



# ***DELAWARE'S*** ***Climate Action Plan***

## **RASCL Coffee Hour**

March 4, 2022

10 a.m. – 11 a.m.

[de.gov/climateplan](https://de.gov/climateplan)



DELAWARE DEPARTMENT OF  
NATURAL RESOURCES AND  
ENVIRONMENTAL CONTROL



# Climate Change in Delaware

Climate change looks different depending on where you are in the world.

In Delaware, climate change primarily takes the form of:

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





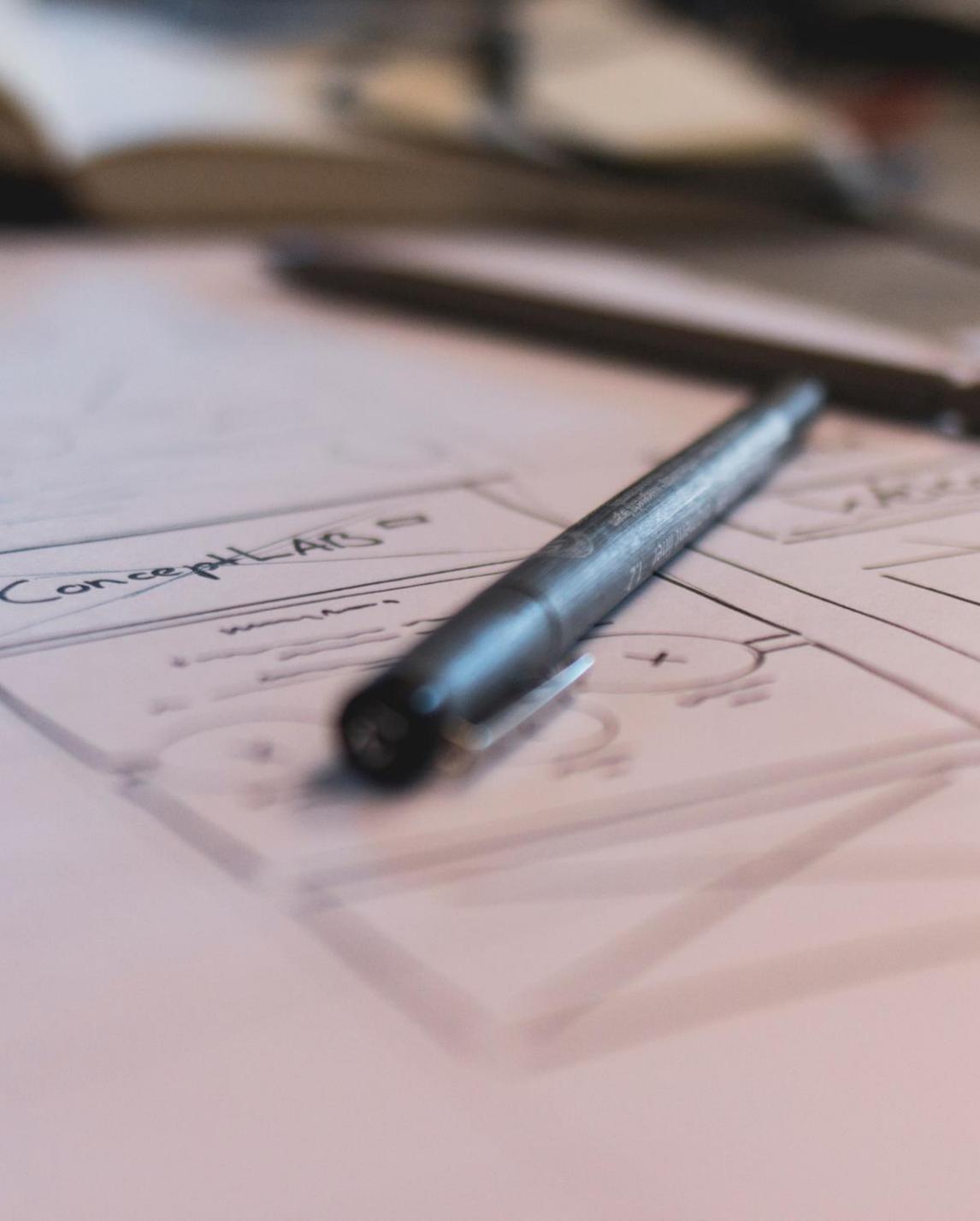
# Plan Overview

Delaware's Climate Action Plan guides 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 these strategies 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.

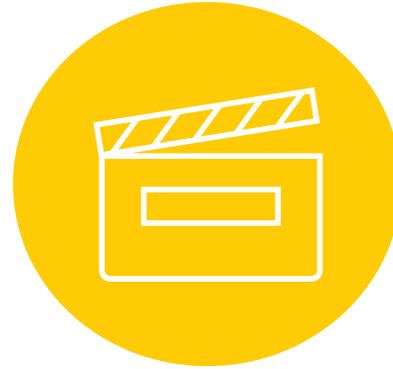


# How Municipalities Can Use/Benefit from DE's Climate Action Plan



## A Reference

- Climate change science and vulnerabilities
- Available grant and technical assistance programs



## A Guide for Action

- Emission reduction strategies
- Resiliency strategies
- Principles for implementation



## An Opportunity

- To start a community dialogue
- To reference in grant applications





# 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.





# Strategies to Maximize Resilience



# Updated or New State Regulations

- Update regulations to reduce risk to properties from climate change.
- Update regulatory processes to allow for greater inclusion of climate change impacts in permit decisions.
- Develop a comprehensive regulatory strategy to conserve and restore ecosystem services under future climate conditions.





# Support for Communities and Stakeholders

- Increase grant opportunities for climate change adaptation projects and prioritize funding for projects that incorporate climate resilience.
- Assist local governments, homeowners, industries and utilities in increasing resilience to climate change.
- Support programs and initiatives that help frontline communities adapt to climate change.
- Provide training, tools and technical assistance on climate change impacts and resilience actions.





# Management Plans

- Incorporate climate change impact and adaptation considerations into strategic plans.
- Update emergency response and hazard reduction plans to incorporate future climate projections.
- Update or create management plans to incorporate future climate projections.





# Facility Design and Operation

- Update facility construction guides and standards to increase resilience to climate change impacts.
- Prepare state facilities and equipment for climate change impacts.





# Research and Monitoring

- Continue and expand research on climate change impacts in Delaware.
- Increase the number of resilience pilot projects and demonstration sites in Delaware.





# Outreach and Education

- Develop targeted communication tools and messages about climate change.
- Increase the availability of climate change educational programming.
- Provide outreach to businesses to help them understand and build resilience to climate change impacts.





# Agency Support

- Increase the capacity of all state agencies to build resilience to climate change.
- Improve information sharing across state agencies to support regulatory and policy decisions.
- Act as climate change adaptation leaders.





# 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**





# 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).



**CO-BENEFITS**

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

**What is MTCO<sub>2</sub>e?**

**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<sub>2</sub>). This is called the CO<sub>2</sub> equivalent (CO<sub>2</sub>e) and allows us to use a single measure to calculate all GHG emissions: metric tons of CO<sub>2</sub>e (MTCO<sub>2</sub>e).

**4,333,200 MTCO<sub>2</sub>e**  
GHG reduction potential

**1,184,500 MTCO<sub>2</sub>e**  
GHG reduction potential

**732,200 MTCO<sub>2</sub>e**  
GHG reduction potential

**649,800 MTCO<sub>2</sub>e**  
GHG reduction potential

**545,700 MTCO<sub>2</sub>e**  
GHG reduction potential

**211,400 MTCO<sub>2</sub>e**  
GHG reduction potential

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.



**Renewable Energy**

Installation of on-site renewable energy at homes and businesses  
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More renewables in the grid



**Zero-Emission Vehicles**

More electric, plug-in hybrid and fuel cell vehicles available  
-----  
More charging infrastructure  
-----  
Vehicle purchase incentives



**Building Energy Efficiency**

Higher standards for energy performance  
-----  
Buildings cost less to operate  
-----  
More financial incentives available to implement upgrades



**Fuel and Roadway Efficiency**

More efficient, cleaner running vehicles  
-----  
More options to get around without a car  
-----  
More walking and biking opportunities



**Building Electrification**

Buildings increasingly rely on electricity for all energy uses to maximize renewable benefits  
-----  
Options for homes and businesses to upgrade building systems



**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?**



# Strategies to Minimize Emissions



# Clean and Renewable Energy

- Strengthen Delaware's Renewable Energy Portfolio.
- Increase the number of on-site renewable energy systems in residential, commercial and industrial buildings.
- Address equity challenges in access to renewable energy.
- Ensure Delaware is prepared for offshore wind energy opportunities.
- Ensure increased commitment to renewable energy in state agency operations.





# Energy Efficiency Measures

- 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.





# Transportation Systems

- Strengthen consumer adoption of electric vehicles.
- Expand charging infrastructure for electric and plug-in hybrid electric vehicles.
- Improve accessibility of low-carbon transportation options for all Delawareans.
- Improve the efficiency of freight delivery.
- Reduce vehicle miles traveled by 10% by 2030.





# Transportation Systems (continued)

- Ensure electric and hybrid plug-in electric vehicles contribute to grid stability.
- Capitalize on the transition to zero-emission vehicles to stimulate innovation and provide jobs.
- Lead by example in state government operations to reduce transportation emissions.
- Partner with other states to implement market-based mechanisms to reduce emissions.

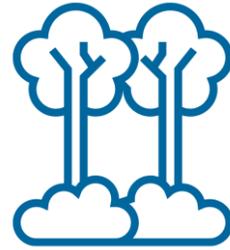




# High Global Warming Potential Greenhouse Gases

- Reduce emissions from hydrofluorocarbons.
- Reduce methane emissions through expanded methane capture.
- Reduce methane leakage from natural gas transmission and distribution pipelines.
- Increase renewable natural gas production and incentivize markets for its use as a fuel.
- Reduce methane emissions by diverting waste from landfills through increased recycling and waste diversion.





# Offsetting Carbon Emissions

- Support best-management practices on agricultural lands that provide greenhouse gas emissions co-benefits.
- Support conservation and restoration of forests.
- Support local communities' enhancement of urban greenspaces.
- Improve methods for measuring and tracking carbon sequestration.



# Guiding Principles for Implementation



**Ensure climate action is ambitious yet adaptable.**



**Ensure climate action accounts for all costs and benefits.**



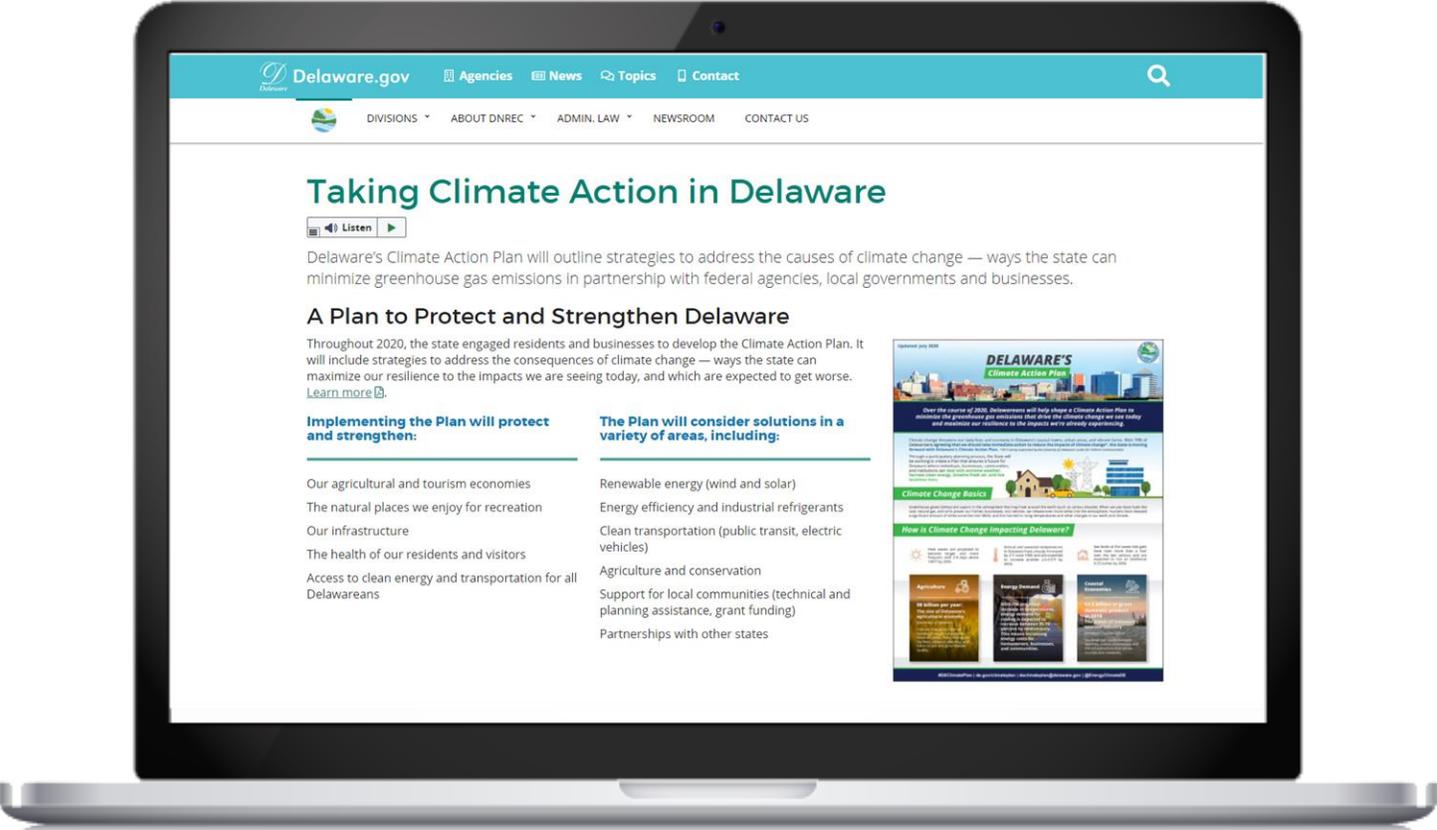
**Ensure climate action is engaged, empowering and equitable.**





# Next Steps

# Stay Informed



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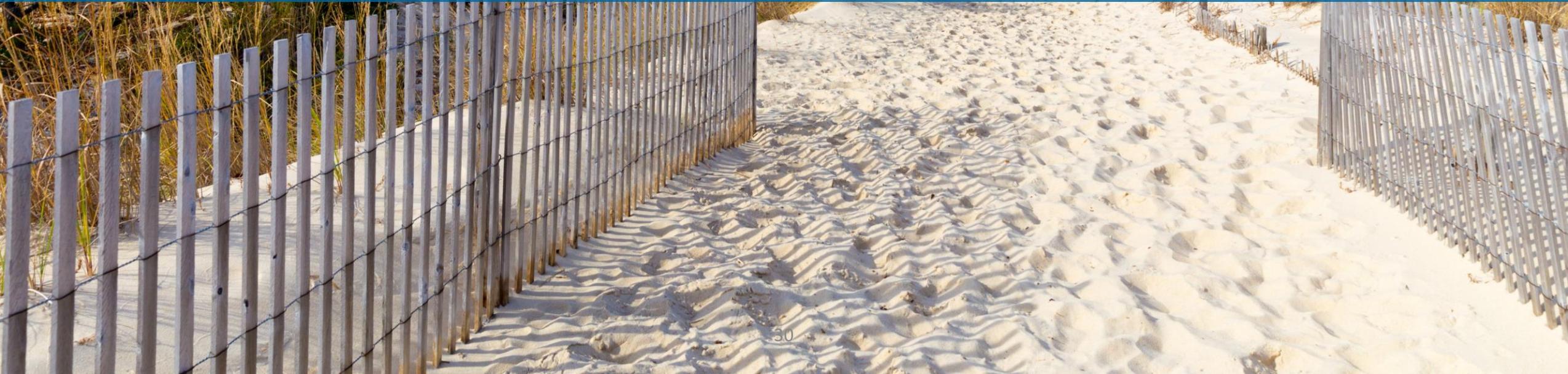


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# Questions





# Thank You

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