



Green Cincinnati Plan
2023

FOCUS AREA

Buildings & Energy





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Buildings & Energy

Ensuring energy efficient buildings and clean energy for a healthy, equitable, and resilient city.

Vision

Adoption of clean energy sources and energy efficiency measures by 2050 that result in net-zero emissions from buildings, contributing to a healthy, equitable, and resilient future for our City.

A Word from Sanyog Rathod, Buildings & Energy Focus Area Chair

It has been a distinct pleasure to lead the Buildings & Energy Committee, and work alongside City leadership and the Office of Environment & Sustainability (OES).

Cincinnati has embraced a vision for its future based on sustainability, equity, and resilience. That vision will play a central role in how the City works to achieve its goal of carbon neutrality by 2050. Through past efforts and the hard work of community partners, we have already begun to reduce the climate impacts of our buildings. However, Cincinnati's existing and historic building stock, combined with its reliance on fossil fuels as the primary source for heating and power, means that much work remains.



Cincinnati has an older building stock that can benefit from energy efficiency upgrades.

Deep energy retrofits, alternative and renewable sources of energy, and electrification are critical paths ahead of us. The recent influx of federal funding in the energy efficiency and renewable energy sectors has opened doors that previously did not exist. Tax credits are available to homeowners and businesses to reduce the costs associated with electrifying their buildings. Non-profits, religious institutions, and governments can access the benefits provided by tax credits through a system of direct payments that will make installing solar and energy efficiency more affordable.



This 1870 home in Over the Rhine achieved a LEED Platinum designation by making high performance upgrades that honored the home's historic character. Photo courtesy of Sol design + consulting.

As I engaged with stakeholders during the development of this Green Cincinnati Plan, I heard a desire to implement strategies that will result in buildings that contribute to a healthy, equitable, and resilient future. While our elected leaders will play an important role in developing these strategies, it will ultimately be up to community organizations, residents, and businesses to invest in their buildings and push for cleaner sources of energy. The Green Cincinnati Plan process has filled me with a sense of optimism about what the City can achieve. It won't be without challenges, but if we work together, we can begin to prepare Cincinnati's buildings and energy sector for a carbon-neutral future.

FOCUS AREA CHAIR



**BUILDINGS & ENERGY
FOCUS AREA CHAIR**

Sanyog Rathod

ORGANIZATION
Sol consulting & design

EQUITY LIAISON



I hope that we leverage the transition to clean and sustainable energy sources to create family-sustaining jobs, especially in underserved communities.

EQUITY LIAISON
Flequer Vera

ORGANIZATION
CEO, Sustainergy Cooperative

NEIGHBORHOOD
Northside



Energy Efficiency

Goal

Reduce building emissions 30% from 2021 levels by 2030.

BASELINE YEAR(S)

2021

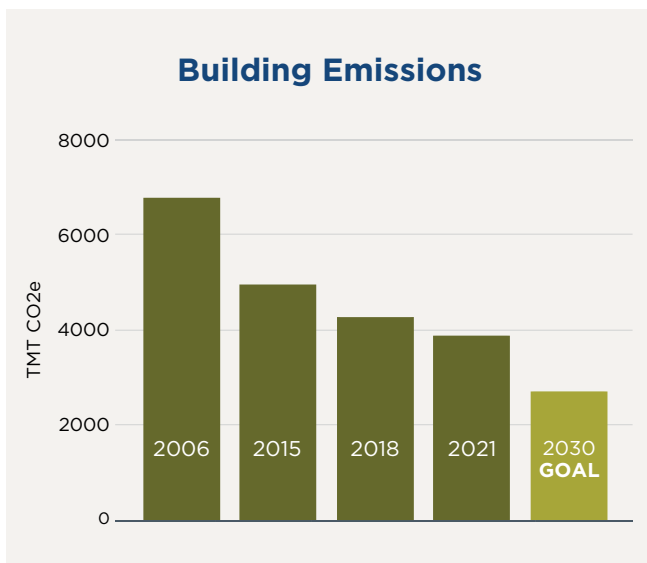
DATA SOURCE(S)

Duke Energy Ohio annual usage data by sector

Strategy

Decrease energy usage in new and existing buildings through adoption of energy efficiency and electrification technologies.

The City must reduce the amount of energy buildings use if we are to meet our carbon emissions goals. Achieving this reduction will require programs and policy tools to assist those who want to decrease energy use and programs to nudge building owners toward embracing energy efficiency. Providing building owners with tools and resources that make investing in energy efficiency more affordable will help decrease energy consumption. Lastly, shifting away from a reliance on natural gas through electrification will further reduce carbon emissions.



Priority Actions

	GCP PILLARS			ADDITIONAL PRIORITIES			
	Sustainability	Equity	Resilience	Jobs	Investment	Health	Feasibility
Improve building performance by implementing policies like benchmarking, building performance standards, or other relevant energy standards	●	●	●	●	●	●	●
Partner with local organizations to offer financing tools such as a loan fund, Commercial Property Assessed Clean Energy (C-PACE), or Green Bank to support investment in energy efficiency	●	●	●	●	●	●	●
Recognize the role embodied carbon plays in the built environment and align incentive programs to encourage the reuse of existing buildings	●	●	●	●	●	●	●

● strong alignment ● moderate alignment ● weak alignment



The upgrades to this historic Northside home demonstrate how existing buildings can help address the climate crisis. Photo courtesy of Casey Moothart.



The 116 year-old Textile Building in downtown Cincinnati was transformed from office space to residential units.



Electrification

Goal

Electrify 20,000 households by 2030.

BASELINE YEAR(S)

2022

DATA SOURCE(S)

Shining A Light, Go Sustainable Energy

Strategy

Electrify buildings with carbon-free energy.

The City must reduce its reliance on fossil fuels, including natural gas for cooking and heating, if it is to meet its carbon emissions goals. One of the best ways to accomplish this is through building electrification. Building owners need to understand the diverse benefits that electrification can provide and the resources that are available to facilitate the transition. Programs that encourage the electrification of new construction will reduce the costs associated with shifting away from natural gas in the future. While electrified buildings may initially rely on electricity from coal or natural gas power plants, they allow for a shift to carbon-free sources of electricity to occur over time.



Heat pumps are an option to electrify buildings and reduce emissions. They provide an efficient way to heat and cool residential buildings without relying on natural gas.

Priority Actions

	GCP PILLARS			ADDITIONAL PRIORITIES			
	Sustainability	Equity	Resilience	Jobs	Investment	Health	Feasibility
Reduce reliance on natural gas by developing programs to encourage the adoption of heat pumps, heat pump water heaters, and induction stoves	●	●	●	●	●	●	●
Create incentives to encourage developers to electrify new buildings or install infrastructure so buildings can easily convert to all-electric in the future	●	●	●	●	●	●	●
Educate the community and corporate partners about tax credits and other programs available to assist with the transition to more energy-efficient technologies	●	●	●	●	●	●	●

● strong alignment ● moderate alignment ● weak alignment



Energy Poverty

Goal

Reduce the number of households experiencing energy poverty 10% from 2022 levels by 2028.

BASELINE YEAR(S)

2021

DATA SOURCE(S)

Duke Energy Ohio, US Census

Strategy

Reduce energy costs for tenants and homeowners experiencing energy poverty to improve housing affordability.

Many Cincinnati residents live in energy poverty. “Energy poverty” occurs when more than 6% of a household’s income is spent on utilities. To reduce energy poverty levels, the City must implement strategies to improve the energy efficiency of housing in its priority communities. This can take the form of programs to encourage the adoption of energy-efficiency technologies or policies that increase energy-efficiency requirements for multi-family units. The City must also explore ways to provide access to low-cost sources of electricity such as onsite or community solar.



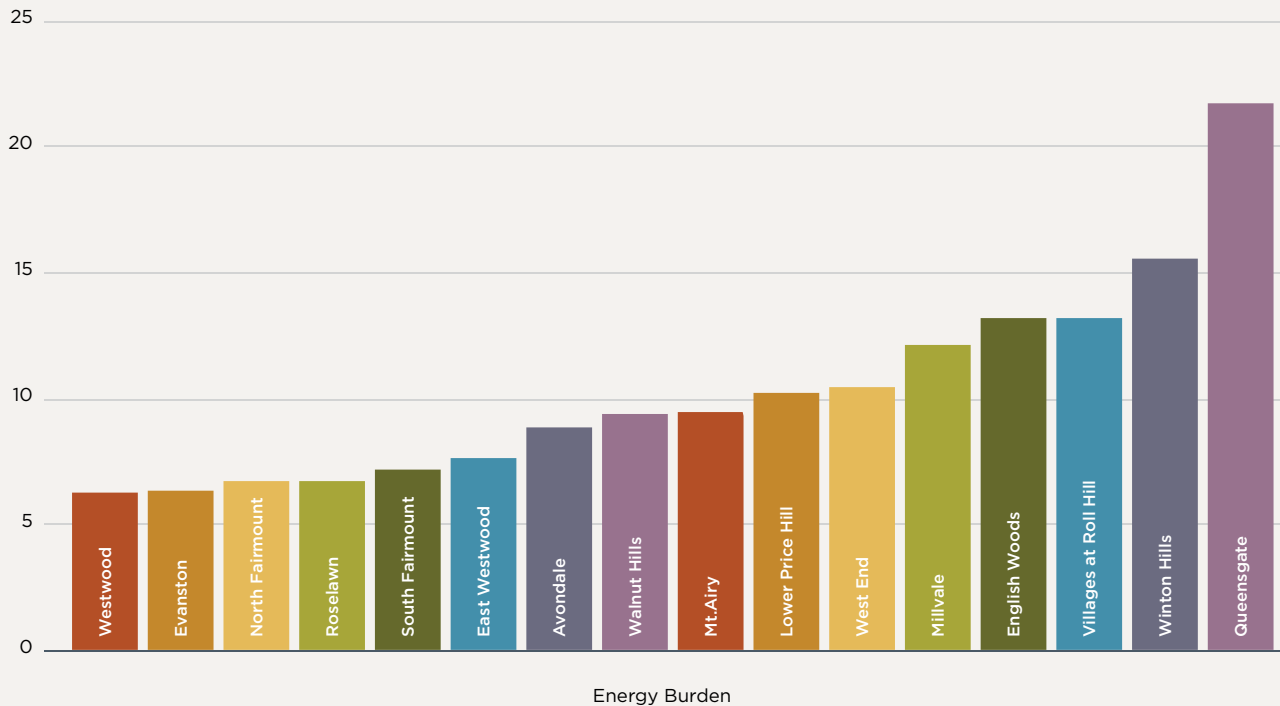
Multi-family buildings, like this 8-unit building, are often poorly insulated and energy inefficient, resulting in high energy rates and costs to residents.

Priority Actions

	GCP PILLARS			ADDITIONAL PRIORITIES			
	Sustainability	Equity	Resilience	Jobs	Investment	Health	Feasibility
Grow and expand programs such as WarmUp Cincy to support low-income renters, homeowners, and landlords of affordable housing with the installation of weatherization, energy efficiency, and healthy home upgrades	●	●	●	●	●	●	●
Implement and fund programs to install solar on low-income housing	●	●	●	●	●	●	●
Create programs and standards that will increase the energy efficiency of residential and multi-family buildings in order to decrease energy poverty	●	●	●	●	●	●	●

● strong alignment ● moderate alignment ● weak alignment

City of Cincinnati Neighborhoods with energy burden above 6%



Clean Energy

Goal

Obtain 40% of electricity load from clean energy sources by 2030.

BASELINE YEAR(S)

2021

DATA SOURCE(S)

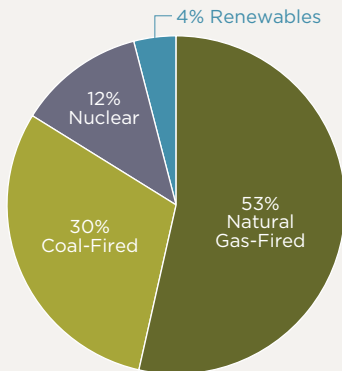
Duke Energy data on amount of solar installed and data on production from City-led PPA agreements

Strategy

Provide residents and businesses with continual access to power from clean energy sources.

In addition to reducing the amount of energy it uses, the City must shift to clean energy sources. Programs that encourage adoption of clean energy sources and make them affordable for residents and businesses will play an important role at the local level. However, to make the transition to clean energy, the City must look beyond its borders to find energy sources and storage options that can help meet its energy needs.

2022 Ohio Electricity Generation by Source



Solarize Cincy helps make the process of installing solar easier for Cincinnati residents. Photo courtesy of City of Cincinnati.

Priority Actions

	GCP PILLARS			ADDITIONAL PRIORITIES			
	Sustainability	Equity	Resilience	Jobs	Investment	Health	Feasibility
Support programs like Solarize that encourage adoption of rooftop solar	●	●	●	●	●	●	●
Partner with local organizations to offer financing tools such as a loan fund or Green Bank to support investment in renewable energy	●	●	●	●	●	●	●
Continue to pursue wind and solar Power Purchase Agreements (PPAs) to secure enough electricity to support city operations and the Cincinnati aggregation program	●	●	●	●	●	●	●
Identify energy storage options like batteries, pumped storage, or hydrogen storage to maximize use of clean energy and improve grid reliability	●	●	●	●	●	●	●

● strong alignment ● moderate alignment ● weak alignment



The New Market Solar Array in Highland County provides electricity for City operations and the residential aggregation program. Photo courtesy of Algonquin Power & Utilities Corp.