Rhode Island 2025 Climate Action Strategy and CCAP

General Virtual Meeting

April 29, 2025

[bw] RESEARCH PARTNERSHIP

Lighthouse Consulting Group, Inc.

Energy+Environmental Economics

Eric Kretsch, Lighthouse
Chelsea Petrenko, E3
Molly Bertolacini, E3

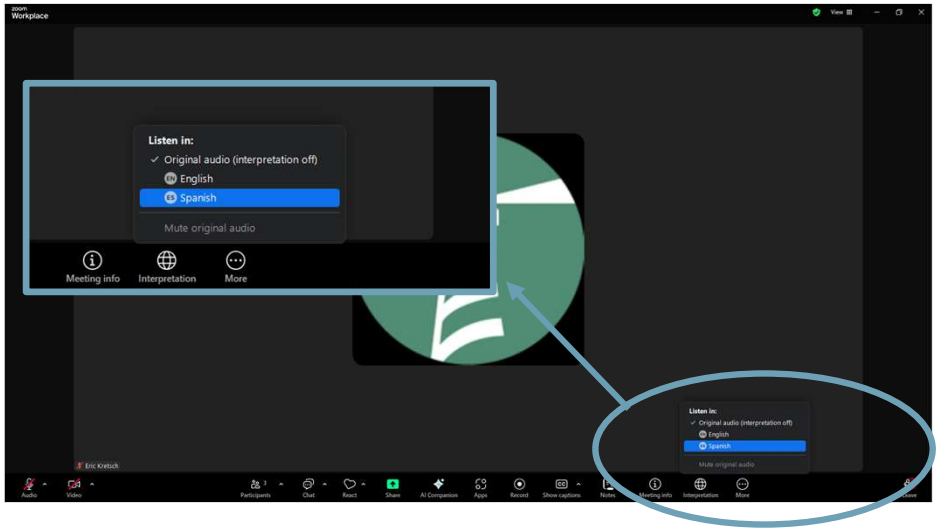
1

Energy+Environmental Economics

Welcome and Opening Remarks

2

Spanish Interpretation Available
Acceso a interpretación de Español



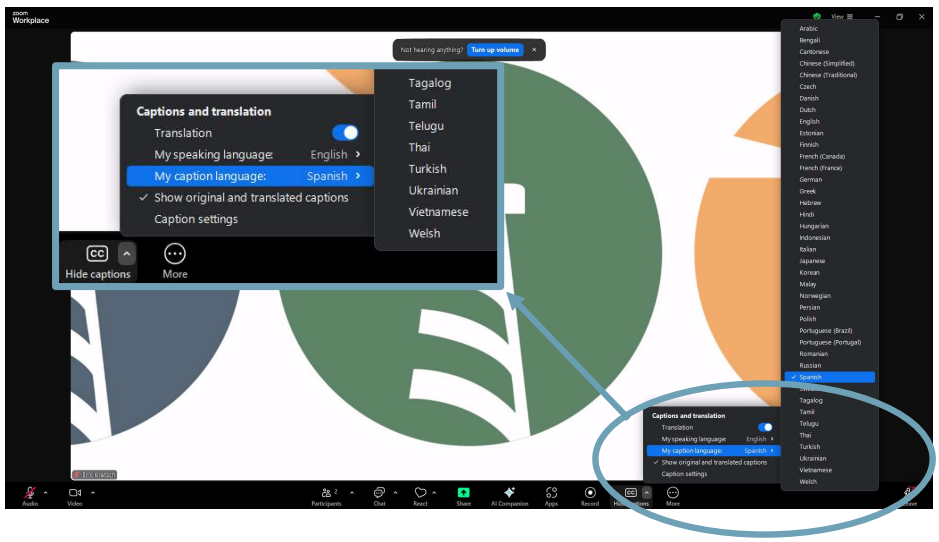
- Click on "Interpretation"
- Set to "Spanish"

Para Español:

- Haz clic en el icóno "Interpretation"
- Selecciona "Spanish"

3

Translated Closed Caption (CC) Available
Acceso a *subtítulos traducidos*



- Click on Closed Caption "CC" icon
- Set "Speaking Language"
- Set "Caption Language"

Para Español:

- Haz clic en el icóno "CC" para los subtítulos
- Haz clic en "My speaking language" y selecciona "Spanish"
- Haz clic en "My caption language" y selecciona "Spanish"

4

Ground rules and guidelines to participation

+ This workshop is being recorded so we can accurately capture your comments. We do not intend to post this recording publicly.

+ Power off other electronics and mute yourself to limit distractions.

+ Make space and take space. Be mindful of how much airtime you take, but we encourage you to voice your support and concern.

+ There are multiple ways to participate:
  - Raise your hand to be called on
  - Use the chat feature
  - Utilize the Survey Monkey Form, so that we capture all you have to say.

+ Thank you in advance for your participation.

Energy+Environmental Economics 2

5

What are we Covering Today? How will your Feedback be Included?

+ This meeting will discuss Rhode Island's efforts to reduce carbon emissions statewide, provide updates on the climate action plan, highlight initiatives across key sectors like buildings and transportation, and invite attendees to contribute ideas for building fair, effective, and sustainable climate strategies

+ Your feedback will be used to…
  - Help the project team determine priority policies and programs to include in the RI Climate Action Strategy (related to reducing carbon emissions)
  - Develop the section of the RI Climate Action Strategy about burdens and co-benefits in environmental justice communities

Energy+Environmental Economics 6

6

Agenda

- Welcome and introductions to facilitators
- Policy background and summary
- Project overview and status
- Key pillars of climate action in Rhode Island
- Icebreaker word cloud activity
- Breakout activity: Opportunities and barriers
- Wrap up and next steps

7

Project Team Introductions

Energy and Environmental Economics (E3)

Tory Clark
Project Partner

Chelsea Petrenko
Project Lead

Molly Bertolacini
Project Manager

Nathaniel Kinsman
University of RI Energy Fellow

Lighthouse Consulting Group

Eric Kretsch
Sr. Associate Facilitator

Kyle McElroy
Facilitator

BW Research Partnership

Cai Steger
Project Director

Sophia Nelson
Project Manager

Andrea Gustafson
Project Manager

8

Policy Background and Summary

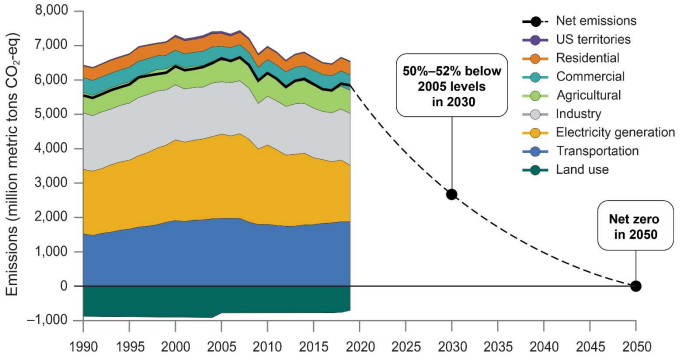
Energy+Environmental Economics

9

Motivation for Climate Action

- **Greenhouse gases (GHG) are released when we burn fossil fuels to produce electricity, run vehicles, and heat our homes**
- **GHGs contribute to rising temperatures when released into the atmosphere, causing climate change**
  - Climate change threatens human health and ecosystems
  - The negative effects of climate change disproportionately impact low-income and disadvantaged communities

US GHG Emissions by Sector



Energy+Environmental Economics

Source: US Government Fifth National Climate Assessment, Figure 32.1

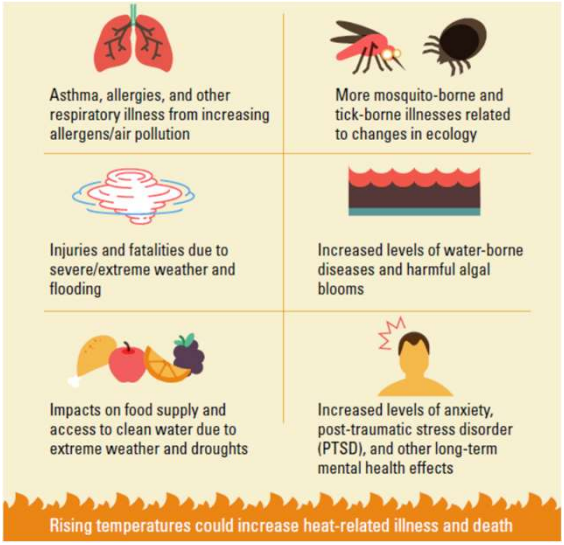
10

Impacts of RI's Changing Climate

- **HEAT: 2014 through 2024 are the world's 10 warmest years so far. In the U.S., 2024 was 3.5 °F above the 20th century average. The average temperature in Providence is up 2°F since the 1930s.**
  - Urban heat islands
  - Rising utility bills (cooling)
  - Respiratory problems/asthma
- **PRECIPITATION: Rhode Island receives almost 10 more inches of rain a year now than in the 1930s. 2018 had a record 22 days with over an inch of precipitation**
  - Flooding/stormwater
  - Infrastructure damage (homes, roads, transportation)
  - Business interruptions
- **RISING SEAS: Sea level rise is accelerating in Rhode Island and globally, putting infrastructure and people at risk (up over 11 inches at the Newport tide station since 1930).**
  - Flooded coastal neighborhoods
  - Flooded infrastructure (wastewater facilities, roads, homes, ports, etc.)
- **WARMING WATER: The surface temperature of Narr. Bay is up 3°F from 1960-2023. The last 5 years (2018-22) are the hottest for world upper ocean heat.**
  - Algal blooms
  - Species composition changing

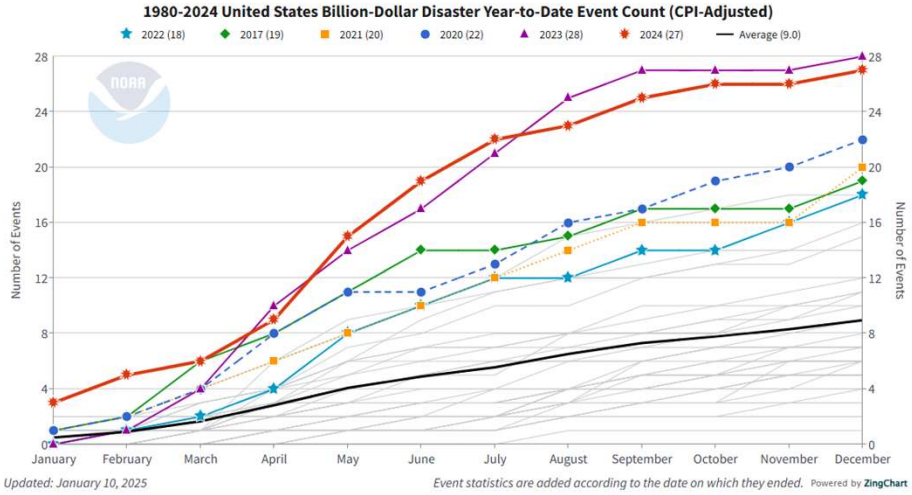
11

Impacts of RI's Changing Climate



12

Climate Change is Expensive



13

Climate Planning in Rhode Island

- **On April 14, 2021, RI Governor Dan McKee signed into law the 2021 Act on Climate, setting mandatory climate GHG reduction targets:**
  - 45% below 1990 emissions levels by 2030
  - 80% below 1990 emissions levels by 2040
  - "Net zero" by 2050
- **As required by the Act on Climate, the Executive Climate Change Coordinating Council (EC4) submitted an update to the 2016 Greenhouse Gas Emissions Reduction Plan in 2022**
  - The next step in the implementation of RI's Act on Climate is the 2025 Climate Action Strategy, due at the end of 2025
- **At the same time, RI Department of Environmental Management (RIDEM) has been awarded a planning grant through the EPA Climate Pollution Reduction Grant (CPRG) program**
  - The first step was completing a **Priority Climate Action Plan** which focused on a list of near-term and high-priority GHG reduction measures
  - The next step in CPRG is the development of a **Comprehensive Climate Action Plan (CCAP).** The CCAP is also due to be completed at the end of 2025.

CLIMATE POLLUTION REDUCTION GRANTS
U.S. Environmental Protection Agency

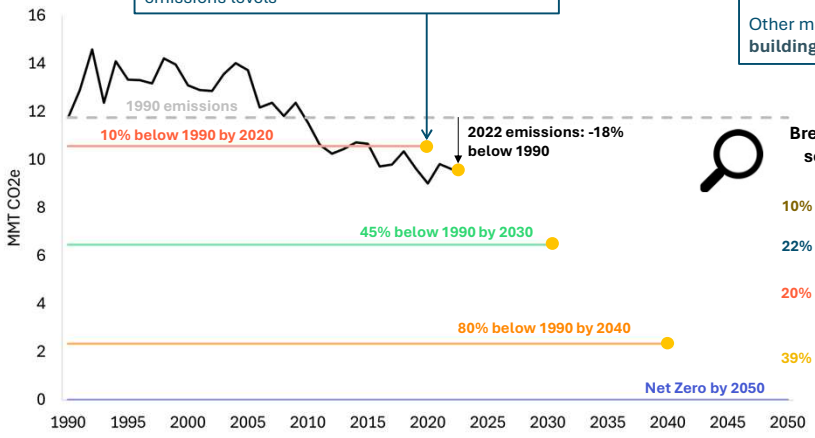
14

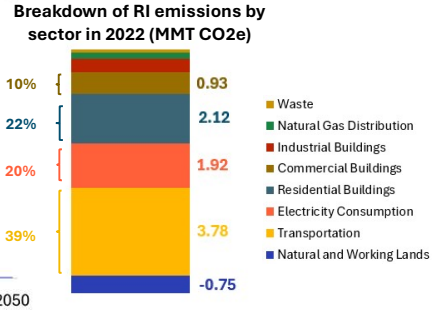
Tracking and Reporting RI's Greenhouse Gas Emissions

Rhode Island has made significant progress in reducing in-state GHG emissions, and has met its 2020 mandate of 10% reduction from 1990 emissions levels

As of 2022, **transportation** is the largest source of Rhode Island's GHG emissions (nearly 40%) with the majority caused by driving passenger vehicles.

Other major contributors include **residential buildings** (22%) and **electricity consumption** (20%)





15

Largest Sources of Emissions in Rhode Island

Transportation

Emissions from travel and commuting, such as driving in a personal vehicle or riding the bus. These emissions are primarily caused by the combustion of fossil fuels, like gasoline and diesel, to power this travel.

Buildings

Emissions from heating residential and commercial buildings, running kitchen equipment, or using other appliances like clothes dryers. These emissions are primarily from combustion of fossil fuel like natural gas and fuel oil to power this equipment.

Electricity

Emissions from producing the electricity that Rhode Islanders use on a daily basis to run appliances, power electronics, run air conditioning, etc.

16

Recent Climate Successes in Rhode Island

100% Renewable Energy by 2033

Adoption of Zero Emission Vehicle Standards Cars and Trucks

Nearly 15,000 Clean Energy Jobs in RI as of 2023

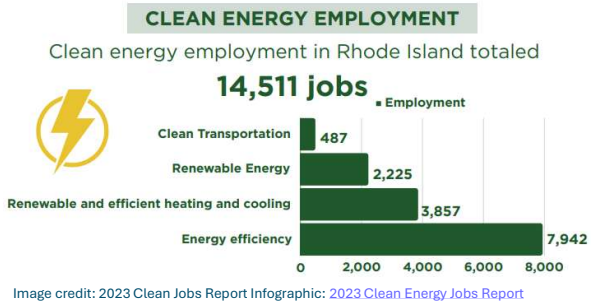


Image credit: 2023 Clean Jobs Report Infographic: 2023 Clean Energy Jobs Report

17

Energy+Environmental Economics

Questions?

18

Project Overview and Status

Energy+Environmental Economics

19

Project Goals

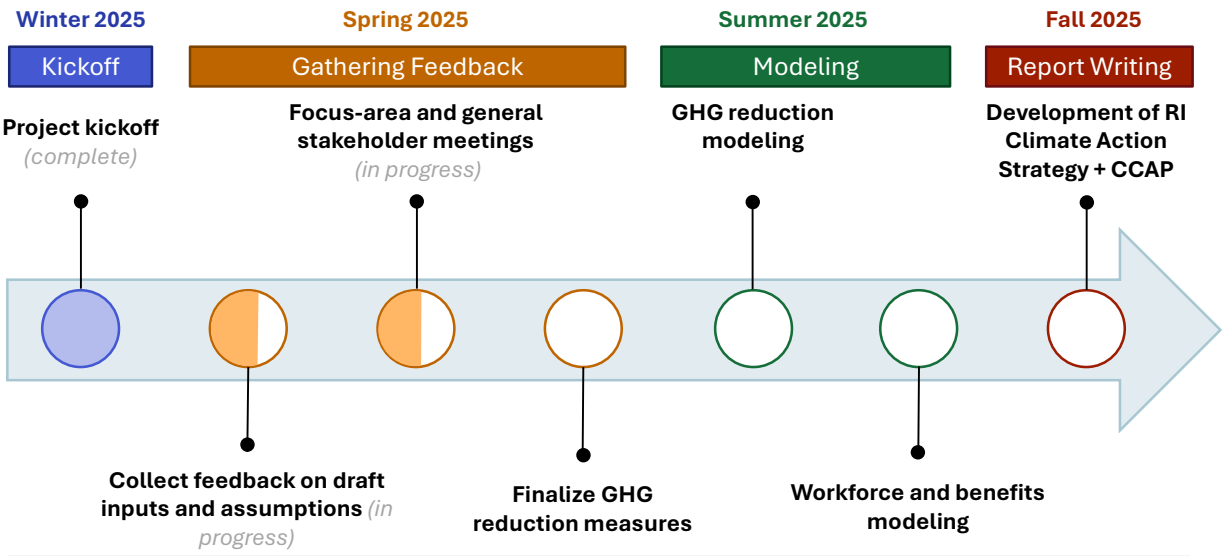
The overarching goal of this project is to create the RI Comprehensive Climate Action Plan (CCAP) for the Climate Pollution Reduction Grant (CPRG) program and the RI 2025 Climate Action Strategy as part of RI's Act on Climate

+ Key elements of each plan will include:

- Energy efficiency in buildings and transportation
- Transition away from fossil fuel
- Transition to renewable electric power
- The removal of carbon from the air through land use and forest conservation
- A just transition for workers
- Considerations for energy affordability and utility bills
- Benefits to environmental justice and low-income and disadvantaged communities (LIDAC)

20

Project Status and Timeline



21

How will your Feedback be Included?

- **Your feedback will be used to…**
  - Help the project team determine priority policies and programs to include in the RI Climate Action Strategy (related to reducing carbon emissions)
  - Develop the section of the RI Climate Action Strategy about burdens and co-benefits in environmental justice communities
- **We are taking note of all your comments and questions, even if specific suggestions don't fit into the scope of the RI Climate Action Strategy**
- **There are other ongoing studies and engagement opportunities for topics that may not fit within the RI Climate Action Strategy, such as the:**
  - Statewide Resilience Strategy due in 2025, and the
  - Climate Change Engagement Grants for engaging constituents on topics related to reducing RI's greenhouse gas emissions

22

Feedback we have Already Incorporated

What we heard so far…	Key changes incorporated into process…
+ Stakeholders require sufficient notice for scheduled meetings and time to review materials	+ Providing "save-the-dates" for all Action Plan Development stage stakeholder meetings
+ Importance of education in the plan	+ Exploring how to integrate the topic of education into the RI Climate Action Strategy
+ Equity must be integrated throughout the entirety of the plan, not just in the environmental justice section	+ Building a framework for integrating equity throughout the entirety of the plan
+ The importance of distinguishing between workforce development and worker impacts	+ Leading conversations about RI worker impacts with interested groups, in addition to the workforce stakeholder meeting
+ The need to include businesses in the planning process	+ Partnering with Commerce RI to integrate conversations with/about businesses

23

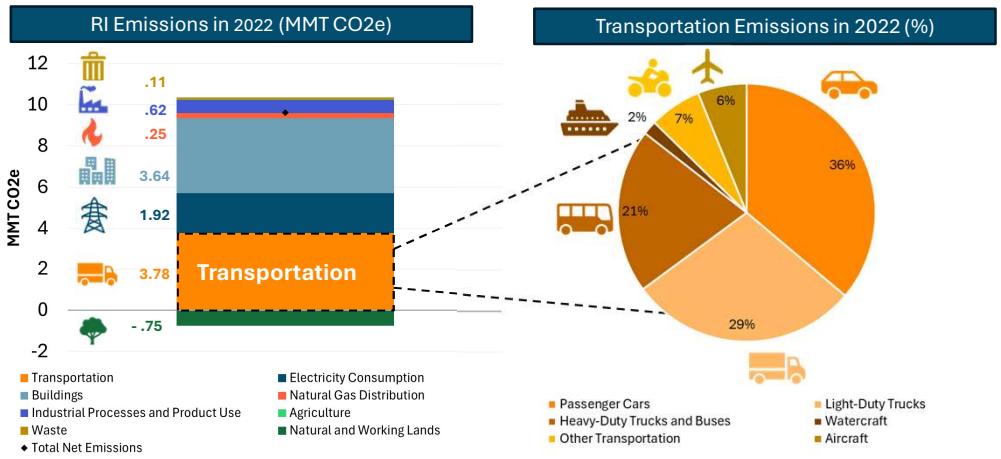
Key Pillars of Climate Action in RI

Energy+Environmental Economics

24

Transportation Emissions in RI

- RI emitted 10.4 MMT CO2e total greenhouse gas emissions in 2022, with the transportation sector contributing 37%
- Transportation emissions are primarily driven by fossil fuel combustion from passenger cars, light-duty trucks, and heavy-duty trucks and buses



Sources: RI 2022 Inventory, RI 2022 MOVES Data, 2020 Long Range Transportation Plan

Transportation Decarbonization Pillars

Example strategies

Electrify Vehicles

- Increase **annual sales for electric vehicles** by vehicle class
- Electrification of non-road gasoline and diesel demand
- Electrification of locomotive diesel
- Electrification of marine fuel

Increase Vehicle Efficiency

- **Improve fuel economy** for new vehicles

Increase the Use of Low-Carbon Fuels

- Increase the **blend of renewable and synthetic fuels** in vehicles and other transportation equipment

Reduce Vehicle Miles Traveled (VMT)

- **Increase transit ridership** through shared mobility programs, transit subsidies, improved bus shelters, improved rail
- **Increase active transportation** by increasing city walkability, improved bike lanes, bike and scooter share programs, and micromobility hubs
- Increase **work from home**
- Changes in **land use** policy to improve transit-oriented development
- Increase **carpooling**

Examples of Transportation Strategies Underway in Rhode Island

Installing More Electric Vehicle Chargers

Image credit: Electrifying Transportation Guide Dec. 2021: https://energy.ri.gov/sites/g/files/xkgbur741/files/2022-02/electrifying-transportation-guide-dec-2021.pdf. Electric vehicle charging stations at a park-and-ride in Ashaway, Hopkinton

Improved Bus Stops and Bus Operations

Image credit: Rhode Island Long Range Transportation Plan (LRTP): https://planning.ri.gov/sites/g/files/xkgbur826/files/documents/trans/2020/Final-LRTP-December-2020.pdf.

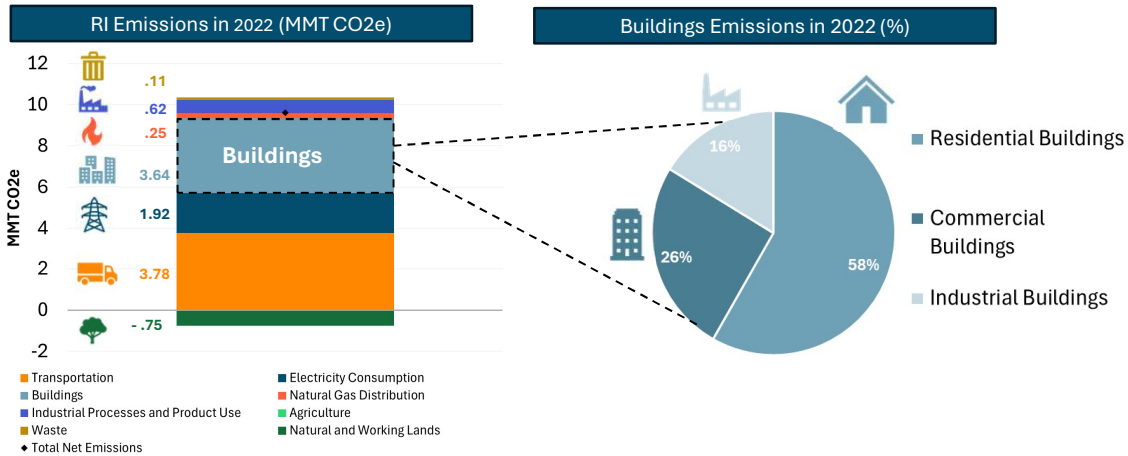
All-Electric Buses

Image credit: Rhode Island Public Transit Authority (RIPTA): https://www.ripta.com/projects/electric-bus/

27

Buildings Emissions in RI

- RI emitted 10.4 MMT CO2e total greenhouse gas emissions in 2022, with the buildings sector contributing 35%
- Buildings emissions are primarily driven by fossil fuel combustion from space & water heating devices using natural gas and heating oil (84%), with the remainder coming from industrial fossil fuel combustion (16%)



28

Building Decarbonization Pillars

Example strategies

Electrify Buildings

- Replace gas and fuel oil-powered space and water heating equipment with **heat pumps**
- Replace fossil fuel – powered appliances with **all-electric appliances**
- Provide electric equipment **rebates** and incentives
- Pursue **rate design reform** to improve economics of heat pump adoption

Energy Efficiency

- Improve building envelopes through **weatherization** of existing buildings
- Develop aggressive **building appliance standards**
- Develop **building performance standards** (BPS)
- Increase **grid interactivity** of appliances and equipment
- Enhance **behavioral conservation** through energy management systems

Renewable Energy in Buildings

- Install **solar PV** and/or **storage** at existing and new residential and commercial buildings
- Replace fossil fuel-powered water heating equipment with **solar hot water systems**
- Utilize **geothermal** technologies to heat and cool residential and commercial buildings

Increase the Use of Low-Carbon Fuels

- Increase the **blend of renewable fuels** in natural gas and heating oil delivered to homes and businesses
- Enforce **2021 Biofuel Heating Oil Act**, which will require 50% biodiesel blend by 2030

Increase the Use of Low-Carbon Materials

- Increase the use of **low-carbon building materials** when constructing new buildings, such as recycled metals and low-carbon concrete
- For cooling, switch to **refrigerants with low global warming potential** (GWP)

29

Examples of Buildings Strategies Underway in Rhode Island

Building Energy Efficiency and Weatherization, such as Better Insulation

Image credit: Rhode Island Office of Energy Resources (OER) Air Source Heat Pump Guide: https://energy.ri.gov/sites/g/files/xkgbur741/files/2022-11/OER%20Guide%20to%20Air%20Source%20Heat%20Pumps.pdf.

Installation of Heat Pumps for Space Heating and Cooling Needs

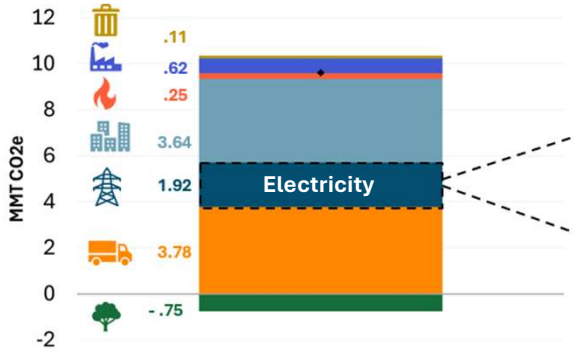
Image credit: Rhode Island Office of Energy Resources (OER) Air Source Heat Pump Guide: https://energy.ri.gov/sites/g/files/xkgbur741/files/2022-11/OER%20Guide%20to%20Air%20Source%20Heat%20Pumps.pdf.

30

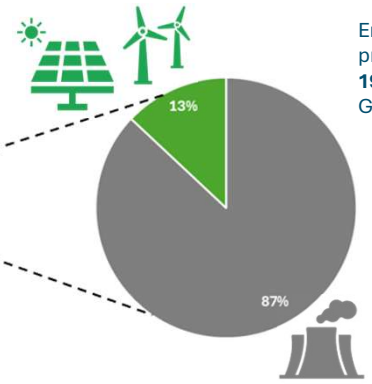
Electricity Emissions in RI

- RI emitted 10.4 MMT CO2e total greenhouse gas emissions in 2022, with the electricity sector contributing 19%
- Electricity emissions are primarily caused by fossil fuel combustion to produce electricity for Rhode Islanders to use to power their everyday activities

RI Emissions in 2022 (MMT CO2e)



Electricity Generation in 2022 (%)



Emissions from electricity production accounts for **19%** of Rhode Island's GHG emissions

31

Key Considerations for a More Sustainable Energy Sector in RI

Meeting Rhode Island's energy needs through **100% renewable sources by 2033**

Renewable energy includes wind (onshore and offshore) and solar

Modernizing the electric grid to smoothly integrate renewables into the electricity supply and deliver electricity efficiently and reliably

Enhancing energy information sharing and customer education, such as allowing consumers to track energy use in real time through the installation of smart meters

Implementing **efficiency programs** and switching to **alternative fuel sources** to help households and businesses save money on energy bills and reduce emissions

32

Examples of Energy Strategies Underway in Rhode Island

Block Island Offshore Wind Farm

Image credit: Block Island Wind Farm, Dennis Schroeder/National Renewable Energy Lab, Public Domain. https://www.fws.gov/media/block-island-wind-farm-0

33

Additional Focus Areas in RI Climate Action Strategy

Environmental Justice and Workforce

Environmental Justice and Equitable Transition

- People of color and low-income communities in RI are disproportionately impacted by environmental pollution and the negative effects of climate change
- The RI Act on Climate dictates that the RI Climate Action Strategy includes an equitable transition to climate compliance for environmental justice populations and addresses past harms

Workforce

- Transitioning to a cleaner, more sustainable economy will create new jobs, but some jobs may also be lost
- Clean technologies and jobs will require training and workforce development
- A just transition will be important to ensure high-quality jobs and equitable opportunities

34

The Role of an Equitable Transition in the RI Climate Action Strategy

The Act on Climate dictates that the RI Climate Action Strategy (RI CAS) *"shall include an equitable transition to climate compliance for environmental justice populations, redress past environmental and public health inequities, and include a process where the interests of and people from populations most vulnerable to the effects of climate change and at risk of pollution, displacement, energy burden, and cost influence such plan."*

Prioritize GHG Reduction Strategies that Advance Equity and Environmental Justice

Collaborate with Communities Most Impacted by Climate Change and Policies

Consider Decarbonization Cobenefits *(e.g., Workforce Development and Climate Resilience)*

35

Energy+Environmental Economics

Questions?

36

Virtual Poster Activity – Opportunities and Barriers

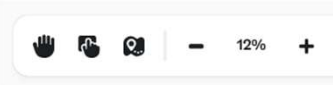
Energy+Environmental Economics

37

Virtual Poster Activity

Instructions:

- Open Poster Activity with provided link in chat.
- Navigate around and zoom in and out on the 5 poster boards: Energy, Transportation, Buildings, Environmental Justice, and Workforce



- Provide comments using Sticky Notes – any shape, color, or size is ok

- Utilize the timed breakout rooms if you have questions.

38

Virtual Poster Activity

Explore the Topics:

- Spend time in each breakroom.
- Explore each room's topic using the poster in mural (LINK)

Share Your Thoughts:

Share comments, questions, or insights directly in mural or in the chat. Survey Monkey also available.

Reflect on Key Questions:

- What opportunities excite you about reducing carbon emissions?
- What are the biggest barriers to reducing carbon emissions?
- What challenges do you personally face?
- How can the State help overcome these challenges?
- What are your and/or your community's top priorities?

39

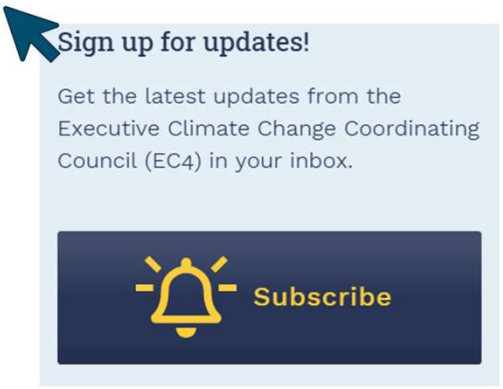
Wrap Up and Next Steps

- **E3 and RI will consider feedback from this session when…**
  - Developing the list of emissions reduction policies to include in the RI Climate Action Strategy
  - Considering how to design programs and policies to be equitable and just
- **Feel free to submit additional thoughts on the RI Climate Action Strategy in the SmartComment portal:** https://ri.commentinput.com/?id=em4auDNSK
- **RI, Lighthouse, and E3 will host additional engagement sessions over the course of April (visit www.climatechange.ri.gov/events for details)**
- **E3 and BW will complete the emissions, workforce, and benefits modeling over the summer**

40

Staying in the Loop on the 2025 Strategy

Sign up to receive ongoing announcements about engagement on the RI 2025 Climate Action Strategy HERE or follow the below QR code



41

Upcoming Engagement Opportunities

+ **General Stakeholder Meeting [In-person]**
  - 5/5/2025 6:00 pm - 8:00 PM
  - **Newport**: Newport Public Library
+ **Energy Focus Area Meeting**
  - 5/9/2025 11:00 am – 1:00 pm
  - Virtual Zoom meeting

42

Thank You

Chelsea Petrenko: chelsea.petrenko@ethree.com
Eric Kretsch: ekretsch@lighthousecg.com
Molly Bertolacini: molly.bertolacini@ethree.com
Liz Stone: elizabeth.stone@dem.ri.gov

Energy+Environmental Economics

How did we do? Help improve future public meetings.

English

Español

43