

Pathway to 2030: Progress, Achievements, and What's Next for the 2030 District

REBUILD 2022 Breakout 3B

Innovation within the Sustainable Built Environment Track



Reduce
energy
50%



Reduce
water
50%



Reduce
transportation
emissions 50%



Support
occupant
health

CINCINNATI
2030
DISTRICT®

Panelists



Tom Schultz, Data & Program Manager



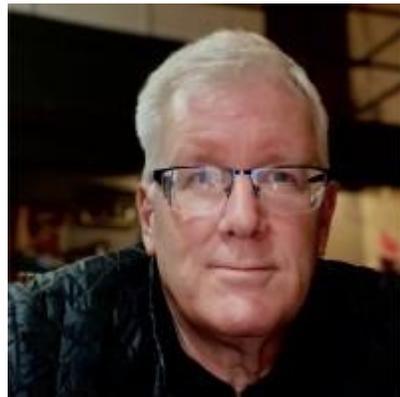
Chuck Lohre, Trustee



**Ralph Linne, Director of Facilities
Hamilton County, Ohio**



Aaron Leow, Utility Engineer



**Tim Foster, Account Executive –
Life Science**



Ingenuity for life

Agenda

Introduction to The Cincinnati 2030 District

- What is a 2030 District
- What are its goals
- How one was formed in Cincinnati
- Who is participating
- How districts measure progress and collect data

Panelist Q&A/Project Highlights

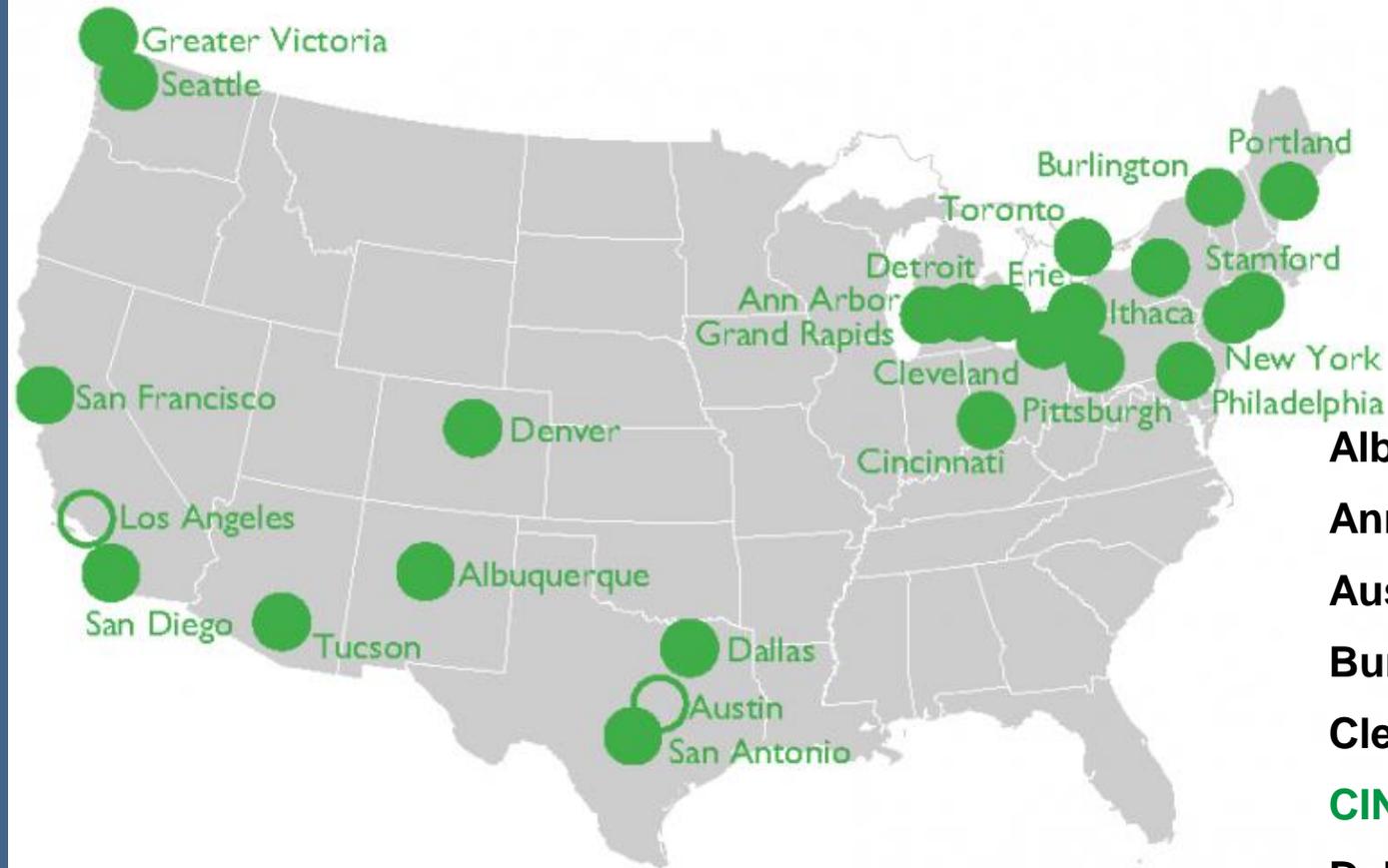
- Ralph
- Aaron
- Chuck
- Tim

Audience Q&A and What's next for the District

Architecture 2030 Challenge



**23
 Districts in
 the
 2030
 District
 Network**



● Established 2030 District ○ Emerging 2030 District

- | | |
|-------------------|---------------|
| Albuquerque | Los Angeles |
| Ann Arbor | Philadelphia |
| Austin | Pittsburgh |
| Burlington | Portland, ME |
| Cleveland | San Antonio |
| CINCINNATI | San Diego |
| Dallas | San Francisco |
| Denver | Seattle |
| Detroit | Stamford |
| Grand Rapids | Toronto |
| Ithaca | Tucson |
| | Victoria BC |

2018 High Performing Building Conference



Connie Lilley, Detroit 2030 District (left)
Cynthia Cicigoi, Cleveland 2030 District (center)
Angelica Ciranni, Pittsburgh 2030 District (right)



Ed Mazria, Founder & CEO
Architecture 2030



John Cranley,
Mayor of Cincinnati (2013-2022)



IMPROVING HEALTH & QUALITY OF LIFE IN THE REGION



- BIKE TRAILS
- ROBUST LOCAL FOOD
- CLIMATE PREPARED
- GREAT OUTDOORS
- **BUILT ENVIRONMENT-
CINNATI 2030 DISTRICT**

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IBEW LOCAL 212 Cincinnati, Ohio

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Boundaries

320

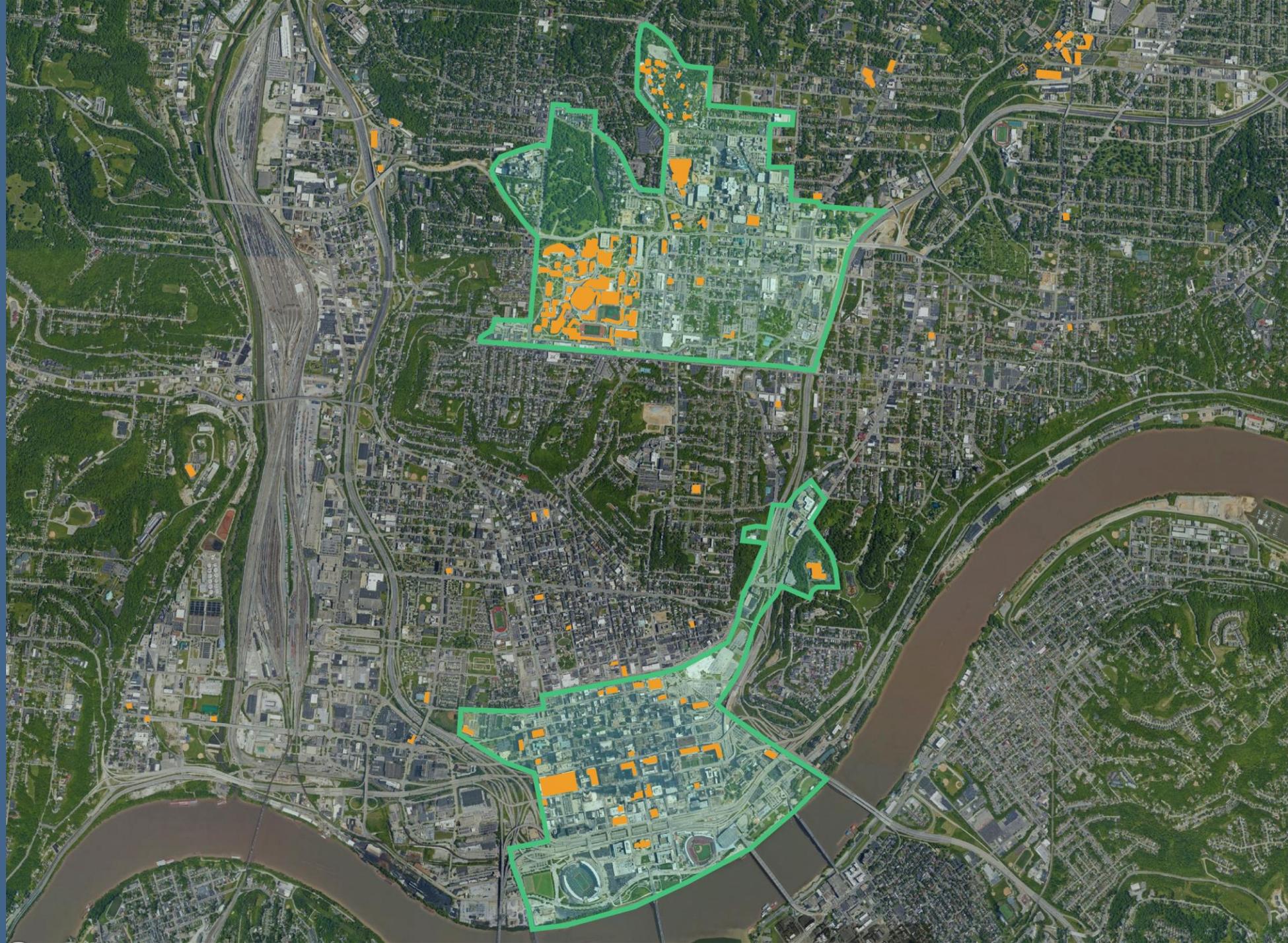
Properties total

47

Property Members

28.2 M

Square Feet total



47 Building Members

34.51°



32
Professional
Partners



MOTZ ENGINEERING



EVUnited
Charge Forward



36 Community Partners



IBEW LOCAL 212
Cincinnati, Ohio



How we Report

Energy Reporting

Reporting via Portfolio Manager

Baseline

2003
Commercial Building Energy Consumption Survey (CBECS)

Water Reporting

Reporting via Portfolio Manager

Baseline

In development with Greater Cincinnati Water Works

Transportation Reporting

Annual short Survey.
In development

Baseline

2015 established with OKI our Regional Governments Council

Health Reporting

Choose 7 of 14 optimizations.
Measure implementation

Baseline

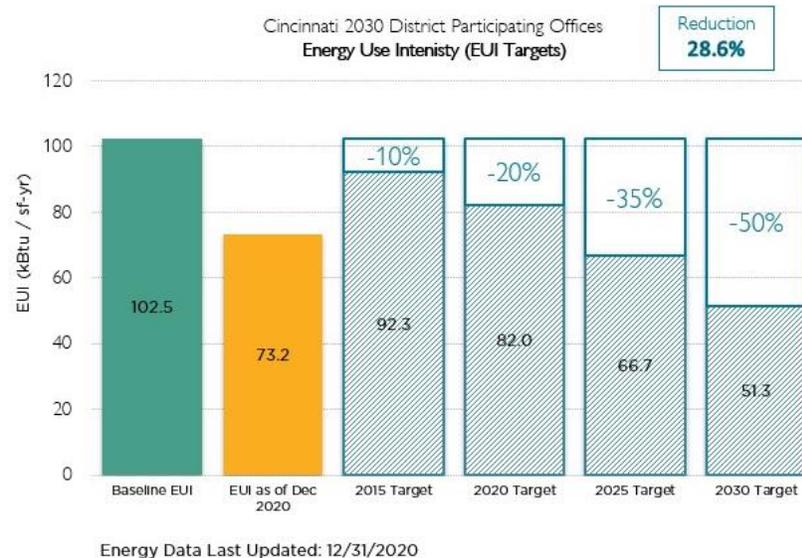
Baseline assumes building has no optimizations implemented



ENERGY

The District by the numbers 2020

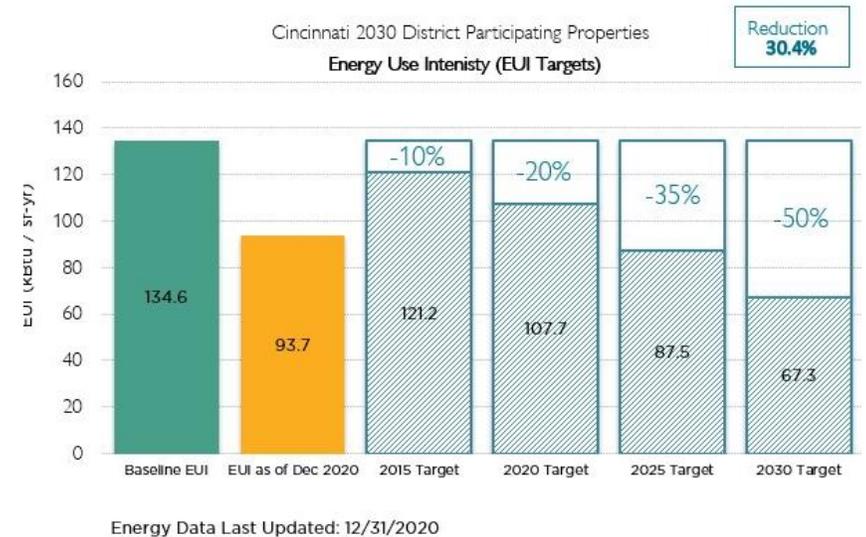
Cincinnati 2030 District Participating Offices Energy Use Intensity (EUI Targets)



28.6%

Energy reduction
Office buildings

Cincinnati 2030 District Participating Properties Energy Use Intensity (EUI Targets)



30.4%

Energy reduction
All included properties



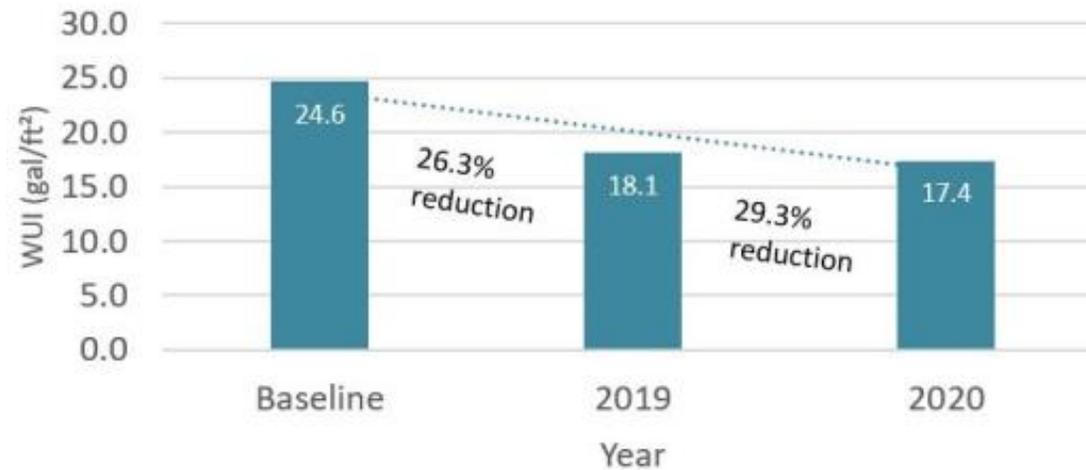
WATER

The District by the numbers 2020

Cincinnati 2030 District Participating Offices

Water Use Intensity (WUI Targets)

Cincinnati 2030 District Regional Water Use Intensity From Earliest Available Reporting Year



29.3%

Water reduction



HAMILTON COUNTY FACILITIES

ENERGY SNAPSHOT



**Electric Usage Down
26.1% Since 2012**



**Natural Gas Usage
Down 10% Since 2012**



**Water Usage Down
38.3 % Since 2012**



**Greenhouse Gas
Emissions Reduction
Program**



**\$24 MM Total Saved
on Utility Costs Since
2001**

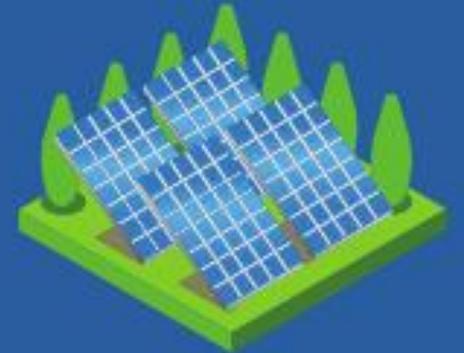


**Energy Grade Audit
Expects \$360,000
Annual Savings**

HAMILTON COUNTY AWARDS



- 230 East Ninth
- 250 William Howard Taft
- 800 Broadway
- Alms & Doepke
- Todd B. Portune Center



**Hamilton County Intends to
Purchase 20-25% of
Electric Needs from Solar
Farm in Ohio Over 20 Years**

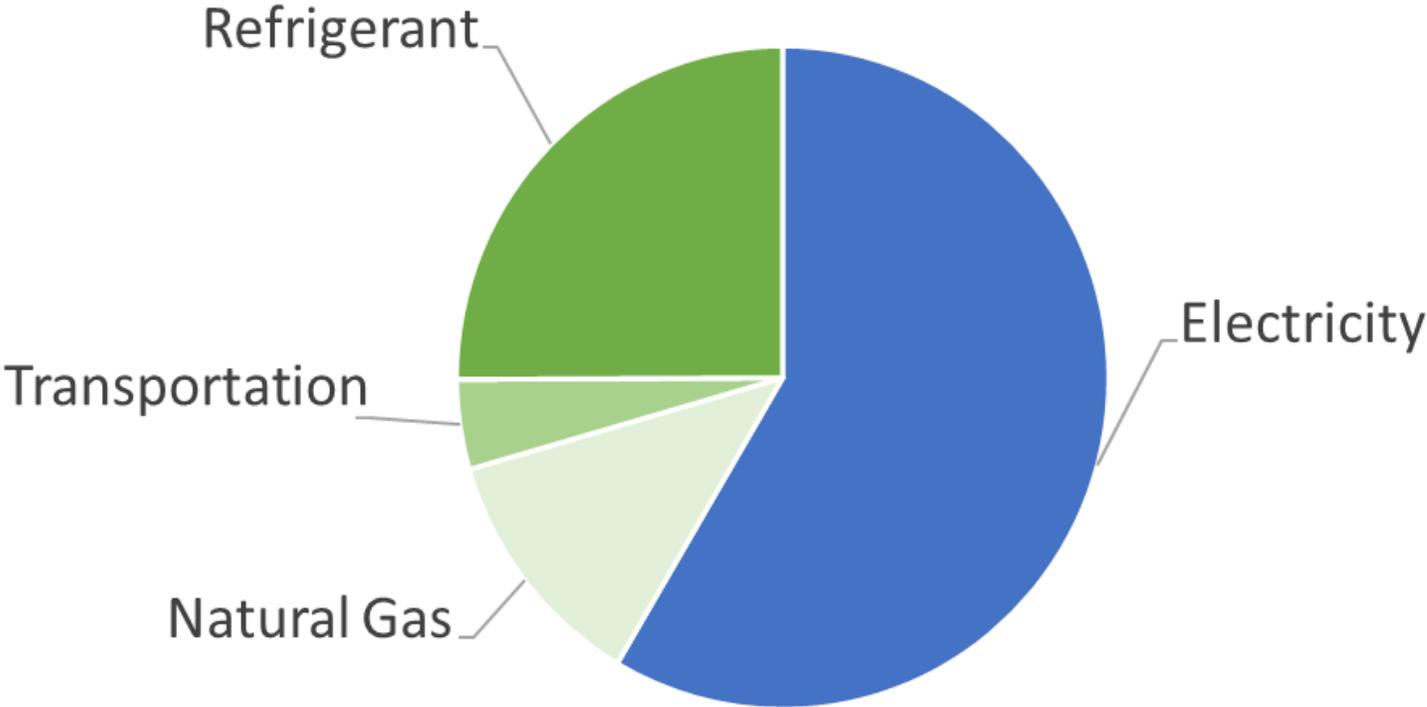
PURPOSE ENERGY STAR Goals



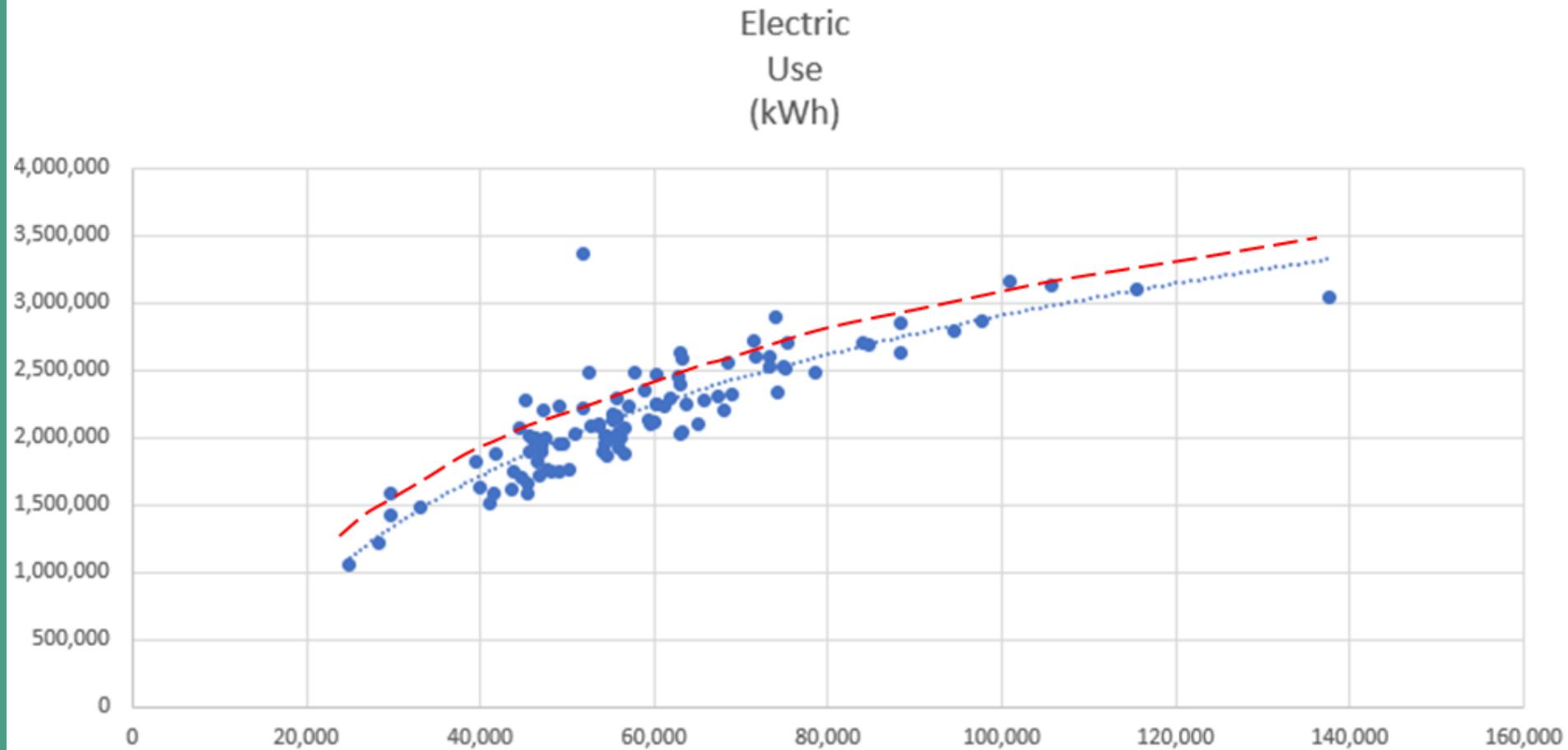
- For several years, the Facilities Department of Hamilton County has benchmarked the performance of its facilities to the US EPA ENERGY STAR standards. This has allowed management to see where improvements in energy efficiency are needed and allows for recognition. ***Our goal is to meet and then exceed the rating of 75, representing the top 25th percentile of buildings nationally.***
- Presently thirteen buildings are being input into the EPA ENERGY STAR Portfolio Manager and tracked. Six major buildings have been tracked since late 2004 and seven additional major buildings have been added since 2008.
- In 2021, five County buildings received the US EPA ENERGY STAR Certification, and ***800 Broadway has maintained Certification for 17 straight years. Only seven buildings in Ohio have sustained this recognition for a longer time period.***

30% Carbon Reduction by 2030

2020 Kroger Operations Emissions Breakdown

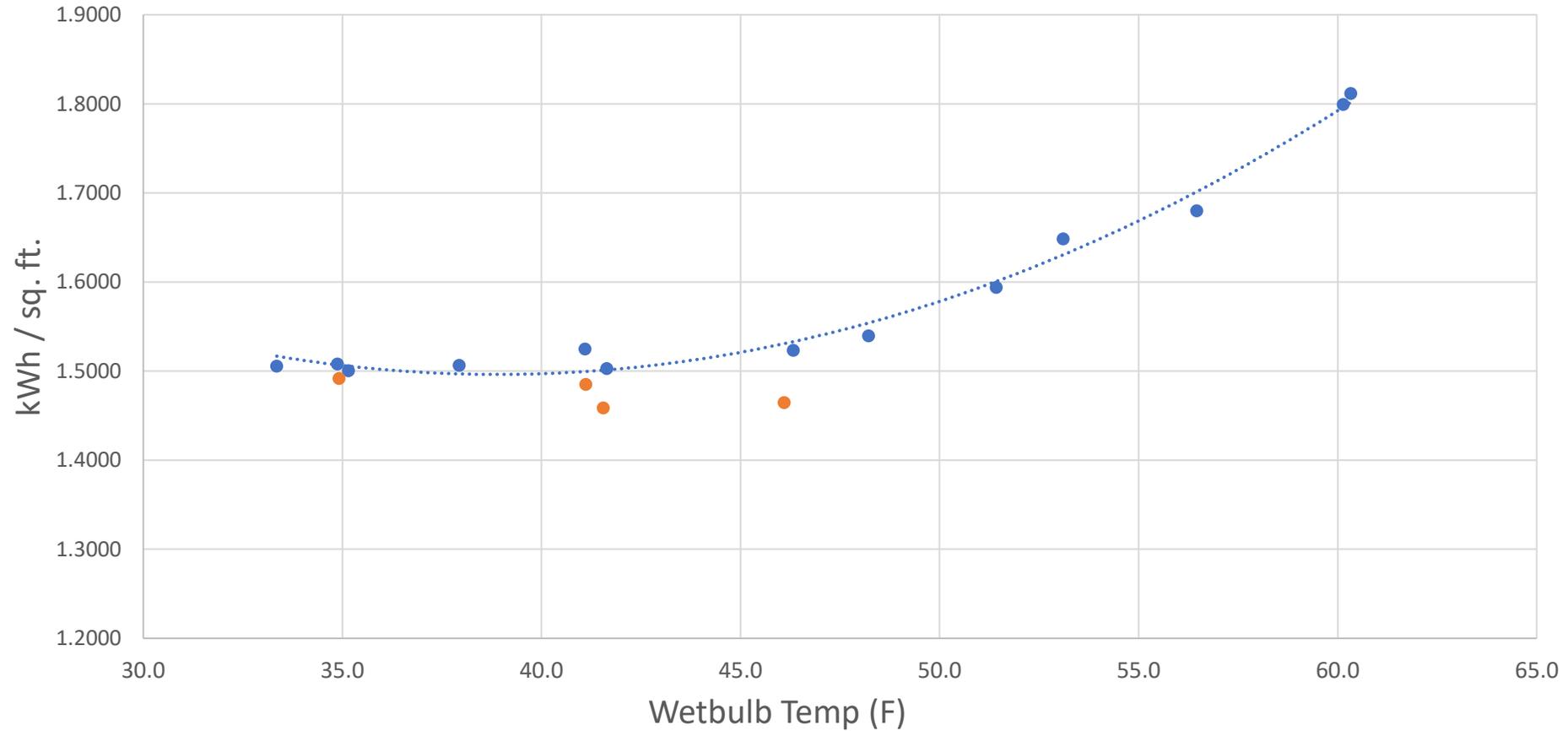


Outlier Identification for Retro-commissioning

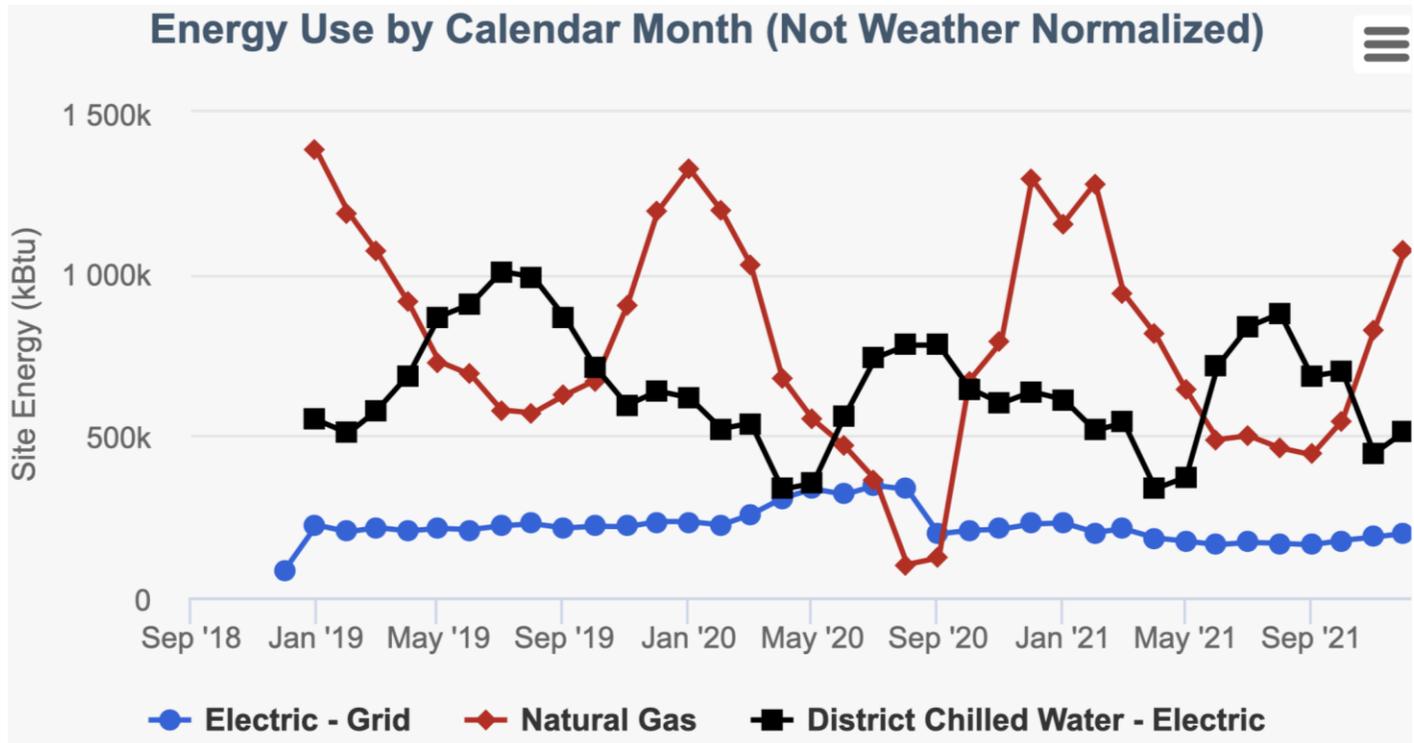


Project Impact Validation

Division Analysis



PORTFOLIO MANAGER Performance



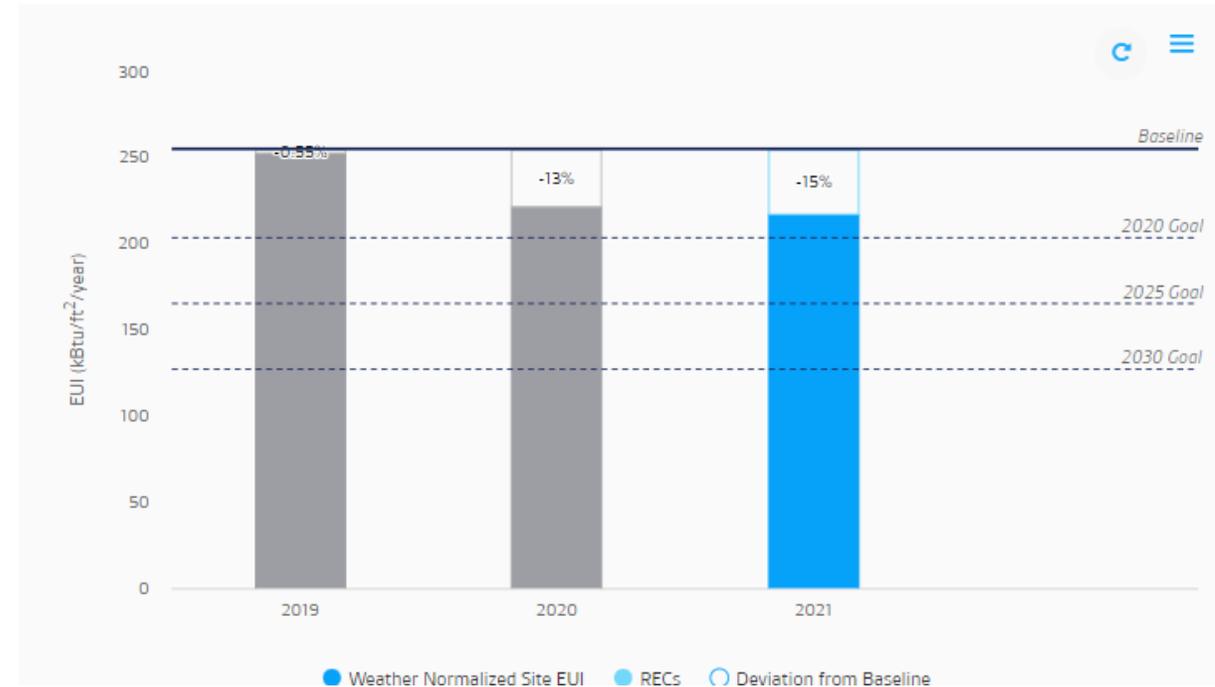
| | | | |
|--|------------|------------|-------------------------|
| Site EUI (kBtu/ft ²) | 254.7 | 214.4 | -40.30 (-15.80%) |
| Energy Cost (\$) | 280,666.72 | 238,141.17 | -42,525.55 (-15.20%) |
| Total GHG Emissions Intensity (kgCO ₂ e/ft ²) | 15.9 | 13.4 | -2.50 (-15.70%) |
| Water Use (All Water Sources) (kgal) | 481.3 | 407.4 | -73.90 (-15.40%) |

Maalka Data Visualizations

⚡ ENERGY ?

Energy Report: ENERGY STAR® Portfolio Manager® Report

The graph below summarizes annual energy performance over time relative to building intensity baselines and targets.



Baseline

255 EUI

kBtu/ft²

2021 Performance

217.7 EUI

↓ 14.63% below the baseline (with RECs)

2020 Performance

222.2 EUI

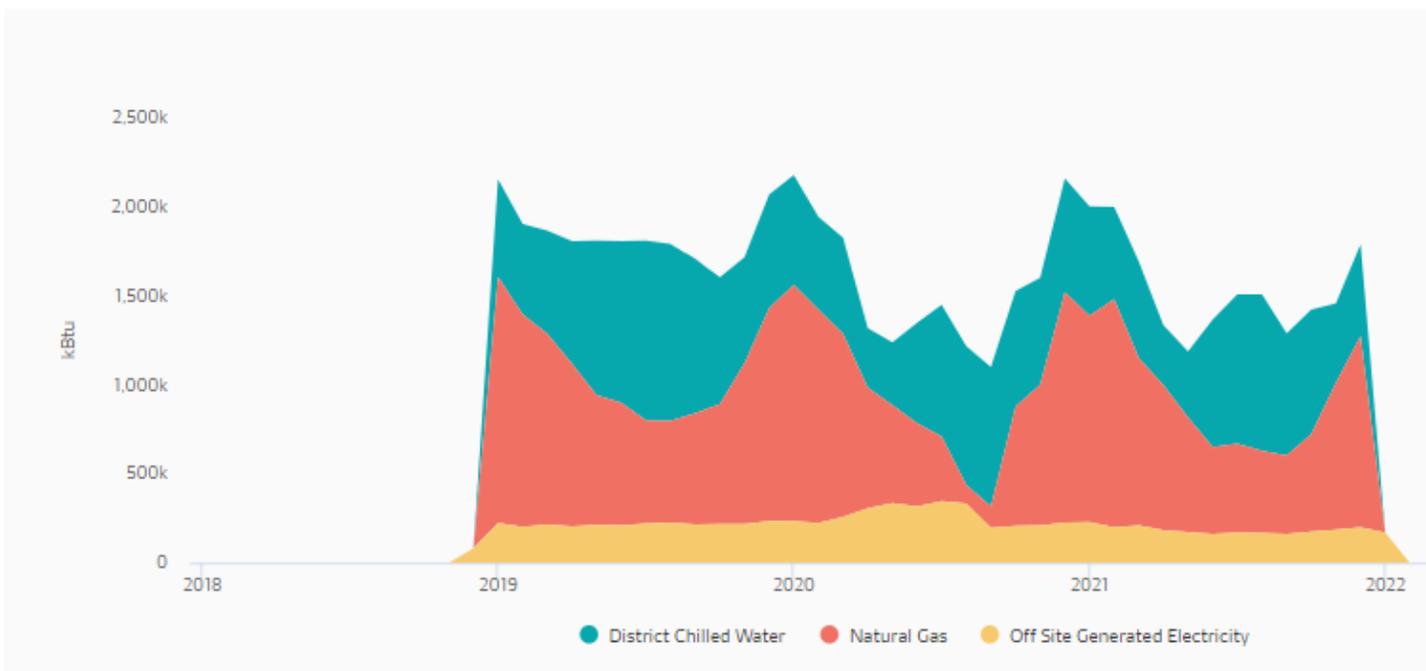
↓ 12.86% below the baseline (with RECs)



Maalka Data Visualizations



Total Energy Use by Calendar Month – Stacked Area Chart



Performance by Energy Type Usage: ENERGY STAR® Portfolio Manager® Report

All data displayed in the following table is weather normalized

| | Weather Normalized Site Electricity Use (Grid and Onsite Renewables) (kBtu) | Weather Normalized Site Natural Gas Use (kBtu) | Total Other (kBtu) | Weather Normalized Site Energy Use (kBtu) |
|-----------|---|--|--------------------|---|
| 2019 | 2,606,953 | 10,596,020.0 | 8,733,470.0 | 21,936,443.0 |
| 2020 | 3,196,340 | 8,914,190.0 | 7,109,016.0 | 19,219,546.0 |
| 2021 | 2,225,611 | 9,454,142.0 | 7,147,442.0 | 18,827,195.0 |
| Changes ? | ↓ 30.37% | ↑ 6.06% | ↑ 0.54% | ↓ 2.04% |

Solar Procurement & Building Walk-Through

CAC
Contemporary
Arts Center



Helen Frankenthaler Foundation



Questions?

Cincinnati 2030 District Impact Celebration

CINCINNATI
2030
DISTRICT

IMPACT CELEBRATION & FUNDRAISER

NOVEMBER 3RD 2022
4PM-7PM
*@ Historic Union Hall in OTR,
1311 Vine Street*



**Cincinnati Mayor
Aftab Pureval**



**Cincinnati Councilmember
Meeka Owens**



**Vincent Martinez
President & COO
Architecture 2030**



Thank you!