City of Allentown, PA - Cities 2023

Governance

0. Governance

(0.1) Provide details of your jurisdiction in the table below.

Response

Administrative boundary of reporting government^
City/Municipality

Next highest level of government
County / Province

Next lowest level of government
Please select

Land area of the jurisdiction boundary (in square km)^
45.1

Percentage range of land area that is green space
11-20%

Current (or most recent) population size^
125094

Population year^
2021

Projected population size
128071

Projected population year
2030

Select the currency used for all financial information reported throughout your response^
USD US Dollar

(0.2) Provide information on your jurisdiction's oversight of climate-related risks and opportunities and how these issues have impacted your jurisdiction's planning.

Response

Select the processes that reflect your jurisdiction's oversight of climate-related issues
Council (or equivalent) is informed by relevant departments, committees and/or subcommittees about climate-related issues
Relevant departments, committees and/or subcommittees are informed by management about climate-related issues
Climate-related issues are considered by the government when undertaking plans and/or strategies
Climate-related issues are considered by the government when undertaking budgeting and/or major capital expenditures
Climate-related responsibilities are assigned to a committee(s) or a subcommittee(s) in the government
Climate-related responsibilities are assigned to management-level positions in the government

Provide further details on your jurisdiction's oversight of climate-related issues

Oversight of climate-related issues is primarily focused on the City's management of climate-related stormwater impacts, including planning and budgeting for maintenance and improvement of stormwater facilities and infrastructure, construction and maintenance of green infrastructure and stream rehabilitation in the City's parks, enhanced review and oversight of projects within floodplains, as well as switching to LED lighting at all City-owned facilities.
The City is undertaking a Watershed Restoration Strategy to address stream impairments resulting in conceptual and capital planning which support climate action and sustainability goals. Goals are met by first understanding the amount of pollutant loading carried within each watershed, its sources and impacts. Target reductions are calculated through installation of engineered stormwater management facilities to include green infrastructure. The nearest target goal is to conduct and complete analyses on the most impaired waterway, the Little Cedar Creek, by the end of 2022. Based upon the engineering findings report, the Stormwater Bureau's 2024 budget includes conceptual design for the retrofit of an existing, large detention basin. The kick off meeting for the water quality analysis of the Jordan Creek watershed was undertaken during this reporting period.

In addition to conducting water quality studies and planning for each watershed, the City is undertaking an investment strategy that will build off of a long range subbasin Hydrologic and Hydraulic (H&H) modeling program. The Stormwater Bureau's 2024 budget includes monies for flow and capacity studies of the system within the sewersheds most impacted by flooding.

With respect to the City's parks, the City is implementing riparian buffer management in cooperation with the PA Dept of Conservation and Natural Resources under a plan to increase use of native vegetation while concomitantly eliminating invasive vegetation. The impact of this plan is to reduce greenhouse gas emissions and improve water quality. In addition the City is reducing electricity and water consumption at its parks, by developing and implementing a plan to install hand activated motion timers at all City spray parks. Existing spray parks have been retrofitted with the motion timers and a spray park currently under construction and slated for completion in 2022 shall utilize the same technology. The City is also reducing water consumption at its most recent spray park by utilizing a filtration system which recirculates the water, recycling 2,500 gallons of water from a holding tank. The system incorporates a sand filter and water is treated with chlorine similar to management of swimming pools.

To create a healthier environment for wildlife and humans, the City has undertaken an initiative to reduce and ultimately eliminate the use of toxic chemicals in city parks and playgrounds. One such initiative began in 2021 with utilization of eco-friendly Foamstream technology which removes unwanted vegetation with application of hot water insulated by a specially formulated biodegradable and organic foam. The City is also trialing a reduction in the use of plastics through the installation of a water bottle refill station in an Allentown park. Premised upon the positive feedback from park users, a second site, currently under construction, includes a similar installation.

To address reduction of greenhouse gases, efforts began in 2021 to replace gas-powered hand tools with electric-powered equipment for use in City parks. In addition, a pilot program is currently in process to determine the viability and impact of solar lighting usage as part of trail design.

Describe how climate-related issues have impacted your jurisdiction's master/development planning

Climate-related issues were woven throughout the city's 2030 Master Plan, particularly in its Living Systems section. The plan includes energy efficiency programs and policies including for municipal buildings. The plan recommends review of zoning ordinance to incorporate high-performance building policies and aligning with floodplains. The plan also includes safe and efficient transportation, enabling alternative mobility choices, and developing climate action and resilience plans that integrate with regional plans . In addition, the City's Parks master planning process includes significant measures to address stormwater reduction, enhancement of tree canopies, plantings of native vegetation, while aligning efforts to reduce maintenance requirements as a means to reduce greenhouse gas emissions. Such efforts are exemplified in completion of the City's Percy Ruhe Park Development Plan. Throughout 2022, City management worked on an update to the Subdivision and Land Development Ordinance. Low impact development (LID) specifications were incorporated into the revision. In addition, an update of the City's Stormwater Management Ordinance is in process. Changes include updated design specifications for rate control and provisions for water quality treatment facilities.

Describe how climate-related issues have impacted your jurisdiction's financial planning

The City's financial planning has been impacted primarily in fleet, facilities, and streets. In anticipation of carbon neutrality requirements in the coming years, the City must look to gradually transition its vehicles and equipment towards lower carbon emitting options. Furthermore, the City will look to modernize its aging facilities with the aim of reducing emissions, while also maintaining a comfortable work environment amidst rising temperatures. Both of the aforementioned are substantial capital acquisition and improvement burdens, which, nevertheless, must be planned for. Additionally, if, as we anticipate, our reliance on liquid fuels excise taxes, which funds streets maintenance and snow removal, is undercut by a transition away from fossil fuels, the City anticipates the need to plan for alternative financial planning to cover these costs.

In 2018, the City created an enterprise fund through implementation of a Stormwater Utility fee which established an adequate, sustainable, and dedicated revenue source to fund operating costs and infrastructure capital planning. Annual Stormwater Bureau budgeting includes monies for water quality modeling and hydraulic engineering studies.

Describe the risks to your jurisdiction related to the transition to a low-carbon economy

The primary risk relates to retraining and retooling city employees, implementing new processes and modifying facilities to accommodate low-emissions vehicles and buildings.

(0.3) Report how your jurisdiction assesses the wider environmental, social, and economic opportunities and benefits of climate action.

Response

Does the jurisdiction assess the wider opportunities/benefits of climate action?
Intending to assess wider opportunities/benefits of all climate actions in the next 2 years

Outline how your jurisdiction quantifies the impact of these wider opportunities/benefits
<Not Applicable>

Describe the wider opportunities/benefits of climate action the jurisdiction has identified
<Not Applicable>

Outline if and how your jurisdiction ensures the equitable distribution of climate action opportunities/benefits
Yes, the jurisdiction is engaging with frontline communities most impacted by climate change
Yes, the jurisdiction is designing or implementing climate actions that address the needs of frontline communities most impacted by climate change

Outline how your jurisdiction quantifies the equitable and inclusive distribution of climate action
The City does not currently quantify the equitable and inclusive distribution of climate action but intends to develop processes for doing so.

Provide evidence and/or more details on the actions your jurisdiction is taking to ensure equitable and inclusive distribution of climate action

The City has established a stormwater fee and credit program which incentivizes installation of green roofs and reduction of paved areas, further reducing UHI. The City is in the process of developing a Stormwater Community Engagement Program. Allentown residents and businesses will be able to apply for City funding to implement projects that will reduce the pollution of stormwater and ultimately improve the water quality of our streams and rivers. The goal of the program is to provide an incentive for the community to voluntarily implement stormwater stewardship practices that will help the City meet long-term water quality targets. Under the program, the City will pay a portion (and sometimes all) of the cost for a property owner to install approved practices that reduce pollution and flooding. Additionally, this program allows for funding to allow for the development of educational outreach opportunities for the community to include residents and school children. One type of outreach activity, for example, includes rain barrel giveaways. As part of its protocol under the Public Outreach Program, the Stormwater Bureau identifies groups and tracks all outreach activities and the metrics involved with each to include surveys and distributed materials.

Additionally, the City actively pursues environmental grants from the PA Department of Environmental Protection which are awarded based upon a project ranking system which promotes projects planned in Environmental Justice Areas. As defined by the state, an Environmental Justice Area is any census tract where 20 percent or more individuals live at or below the federal poverty line, and/or 30 percent or more of the population identifies as a non-white minority, based on data from the U.S. Census Bureau and the federal guidelines for poverty.

The City also continues to plant native trees in marginalized communities and aims to ensure that a park or green space is within a 10-minute walk of every community. The National Recreation and Parks Association, Trust for Public Land, the Urban Land Institute in cooperation with the US Conference of Mayors created a “10-Minute Walk” campaign, with a goal to establish a park or green space within a ½-mile (10-minute walk) of every community. Through research and analysis undertaken in 2021, 22 neighborhoods were identified and the City met this challenge with one exception. The goal is to identify greenspace opportunity for that neighborhood. Of paramount significance was that the urban core comprised of majority minority populations had abundant green spaces.

In addition, the city's environmental advisory council has established environmental justice as a focus area and has been working with interns at Muhlenberg College and Lehigh University to develop programs addressing the disparate impacts of climate change on marginalized communities. These include studies of tree equity and energy efficiency programs for low-income housing. The Allentown EAC has also been working with Promise Neighborhoods Lehigh Valley to establish a civilian climate corps in the City of Allentown which has begun to undertake projects focused on workforce development and crime reduction through environmental design https://www.allentownpa.gov/Portals/0/files/AuthsBdsComms/EnvironActionComm/EAC2022Goals2.pdf

(0.4) Report on your engagement with other levels of government regarding your jurisdiction's climate action.

Climate component
Climate risk and vulnerability assessment

Level of governments engaged in the development, implementation and/or monitoring of component
State/Regional-level government

Outline the purpose of this engagement
To collect data and/or feedback from other levels of government to inform its development
To facilitate information sharing across different levels of government
To facilitate capacity building across different levels of government
To facilitate the integration of this component into assessments and policy developed across different levels of government

Comment
In 2018 the Lehigh Valley Hazard Mitigation Plan was updated. The plan includes risk and vulnerability assessments on multiple climate-related factors such as hailstorms, lightning strikes, landslides, extreme temperatures, winter storms, windstorms, wildfires, flood, drought, invasive species, infectious disease, etc. The City of Allentown is currently working with the Lehigh Valley Planning Commission on a regional climate action plan which will build on this previous work.
Hazard Mitigation Master Plan Reduced.pdf

Climate component
Community-wide GHG emissions inventory

Level of governments engaged in the development, implementation and/or monitoring of component
State/Regional-level government

Outline the purpose of this engagement
The method used to develop this component was required or recommended by a higher-level of government
To collect data and/or feedback from other levels of government to inform its development

Comment
In 2020 the City of Allentown conducted a community-wide greenhouse gas inventory with guidance and assistance from the Pennsylvania Department of Environmental Protection. The data was collected in accordance with the requirements of the U.S. Community Protocol for Accounting and Reporting Greenhouse Gas Emissions.
2020Greenhouse Gas Inventory Report (1).pdf

(0.5) Report your jurisdiction's most significant examples of collaboration with government, business, and/or civil society on climate-related issues.

Primary entity collaborated with (selection mandatory)

Business	Energy

Mechanisms used to collaborate
Collaborative initiative
Project implementation and management

Areas collaboration focused on
Building and Infrastructure

Description of collaboration
The City has a Cost Share Agreement with UGI that allows the City to achieve complete street upgrades, ADA access to sidewalks, etc. for work done through the UGI gas line replacement program to enhance sustainability at a lower cost.

Other entities collaborated with
Please select

Primary entity collaborated with (selection mandatory)

Civil society	Residents/community groups

Mechanisms used to collaborate
Collaborative initiative
City business partnership platform
Knowledge or data sharing

Areas collaboration focused on
Water

Description of collaboration
The City created a Green Stormwater Infrastructure (GSI) Committee to develop the City's Stormwater Utility Credits and Incentives Policy. Local neighborhood group leaders participated in this process. Through the use of a tiered system, the policy promotes the voluntary installation of BMPs which provide more efficient treatment of stormwater above and beyond land development/ Chapter 102 requirements. The credit program is a means for the City to partner with property owners, developers, institutions and industry to meet our pollution reduction goals for impairments due to sediment.

Following the development of a hydrologic and hydraulic model, the Stormwater Bureau is planning residential outreach activities to learn how this engineering tool can best serve flood prone areas within each community.

Other entities collaborated with
Residents/community groups
Other, please specify (Businesses)

Primary entity collaborated with (selection mandatory)

Government/Public body	Other, please specify (Lehigh County Authority)

Mechanisms used to collaborate
Collaborative initiative

Areas collaboration focused on
Building and Infrastructure

Description of collaboration
The City and Lehigh County Authority have an agreement to coordinate the City Streets program with LCA's water pipeline replacement projects, allowing the City to achieve complete street upgrades (e.g. complete repaving from curb to curb, repaired stormwater infrastructure attributes, ADA access to sidewalks, etc.) to enhance sustainability at a lower cost

Other entities collaborated with
Please select

Primary entity collaborated with (selection mandatory)

Government/Public body	Local government within country/area

Mechanisms used to collaborate
Collaborative initiative

Areas collaboration focused on
Water

Description of collaboration
The City actively works with leaders in neighboring municipalities to address pollution and flooding issues. Our managers participate in quarterly MS4 Roundtable meetings with the Lehigh County Conservation District and a number of communities in Lehigh and Northampton Counties.

Other entities collaborated with
Please select

Primary entity collaborated with (selection mandatory)

Civil society	NGO and associations

Mechanisms used to collaborate
Collaborative initiative
Knowledge or data sharing

Areas collaboration focused on
Education

Description of collaboration
The City's Parks and Recreation Director works with local environmental organizations such as Wildlands, and Lehigh Gap Nature Center to provide environmental education programs in the City's Summer in the Parks program and other venues. The City has also hired a Stormwater Education Manager who routinely provides outreach at organized events, schools, colleges, and residential meetings.

Other entities collaborated with
Education sector

Assessment

1. Climate Risk and Vulnerability

(1.1) Has a climate risk and vulnerability assessment been undertaken for your jurisdiction? If not, please indicate why.
Yes, a climate risk and vulnerability assessment has been undertaken

(1.1a) Provide details on your climate risk and vulnerability assessment.

Assessment attachment and/or direct link^
Hazard Mitigation Master Plan Reduced.pdf

Confirm attachment/link provided to assessment (selection mandatory)
The assessment has been attached

Boundary of assessment relative to jurisdiction boundary^
Larger - covers the whole jurisdiction and adjoining areas, please explain additions (Covers all of Lehigh County and Northampton County which includes 62 municipalities)

Year of publication or approval^
2018

Factors considered in assessment
Assessment considers vulnerable populations
Assessment considers water security
Assessment considers nature
Assessment includes consultation with partners
Assessment includes sectors and/or urban systems
Identified hazards have been incorporated into the jurisdictions overall risk management framework
A process has been established for prioritizing identified hazards
A process has been established to update the assessment at least every five years

Primary author(s) of assessment^
Regional/ state/ provincial government

Please explain
In 2018 the Lehigh Valley Planning Commission worked with Lehigh and Northampton Counties and the 62 municipalities within those counties (including Allentown) to update the Lehigh Valley Hazard Mitigation Plan which includes an assessment of risks and vulnerabilities including multiple climate-related factors such as hailstorms, lightning strikes, landslides, extreme temperatures, winter storms, windstorms, wildfires, flood, drought, invasive species, infectious disease, etc. The City of Allentown is currently working with the Lehigh Valley Planning Commission on a regional climate action plan which will build on this previous work.

(1.2) Provide details on the most significant climate hazards faced by your jurisdiction.

Climate-related hazards^
Heavy precipitation

Vulnerable population groups most exposed
Women and girls
Children and youth
Elderly
Marginalized/minority communities
Low-income households
Other, please specify (Potential sewage system overflows due to high water volumes overwhelming the wastewater treatment facilities)

Sectors most exposed^
Water supply
Sewerage, waste management and remediation activities
Conservation
Transportation and storage
Human health and social work activities

Describe the impacts on vulnerable populations and sectors^
Increasingly severe rainstorms are causing more water runoff problems and floods that damage property, roads and other infrastructure; and degrade water quality. PaDEP's 2022 Integrated Water Quality Report listed all stream segments of four streams as impaired for sediment. Surface water constitutes 50% of Allentown's drinking water, making it more expensive to treat source water.
Additionally, the City's sanitary sewer system is increasingly stressed from high rainfall events.

Proportion of the population exposed to the hazard
90-100%

Did this hazard significantly impact your jurisdiction before this reporting year?
Yes

Current probability of hazard^
High

Current magnitude of impact of hazard^
Medium

Expected future change in hazard intensity^
Increasing

Expected future change in hazard frequency^
Increasing

Timeframe of expected future changes^
Short-term (by 2025)

Climate-related hazards^
Extreme heat

Vulnerable population groups most exposed
Women and girls
Children and youth
Elderly
Marginalized/minority communities
Low-income households
Outdoor workers

Sectors most exposed^
Water supply
Human health and social work activities

Describe the impacts on vulnerable populations and sectors^
Increasing temperatures are expected to cause increases in vector-borne illness, increased risk of respiratory disease, heart disease, airborne allergies and death. In addition, higher air temperatures will lead to higher water temperatures that may impact drinking water treatment as warmer water promotes increased growth of algae and microbes in some waterbodies. An increase in Harmful Algal Blooms (HABs) can threaten availability of source water and increase the need for drinking water treatment

Proportion of the population exposed to the hazard
70-80%

Did this hazard significantly impact your jurisdiction before this reporting year?
No

Current probability of hazard^
Medium

Current magnitude of impact of hazard^
Medium

Expected future change in hazard intensity^
Increasing

Expected future change in hazard frequency^
Increasing

Timeframe of expected future changes^
Medium-term (2026-2050)

Climate-related hazards^
Snow and ice

Vulnerable population groups most exposed
Women and girls
Children and youth
Elderly
Marginalized/minority communities
Low-income households

Sectors most exposed^
Administrative and support service activities
Transportation and storage
Human health and social work activities

Describe the impacts on vulnerable populations and sectors^
Very heavy snowfalls are disrupting transportation systems, adversely impacting public transportation, the City's delivery of services, as well as businesses and residents in the City that rely on functioning roadways.

Proportion of the population exposed to the hazard

70-80%

Did this hazard significantly impact your jurisdiction before this reporting year?
Please select

Current probability of hazard^
Medium

Current magnitude of impact of hazard^
Medium

Expected future change in hazard intensity^
Increasing

Expected future change in hazard frequency^
Increasing

Timeframe of expected future changes^
Short-term (by 2025)

Climate-related hazards^
Water stress

Vulnerable population groups most exposed
Women and girls
Children and youth
Elderly
Marginalized/minority communities
Low-income households

Sectors most exposed^
Please select

Describe the impacts on vulnerable populations and sectors^
Inflow and infiltration into the City's sewer system due to significant precipitation, snowmelt and elevated groundwater levels contribute to potential sewage system overflows particularly where there are blockages from roots and coagulated fats and grease in smaller diameter pipes.

Proportion of the population exposed to the hazard
Please select

Did this hazard significantly impact your jurisdiction before this reporting year?
Yes

Current probability of hazard^
High

Current magnitude of impact of hazard^
High

Expected future change in hazard intensity^
Increasing

Expected future change in hazard frequency^
Increasing

Timeframe of expected future changes^
Short-term (by 2025)

(1.3) Identify and describe the most significant factors impacting on your jurisdiction's ability to adapt to climate change and indicate how those factors either support or challenge this ability.

Factors that affect ability to adapt^	Degree to which this factor challenges/supports the adaptive capacity of your jurisdiction (selections mandatory) ^	Describe how the factor supports or challenges the adaptive capacity of your jurisdiction^
Access to basic services	Challenges / Somewhat challenges	The City may face difficulties to provide basic trash and recycling collection services during extreme winter weather/storm events.
Access to education	Challenges / Moderately challenges	Many Allentown schools have no air conditioning. With increasing temperatures it will become increasingly difficult for students to be in an environment conducive to education.
Budgetary capacity	Challenges / Significantly challenges	The increasing costs to address the needed infrastructure improvements to address increased and more severe weather events will be a challenge on the city's budget
Cost of living	Challenges / Moderately challenges	Extreme weather events will increase heating and cooling bills and can cause increased property damage and increased insurance premiums for residents
Infrastructure conditions / maintenance	Challenges / Significantly challenges	Extreme weather events will increase maintenance costs for the City's parks, roads, water and sewer and other infrastructure.

2. Emissions Inventory

Emissions Inventory Methodology

(2.1) Does your jurisdiction have a community-wide emissions inventory to report?
Yes

(2.1a) Provide information on and an attachment (in spreadsheet format)/ direct link to your main community-wide GHG emissions inventory.

Response

Main community-wide emissions inventory: attachment (spreadsheet) and/or URL link (with unrestricted access)^
Community-wide greenhouse gas inventory conducted in 2020 is attached.
2020Greenhouse Gas Inventory Report (1).pdf

Status of main community-wide inventory attachment and/or direct link (selection mandatory)
The emissions inventory has been attached

Year covered by main inventory^
2018

Boundary of main inventory relative to jurisdiction boundary^
Same - covers entire jurisdiction and nothing else

Population in year covered by main inventory^
121433

Primary protocol/framework used to compile main inventory (selection mandatory)
U.S. Community Protocol for Accounting and Reporting of Greenhouse Gas Emissions (ICLEI USA)

Tool used to compile main inventory
ICLEI ClearPath

Gases included in main inventory^
CO2
CH4
N2O

Primary source of emission factors
Do not know

Has the main inventory been audited/verified?
<Not Applicable>

Overall level of data quality
<Not Applicable>

Have any of the calculation methodologies and/or boundary used for this inventory changed when compared to the previously reported inventory?
<Not Applicable>

Additional/historical inventories: attachment (spreadsheet) and/or URL link (with unrestricted access)

Further documentation and comments
<Not Applicable>

Emissions Inventory Data

(2.1b) Provide a breakdown of your community-wide emissions by scope. If the inventory has been developed using the Global Protocol for Community Greenhouse Gas Emissions Inventories (GPC) you will also be requested to provide a breakdown by sector.

	Emissions (metric tonnes CO2e)	If you have no emissions to report, please select a notation key to explain why	Level of data quality for sector and scope	Comment
Total Scope 1 emissions (excluding generation of grid-supplied energy)	2402569	Please select	Activity data - Medium data quality Emissions factors - High data quality	This includes scope 1 and scope 2 which were not broken out. Transportation emissions were calculated using PennDOT data. EPA emission factors were used for off-road vehicles
Scope 1 emissions from generation of grid-supplied energy		Please select	Please select	
Total Scope 2 emissions		Please select	Please select	
Total Scope 3 emissions		Please select	Please select	Scope 3 emissions were not calculated
Stationary Energy: energy use – Scope 1	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Stationary Energy: energy use – Scope 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Stationary Energy: energy use – Scope 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transportation – Scope 1	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transportation – Scope 2	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Transportation – Scope 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Waste: waste generated within the city boundary – Scope 1	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Waste: waste generated within the city boundary – Scope 3	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Waste: waste generated outside the city boundary – Scope 1	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Industrial Processes and Product Use – Scope 1	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
Agriculture, Forestry and Land Use – Scope 1	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
TOTAL BASIC emissions	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>
TOTAL BASIC+ emissions	<Not Applicable>	<Not Applicable>	<Not Applicable>	<Not Applicable>

(2.1d) Provide a breakdown of your community-wide emissions by sector.

Sector	Sub-sector	Scope	Emissions (metric tonnes CO2e)	Comment
Transportation and other mobile sources	Transportation	Scope 1 and 2	1350888	
Solid waste	Waste	Scope 1 and 2	64254	Scopes 1 and 2 were combined
Built environment	Residential buildings	Scope 1 and 2	388977	Scopes 1 and 2 were combined
Built environment	Industrial buildings	Scope 1 and 2	179079	Scopes 1 and 2 were combined
Built environment	Commercial buildings	Scope 1 and 2	411503	Scopes 1 and 2 were combined
Wastewater and water	Other, please specify (Potable water)	Scope 1 and 2	3312	This is based on electricty useage for supplying potable water and is also counted in the industrial energy use number
Wastewater and water	Wastewater	Scope 1 and 2	4262	This is based on electricity useage for wastewater operations and is also counted in the industrial energy use number
Please select	Please select	Please select		

3. Sector Assessment Data

Energy Data

(3.1) Report the following information regarding your jurisdiction-wide energy consumption.

Response

Total energy consumption (MWh)^
3522979

Total energy consumption from renewable energy sources (MWh)^
401323.78

Indicate the energy data for which you can report a fuel/technology mix^
Electricity consumption mix data
Sector energy consumption breakdown data

Indicate the energy-related assessments that have been undertaken for your jurisdiction^
<Not Applicable>

Please explain^
Total energy consumption does not includes all electricity, natural gas, propane, oil and wood but does not include transportation consumption. Allentown is located within Pennsylvania which has a renewable portfolio standard imposed on its electric delivery companies of 18%. This is the basis for our calculation of energy consumption from renewable sources. The electricity consumption mix is assumed to be the PJM generation mix.

(3.1a) Report the total electricity consumption in MWh and the energy mix used for electricity consumption in your jurisdiction.

Electricity consumption

Total annual jurisdiction-wide electricity consumption in MWh
2229576.58

Data source used to provide percentage breakdown of consumption by energy type
Other data source, please specify (PJM)

Percentage of total consumption from coal (%)
28.64

Percentage of total consumption from gas (%)
31.08

Percentage of total consumption from oil (%)
0.2

Percentage of total consumption from nuclear (%)
34.53

Percentage of total consumption from hydropower (%)
1.497

Percentage of total consumption from bioenergy (biomass and biofuels) (%)
0.5

Percentage of total consumption from wind (%)
2.63

Percentage of total consumption from geothermal (%)
0

Percentage of total consumption from solar (%)
0.26

Percentage of total consumption from waste to energy (excluding biomass component) (%)
0.514

Percentage of total consumption from wave (%)

Percentage of total consumption from tidal (%)

Percentage of total consumption from other renewable sources (%)
0

Percentage of total consumption from other non-renewable sources (%)
0.15

Year data applies to
2018

Comment
The biomass percentage includes captured landfill gas methane and wood

(3.1d) Report the total jurisdiction-wide annual electricity and heating and cooling consumption for each sector listed and for your government operations.

	Electricity consumption (MWh)	Heating and cooling consumption (MWh)	Year data applies to	Comment
Household/residential sector (Buildings)	767751.65	697023.975	2018	Consumption of natural gas, propane, oil and wood is categorized as "heating and cooling consumption"
Commercial sector	1081695.5	321365.623	2018	Commercial Sector consumption consisted of only electricity and natural gas. All natural gas consumption is included under "heating and cooling"
Industrial sector	379223.28	275012.818	2018	Industrial Sector includes industrial and institutional consumption. Only electricity and natural gas consumption is included. All natural gas consumption is included under "heating and cooling"
Agricultural sector	906.153		2018	
Transport sector			Please select	Transportation sector was assumed to not operate on electricity
Government operations			Please select	Energy for government operations was not separately calculated. It is included in commercial consumption
Other			Please select	

(3.2) Report the percentage of households within the jurisdiction with access to clean cooking fuels and technologies.

	Percentage of households within the jurisdiction with access to clean cooking fuels and technologies^	Data source	Year data applies to	Comment
Response	Not estimated	<Not Applicable>	<Not Applicable>	

(3.3) How many households within the jurisdiction boundary face energy poverty? Select the threshold used for energy poverty in your jurisdiction.

	Indicator used to estimate energy poverty^	Percentage of households or total population within the jurisdiction boundary that face energy poverty^	Threshold used for energy poverty^	Comment
Response	Energy poverty not estimated	<Not Applicable>	<Not Applicable>	

(3.4) Report the following information on access to secure energy for your jurisdiction.

Percentage of population or households with access to electricity

Data availability
Data available to report

Indicator^
Percentage of jurisdiction population with access to electricity (%)

Response value^
100

Year data applies to
2022

Comment
The electric delivery company in Allentown, PPL Electric, is required by law to provide electricity to all customers.

Average duration of available electricity

Data availability
Data available to report

Indicator^
Number of hours electricity is available per day (hours/day)

Response value^
24

Year data applies to
2021

Comment
Except in very limited circumstances when a power outage might occur, power is available to all PPL customers in Allentown 24 hours a day.

Average yearly final energy consumption per capita

Data availability
Data available to report

Indicator^
kWh/year/person

Response value^
29011

Year data applies to
2018

Comment

Transport Data

(3.5) Report your jurisdiction's passenger and/or freight mode share data.

Mode share data

Passenger mode share data to report
Jurisdiction does not have passenger mode share data

Passenger mode share: Walking
<Not Applicable>

Passenger mode share: Cycling
<Not Applicable>

Passenger mode share: Micromobility (including e-scooters)
<Not Applicable>

Passenger mode share: Buses (including Bus Rapid Transit)
<Not Applicable>

Passenger mode share: Rail/Metro/Tram
<Not Applicable>

Passenger mode share: Ferries/ River boats
<Not Applicable>

Passenger mode share: Taxis or shared vehicles (e.g. hire vehicles)
<Not Applicable>

Passenger mode share: Private motorized transport
<Not Applicable>

Passenger mode share: Other
<Not Applicable>

Year passenger mode share data applies to
<Not Applicable>

Total passenger mode share reported
<Not Applicable>

Freight mode share data to report
Jurisdiction does not have mode share data for freight transport

Freight mode share: Motorcycle / Two wheeler
<Not Applicable>

Freight mode share: Light Goods Vehicles (LGV)
<Not Applicable>

Freight mode share: Medium Goods vehicles (MGV)
<Not Applicable>

Freight mode share: Heavy Goods vehicles (HGV)
<Not Applicable>

Freight mode share: Rail
<Not Applicable>

Freight mode share: Inland water transport
<Not Applicable>

Freight mode share: Other
<Not Applicable>

Year freight mode share data applies to
<Not Applicable>

Total freight mode share reported
<Not Applicable>

Comment
The annual VMT for private motorized transport includes all passenger vehicles, including taxis that we allocated to the City of Allentown based on PennDOT data and the City's population in 2018. The annual VMT for buses includes other heavy trucks. The total VMT on which the percentages are based also includes light-duty trucks and motorcycles. Only emission-producing modes of transport were evaluated, so the percentages do not include walking, biking, etc.

Waste Data

(3.7) Report the following waste-related data for your jurisdiction.

	Data availability	Response (in unit specified)	Year data applies to	Comment
Total amount of solid waste generated (tonnes/year)	Reporting jurisdiction-level data	40191	2022	This figure is based on curbside collection only and does not include waste generated by commercial and industrial operations that contract for their own waste hauling
Percentage of the total solid waste generated that is utilized for waste to energy (%)	Reporting jurisdiction-level data	0		
Percentage of the total solid waste generated that is diverted away from landfill and incineration (%)	Reporting jurisdiction-level data	25		This includes yard waste
Percentage of the diverted solid waste generated that is recycled (%)	Reporting jurisdiction-level data	20		This includes waste that is taken by residents and others to the Allentown Recycling drop-off center
Percentage of the diverted solid waste generated that is reused (%)	Reporting jurisdiction-level data	5		This includes yard waste (used for mulch), clothing and textiles
Percentage of waste collected where separation at source is taking place (%)	Reporting jurisdiction-level data	25		
Total annual amount of food waste produced in the jurisdiction (tonnes/year)	This data is not available to report	<Not Applicable>	<Not Applicable>	
Volume of wastewater produced within the jurisdiction boundary (megalitres/year)	Reporting jurisdiction-level data	22231		
Percentage of wastewater safely treated to at least secondary level (%)	Reporting jurisdiction-level data	99.99		All flow has secondary treatment except for a bypass due to extreme wet weather

Public Health Data

(3.8) Report on how climate change impacts health outcomes and health services in your jurisdiction.

Health area affected by climate change
Health outcomes

Identify the climate hazard(s) that most significantly impact the selected health area
Heat stress
Extreme heat
Extreme cold
Urban flooding
River flooding
Hurricanes, cyclones, and/or typhoons
Extreme wind
Storm
Heavy precipitation
Infectious disease

Identify the health issues driven by the selected climate hazard(s)
Heat-related illnesses
Cold-related illnesses
Vector-borne infections and illnesses
Water-borne infections and illnesses
Food-borne infections and illnesses
Exacerbation of non-communicable disease symptoms - respiratory disease
Exacerbation of non-communicable disease symptoms - cardiovascular disease
Exacerbation of non-communicable disease symptoms - other
Mental health impacts
Direct physical injuries and deaths due to extreme weather events
Disruption to water, sanitation and wastewater services

Timeframe of impact
Medium-term (2026-2050)

Identify which vulnerable populations are affected by the selected health issue(s)
Women and girls
Children and youth
Elderly
Marginalized / minority communities
Vulnerable health groups
Low-income households
Outdoor workers
Frontline workers

What factors affect your jurisdiction's ability to address the selected health issues
Lack of financial capacity and expertise/technical capacity

Comment
The City does not yet have a sustainability manager although a resolution was recently passed in support of one. The City has not yet garnered the needed resources to begin climate action planning of its own, having chosen instead to participate in regional climate action planning led by the Lehigh Valley Planning Commission. The city does intend to begin its own climate action planning within a year.

(3.10) Provide details of the household access to water, sanitation services and water consumption in your jurisdiction.

Response

Data availability
Data is available for the percentage of households with access to safely managed drinking water services
Data is available for the percentage of households with access to safely managed sanitation services
Data is available for the average household water consumption in litres per capita per day

Percentage of households with access to safely managed drinking water services
100

Percentage of households with access to safely managed sanitation services
100

Household water consumption (litres/capita/day)
243.95

Comment
This is total potable water sales per capita per day, including the City's residential , commercial and industrial customers

Food Data

(3.11) What percentage of your population is food insecure and/or lives in a food desert?

	Data availability	Percentage of population that is food insecure	Percentage of population that lives in a food desert	Comment
Response	Data available for the percentage of population that is food insecure	9.4	<Not Applicable>	

4. Adaptation Goals

(4.1) Does your jurisdiction have an adaptation goal(s) in place? If no adaptation goal is in place, please indicate the primary reason why.

Yes, our jurisdiction has an adaptation goal(s)

(4.1a) Report your jurisdiction's main adaptation goals.

Select a reference ID for the goal
Adaptation goal 1

Adaptation goal^
Reduce Sewer System Overflows

Climate hazards that goal addresses^
Heavy precipitation

Base year of goal (or year goal was established if no base year)^
2020

Target year of goal^
2025

Description of metric / indicator used to track goal^
Inspect at least 55,000 linear feet of the sewage collection system annually and implement repairs accordingly, and treat 40,000 - 50,000 linear feet for root intrusion

Comment
Inflow and infiltration (I&I) from significant precipitation, snowmelt, and elevated groundwater levels contribute to extraneous flows. City sewage is conveyed by gravity to its treatment plant. Velocities within most of the gravity collection system are slow for a significant amount of the time and result in the settling of materials. This settling causes blockages. The problem is compounded by customers improperly disposing of materials, principally fats, oils, and grease (FOG), which congeal and promote blockages. Tree roots are also responsible for blockages. SSOs, which are caused by blockages typically, occur within smaller diameter pipes. In order to address the concerns above, the sewer system operator (LCA) developed a Collection System Inspection and Maintenance Plan (CSIMP) in compliance with the Lease to provide a systematic approach for inspecting, televising, cleaning, and flushing the collection system. The CSIMP includes daily, weekly, and monthly preventative maintenance to flush and jet areas where blockages are known or anticipated to occur. Additional collection system areas are added to the preventative maintenance program based on inspections and televising the lines.

Select a reference ID for the goal
Adaptation goal 2

Adaptation goal^
Increase the resilience of the City's stormwater infrastructure to prevent or mitigate the impacts of flooding

Climate hazards that goal addresses^
Urban flooding
River flooding
Heavy precipitation

Base year of goal (or year goal was established if no base year)^
2020

Target year of goal^
2025

Description of metric / indicator used to track goal^
Inspect and repair approximately 200 stormwater inlets per year; clean 1,000 inlets per year; inspect 80,000 linear feet and line one mile of stormwater main per year; inspect and repair 190 public and private stormwater detention and treatment facilities per year.

Comment
Initiatives include implementing a voluntary stream monitoring program, establishing new, and upgrading existing, Best Management Practices (BMPs), prioritizing areas for future stormwater treatment retrofit projects, conducting hydrologic and hydraulic modeling in flood prone areas of system, and involving residents, volunteers and students in our monitoring and planning efforts.

---

5. Mitigation Targets

(5.1) Does your jurisdiction have an active greenhouse gas emissions reduction target(s) in place? Please include long-term and/or mid-term targets. If no active GHG emissions reduction target is in place, please indicate the primary reason why.

No, but we are planning to introduce a target in the next two years

6. Sector Targets

(6.1) Provide details of your jurisdiction's energy-related targets active in the reporting year. In addition, you can report other climate-related targets active in the reporting year.

Target type (selection mandatory)^

Energy efficiency targets	Reduction in energy consumption (jurisdiction-wide)

Target description
The city has a target to convert all cobra-style street lights to LED by end of 2023.

Boundary of target relative to jurisdiction boundary^
Same - covers entire jurisdiction and nothing else

Year target was established
2015

Base year^
2015

Metric used to measure target (renewable energy or energy efficiency target)^
Percentage (%)

Metric used to measure target^
Percentage of lights converted

Metric value in base year^
0

Target year^
2023

Metric value in target year^
100

Metric value in most recent year data is available

Percentage of total energy that is renewable in target year
<Not Applicable>

Is this target publicly available?
Yes, provide link/attachment (https://www.allentownpa.gov/Portals/0/files/PublicWorks/Projects/2015/LEDStreetLightConversion_Fall2015.pdf)

Progress made towards target
Funds are available and work is underway.

Planning

7. Planning

Climate Action Planning

(7.1) Does your jurisdiction have a climate action plan or strategy that addresses mitigation, adaptation (resilience), and/or energy?
Yes, our jurisdiction has a climate action plan or strategy

(7.1a) Report details on the climate action plan or strategy that addresses mitigation, adaptation (resilience), and/or energy-related issues in your jurisdiction.

Climate action plan type^
Integrated climate plan (addressing adaptation and energy)

Attachment/link and name of plan^
Hazard Mitigation Plan
Hazard Mitigation Master Plan Reduced.pdf

Confirm attachment/link provided to plan (selection mandatory)
The plan has been attached

Boundary of plan relative to jurisdiction boundary^
Larger - covers the whole jurisdiction and adjoining areas, please explain (Covers all 62 municipalities in Lehigh and Northampton Counties)

Processes for monitoring evaluation and updates of plan^
Evaluation: Evaluation of plan takes place at least every 5 years

Funding sources and financial instruments to finance plan
Regional funds and programmes

Communities and organizations engaged^
State/regional government(s) and/or agencies
Local government (s) and/or agencies
Citizens
Vulnerable population groups
Business and private sector

Describe if and how climate-related scenarios have informed the plan
The plan evaluates hazards from changing conditions including climate-related conditions such as increasingly frequent and severe storm events, higher temperatures, etc.

Primary author(s) of plan^
Regional / state / provincial government

Assessment of co-benefits, trade-offs, and synergies of actions included in plan^
Plan assesses co-benefits of actions
Plan assesses trade-offs of actions
Plan assesses synergies of actions

Year of formal approval of plan^
2018

End year of plan
2023

Total cost of implementation of plan (in currency specified in 0.1)

Sectors covered by action plan
Water supply
Sewerage, wastewater management and remediation activities
Conservation
Construction
Transportation and storage
Human health and social work activities

Please explain

Sector Action Planning

(7.2) Report details on the other climate-related plans, policies and/or strategies in your jurisdiction.

Area of plan, policy and/or strategy
Other, please specify (Stormwater management)

Attachment/ link and name of plan
Stormwater Management Program
https://www.allentownpa.gov/Public-Works/Stormwater-Program/Green-Gray-Stormwater-Infrastructure-Projects

Current status of plan
In implementation

Boundary of plan relative to jurisdiction boundary
Same – covers entire jurisdiction and nothing else

Year of formal approval of plan
2020

End of year plan
2025

Comment
The City's Stormwater Management Program is comprised of many elements to reduce runoff volume, pollution and localized flooding, while promoting public safety and improving the water quality of the streams and the Lehigh River which flow through Allentown. Long-range goals of the program include upgrading or replacing aged infrastructure, understanding and addressing stream impairments, and educating and partnering with the community. A stormwater utility fee has been implemented following extensive public outreach conducted at neighborhood meetings throughout the City with the assistance of local group leaders. A voluntary group of community members and local business leaders formed a Green Stormwater Infrastructure (GSI) committee. The Committee developed the City's Credit and Incentive Program which uses a tiered system to promote the voluntary installation of BMPs that provide more efficient treatment of stormwater and go above and beyond land development/ Chapter 102 requirements.

Area of plan, policy and/or strategy
Green infrastructure

Attachment/ link and name of plan
https://www.allentownpa.gov/Portals/0/files/PublicWorks/Compliance/CreditProgramApplicationInstructions.pdf?ver=2018-06-28-151500-863

Current status of plan
In implementation

Boundary of plan relative to jurisdiction boundary
Same – covers entire jurisdiction and nothing else

Year of formal approval of plan
2021

End of year plan
2030

Comment
The City has implemented a Green Stormwater Infrastructure Credits and Incentives Program. Through the use of a tiered system, the policy promotes the voluntary installation of BMPs which provide more efficient treatment of stormwater above and beyond land development/ Chapter 102 requirements.

A Watershed Restoration Strategy has been initiated, the studies of which, result in the capital planning of green infrastructure.

Finance

(7.5) Describe any planned climate-related projects within your jurisdiction for which you hope to attract financing.

Project area
Transport

Project title
Allentown Mobility Plan

Stage of project development
Scoping

Status of financing
Other, please specify (Money set aside from City's general funds for planning but financing may be sought for implementation)

Identified financing model
Public finance - own budget

Project description and attach project proposal
The City of Allentown plans to work with the Lehigh Valley Planning Commission to develop and implement a citywide mobility plan. Transportation networks are poised to change greatly in the next 10 years. To best support decisions and policies related to transportation networks, initiating a citywide mobility study that utilizes data, assesses systems at a finer scale, and allows for ongoing realignment is needed. The Citywide Mobility Plan would set more specific citywide goals and guidelines in a variety of areas including:
· Signage and gateways
· Parking demand management
· Complete streets implementation
· Street network planning (one way conversion, levels of service, etc.)
· Transit oriented development, including node, corridor, and district identification, coordinated with transit and LANTA Enhanced Bus Service planning
· In depth assessment of potential for micro-transit, mobility-as-a-service, automation, and other technological innovations
· Equity assessment and policy
· City-specific assessment of user needs and preferences
· Comprehensive and bicycle infrastructure

Understanding how and why people make transportation decisions will help to prioritize infrastructure investments. This will be especially helpful in informing Neighborhood Planning, since local residents will need to make decisions that impact their communities. The City plans to use community surveys to kickstart the citywide mobility planning process.

Total cost of project (in currency specified in 0.1)
200000

Total investment cost needed if relevant (in currency specified in 0.1)

(7.6) Report the factors that support climate-related investment and financial planning in your jurisdiction.

Response

Mechanisms used by jurisdiction to access finance for climate-related projects
Jurisdiction's own funds and budgetary means
Jurisdiction borrows from national government
Jurisdiction accesses finance from national government funds, grants etc.
Jurisdiction issues municipal bonds
Jurisdiction accesses finance from public-private partnerships

Comment
In addition the foregoing financing mechanisms, Allentown finances capital projects within its Neighborhood Improvement Zone through NIZ taxes, and funds its stormwater management program (including abatement, water quality testing and awareness) through a stormwater utility fee/enterprise fund

Credit rating of jurisdiction
Jurisdiction has a domestic credit rating

Comment

Decarbonising jurisdiction's investments
Please select

Comment

Actions

8. Adaptation Actions

(8.1) Describe the outcomes of the most significant adaptation actions your jurisdiction is currently undertaking. Note that this can include those in the planning and/or implementation phase.

Action (selections mandatory)^

Government policies and programs actions	Community-based adaptation

Climate hazard(s) that action addresses^
Heavy precipitation

Action description and web link to further information^
The City's Stormwater Management Program is comprised of many elements to reduce runoff volume, pollution and localized flooding, while promoting public safety and improving the water quality of the streams and the Lehigh River which flow through Allentown. Long-range goals of the program include upgrading or replacing aged infrastructure, understanding and addressing stream impairments, and educating and partnering with the community. A stormwater utility fee has been implemented following extensive public outreach conducted at neighborhood meetings throughout the City with the assistance of local group leaders. A voluntary group of community members and local business leaders formed a Green Stormwater Infrastructure (GSI) committee. The Committee developed the City's Credit and Incentive Program which uses a tiered system to promote the voluntary installation of bmps that provide more efficient treatment of stormwater and go above and beyond land development/ Chapter 102 requirements.

The City is in the process of developing a Community Engagement Program. Allentown residents and businesses will be able to apply for City funding to implement projects that will reduce the pollution of stormwater and ultimately improve the water quality of our streams and rivers. The goal of the program is to provide an incentive for the community to voluntarily implement stormwater stewardship practices that will help the City meet long-term water quality targets. Under the program, the City will pay a portion (and sometimes all) of the cost for a property owner to install approved practices that reduce pollution and flooding. Metrics are tracked as data is calculated for all voluntarily installed BMPs which reduce pollutants as measured in pounds per year. Additionally, this program allows for funding to allow for the development of educational outreach opportunities for the community to include residents and school children. One type of outreach activity, for example, includes rain barrel giveaways. As part of its protocol under the Public Outreach Program, the Stormwater Bureau identifies groups and tracks all outreach activities and the metrics involved with each to include surveys and distributed materials.

Sectors adaptation action applies to^
Real estate activities

Co-benefits realized^
Reduced costs
Reduced natural resource depletion
Reduced disruption of energy, transport, water or communications networks
Improved road safety
Increased security/protection for poor/vulnerable populations
Improved education and public awareness on climate issues
Protected/improved biodiversity and ecosystem services
Other impacts from climate actions, please specify (Improved stream water quality)

Timeframe for which increased resilience is expected to last
Medium-term (2026-2050)

Proportion of the total jurisdiction population with increased resilience due to adaptation action
90-100%

Proportion of natural systems with increased resilience due to adaptation action
Please select

Funding source(s)
Other, please specify source(s) (Stormwater utility fee)

Status of action in the reporting year^
Action in operation (jurisdiction-wide)

Inclusion in climate action plan and/or jurisdiction development/master plan^
Action is included in climate action plan and/or development/master plan

Total cost of action (in currency specified in 0.1)
5800000

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

Action (selections mandatory)^

Government policies and programs actions	Development of targeted plan/program to address hazard(s) selected

Climate hazard(s) that action addresses^
Extreme heat
Snow and ice
Heavy precipitation

Action description and web link to further information^
In 2019 Allentown finalized its next 10-year comprehensive plan, titled "Allentown Vision 2030" which provides a strategic framework for the next decade of growth. The plan was developed with significant stakeholder engagement and input. It describes five Urban Systems as a comprehensive way to understand the City of Allentown, and to encompass many different forces and factors that make up the systems of the city. Under each system is a set of principles and policies, projects, and programs that will enhance these systems.
The five Urban Systems are:
Economic Development Housing
Accessibility and Connectivity Services and Amenities
Living Systems
Under each Urban System, there is a list of Principles and corresponding actions under the principles. The Principles can be defined as the goals for each System. The actions that accompany each Principle detail how the goals will be accomplished. Climate components are woven into many portions of the plan, especially in the Living Systems section of the plan. These include a wide array of goals and principles to mitigate the City's climate impacts, increase climate resilience and adapt to the currently changing climate. The Plan provides a coordinated and collaborative approach for City Departments and Bureaus, our public, private, nonprofit, and institutional partners to work together on Plan implementation. Implementation of some elements (such as a comprehensive zoning review) has begun, but other elements will take more time. The project cost noted below is the cost of developing the comprehensive plan.

Sectors adaptation action applies to^
Sewerage, wastewater management and remediation activities
Conservation
Transportation and storage
Accommodation and food service activities
Information and communication
Real estate activities
Education
Human health and social work activities

Co-benefits realized^
Improved mobility and access
Increased social inclusion, equality and justice
Reduced GHG emissions

Timeframe for which increased resilience is expected to last
Medium-term (2026-2050)

Proportion of the total jurisdiction population with increased resilience due to adaptation action
90-100%

Proportion of natural systems with increased resilience due to adaptation action
Please select

Funding source(s)
Please select

Status of action in the reporting year^
Please select

Inclusion in climate action plan and/or jurisdiction development/master plan^
Please select

Total cost of action (in currency specified in 0.1)
200000

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

Action (selections mandatory)^

Engineered and built environment actions	Storm and wastewater management

Climate hazard(s) that action addresses^
Water stress
Heavy precipitation

Action description and web link to further information^
The City's Act 167 Stormwater Management Ordinance, Article 1387, was updated in 2007 to include Low Impact Development (LID) practices to include avoiding the introduction of impervious surfaces. In 2021, a policy decision was made to promote green roof installation through automatic removal of impervious surface associated with their footprint, despite storage capacity. Green roof installation is further promoted through the award of credits provided to reduce the utility fee. Additionally, the City promotes the reduction of impervious surface through its appeals process which allows for residents to reduce their stormwater fees by actively managing the impervious surface of their properties.
The cost of this program is primarily incurred by the property owners.

Sectors adaptation action applies to^
Real estate activities

Co-benefits realized^
Business/technological innovation
Reduced natural resource depletion
Improved education and public awareness on climate issues
Reduced GHG emissions
Improved water/soil quality
Increased/improved green space
Protected/improved biodiversity and ecosystem services

Timeframe for which increased resilience is expected to last
Medium-term (2026-2050)

Proportion of the total jurisdiction population with increased resilience due to adaptation action
90-100%

Proportion of natural systems with increased resilience due to adaptation action
Please select

Funding source(s)
Other, please specify source(s) (Stormwater utility fee)

Status of action in the reporting year^
Please select

Inclusion in climate action plan and/or jurisdiction development/master plan^
Please select

Total cost of action (in currency specified in 0.1)

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

Action (selections mandatory)^

Engineered and built environment actions	Sewage works

Climate hazard(s) that action addresses^
Water stress
Heavy precipitation

Action description and web link to further information^
Lehigh County Authority, the operator of the City's Sewer Systems, performs maintenance on the Sewer Collection system, including inspecting, televising, cleaning, and flushing the system, as well as performing necessary repairs and rehabilitation. The program includes weekly, and monthly preventative maintenance to flush and jet areas where blockages are known or anticipated to occur. Additional collection system areas are added to the preventative maintenance program based on inspections and televising the lines. The cost noted below is the approximate cost incurred in 2020 and includes required capital expenditures for sewer line rehabilitation plus normal maintenance in accordance with the City's agreement with the operator.

Sectors adaptation action applies to^
Sewerage, wastewater management and remediation activities

Co-benefits realized^
Reduced disruption of energy, transport, water or communications networks
Protected/improved biodiversity and ecosystem services

Timeframe for which increased resilience is expected to last
Long-term (after 2050)

Proportion of the total jurisdiction population with increased resilience due to adaptation action
90-100%

Proportion of natural systems with increased resilience due to adaptation action
Please select

Funding source(s)
Regional funds and programmes

Status of action in the reporting year^
Please select

Inclusion in climate action plan and/or jurisdiction development/master plan^
Please select

Total cost of action (in currency specified in 0.1)
850000

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

---

9. Mitigation Actions

(9.1) Describe the outcomes of the most significant mitigation actions your jurisdiction is currently undertaking. Note that this can include those in the planning and/or implementation phases.

Primary emissions sector addressed and action type (selections mandatory)^

Stationary energy	LED / CFL / other luminaire technologies

Action description and web link to further information^
The city is in the process of converting all cobra-head street lights to LED by the end of 2023 and is actively seeking funding to convert all pedestrian street lights to LED as well.

Start year of action
2015

Year for which mitigation is expected to last
2023

Impact indicators measured^
Please select

Estimated emissions reductions (metric tons CO2e)^
<Not Applicable>

Estimated annual energy savings (MWh)^
<Not Applicable>

Estimated annual renewable energy generation (MWh)^
<Not Applicable>

Co-benefits realized^
Reduced costs

Funding source(s)
Jurisdiction's own resources

Status of action in the reporting year^
Please select

Inclusion in climate action plan and/or jurisdiction development/master plan^
Please select

Total cost of action (in currency specified in 0.1)

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

Primary emissions sector addressed and action type (selections mandatory)^

Industrial Processes and Product	Improve energy efficiency of industrial processes

Action description and web link to further information^
New variable drives for high lift pumping system which conveys treated water into the water distribution system. The new variable drives will be more efficient and capable of handling greater volumes of water.

Start year of action
2020

Year for which mitigation is expected to last
2030

Impact indicators measured^
Please select

Estimated emissions reductions (metric tons CO2e)^
<Not Applicable>

Estimated annual energy savings (MWh)^
<Not Applicable>

Estimated annual renewable energy generation (MWh)^
<Not Applicable>

Co-benefits realized^
Enhanced climate change adaptation
Enhanced resilience to shocks and disasters

Funding source(s)
Jurisdiction's own resources

Status of action in the reporting year^
Action in operation (jurisdiction-wide)

Inclusion in climate action plan and/or jurisdiction development/master plan^
Please select

Total cost of action (in currency specified in 0.1)
2000000

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

Primary emissions sector addressed and action type (selections mandatory)^

Industrial Processes and Product	Improve energy efficiency of industrial processes

Action description and web link to further information^
The City has negotiated a program with the operator of its water system (Lehigh County Authority) to perform leak detection and repairs on 165 miles of the City's distribution pipes each year, resulting in checking the entire system every three years. This program resulted in savings of 34,314,264 gallons of water in 2022.

Based on the results from the leak detection above and other data, LCA creates the water main replacement program.

Start year of action
2020

Year for which mitigation is expected to last
2050

Impact indicators measured^
Other impact indicator, please specify (34,314,264 gallons of water saved)

Estimated emissions reductions (metric tons CO2e)^
<Not Applicable>

Estimated annual energy savings (MWh)^
<Not Applicable>

Estimated annual renewable energy generation (MWh)^
<Not Applicable>

Co-benefits realized^
Reduced natural resource depletion
Reduced disruption of energy, transport, water and communications networks

Funding source(s)
Jurisdiction's own resources

Status of action in the reporting year^
Action in operation (jurisdiction-wide)

Inclusion in climate action plan and/or jurisdiction development/master plan^
Please select

Total cost of action (in currency specified in 0.1)

Does this action contribute to your jurisdiction's energy access and/or poverty objectives?^
<Not Applicable>

Select the related energy access and/or poverty indicator(s) for this action, and indicate how they are impacted by the action (i.e. value increased or decreased)^
<Not Applicable>

Further Information

(10.1) Use this field to provide any additional information or context that you feel is relevant to your jurisdiction's response. Please note that this field is optional and is not scored/assessed.

Submit your response

What language are you submitting your response in?
English

Please read and accept our Terms and Conditions
I have read and accept the Terms and Conditions

Please confirm how your response should be handled by CDP.

	Public or non-public submission
I am submitting my response	Publicly (recommended)