

PITTSBURGH 2030 DISTRICT PROGRESS REPORT

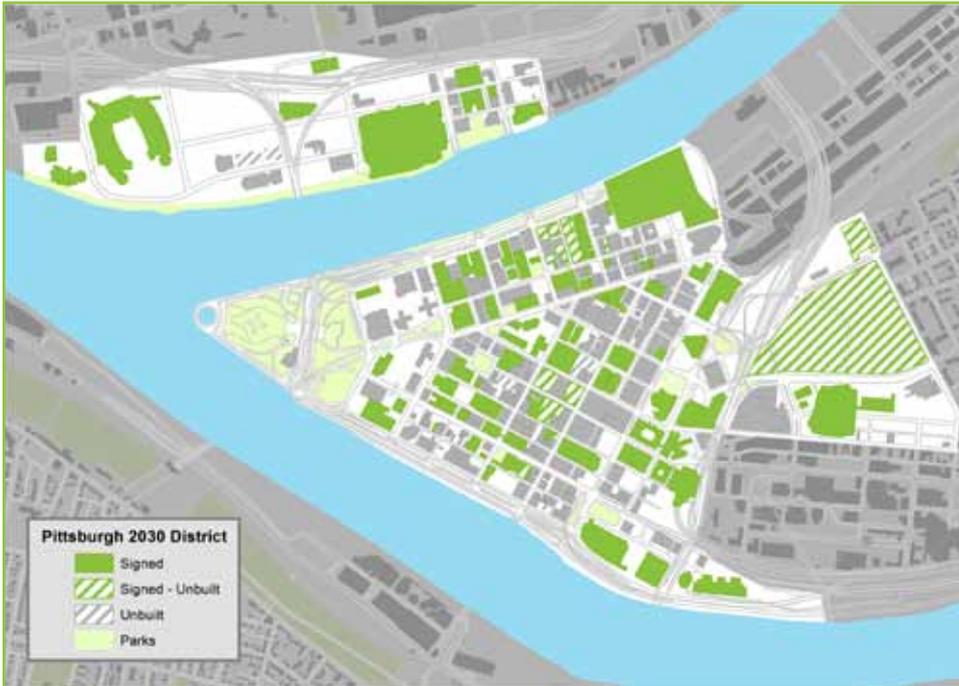
PITTSBURGH
2030
DISTRICT



2013

About The Pittsburgh 2030 District

A community of high-performing buildings, the Pittsburgh 2030 District was launched in Downtown Pittsburgh by Green Building Alliance (GBA) in 2012. Participation in the program has grown to almost 40 property owners and managers, representing 109 buildings and 35 million square feet of real estate. With the support of 30 Community and Resource Partners, these property owners and managers are committed to working towards the District's aggressive energy and water consumption, as well as transportation emission, goals. In addition, the District is piloting an indoor air quality (IAQ) metric for possible implementation around the country.

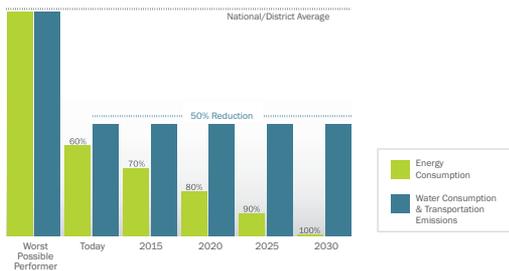


Pittsburgh 2030 District map indicating participating (new construction and existing buildings) properties in Downtown Pittsburgh.

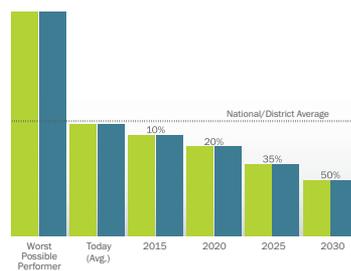
About Green Building Alliance

Green Building Alliance (GBA) is a nonprofit organization that inspires the creation of healthy, high performing places for everyone. Founded in 1993 as one of the first U.S. Green Building Council affiliate organizations, and now a USGBC chapter, GBA is headquartered in Pittsburgh and serves the 26 counties of Western Pennsylvania. GBA's main initiatives include the Pittsburgh 2030 District, the Green Schools Academy, DASH, and the Knowledge Network.

Targets for New Buildings & Major Renovations



Targets for Existing Buildings



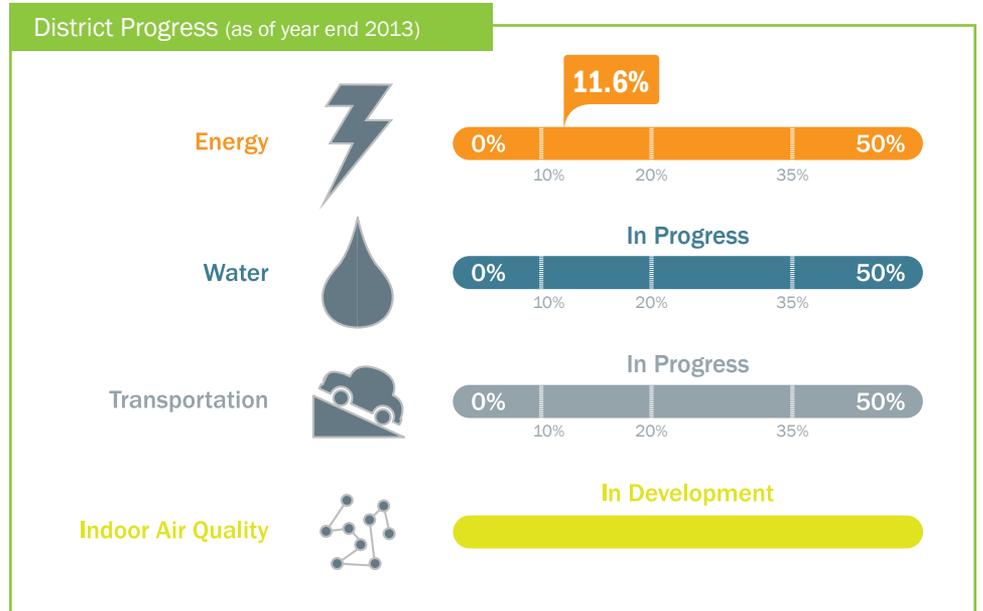
2030 Challenge targets for energy, water, and transportation emissions.

Source: Architecture 2030



Pittsburgh 2030 District Progress Report

High-performance buildings have proven track records of simultaneously increasing business and property profitability, enhancing asset values, reducing environmental impacts, and improving occupant health. This report summarizes the aggregated progress achieved towards aggressive building performance goals by participants in the Pittsburgh 2030 District. In addition to a specific analysis of energy and water demand reduction, updates on efforts to baseline transportation emissions from commuting trips in Downtown Pittsburgh and Green Building Alliance's development of an indoor air quality (IAQ) performance metric are also outlined.

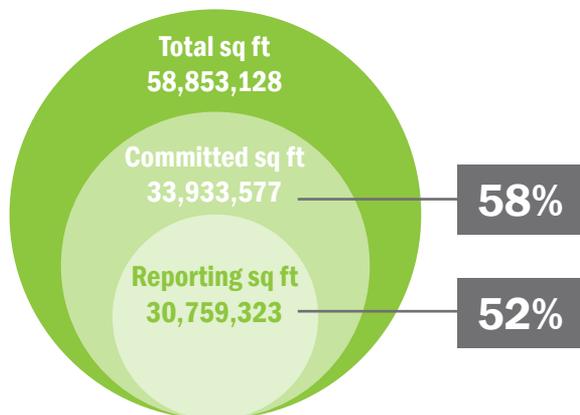


Building Performance Progress

In addition to committing to specific energy, water, and transportation emission performance goals, property owners and managers also agree to share annual building performance information with Green Building Alliance.

Utilizing ENERGY STAR Portfolio Manager, GBA's 2030 District team aggregates individual building performance to provide a total summary of district progress towards each of the program goals. (See above)

Pittsburgh 2030 District Property Statistics (as of year end 2013)



Voluntary building performance reporting (in contrast to mandatory benchmarking laws) is one of the most unique aspects of the Pittsburgh 2030 District and demonstrates the region's real estate and corporate leadership's commitment to an economically competitive, healthy, and livable city by 2030.

Importance of Demand Reduction

Reducing energy demand in Western Pennsylvania is a critical component to any future energy policy discussion for the region. Energy demand reduction allows for maximum utilization of existing power plants and eliminates the need for new coal- or gas-fired plants, eliminating significant future infrastructure costs and dramatically improving air quality. In addition to reducing stress on the existing grid, demand reduction permits greater grid flexibility and smooths the way for greater use of renewable energy.

Similarly, lessening potable water demand is a key part of solving the region's water/sewer infrastructure crisis. Substantially reducing water consumption in individual buildings has a direct correlation to increased capacity in the combined sewer system, allowing for better handling of major stormwater events and increased reliability of potential future "green infrastructure" investments.

Focused Performance Measures

Energy

Existing buildings participating in the Pittsburgh 2030 District are committed to a 50% reduction in energy consumption, measured by site energy use intensity (EUI) from the 2003 CBECS (Commercial Building Energy Consumption Survey), by the year 2030¹. Energy demand reduction targets for new construction/major renovations are more aggressive, with a goal of net-zero energy operations by 2030.

In accordance with the international 2030 Challenge, the program includes interim step-down targets, beginning with a 10% reduction by 2015 (60% for new construction). GBA's 2030 District team works with each participating property to establish a specific EUI baseline, taking into account current use types, operational characteristics (operation hours, occupancy, etc.), and Pittsburgh's climate region².

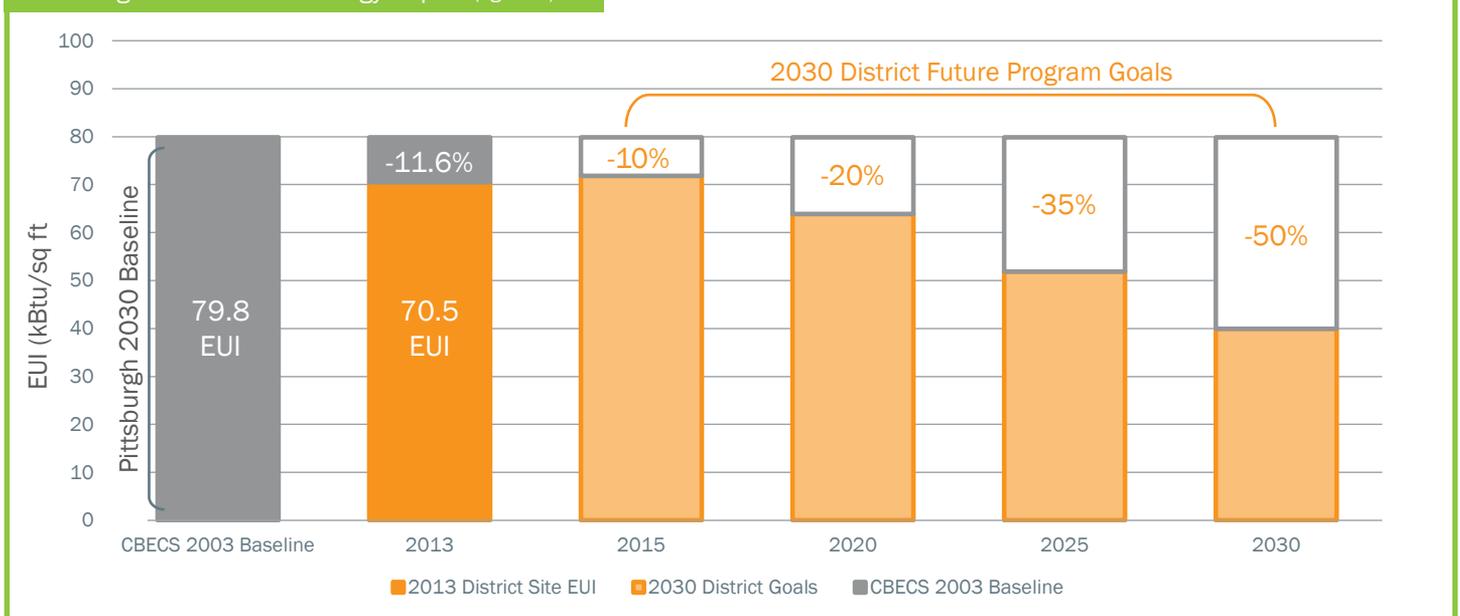
In the initial reporting period, 84 properties shared their energy performance data (85% of participating properties) and 73 were aggregated to provide a snapshot of district progress towards the energy reduction goal³.

EUI Definition

We measure the performance of cars with MPG, baseball pitchers with ERA, and buildings with Energy Use Intensity (EUI). EUI measures a building's annual energy performance normalized by its gross square footage.

A national median baseline, EUI can help a building benchmark itself and compare ongoing improvement against itself and others. Using ENERGY STAR Portfolio Manager to track performance can also put a building on the path to achieving the ENERGY STAR label, which means it performs better than at least 75% of buildings nationwide.

Pittsburgh 2030 District Energy Report (figure 5)



Breath Project: Air Quality Nexus

Green Building Alliance is proud to support the Breathe Project's leadership in efforts to achieve clean air in southwestern Pennsylvania.



Despite decades of improvement, air quality in

the Pittsburgh region still ranks among the worst in the nation, and we aren't making progress as quickly as other cities. The area is not in attainment of federal standards for ground-level ozone, fine particulate matter and sulfur dioxide, all of which pose a serious health threat. People living in Allegheny County also bear a cancer risk from air toxins in the top 2 percent in the nation. Dramatic reductions in energy and water consumption, including those promoted by the Pittsburgh 2030 District, have direct and indirect benefits to improving the region's air quality through decreased reliance on the combustion of fossil fuels to generate power. Better ambient air quality in turn means a healthier built environment as cleaner air circulates indoors. In addition, achieving the Pittsburgh 2030 District's transportation goals will directly result in significant reductions in harmful air emissions from single-occupancy vehicles.

Figure 5 summarizes the progress made towards the energy reduction goals by reporting Property Partners in 2013. The aggregated site EUI for the District is calculated as the total energy consumption reported (2,169,468,407 kBtu) divided by the total square footage of reporting properties (30,759,323 sq ft). This results in an aggregated site EUI of 70.5, which represents a 11.6% reduction from the baseline, putting the District ahead of 2015 reduction goals. At 286,508,179 kBtu avoided, this demand reduction is equivalent to removing 7,748 homes (assuming 36,977.38 kBtu/home) from the electric grid.

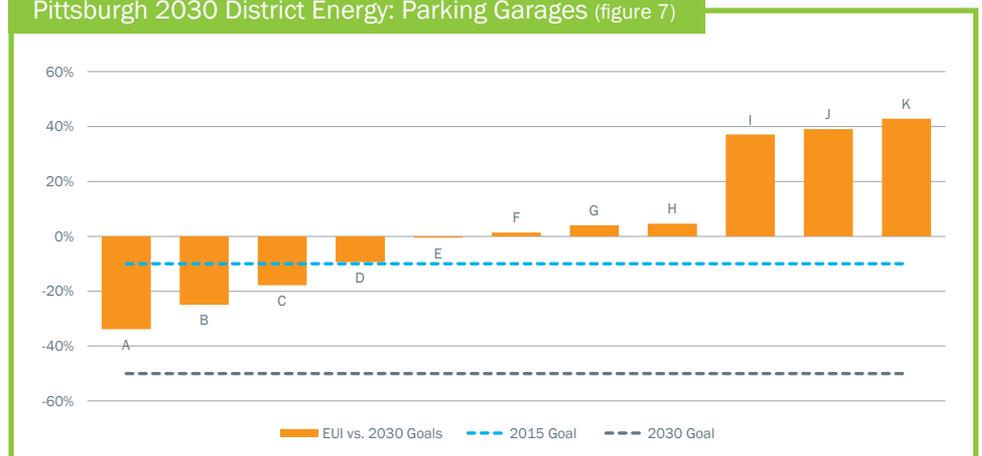
Of the 17 primary property use-types that are included in the initial energy report, two of the largest cohorts include large office buildings and stand-alone parking structures. The large number of reporting properties in these two categories allows for more specific analysis of building performance in Downtown Pittsburgh.

Pittsburgh 2030 District Energy Report: Offices > 200,000 sq ft (figure 6)



With 24 reporting properties, buildings listing their primary use-type as office (greater than 200,000 s.f. and including government offices) is the largest cohort in the district. Figure 6 illustrates that office buildings are also successful energy performers and contribute heavily to the total district's energy reduction. Only 13% of reporting office buildings are performing worse than their national median average, compared to 67% operating at or below year 2015 and 46% below year 2020 energy reduction targets. The average site EUI for currently reporting office properties is 82.

Pittsburgh 2030 District Energy: Parking Garages (figure 7)



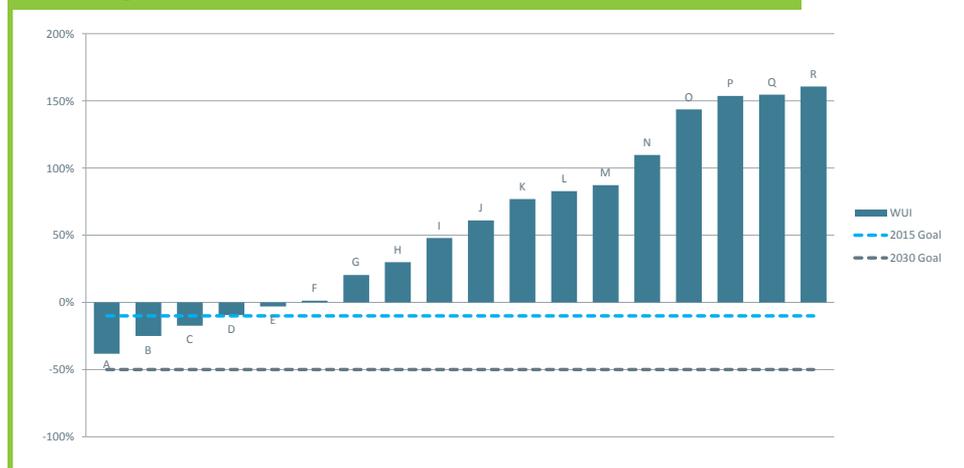
Parking garages in the District are generally poor performers (see figure 7), with over 55% of reporting garages using more energy than their national median average and less than 36% at any meaningful reduction below the baseline. However, given the strong engagement by many different parking garage operators in the District, as well as recently passed legislation rationalizing lighting codes in garages, there is tremendous potential for improvement in the next 12 months. The average site EUI for currently reporting parking garages is 12.8.

Water

Unlike the energy target, there is no national average of water consumption for existing buildings. GBA instead worked with the Pittsburgh Water and Sewer Authority to establish a district water baseline from historic water consumption in Downtown Pittsburgh. The existing building targets for water consumption mirror those for energy: a 50% reduction by the year 2030, with an interim target of a 10% reduction by 2015. New construction and major renovation projects are committed to an immediate 50% reduction from the district average.

District baselines are currently available only for office buildings (defined as all properties over 50,000 sq ft with office as a primary use). Progress towards the water reduction goals, indexed by the 18 office properties participating in water benchmarking, is indicated in figure 8⁴.

Pittsburgh 2030 District Water Report: Office Properties (figure 8)



Analyzing performance of office buildings related to water reduction goals provides a likely preview into districtwide performance. Current performance in the office sector indicates that significantly greater emphasis will need to be placed on water performance, as the majority (72%) of reporting properties are well above the district baseline. However, best practices in water management are readily available, as four reporting properties are already at or below their 2015 reduction goals. The average water use intensity (WUI) for currently reporting office properties is 14.8.

Reporting vs. Participating

Although over 100 properties in Downtown Pittsburgh committed to sharing building performance data, not all of them are included in this report. In most cases, the decision to exclude a property was based on inaccessible tenant utility information, non-standard use types, or unresolved utility inconsistencies. GBA's 2030 District team will work hard over the next year to ensure maximum inclusion of participating properties.





Photo Credit: Ron Reiring via Flickr

Other District Goals

In addition to energy and water reductions, the Pittsburgh 2030 District is also working to promote a 50% reduction in transportation emissions and develop an indoor air quality improvement program. Both programs are expected to advance significantly in 2014.

Transportation

GBA is working with the Southwestern Pennsylvania Commission (SPC) to establish a transportation emission baseline related to Downtown Pittsburgh and North Shore commuting patterns. SPC utilizes a “Regional Travel Demand Model” to provide travel simulations from its 10-county service area to estimate baseline travel patterns and apply a CO2 emission factor based on mode of travel. That transportation baseline work is expected to be complete by June 2014.

GBA will make progress towards the 50% transportation emission reduction goal through a collaboration with District Property Partners and key transportation stakeholders, who will conduct an annual employee transportation survey. This survey anonymously captures each respondent’s point of origin (by zip code), workplace destination (Golden Triangle/Lower Hill or North Shore), and mode of travel throughout the year. GBA tested this approach with a draft survey in December 2013 in anticipation of a formal launch in late spring 2014.

Indoor Air Quality

GBA is currently working with the Mascaro Center for Sustainable Innovation at the University of Pittsburgh to develop and pilot an indoor air quality metric. This collaboration will enter its next phase later this spring when between eight and 10 current 2030 District Property Partners will enter into a pilot testing project for indoor air quality. The pilot program will help establish which indoor air quality metrics can/should be measured, as well as a policy for how GBA and 2030 District Partners will measure indoor air quality on an ongoing basis given the size and scope of the district’s square footage.

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Special thanks:

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¹CBECS is used for all energy baselines except standalone parking garages (calculated using *The Energy Star Performance Ratings: Technical Methodology for Parking*) and convention centers (calculated using actual historic consumption).

²“Introducing the Pittsburgh 2030 District Energy Baseline”

³Building energy performance information is provided, in most cases, directly by participating property partners. Submissions are not required to be verified by a third-party.

⁴As with reported energy consumption, building’s water performance information is provided, in most cases, directly by participating property partners. Submissions are not required to be verified by a third-party.

Pittsburgh 2030 District Partners

Property Partners

- 808 Penn Lofts, LLC
- ALCO Parking
- Alcoa
- Allegheny County
- BNY Mellon
- Carnegie Museums
- Catholic Diocese of Pittsburgh
- CBRE, Inc.
- City of Pittsburgh
- Clayfisher Studios
- Dollar Bank
- Fairmont Pittsburgh
- First Presbyterian Church
- Forwood Group
- Gateway Towers Condominium
- General Nutrition Centers
- General Service Administration
- Healthcare Trust of America
- Henderson Brothers
- Highmark
- Highwoods Properties
- Iron City Ventures
- Jones Lang LaSalle
- Neighborhood Legal Services
- Newmark Grubb Knight Frank
- no wall productions & we do property management, inc.
- Oxford Development Company
- Penn Ave Renaissance
- Pittsburgh Cultural Trust
- Pittsburgh Parking Authority
- Pittsburgh Penguins

- Pittsburgh Pirates
- PNC Financial Services Group
- Point Park University
- PSSI/Pittsburgh Steelers
- Sports & Exhibition Authority of Pittsburgh & Allegheny County
- Tiversa
- Trek Development Group
- Winthrop Management LP

Community Partners

- Allegheny County, County Executive, Rich Fitzgerald
- AIA Pittsburgh
- Bike Pittsburgh
- Building Owners & Managers Association of Pittsburgh
- Citizens for Pennsylvania's Future
- City of Pittsburgh, Office of the Mayor, William Peduto
- Conservation Consultants, Inc.
- Design Center
- Green Building Alliance
- Group Against Smog and Pollution
- International Facility Management Association, Pittsburgh Chapter
- International Union of Operating Engineers, Local 95
- Master Builders Association of Western Pennsylvania

- NAIOP Pittsburgh
- Pittsburgh Climate Initiative
- Pittsburgh Downtown Community Development Corporation
- Pittsburgh Downtown Neighborhood Association
- Pittsburgh Downtown Partnership
- Pittsburgh Green Innovators
- Riverlife Pittsburgh
- Student Conservation Association
- Sustainable Pittsburgh
- VisitPittsburgh

Resource Partners

- Encentiv Energy
- Architecture 2030
- Duquesne Light Watt Choices
- Energlogics Networks
- Pittsburgh Water & Sewer Authority
- Southwestern Pennsylvania Commission
- Urban Redevelopment Authority of Pittsburgh

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