



# City of Easton Climate Action and Shared Energy Manager



Nurture Nature Center  
City of Easton  
2022



City of  
**EASTON**  
PENNSYLVANIA



# From Flooding to Climate



# City of Easton: Global Covenant of Mayors

Easton goes green with commitment to reduce emissions



## Easton council commits to cutting greenhouse emissions: 7 things you can do

Updated May 25, 2018; Posted May 25, 2018



## ▶ THE CITY OF EASTON'S CLIMATE ACTION PLAN

UPDATE: The City of Easton adopted the draft Climate Action Plan on October 27th, 2021. Stay tuned for more information as NNC helps kick off implementation of some of the plan's strategies.

### Hour-By-Hour Climb To 109 Heat Index in Eastern PA

Today is expected to be the worst of the heat wave, and likely the hottest day of the year.

### Delaware River at Easton-Phillipsburg crests just into minor-flood stage (PHOTOS)

As heat wave continues, we wonder: Just how hot can it get in the Lehigh Valley?

### Summer's Second Heatwave Hits Easton

The summer's second heat wave arrived today and won't let up at least until Tuesday.

### Streets closed, many without power as flooding hits the Lehigh Valley

PHOTOS: Aug 1, 2018 (taken by NNC)

Senior citizens struggle to stay cool in their homes during the summer, doctors see more cases of tick and mosquito-borne illness like West Nile Virus or Lyme disease, areas that haven't flooded in recent memory experience costly flood damage – these and many other

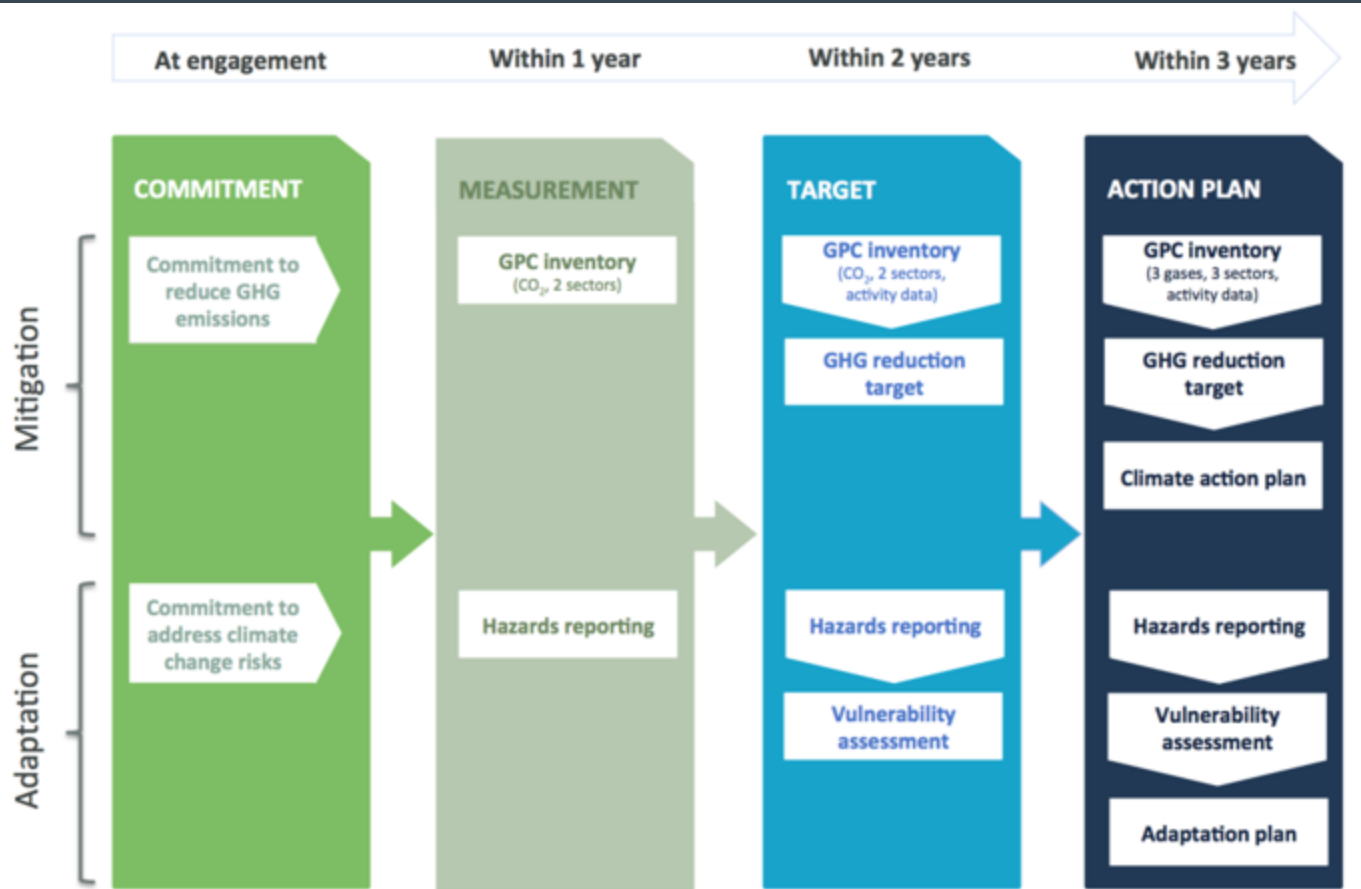


GLOBAL COVENANT  
of MAYORS for  
CLIMATE & ENERGY

The City of Easton joined the Global Covenant of Mayors for Climate and Energy in 2016, and completed a greenhouse gas inventory in 2016, 2017, and 2018. A climate vulnerability assessment and an emissions reduction target were developed in spring of 2018.

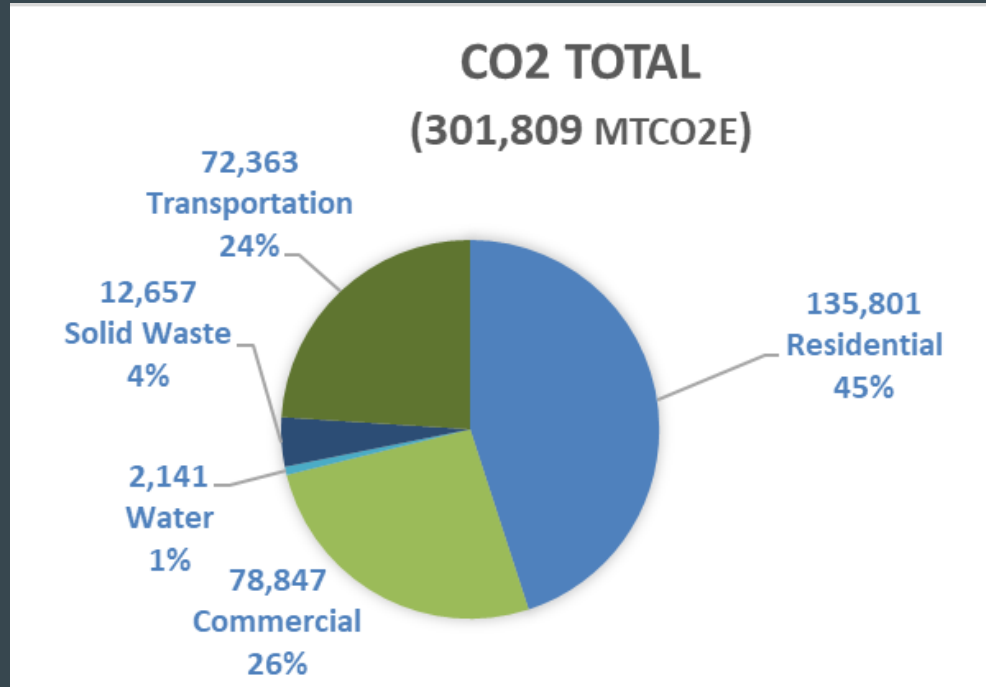
The climate vulnerability assessment was completed by Nurture Nature Center and Lafayette students in a Sustainable Solutions class led by

# City of Easton Global Covenant Timeline



# 2018 GHG Inventory

Emissions  
Reduction  
Target:  
80% by 2050  
30% by 2030



# City of Easton Climate Action Plan



Approved by City of Easton City Council  
October 27<sup>th</sup>, 2021



City of  
**EASTON**  
PENNSYLVANIA

June 2021

Produced by Nurture Nature Center



# Vision and Objectives

1. Make the City of Easton a leader in climate actions, including sourcing clean and local energy that comes from the sun, wind, or other innovative renewable technologies.
2. Transform our buildings into energy efficient, sustainable places to live, work, learn, and play.
3. Ensure the benefits of climate action are equitably distributed and empower historically underserved populations to participate in the process of transitioning to a carbon-free community

# Vision and Objectives

4. Transform the City of Easton into a community where people walk, bike, take mass transit, or carpool for most trips in a safe, accessible, and affordable transportation network.
5. Become a leader in sustainable, smart transportation through innovative partnerships, policies, programs, and technology.
6. Understand potential climate-related risks and mitigate these risks while preparing our community for chronic and extreme weather events.



# By 2030

- Easton will reduce energy use in its buildings by 20%
- Easton will incentivize LEED certification or equivalent, and/or enforce net-zero building codes for new buildings
- At least 30% of new housing units are within ¼ mile of high-frequency transit are designated affordable.
- A food outlet selling fresh produce is located within a 15 minute walk
- Increase number of households reached by low-income weatherization or energy efficiency programs by 30%
- Decrease the energy costs of low-income residents by 20%
- Install roof-top solar on homes of 20% of low and moderate income residents



ENERGY STAR®

PortfolioManager®

- PA DEP – Shared Energy Manager,  
Wilson Engineering
- Energy Management Plan
- Building Benchmarking
- Pilot Energy Assessment

# Energy Management Plan – Wilson Engineering Services

**Table 2 – City of Easton Building List**

Facility Name	Facility Address	Gross Floor Area (ft <sup>2</sup> )	Electric (Y/N)	Natural Gas (Y/N)	Water (Y/N)
City Hall	123 S 3rd St	44,000	Y <sup>1</sup>	Y <sup>1</sup>	Y
City Hall Parking	123 S 3rd St	120,000			Y
Police Station	48 N. 4th St	28,000	Y	Y	Y
Fire Central	6th & Northampton St	10,000	Y	Y	Y
College Hill Fire	327 Parsons St	4,100	Y	Y	Y
South Side Fire	420 Reynolds St	4,600	Y	Y	Y

**Table 7 – City of Easton Buildings General Metrics**

Facility Name	Site EUI (kBtu/ft <sup>2</sup> )	Median Site EUI (kBtu/ft <sup>2</sup> )	% Above/Below Median EUI	Source EUI (kBtu/ft <sup>2</sup> )
City Hall <sup>2</sup>	150.7	62.4	142%	281.1
Police Station	51.9	58.8	-12%	110.3
Fire Central	76.3	76.6	0%	124.4
College Hill Fire	92.4	90.8	2%	127.0
South Side Fire	66.6	69.7	-4%	119.3
Department of Public Works Complex <sup>2,3</sup>	25.4	46.7	-46%	52.8
Pine St. Parking	5.2	6.1	-15%	NA
Heil Park Football Field	13.5	266.8	-95%	30.1
WWTP Sewer Collection Garage	34.9	74.4	-53%	45.4

- Notes: 1) Benchmarking figures reflect utility information provided by the City of Easton.  
 2) Facility includes multiple buildings.  
 3) The Department of Public Works Maintenance building was renovated in 2006.

Department of Public Works Complex  
 Parks Vehicle Storage  
 Main Office/High Storage  
 Police K-9 Building  
 Maintenance Office  
 Vehicle Lube Garage  
 Vehicle Equipment  
 Vehicle Equipment  
 Pine St. Parking  
 WWTP Sewer Collection Garage  
 Heil Park Pool Concession

Notes: 1) Meter covers a

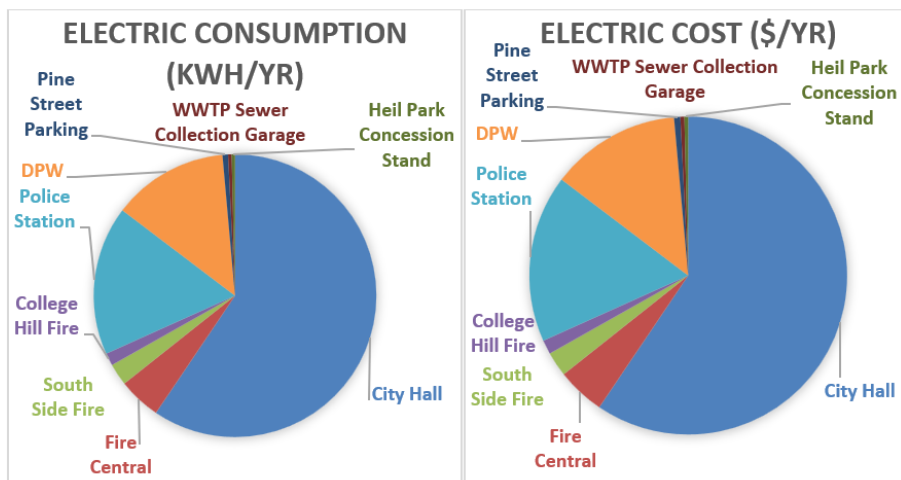


Figure 3 – City of Easton Building Electricity Usage and Cost

Table 5 - Annual Facility Electric Profile

Facility	Usage	Cost	Electricity Use Intensity (kWh/ft <sup>2</sup> )	Electricity Use Intensity (kBtu/ft <sup>2</sup> )
City Hall	912,609	\$57,877	4.47	15.26
Police Station	261,630	\$20,030	9.34	31.88
Fire Central	74,852	\$5,791	7.49	25.54
College Hill Fire	22,157	\$1,857	5.40	18.44
South Side Fire	38,439	\$2,726	8.32	28.39
Department of Public Works Complex	203,364	\$16,256	4.50	15.35
Pine St. Parking	9,843	\$1,057	0.10	0.34
Heil Park Concession	5,815	\$704	3.42	11.67
WWTP Sewer Collection Garage	6,245	\$892	1.39	4.74

Notes: 1) Electricity Use Intensity is calculated based on the most recent full year data.

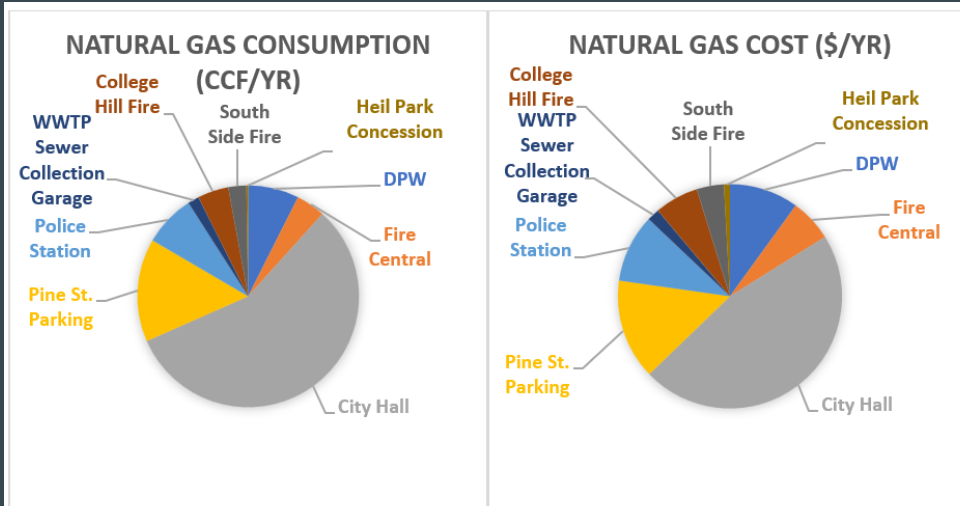


Figure 5 – City of Easton Natural Gas Cost and Usage

Table 6 - Annual Facility Natural Gas Profile

Facility	Usage (ccf)	Cost (\$)	Natural Gas Use Intensity (ccf/ft2)	Natural Gas Use Intensity (kBtu/ft2)
City Hall	32,820	26,674	0.16	16.51
Police Station	4,354	5,616	0.16	15.96
Fire Central	2,465	3,499	0.25	25.29
College Hill Fire	2,625	3,618	0.64	65.68
South Side Fire	1,520	2,244	0.33	33.75
Department of Public Works Complex	4,299	5,714	0.10	9.76
Pine St. Parking	8,706	8,266	0.09	8.93
Heil Park Football Field	194	563	0.04	4.42
WWTP Sewer Collection Garage	950	1,027	0.56	57.34

## CITY HALL

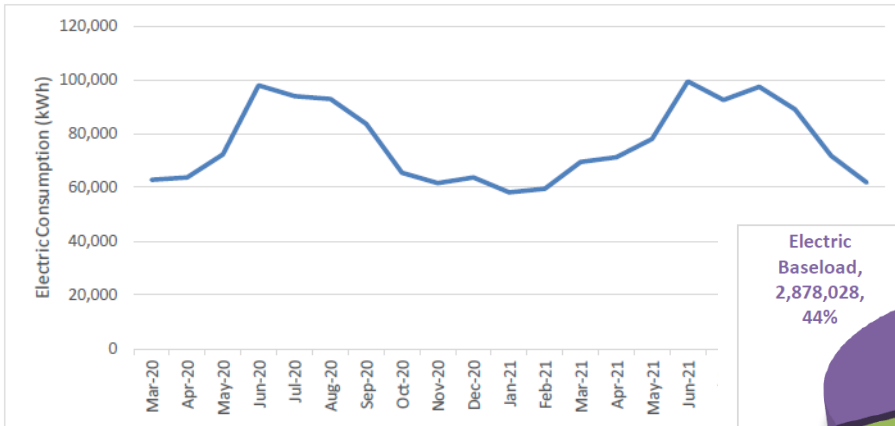


Figure 3: City Hall Electric Usage (10/2020 – 11/2021)

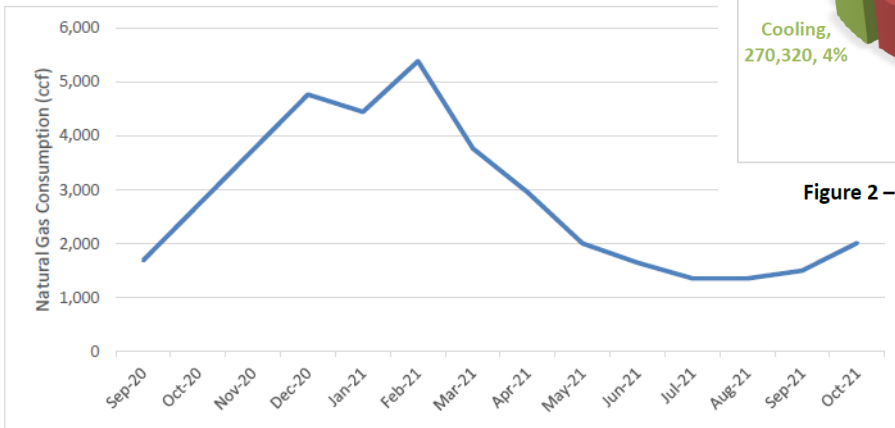


Figure 4: City Hall Natural Gas Usage (12/2019 – 11/2020)

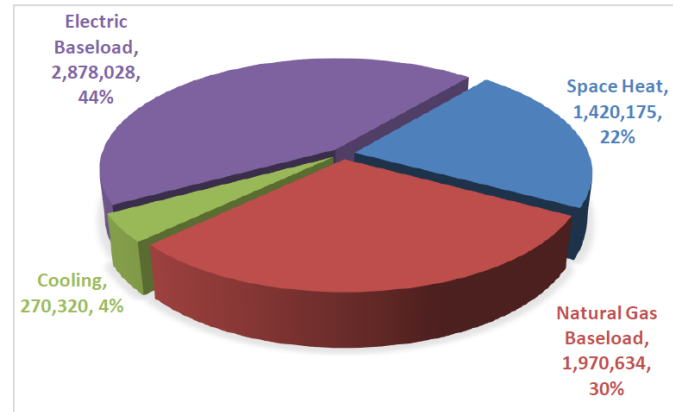


Figure 2 – City Hall End Use Energy Breakdown (kBtu/yr)

# City Hall End Use Energy Assessment

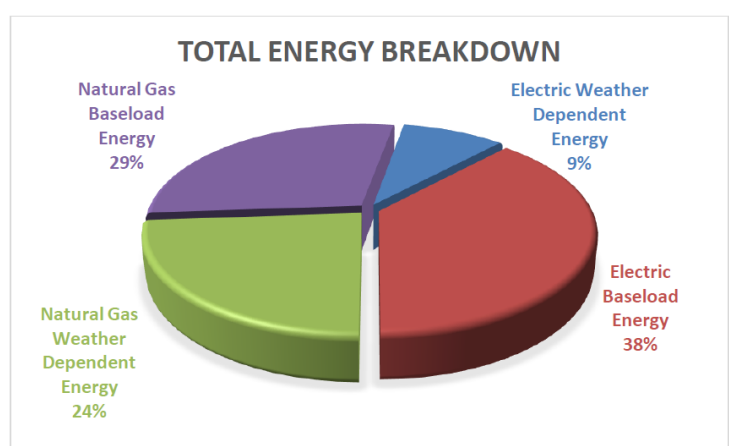


Figure 3 - Energy Disaggregation

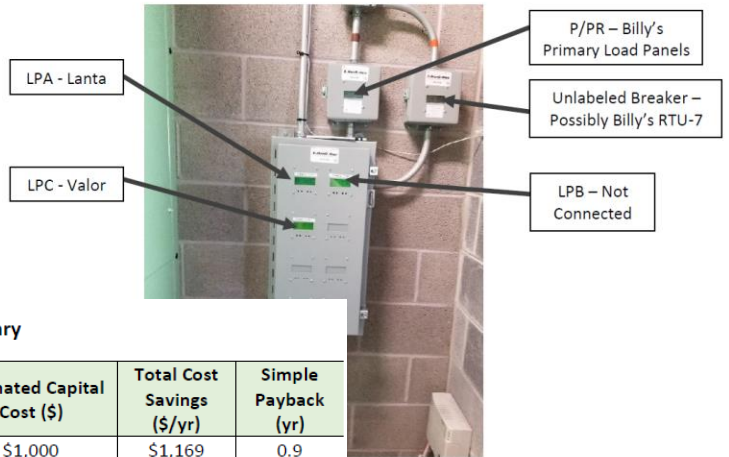


Table 12 - ECM Performance Summary

ECM Description	GHG Reduction (MTCO <sub>2</sub> e/yr)	Electric Savings (kWh/yr)	Natural Gas Savings (ccf/yr)	Estimated Capital Cost (\$)	Total Cost Savings (\$/yr)	Simple Payback (yr)
ECM 1a - Lighting Control	7	23,389	0	\$1,000	\$1,169	0.9
ECM 1b - Lighting Fixtures <sup>1</sup>	10	31,942	0	\$6,326	\$1,597	4.0
ECM 2 - Recommissioning	47	60,653	5,097	\$30,000 - \$70,000	\$6,779	4.4 - 10.3
ECM 3 - Vending <sup>1,2</sup>	0.3	876	0	\$206	\$44	4.7

ubmeters

**Table 14 - Energy Management Performance Evaluation Frequencies**

Performance Metric or Task	Evaluation Frequency	Next Due Date
Energy Star Portfolio Manager Building Benchmarking	Annually	2022
Water & Wastewater Infrastructure Energy Benchmarking	Annually	2022
Municipal Lighting Energy Use Evaluation	Annually	2022
Fleet Fuel Usage Benchmarking	Annually	2022
Energy Audits of Buildings/Facilities	Annually	2022
Evaluation of Streetlight Photocells	Annually	2022
Review Current List of Non-LED Fixtures	Annually	2022

**Table 15 - Energy Management Strategies Evaluation Frequency**

Strategy	Evaluation Frequency	Next Due Date
Energy Performance Goals	Annually	2022
Staff Training	Annually	2022
Communication Plan	Annually	2022
Financial Strategies	Annually	2022
Energy Procurement Plan	Annually	2022
Building Strategies	Annually	2022
Water/Wastewater Strategies	Annually	2022
Fleet Strategies	Annually	2022
Alternative Fuel Vehicle Availability	Annually	2022
Renewable Energy/Fuel Evaluation	Annually	2022
Municipal Lighting Strategies	Annually	2022





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**THANK YOU!**

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[www.nurturenaturecenter.org](http://www.nurturenaturecenter.org)

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