NEWS

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Latest Pittsburgh 2030 District Progress Report Reveals Gains Toward Carbon and Energy Use Reduction Goals

Nation's largest 2030 District achieved 48% reduction in carbon emissions, 22.3% reduction in energy use and $60.5 million in energy cost savings in 2023

May 22, 2024 (PITTSBURGH) – The Pittsburgh 2030 District, a project of the Green Building Alliance (GBA), today released its **2023 Progress Report,** revealing that 2030 District Property Partners reached a **48.0% reduction in carbon emissions** in 2023, or 507,000 metric tons of CO_2e emissions avoided. This figure, which includes the purchase and/or production of renewable energy, reflects an improvement over last year's reduction totals of 44.8%.

This achievement moves the District closer to its target goal of 50-65% reduction in carbon emissions by the 2030 deadline, with the District continuing to pursue zero carbon emissions by 2040. The built environment accounts for approximately 37% of global CO_2 emissions and 40% of all U. S. primary energy use.

2030 District partners also achieved a **22.3% reduction in energy usage** in 2023, reflecting a **savings of $60.5 million in energy utility costs**, and a **39.4% reduction in water usage**. District-wide energy performance has hovered around 22%-27% reduction below baseline since 2020, suggesting a plateau in energy demand performance.

Pittsburgh 2030 District – 2023 Progress Report Stats at a Glance

- 48.0% carbon emissions reduction (including RECs) / 507,000 Metric tons of CO_2e emissions avoided
- 22.3% energy reduction / 2 billion kbtus of energy avoided
- 39.4% water reduction
- $75M annual utility cost savings (includes energy + water)

"We congratulate our 2030 District Partners on their achievements in reducing carbon emissions in 2023, as the collective impact of their work is significant," says Green Building Alliance President & CEO Jenna Cramer "However, it is important to note that these important gains in carbon reduction were in part due to an increase in the production and purchase of renewable energy. There is so much more we can accomplish together through investments that reduce energy and emissions, as well as increase renewable energy generation. These include LED retrofits; installation of occupancy/vacancy sensors; investments in new energy-efficient HVAC systems; building envelope improvements such as adding insulation and sealing air leaks; and improving facilities operations."

Data collected from 2030 District Property Partners showed that 75% of surveyed buildings had completed at least a partial LED replacement, with 45% confirming having occupancy or vacancy sensors in some spaces.

"Even small changes can have a tremendous impact on energy use, emissions, and utility costs," says Cramer. "We encourage property owners and operators to reach out to GBA for guidance and technical assistance on improving building performance and operations."

In addition to utility cost savings, property owners have a range of financial incentives to reduce emissions. Through IRA tax credits, renewable energy and energy efficiency investments can receive tax credits ranging up to 30 percent, depending on use of prevailing wage and apprenticeships. Additional percentages can be earned if the project uses domestic sourcing or is located in a historical energy community and/or a low-income community, with the potential of reaching up to 50 percent.

Action steps for reducing the impact of existing buildings on climate include:

- Changing lights to LEDs
- Installing occupancy/vacancy sensors in building spaces to reduce electricity use
- Reducing fossil fuel use, including replacing furnaces and boilers that run on natural gas with ground- or air-source heat pumps
- Adding insulation to walls and roofs; sealing air leaks
- Producing carbon-free energy by installing solar panels
- Reusing building materials and designing for deconstruction
- Selecting building materials with low embodied carbon and that are locally produced
- Addressing refrigerant leaks in HVAC systems and ensuring proper disposal
- Pushing for policy change that enhances building energy codes + performance standards

"We also need to push for state-level policy change to enact updated energy performance standards for new buildings and establish standards for existing buildings," adds Cramer. "Updating energy codes could save an estimated 160 trillion BTU of energy and $2M in energy costs in Pennsylvania alone while also unlocking at least $5.2M in funding from the U.S. Department of Energy for implementation. The adoption process in Pennsylvania can take more than four years, resulting in the Commonwealth lagging in the latest energy codes. Buildings in Pennsylvania are being built to less stringent energy performance standards, resulting in wasted energy and excess carbon emissions. There are also no statewide policies in place for improving energy performance over time in existing buildings in Pennsylvania. Enacting Building Performance Standards (BPS) could address this gap by requiring existing buildings to meet specific energy or carbon emissions performance targets. Building Performance Standards give building owners flexibility on what measures to implement and have been successful in four states and 11 cities but have not been implemented in Pennsylvania."

The Pittsburgh 2030 District comprises property partners representing more than 540 buildings occupying more than 86 million square feet. They include a variety of sectors and building types, including office towers, hospitals, hotels, multifamily residential buildings, universities, professional

sports facilities, museums, municipal offices and facilities, and K-12 schools. "The Borough of Forest Hills is a proud partner with the Pittsburgh Green Building Alliance in the 2030 District program," says Forest Hills Borough Council Member Patricia DeMarco. "As a small municipality, efficiency in operations is a critical commitment we make to our citizens. This requires looking ahead toward highly uncertain times. We can control what we spend for energy use by making all of our buildings as energy efficient as possible. Through our Guaranteed Energy Savings contract with Siemens, and the solar installations with EIS Solar, we are implementing $3.2 million in energy efficiency and solar upgrades to our borough buildings. The project will save 243,000 kWh of energy use and will generate a total of 387 kW of photovoltaic solar energy, with estimated annual utility cost savings of $92,000. Forest Hills is committed to continued leadership in sustainability by demonstrating not only feasibility but cost efficiency and accountability to future taxpayers. We strive for a net zero emissions throughout the borough by 2050."

To measure carbon emissions, the Pittsburgh 2030 District works one on one with each of its Property Partners to assess each participating building's energy use, carbon emissions intensity and progress. Carbon emissions calculations allow for the carbon intensity of the fuel source type, with nuclear, solar, wind and hydro-electric being carbon-free while grid-electricity, natural gas, district steam and chilled water have various emissions factors.

Read the full *2023 Pittsburgh 2030 District Progress Report* here.

**Emissions goals were set in response to urgent developments in climate science indicating that for the world to meet the 1.5°C carbon budget set forth in the 2015 Paris Agreement, countries must reduce CO_2 emissions in the entire [existing] built environment by 50-65% by 2030 and reach zero carbon by 2040.*

**The carbon budget is the amount of greenhouse gas emissions, evaluated as the amount of CO_2 or equivalent that humanity can emit while still having a chance to contain global warming within 1.5 degrees Celsius compared with preindustrial levels. A zero-carbon building is highly energy efficient, and all of its energy needs are supplied with renewable (carbon-free) technologies. Zero-carbon buildings also take into account embodied carbon in construction materials by reusing materials and reducing and sequestering carbon.*

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About Green Building Alliance:
Green Building Alliance (GBA) positively transforms the world through the built environment to create a sustainable, healthy, and just future for everyone. As Western Pennsylvania's authority on sustainable design, GBA drives the market for healthy communities while equipping designers, manufacturers, developers, and policymakers to catalyze systemic change. GBA manages the largest 2030 District in North America (the Pittsburgh 2030 District), and in 2019, established Pittsburgh as the 2nd International Center of Excellence on High Performance Building in the world. GBA partners across Western Pennsylvania, with strategic alliances including the 2030 District Network, United Nations and International Living Future Institute.

About the Pittsburgh 2030 District:
The Pittsburgh 2030 District is a founding member of the 2030 Districts Network, which connects more than 20 cities across North America. Founded in 2012, Pittsburgh is the largest 2030 District and represents 17% of all committed square feet in North America. The District drives market transformation by uniting leading organizations in Pittsburgh's high growth industries, creating unprecedented collaboration between sectors like healthcare, hospitality, higher education, and technology to reduce their collective energy use, water use, and carbon emissions while improving indoor air quality.