Help power the Columbus of tomorrow

WITH 100% RENEWABLE ENERGY

WHY WE NEED 100% RENEWABLE ENERGY

Cities account for more than 70% of global carbon emissions, and as America's 14th largest city, Columbus needs to be a key player in the fight against climate change.

To his credit, Mayor Ginther has joined more than 400 other mayors in committing their cities to uphold the Paris Agreement – but that is not enough. Even if all countries meet their commitments under the Paris accord, global temperatures will go up almost 3°C from pre-industrial times by 2100. Scientists say we must keep temperature rise as close to 1.5°C as possible to have a liveable planet.[1]

WHAT'S THE SITUATION IN COLUMBUS?

We have a lot of work to do in Central Ohio. According to the Green Memo III, Columbus residents use 3% more energy than the average Ohioan and 8% more energy than the average American.[2] While energy use from city operations decreased 25% from 2005 to 2015, community wide emissions have been increasing. In 2015, Columbus emitted 11,210,568 metric tons of carbon dioxide equivalent (mtCO2e), up 5% from 10,695,080 mtCO2e in 2013.[3]

Emissions by sector included:

3,389,086 - Transportation
244,372 - Solid Waste
2,195 - Water and wastewater
4,216,227 - Commercial energy
657,966 - Industrial energy
2,700,722 - Residential energy

Community Inventory - Summary by Sector

	Transportation & Mobile Sources	Solid Waste	Water & Wastewater	Commercial Energy	Industrial Energy	Residential Energy	total ghg (mtCO2e)
2013	2,630,029	249,006	3,196	4,883,763	287,151	2,641,935	10,695,080
2014	3,005,279	249,876	2,336	4,640,653	713,266	3,020,840	11,632,250
2015	3,389,086	244,372	2,195	4,216,227	657,966	2,700,722	11,210,568
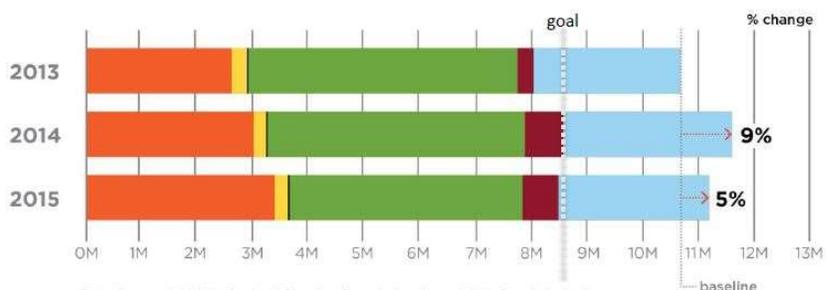
Data Sources: Mid Ohio Regional Planning Commission, Central Ohio Transit Authority, City of Columbus, AEP Ohio, Columbia Gas of Ohio; utilizing the ICELI Clear Path tool following the Global Protocol for Community Scale Greenhouse Gas Emission Inventories.

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Hardest hit in Columbus are low-income neighborhoods and communities of color. While the average household spends 3.5% of its income on energy, households in five neighborhoods (Linden, King-Lincoln, Hilltop, Weinland Park, and Olde Towne East) pay more than 6%. Residents of one neighborhood – Franklinton – spend almost 11% of their incomes on energy. This is unacceptable.[4]
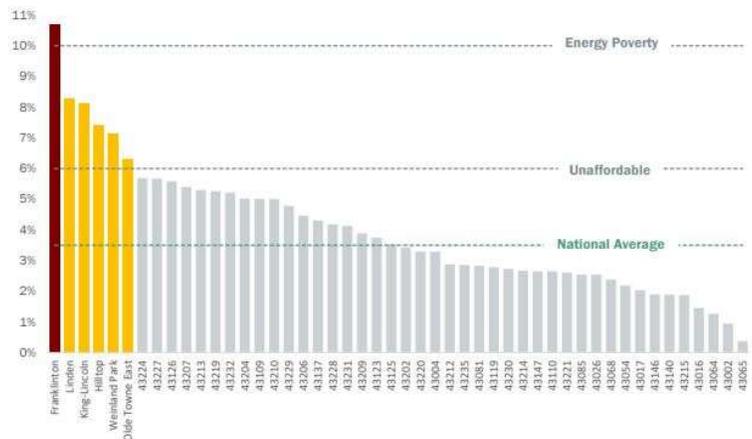
The picture is similar across Franklin County, where $4.4 billion was spent on energy in 2015. However, 69% of energy used in Franklin County is wasted due to inefficiencies in delivering electricity through the grid, inefficiencies in end use, and reliance on gas-powered vehicles for transportation.[5]
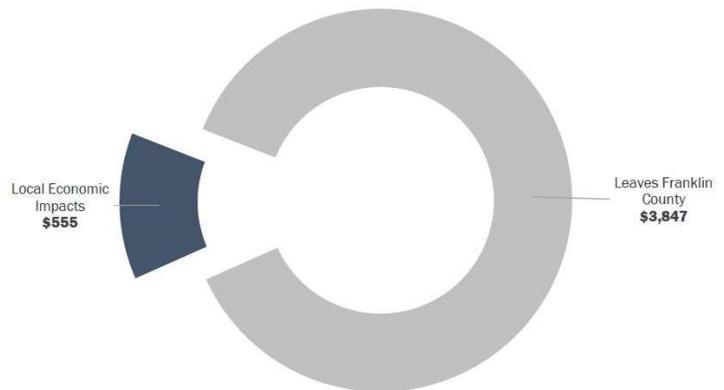
Of the $4.4 billion spent on energy by residents of Franklin County, 87% left the county as payment for imported fuels, electricity, and other expenses related to the energy network. Less than 13% was spent locally on salaries, supplies, raw materials and operating expenses.[6]

Figure 3. Residential Energy Burden in Franklin County by ZIP Code - 2015

Local Economic Impacts $555

Leaves Franklin County $3,847

Figure 2. Franklin County Energy Expenditures – 2015
Local Impact and Economic Outflow (millions of 2015$)

CLIMATE CHANGE DIRECTLY AFFECTS US

Climate change is directly affecting people in Columbus, Ohio, today. The average annual temperature in Columbus increased 2.3°F from 1951 to 2012, faster than national and global rates. Overnight low temperatures have warmed four times faster than mid-day high temperatures.[7]

Annual precipitation totals in Columbus increased almost 20% between 1951 and 2012. Heavy precipitation events have increased in frequency and severity. The frequency of the heaviest 1% of storms increased by almost 32%, and the number of days with precipitation exceeding 1.25 inches has increased 78%.[8]

Columbus also has the 8th most intense and fastest-growing urban heat island effect – or higher air temperatures resulting from reduced vegetation, pervasive use of asphalt and concrete, and restricted air flow. Temperatures in Columbus can be up to 24°F higher in the city than surrounding countryside. The increased heat leads to a higher energy consumption and exacerbated health risks.[9]

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As a result of climate change, Columbus is expected to face new risks and challenges, according to the 2018 Columbus Climate Adaptation Plan. Warmer temperatures increase smog because smog contains ozone particles which form faster at higher temperatures.[10] This in turn increases rates of asthma, heart disease and stroke, as well as increased water and energy demand and more stress on local vegetation.

Increased precipitation also poses a risk. Extreme-precipitation events can cause flooding, damage infrastructure, and create transportation issues.
Other consequences such as mold buildup, waterborne pathogens, and decreased water quality all negatively affect public health.[11]

Rising Temperatures

Average Temperature
Average temperatures warmed by 2.3°F from 1951 through 2012, faster than the national and global rates. Models project this trend will continue, with temperatures rising approximately 3-5°F by mid-century.

2.3°F
1951-2012

Increasing Precipitation

Heavy Precipitation
Between 1951–1980 and 1981–2010, the number of very heavy precipitation events increased by 32%. The number of days per year that saw more than 1.25" of precipitation increased by 78% from 1951–2012.

32%
1951-2012

How the Future Climate of Ohio Compares to Current Climates Elsewhere

Winter
2003
2030
2095
Summer
2095

Figure 2. *Observed historical temperature and precipitation changes in Columbus, Ohio and changes likely to occur.[15]*

THE 100% RENEWABLE ENERGY OPPORTUNITY

How can we counter the deleterious effects of climate change? For some effects, we can't – we must adapt. But we must also take steps to mitigate climate change – that is, to stop putting more carbon into the atmosphere –to keep the effects from getting worse.

That's where 100% renewable energy comes in. We can power Columbus with 100% clean, renewable energy by using wind, solar, biomass, geothermal, and hydro-electric.

If you care about clean air, drinkable water, affordable electricity bills, eliminating toxic landfills in our community, and creating a sustainable future for our children - then you care about renewable energy in Columbus.

OUR VISION FOR COLUMBUS IS PRETTY SIMPLE

• Build 1 gigawatt of solar generating capacity in Franklin County – enough to power 700,000 homes.
• Develop a thriving clean energy industry which creates new, good paying jobs and economic growth in our community.
• Install community solar in communities where the energy burden is too high to reduce the energy burden on our lower income neighbors.
• Increase the percentage of Columbus residents who drive electric vehicles, and create the most comprehensive EV charging infrastructure in the state.
• Create more green space, stronger energy efficiency standards, and better conservation practices to help reduce our growing city's energy needs.

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WHAT YOU CAN DO TO HELP

To bring this vision to life, we need your help. Columbus recently won the Bloomberg American Cities Climate Challenge grant – let's build on this momentum to push our city to commit to 100% renewable energy by 2040!

• Sign the petition – Tell Mayor Ginther to commit Columbus to 100% renewable energy. bit.ly/AddUp-RF100Columbus

• Attend the next Ready for 100 Columbus event listed on our Facebook page. www.facebook.com/Readyfor100Columbus

• Volunteer to talk with your neighbors and ask them to join the clean energy movement! bit.ly/RF100Columbus-Volunteer

MORE INFORMATION ABOUT HOW CLIMATE CHANGE IS AFFECTING OUR COMMUNITIES CAN BE FOUND IN THE FOOTNOTED RESOURCES BELOW

1- Plumer, Brad and Nadja Popovich. "The World Still Isn't Meeting Its Climate Goals." The New York Times, December 7, 2018. https://www.nytimes.com/interactive/2018/12/07/climate/world-emissions-paris-goals-not-on-track.html
2 - Columbus Green Memo Community Plan, Green Memo III, 2015, p. 19.
3 - Environmental Stewardship in Columbus 2016 Annual Report, Slide 4. https://www.columbus.gov/Sustainable-Columbus/2016-Annual-Report
4 - Franklin County Energy Study, 2018. Recommendations, p. 5. http://www.morpc.org/program-service/energy-studies-and-technical-assistance
5 - Franklin County Energy Study, 2018. Recommendations, p. 3. http://www.morpc.org/program-service/energy-studies-and-technical-assistance
6 - Franklin County Energy Study, 2018. Recommendations, p. 4. http://www.morpc.org/program-service/energy-studies-and-technical-assistance
7 - Great Lakes Integrated Sciences and Assessment (GLISA) and the University of Michigan Climate Center. Climate Change in Columbus Ohio: An Assessment of Columbus' Key Climate Changes, Impacts, and Vulnerabilities of Concern, p. 7. https://byrd.osu.edu/greenteam
8 - Great Lakes Integrated Sciences and Assessment (GLISA) and the University of Michigan Climate Center. Climate Change in Columbus Ohio: An Assessment of Columbus' Key Climate Changes, Impacts, and Vulnerabilities of Concern, p. 8. https://byrd.osu.edu/greenteam
9 - Cervenec, J., et al. Columbus Climate Adaptation Plan, December 2018, p. 10. https://byrd.osu.edu/columbus
10 - Miller, Sara, "Here's How Climate Change Can Cause More Air Pollution (All By Itself)," Live Science, February 16, 2017. https://www.livescience.com/57913-climate-change-will-increase-air-pollution.html
11 - Cervenec, J., et al. Columbus Climate Adaptation Plan, December 2018, p. 10. https://byrd.osu.edu/columbus