

# 2021 Rhode Island Greenhouse Gas Inventory

Presentation to the Rhode Island Executive Climate Change Coordinating Council

June 26, 2024





# Agenda



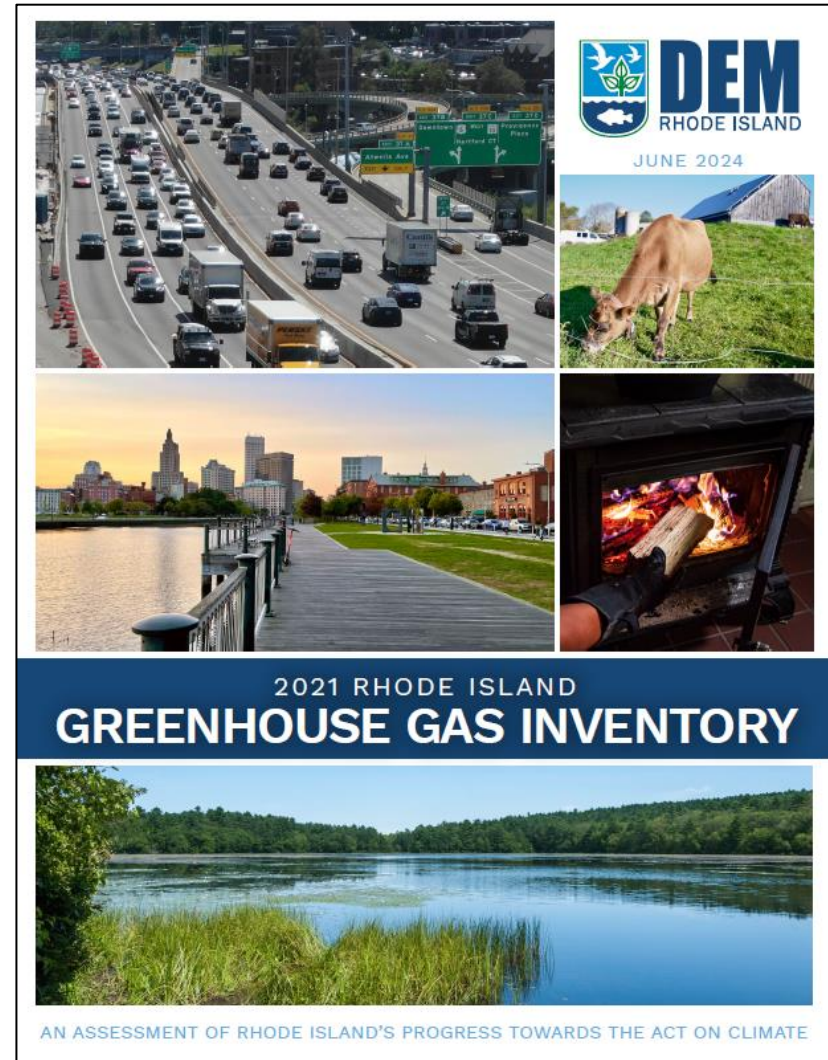
- Introduction
- Act on Climate Mandates
- Overview of 2021's Emissions
- Short-Term Emissions Trends
- Long-Term Emissions Trends
- What's Next?
- Questions & Answers

# Introduction

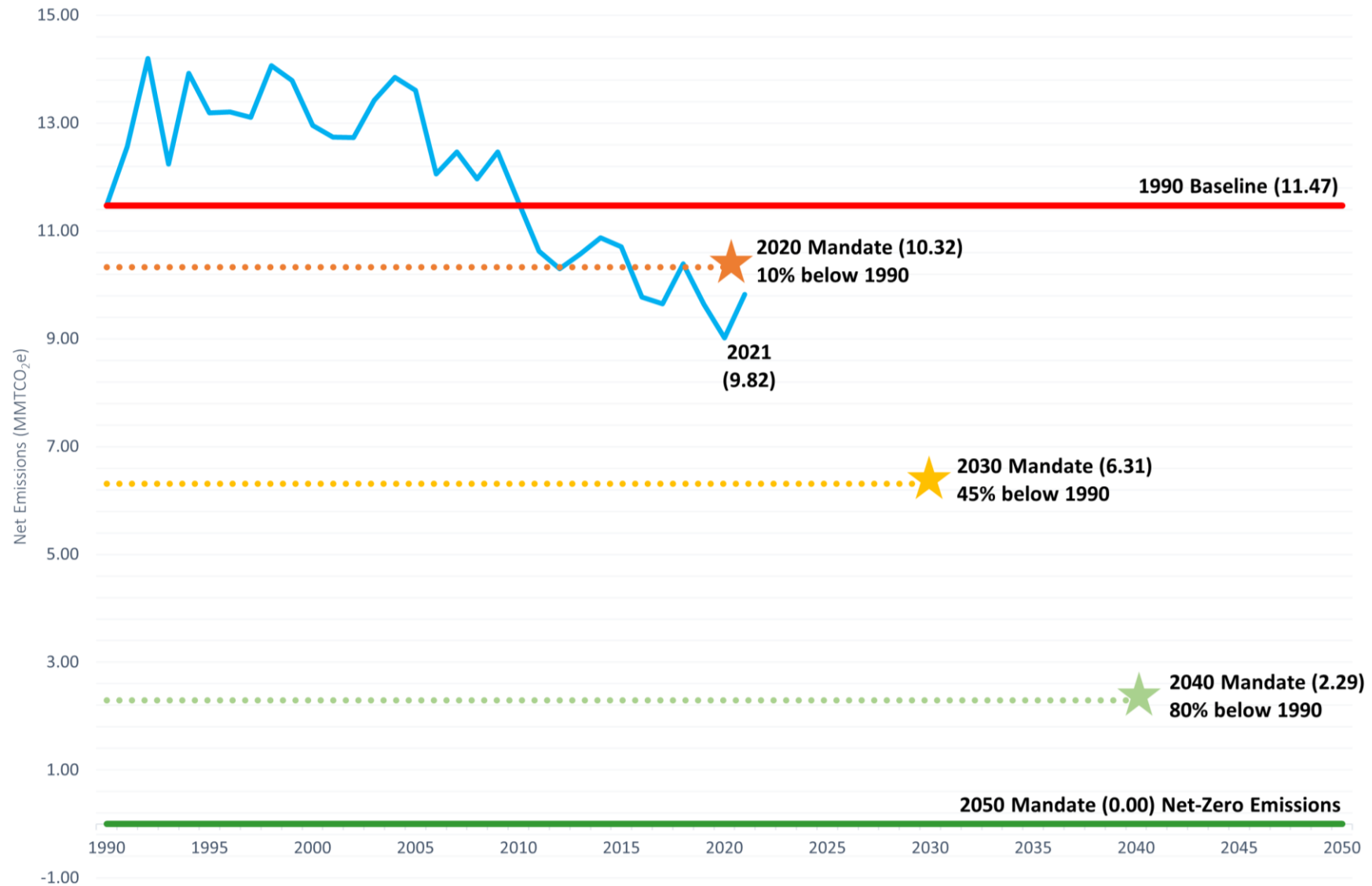
 Assesses Climate-Warming Emissions from Rhode Island

 Primary Scientific Metric for the Act on Climate

 Annual Emissions Data from 1990-2021

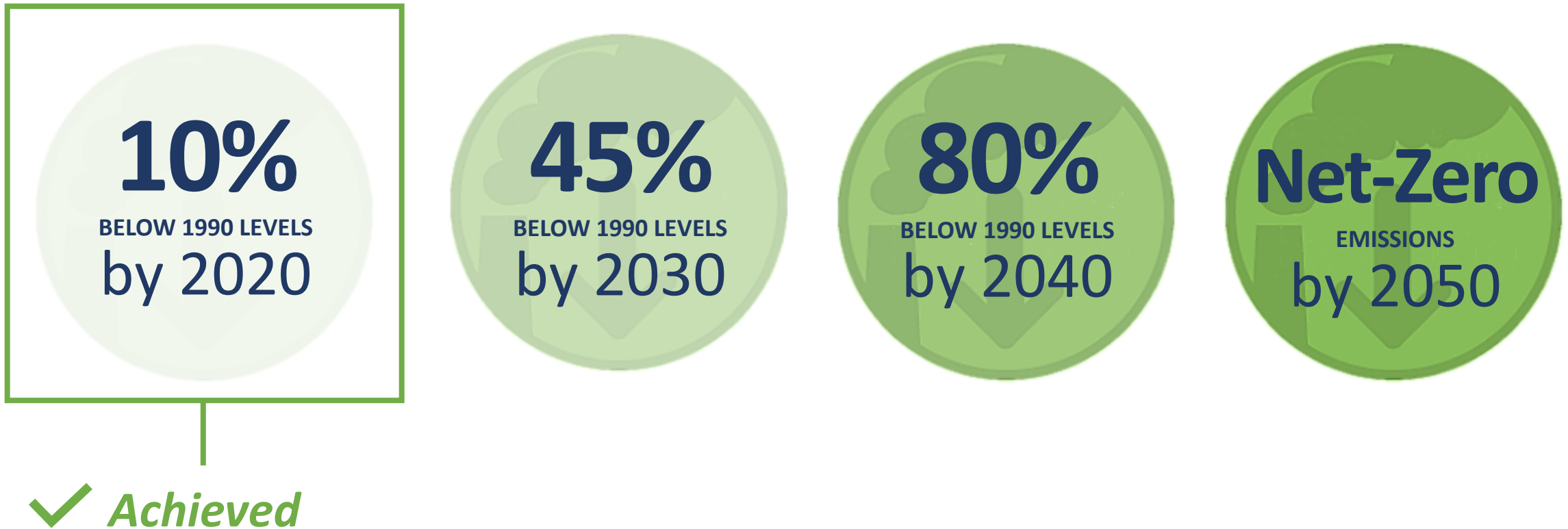


# 1990 – 2021 Emissions



# Act on Climate Mandates

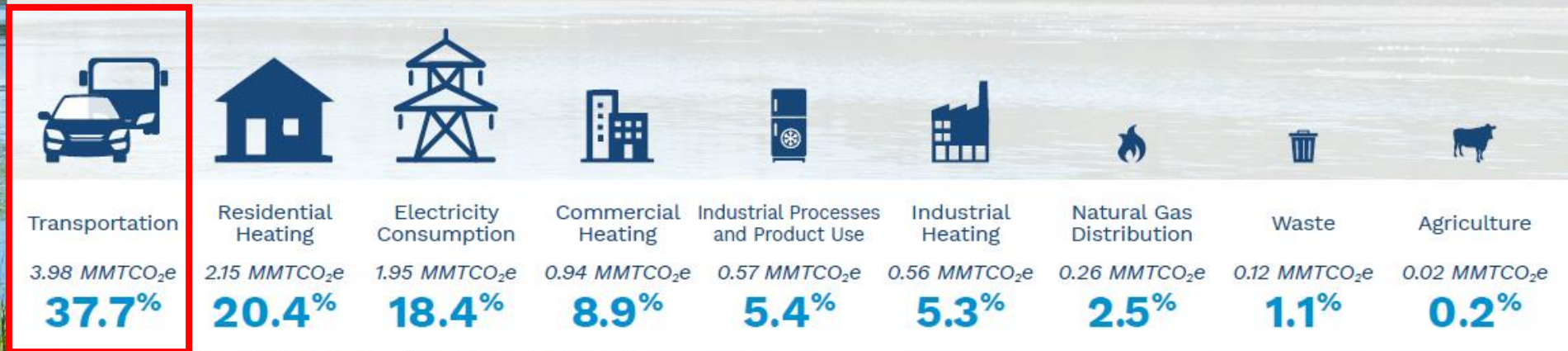
R.I. General Laws § 42-6.2-9. Specifies “Mandatory Targets for Emissions Reduction”:





# Overview of 2021's Emissions

## Gross Greenhouse Gas (GHG) Emissions in 2021



### 2021 Net GHG Emissions

**9.82\***  
million metric tons of CO<sub>2</sub>e

\*Net emissions equal the sum of gross emissions and removals. Sector totals may not align with net total due to rounding.

### 2021 Greenhouse Gas Removals

#### Natural and Working Lands (NWLs)



-0.73 MMTCO<sub>2</sub>e

**7.4%**

of gross GHG emissions offset by NWLs

### 1990 - 2021 Change

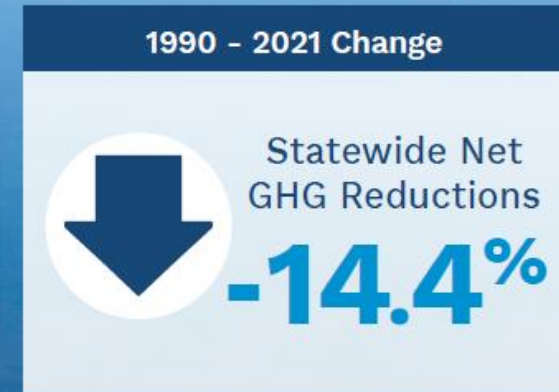
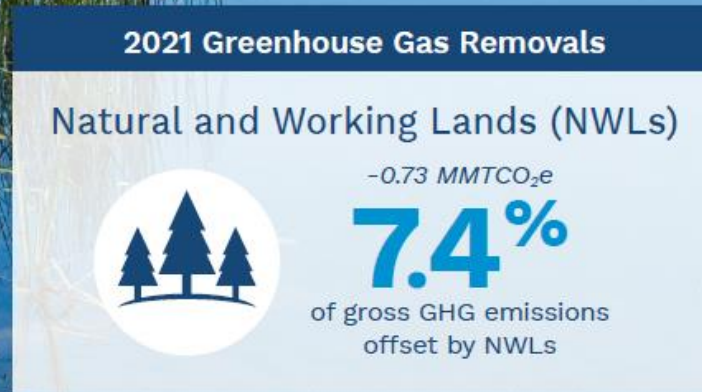
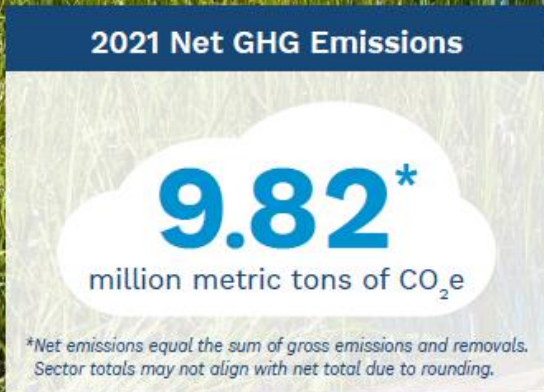
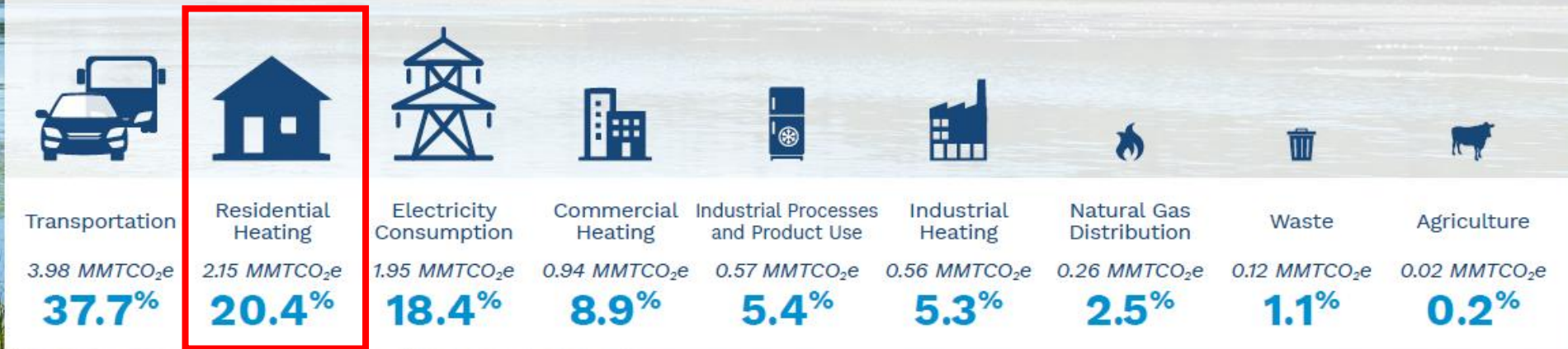


Statewide Net GHG Reductions

**-14.4%**

# Overview of 2021's Emissions

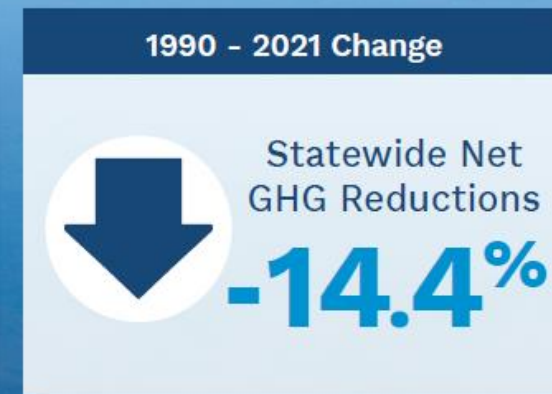
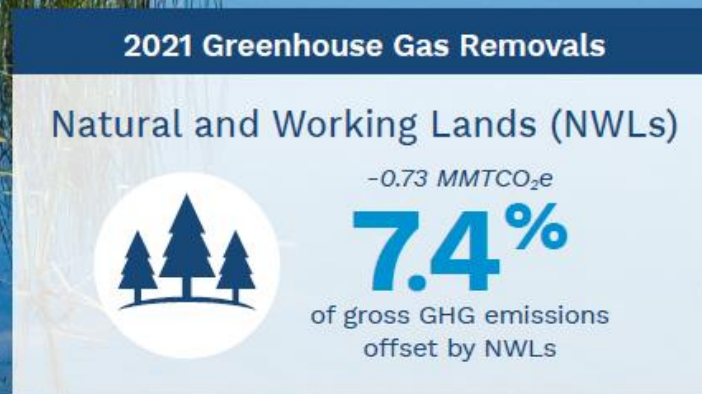
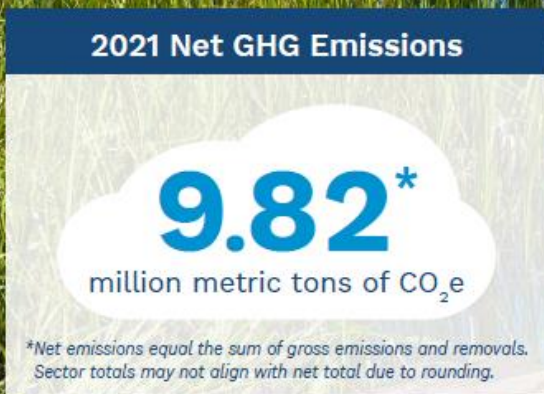
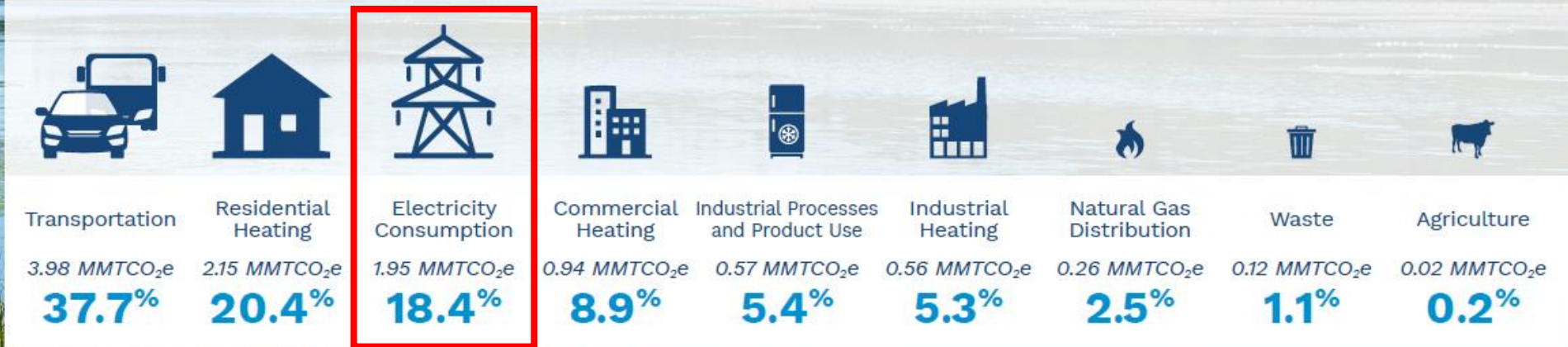
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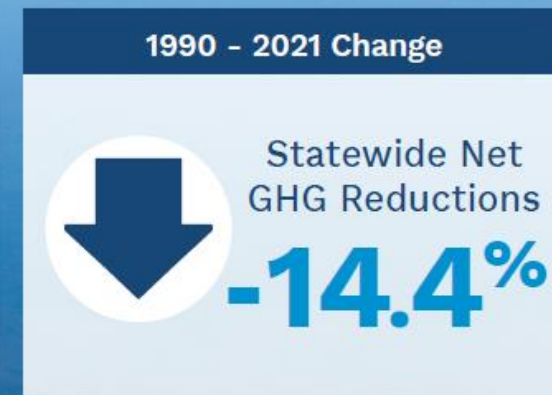
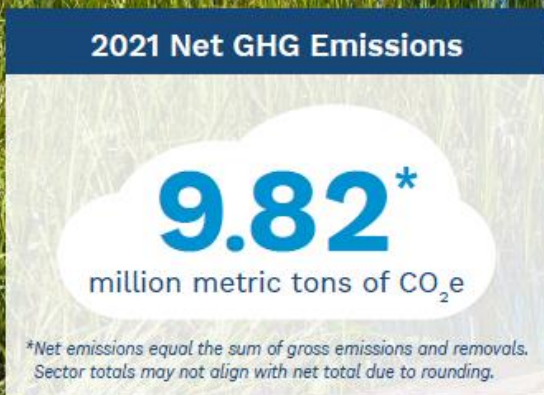
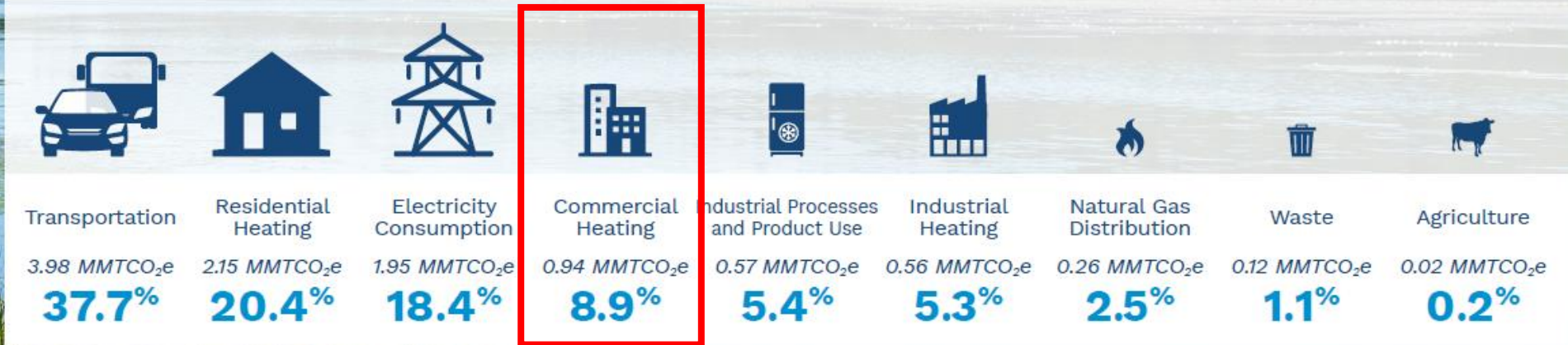
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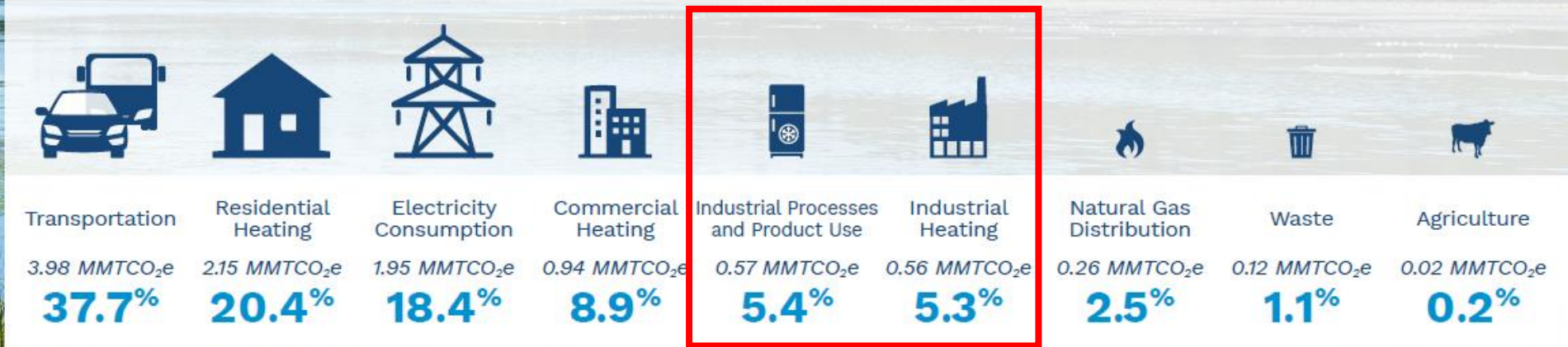
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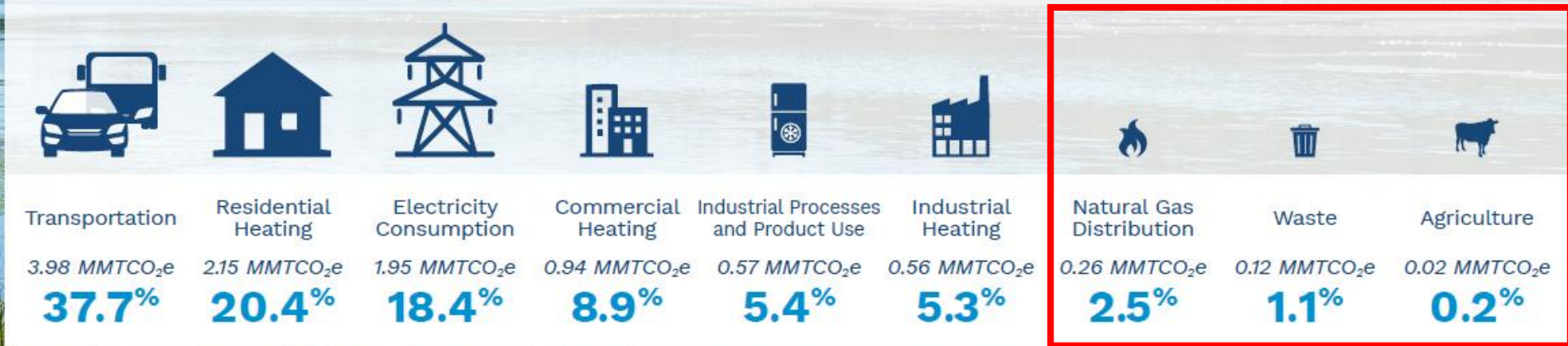


Statewide Net GHG Reductions  
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# Short-Term Trends

## Transportation Emissions Rebounded Since 2020:



Aviation Emissions **Increased 241.1%**



Highway Vehicle Emissions **Increased 0.8%**



Non-Road Source Emissions **Increased 10.5%**



# Short-Term Trends

Between 2020 and 2021...



## Residential Heating Emissions **Increased 12.5%**

- *Jan, Feb, Mar 2021 was Colder than Jan, Feb, Mar 2020*



## Electricity Consumption Emissions **Increased 12.5%**

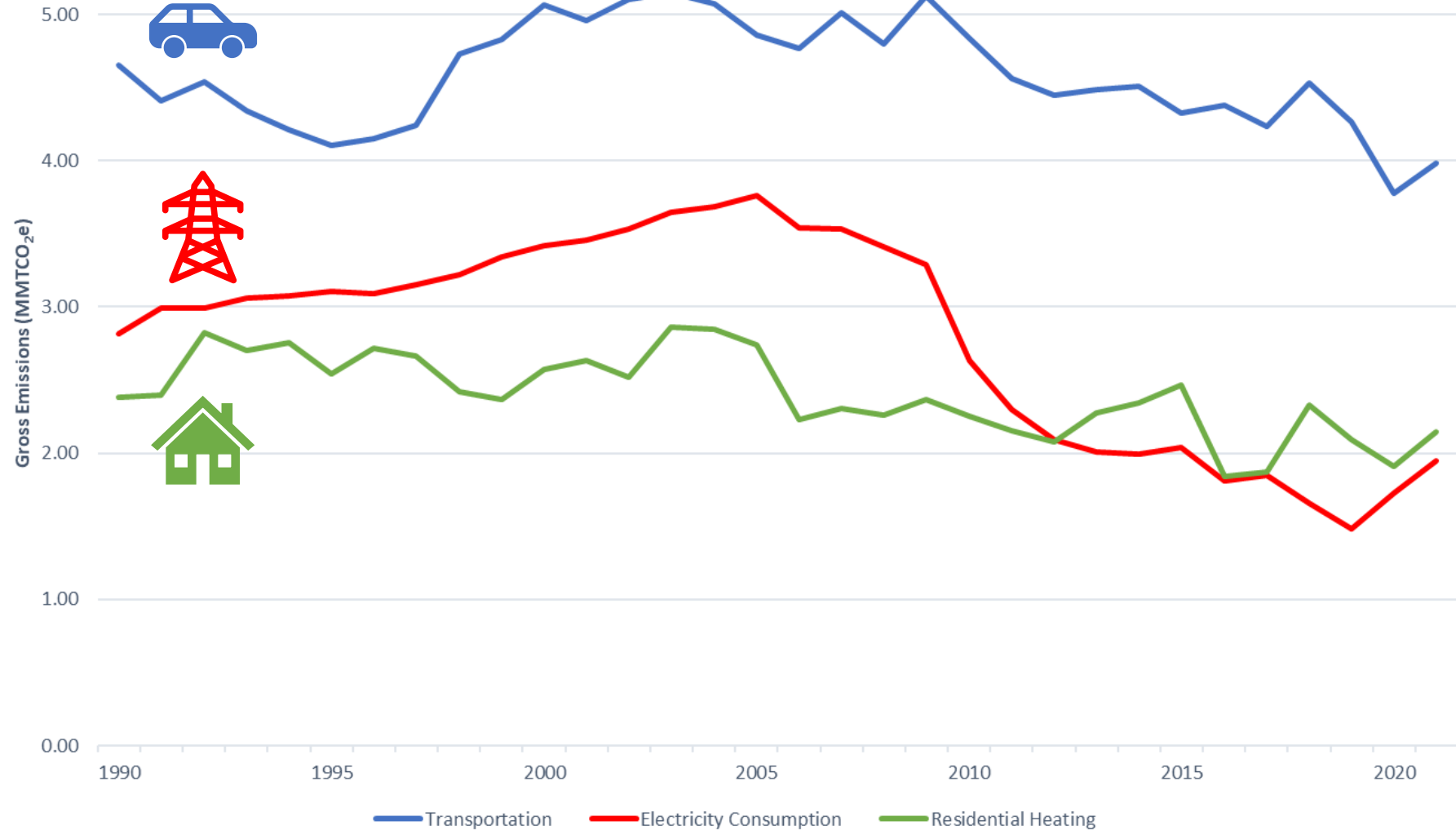
- *Fluctuations in the Renewable Energy Market*



# Long-Term Trends

Since 1990...

- **Transportation**  
Declined 14.5%
- **Electricity Consumption**  
Declined 30.9%
- **Residential Heating**  
Declined 9.7%



# Long-Term Trends

Since 1990...



## Natural Gas Distribution

Decreased by 21.0%

- *Replacement of Leaky Cast Iron & Unprotected Steel Pipelines with Plastic*



## Agriculture

Decreased by 54.3%

- *Loss of Agricultural Land and Decreased Population of Livestock*



## Waste

Decreased by 56.7%

- *Advances in Landfill Gas Collection Technology at the Central Landfill in Johnston*

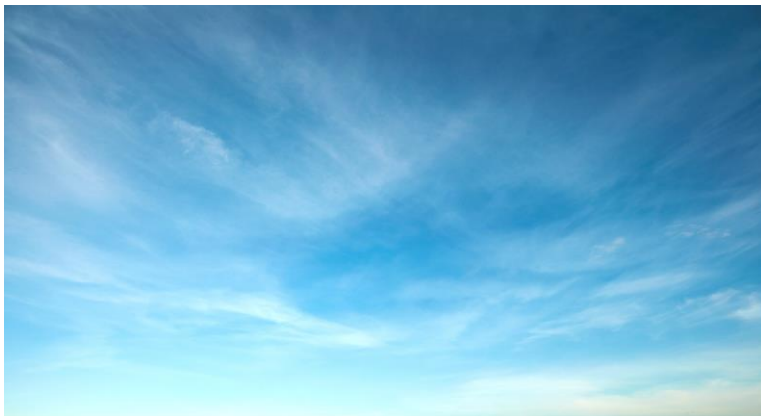


# Long-Term Trends

Since 1990...

**Industrial Processes and  
Produce Use Emissions  
Increased by 0.49 MMTCO<sub>2</sub>e**

- *Widespread conversion to HFCs*



# Long-Term Trends

Since 1990...

## Natural & Working Lands

**Absorb 14% less CO<sub>2</sub>**

- *Over 50,000 Acres of Forestland to Developed Land*



Forest Land



Croplands



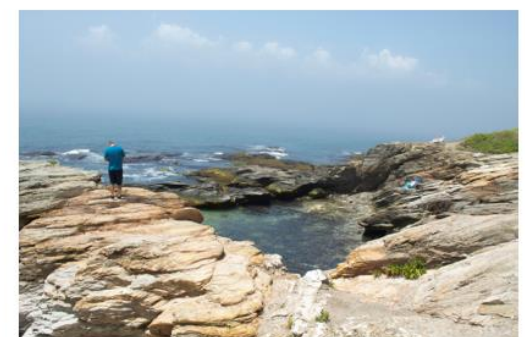
Grasslands



Wetlands



Settlements



"Other Land"



# What's Next?

- The *2022 Rhode Island Greenhouse Gas Inventory* will be released no later than Spring 2025.
- Committed to publishing accurate GHG estimates more quickly, will continue to work on reducing the inventory's time delay.
- Collaborating with the U.S. Climate Alliance to research the implications of a 20-year GWP.

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[ClimateChange.ri.gov](https://ClimateChange.ri.gov)



# Questions and Answers



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**Learn More Online!**

[dem.ri.gov/ghg-inventory](http://dem.ri.gov/ghg-inventory)