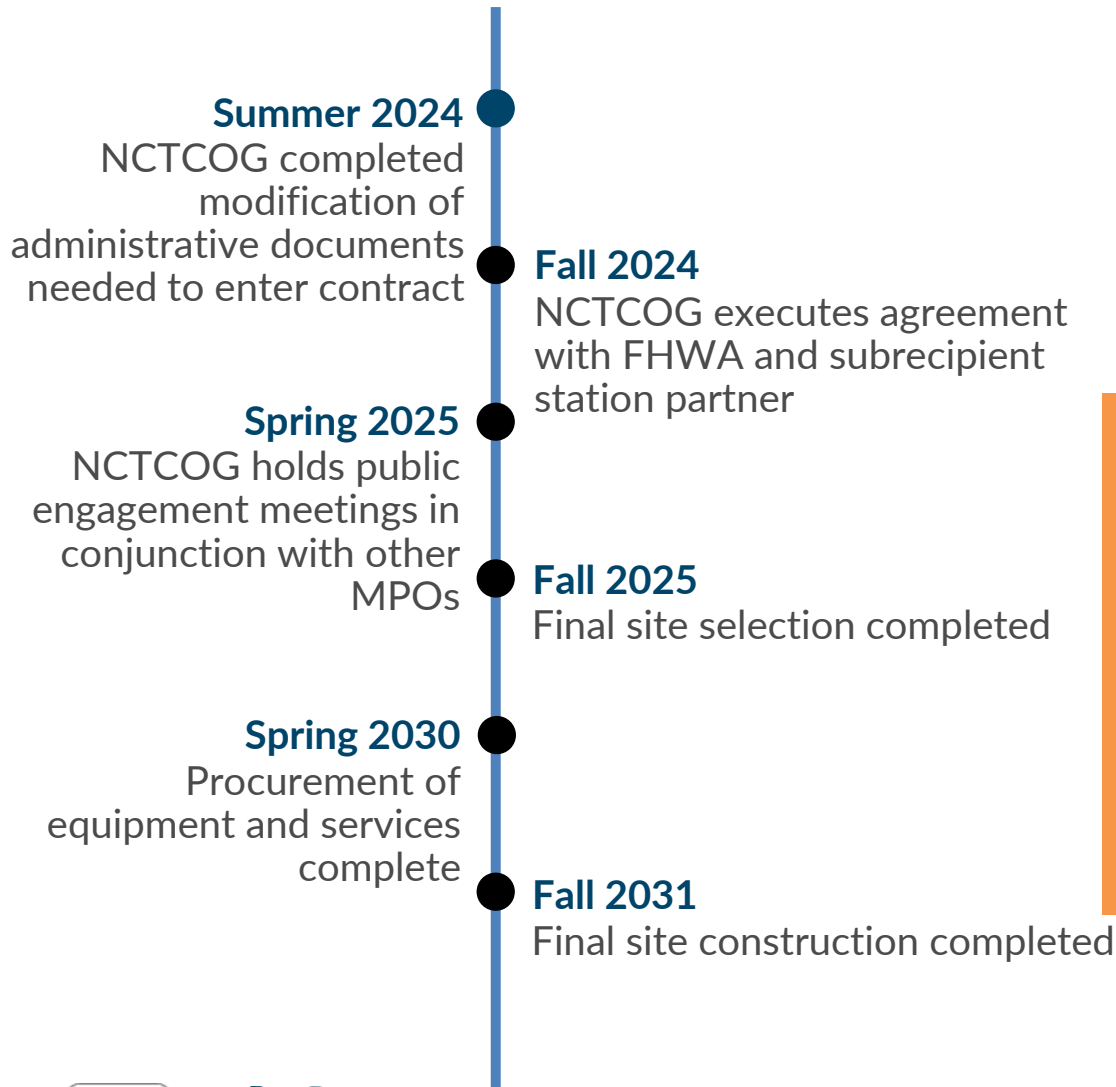
Charging and Fueling Infrastructure Corridor Program Application



January 2024



# TENTATIVE PROJECT TIMELINE



- Started coordination with potentially affected areas
- Public engagement conducted throughout
- Up to 5 years operations



# REGIONAL COORDINATION

Implementing outside of our MPO boundary

Administrative documentation and cross agency coordination

Public engagement and awareness

Ensure local community awareness through public meetings and other opportunities

Ensure fleets operating in each region know the stations are coming

Location siting

May request local community input on final location

Which site would be most impactful?



# Questions



# CONTACT US



Jared Wright  
Senior Air Quality Planner  
[jwright@nctcog.org](mailto:jwright@nctcog.org)



Lori Clark  
Senior Program Manager  
& DFWCC Director  
[lclark@nctcog.org](mailto:lclark@nctcog.org)



Dallas-Fort Worth  
CLEAN CITIES



[dfwcleancities.org](http://dfwcleancities.org)



[cleancities@nctcog.org](mailto:cleancities@nctcog.org)



NCTCOG Hydrogen Project CFI Update



# UPDATES ON ADVISORY BOARD AND SUBCOMMITTEES

J. Ben Finley, *HGCCC*

# ANNUAL REPORT RESULTS

(AKA ANNUAL SURVEY)

J. Ben Finley, HGCCC

# Review and Purpose

- Obligation to the Department of Energy (DOE)
- Documents regional efforts of transitioning fleets towards alternative fuels
- Calculates reductions in:
  - ▣ Gallons of Gasoline Equivalent (GGE)
  - ▣ Greenhouse Gas (GHG)
- Helps the region to chart trends and plan for the future
  - ▣ Helps to accurately plan for future funding opportunities (grants)

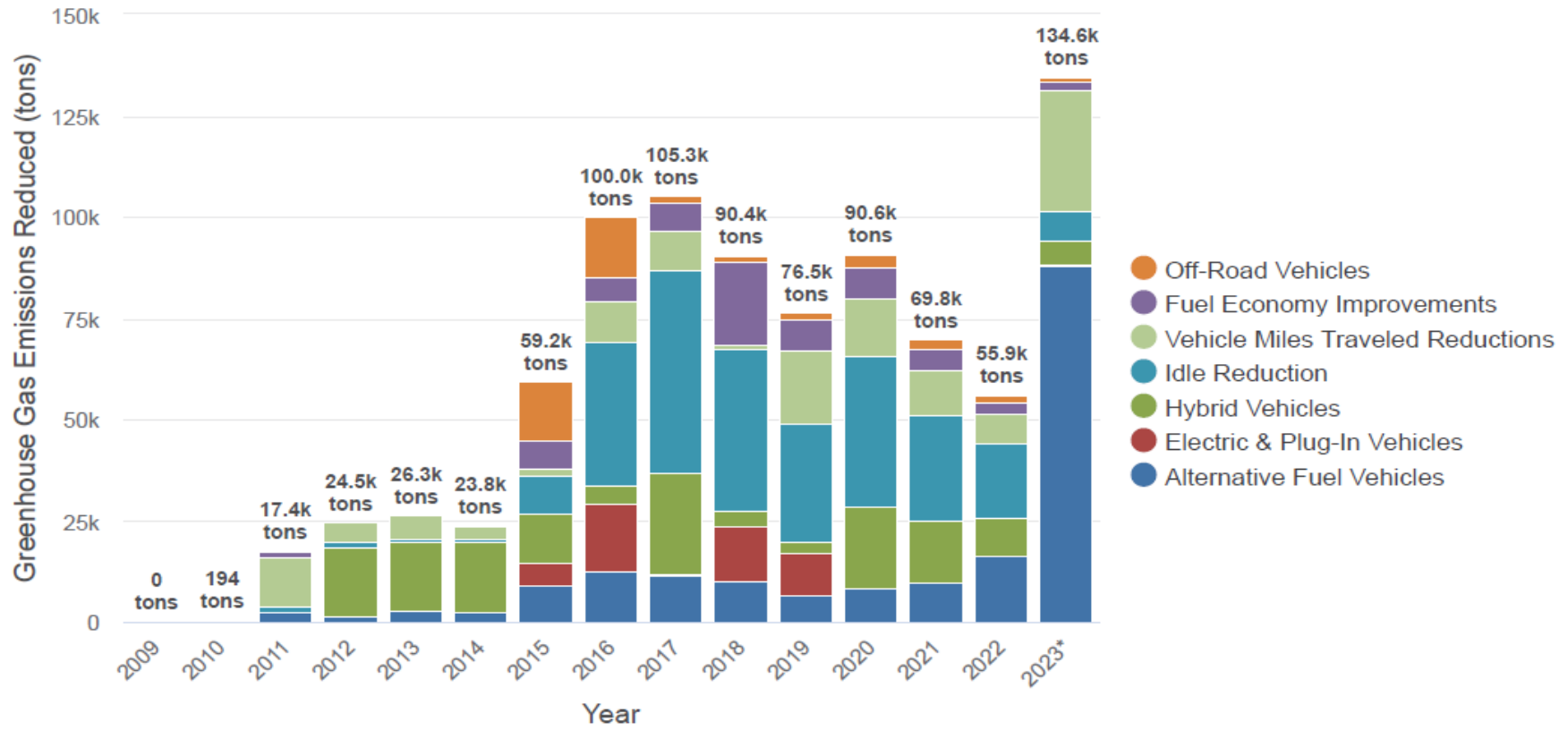
# GOOD NEWS!



- DOE changed CNG and LNG reduction formulas
- Our 2024 (2023 data) results are approved

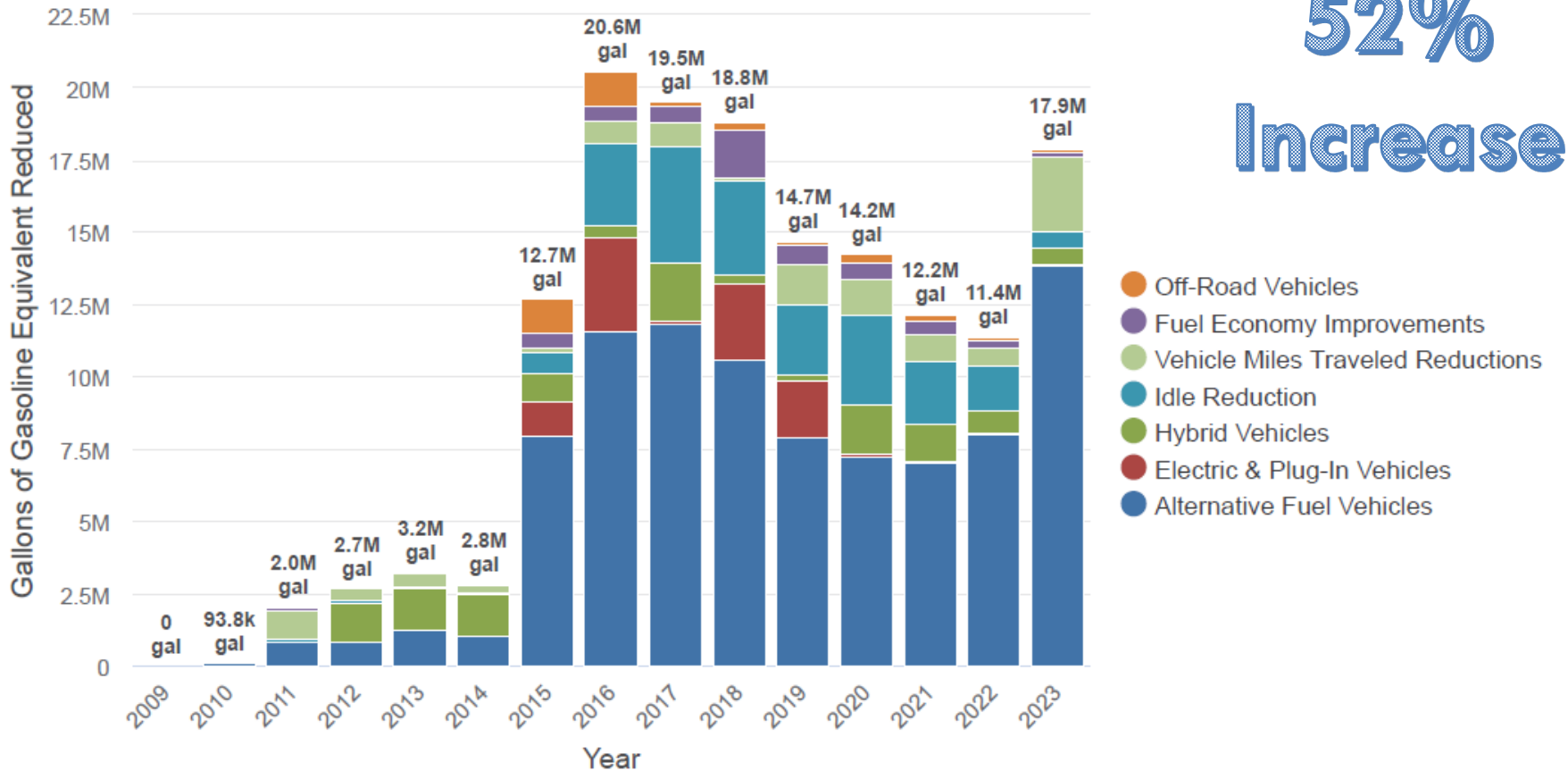
# Greenhouse Gas Emissions (GHG) - Houston

## Historical Greenhouse Gas Emissions Reduced



# Gallons of Gas Equivalent (GGE) - Houston

## Historical Gallons of Gasoline Equivalent Reduced



# GREAT JOB!



Clean Cities and  
Communities

## Houston-Galveston Clean Cities Coalition

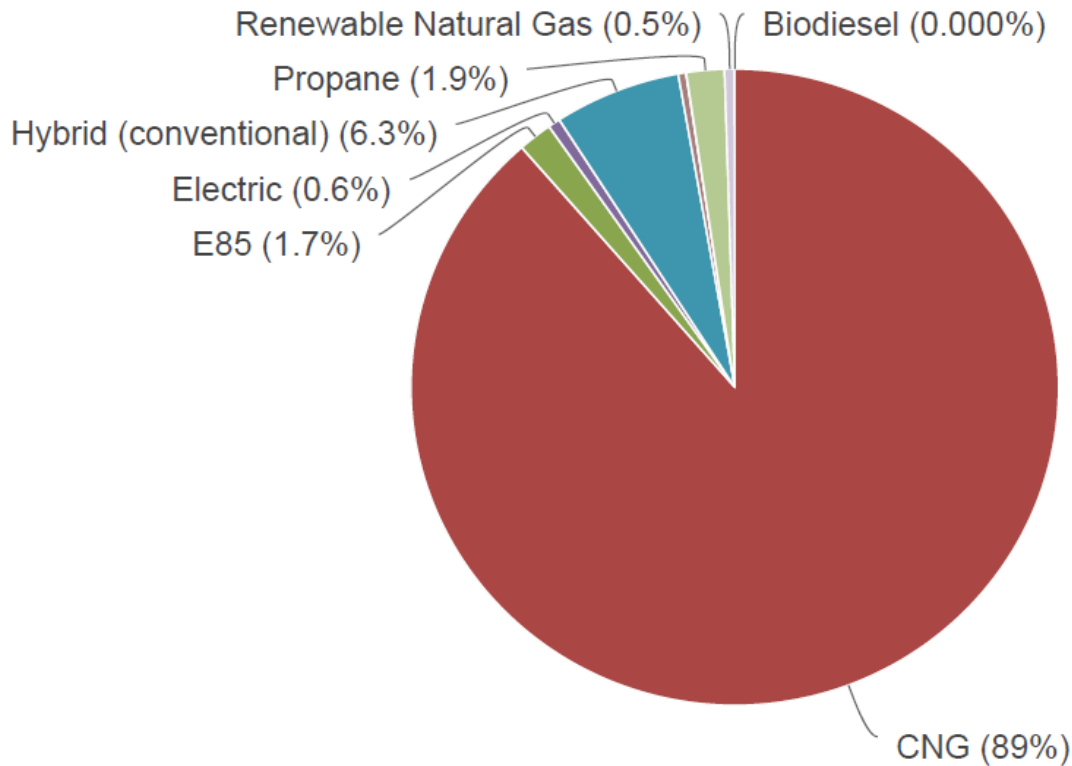
*Greatest % Increase in GGEs Reduced - Second Place*



2024 CLEAN CITIES AND COMMUNITIES COALITION AWARDS

# Greenhouse Gas (GHG) Emissions by Fuel Type

**2023 Greenhouse Gas Emissions Reduced by Fuel Type for Alternative Fuel Projects**  
94,153 tons

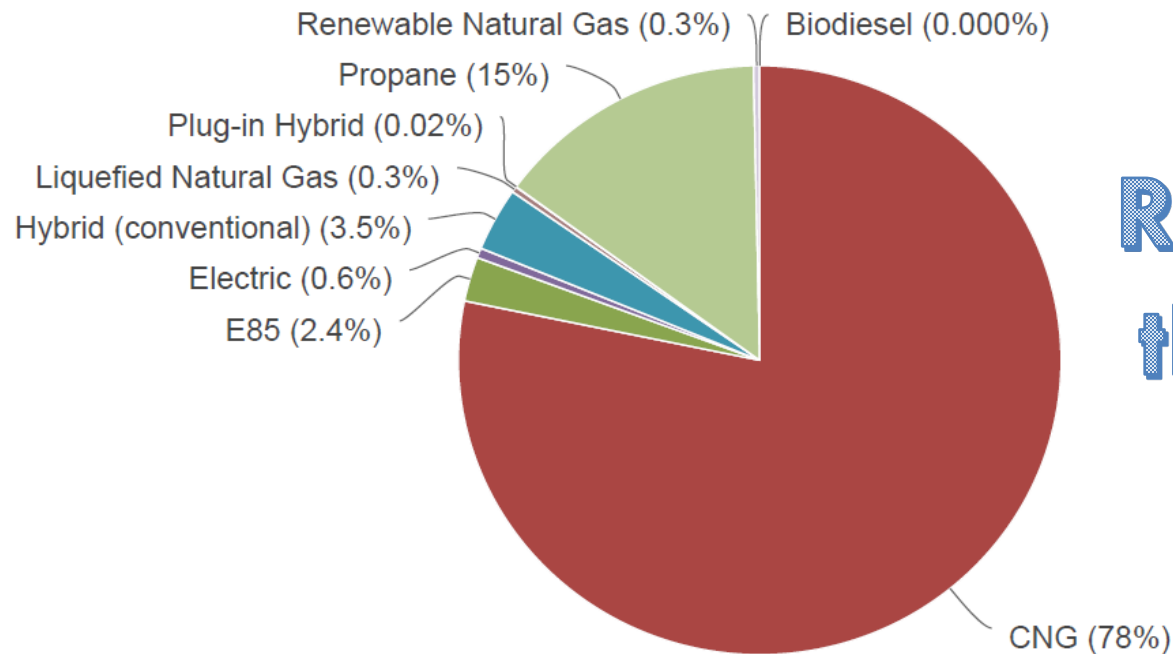




# Gallons of Gasoline Equivalent (GGE) of Fuel Type

## 2023 Gallons of Gasoline Equivalent Reduced by Fuel Type for Alternative Fuel Projects

14,481,514 gallons



**Most Propane  
Usage  
Reported in  
the Nation**

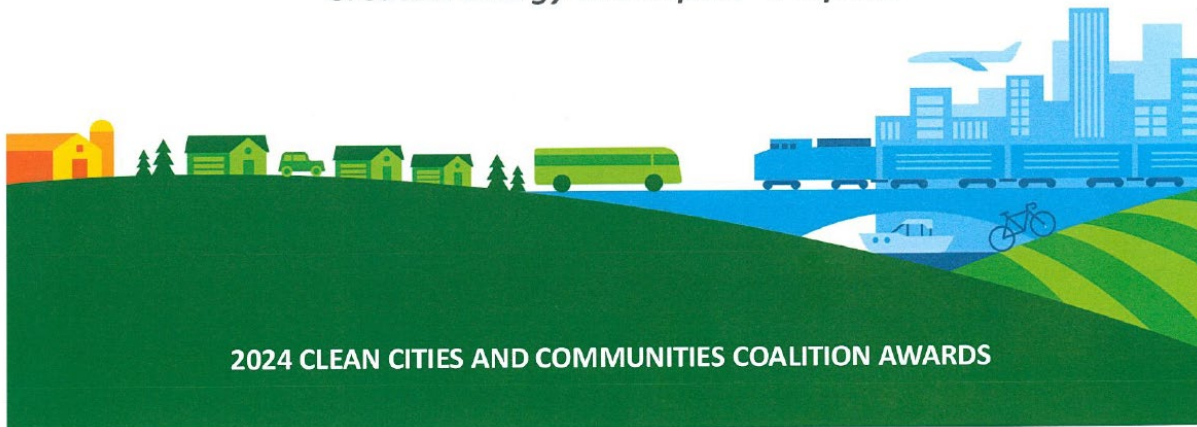
# GREAT JOB!



Clean Cities and  
Communities

## Houston-Galveston Clean Cities Coalition

*Greatest Energy Use Impact - Propane*



2024 CLEAN CITIES AND COMMUNITIES COALITION AWARDS

Thanks to the Subcommittee

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**Eddie Murray**  
**and**  
**Claire Alford**

# Some Goals for 2025 (2024 Data)

- Early Start (Nov./Dec.)
- Surveys
  - Updates on 2024 submittals
  - Renewed submittals
    - Those that have “aged out”
  - New submittals
    - Houston Airport System
      - Baggage handling equipment
    - Amazon
      - Electric delivery vans
    - Ports
      - Yard Trucks?
      - Baggage handling equipment (Port of Galveston)?
- Emphasis on:
  - CNG fuel sales
  - ISD idle reduction policies
  - Private sector
    - Telework
    - Idle reduction policies
  - EV sector

# GRANTS SUBCOMMITTEE & EVENTS AND EXPO

J. Ben Finley, HGCCC

# Grants

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- Clearinghouse Idea
  - Requires knowledge of
    - Grants
      - Current
      - Soon to open
      - Application process
    - Stakeholders fleets
      - Current fleet manager contact information
      - Vehicle type, usage type, usage amount, age, fuel, etc.

# Events and Expo

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- Texas Wide School Bus Grant Webinar
  - Topics covered
    - Available funding for vehicle replacement and alternative fuel infrastructure
    - How to navigate websites
    - Help with applications
- Alternative Fuel Motor Fuel Tax Credit Webinar (Nov. 13)
  - Explanation of the tax credit
  - Data needed for the tax form
  - Help with understanding the tax form

# GRANT OPPORTUNITIES PRESENTATION

J. Ben Finley, Houston Clean Cities Co-Director



# Vehicle Purchase, Lease, Replace, and Repower

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Agency	Name	Might Be Good For	Close Date	Link
Environmental Protection Agency	Clean Ports Program	Ports and Port Authorities	9/30/2027	<a href="#">Clean Ports Program</a>
Texas Commission on Environmental Quality	Texas Emission Reduction Program (TERP): Emissions Reduction Incentive Grants (ERIG) Program	Open to the public, corporations, organizations, government entities, partnerships, and associations	10/29/24	<a href="#">TERP: ERIG</a>
	TERP: Texas Natural Gas Vehicle Program (TNGVGP)	Open to the public, corporations, organizations, government entities, partnerships, and associations	3/4/25	<a href="#">TERP: TNGVGP</a>
	TERP: Seaport and Rail Yard Areas Emission Reduction Program (SPRY)	Ports, seaports, rail yards	3/4/25	<a href="#">TERP: SPRY</a>

# Infrastructure

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Agency	Name	Might Be Good For	Close Date	Link
Department of Agriculture	Higher Blends Infrastructure Incentive Program	Individuals, government entities, schools districts, nonprofits, small businesses, and private schools	9/30/24	<a href="#">HBIIP</a>
Department of Energy	FY 2024 Natural Gas Distribution Infrastructure Safety and Modernization Grant	State Governments	10/15/24	<a href="#">DE-FOA-0003412</a>

# Texas Volkswagen Environmental Mitigation Program

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The [All-Electric Program](#) funded by the Volkswagen Settlement is open.

Eligible projects include replacements of:

- Class 8 freight or port drayage trucks
- Class 4-8 school bus, shuttles, and transit buses
- Class 4-7 freight trucks
- Airport Ground Support Equipment
- Forklifts and Port Cargo Handling Equipment
- Refueling Infrastructure

# Bipartisan Infrastructure Law (BIL)

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Numerous other grants for alternative fuel projects including a focus on electric powered vehicles and infrastructure from the Bipartisan Infrastructure Law (BIL), or BIL.

For a list of funding opportunities, please visit the [BIL website](#).

# Opening Soon

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Agency	Name	Might Be Good For	Opening	Link
Texas Commission on Environmental Quality	New Technology Implementation Grant (NTIG)	Individuals, state and local governments, corporations, or any other legal entity	October 2024	<a href="#">TERP: NTIG</a>
	Governmental Alternative Fuel Fleet Grant Program (GAFF)	Government entities	December 2024	<a href="#">TERP: GAFF</a>
	Texas Clean Fleet Program (TCFP)	Texas fleets of 75 or more vehicles	January 2025	<a href="#">TERP: TCFP</a>

# ANNOUNCEMENTS OF CURRENT & UPCOMING ACTIVITIES

Open Forum

# Upcoming Events

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- Gulf Coast Association for Pupil Transportation (GCAPT) (Oct. 8 at Hempstead ISD)
- Alternative Fuel Motor Fuel Tax Credit Webinar (Nov. 13 Online)
- SPEER Texas Energy Advocates University Program (TEA – UP) Workshop (April)
- Several Events at the Houston Electric Auto Association (Check out there Facebook page)
- Other
- Next Stakeholder Meeting (TBD)

Please visit our website:  
[Houston-Cleancities.org](http://Houston-Cleancities.org)

Thank You!