Philadelphia 2030 District
Delaware Valley Green Building Council
Delaware Valley Green Building Council (DVGBC), a 501(c)(3) nonprofit organization, is committed to promoting sustainable building in Greater Philadelphia, the Lehigh Valley and Delaware.

Through education and advocacy, DVGBC aims to create a sustainable, healthy and resilient built environment for all.
What is a 2030 District?
District-wide Goals

ACHIEVING DISTRICT-WIDE GOALS

2030 Districts commit to reducing:

- Building Energy Use
- Water Consumption
- Transportation GHG Emissions

50% By 2030
International Network

325 million square feet
Why Buildings?

U.S. CO₂ Emissions by Sector

- Buildings 44.6% (2358 MMT CO₂e)
- Industry 21.1% (1116 MMT CO₂e)
- Transportation 34.3% (1816 MMT CO₂e)

Source: ©2013 2030, Inc. / Architecture 2030, All Rights Reserved.
Why Philadelphia?

Need: Reduce building energy use to save money and reduce carbon emissions
Why Philadelphia?

Opportunity: Benchmarking data for buildings ≥50k square feet

SOURCE: CITY OF PHILADELPHIA OFFICE OF SUSTAINABILITY
Why DVGBC?
District structure
Boundary

• What makes for a good 2030 district area?
  • (1) Density of non-single family residential buildings
  • (2) Interest from property owners and managers
    • Lines drawn based on committed buildings

• Subject to change
  • Potential expansion to additional non-contiguous areas including Navy Yard, Temple University’s main campus
Boundary

(Approximate boundaries: N – Spring Garden Street and Powelton Ave, S – Walnut Street, W – 40th Street, E – Interstate 95)
Committed Properties

14.2 million square feet
Partners

**Property**
- Building owners/managers that commit property to the district
- At least 40% of district participants
- No limit to number of participants

**Resource**
- Utilities and energy services companies
- Provide expertise and deliver services to district
- Sponsor the district
- Do not have property to commit to district

**Community**
- Nonprofits, civic orgs, gov
- Provide expertise and support for district
- Do not have property to commit to district
- Limited number of participants
Sponsors

Veolia

SageGlass

Graboyes

Tozour Energy Systems
Performance Targets

ACHIEVING DISTRICT-WIDE GOALS

2030 Districts commit to reducing:

- BUILDING ENERGY USE
- WATER CONSUMPTION
- TRANSPORTATION GHG EMISSIONS

50% BY 2030
Water metric
Why reduce potable water consumption?

- Commercial and institutional buildings account for 17 percent of the municipal water demand in the United States.
- Save water, save energy.
Goal: New and existing buildings

- Potable water consumption reduction of 50% from baseline
Establish baseline

- No national median baseline for existing building water consumption by building use type in Portfolio Manager
- As a result, baseline will be based on actual use within district, not on national median
Measure consumption

- Track consumption against baseline in ENERGY STAR Portfolio Manager
Peer city example: Pittsburgh

- Created a **water use intensity (WUI)** baseline measured in with Pittsburgh Water and Sewer Authority.
- Used actual consumption data over a four year period (2009-2012), yielding an average total annual water consumption (gallons).
- Subdivided average annual water consumption across 12 different building use types common within the PGH district boundary.
- Divided by total square footages for each building type to yield water use intensities (gal/ft$^2$/year).
Peer city example: Pittsburgh

Buildings not covered by one of the 12 use types baseline against their own individual consumption or use weighted combination of 2 or more use types

Figure 3: Pittsburgh 2030 District: Downtown Water Baseline
Remaining questions

- Determine appropriate year for baseline information
  - If water consumption is, unlike energy, based on actual use, what is the appropriate start date from which to reduce consumption by 50%?
  - Is 2003 historical use data available so we can align this metric with the energy baseline?
Optional metric: stormwater management

- Why is this a good fit for Philadelphia?
  - Aligns with *Green City, Clean Waters* goals
  - Already regulated, carries utility fees
- Relationship between stormwater runoff and potable water consumption
Peer city example: Seattle

- Goal: Manage 228 million gallons of stormwater annually across district
- Baseline: 15.71 gal managed per each square foot of lot area
- Developed a stormwater calculator that calculates an individual building’s progress toward both the potable water and stormwater reduction goals under the Seattle 2030 District commitments
Peer city example: Seattle
Remaining questions

- District stormwater baseline
- Method to track stormwater alongside potable water consumption, all toward overall goal
Next steps

- Engage district partners in water working group post-October launch
- Compile building use cases that would make baselining difficult – no primary building use type
- Collect examples of water efficiency and stormwater management projects to use as case study examples
Questions?

Alex Dews  
Executive Director  
Delaware Valley Green Building Council  
adews@dvgbc.org

Katie Bartolotta  
Policy and Program Manager  
Delaware Valley Green Building Council  
kbartolotta@dvgbc.org