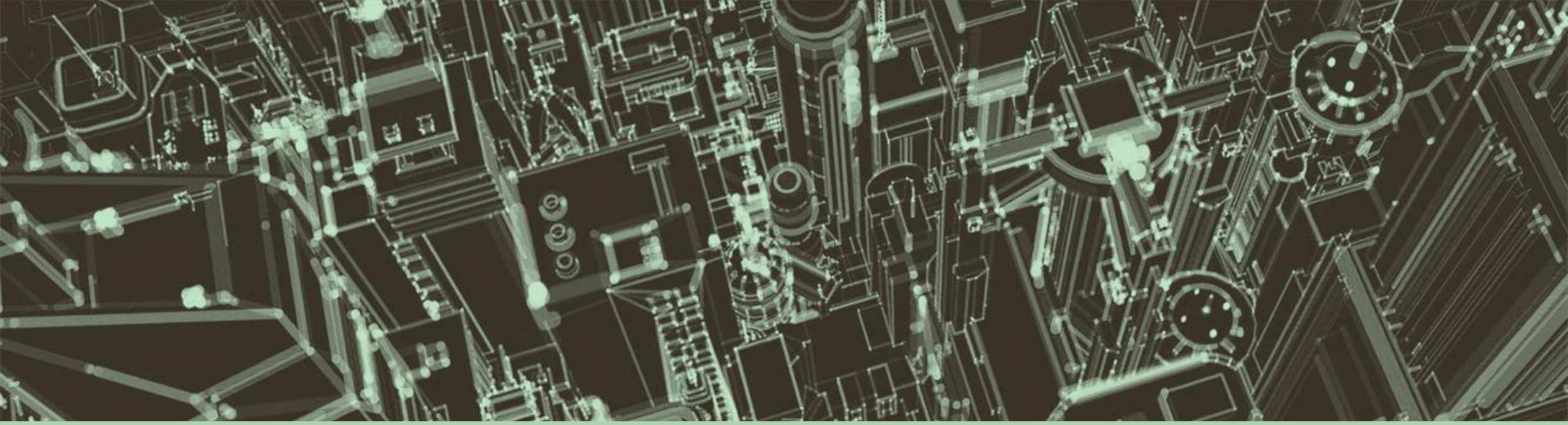
Philadelphia 2030 District

Delaware Valley Green Building Council

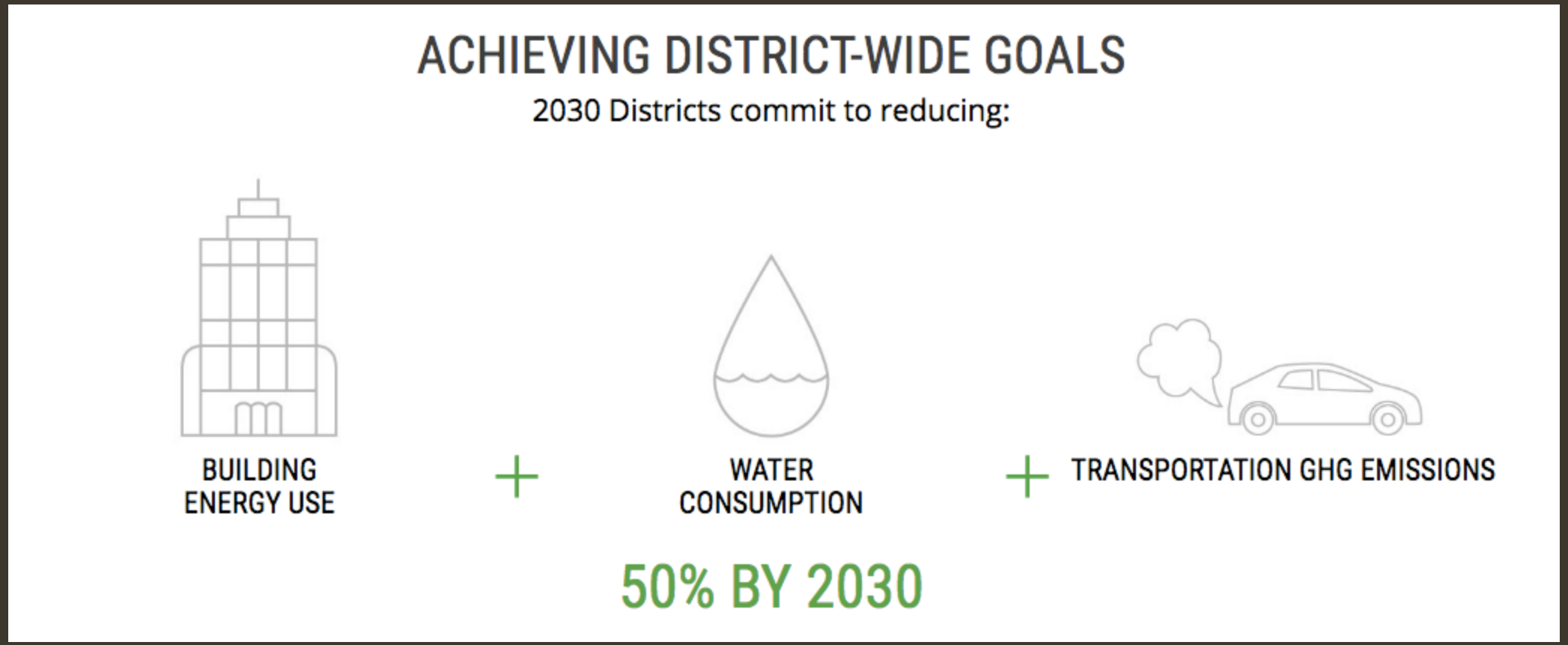
Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.



What is a 2030 District?

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

District Goals



Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

District 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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

District Boundaries

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

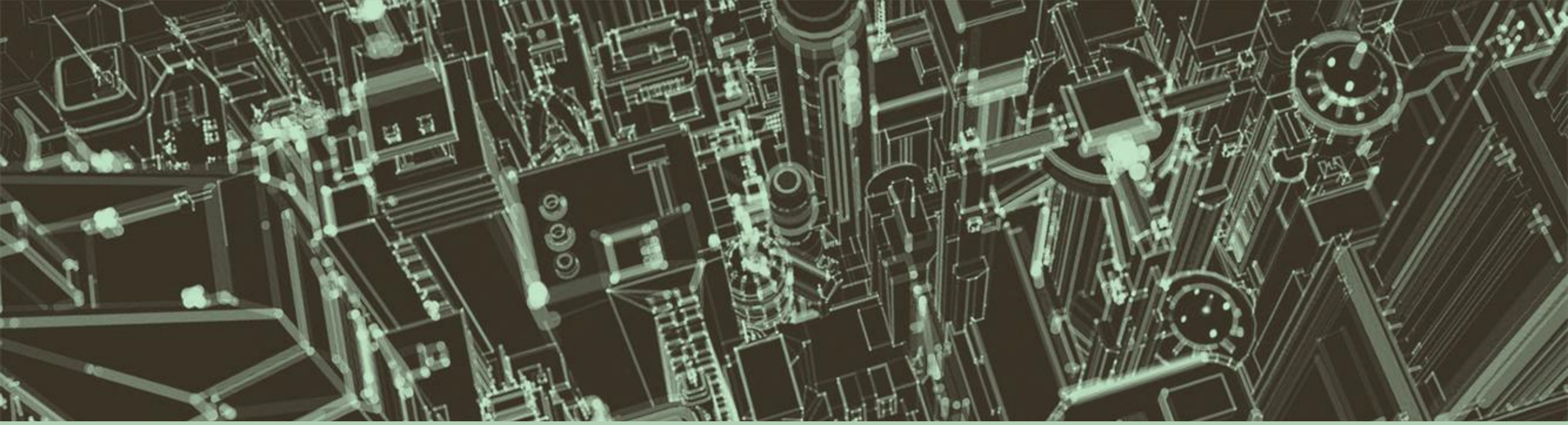
- Important to note:
  - (1) Area does not need to be contiguous
  - (2) New territory can be added over time

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Established Districts

325 million
square feet

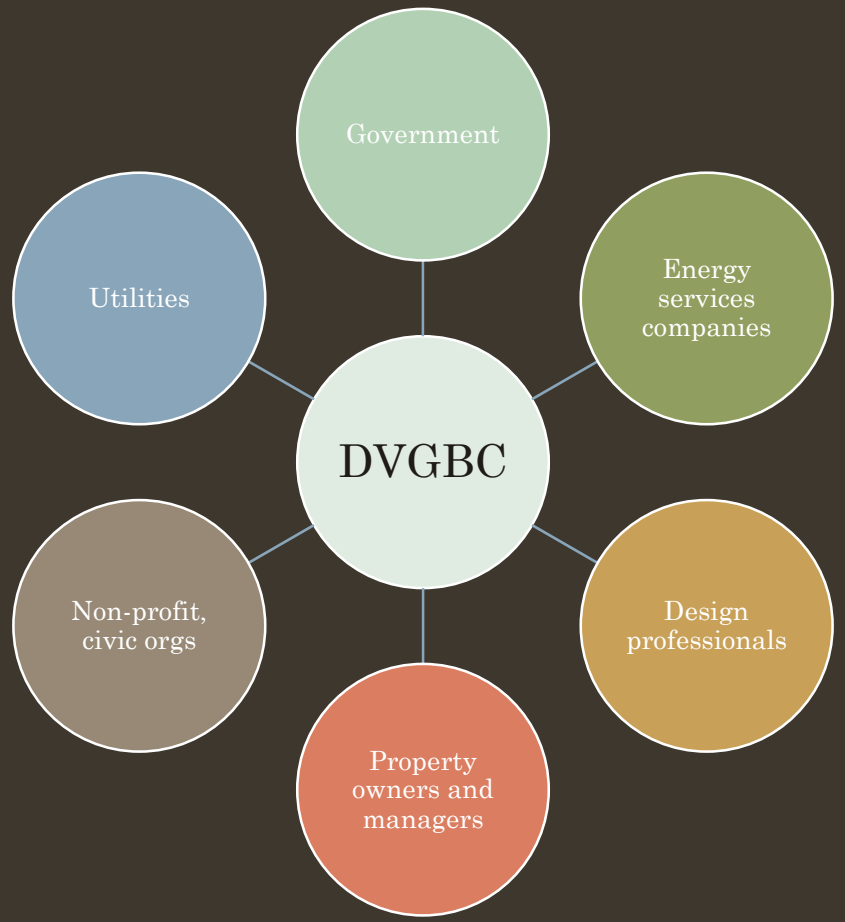
Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.



Philadelphia 2030 District

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Why DVGBC?

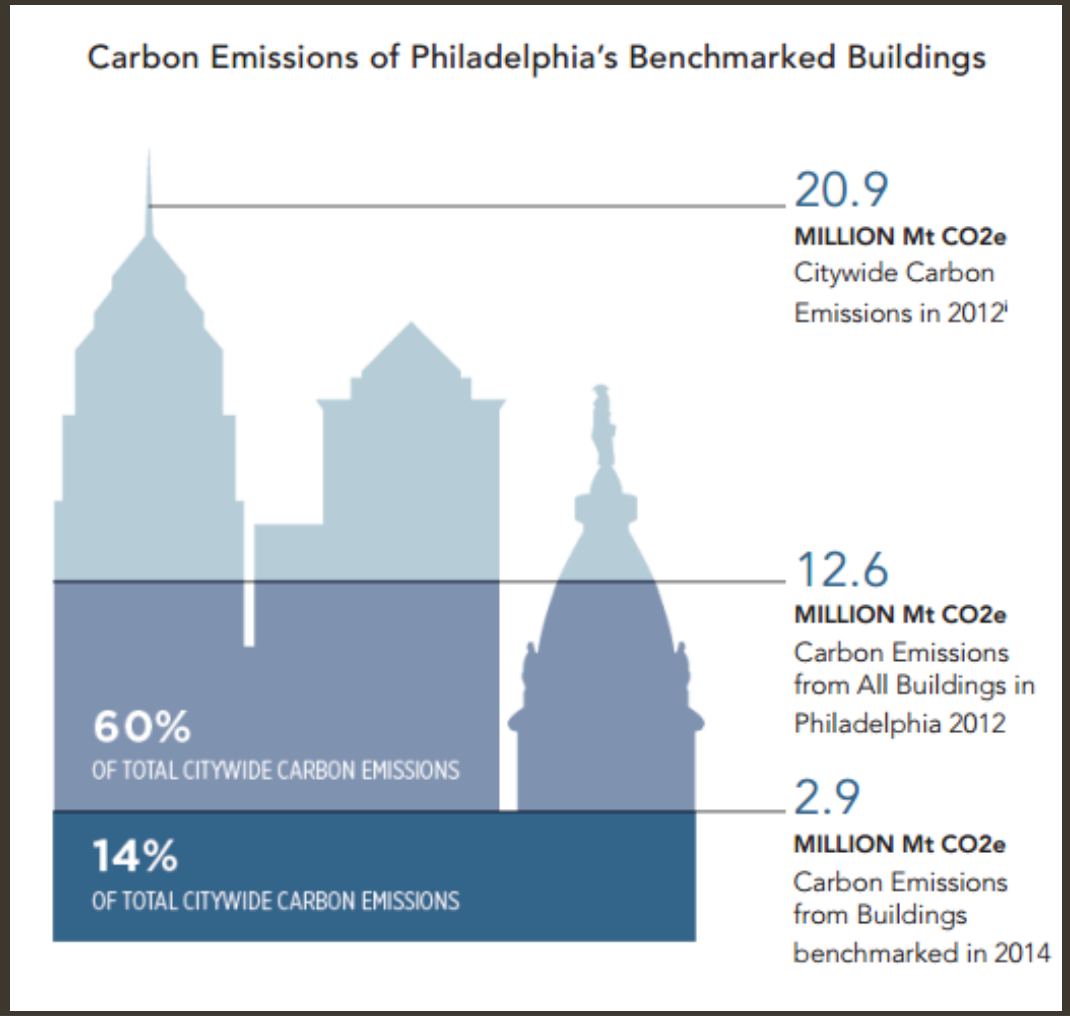


Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Why Philadelphia?

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

SOURCE: CITY OF PHILADELPHIA OFFICE OF SUSTAINABILITY



Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Why Philadelphia?

Opportunity: Benchmarking data for buildings ≥50k square feet

2014 Benchmarking Highlights

During the 2015 reporting period (covering 2014 data), more than 90 percent of required buildings benchmarked, providing information on more than one quarter of Philadelphia's built environment.

280 MILLION Square feet

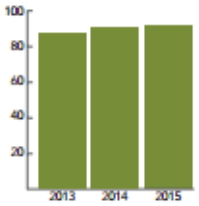
Represents **25%** of TOTAL Citywide square footage

ENERGY STAR

59 MEDIAN ENERGY STAR Score

1921 BUILDINGS Reported

91% COMPLIANCE Rate



SOURCE: CITY OF PHILADELPHIA OFFICE OF SUSTAINABILITY

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Why Philadelphia?

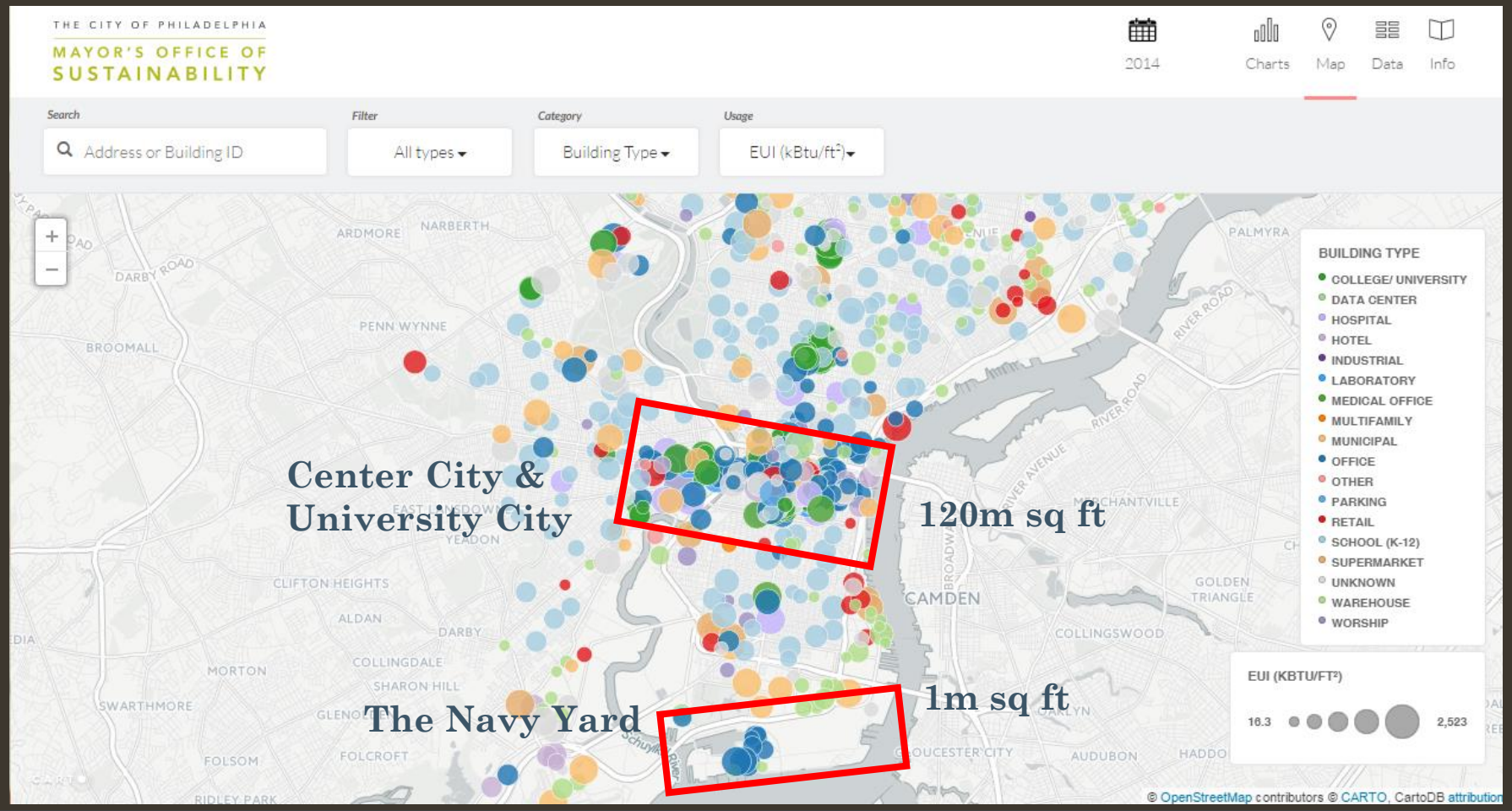
Opportunity: Turning data into action

- Benchmarking can help building owners, operators, and tenants identify opportunities to reduce energy costs.
- If each benchmarked building reduced 2014 electric and natural gas usage by ten percent, the total cost savings would be an estimated $52.4 million.

SOURCE: CITY OF PHILADELPHIA OFFICE OF SUSTAINABILITY

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Potential district boundaries



Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Committed properties

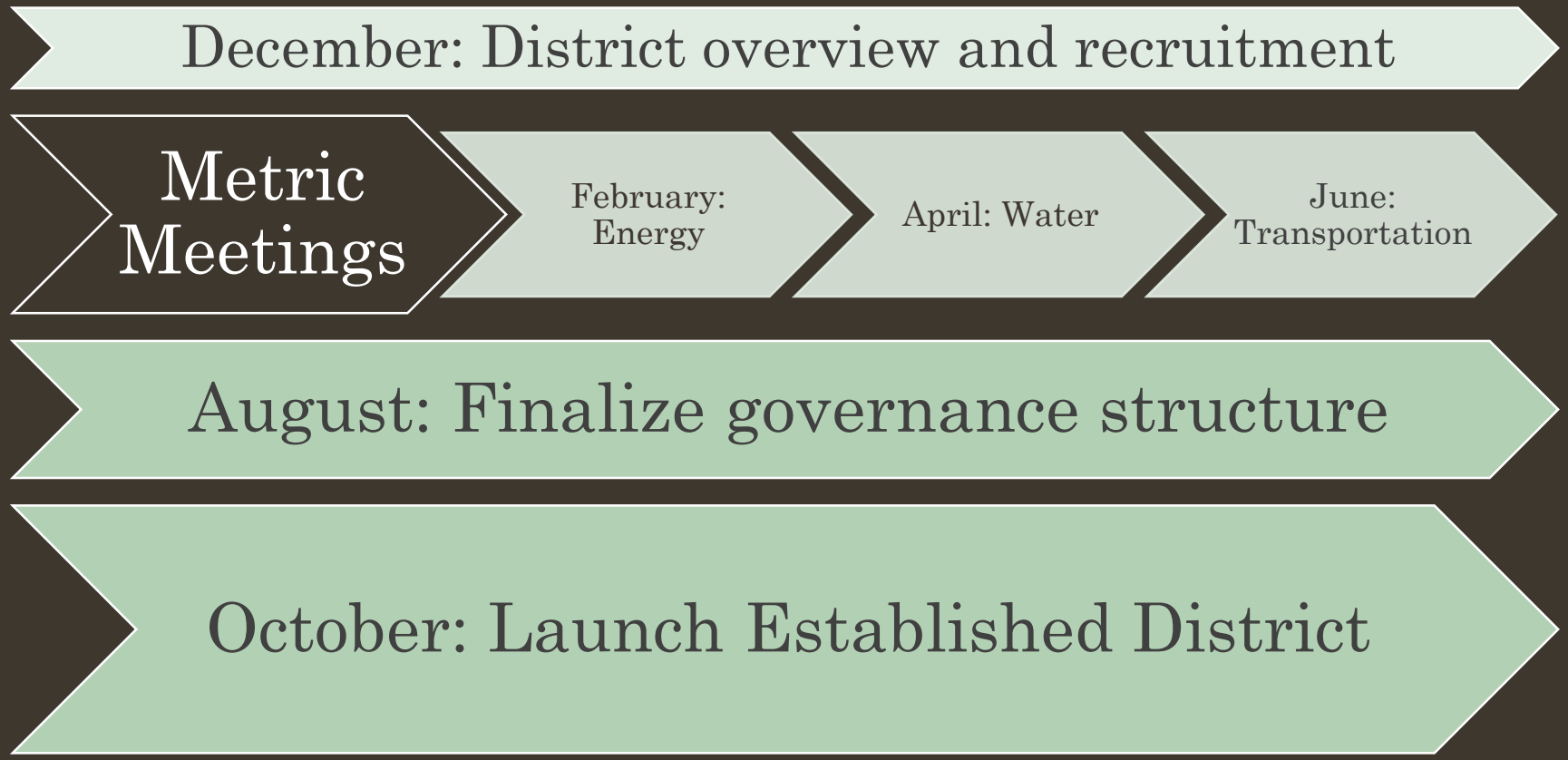
- Total square footage:
  - **12** million square feet
- Early adopters (5 of 10):
  - Brandywine Realty Trust
  - Drexel University
  - CBRE
  - Ronald McDonald House
  - City of Philadelphia

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

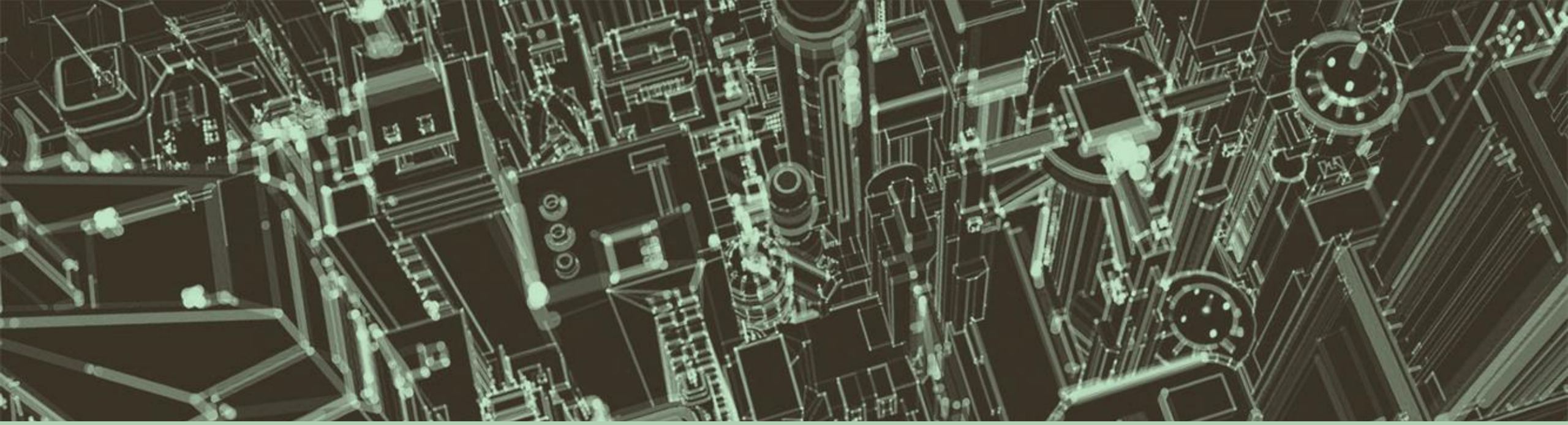
District Sponsors

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Exploratory Committee Timeline



Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.



Water metric

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

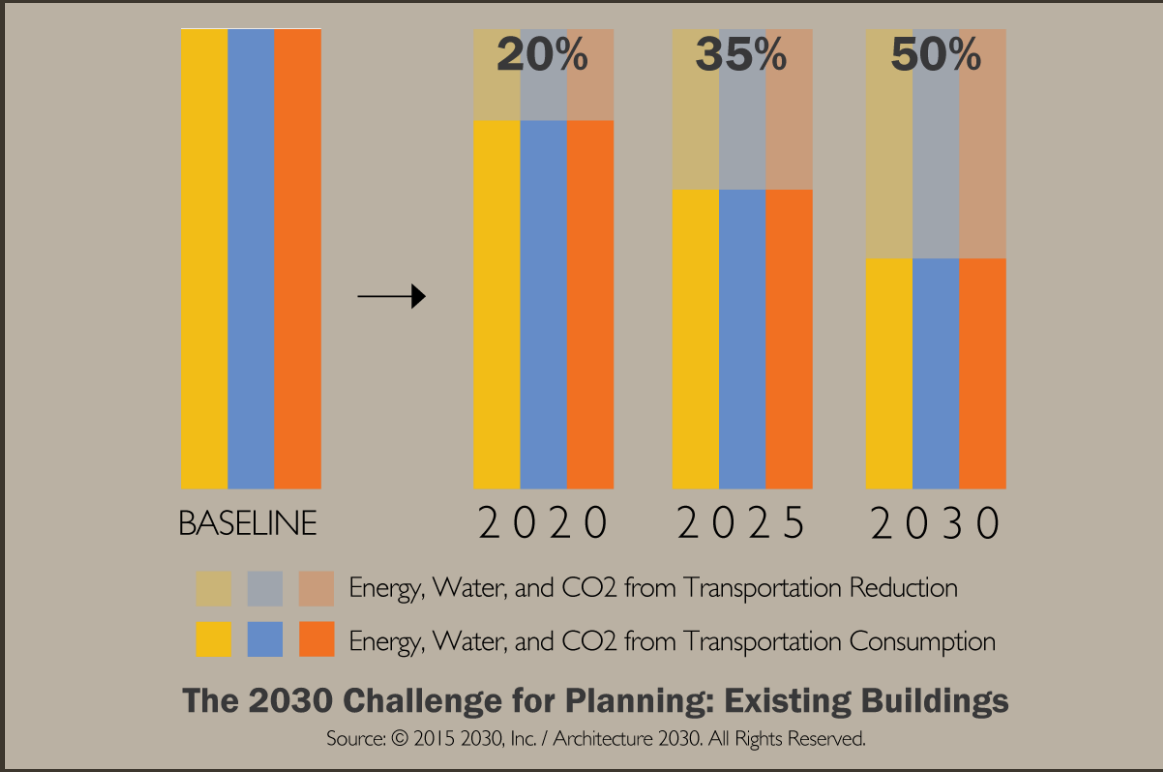
Why reduce potable water consumption?

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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Goal: New and existing buildings

- Potable water consumption reduction of 50% from baseline



Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Measure consumption

- Track consumption against baseline in ENERGY STAR Portfolio Manager

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

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)

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Peer city example: Pittsburgh

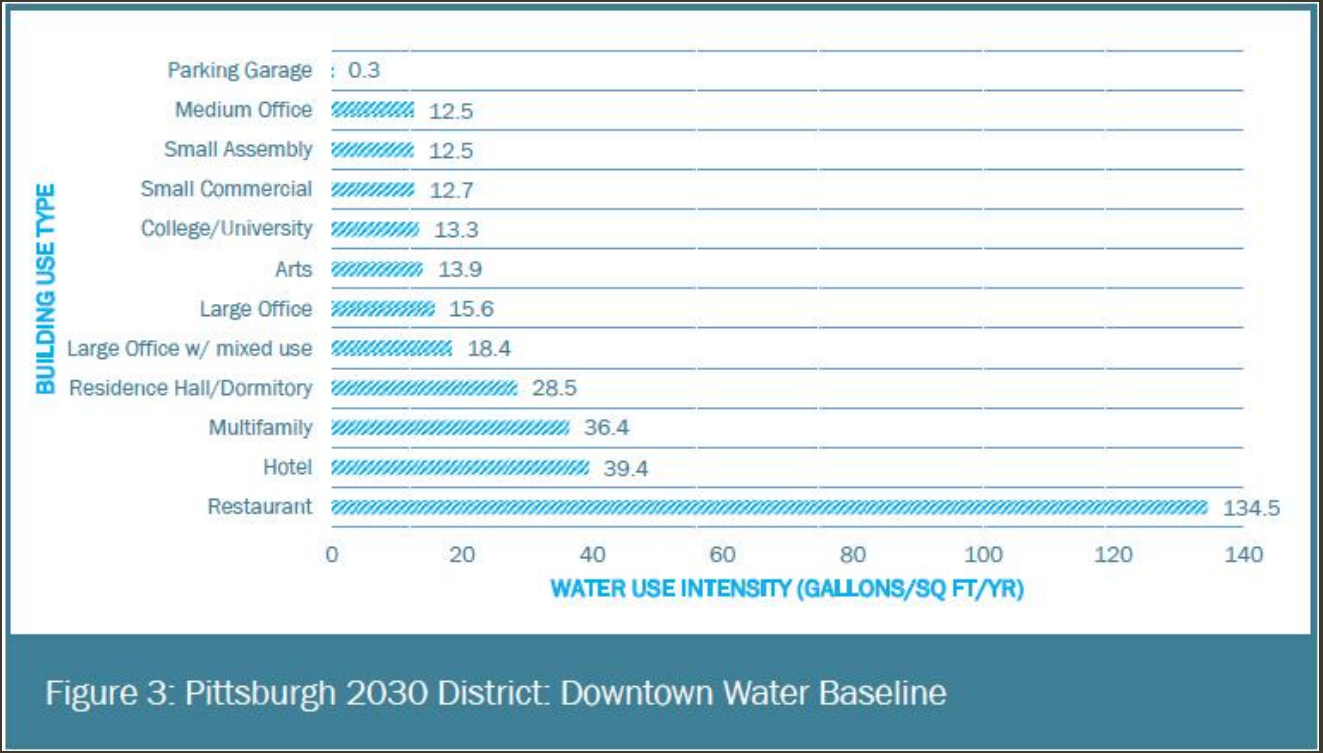


Figure 3: Pittsburgh 2030 District: Downtown Water Baseline

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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

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?

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

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

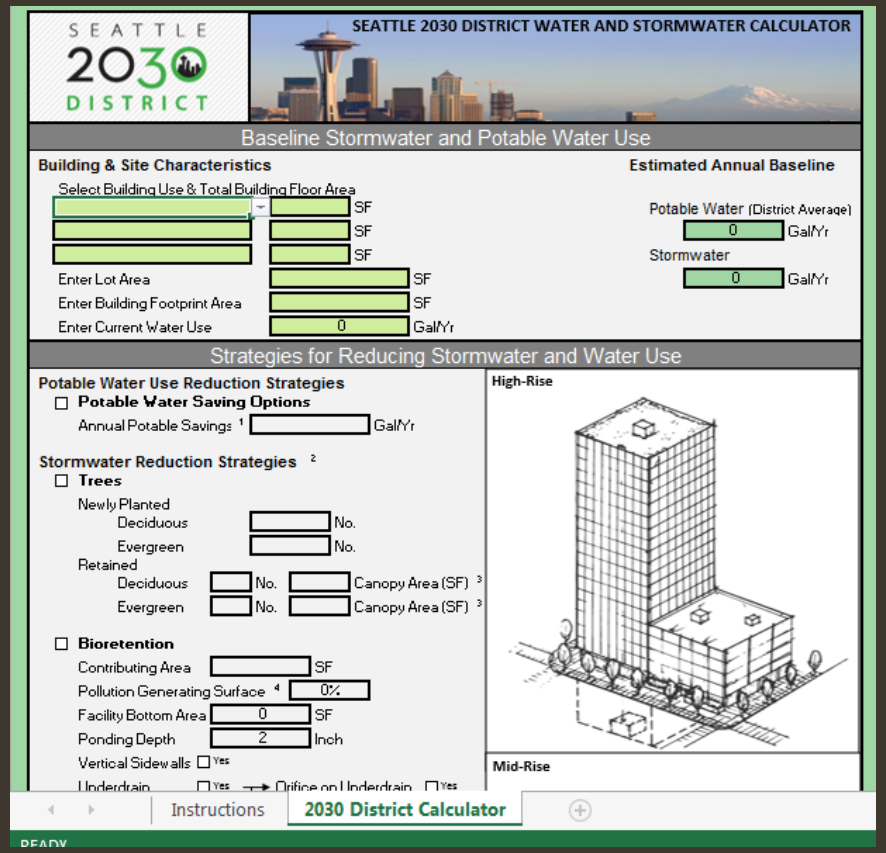
Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

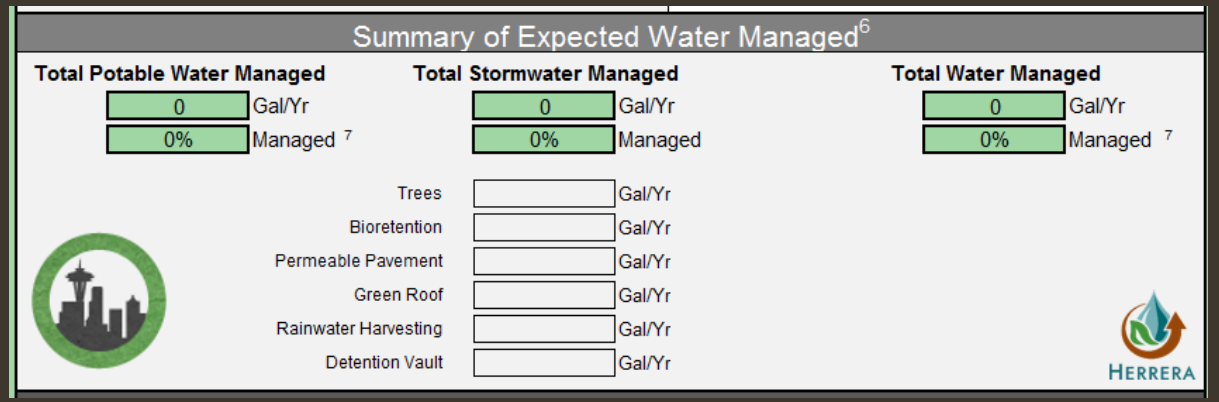
Peer city example: Seattle

- 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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Peer city example: Seattle





Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

Remaining questions

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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.

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

Presented to the DRBC Water Management Advisory Committee on June 22, 2017. Contents should not be published or re-posted in whole or in part without the permission of DRBC.