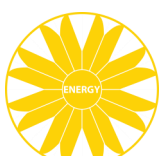


Athens Sustainability Action Plan



2018
Update V. 1.1

Letter from the Mayor

Athens is a wonderful place in which to live, work and play, and we hope that it will remain so for many generations to come. I feel fortunate to be part of this community and to be able to call it home. As members of the Athens community, we are all the stewards of this amazing southeastern Ohio gem. In order to make Athens a more sustainable city, this report has been created as a road map to a healthier, cleaner, more equitable and prosperous future for us all. I sincerely hope that you will take part in our path to a sustainable future! There are many things you can do to be involved with sustainability in Athens which includes supporting local businesses, considering installation of solar panels on your home or business, and taking the Rural Action Zero Waste Pledge.

This plan and our city sustainability commission are here to help you participate in building a sustainable Athens. A lot of the recommendations in this plan are simple recommendations that each of us can do such as increasing household recycling and composting, reducing home energy consumption, and supporting local food producers. There also are many larger scope elements in this plan that we can do such as making our government buildings and vehicles more energy efficient, continuing to develop a more complete street network that provides safe options for bicyclists and pedestrians, and finding a permanent home for the Athens Farmers Market.

I hope you will join us in making Athens a better, more sustainable home. I am excited to see this plan and pledge to do my part to make Athens sustainable and I encourage all Athenians to do the same.

Thanks!

Mayor Steve Patterson



**Steve Patterson,
Mayor of Athens**

Table of Contents

About this Action Plan	1
Introduction	2-5
Topic Areas	6-21
 Energy	6
 Economy.....	8
 Waste & Recycling.....	10
 Housing and Development	12
 Food	14
 Transportation	16
 Water	18
 Greenhouse Gas Emissions	20
Appendix	22+

Athens Sustainability Action Plan

A Word From the Commission About the Plan

Thank you for your interest in helping promote a sustainable community! This document aims to do just that. Each of the 8 sections (energy, economy, solid waste, food, housing and development, transportation, water, air, and greenhouse gas emissions) is presented in a two-page format. Each section has similar format, with an introductory page about the topic and its current status in Athens, and a second page with an action plan.

- The **first page** of each section has four key boxes:

An olive green box defining sustainability for that particular topic.

A light blue box outlining why sustainability for that topic is important for the City of Athens Ohio.

A yellow box, that contains items that community members identified as important to sustainability in Athens. These items do not necessarily reflect the opinions or recommendations of the Sustainability Commission but we felt it was important to include them as they represent the opinions of the people who were willing and able to provide input in the early stages of this plan.

A pink box highlighting best practices for each topic.

Infographics and photo illustrations are also included on the first page.

- The **second page** of each section contains measurable key performance indicators (KPIs) to track our status/progress, change and reporting agents, and tips to aid in reaching goals. These goals may change over time, but we are confident that we will see significant improvement through community effort. In the tips below the KPIs, you'll see recommendations for City Council, business owners and various non-profits that operate in the city, but most of all, you'll see actions for Athens residents — actions that individuals and households can take to invest in the future of our city. We believe sustainability starts at home, and this plan reflects that.
- An **appendix** is provided at the end of the report containing additional information about each indicator and links to resources.

Happy reading and let's get to work!

The City of Athens Environment and Sustainability Commission:

Richard Linscott, Chair
Cliff Hamilton
Ed Newman

Mathew Roberts
Elaine Goetz

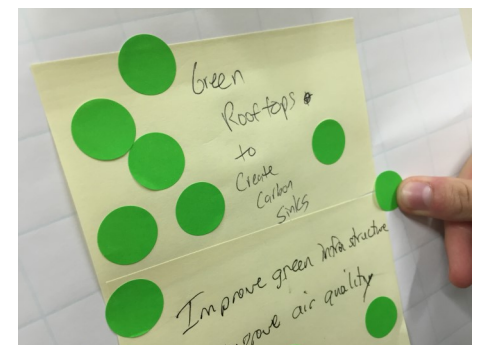
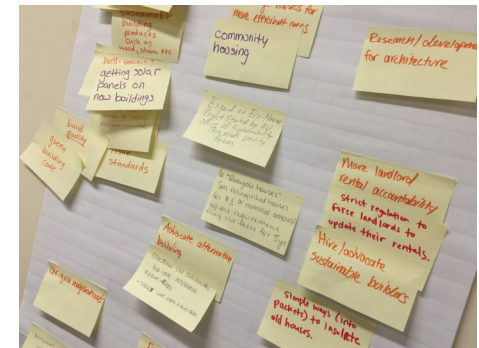
Paul Logue, City Planner

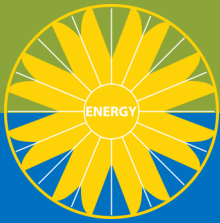
Athens Sustainability Action Plan

Key Recommendations

At the beginning of the planning process, the commission held a public workshop in order to better understand community attitudes and ideas on sustainability. Based on community concerns and additional research, the commission has identified the following 10 key recommendations as the most important to put the city on a sustainable path and to reduce greenhouse gas emissions:

- Reduce water consumption per person, with special attention given to rental properties.
- Reduce energy consumption per person and develop renewable energy programs with consideration towards locally generated renewables.
- Establish programs to retrofit homes and rentals for energy improvements and encourage more efficient new construction.
- Increase our zero waste initiatives such as curbside composting, recycling of hard-to-recycle materials, and reduction of total waste generated from all sources.
- Improve our multi-modal transportation network including public transit, and bicycle and pedestrian infrastructure.
- Increase in middle-to-low income housing within the City of Athens.
- Require new construction projects to divert construction/demolition materials from landfill.
- Support local entrepreneurship by purchasing local products, incentivizing local start-ups to expand in Athens, and designating a permanent home for the Athens Farmers Market.
- Increase green infrastructure for city projects and private development.
- Create a sustainability awareness and education program.





Athens Sustainability Action Plan

Energy, Introduction

Strong links to:



What is Sustainable Energy?

Sustainable energy is:

- less damaging to the environment than traditionally sourced energy,
- beneficial to the local economy,
- a boon to the quality of life for residents, and
- sited considering social and participatory justice for those who live near the source of the energy

Distributed generation, local energy grids, and renewable sources of energy are all examples of sustainable energy, but the most sustainable energy is that which is not used at all.

Why is Sustainable Energy Important?

The production of energy for human activity is of critical concern for long-term sustainability. Energy is necessary for modern conveniences, from personal cell phones and computers, to travel, food production and manufacturing. All forms of energy, including “renewable” sources, use irreplaceable natural resources and jeopardize climate, biodiversity, air and water quality, but some sources of energy create more environmental harm than others. Furthermore, inefficient usage of energy in city activities translates to wasted city funds. Current mechanisms for siting of energy extraction and generation infrastructure leaves the most vulnerable of the population at risk without avenues for recourse. Conscious reduction in energy use and responsible sourcing of our energy are the best tools for improving the energy sustainability of Athens.

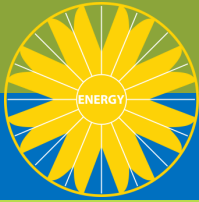
Best Practices: Energy Education. A citizen rides a bike to generate energy at an Upgrade Athens event at the Athens Community Center. Photo Credit: Upgrade Athens



Best Practices: Local solar installer, Dovetail, uses its solar trailer to charge an electric vehicle at the Paw Paw festival. Photo credit: Upgrade Athens

Priorities identified by community members at the initial public meeting:

1. Solar Development—Many homes in the City of Athens have solar panels, and the City of Athens leases a solar array at the Athens Community Center. Neighborhoods are considering forming solar cooperatives to purchase equipment and installation services.
2. Electrical Aggregation—All residents in the City of Athens have access to electrical aggregation through Southeast Ohio Public Energy Council ([SOPEC](#)).
3. Incentives for Renewable Energy Use—There are few regional or local monetary incentives in the Athens area for renewable energy installations. Federal solar tax credits ([ITC](#)) are available through 2023. State law permits federal Property Assessed Clean Energy ([PACE](#)) financing programs.
4. Ground source heat exchange—Several regional companies can install ground source heat exchange systems in the Athens area.



Athens Sustainability Action Plan

Energy, Action Plan

Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Residential Energy Consumed (kWh)	48,516,132 kWh	38,812,905.6 kWh	24,258,066 kWh	Residents	AEP Ohio
Residential Energy Consumed from Renewable Sources (kWh)	31,849,266 kWh	75% of residential energy	90% of residential energy	Residents, SOPEC	AEP Ohio

[SOPEC](#) provides a number of services to energy consumers in our area including energy audits, electrical aggregation with a 25%renewable mandate, and more. Residents: Enroll in the SOPEC energy efficiency audit for your home or business. You can also contact them about a 100% renewable energy opt-in program

Municipal Energy Consumed (kWh)	8,727,418 kWh	6,981,934.4 kWh	4,363,709 kWh	The Office of the Mayor, City Workers	AEP Ohio
---------------------------------	---------------	-----------------	---------------	---------------------------------------	----------

Council: Encourage energy efficient temperature set points (68 degrees F in winter; 78 degrees F in summer) in public buildings, where feasible. Investigate neighborhood cooperatives for renewable infrastructure purchases and investigate local grids as a longer term possibility.

Municipal Energy Consumed from Renewable Sources (kWh)	305,459 kWh	366,550.8 kWh	458,188.5 kWh	The Office of the Mayor	AEP Ohio
--	-------------	---------------	---------------	-------------------------	----------

Council: Explore investing in on-site renewable generation where feasible in the city. Explore funding mechanisms such as grants, revolving loan funds and PPA's to fund these activities.

Solar Capacity Installed (kW)	535 kW	565 kWh	802.5 kWh	Residents, Businesses	
-------------------------------	--------	---------	-----------	-----------------------	--

Residents interested in joining a solar co-op to leverage bulk buying to secure a low price should contact [Upgrade Ohio](#). Visit the city's step-by-step [Solar Guide](#) if you are interested in going solar. Council: Explore investing in on-site renewable generation where feasible in the city. Explore funding mechanisms such as grants, revolving loan funds and PPA's to fund these activities.



Economy, Introduction

Strong links to:



What is a Sustainable Economy?

A sustainable economy is one where:

- all workers earn a living wage,
- local businesses are utilized before non-local,
- externalities are appropriately included in pricing,
- tax revenues are used for the public benefit (infrastructure projects, code enforcement, fire and police protection)

Why is a Sustainable Economy Important?

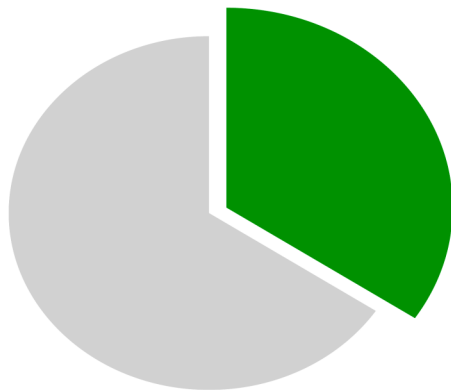
A universal need is to provide for one's self or one's family. A sustainable economy allows for all members of society to participate in value-added labor in a fair and equitable manner.



Best Practices: The 30-Mile Meal program provides a platform for showcasing our local, delicious food with an easily identifiable slogan and encourages economic activity locally while promoting farming practices which are less harmful to the soils, water and air of the region.

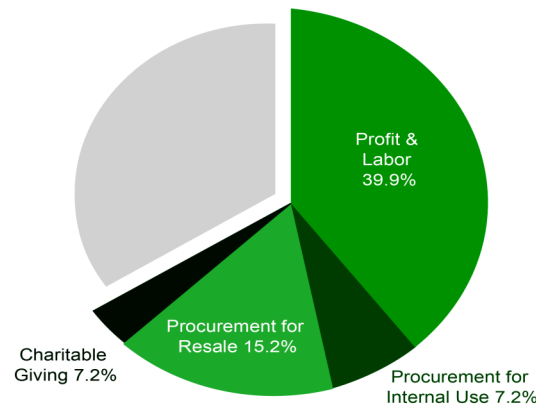
Local Benefit of Indie v. Chain Restaurants

Chain Restaurants



Local Recirculation of Revenue: 34.5%

Independents



Local Recirculation of Revenue: 65.4%

Priorities identified by community members at the initial public meeting:

1. Increased bartering and trading—Athens currently has several operating models of bartering, for example, the [Athens Time Exchange](#), the [ReUse Tool Lending Library](#), and the yearly [Cat's Pajama clothing exchange](#).
2. "Buy local" - Athens residents, for the most part, understand the value of shopping locally. The [Athens Farmers' Market](#), the [30-Mile Meal](#) project, and the popularity of local establishments attest to this fact.
3. Getting kids involved—children are not currently involved significantly in the local economy. Some regional school districts have entrepreneurship programs which could be expanded.
4. Carbon tax—no carbon tax exists at this time in Ohio.
5. Legalizing marijuana—Governor John Kasich recently signed [legislation](#) legalizing medical marijuana in Ohio.
6. Incentives for local businesses—the [Athens County Economic Development Council](#) is currently exploring effective incentive programs for businesses.

*Compiled results from nine studies by Civic Economics, 2012: www.civiceconomics.com
Graph by American Independent Business Alliance: AMIBA.net



Athens Sustainability Action Plan

Economy, Action Plan

Strong links to:



Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Businesses enrolled in business incubator (number)	16 businesses	30 businesses	60 businesses	Entrepreneurs	Innovation Center
Vacant commercial lots (number)	7	13 lots	8 lots	ACED	Economic Development Board
Unemployment Rate	10.9%	9%	5.6%	ACED	Census Bureau
Private Wage and Salary Workers	6,743	7,000	8,000	ACED	Census Bureau

This section has been considerably overhauled from the previous year. This section now measure 4 key metrics in our total economic sustainability. The number of businesses enrolled in a business incubator does NOT include food-based ventures. These are reflected in a separate indicator in the Food section.

The Private Wage and Salary workers is a U.S. Census statistics that measures non-governmental employees. In other words, this is a measure of our private-sector employees. The commissions feels that growth in this area is most important, as our community already has an over-reliance on government funded jobs. A diversity of employment types is healthiest in the long run.

The development of three new Downtown Redevelopment Districts represents an opportunity for our city. For more information on this development, [click here](#).



Waste and Recycling, Intro

Strong links to:



What is a Sustainable Waste and Recycling Program?

A sustainable waste and recycling program is one where:

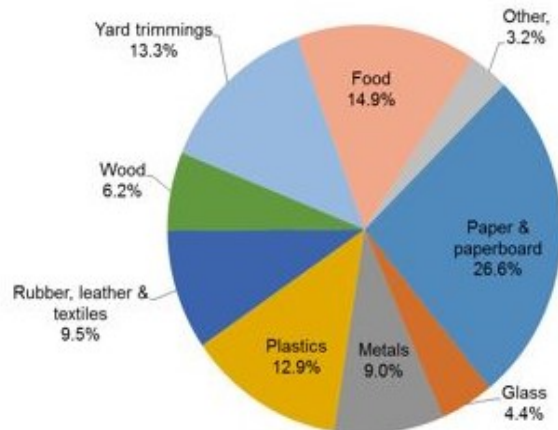
- all residents have access to recycling and organic waste diversion,
- residents are incentivized to divert materials from landfill,
- residents and businesses pay the appropriate amount for the waste that they send to the landfill.

Why is Waste and Recycling important for Sustainability?

Human activity generates waste. However, the majority of 'waste' generated and placed in landfills today in the U.S. today still has value. In order for resources to last, and to realize the potential of our economy, we must reuse and recycle our 'waste' wherever possible. Ideally, waste should be turned in asset rather than a liability. One man's trash is truly another man's treasure.



Best practices: The new materials recovery facility (MRF) in Athens is able to turn single stream recycling from residents into local jobs and economic opportunities. Photo credit: <http://www.athenshockingrecycle.org/>



Total MSW Generation (by material), 2014
258 Million Tons (before recycling, composting, or combustion with energy recovery)

Priorities identified by community members at the initial public meeting:

1. City-wide Zero Waste– Rural Action is leading the effort to help businesses go zero waste.
2. Banning plastic bags– Councilperson Cochran has presented a resolution on single-use bag fee to curb plastic bag consumption.
3. Composting– is legal within city limits. The Athens Hocking Recycling Center (AHRC) has curbside pickup for city residents .
4. Single Stream Recycling– was enacted city-wide in 2016. Recycling is increasing and should continue to do so now that larger recycling bins are available to residents.
5. Multi-Unit Housing Recycling– Many multi-unit facilities are on private waste removal contracts. The AHRC is reaching out to these units to provide recycling services.
6. Construction/Demolition materials recovery– AHRC is working on outreach to construction agencies.

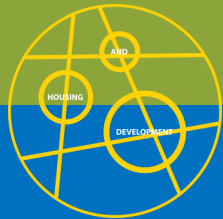
Above: Typical municipal waste stream in 2014. Source: [US EPA](http://www.epa.gov)



Athens Sustainability Action Plan

Waste and Recycling, Action Plan

Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Number of businesses enrolled in Zero Waste Program	23 businesses	29 businesses	50 businesses	Rural Action	Rural Action
<p>Businesses owners: Businesses should contact Rural Action to take the Zero Waste Pledge!</p> <p>Residents: Prioritize shopping at Zero Waste businesses.</p> <p>City officials: Incentives should be given to Zero Waste businesses.</p> <p>City Council: Institute a city-wide Zero Waste mandate in municipal offices.</p>					
Total tons of waste to landfill per year	13,149 tons	10% decrease from baseline	20% decrease from baseline	Athens Hocking Recycling Center (AHRC)	AHRC
<p>Businesses owners and residents: Reducing waste sent to the landfill saves you money! For a Zero Waste assessment, sign up for the Zero Waste Pledge.</p> <p>City officials: Reduce sizes of garbage cans in public places, and increase recycling bin sizes. Add compost wherever possible.</p> <p>City officials: Provide recycling bins in the uptown areas and at local parks.</p>					
Total tonnage of recycling per year	3836 tons	Diversion of 90% of recyclable materials from landfill	Diversion of 95% of recyclable materials from landfill	AHRC	AHRC
<p>All Residents: Recycling is the last resort in the waste reduction sequence (reduce, reuse, then recycle), but all recyclables should be captured.</p> <p>City officials: Adopt Zero waste policies in your office.</p>					
Total tons of organic matter diverted to compost per year	2056 tons	50% of organic material being composted	80% of organic material being composted	AHRC	AHRC
<p>Businesses owners and residents: Using Athens-Hocking Organics is an easy way to divert organic waste from the landfill .</p> <p>Residents: A curbside compost pilot is underway in 2018 and should be ready for rollout in 2019.</p>					
Reduction in single-use bag usage since 2016.				Residents	Imputed/Self Reported
As per council resolution, the commission will work with local businesses and civic leaders to track usage and reduction of plastic bag usage in Athens.					



Housing and Development, Introduction

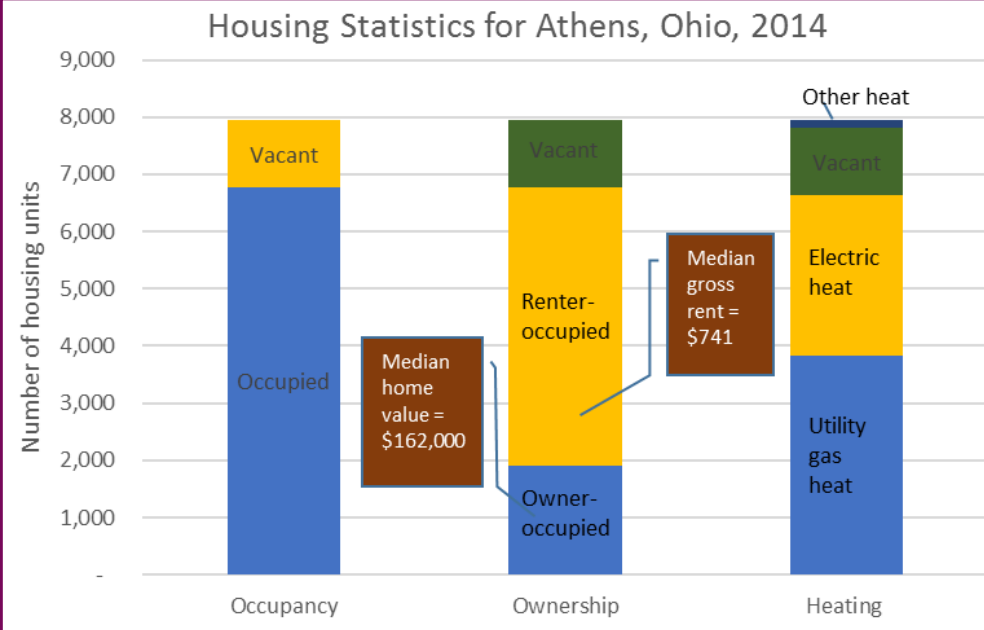
Strong links to:



What is Sustainable Housing and Development?

It is housing and development where:

- building design incorporates energy and resource efficiency,
- building occupant health is protected,
- options for bicycling, walking, and public transportation are considered,
- design minimizes environmental impacts such as stormwater runoff and loss of wildlife habitat,
- The costs associated with increased public infrastructure are weighed against the expected tax revenues from the development.



Source: 2014 American Community Survey, US Census Bureau

Why is Sustainable Housing and Development Important?

The efficiency of buildings has a huge impact on the overall sustainability of a community. According to the US EPA, buildings account for 39 percent of total energy use in the United States, 12

of our total water consumption, 68 percent of electricity consumption, and 38 percent of CO2 emissions. Within the construction process site selection, density, scale, materials, and design all play an important role in determining the overall sustainability and energy profile of a project.

Best Practices

There are several excellent examples of sustainable housing and development in Athens. Among them are the Village Bakery (above, source: Upgrade Athens), the OHIO Eco House rental home, the Jackie O's brewery expansion, and the city's rain gardens and green stormwater infrastructure.

Priorities identified by community members at the initial public meeting:

1. Encourage and incentivize developments that incorporate **LEED** standards.
2. Develop building and zoning standards that focus on bicycle and pedestrian orientation rather than auto orientation.
3. Create programs to make existing off-campus student rental housing more energy efficient.
4. Utilization of sustainably sourced and locally sourced materials in construction.
5. Encourage subdivision design that promotes ecological design and maximizes potential for alternative energy.



Athens Sustainability Action Plan

Housing and Development, Action Plan

Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Total Energy Consumed	158,328,150 kWh	150,411,742.5 kWh	126,662,520 kWh	Residents, Businesses	SOPEC
<p>City officials: cluster and conservation design standards should be put in place for new developments.</p> <p>City officials: LEED certification or comparable design standards should be incentivized.</p> <p>City officials: Create a rolling program to facilitate energy efficiency improvements for landlords and low-income homeowners.</p>					
Housing and Transportation cost, Avg/Household	60% of total income	60% of total income	50% of total income		PUCO/Census
<p>Walking or biking to work is not a luxury available to all residents. But everything should be done to incentivize walking and biking by those who can. For those who must drive, they too will see benefits, in decreased traffic and increased parking.</p> <p>City officials and business owners: Implement more the bike and pedestrian master plan elements, with special focus on bike lanes , connectivity to the Hock Hocking Adena Bikeway and bike parking infrastructure.</p>					
Number of addresses within .25 miles of a bike lane	3549 addresses	3903 addresses	4436 addresses	City Council, Office of the Mayor	City Planner/GIS
Percent of population that regularly walks or bikes to work	41.5%	50%	70%	City Council, Office of the Mayor	Athens City Planner
<p>Walking or biking to work is not a luxury available to all residents. But everything should be done to incentivize walking and biking by those who can. For those who must drive, they too will see benefits, in decreased traffic and increased parking.</p> <p>City officials and business owners: Implement more the bike and pedestrian master plan elements, with special focus on bike lanes , connectivity to the Hock Hocking Adena Bikeway and bike parking infrastructure.</p>					
Water use per capita	29,562 per capita	28,251 per capita	25,277 per capita	Residents, Businesses	Athens City Planner
<p>Residents: Consider modifications to home landscaping to decrease water consumption.</p> <p>Residents: Follow the water reduction guidelines in the annual State of our Water report published by Engineering and Public Works.</p> <p>Business owners and residents: WaterSense appliances can be installed to reduce water consumption.</p>					



Food, Introduction

Strong links to:



What is Sustainable Food?

A sustainable food system is one where:

- Residents can access nutritionally sound food through local markets,
- Systems are in place to recognize and celebrate local food producers,
- Community and backyard gardens exist and are able to accommodate the number of residents that are interested,
- Indigenous foods are preserved, both as a economic and heritage concern.
- Local food producers utilize best practices to reduce nutrient load entering the water stream

Why is Food Important for Sustainability?

Local food is strongly tied to the economy by keeping money circulating locally. This represents an important sector of the Athens area economy, which lacks major industry.

Additionally, by promoting local food production we can retain valuable land stewardship and food preservation techniques, which are an integral part of our regional heritage.



Priorities identified by community members at the initial public meeting:

1. Support Farmers Market-Dialogue about a permanent pavilion at the community center has restarted. A traffic study is currently underway.
2. More local food on Ohio University (OU) grounds— In 2015, approximately 23% of the food provided in the residential dining venues came from local sources; efforts are ongoing to expand this program. OU's local food purchasing injects several million dollars into local economies annually.
3. Increasing size of community gardens— community gardens are available in 3 locations in Athens.
4. Fencing in community gardens—East side garden is fenced but the others are not.
5. Encourage backyard composting— Backyard composting is legal in the city but education on this is limited.
6. Stronger ties between grocers and local food producers—many local grocers are carrying local foods.

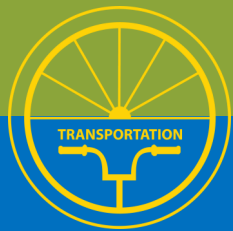
Best Practices: The Athens Farmers' Market (top right, photo courtesy of the Athens County Visitors Bureau) is an economic engine for local farmers and food producers and serves as an important community social space as well. Edible landscaping (bottom left, Athens East-side yard, photo courtesy of Meredith Price-Mullins) is an essential part of sustainable food culture.



Athens Sustainability Action Plan

Food, Action Plan

Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Food production businesses incubated	109	150 businesses	200 businesses	Local Business owners	ACEnet
<p>Local food production is a key element of our economic growth and our regional identity. The ability of ACEnet to expand the reach of smaller entrepreneurs in to larger markets is an important way to increase our economic output.</p>					
Yearly attendance at Athens Farmers Market, estimate	18,250 consumers	18,750 consumers	19,250 consumers	Athens Farmers Market	AFM
<p>Council: Establish a permanent home for the Athens Farmers Market. Athens Farmers Market: Continue outreach program to students Athens Public Transit: Promote shuttle service to and from the Farmers Market.</p>					
Number of residents enrolled in community garden program	147	111 gardeners	126 gardeners	Residents, Community garden leaders	CFI/West Side Garden
<p>There are three major community gardens in Athens, each of which can currently accommodate more members. Westside Community Gardens, Athens Community Gardens, East Side Community Gardens.</p>					
Number of people enrolled in bulk buying clubs	170 enrolled	204 enrolled	255 enrolled	Residents	Athens City Planner
<p>Bulk buying clubs (or Community Support Agriculture or "CSA"s) are a way for residents to access fresh local produce. Wellworks of Athens Ohio keeps a list of ongoing ones that you can view on the Wellworks website. In addition, Rural Action is partnered with the Chesterhill Produce auction to provide similar opportunities. They can be contacted at their office for more details.</p>					



Transportation, Introduction

Strong links to:



What is Sustainable Transportation?

Sustainable transportation is defined by:

- affordable costs for, and access to, efficient transportation for all citizens,
- limited use of natural resources to achieve necessary travel, and
- production of minimal pollution from transportation fuels, vehicle manufacture, and infrastructure development

Best practices: Walk, bike or take public transportation whenever possible to lower costs, get exercise and reduce carbon emissions. Athens has a beautiful bike path with new mapping and mile marker stenciling (below, courtesy of the Office of Sustainability, Ohio University), as well as a robust bus system (right, Athens Public Transit bus).

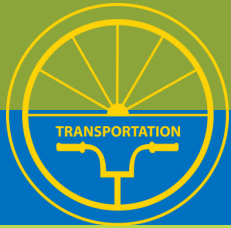


Why is Sustainable Transportation important?

Transportation is vital for our economy and our communities. People need to travel to work and to purchase food and essentials for their families. If transportation is sustainable, it improves quality of life without damaging our environment, allows for greater economic opportunities, and increased social connections.

Priorities identified by community members at the initial public meeting:

1. Improve biking infrastructure (bike lanes, bike parking, bike share programs)—Currently, the Hockhocking Adena Bikeway and the Athens Public Library Bike lending program are the main biking infrastructure within the city. Bicycle racks and bike lanes on public roads do exist in various locations around the city, and wayfinding improvements were made to the bike path in 2016.
2. More efficient bus system—the Athens Public Transit (APT) has greatly improved its routes and timetables in the past several years, but still hopes to improve further. As of July 1, 2016, Ohio University ID holders can ride APT for free with the Bobcat Pass.
3. Integrated Campus transit and APT—Bus stops have recently been co-located for campus transit and APT.
4. Emissions Standard for public and private vehicles—national standards exist for all vehicles, but no standards exist for the City of Athens.



Athens Sustainability Action Plan

Transportation

Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Athens Public Transit Ridership	436,109 riders per year	479,719 riders	872,218 riders	Residents, Athens Public Transit	Athens Public Transit
<p>The Athens Public Transit system is a great way to connect key locations on the outskirts of our city, and now runs later in to the evening. A current bus route map and schedule can be viewed on the Athens Public Transit website.</p>					
Bicycle Parking Capacity Uptown	14 bikes	18 bikes	30 bikes	The Office of the Mayor	Code Enforcement Office, City of Athens
<p>Office of the Mayor: The city currently provides a small number of bike racks for public use. This should be expanded. These racks could also double as a location for the start of a bike share program or bike service amenities.</p>					
Miles of arterial road with sharrows or bike lanes	4.79 miles	7.5 miles	15 miles	The Office of the Mayor	Athens County Auditor
<p>Office of the Mayor: Making space for cyclists on our city streets is a priority for biking to be supported as a mode of transportation in the city. Separated bike lanes are preferred, followed by on-street bike lanes, followed by sharrows. For more information, see the City's Bike and Pedestrian Master Plan.</p>					
Miles of dedicated or separated-from-traffic bike lanes	0 miles	1.5 miles	3.0 miles	The Office of the Mayor	Athens County Auditor
<p>Separated from traffic bike lanes are important for acclimating young riders and new riders to cycling.</p>					
Number of electric vehicle charging stations	4 stations	5 stations	8 stations	City Council, Office of the Mayor	EPW
<p></p>					



Water, Introduction

Strong links to:



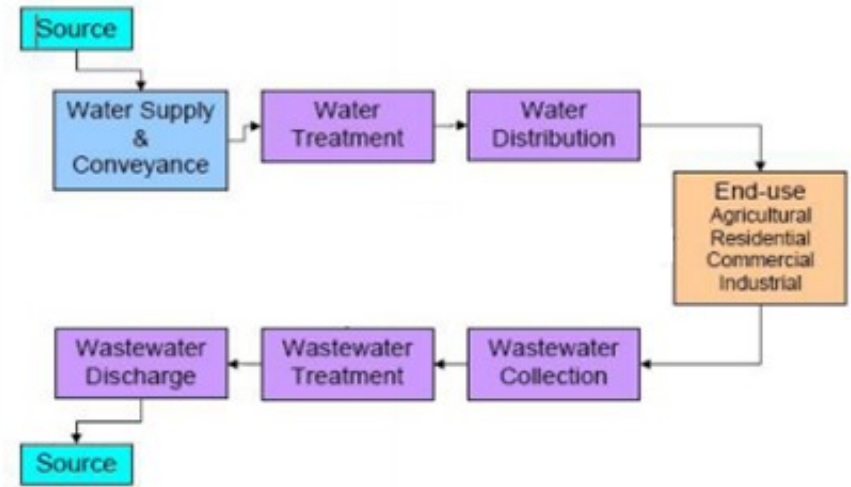
What is a sustainable water system?

A sustainable water system is one where:

- All residents and businesses have access to water needed for essential activities,
- The source of our water is protected from environmental contaminants,
- The source of our water is protected from human-sourced contaminants,
- Water is conserved and used only as needed, reducing our draw on the water table.

Priorities identified by community members at the initial public meeting:

1. Stormwater Management– The stormwater management committee is developing a stormwater management plan as directed by the EPA.
2. Composting/Greywater toilets– Composting/greywater toilets are permitted in the city.
3. Ban Fracking– ODNR will not approve fracking or injection well permits within the wellhead. Further action to restrict fracking at the local level may have dubious legal footing.



Less than 1% of the world's fresh water supplies are available for human consumption

	Normal Water Usage		Conservation Usage		Savings
	Gals. Used	Method	Gals. Used	Method	
Shower (10 min)	50	Shower head running continuously	25	Shorter showers (5 min)	50%
			25	Low flow shower head (10 min)	50%
			12.5	Low flow shower head (5 min)	75%
Tub Bath	36	Standard tub, full	18	Standard tub half full	50%
Toilet Flushing	5-7	Depends on tank size	4.6	Use a displacement bag, or milk jug in tank reservoir	20%
			1.6	Replace with low flow toilet	73%
Washing Hands	5	With tap running continuously	1	Fill a standard basin	80%
Brushing Teeth	10	With tap running continuously	1	Wet brush with brief rinses	90%
Shaving	20	With tap running continuously	1	Fill a standard basin	95%
Washing Dishes	30	With tap running continuously	10	Wash & rinse with a half filled standard sink	66%
Dishwasher	16	Full Cycle	7	Short Cycle	56%
Washing Machine	60	Full cycle, Highest water level	27	Short Cycle	55%
Outdoor Watering	10	Per minute; Average garden hose	varies	Eliminate, night watering, etc.	varies

Best Practices: Conserve water to reduce energy usage and save money! Conservation suggestions from the 2014 [Annual Consumer Confidence Report](#) for the City of Athens are shown to the left.

Why is Water important for Sustainability?

Clean water is essential to sustain life, and is necessary for the operation of many businesses.

The sanitation and distribution of water in the City of Athens also represents the single largest consumption of energy for the city.

If we can reduce our water consumption, both as individual citizens and in our municipal buildings, we can make significant impact on our energy demands and carbon emissions for the city, as well as preserving water for future needs.



Water

Athens Sustainability Action Plan

Strong links to:



Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Total municipal water transmitted, gallons	708,733,000 gallons	637,859,700 gallons	531,549,750 gallons	All residents	EPW
Total municipal water transmitted, gallons per capita	29,883 gallons	26,894.7 gallons	22,412 gallons	All residents	EPW

Transmission of water represents the number one electric consumption by municipalities.
 Residents: Look for the WaterSense label when purchasing new faucets or fixtures.

Undeveloped acres in wellhead protection area	964	No loss of undeveloped acreage.	No loss of undeveloped acreage.	Council	EPW
---	-----	---------------------------------	---------------------------------	---------	-----

As a municipality that draws our water from well near the Hocking River, groundwater quality is very important.
 Council: Develop policies that direct potentially harmful or contaminating emissions away from the wellhead area.

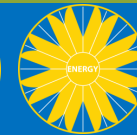
Spiked usage notifications		25% reduction in spiked usage notifications.	50% reduction in spiked usage notifications.	All residents of Athens	EPW
----------------------------	--	--	--	-------------------------	-----

Spiked usage notifications are usually the result of a spigot left on, running hose or toilet. A running toilet can use tens of thousands of gallons if left for several days.
 Residents: Always replace leaky fixtures promptly. Look for WaterSense appliances.
 Residents: Consider shutting off water to water appliances if you'll be out of town for several days.



Greenhouse Gas Emissions, Introduction

Strong links to:



What are Sustainable Greenhouse Gas Emissions?

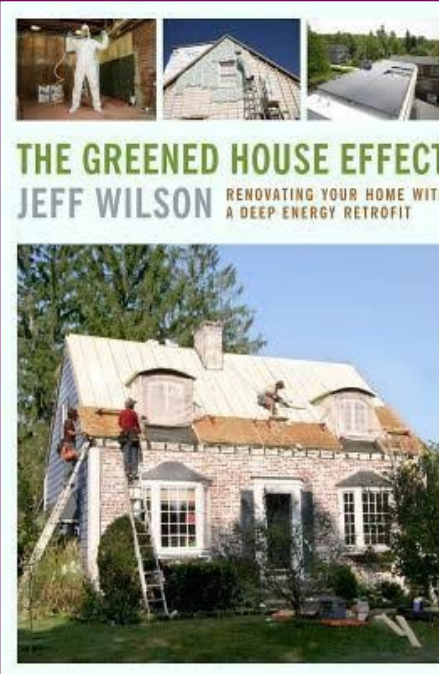
Sustainable greenhouse gas emissions are emissions which do **not** cause global warming or climate change. In particular:

- CO₂ concentrations in the atmosphere should be reduced to below 400ppm to prevent irreversible ecological changes to the planet,
- greenhouse gas emissions must be appropriately priced and accounted for in the local and global economy, and
- severe climate effects from emissions must be avoided.

Emissions reductions occur most effectively through usage of renewable energy and alternative transportation.

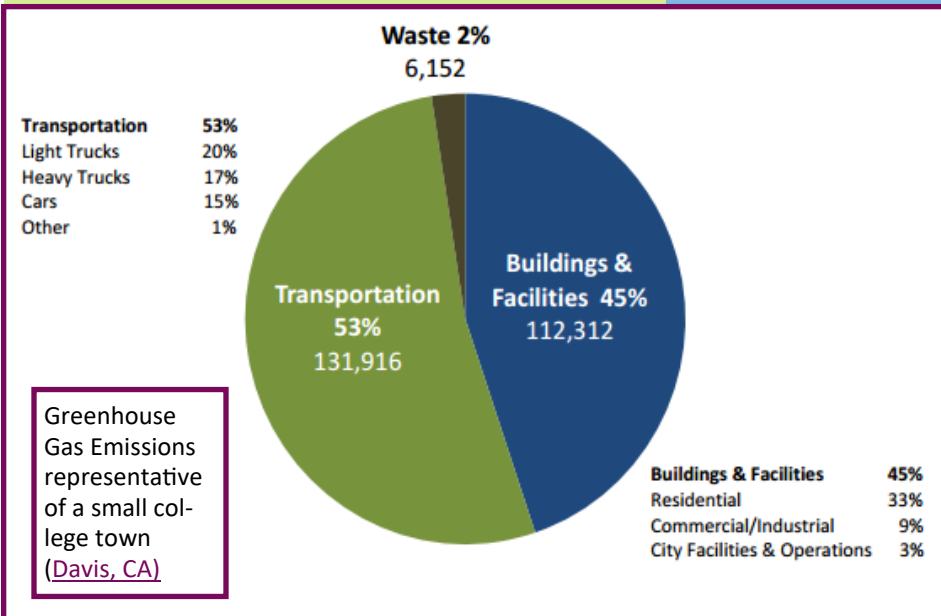
Why are Sustainable Greenhouse Gas Emissions Important for Sustainability?

At the United Nations COP 21 Climate Change Conference in December, 2015, a landmark agreement was reached on a framework for national reporting on, and implementation efforts towards, emission reductions. Governments throughout the world recognized that rising greenhouse gas concentrations negatively impact global temperatures, sea levels, severe climate events, and biodiversity, and that serious measures must be taken to prevent further damage to our planet. In order to sustain life as we know it on the planet, we must measure and manage our greenhouse gas emissions.



Best practices:

Jeff & Sherri Wilson's deep-energy retrofitted Athens home and home-based businesses are powered with solar panels. The Wilsons also drive electric vehicles & reuse whenever possible. At left: Jeff Wilson's book cover. Used with author's permission.



Priorities identified by community members at the initial public meeting:

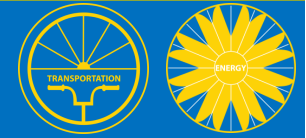
1. Improving the green infrastructure to benefit air quality. The Shade Tree Committee ensures that new developments with the City have appropriate numbers of shade trees.
2. Decreasing emissions from vehicular traffic. Athens City Schools and the City of Athens have no-idle policies.
3. Reducing energy usage and moving to alternative energy sources. The City of Athens leases a solar array, which is located at the Athens Community Center, and participates in electric aggregation which includes renewable sourced-electricity.



Athens Sustainability Action Plan

Greenhouse Gas Emissions

Strong links to:



Indicator	Current Data	2020 Goal	2030 Goal	Agent of Change	Recorder
Annual electricity usage (kwh)	158,328,150 kWh	134,578,927.5 kWh	79,164,075 kWh	All residents	AEP
Annual natural gas usage (ccf)	5,236,930 ccf	4,451,390.5 ccf	2,618,465 ccf	All residents	Columbia Gas
More information regarding our goals and efforts regarding these indicators can be found in the Energy section (Pages 6 and 7).					
Transportation fuel usage for city fleet (gallons)	104,639 gallons	88,943.15 gallons	52319 gallons	City workers, The Office of the Mayor	Fuelmaster at Ohio University
Office of the Mayor: Include electric vehicles in budget considerations.					
Transportation fuel usage for city residents (estimate, gallons)	4,104,978 gallons	3,489,231 gallons	2,052,489 gallons	Athens residents, Athens Public Transit	H&T Fact Sheet + EPA calculator
<p>The Bobcat Pass is a useful program and should be continued.</p> <p>The Ohio University 2016 Comprehensive Plan calls for improved bike and pedestrian infrastructure on the OU camps and improved connectivity to city areas. These efforts should be supported and augmented in whatever way the city can.</p> <p>See the Transportation section for more information.</p>					

Landfill waste (tons)	13,149. tons	11,176 tons	6,574 tons	All residents	AHRC
-----------------------	--------------	-------------	------------	---------------	------

More information regarding our goals and efforts regarding this indicator can be found in the Waste section (Pages 10 and 11).