Overview Presentation

January 12, 2022
Energy Efficiency Advisory Committee
de.gov/climateplan

DELAWARE DEPARTMENT OF
NATURAL RESOURCES AND
ENVIRONMENTAL CONTROL

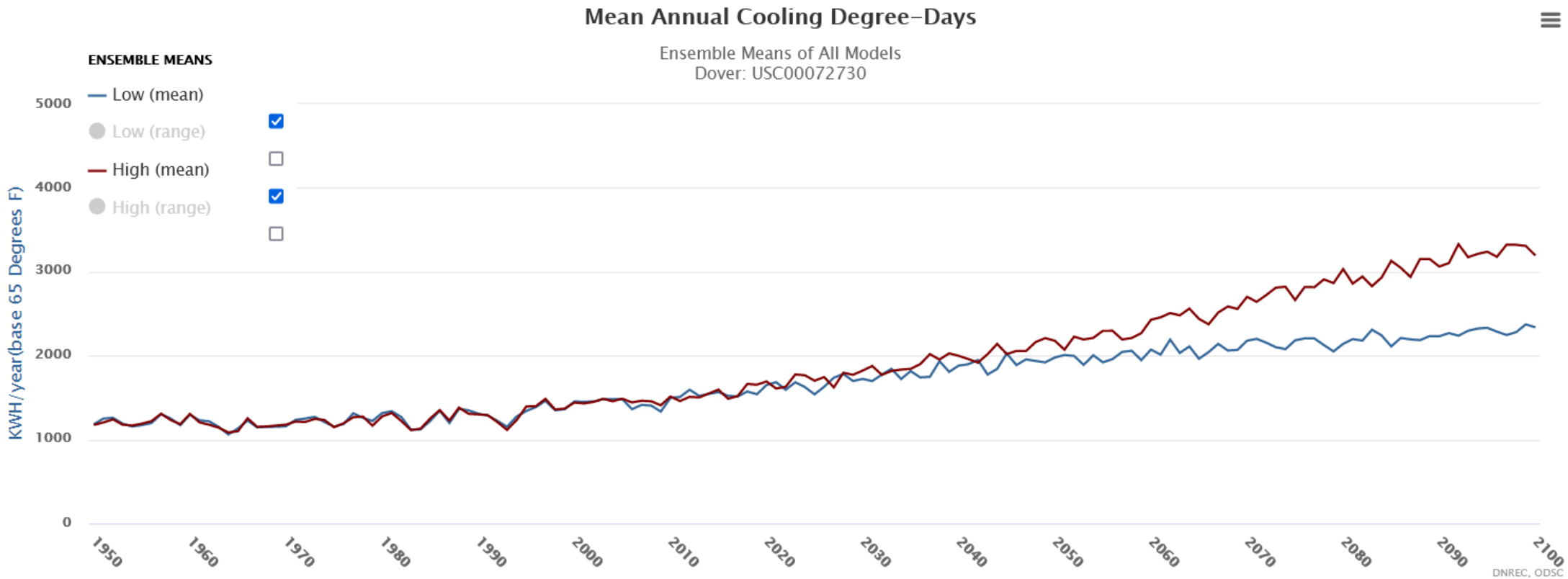

Climate Change in Delaware

In Delaware, climate change primarily takes the form of:

- **Sea level rise,**
- **Increased temperatures**, and
- **More frequent intense storms**, including **heavy precipitation and flooding.**

This results in in damage to infrastructure and homes, decreased water quality, human health issues, changes in energy use, and economic disruptions, among others.

Climate projections indicate increasing cooling degree days under both low and high emissions scenarios



http://cema.udel.edu/declimateprojections/portal/

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Plan Overview

Delaware's Climate Action Plan can guide state efforts to **Minimize greenhouse gas emissions** and **Maximize resilience to climate change impacts.**

The Climate Action Plan was created to:

- Help Delaware meet its emissions reduction goal (at least 26% from 2005 levels by 2025).
- Integrate emissions reduction and climate change adaptation actions.
- Set a course for state climate action in the decades ahead.

A Living Document

- Many of the strategies in the Plan build off existing programs.
- Strategies can be implemented over time, as resources, data and partnerships develop.
- Actions can evolve and change, as Delaware's understanding of climate impacts and climate change strategies grows.

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Guiding Principles for Implementation

Ensure climate action is ambitious yet adaptable.

Ensure climate action accounts for all costs and benefits.

Ensure climate action is engaged, empowering and equitable.

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Minimizing Emissions



Delaware Emissions

Human activities have increased the amount of greenhouse gases in our atmosphere.

DNREC's Division of Air Quality conducts an annual **GHG inventory** of in-state greenhouse gas emissions.

The top three sectors that are the leading sources of emissions in Delaware are:

- **Transportation**
- **Industrial**
- **Electrical Power**

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Categories of Strategies For Minimizing Emissions

- Clean and Renewable Energy
- Energy Efficiency
- Transportation Systems
- High Global Warming Potential Greenhouse Gases
- Offsetting Carbon Emissions

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Minimizing Emissions– What We Learned

With **no new actions** will just **miss the 2025 goal** of at least 26% reductions from 2005 levels.

With **modeled actions put in place** Delaware **can exceed its 2025 target** (31.1% reductions by 2025).

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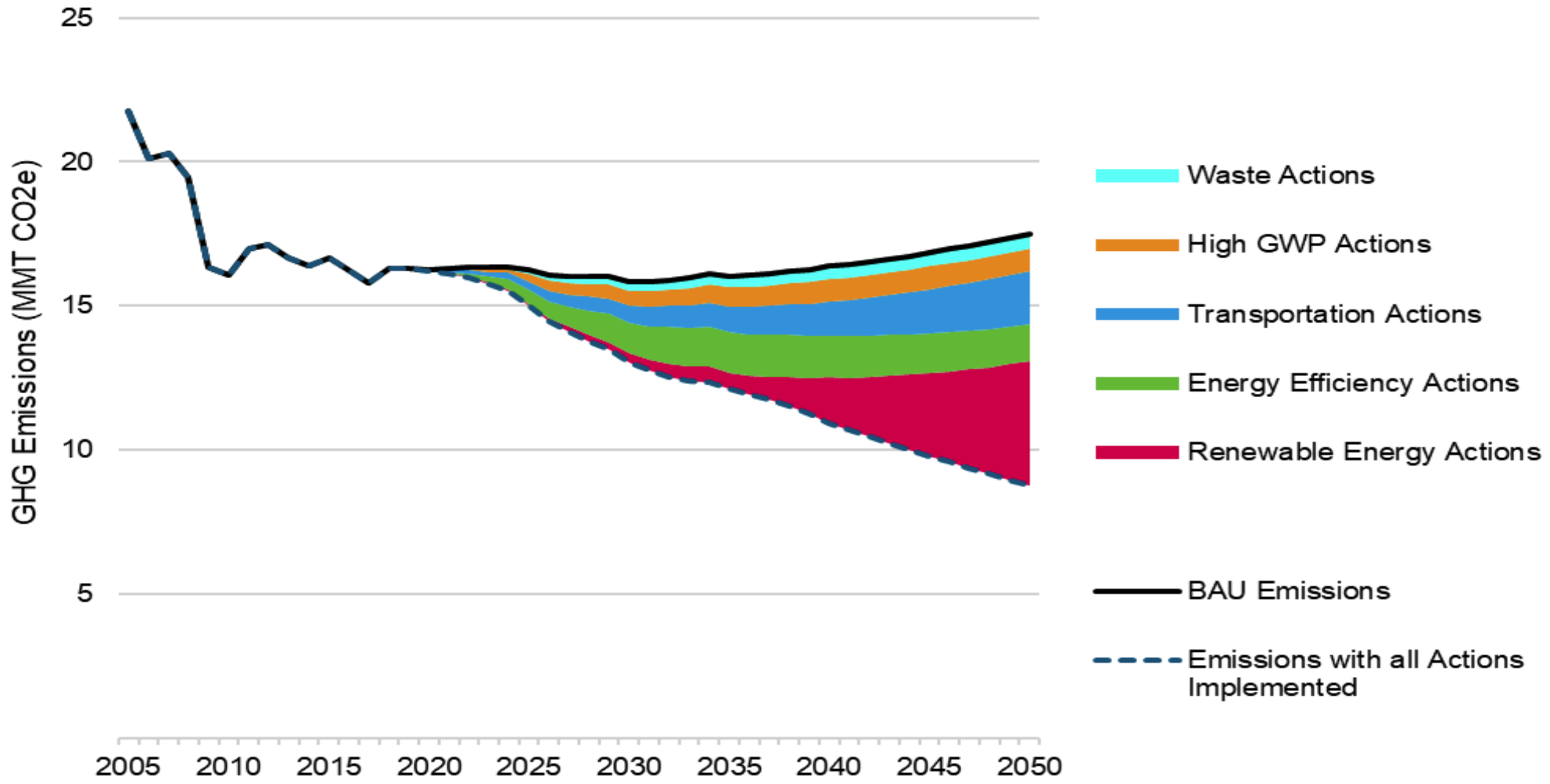
Emission Reduction Potential by 'Action Category'



DELAWARE'S Climate Action Plan

GREENHOUSE GAS EMISSIONS REDUCTION POTENTIAL

What is $MTCO_2e$?

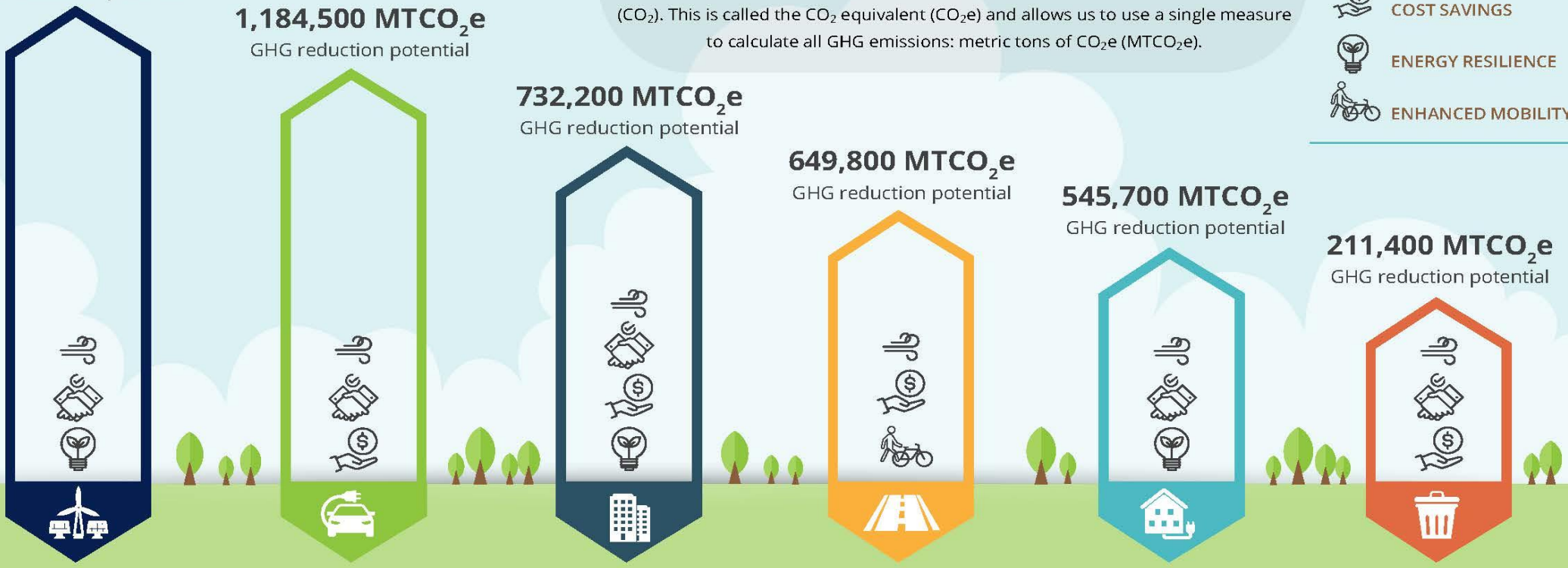
METRIC TONS OF CARBON DIOXIDE EQUIVALENT

Each greenhouse gas (GHG) has a different ability to trap heat in the atmosphere. We can compare each GHG's heat-trapping ability to that of the GHG carbon dioxide (CO_2). This is called the CO_2 equivalent (CO_2e) and allows us to use a single measure to calculate all GHG emissions: metric tons of CO_2e ($MTCO_2e$).

CO-BENEFITS

- IMPROVED AIR QUALITY
- JOB CREATION
- COST SAVINGS
- ENERGY RESILIENCE
- ENHANCED MOBILITY

The values on top of each bar indicate the **2050 GHG emissions reduction potential** for implementing that strategy. Reduction potential values come from GHG modeling carried out in the summer of 2020, taking into account market feasibility for the earliest time each strategy could be put into place.



4,333,200 $MTCO_2e$
GHG reduction potential

Renewable Energy

Installation of on-site renewable energy at homes and businesses

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More renewables in the grid

1,184,500 $MTCO_2e$
GHG reduction potential

Zero-Emission Vehicles

More electric, plug-in hybrid and fuel cell vehicles available

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More charging infrastructure

Vehicle purchase incentives

732,200 $MTCO_2e$
GHG reduction potential

Building Energy Efficiency

Higher standards for energy performance

Buildings cost less to operate

More financial incentives available to implement upgrades

649,800 $MTCO_2e$
GHG reduction potential

Fuel and Roadway Efficiency

More efficient, cleaner running vehicles

More options to get around without a car

More walking and biking opportunities

545,700 $MTCO_2e$
GHG reduction potential

Building Electrification

Buildings increasingly rely on electricity for all energy uses to maximize renewable benefits

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Options for homes and businesses to upgrade building systems

211,400 $MTCO_2e$
GHG reduction potential

Waste Diversion and Reduction

Increased options to divert waste through recycling and composting

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Encourage the principles of "reduce, reuse, recycle (or compost)"

What does it mean?

Energy Efficiency Strategies

- Strengthen building energy codes.
- Expand energy efficiency programs for residential and commercial buildings.
- Expand energy efficiency opportunities for low- and moderate-income residents and small businesses.
- Improve industrial energy efficiency.
- Support the long-term transition to building electrification.

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Strategy: Expand EE programs for residential and commercial

- Action: Build on existing programs to reduce energy consumption by …0.7% by 2022 and 1.5% annually from 2023 forward
  - Continue EEAC goals and create new cost sharing programs across utilities
- Action: Expand weatherization…
- Action: Promote worker training in EE
- Action: Assess feasibility of appliance energy efficiency
- Action: Develop cool roof program

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Strategy: Improve Industrial Energy Efficiency

- Action: Build on existing programs to reduce energy consumption by 1.5% from 2023 forward
- Action: Maintain funding to PUT for EEIF
- Action: Expand EE programs to target 10 highest users in the state
- Action: provide outreach and ID opps to reach corporate goals (ESG)

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Strategy: Support long-term transition to building electrification

- Action: Conduct analysis of opportunities and barriers for transition to building electrification
- Action: Research EV-ready building codes as strengthening amendments to IECC and ASHRAE codes.

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Maximizing Resilience

Maximizing Resilience – What We Learned

- Staff from 10 Delaware state agencies identified **climate change adaptation actions** they'd like to take in the next five years.
- **All agencies** are already involved in resiliency actions and are **ready to expand** and continue resiliency work.
- Workshop attendees believed that **regulatory actions and community and stakeholder support** were the most important to implement.

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Categories of Strategies for Maximizing Resilience

- Updated or New State Regulations
- Management Plans
- Facility and Infrastructure Design and Management
- Agency Support
- Research and Monitoring
- Support for Communities and Stakeholders
- Outreach and Education

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Energy Related Strategies and Actions for Resiliency

- Strategy: Update emergency response and hazard reduction plans to incorporate climate projections
  - Action: Complete full update of the Energy Assurance Plan to incorporate climate change
- Strategy: Prepare state facilities and equipment for climate change
  - Action: Update and maintain heating, ventilation and cooling systems in state-owned buildings for proper function under future climate conditions
- Strategy: Increase pilot projects and demonstration sites
  - Action: Support pilot projects for energy storage, microgrids, etc.
- Strategy: Act as climate change adaptation leaders
  - Action: promote energy efficiency programs…

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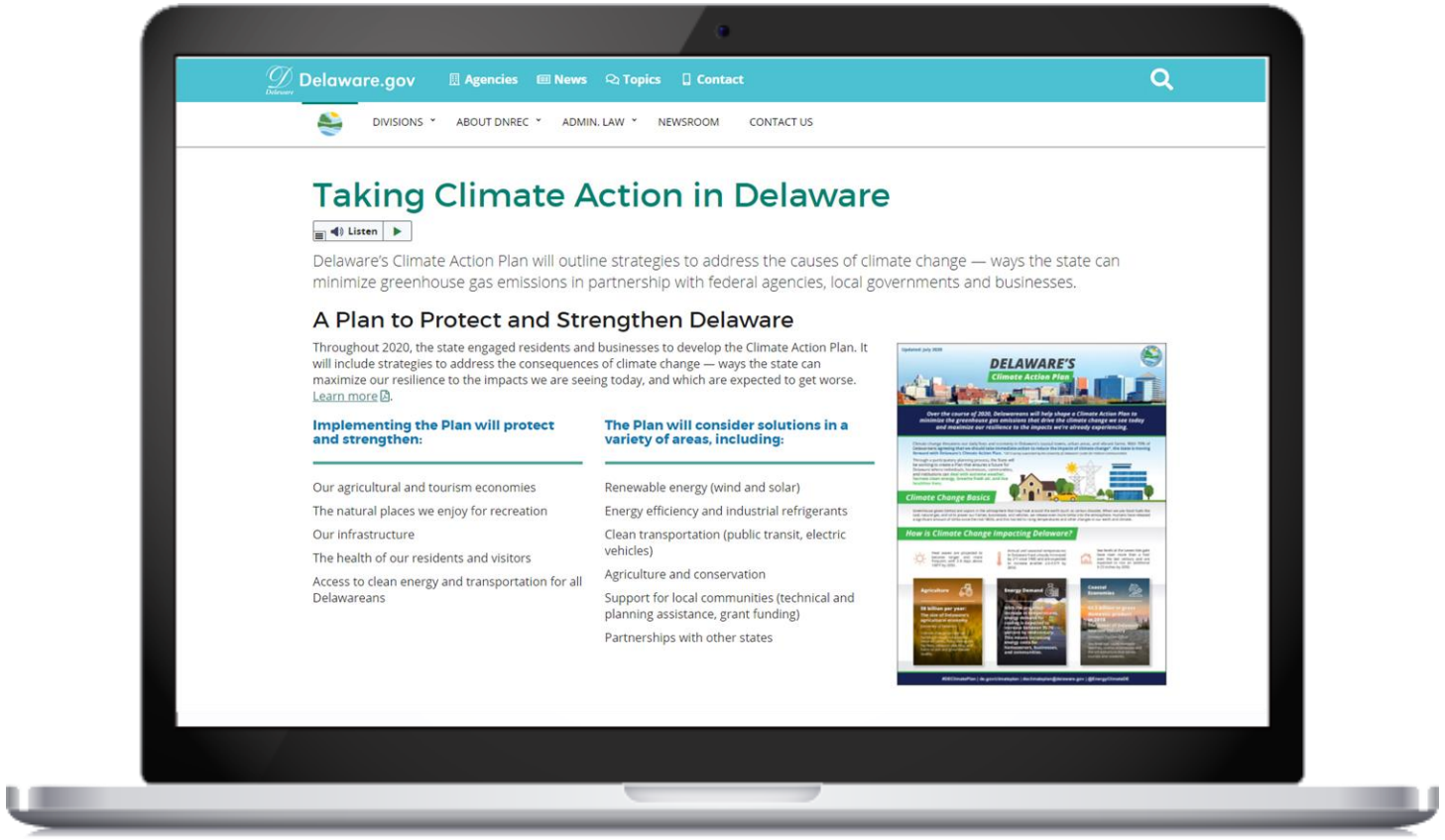
Implementing the Plan

Stay Informed



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Thank You

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Questions