

You have arrived at:

Aligning Climate Action Plans to Maximize Resilience in the Mid- Atlantic



EPA MID-ATLANTIC REGION 2022 SUMMIT

Working Together to Build a Better, More Equitable Region

Welcome!

We will get started
soon.

Friendly Reminders Before We Get Started

Please **mute yourself** and **turn off your webcam** during presentations.

If you encounter technical difficulties during the meeting, you can:

- ✓ Put a request for help in the chat
- ✓ Call in to the meeting at +1 646 828 7666;
Meeting ID: 161 938 5372
- ✓ Email SWARNER@scgcorp.com

This session is being recorded and will be made available after the summit.



U.S. ENVIRONMENTAL PROTECTION AGENCY

Climate Adaptation Action Plan

OCTOBER 2021



Aligning Climate Action Plans to Maximize Resilience in the Mid-Atlantic

EPA Mid-Atlantic Region 2022 Summit

“Working Together to Build a Better, More Equitable Region”

May 25, 2022



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

EPA Mid-Atlantic Region 2022 Summit

Aligning Climate Action Plans to Maximize Resilience

May 25, 2022



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.





Greenhouse Gas Emissions

Human activities have increased the amount of greenhouse gases in our atmosphere, warming our planet and causing climate change

The leading sources of emissions in Delaware are:

- **Transportation (30% in 2018)**
- **Industrial (24% in 2018)**
- **Electrical Power (25% in 2018)**





Plan Overview

Delaware's Climate Action Plan will 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.





What's in the Plan

Chapter 1: Introduction

- Delaware's climate change impacts
- Why climate action matters

Chapter 2: Developing the Plan

- Past and present state actions
- How the Plan was put together

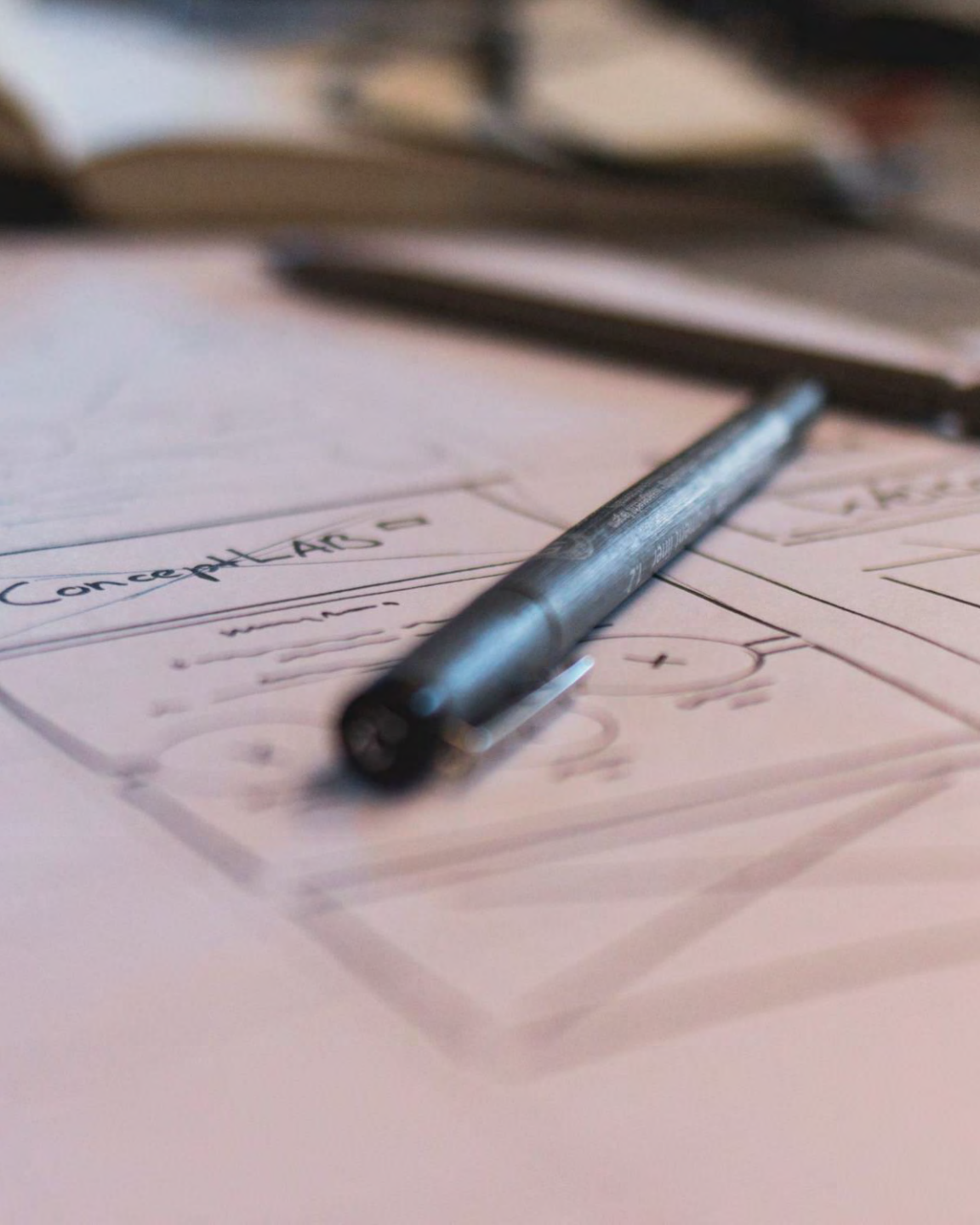
Chapter 3: Climate Action Plan

- Strategies to minimize emissions
- Strategies to maximize resilience

Chapter 4: Next Steps

- Accountability and transparency
- Achieving equity in climate action





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.



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.





Minimizing Emissions



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 MTCO₂e?

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 (CO₂). This is called the CO₂ equivalent (CO₂e) and allows us to use a single measure to calculate all GHG emissions: metric tons of CO₂e (MTCO₂e).

4,333,200 MTCO₂e
GHG reduction potential

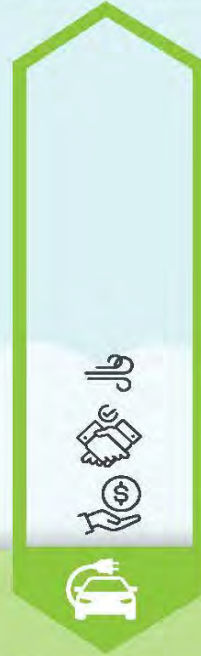
1,184,500 MTCO₂e
GHG reduction potential

732,200 MTCO₂e
GHG reduction potential

649,800 MTCO₂e
GHG reduction potential

545,700 MTCO₂e
GHG reduction potential

211,400 MTCO₂e
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.

What does it mean?

Renewable Energy

Installation of on-site renewable energy at homes and businesses

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

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



Categories of Strategies For Minimizing Emissions

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





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 Build upon decades of building climate resiliency

- 2013 Sea Level Rise Adaptation Plan
- 2014 Climate Framework for Delaware
- Assistance for Local Governments
 - RASCL
 - Sustainable Communities Planning Grants
 - Resilient Communities Partnership
- Assistance for State Agencies
 - SOFA grants
 - Partnership projects
- Cornerstone preservation acts:
 - Beach Preservation Act
 - Coastal Zone Act
 - Land Protection Act



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





Implementing the Plan

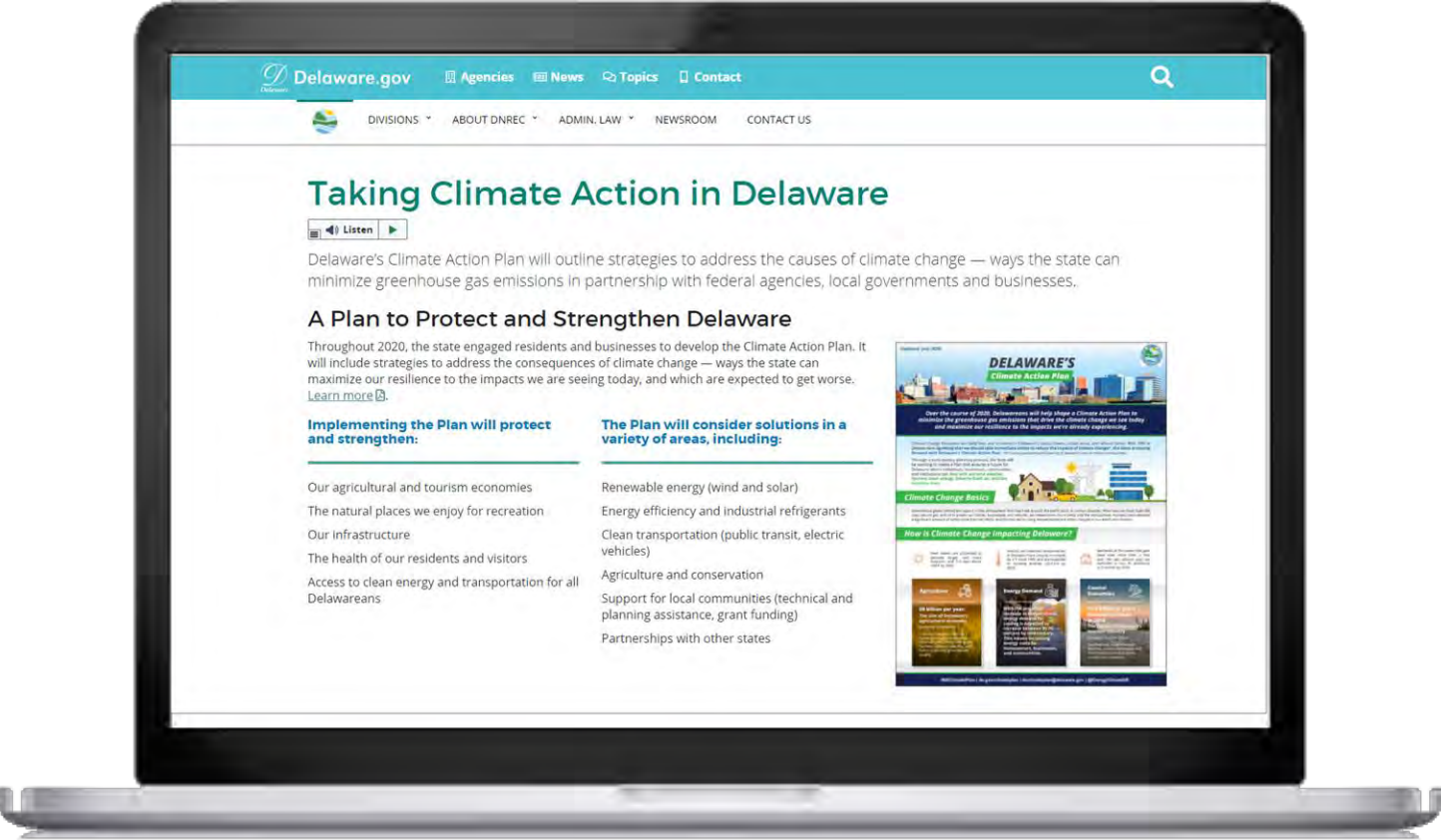


Implementation Priorities

- Tree for Every Delawarean Initiative (TEDI)
- Electric Vehicle policy, programs and deployment
- Delaware's Climate Leadership Academy
- Expanding partnerships with local governments and communities
- Updating climate planning scenarios based on emerging science



Stay Informed



de.gov/climateplan



 @DelawareDNREC
@DNRECClimate

 @DelawareDNREC
@ DNRECClimate



Questions



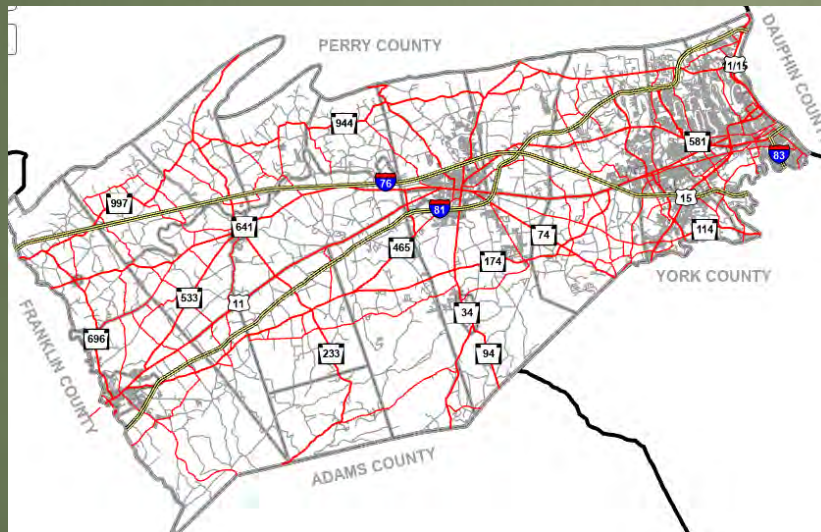
Cumberland County Climate Action Plan



Cumberland County Quick Facts



- ▶ Fastest Growing County in Pennsylvania
- ▶ Bisected by I-81 and I-76 – major transportation corridors



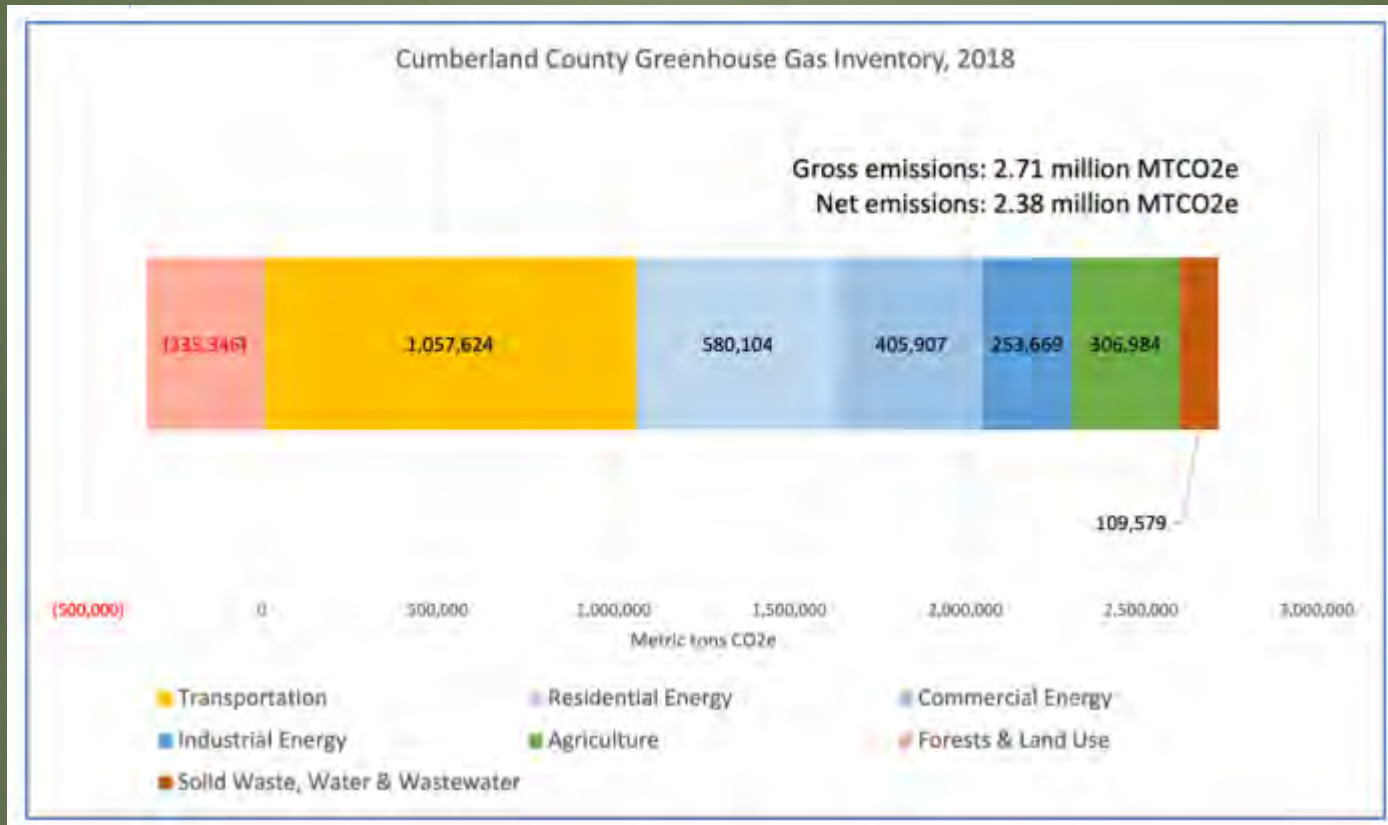
- ▶ Freight transportation and warehousing are important industries
- ▶ Developed eastern portion of the county, less developed western portion

Climate Action Plan – DEP LCAP Program

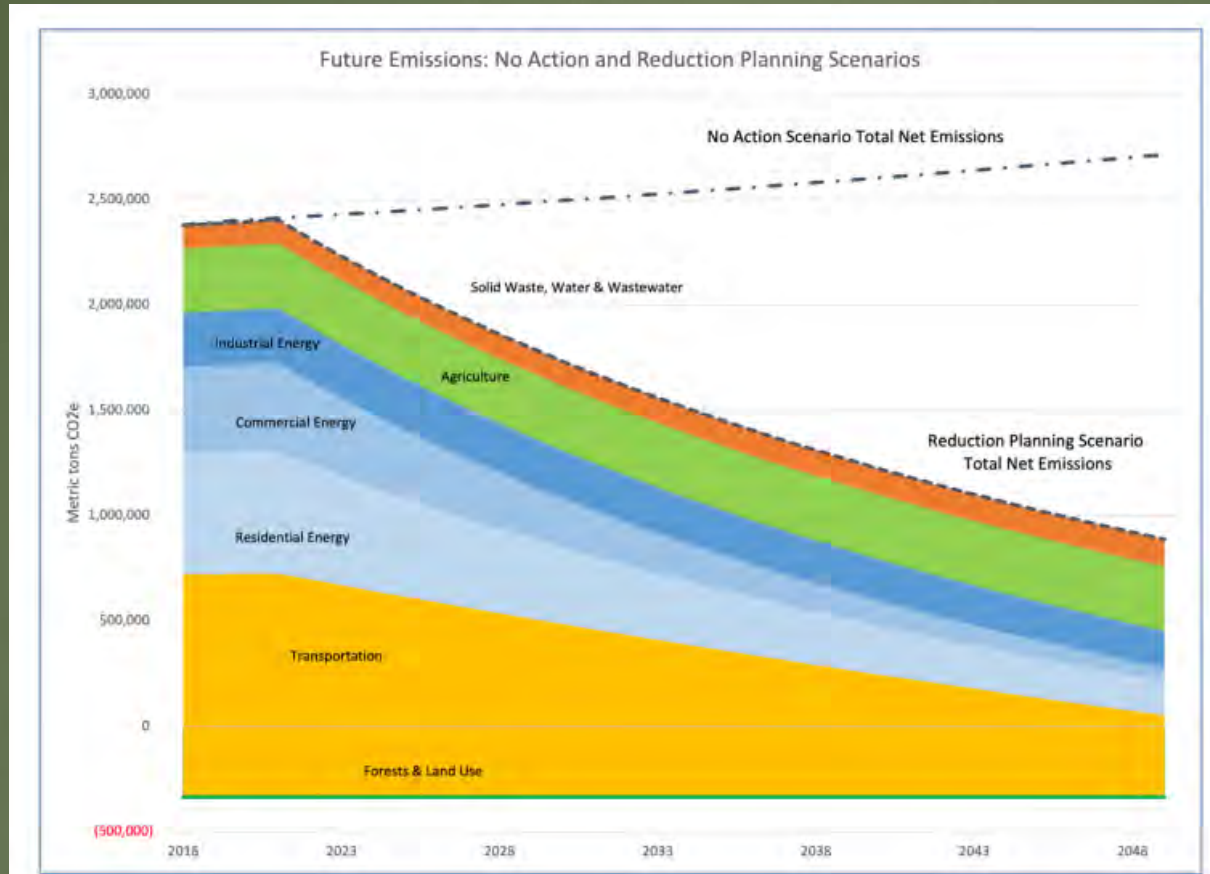
- ▶ County Planning Department paired with faculty from Shippensburg University – Center for Land Use Sustainability and Dickinson College as core team
- ▶ Focus group approach – virtual meetings enabled broader input in the plan
- ▶ Implementation table focuses on actions to be taken at various scales



Greenhouse Gas Inventory



Scenarios to Reduce Emissions



Strategy	2025	2030	2040	2049
Energy Efficiency & Conservation				
Reduce Residential & Commercial Energy Use	-50,968	-91,928	-130,591	-142,965
Reduce Vehicle Miles Traveled	-75,836	-119,331	-146,248	-159,327
Switch End Uses to Low Carbon Energy				
Switch to Electricity & Renewable Gas	-22,454	-42,779	-65,934	-74,307
Replace Gasoline Vehicles with Electric Vehicles	-38,330	-131,174	-356,571	-548,838
Generate Electricity with Zero Carbon Energy	-178,658	-369,417	-673,513	-890,912
All Strategies	-366,246	-754,629	-1,372,857	-1,816,349
% Change from 2018	-12.8%	-27.1%	-48.6%	-62.6%

Climate Action Partnerships

Event #2 - Climate Action Planning Series 2020-2021

Municipal Rules - Where Real Action Happens

Registration & details at <https://bit.ly/3eEqZNx>

This event is the second of three and is coordinated by Carlisle Borough in collaboration with community partners including the Cumberland Conservation Collaborative, South Mountain Partnership, the Center for Land Use and Sustainability at Shippensburg University, the Center for Sustainability Education at Dickinson College, Cumberland County Planning Department, and Yellow Breeches Watershed Association.



The diagram illustrates a five-step process for climate action, centered around 'Leadership Commitment'. The milestones are:

- Milestone One: Inventory GHG Emissions
- Milestone Two: Establish Reduction Target
- Milestone Three: Develop Climate Action Plan
- Milestone Four: Implement Policies & Measures
- Milestone Five: Monitor & Verify Results

Photos courtesy of Dickinson College

Three-part
Climate Action
Series hosted
by partnering
organizations in
2020-2021

Built interest
and
excitement in
community
stakeholders

Business and Resident Community Survey

- ▶ 2,351 responses (including 40 businesses)
- ▶ Focus on Climate Actions and Motivations
- ▶ Water Quality, Air Quality key drivers
- ▶ Many are already taking actions that address climate change without calling it that

This isn't to say we shouldn't try to minimize any adverse impact on our planet. I believe we should control pollutants. We should strive for efficient energy use. We should be good stewards. We should also strive to make the United States energy independent. Work on a plan to control runoff in the Connodoguinet. Work on a plan to encourage bicycling. Work on a plan to control power plant emissions. But don't waste money on a plan to control the climate – it ain't gonna work! Thanks.

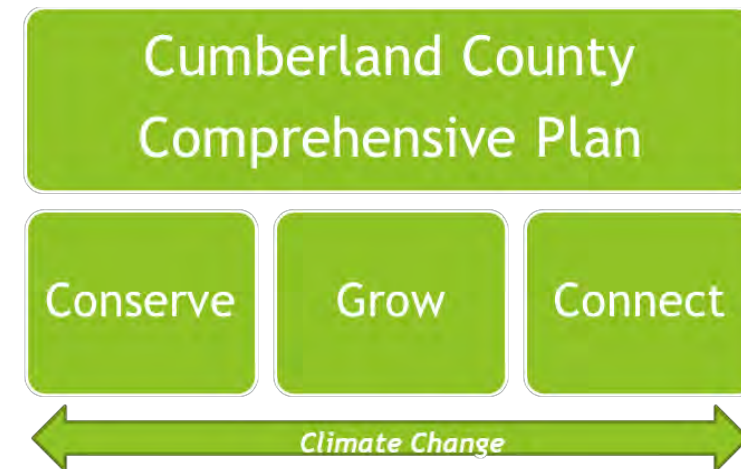


Goals, Strategies and Actions

- ▶ Reduce transportation related GHG emissions
- ▶ Reduce solid waste disposal GHG emissions
- ▶ Reduce GHG emissions related to energy production and usage
- ▶ Manage land use to reduce GHG emissions and increase resilience
- ▶ Implement specific actions for County services and operations
- ▶ Cross-cutting Initiatives – education, outreach, legislative priorities, best practice sharing

Planning for Implementation

- ▶ Cumberland County Comprehensive Plan projects
 - ▶ Municipal ordinances and plans
 - ▶ Mixed use, reduced parking, higher density
- ▶ Land Partnerships Plan projects
 - ▶ Farmland preservation, water quality, open space preservation
- ▶ Hazard Mitigation Plan
 - ▶ Adaptation measures, likely long-term home of CAP
- ▶ HATS Long Range Transportation Plan
 - ▶ Multimodal transportation projects, ridesharing, public transit
- ▶ Recycling
 - ▶ Ongoing electronics and household hazardous waste recycling
 - ▶ Considering expansion to include more hours and more materials



Implementation Actions

Shared Energy Manager
working with county team:

- ▶ Feasibility for conversion of county fleet to EVs and associated funding
- ▶ Cost/benefit analysis of solar on county property/buildings
- ▶ “White paper” on solar installation on large industrial building rooftops



Key Takeaways

- ▶ Don't wait for the perfect plan
- ▶ Focus on implementation from Day 1 – make your plan work for you
- ▶ Focus on what you CAN do
- ▶ Don't argue science – state it and build from common values
- ▶ Communicate and be responsive
- ▶ Demonstrate leadership through action – encourage and collaborate with other communities

<https://www.ccpa.net/4898/Climate-Action-Plan>

Elizabeth Grant, AICP

egrant@ccpa.net

Please email your questions to
EPA-Mid-Atlantic-Summit@epa.gov



EPA MID-ATLANTIC REGION 2022 SUMMIT

Working Together to Build a Better, More Equitable Region