ANNUAL REPORT NOVEMBER 2018

Philadelphia
2030 District

greenbuildingunited.org
What is the Philadelphia 2030 District?

The Philadelphia 2030 District is a voluntary, private-sector-led effort by the owners, managers, and developers of the city’s largest properties to achieve deep reductions in energy use, water use, and transportation emissions.

The initiative seeks to improve efficiency in the building sector in Philadelphia with the goal to lower costs, reduce carbon emissions, improve indoor air quality and tenant comfort, and improve the resiliency of the city’s new and existing building stock.

The Philadelphia 2030 District is convened by Green Building United and is part of the international 2030 Districts Network.

GREEN BUILDING UNITED

Green Building United (GBU), founded in 2001 as Delaware Valley Green Building Council, is a member-driven, mission-based 501(c)(3) nonprofit organization. Through education, advocacy, and strategic initiatives, GBU informs and engages individuals and organizations to transform the way buildings are designed, built, and operated to better serve all communities.

2030 DISTRICTS NETWORK

The 2030 Districts Network is a 501(c)(3) nonprofit organization comprised of the twenty established 2030 Districts throughout the world. The twenty districts total 432 million square feet of committed building space. Pittsburgh holds the title of the largest 2030 District at 81 million square feet.

2017 PROGRESS TOWARD GOALS

- **Energy**: 24.1% REDUCTION
- **Water**: IN PROGRESS
- **Transportation Emissions**: IN PROGRESS
District Goals

While each of the 2030 Districts varies in its approach, all districts establish performance goals based on the 2030 Challenge for Planning.

Developed by the non-profit organization Architecture 2030, the Challenge for Planning is a set of defined performance targets that incrementally step down carbon emissions from the built environment. The challenge sets goals for both existing buildings as well as new construction and major renovations.

The year 2030 was chosen as the end point for the challenge, as it is widely accepted at the point at which we must drastically reduce carbon emissions in order to avoid the worst impacts of climate change.

The 2030 Challenge for Planning (Existing Buildings)

- Energy Consumption
- Water Consumption
- Transportation Emissions

The 2030 Challenge for Planning (New Construction & Major Renovations)

- Energy Consumption
- Water Consumption
- Transportation Emissions

*Using no fossil fuel GHG-emitting energy to operate

CARBON NEUTRAL*
Why Philadelphia?

With buildings accounting for more than 60 percent of carbon emissions in Philadelphia, the 2030 District presents the region’s best opportunity to reduce its impact on climate change.

Since 2012, Philadelphia’s benchmarking and disclosure law has required buildings 50,000 square feet and larger to publicly report their energy and water use. This law has created a wealth of data and awareness about how the city’s largest buildings are performing. The Philadelphia 2030 District seeks to turn this awareness into action by supporting some of the city’s largest buildings in voluntary efforts to reduce their environmental impact while saving money.

Progress toward meeting the goals of the 2030 District also serves the broader energy goals set forth in the City of Philadelphia Office of Sustainability’s latest report *Powering Our Future: A Clean Energy Vision for Philadelphia*.

*Powering Our Future* is a playbook for how the City of Philadelphia can meet its goal to reduce citywide carbon emissions 80 percent by the year 2050. To demonstrate the impact of each strategy—including the impact of the Philadelphia 2030 District—OOS modeled both the potential carbon reductions and annual cost savings. *Per Powering Our Future*, achieving the goals of the Philadelphia 2030 District would save 525,560 metric tons of carbon and would save a whopping $162 million in utility costs each year.
District Partners

PROPERTY
Building owners and/or managers that commit property to meet the district goals.

COMMUNITY
Government, non-profit and civic organizations that provide support and expertise for the district.

RESOURCE
Energy services companies, utilities, and professional firms that provide expertise, deliver services, and sponsor the district.

PARTNER TYPE: PROPERTY
2101 Cooperative
Bedrock Group LLC
Brandywine Property Trust
CBRE
City of Philadelphia - Office of Sustainability
Drexel University
Hersha Hospitality Trust
Independence Blue Cross
Kaiserman Company
Philadelphia Ronald McDonald House
School District of Philadelphia
Southeastern Pennsylvania Transportation Authority

PARTNER TYPE: RESOURCE
Albireo Energy
Edison Energy
Graboyes Smart Buildings
PECO
Superior Essex
Tozour Energy Systems
Veolia Energy
WGL Energy
WRT

PARTNER TYPE: COMMUNITY
BOMA Philadelphia
Delaware Valley Regional Planning Commission
Greater Philadelphia Chapter of the Association of Energy Engineers
Greater Philadelphia Hotel Association
Indigo JLD
Lion Advisors
Philadelphia Building Managers and Operators Association
Reinvestment Fund
ULI Philadelphia

Get Involved
Please contact Katie Bartolotta, Green Building United’s Policy and Program Director, at kbartolotta@greenbuildingunited.org to learn more.
Committed Properties

18,591,882 total square feet reported data
21 property did not report its data

39 properties committed

19,969,580 square feet committed

15 percent of all eligible square feet in district committed

<table>
<thead>
<tr>
<th>BUILDING USE TYPE</th>
<th>TOTAL SQUARE FOOTAGE IN DISTRICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office</td>
<td>15,450,534</td>
</tr>
<tr>
<td>Courthouse</td>
<td>1,110,000</td>
</tr>
<tr>
<td>Museum</td>
<td>804,000</td>
</tr>
<tr>
<td>Multifamily Housing</td>
<td>783,430</td>
</tr>
<tr>
<td>K-12 School</td>
<td>569,686</td>
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<tr>
<td>Hotel</td>
<td>495,791</td>
</tr>
<tr>
<td>Residence Hall/Dormitory</td>
<td>260,869</td>
</tr>
<tr>
<td>Library</td>
<td>200,680</td>
</tr>
<tr>
<td>College/University</td>
<td>147,593</td>
</tr>
<tr>
<td>Adult Education Use</td>
<td>90,000 (0%)</td>
</tr>
<tr>
<td>Parking</td>
<td>56,997 (0%)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>19,969,580</strong></td>
</tr>
</tbody>
</table>
How do property partners reach their goals?

Property partners will reach their goals through sophisticated operations, robust tenant engagement, as well as strategic investments in conservation and efficiency strategies.

What tools does the district provide to help property partners reach their goals?

Property partners gain access to a network of peers to share strategies, best practices, tools and resources to improve upon the performance of and add value to their assets, including financing information, aggregate building performance data and building operator trainings.

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**PROPERTY PARTNERS IN ACTION**

▲ The Kaiserman Company provided a tour to the 2030 District of its recently installed cogeneration system in the Rittenhouse Claridge. The combined heat and power system provides about half of the building’s electricity and heats its domestic water supply. The project saves about $170,000 in energy costs annually and reduced the building’s annual carbon emissions by 30 percent. The project was financed in part by a grant from the Commonwealth Financing Authority.

▲ The School District of Philadelphia’s five-year sustainability plan, GreenFutures, sets a goal of reducing energy consumption at schools by twenty percent. To reach this goal, the District is in the process of implementing an energy education and conservation program at every school to educate students and staff. In addition, the District is initiating an energy performance contracting pilot, where the costs savings generated from decreased energy and water use will fund even more building upgrades.
Energy Goal

Participating properties in the 2030 District strive to reduce their energy use by 50 percent from the national median site energy use intensity (EUI). A property’s baseline is based on 2003 Commercial Buildings Energy Consumption Survey (CBECS) data and represents how a median building with similar characteristics (size, use type, climate zone, occupancy, etc.) is expected to perform.

Baselines are not based off of the current, actual energy use of a participating property. If participating properties were asked to reduce current energy use by 50 percent, this goal would not take into account the efficiency projects that many buildings have already completed.

DISTRICT-WIDE PERFORMANCE

- **24.1%** EUI reduction districtwide
- **454,569,349 kBtu reduction**
- **44,583 metric tons of avoided carbon dioxide equivalent**

**EQUIVALENT TO:**
- One year of energy use from 4,814 homes
- One year of driving from 9,547 passenger vehicles

Aggregate Energy Reduction

- Baseline (107.7)
- 2020 Goal (86.2)
- Current (81.7)
- 2030 Goal (53.8)
Water and Transportation Emissions Goals

Unlike energy, water and transportation emission baselines are developed by each individual district and reflect regional conditions. The Philadelphia 2030 District has been convening working groups to assist with the development of baselines and data tracking for both the water and transportation emissions metrics in advance of the first reporting deadline in June 2019.

The Philadelphia 2030 District has been convening working groups to assist with the development of baselines and data tracking for both the water and transportation emissions metrics in advance of the June 2019 reporting deadline.

Both working groups meet on a quarterly basis and are comprised of subject matter experts and district property partners. The charge of the working groups has been to determine an appropriate baseline and means of measuring each metric area given the available data and resources. In addition, the working groups are compiling implementation strategies and complementary policy levers that can help scale the impact of participating buildings toward the goals.

1 Goal for existing buildings. There is a separate goal for new construction. See page 3 for details.
2 Calculated with the U.S. Environmental Protection Agency’s Greenhouse Gas Equivalencies Calculator. https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator
3 Carbon dioxide emissions equivalent.
4 Greenhouse gas emissions equivalent.
SPOTLIGHT: WATER WORKING GROUP

The Philadelphia 2030 District Water Working Group is exploring the feasibility of a stormwater management metric in tandem with the 2030 Districts goal to reduce water use in buildings by 50 percent by 2030. The intent of including stormwater management as part of the 2030 District goals is to align with Green City, Clean Waters, the City of Philadelphia’s plan to reduce stormwater pollution currently entering its combined sewer system through the use of green stormwater infrastructure (GSI). The Philadelphia 2030 District will use its reach to the owners and managers of some of the city’s largest buildings to communicate the value of GSI and to share and expand the resources available to those that want to pursue GSI projects.

SPOTLIGHT: TRANSPORTATION WORKING GROUP

The Philadelphia 2030 District Transportation Working Group was aided by Sarah Reinheimer, who completed a Master of Public Policy at Duke University’s Sanford School of Public Policy in 2018. Reinheimer’s master’s thesis explored various publicly available datasets to determine a baseline measure of carbon emissions per commuter per day traveling in and out of the Philadelphia 2030 District boundary. The thesis also evaluated baseline methodologies of five other 2030 Districts and put forth recommendations for the standardization of data and process for transportation emissions across districts.

WATER WORKING GROUP

Chair: Alesa Rubendall, Design Moxie

- AFK Commissioning
- Design Moxie
- Drexel University
- Indigo JLD
- Langan Engineering
- Meliora Design
- NV5
- OLIN
- Pennsylvania Environmental Council
- Philadelphia Water Department
- Philadelphia Ronald McDonald House
- School District of Philadelphia
- Stantec
- Sustainable Business Network of Greater Philadelphia

TRANSPORTATION WORKING GROUP

Chair: Yogesh Saoji, WRT

- City of Philadelphia - Office of Transportation & Infrastructure Services
- Delaware Valley Regional Planning Commission
- Drexel University
- Duke University
- Indigo JLD
- Langan Engineering
- Philadelphia 3.0
- Philadelphia City Planning Commission
- Southeastern Pennsylvania Transportation Authority
- School District of Philadelphia
- WRT
Recognition for the Philadelphia 2030 District

PHILADELPHIA 2030 DISTRICT LAUNCH

Philadelphia Mayor Jim Kenney joined executives from Green Building United, the City of Philadelphia’s Office of Sustainability, and Philadelphia Energy Authority to announce the launch of the Philadelphia 2030 District in October 2017.

CITY COUNCIL RESOLUTION

In November 2017, Philadelphia City Council passed a resolution recognizing the Philadelphia 2030 District for a successful launch and for its continued efforts to reduce the impact of the built environment for the benefit of all Philadelphians.

IN THE NEWS

Grid Magazine

Stronger Together: Philadelphia joins other cities in fighting climate change through the 2030 Districts project

Curbed Philly

Philadelphia 2030 District launches to cut energy use, transportation emissions by half
