WORKSHOPLV ENVRONMENT

Workshop #2 – March 26, 2025



Introductions – Welcome!



Ground Rules

- 1. All people are welcome here: We continue to build a bigger table to bring more people into this work.
- 2. This is a safe space: We are all coming into this workshop with different backgrounds and knowledge bases. All questions are good questions, as long as they are based in respect.
- **3. Questions are encouraged:** There will be opportunities for questions and comments throughout the presentation portion of the agenda.
- 4. Participation is key: There will be opportunities for verbal and non-verbal participation both are important. Please be conscientious of your participation in both sections.



Workshop Agenda

- Goals for Workshop #2
- Recap Presentation Results/Observations from Engagement Activities
 - Workshops, roundtable, portal, surveys
- Gallery Walk
- CCAP Measures Evaluation Activity
- Upcoming Meetings and Next Steps



Workshop #2 Goals

- Review outcome from engagement activities
- Obtain input on quantifying potential Greenhouse Gas reduction measures across all sectors.
- Provide opportunity for questions.
- Summarize next steps











Climate Pollution Reduction Grant (CPRG)

Inflation Reduction Act authorized the United States Environmental Protection Agency (EPA) to provide funding for CPRG program



CPRG provides funding for large US metro areas to create climate action plans



Over 70 metro areas each received \$1 million in planning grant funds Program Goal: Develop and implement ambitious plans for reducing greenhouse gas emissions and other harmful air pollution.





Greater Lehigh Valley:

Allentown-Bethlehem-Easton, PA-NJ Metropolitan Statistical Area (MSA)



The Climate Pollution Reduction Grant Four Main Components:



Priority Climate **Action Plan**

Spring 2024



PRIORITY CLIMATE ACTION PLAT

Regional Climate Action Plan

Summer 2025

Regional Greenhouse Gas Inventory Fall 2024



Plan **Progress and** Monitoring 2025 & Beyond



Greenhouse Gases (GHGs)

- Naturally occur in our atmosphere and help regulate temperature
 - Trap heat and prevent it from escaping Earth into space
 - Are emitted by both natural processes and human activity
 - Carbon Dioxide (CO₂) is the most prevalent GHG

GREENHOUSE GAS	GLOBAL WARMING POTENTIAL
Carbon Dioxide (CO ₂)	1
Methane (CH₄)	28
Nitrous Oxide (N ₂ O)	265





Global atmospheric carbon dioxide compared to annual emissions (1751-2022)

Data: NOAA, ETHZ, Our World in Data

Change in Avg. Temperature (°F) in Allentown from 1951-2023	
Winter average temperature	+3.9
Spring average temperature	+2.6
Summer average temperature	+1.9
Fall average temperature	+1.7
Annual average temperature	+2.5



Climate Change Hazards

- Extreme heat
- Air pollution
- Increased precipitation and flooding risk
- Loss of native plants and animals
- Milder winters with less snow
- Diseases spread by insects (e.g. Lyme disease, West Nile virus)
- Wildfires
- Reduced crop yields







Questions?



Sector	Description	Examples
Industrial	Unique processes at factories and energy usage	General manufacturing, cement production, food/beverage processing
Transportation	Fuel combustion from vehicle travel	Cars, trucks, buses
Commercial	Energy usage in businesses, schools, and hospitals	Heating and cooling, lighting
Residential	Energy usage in homes	Heating and cooling, lighting, appliances
Solid Waste	Emissions from landfills	Waste decay, gas flaring
Agriculture	Emissions from agricultural activities	Fertilizer, machinery
Water & Wastewater	Treatment of potable water and wastewater	Treatment plant operations



GREENHOUSE GAS EMISSIONS BY SECTOR



ESTIMATED TOTAL GREENHOUSE GAS EMISSIONS











Business-as-Usual Emissions Projection



If we do not take further action, emissions may increase by 9.3% by 2050.



Questions?

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Survey Summary Which climate change consequence(s) are of most concern to you? Pleas rank your choices, with most important at the top and least important at bottom.

Answered: 65 Skipped: 0

Q3



Q7

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Which of the following would you like to see in your community over the nex five years? Please select up to four options.

Answered: 65 Skipped: 0



Survey Summary

Near-Term and Long-Term GHG Reduction Targets

Pennsylvania: 25% reduction from 2005 levels by 2030, 80% reduction from 2005 levels by 2050.

New Jersey: 50% reduction from 2021 levels by 2030 and 80% reduction from 2021 levels by 2050.







Measure Development Process

- Review current plans, policies and programs from already published CAPs from our municipalities, surrounding states and comparable metro areas
- Compare with GHG Inventory
- Review with Community and Stakeholders
- Develop a draft list, organized by sector
- Screen and Refine
- Finalize



Measures Activity Instructions

- Please take some time to review the 5 tables, each representing six of our seven sectors. We've combined the water/wastewater and solid waste sectors at one of the tables. Each table includes a list of measures with potential target examples.
- Please select two of the five sectors based on your interest. We will provide two (2) 25-minute "working sessions" for you to share ideas with your table group to evaluate suggested targets associated with each measure. You may suggest others. LVPC staff will be at each table for questions/clarification



Measure	Example Target
Encourage energy efficiency of all industrial projects through building codes, zoning and site planning design that incorporate other accepted standards	Conduct ordinance updates that reduce obstacles to installation of on-site renewables and require efficiency standards.
Support the use of green technologies where feasible (e.g. green roofs to minimize heat island effects and solar arrays as an alternative energy source).	Install MWh of rooftop solar and sq. ft. of green roofs on industrial buildings in the region.
Improve operational efficiency and reduce energy waste through targeted retrofitting of older buildings.	Retrofit industrial buildings with targeted efficiency improvements such as LED lighting, upgraded insulation and windows.
Reuse degraded sites such as abandoned mine lands, brownfields, and capped landfills for appropriately scaled solar energy generation	Install kW of solar on these sites.
Reduce embodied carbon from building construction by promoting localized construction materials, deconstruction, reuse of materials and recycling and minimizing construction waste	Have% of new residential buildings be built with low embodied carbon materials.
Promote evaluation of fuel switching options for any on-site energy plant system that is fossil fuel-based	Avert MTCO2e through industrial on-site fuel switching.



Measure	Example Target
Encourage onsite solar generation local businesses/institutions, such as public school locations, through publicizing incentives and revising obstructive ordinances.	Install rooftop solar on municipal buildings/schools.
Encourage energy efficiency of commercial projects through building codes, zoning and site planning design that incorporate other accepted standards	Encourage commercial sector GHG Building Performance Standards that improve efficiency and reduce electricity consumption by%.
Encourage intermunicipal cooperation for renewable energy projects at regional scale.	Reach mWh of purchased renewable power in region.
Support the use of green technologies where feasible (e.g. green roofs to minimize heat island effects and solar arrays as an alternative energy source).	Install MWh of rooftop solar and sq. ft. of green roofs on buildings in the region.
Energy efficiency upgrades at local businesses/institutions, such as hospitals, including an LED lighting retrofit and additional energy conservation measures discovered through retro commissioning and energy auditing.	Reduce electricity consumption by% through these strategies.
Install zero-carbon emission space heating and cooling and water heating systems in commercial properties	Install zero-carbon emission space heating and cooling and water heating systems in commercial properties.



Residential

Measure	Example Target
Encourage energy efficiency of all residential subdivisions and multifamily projects through building codes, zoning and site planning design that incorporate other accepted standards, including smaller lot sizes for new construction.	Encourage residential GHG Building Performance Standards that improve efficiency and reduce electricity consumption by%.
Reduce embodied carbon from building construction by promoting localized construction materials, deconstruction, reuse of materials and recycling and minimizing construction waste.	Have% of new residential buildings be built with low embodied carbon materials.
Establish a building retrofit program to replace fossil fuel appliances and systems with high efficiency electric options such as Energy Star.	Retrofit residential buildings with more efficient appliances.
Support the use of green technologies where feasible (e.g. green roofs to minimize heat island effects and solar arrays as an alternative energy source).	Install MWh of rooftop solar and sq. ft. of green roofs on residential buildings in the region.
Install zero-carbon emission space heating and cooling and water heating systems in residential properties and commercial properties.	Install zero-carbon emission space heating and cooling and water heating systems in residential properties.
Improve operational efficiency and reduce energy waste through targeted retrofitting of older buildings.	Retrofit residential buildings with efficiency improvements such as upgraded insulation and windows.



Solid Waste + Water/Wastewater

Measure	Example Target
Reduce GHG emission of water and sewer system and building infrastructure through efficiency upgrades and leakage emission initiatives	Improve energy efficiency ofwastewater treatment plant facilities.
Support an expanded compost program, with a curbside pickup option. Program should include residential and restaurants and businesses.	Provide curbside compost pickup in municipalities.
Reduce GHG emissions from wastewater processing through recovery of waste products.	Upgrade wastewater facilities to improve aerobic processes and transition to and upgrade anerobic digestion processes.
Convert waste-hauling fleets from diesel-powered vehicals to low- or no-emission vehicles.	Acquire alternatively powered vehicles within regional waste hauling fleets.
Consider incentive programs for residents who reduce the quantity of waste they send to landfills.	Increase rates for curbside waste pickup by and reduce or eliminate charges for recycling/compost.
Support a curbside textile recycling program	Provide curbside textile recycling along with compost pickup in municipalities.
Add recycling containers to public parks.	Install containers in parks.



Agriculture/Land Use

Measure	Example Target
Promote green infrastructure that relies on native plants and natural processes for stormwater management, irrigation, groundwater recharge and flood prevention.	Where possible, increase natural stormwater best management practices such as rain gardens in new development by%.
Review and update land use ordinances to encourage land-use patterns that mitigate climate change impacts	Establish open space preservation or agricultural security area programs in municipalities.
Provide for preservation of agricultural land use and environmental protection in non-urban areas.	Provide for preservation of agricultural land uses through expansion of the PA Ag Security Area program and increasing ag lands under farmland preservation by%.
Encourage the adoption of climate-smart farming techniques (e.g. cover crops, no-till, regenerative agriculture, composting of organic waste, community gardens)	Increase cropland acreage using climate-smart practices by %.
Increase the coverage and health of trees and other native vegetation conserve and expand wetlands	Increase preservation of important natural area types by%.
Increase land and forest management for natural sequestration.	Renaturalize acres of land through methods like meadow and riparian area restoration.
Update tree ordinances and other applicable regulations/zoning ordinances to prioritize and preserve native species of plants and trees, as well as climate-resistant species	Increase overall tree canopy by% and tree cover within urbanized areas by%, use itree to estimate reductions from common tree species



Activity Discussion



Take Our Public Survey!



lvpc.org/climate-action



Next WorkshopLV Environment Meetings

<u>April 23rd:</u> 8:30AM (in-person) at the LVPC office, 615 Waterfront Drive, Suite 201, Allentown, 18102



THANK YOU!

