

BUILDING SUSTAINABILITY REPORT

EXECUTIVE SUMMARY

Penn's *Climate and Sustainability Action Plan (CSAP) 3.0* provides a vision of Penn's sustainable future, advancing Penn's holistic approach to a sustainable campus by addressing design, construction, and maintenance of our built environment.

In support of the mission and current strategies outlined in *CSAP 3.0*, the 2023 Building Questionnaire and Building Sustainability Report seek to understand how buildings that are a part of Penn's real estate holdings are already addressing sustainability as well as to identify gaps and opportunities for implementing sustainable strategies.

The Building Questionnaire was sent out to property managers for buildings included within the real estate carbon footprint, which include off-campus apartment buildings, fraternity and sorority housing, office and retail spaces, and Pennovation. The survey gathered responses for forty-one (41) buildings and covers information in building identification, construction, utilities, systems, heating and cooling, lighting and plugloads, waste, and other sustainability issues.

Goals

The goals of the report are to:

- Understand the composition of Penn's real estate holdings portfolio and if they are in alignment with the goals put forth by *CSAP 3.0*
- Quantify what sustainable practices are already being utilized for heating, cooling, waste, water, and lighting systems
- Identify gaps and opportunities for integrating further sustainable strategies

Findings

Building Identification

- Most surveyed buildings are over 75 years old, which may point to opportunities for recommissioning or retrofits to improve the sustainability and efficiency of the building systems. Presently, there are no retrofit or recommissioning projects in place.
- 30 of the buildings surveyed run on a 24/7 schedule, all of which are residential use buildings.

Construction

- The majority of the buildings in the real estate portfolio are midsized buildings between 5,000 and 50,000 sq ft with 3 to 5 floors and mechanical systems located on a conditioned basement level. While individual buildings of this size are unlikely to be among the larger users of energy and producers of carbon on the Penn campus, their combined impact is likely to significantly contribute to Penn's carbon footprint.

Utilities, Heating, & Cooling

- Unlike the main campus, where the majority of the heating and cooling is provided by a connection to the campus steam and chilled water loops, the majority of the heating and cooling for the real estate portfolio is generated onsite.
- About 80% of the buildings utilize natural gas as the source of heat rather than the campus steam loop, with 85% of these using a boiler and 15% using a furnace. The heat generated is distributed either through a steam/hot water radiator (75%) or forced hot air (25%) systems.

Lighting

- Most buildings already utilize LED lighting, but only 28% have occupancy, motion, or photocell sensors to control when the lighting turns on and off.

Waste

- 63% of buildings offer a surplus waste recycling service. For buildings that reported offering surplus recycling, most reported that it is for cardboard.

Water

- No stormwater mitigation projects were reported at any of the surveyed buildings.
- Two buildings (Sansom Commons and Pennovation Center B450) reported having hands-free sensor faucets in the restrooms.