Allegheny County
SUSTAINABILITY REPORT 2022

Dear Friends:

It is my pleasure to present to you the Allegheny County Sustainability Report 2022.

When I first took office, our efforts around sustainability consisted of one person in the manager's office. We joined the Green Building Alliance's Pittsburgh 2030 District before governments were part of the effort. Since then, we've been recognized for our progress and continue to be active in the largest 2030 district in the country. We've contracted with Noresco for guaranteed energy savings in water and electricity. Those efforts have reduced our reliance on fossil fuels and improved our air quality with the impact being equivalent to removing 450 cars from the road annually.

Over the last decade, we have invested in hydropower and alternative fuel and electric vehicles, improved our stormwater management, and practiced sustainable development. Our focus on working collaboratively and strategically across departments and throughout the county has reduced our impact on the community and environment. These investments have also improved our operations, our health, our bottom line and our county. We have not done it alone, but have partnered with schools, nonprofits and corporate partners on improvements that benefit our environment. This includes a commitment to planting over 1,000 trees a year which remove air pollutants (each tree can absorb as much as 50 pounds of CO_2 a year) and reduce ozone formation and storm water runoff. ALCOSAN has also adopted green solutions as part of its clean water plan and supports a variety of sustainable projects through its GROW program.

Our contract with RoadRunner Recycling has resulted in a significant reduction of what's sent to the landfill. We have reduced the amount of paper that we recycle because we've gone paperless for contracts and applications for jobs and grants. And we continue to recycle plastic bottles, aluminum cans, cardboard and scrap. Our efforts also span county agencies. The largest solar farm in western Pennsylvania and the development of a sustainable microgrid are part of the Airport Authority's efforts. The Community College of Allegheny County has adopted solar at its North campus. And the Sports and Exhibition Authority owns the first fully sustainable convention center in the world with Gold and Platinum LEED certifications.

Today, our Sustainability Office is part of the Department of Facilities Management and is involved in every facet of county government. That effort has grown so much that we have proposed a new Department of Sustainability. The county's efforts to integrate and invest in environmentally sensitive and sustainable measures will be improved and strengthened through the creation of a separate department dedicated solely and exclusively to widespread sustainability practices with county government.

The future is bright, and green, for Allegheny County.

Rich Fitzgerald

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2021 AT A GLANCE

ADDED ADDITIONAL ALTERNATIVE AND ELECTRIC FUEL VEHICLES:

- Four (4) electric sedans for the pool fleet
- Two (2) dual fuel propane and gasoline garbage trucks for use in in the parks
- Four (4) Tier IV dump trucks

IMPROVED AIR QUALITY:

- Met federal air quality standards for PM2.5 for the second consecutive year; Health Department to seek attainment designation
- Air quality dashboard updated to be more understandable and accessible
- Air Ambassador mini grants awarded to nine (9) groups encouraging training and education

IMPROVED STORMWATER IMPACTS:

- Added 10 more acres of no-mow meadows
- Completed South Park green parking lot, diverting 2.5M gallons/yr from Catfish Run
- Installed rain garden at Boyce Park to capture 216,000 gallons/yr of stormwater
- Planted 1,383 trees/shrubs, 200 along Catfish Run in South Park for streambank stabilization

DIVERTED COUNTY WASTE, INCREASED RECYCLING:

- Recycled 174 tons of cardboard
- Recycled 86.6 tons of plastic bottles, aluminum cans, and mixed paper
- Composted 0.8 tons of food waste
- Recycled 78.62 tons of scrap metal
- Implemented a green cleaning program for janitorial services

SPONSORED PUBLIC RECYCLING COLLECTIONS:

- 85.4 tons of hazardous waste materials across three events with 1,564 attendees
- 134 tons of hard-to-recycle items across six events with 2,757 attendees
- 10.2 tons of glass bottles and jars

INVESTED IN RENEWABLE ENERGY:

- Purchased 7.4 MW of renewable energy credits from a hydropower facility to be constructed on the Ohio River
- Installed 122 solar pathway lights along Corrigan Drive in South Park
- Installed three (3) additional solar shelters in the county parks

SUSTAINABLE DEVELOPMENT:

- Allegheny Grows funded new community gardens in Verona and Blawnox with support from over 300 volunteers and 1,536 volunteer hours
- Closed on the first CPACE program project, saving 117,173 kWh and 57,500 gallons of water per year

INTRODUCTION

Allegheny County is home to an abundance of natural resources and beauty within its borders, as well as an extensive built environment in the form of housing, commercial and industrial property, and the infrastructure to connect it all. Consistently ranking high on lists of the nation's most livable places, the county strives to develop a diversified and agile economy, attracting new businesses and their employees. In addition to its urbanized area, the county also encompasses river towns and rural villages, along with three magnificent rivers with countless tributaries and streams, acres of county parkland and additional tree canopy throughout, and hundreds of miles of roads and bridges. This abundance of assets places a unique responsibility squarely on the shoulders of county government, to act as steward to protect these resources, to help residents and visitors mitigate and manage the impacts of climate change, and to implement and model sustainable consumption practices for future generations, while supporting more sustainable redevelopment and businesses.

County government's focus on sustainability dates back to 2008, when the county adopted a blueprint for a sustainable future envisioned by county residents, where equity and diversity are an integral part of decision-making. Titled *Allegheny Places*, this comprehensive plan contains recommendations for walkable, mixed-use development, a multi-modal transportation system to connect people and places and greenways to protect natural features and enhance Allegheny County's scenic beauty.

> **" Allegheny County is committed to leading the region in identifying and showcasing best practices to advance sustainability initiatives. "**

In 2009, the county launched a Green Action Team to advise the county on policies and programs to support regional sustainability and recommend best sustainability practices for all county government functions and activities. The county also hired its first Sustainability Manager in 2009 and established the Office of Sustainability. Thirteen years later, the Office of Sustainability has established a solid leadership role in driving sustainability practices across county government operations in all departments, and in interdepartmental collaborations.

OUR FIRST SUSTAINABILITY STEPS

2008

Allegheny Places was adopted with recommendations for walkable, mixed-use development; a multi-modal transportation system; and greenways to protect natural features and enhance the county's scenic beauty.

2009

A Green Action Team was formed and a Sustainability Manager was hired to advise the county on future sustainability initiatives.

Our vision, rooted in community-based collaboration, has led to improvements in air quality, investments in our parks and waterways, restoration of the tree canopy, and transitions to alternative fuel vehicles. With each step, Allegheny County is committed to leading the region in identifying and showcasing best practices to advance sustainability initiatives. It has led the way in testing new technologies and advancing sensible sustainability solutions that collectively move the region towards long-term prosperity.

Central to this goal is prioritizing realistic sustainability achievements based on cost-effectiveness and day-to-day operational improvements. The county has more than two million square feet of office space, which presents opportunities to reduce energy consumption and adopt proper waste management practices. As the county makes internal efficiency updates, it remains committed to serving as a model for residents, stakeholders, and other communities.

Intentional dialogue and collaboration with key partners have fostered a deeper understanding of environmental impact, economic development, and community heath. This shared vision rooted in community-based collaboration with the county

at the helm has led to improvements in air quality, investments in our parks and waterways, restoration of the tree canopy, and transitions to alternative fuel vehicles.

Along the way, Allegheny County has made thoughtful and deliberate decisions to build a strong foundation and create a model for sustainability practices that can be implemented across the region. We are proud of this work and look forward to a bright and bold future of continued sustainability innovation in the service of our residents.

MAKING COMMUNITIES HEALTHIER

Sustainable practices are about more than reducing environmental impacts. They require understanding interactions between the environment, communities, and economies. Healthy communities start with a healthy environment, clean water and fresh air and lead to better mental, physical, and economic well-being of their residents.

The Office of Sustainability coordinates with county departments to reduce the county's impact on air quality. This includes transitioning the county's fleet and heavy equipment to alternative fuels, which reduces air pollution. The Office of Sustainability also helps improve the region's air quality by supporting efforts to plant more trees and restore the tree canopy, which filters air pollutants and produces oxygen.

Did you know that one large tree can provide a day's supply of oxygen for up to four people? While burning one gallon of gasoline releases 20 pounds of carbon dioxide, one mature tree can absorb more than that in one year — 50 pounds of carbon dioxide.

The county's electric vehicles produce no tailpipe emissions. Though they are charged by electricity supplied from the grid, the county has entered into an agreement with Rye Development to begin purchasing renewable energy credits from a hydroelectric dam project to be located on the Ohio River. Through that purchase and support of renewables, the county offsets the carbon emissions created by our electric purchase from the grid.

We are proud to share with you the work we've done in 2021 and beyond.

The county planted 1,383 trees and has plans to plant 2,317 more in 2022. Over 9,000 trees have been planted since 2012. Each tree will annually absorb about 50 pounds of carbon dioxide, equivalent to the amount emitted by the average vehicle driven 55 miles.

The county, through its Health Department, works with private and public sectors to apply for funding to reduce emissions. In October 2021, grant awards were received to help the City of Pittsburgh replace five diesel recycling trucks and Monark Student Transportation Company replace three diesel buses with electric vehicles and charging stations. The $3.75 million in Targeted Airshed Grants were awarded by the Environmental Protection Agency. Large vehicles that make constant stops emit larger amounts of particulate matter, nitrous oxides, and air toxins. **One recycling truck, for example, gets three miles per gallon and idles 2,000 hours yearly.** Diesel buses idle in front of schools where emissions affect children with developing lungs. The new electric vehicles will eliminate those problems. Both projects have been targeted toward environmental justice communities impacted by higher levels of mobile source pollution.

The county purchased four additional electric vehicles, bringing the electric pool fleet to eight. A Pennsylvania Department of Environmental Protection Alternative Fuels Incentive Grant provided $7,500 per vehicle. The electric vehicles replaced older and inefficient gasoline models.

The county purchased two dual fuel garbage trucks, which primarily run on propane with gasoline backup. Those smaller trucks collect trash throughout the county's parks. **Propane fuel produces fewer carbon emissions and emits 96% less air pollution than diesel and 68% less than gasoline.** Dual fuel vehicles can use gasoline to start in the winter, then switch to propane for regular routes.

In 2021 and 2022, **the county met federal air quality standards for PM2.5 (Particulate Matter 2.5 microns in diameter or smaller) for the first time since the Environmental Protection Agency (EPA) set the National Ambient Air Quality Standards (NAAQS) in 1999.** That milestone means that the region is complying with federal standards for a variety of regulated toxins. Moving forward the county will seek attainment designation from the EPA.

The Mon Valley Air Pollution Episode Rule was enacted in 2021. It requires 16 industrial and commercial sources of pollution to implement Allegheny County Health Department-approved contingency plans when atmospheric conditions are forecasted to contribute to an exceedance of a PM2.5 threshold level for the Mon Valley.

The county replaced four dump trucks used for construction projects and snow removal with Tier 4 diesel trucks. **That type of truck reduces particulate matter and nitrogen oxide emissions by up to 86% as well as overall carbon emissions compared to the previous models.** The purchases enabled the county to reduce CO_2 emissions by almost 63 metric tons, which is equivalent to removing 13 cars from the roadways or powering 11 homes for a year.

MAKING COMMUNITIES HEALTHIER TIMELINE

Active Allegheny grants totaling $828,279 have funded 34 projects throughout the county that provide bicycle and pedestrian connections to important destinations.

2016-2020

The county added bicycle lanes to 4.7 miles of roadway on Neville Island.

2016

2013

The county purchased its first compressed natural gas, dual-fuel truck.

2017

The county added bicycle lanes to 2.2 miles of Corrigan Drive in South Park.

Park Rangers scheduled trail management days (190 Work days on trails and 3,055 person hours to date) for designing, constructing, restoring, and managing trails in a sustainable manner.

2018-PRESENT

2018

The county purchased hybrid vehicles for the Department of Public Works' inspection team.

2020

The county enacted a Clean Construction law that requires construction projects in excess of $2.5 million to use diesel vehicles with Best Available Retrofit Technology (BART) to help reduce emissions.

IMPROVING PARKLANDS AND WATERWAYS

The importance of sustainability can be seen best through the impacts of open space and parklands. Stormwater management, habitat and streambank restoration, as well as the preservation of open spaces reduce environmental impacts and enhance the physical and mental wellbeing of visitors. The National Recreation and Park Association (NRPA) reports that access to parks and green space can reduce stress and improve mental health. Well-preserved parks increase property values and attract prospective residents, leading to the creation of new businesses and jobs.

Allegheny County manages nine parks, which encompasses over 12,000 acres with 200+ miles of trails, four lakes, as well as many streams and creeks. The county continues to preserve and enhance those spaces through best management practices, including reducing flooding, preventing erosion, increasing tree canopy, enhancing trails, and providing numerous amenities such as ice rinks and wave pools.

Learn more about the county's recent stormwater management projects, including no-mow meadows, permeable pavers, and streambank stabilization, which improve wildlife habitats and the visitor experience:

An additional 10 acres of formerly mowed grass in South Park and Hartwood Acres were converted to a native wildflower meadow, bringing the total to 35 acres of wildflower meadows in our parks. The meadow conversions absorb an estimated **18 million gallons of stormwater runoff annually** – or enough to fill the North Park pool seven times. Reduced mowing of these areas reduces carbon dioxide emissions by about 5,800 pounds annually.

A 2.5-acre water-permeable green parking lot was installed in South Park, accommodating 125 vehicles, including five ADA-accessible spaces. The lot is designed to capture 95% of all rain that falls on it, **diverting about 2.5 million gallons of stormwater from local waterways each year.** The oils, heavy metals, and sediment that would otherwise enter Catfish Run will be cleaned and cooled by soil and stone using permeable pavers and two rain gardens. Rainwater will infiltrate gravel recharge beds beneath, while the rain gardens provide green space with native plant species to further filter and slow down the stormwater. Surrounding trees will shade the lot which helps to reduce the heat around the fairgrounds and improve air quality.

In 2021, the county planted 1,383 new trees and shrubs. Trees provide habitats for wildlife, filter water, prevent erosion, and increase the overall tree canopy which reduces temperatures.

A 350-square-foot rain garden near the Four Seasons Lodge in Boyce Park was planted to manage stormwater runoff from the lodge's half-acre lower parking lot. **The garden captures approximately 216,000 gallons of stormwater runoff each year.** The rain garden is framed with a new sandstone retaining wall and densely planted with over 200 native perennials, grasses, shrubs, and trees.

Catfish Run in South Park floods regularly, causing destabilization of the streambank. **200 small trees and shrubs were planted to stabilize the streambank.** Volunteers also assisted with litter cleanups along this same area of Catfish Run, removing about 20 bags of trash from over a mile of the creek's banks.

IMPROVING PARKLANDS AND WATERWAYS TIMELINE

The county removed the concrete bleachers from the South Park fairgrounds and converted the sloped area to a natural meadow.

2011

The Western Pennsylvania Conservancy and the Allegheny County Parks Foundation completed ecological assessments of Boyce and South parks. The reports inventoried existing landscapes, while identifying threats to the local environment and opportunities for improvement.

2016-2017

2010

The installation of a green roof on the County Office Building provides benefits including energy savings and stormwater capture.

A 1,200-square-foot rain garden added to North Park, improves local water quality by filtering out pollutants from stormwater.

2014

The county began brewing compost tea to replace the use of toxic fertilizers and fungicides on two dog parks and ballfields in South Park.

2017

Indian Hill in Boyce Park was converted to a no-mow meadow featuring a diverse mix of grasses and wildflowers native to southwestern PA.

Two Natural Engineered Wastewater Treatment (NEWT) systems were installed in Round Hill and Deer Lakes parks. NEWT systems use the natural filtration properties of wetlands to treat wastewater without the use of chemical additives.

2017-2018

A new walking path was added at Kane Glen Hazel featuring a rain garden and bioswales to help manage stormwater from the parking lot.

2018-2019

2018

A berm was dug at the foot of Daffodil Hill to capture stormwater before it enters the storm sewer. The berm diverts about 20,000 gallons of stormwater a year.

A permeable parking lot was installed in Deer Lakes Park, preventing about 600,000 gallons of parking lot runoff from entering Little Deer Creek each year.

2019-2020

Meadows were introduced into North, South, Boyce, Round Hill, White Oak, and Hartwood Acres Parks, covering about 25 acres of turf. Meadows help eliminate stormwater but also reduce emissions, gas and energy because they're no-mow. They're also an important habitat for bees, butterflies, moths and more.

MANAGING, DIVERTING, AND REDUCING WASTE

The United States generated 292.4 million tons of solid waste in 2018, the weight of almost 59 million elephants. Only 94 million tons (32.1%) of that was recycled or diverted from landfills.

In commercial facilities, renovation and construction projects can generate large amounts of waste, and even more is produced by everyday tasks. The largest contributor is printing and paper files, which generate paper waste, packaging waste, ink and toner cartridge waste, and delivery and disposal transport waste.

The Environmental Protection Agency (EPA) recommends reduction and reuse as the first step to controlling waste generation, followed closely by recycling and composting, while landfill disposal should always be the last resort. Its best practices include cutting back on excess purchasing, using recycled materials, buying local, and diverting waste from landfills through proper recycling, composting, and other disposal efforts.

Recycling provides an easy first step for commercial facilities, especially with laws that requires commercial recycling in Pittsburgh and many of our other municipalities in Allegheny County. Although recycling markets have changed recently, the county's offices continue to recycle paper, plastics, and metals. While we transition to digital contracts, grant applications and other filings, we still ensure the recycling of paper. Our office supply contract requires ink and toner cartridges are recycled. During renovation projects, we recycle all scrap metals including damaged furniture, road signs, and light poles removed from our parks and County roads. Through policies like these, and incorporating sustainable purchasing language into appropriate contracts, we continue to decrease waste, and make a positive impact on the environment.

In addition to managing our own resources, the county also hosts public collection events for hazardous waste, electronics, and glass. In 2010, Pennsylvania banned disposal of all computer- and television-type devices in landfills, and the County stepped up to provide proper disposal options for our residents. Hazardous materials, such as propane tanks, old paint, and other chemicals; batteries; and cleaning products also have strict disposal requirements, and the county hosts collection days in our parks throughout the year. The latest change to local recycling was the removal of glass bottles and jars from residential curbside pickups. With a demand for glass recycling still high, glass recyclers partnered with local municipalities and nonprofits to provide drop-off locations, and the county has been hosting collections in our parks.

Managing our waste and helping our residents properly dispose of theirs is an important part of our sustainability efforts.

WASTE DIVERSION AND RECYCLING

Allegheny County's recycling efforts extend beyond its office buildings, encompassing waste produced during county construction projects and at events, such as during the summer movie and concert series. **Efforts to recycle have diverted 340 tons – the equivalent of 57 trucks of garbage – from landfills and reduced 1,152 metric tons of carbon dioxide.**

174 tons of cardboard recycled

86.6 tons of plastic bottles, aluminum cans, and mixed paper recycled

0.8 tons of food waste composted

78.62 tons of scrap metal recycled

The county began to digitize contracts, grant applications, and employment applications in 2017. **In 2021, it electronically processed 45,798 pages of contracts and grants.**

SUSTAINABLE MATERIALS

Sustainable purchasing practices demonstrate the county's commitment to reducing the environmental, social, and economic impacts of its purchases. This includes the pursuit of opportunities to incorporate more sustainable purchasing practices through contracting language, vendor requirements and services, as well as requiring environmental certification and product transparency. Purchasing contracts and supplies include office supplies, janitorial supplies, construction materials, energy purchasing, disposal services, and more.

The county's office supplies contract addresses a request for post-consumer recycled content in office paper, a preference for more sustainable options in other products, and requires a take-back program for recycling ink and toner cartridges.

Following a long and well-developed assessment process — and with advice from the Green Building Alliance — the county implemented a green cleaning policy for janitorial supplies. It requires that cleaning products have third-party eco-certifications or contain ingredients with low human health and environmental impacts.

The county requires not just the proper and effective means of recycling, but we use language in our service contracts requiring vendor support and expertise in reducing contamination and increasing the amount of our materials that are recycled. That covers traditional recyclables, but also proper disposal of electronics and hazardous materials, which reduces environmental contamination.

HOUSEHOLD COLLECTIONS

Through a partnership between the county and Pennsylvania Resources Council, nine public recycling events were held, resulting in the collection of:
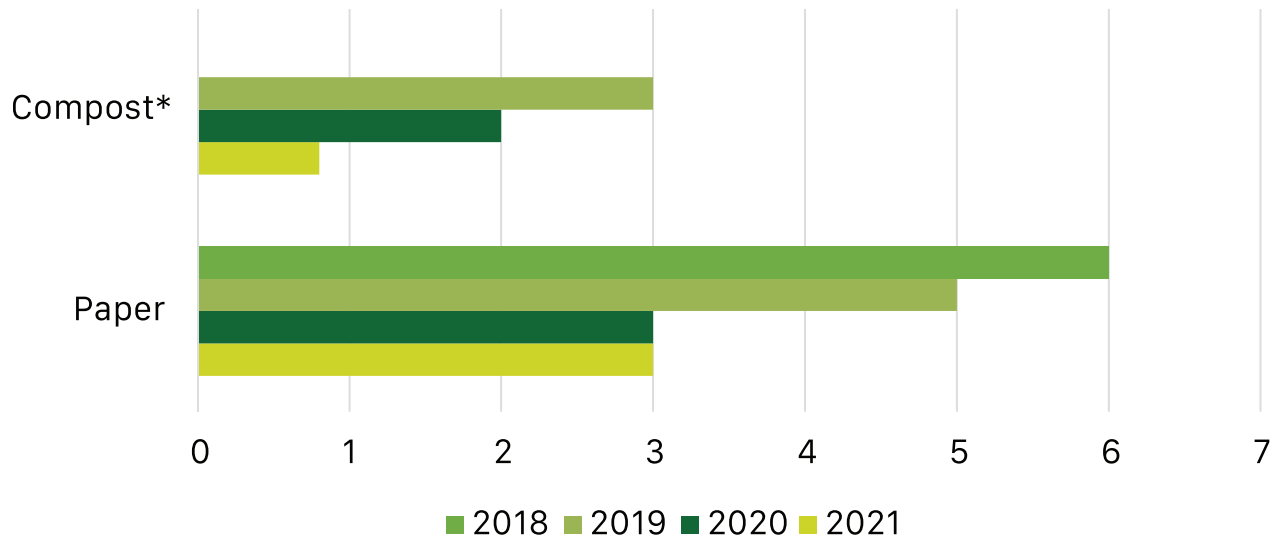
85.4 tons of hazardous waste materials, including paint and other chemicals, during three events held in county parks with 1,564 attendees

134 tons of hard-to-recycle materials — mainly electronics such as TVs and computers — during six events held throughout the county with 2,757 attendees
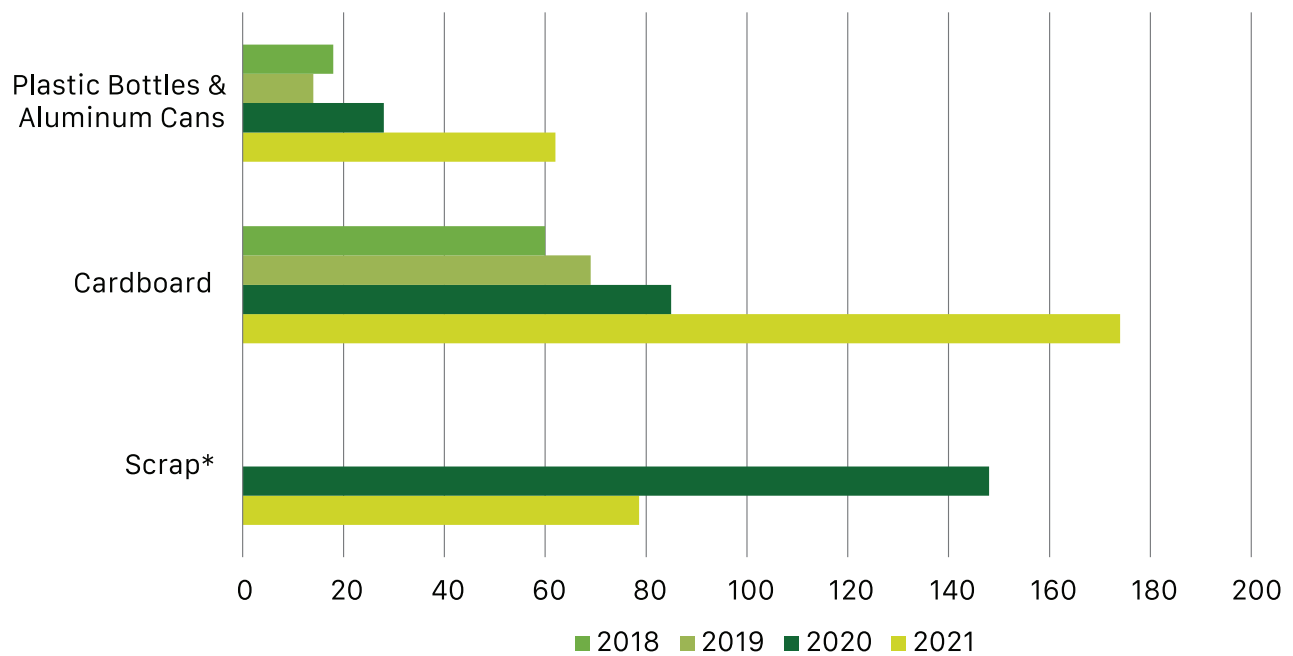
10.2 tons of glass bottles and jars

COMPOST AND PAPER RECYCLING (IN TONS)

Compost*

Paper

0 1 2 3 4 5 6 7

■ 2018 ■ 2019 ■ 2020 ■ 2021

*Composting began in 2019

RECYCLING TOTALS (IN TONS)

Plastic Bottles & Aluminum Cans

Cardboard

Scrap*

0   20   40   60   80   100   120   140   160   180   200

■ 2018   ■ 2019   ■ 2020   ■ 2021

*Scrapping began in 2020

MANAGING, DIVERTING, AND REDUCING WASTE TIMELINE

Plumbers installed 36 water bottle refilling stations, which have saved over 70,000 plastic water bottles from being used.

2015

2014-2017

Upgrades to the county's recycling program and staff engagement sessions resulted in higher amounts of waste diverted from landfills.

2017

The county digitized applications for grants and employment, and it streamlined its contracting process to reduce paper waste.

Public collections for household hazardous waste and hard-to-recycle items began to be offered.

Community Development Block Grant applications went digital, saving roughly 53,000 pages from being printed.

2018-2019

2019

The county included an environmentally friendly preference in its office supplies contract.

The county eliminated styrofoam and plastic straws from parks concession stands and the jail. Vendors at county events must abide by the same rules.

RESPONSIBLE WATER AND ENERGY USE

The built environment generates nearly half of global carbon emissions, and building operations are responsible for 27%. By leveraging its 2 million square feet of office space, Allegheny County can make a dent in its share of local carbon emissions.

Buildings including the jail, public works facilities and garages around Allegheny County, and the facilities and amenities within the nine county parks consume over 366,000 kBtus of energy each year, producing the equivalent of 33,000 tons of carbon dioxide, and that doesn't take water consumption into account.

Allegheny County signed and was one of the original partners in the 2030 District Pledge in 2012, which is a commitment to reducing utility and transportation emissions by 50% by the year 2030. It is currently the largest 2030 district in North America with 86.3 million square feet of commercial building space committed to reductions, saving $154.5 million in energy costs and preventing 1.48 million metric tons of CO2 emissions since its inception in 2012.

Reducing demand for utilities can reduce their impact on climate change and more efficient equipment limits carbon emissions. Once those steps are taken, renewable energy credits can offset utility use. So, the County's efficiency improvements, preventative maintenance, and monitoring utility consumption, reduce costs and carbon emissions while maintaining and improving upon its spaces.

RENEWABLE ENERGY

- As part of the county's commitment to reduce its carbon footprint, **it has entered into a 35-year agreement with Rye Development to purchase 7.4 Megawatts (MW) of renewable energy credits (REC) each year as part of the renewable electricity generated from a new 17.8 MW hydropower facility** to be constructed on the Ohio River at Emsworth.

- The project, which adds locally generated clean energy to the electric grid, would not be feasible without the county's participation. The county's leadership provides greater capacity for sustainable energy benefiting others in this region.

- Over the life of the agreement, **the county's REC purchases from the plant will offset over 1 million metric tons of carbon dioxide-equivalent emissions produced from traditional power plants** — roughly equal to 2.6 billion miles driven in a typical passenger vehicle.

- Offsets, like RECs, represent environmental benefits of actions — in this case electricity generated from renewable sources such as water — that can help mitigate greenhouse gas emissions.

- As enhanced energy efficiency measures continue in county facilities, it won't be long before the County is offsetting 100% of its energy use through the purchase of RECs.

- Rye Development will seek certification from the Low Impact Hydropower Institute, which will limit the plant's environmental impacts and protect the river's ecosystem.

- The county installed an additional three solar shelters, bringing the total to 8 solar shelters in the county parks. These provide electricity to power outlets in each shelter.

Two miles of a popular pedestrian path along Corrigan Drive between Library and Brownsville Road are now lit with 122 solar lights. The LED bulbs being used are about 50 percent more energy efficient than the typical bulb used for street/path lights. By using solar energy instead of electricity to power the lights, **the county will be annually preventing 20,194 pounds of carbon dioxide, 16 pounds of sulfur dioxide, and 14 pounds of nitrogen oxide from being emitted by area power plants while also saving $13,000 in electricity costs over the next decade.** The project also included installation of 25 educational signs along the path that provide information related to air quality and what the public can do to help reduce air pollution.

ENERGY AND WATER EFFICIENCY

In 2021, the county added two parks — **Deer Lakes and White Oak** — as affiliate members of the Pittsburgh 2030 District.

A two-story steam plant near the jail was constructed in 2021 that provides heat for the jail and Municipal Courts Building. The plant allows the county to generate its own steam for heating, while also reducing wastewater that enters the sewer system. As the steam heats up spaces and starts to cool, it returns as water condensate, which can be recirculated into the system and turning back into steam for reuse. The steam plant follows the installation of a multi-building steam system in the County Office Building basement in 2020.

A second floor area in the County Office Building was renovated to house the new Department of Children Initiatives. The department's internal design team took advantage of natural lighting to brighten the space and used the basement steam plant to provide primary heating. **Forty new LED lights and sensors and a high-efficiency heat pump for ventilation, cooling, and supplemental heating make the new space energy efficient while meeting the comfort needs of the occupants.**
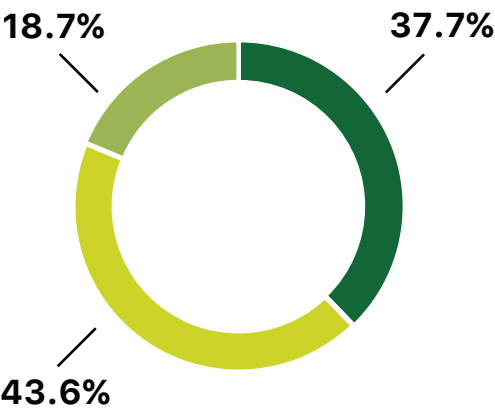
Additional recent energy efficiency upgrades include 180 lighting fixtures converted to LED in the Kane Community Living Centers, South Park, Round Hill Park, North Park, and the South side garage; five new air-handler units at Kane McKeesport; and refrigerators and walk-in cooler replacements at Kane Scott.
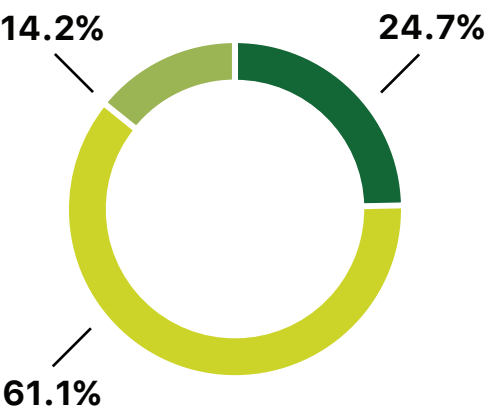
THE COUNTY HAS INCREASED THE USE OF NATURAL GAS, WHICH PRODUCES FEWER CARBON EMISSIONS THAN TRADITIONAL ELECTRICITY.
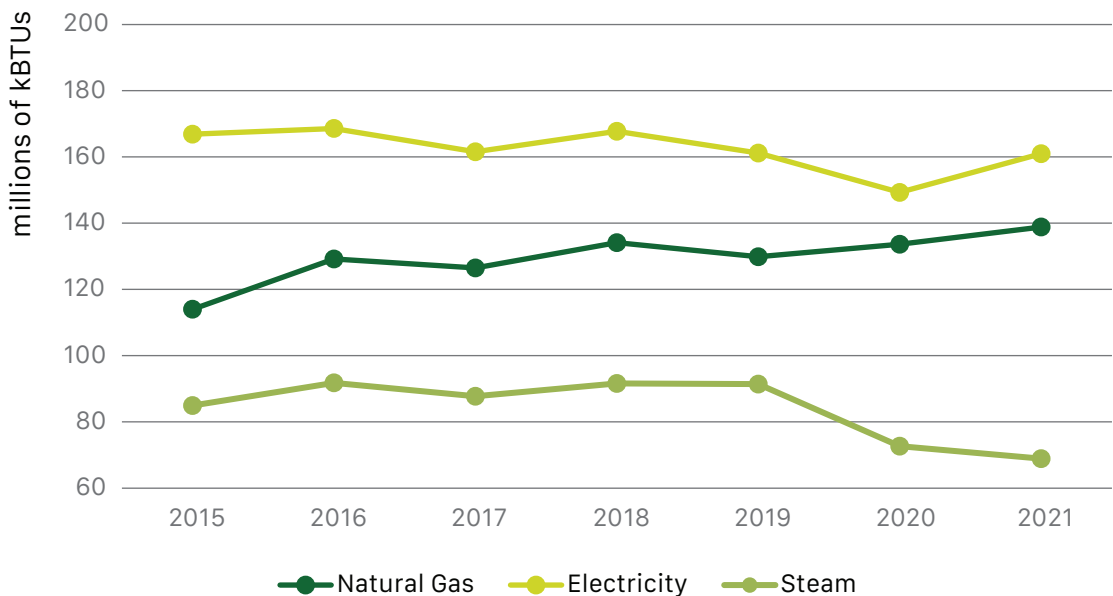
ENERGY USAGE BY SOURCE

18.7%

37.7%

43.6%

EMISSIONS BY SOURCE

14.2%

24.7%

61.1%

■ Electric ■ Gas ■ Steam

TRENDS IN ENERGY USAGE BY SOURCE

millions of kBTUs

—●— Natural Gas —○— Electricity —●— Steam

*Steam usage for 2021 shows Dec. 2020 through Nov. 2021 as complete data for Dec. 2021 is currently unavailable. Natural Gas data for 2015 is incomplete.

MONITORING UTILITIES

The county's electrical energy efficiency efforts have resulted in a reduction of 1.8 million kilowatt-hours (kWh) in 2021 compared to 2015 — about 3.5% — **saving more than $400,000 in electricity costs.**
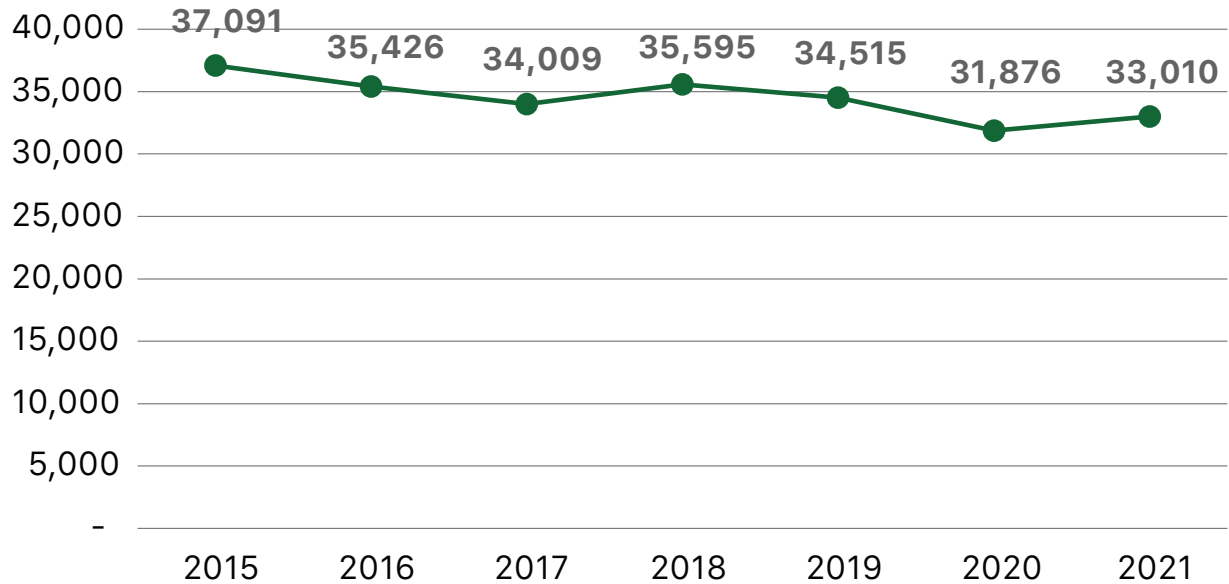
The county has reduced its carbon emissions from building energy consumption by 11% since 2015.

Water efficiency efforts in county facilities, including the parks pools, have reduced water use by 19.6% since 2015, saving about 75 million gallons of water in 2021.
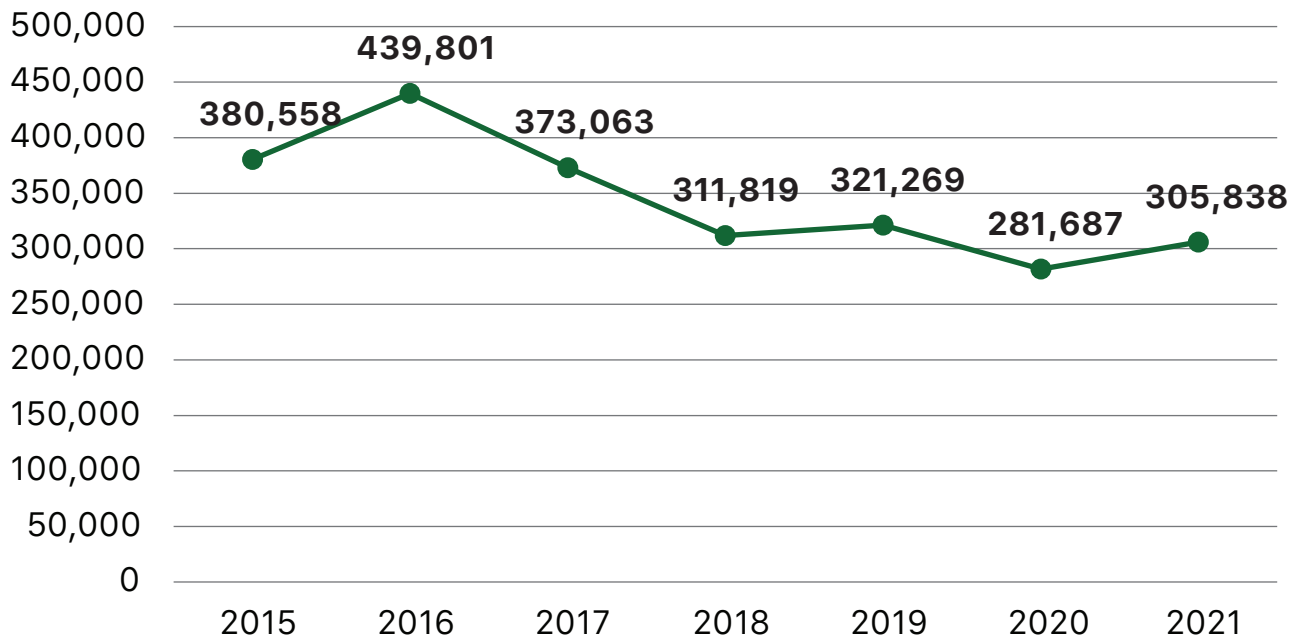
CARBON EMISSIONS (IN TONS OF CO2)

37,091   35,426   34,009   35,595   34,515   31,876   33,010

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |

Includes emissions from electricity, natural gas and steam used to power and heat County office buildings

WATER USE (IN THOUSANDS OF GALLONS)

380,558   439,801   373,063   311,819   321,269   281,687   305,838

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |

RESPONSIBLE WATER AND ENERGY USE TIMELINE

Low-flow water valves and faucets were installed in the county's office buildings and jail, reducing water usage by 31%.
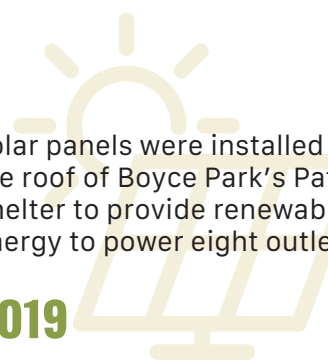
2014-2017

The county replaced incandescent and fluorescent light fixtures with LED lighting in parts of the Courthouse, County Office Building, City-County Building, Kane McKeesport, and Settlers Cabin, North, and South Parks.

2014-2018

2012

The county joined the Pittsburgh 2030 District, committing to a 50% reduction in emissions by 2030 in its major downtown facilities.

2014-2018

The county installed 217 occupancy censors in its facilities, cutting energy demands by more than 24%.

2018

The county installed a new, more efficient chiller at the South Park ice rink and replaced all of the rink's lighting with LED bulbs and fixtures.

The county installed 83 solar pathway lights in North and South Parks and added solar crosswalks in five areas of the two parks.

Solar panels were installed on the roof of Boyce Park's Patrol Shelter to provide renewable energy to power eight outlets.

2019

The county is a member of the Western Pennsylvania Energy Consortium (WPEC), which aggregates energy purchases among its members. In 2020, it met its goal of offsetting 100% of its energy purchases with renewable energy credits (RECs).

ONGOING

2020

The county continued its solar shelter program by completing four more at various county parks.

The county completed a feasibility study for installation of larger-scale renewable energy systems at White Oak and Deer Lakes Parks.

A new steam plant was installed in the basement of the County Office Building that allows the county to generate its own steam to heat several of its downtown buildings while also recirculating condensate to reduce water demands.

ENCOURAGING SUSTAINABLE DEVELOPMENT

The county strives to help businesses create jobs and enhance quality of life in the region, and its work incorporates sustainable development goals by helping redevelop brownfield sites, expand green space, and improve energy efficiency.

In 2019, United Nations Economic Commission for Europe (UNECE) and Pittsburgh's Green Building Alliance signed an agreement to create the Greater Pittsburgh International Center of Excellence on High Performance Building. It's one of three centers that are tasked with creating tangible solutions to the challenges in achieving U.N. Sustainable Development Goals, which include sustainable community development, inclusive economic growth, affordable and clean energy, resilient infrastructure, and responsible manufacturing. Allegheny County is assisting with the development of case studies based on our sustainability projects and their economic impacts throughout the region.

Additionally, in partnership with community-based organizations such as Sustainable Pittsburgh, the county has been at the forefront in providing advice on how to measure progress and improve sustainability. Through Sustainable Pittsburgh's recognition programs for businesses, restaurants, communities, and workplaces, the county helps identify frameworks and market-selected practices that organizations can adopt to boost sustainability.

Allegheny County has its sights set on building a competitive economy that prioritizes sustainability and resiliency. Learn more about our efforts in 2021.

The county is partnering with the Regional Industrial Development Corporation (RIDC) to develop a former brownfield adjacent to the historic Carrie Blast Furnaces in Munhall, Rankin, Swissvale, and Whitaker. The development will accommodate various commercial uses, and its infrastructure and roadway work will incorporate the County's plans to create a pedestrian and bike trail along the Monongahela River, connecting the Carrie Furnace Hot Metal Bridge to the Great Allegheny Passage, as well as to the Westmoreland Heritage Trail via the Turtle Creek Valley. The project will have the dual impact of repurposing a former brownfield and providing more healthy options for transportation and recreation.

The Allegheny Grows program helped to launch new gardens in Verona and Blawnox in 2021, joining Sharpsburg and Mt. Oliver to produce nearly 3,000 pounds of fresh, hyper-local produce. A network of over 300 volunteers supported those growing efforts, contributing 1,536 volunteer hours. Additionally, $7,630 was awarded to 13 community gardens that have since graduated from the Allegheny Grows program and continue to expand their capacity.

The county initiated the Commercial Property Assessed Clean Energy (C-PACE) program, enabling property owners to borrow money for clean energy building improvements that are repaid with future property tax assessments. After more than two years of program development, the first C-PACE project closed in 2021. Working closely with third-party administrators Sustainable Energy Fund and Greenworks Lending, the property owner used C-PACE financing for a retrofit of a five-story east suburban commercial property that was built in 1970. The $845,000 energy improvements included interior LED upgrades, HVAC systems, windows, and water conservation. Those improvements are projected to save 117,173 kWh per year and 57,500 gallons of water annually.

ENCOURAGING SUSTAINABLE DEVELOPMENT TIMELINE

2020

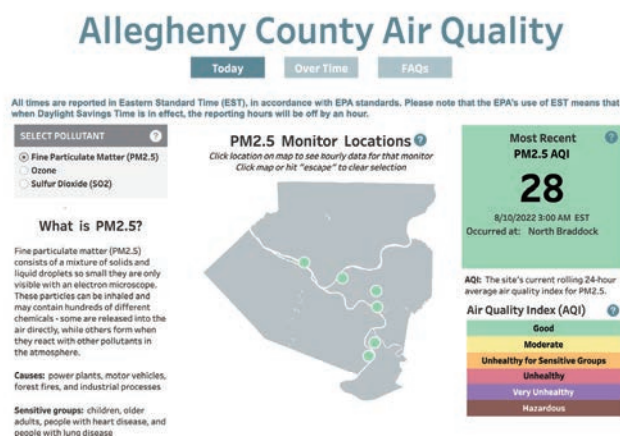The county encourages brownfield site redevelopment, returning former industrial land to safe and productive uses. The department has invested $2.1 million in the rehabilitation and development of brownfields.

EDUCATING THE PUBLIC

Sustainability efforts work best when all stakeholders understand the benefits and the costs, and for Allegheny County, residents are the largest stakeholder. We need to ensure the public knows what we are doing and why. The county should also serve as a model to other communities looking to incorporate more sustainable practices into their operations. As Allegheny County leads in the community, we provide both residents and businesses with resources, direction, and examples of our sustainability efforts, all which help expand our impact. The county provides ways for our communities to get involved and stay invested in our efforts, while also allowing us to provide vital information for them to improve their own lives, too.

Our website, social media, education kiosks, and employees (such as the park rangers) are key sources of education. In 2021, the new Air Ambassador program and improvements to air quality dashboard allowed residents to participate in air quality monitoring, while the park rangers continued to promote sustainability to the next generation by visiting local schools in addition to their usual outreach within the parks.

The air quality dashboard was updated in 2021 to make it more understandable and accessible to the public. It reports local air conditions hourly, every day of the year.

Park rangers are ambassadors for our parks, offering educational and interpretive programing within the parks as well as outreach to local schools and communities. In 2021, the rangers offered 204 programs with 1,697 park visitors and coordinated 160 outreach programs impacting 4,078 participants.

The county's Air Ambassador Program promotes and encourages people to sign up for air quality alerts, educates communities on basic air quality science, and gathers information from Mon Valley residents about their most pressing public health concerns. Air Ambassador mini grants were awarded to nine organizations or local governments in 2021 and provided training and education help to meet their goals.

EDUCATING THE PUBLIC TIMELINE

Park rangers lead volunteer projects ranging from tree plantings to riparian restorations. A total of 220 projects involving 5,118 participants and 16,625 person hours have been completed.

Park rangers promote natural resource preservation and sustainability through public programming and outreach in the county parks. The have conducted hundreds of programs reaching thousands of parks visitors.

2015-PRESENT

2012-PRESENT

One member from each county department serves on the Green Team, which meets once a month for workshops, education, and updates on sustainability.

OFFICE OF SUSTAINABILITY

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Pittsburgh, PA 15219

To learn more about projects and efforts, visit
alleghenycounty.us/sustainability