

A decorative graphic in the top right corner consisting of a solid magenta circle and two overlapping, rounded, arrow-like shapes pointing right, also in magenta.

MGE Commercial Building Analytics / Benchmarking

Sustainable Madison Committee

02/23/2020

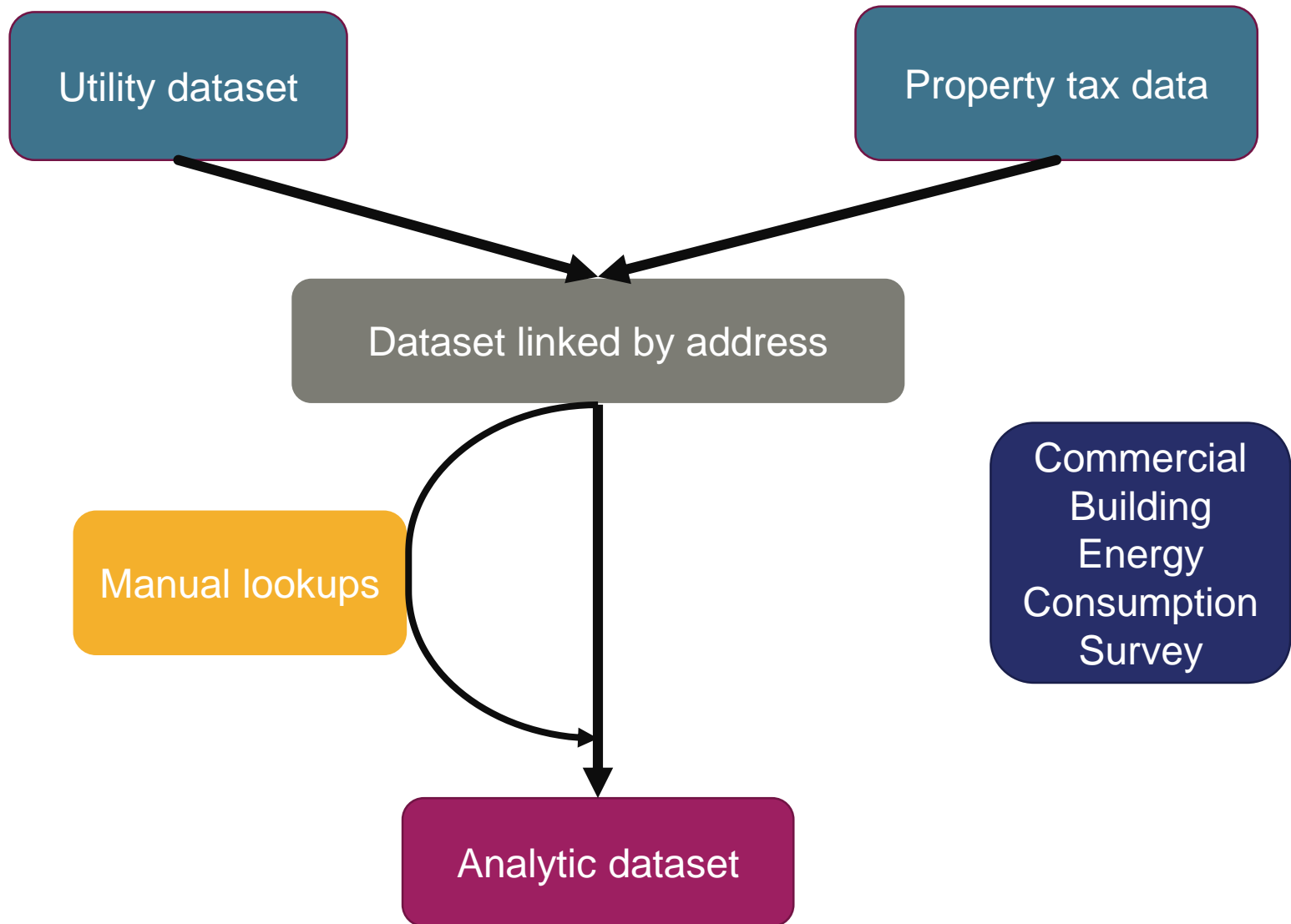


Background and objectives

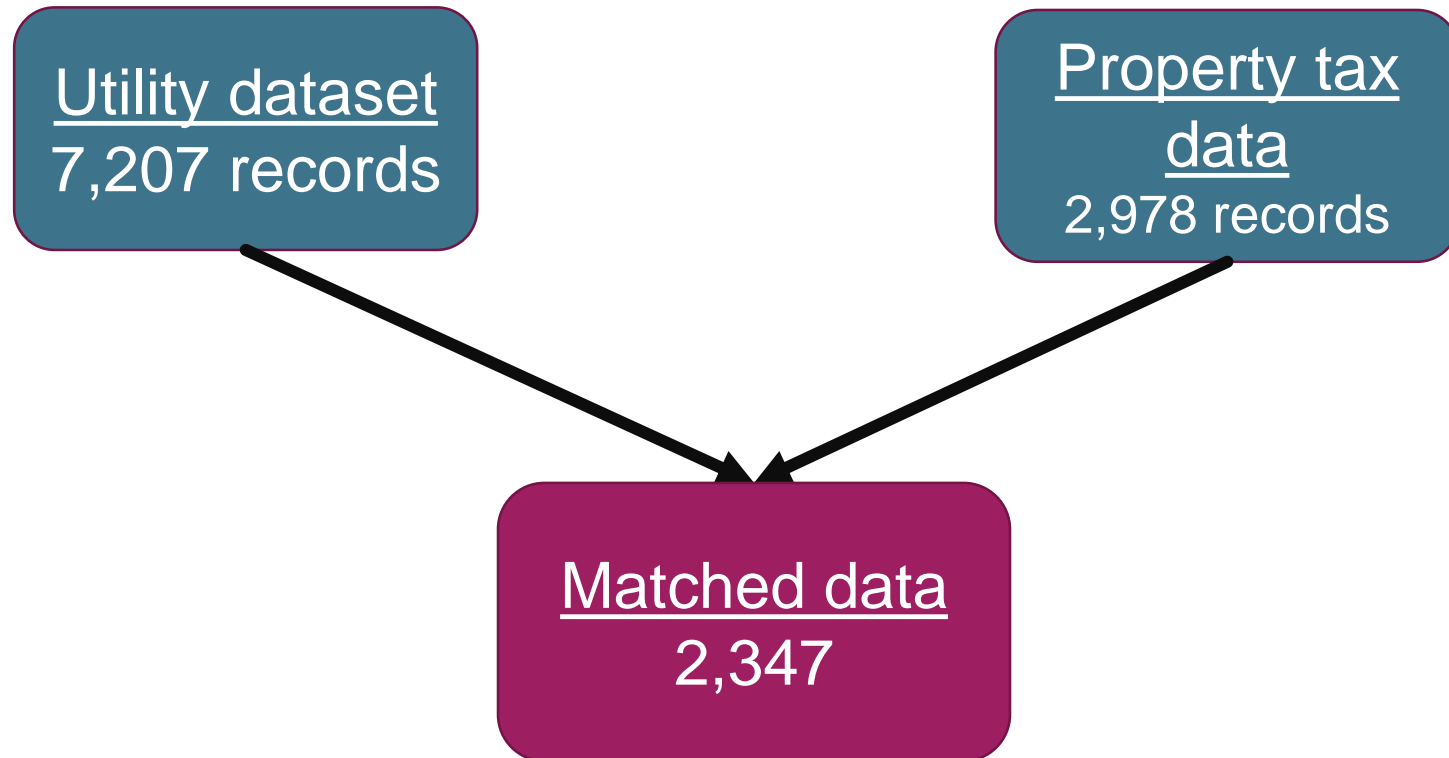
Objective

Provide MGE with a robust dataset that can be used to develop city-wide programming that targets specific business segments and augments traditional energy efficiency programs

Compiling the datasets



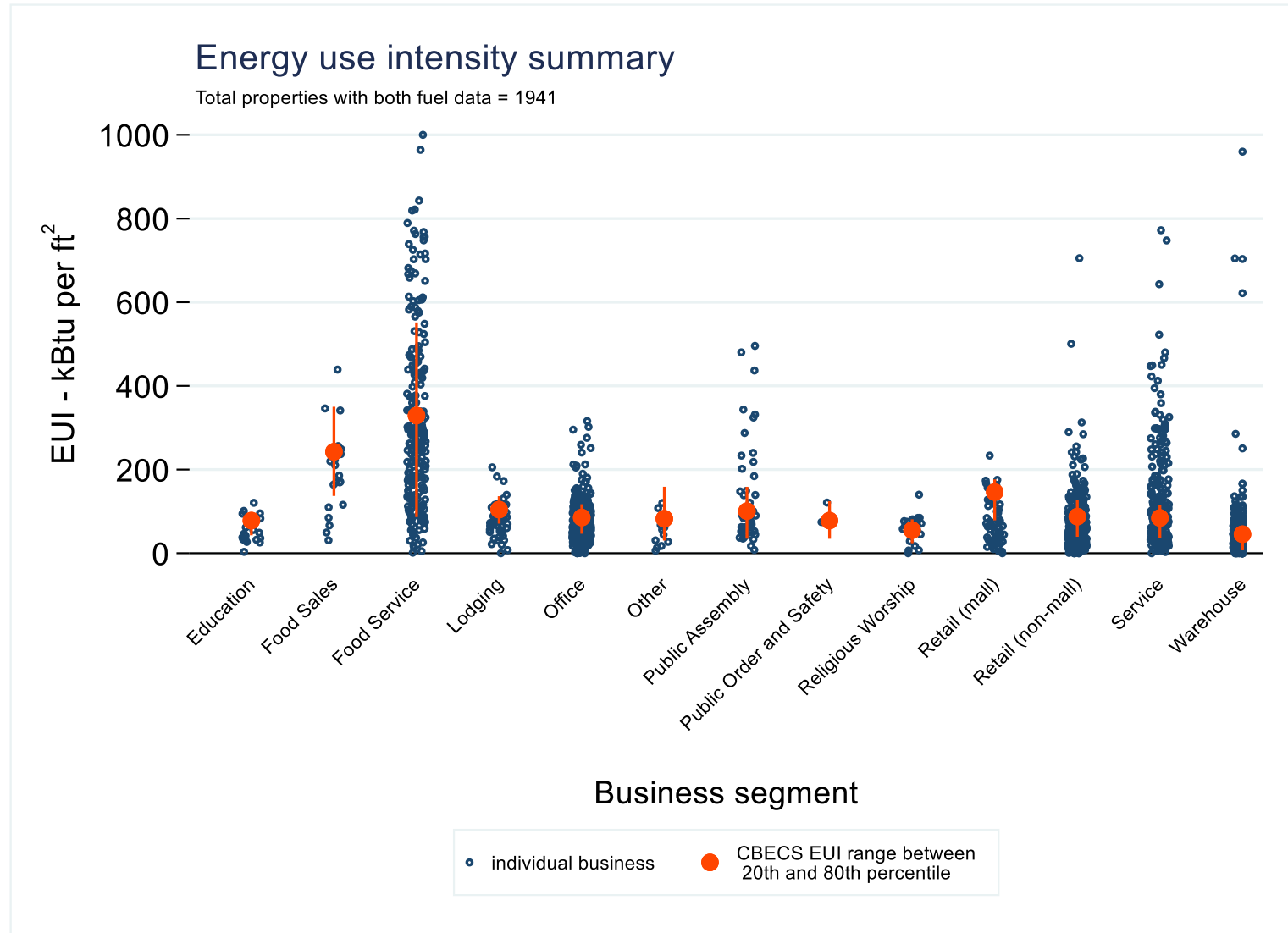
Linked dataset



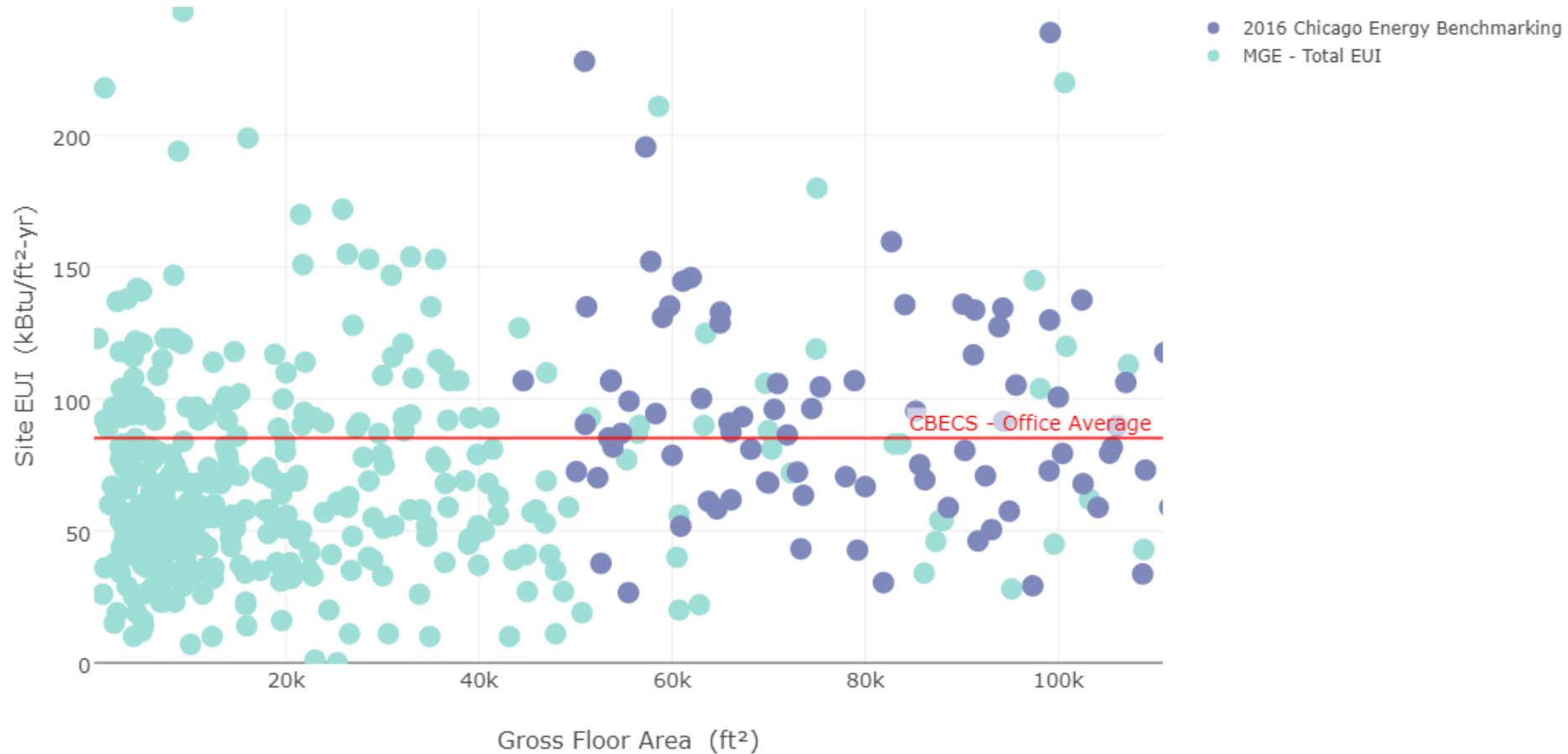


Results

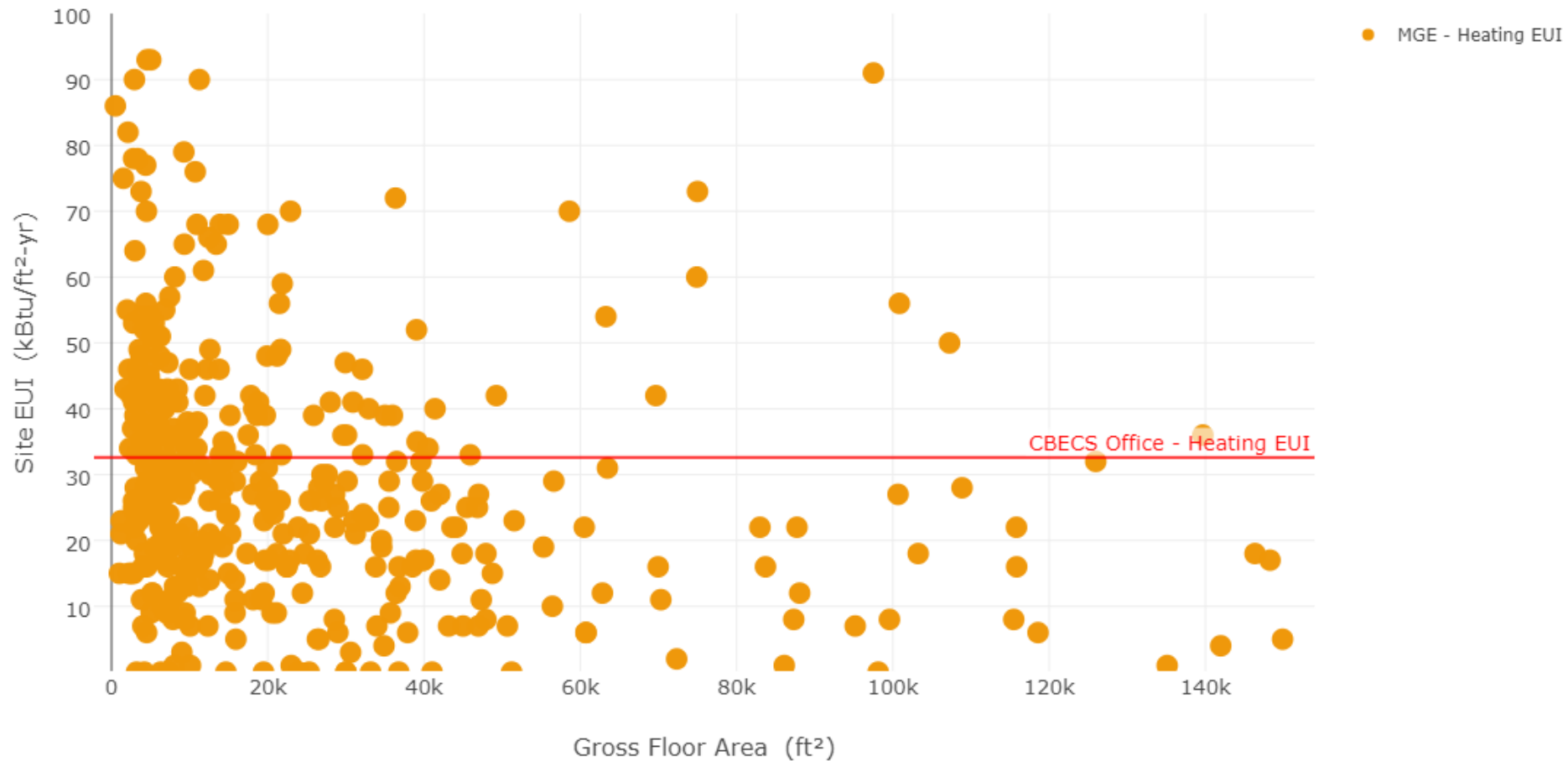
Results



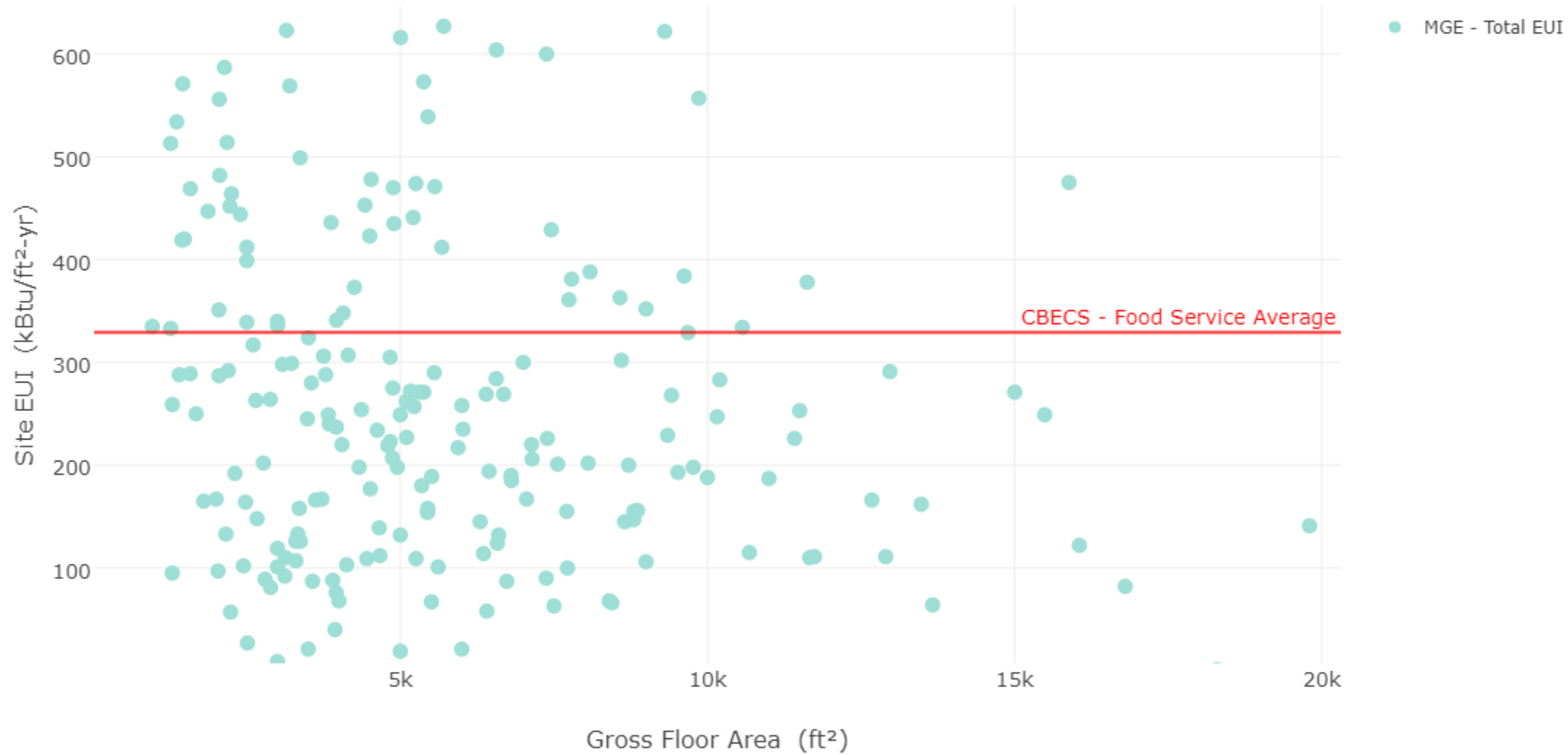
Office – Total EUI



Office – Heating EUI



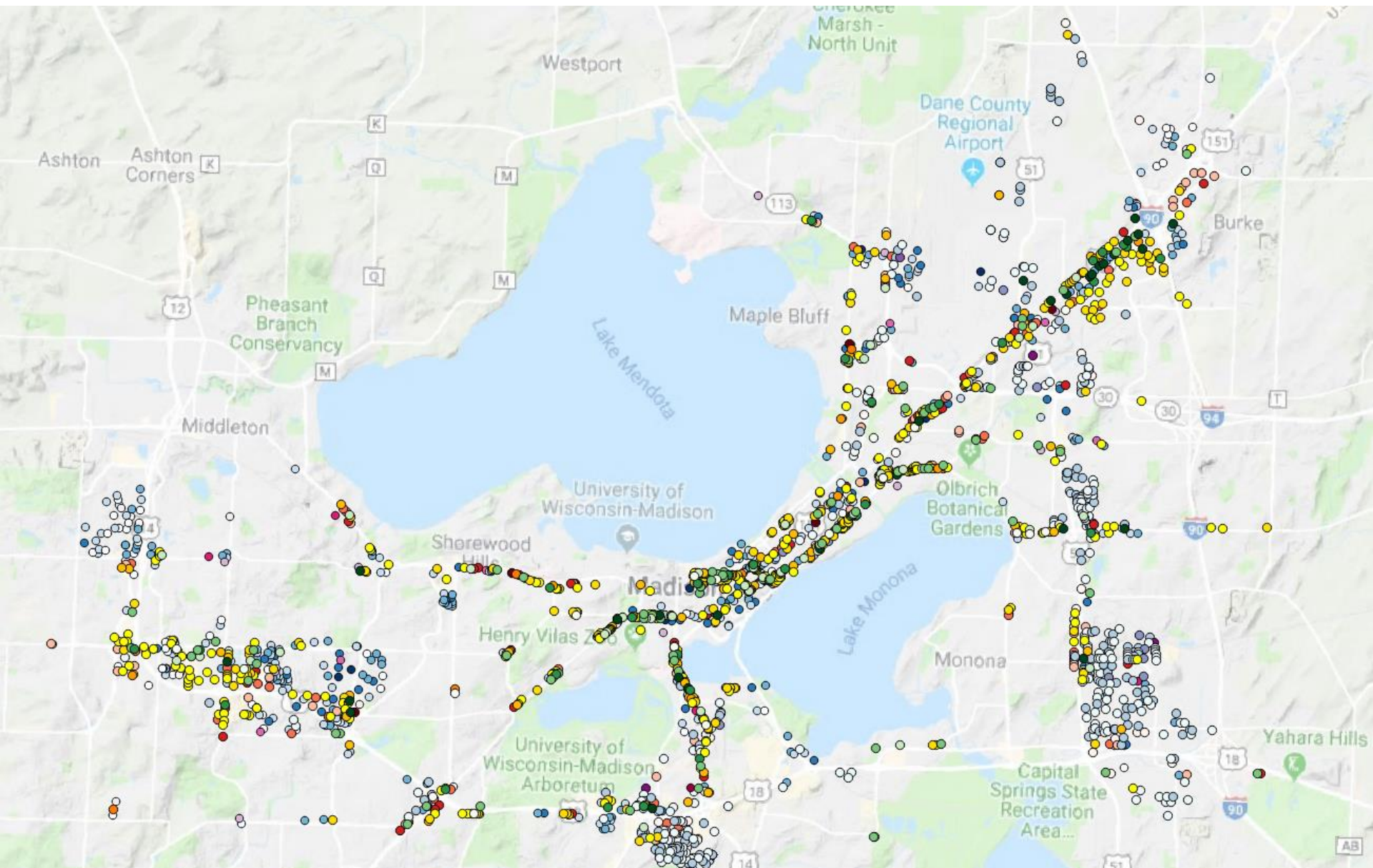
Food Service – Total EUI



Food Service – EUI Breakout



All Business Types





Energy efficiency opportunities

Characterizing potential energy savings

- Calculated the potential energy savings through applying typical energy conservation measures to select building types
- Ran 91 energy models using DOE2.2 – an industry standard modeling software
- For the following buildings and assumed size:
 - Small office (5,000 SF)
 - Large office (80,000)
 - Food service (5,000 SF),
 - Lodging (40,000 SF) retail (7,000 SF)



Measures

Envelope

- Increase roof insulation
- Increase wall insulation
- Improve window properties

Lighting / Plug load

- Decrease plug or process loads
- Retrofit lighting
- Install lighting controls
- Retrofit exterior lighting
- Install exterior lighting controls

HVAC

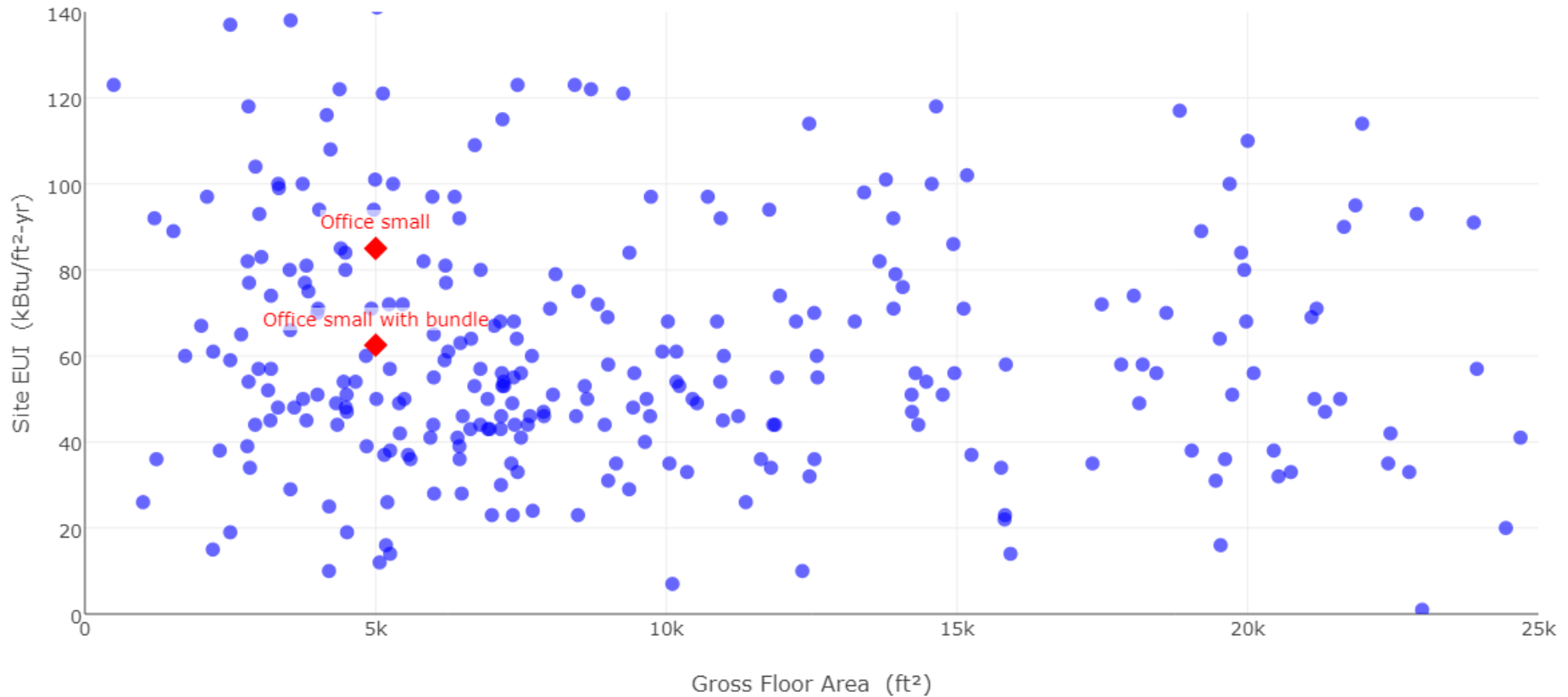
- Implement demand controlled ventilation or make-up air controls
- Increase heating efficiency
- Increase cooling efficiency

DHW

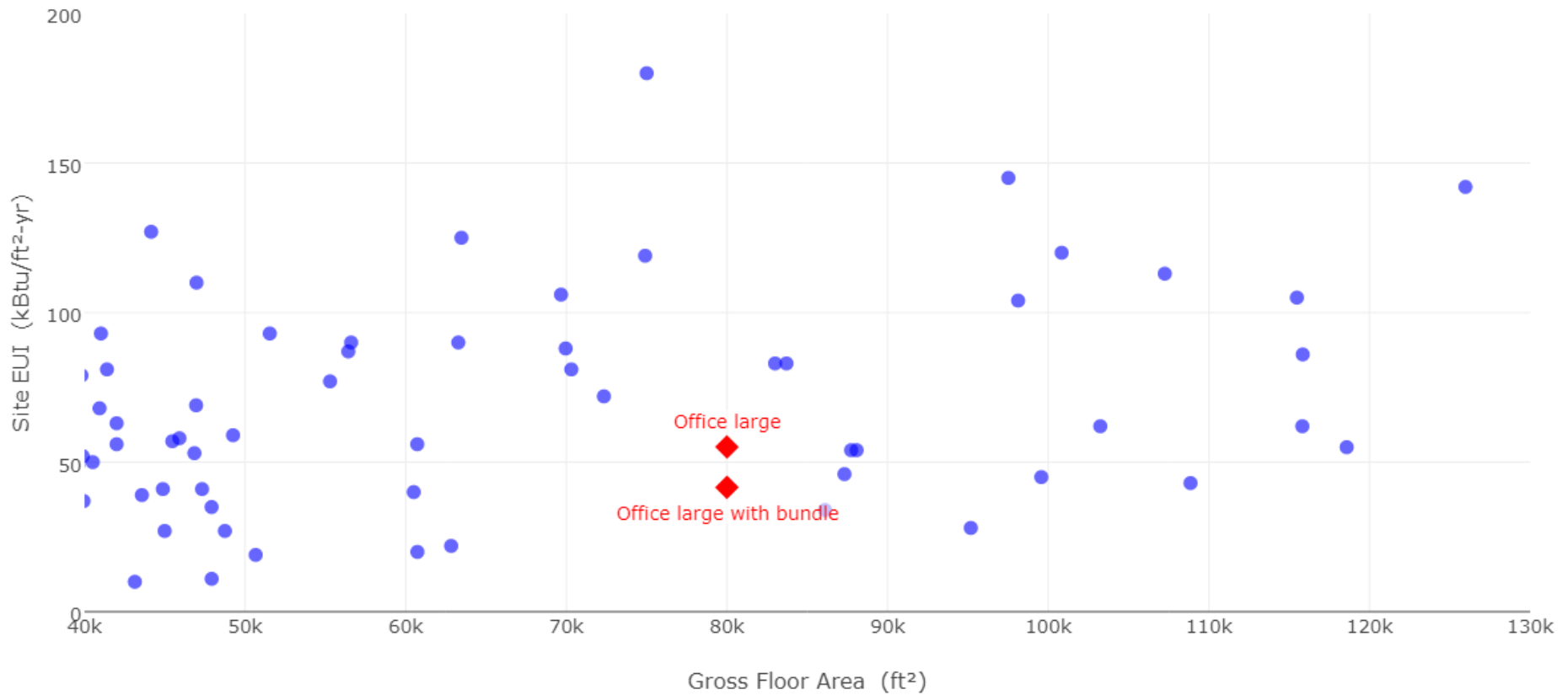
- Increase domestic hot water efficiency
- Install low flow fixtures



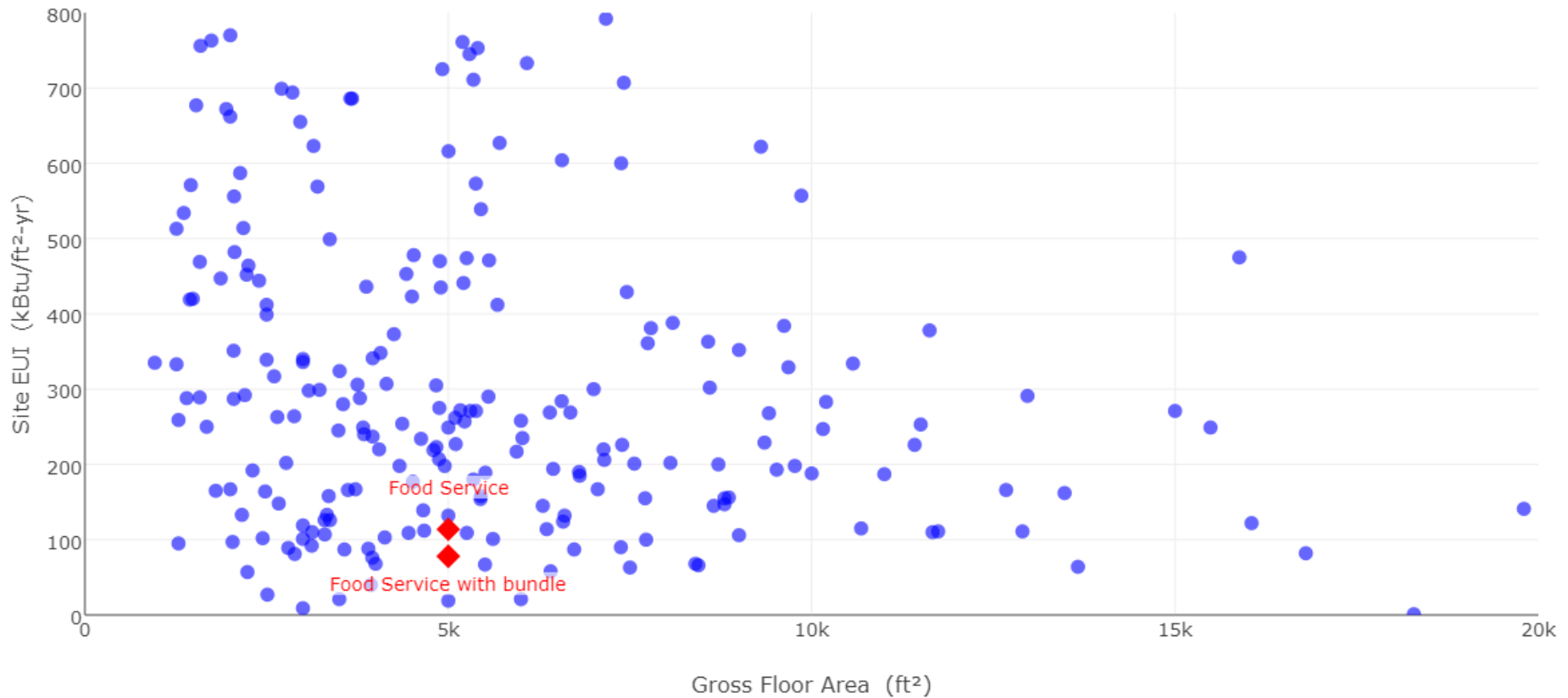
EUI impacts - Small Office



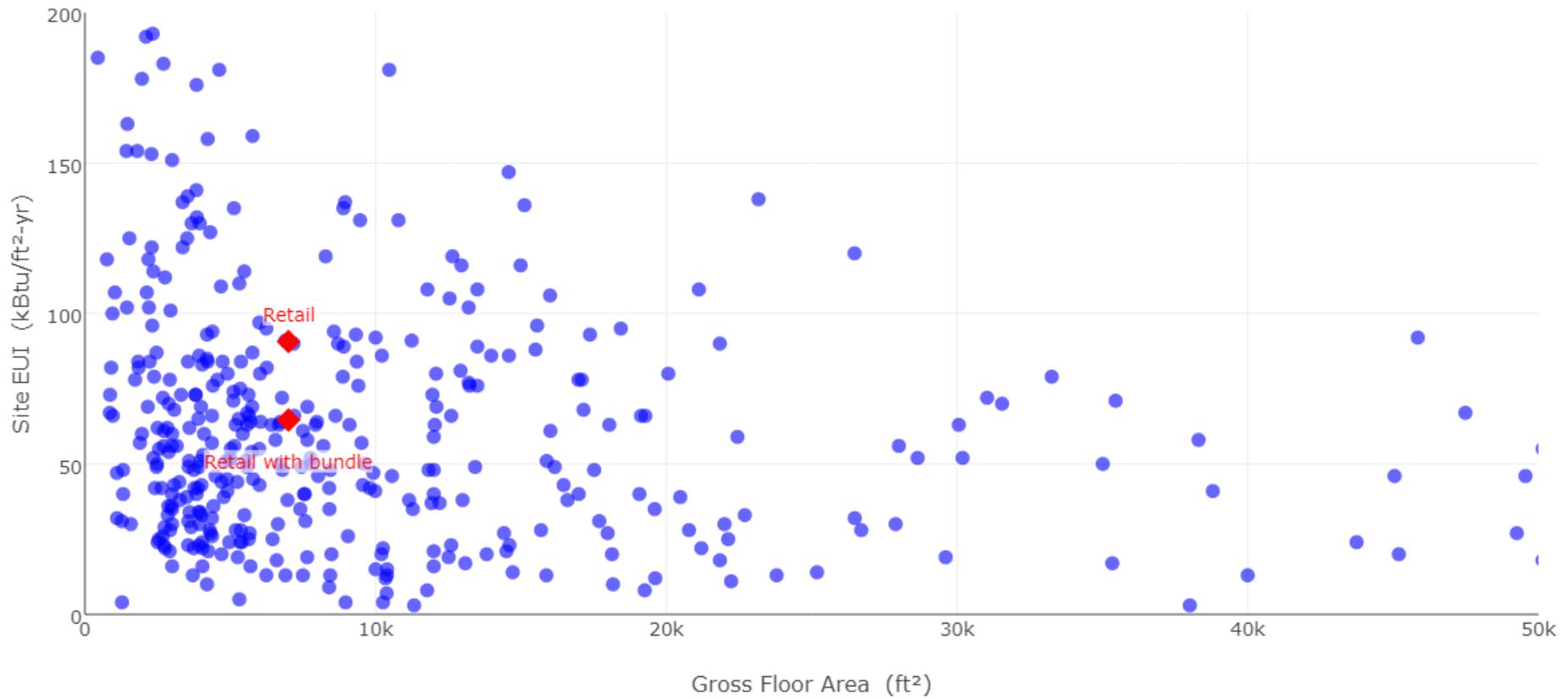
EUI impacts - Large Office



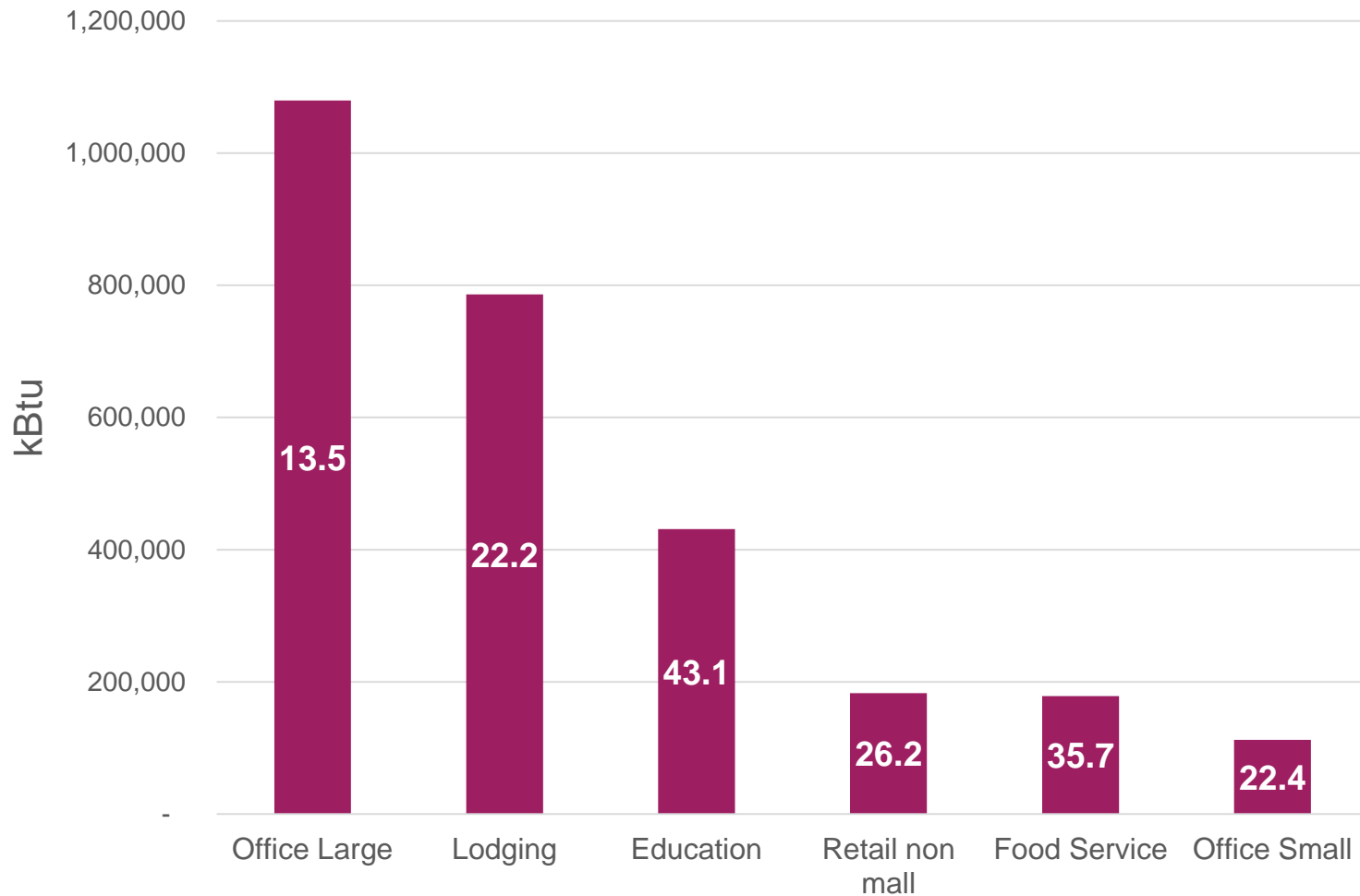
EUI impacts - Food Service



EUI impacts - Retail (non-mall)



Overall Energy Savings by Building



Focus on Energy

2020 BUSINESS OFFERINGS



LIGHTING

2020 BUSINESS OFFERINGS



PROCESS SYSTEMS

2020 BUSINESS OFFERINGS



**COMMERCIAL
REFRIGERATION**

WISCONSIN
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Partnering with Wisconsin utilities

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MGE Benchmarking tool



your community energy company

My Account

Customer Service

Safety & Outages

Saving Energy

Our Environment

About MGE

mge.com > My Account > Electric Use History > Compare with Similar Buildings



My Account

Overview

Payment and Billing

Electric Use History

Charts and Data

Compare with Similar Buildings

Natural Gas Use History

My Account Profile

MGE Employee

Building Energy Use Comparison

Compare your electric and natural gas use per square foot with similar building types in the MGE service territory.

Yearly kWh: 146,858

Yearly Therms: 9,811

Select Building Type

Bakery
Bowling Alley
Child Care
Clinic
Cold Storage
Community Center
Convenience Store
Data Center
Distribution
Fitness Center
Grocery
Group Home
Hotel
Laboratory
Library
Manufacturing
Office - Small
less than 25,000 sq. ft.

Office - Medium

25,000 to 50,000 sq. ft.

Customer Name:

Account:

[SHOW DIFFERENT ACCOUNT](#)

Combined Energy

Electric

Natural Gas

Enter Square Footage: 10000

Show



Opportunities for MGE / Focus on Energy collaboration

- Targeting marketing to encourage MGE customers to benchmarking through Benchmarking tool and participate in Focus on Energy
- Promote and leverage Focus on Energy's new small business offerings that include an online assessment and sector-specific energy saving starter packs.

