

# MANSUETO LIBRARY

## Impact at a Glance

- **20% net building energy reduction** from baseline
- **162 metric tons CO<sub>2</sub>e** avoided annually
- **49.1% reduction of carbon emissions** in 2022 compared to 2015 (based on ENERGY STAR Portfolio Manager data)
- University-wide goal of **50% greenhouse gas emission reduction** by 2030

## Building Stats

- **Year Built:** 2011
- **Neighborhood:** Hyde Park
- **Architect:** Helmut Jahn
- **Use:** Higher Education
- **Square Footage:** 64,028

*The Joe and Rika Mansueto Library* opened at the heart of The University of Chicago campus in 2011. It features a soaring elliptical glass dome capping a 180-seat Grand Reading Room, state-of-the-art conservation and digitization laboratories, and an underground high-density automated storage and retrieval system. The Mansueto Library speeds scholarly productivity by allowing for the retrieval of materials within an average time of three minutes through use of robotic cranes.

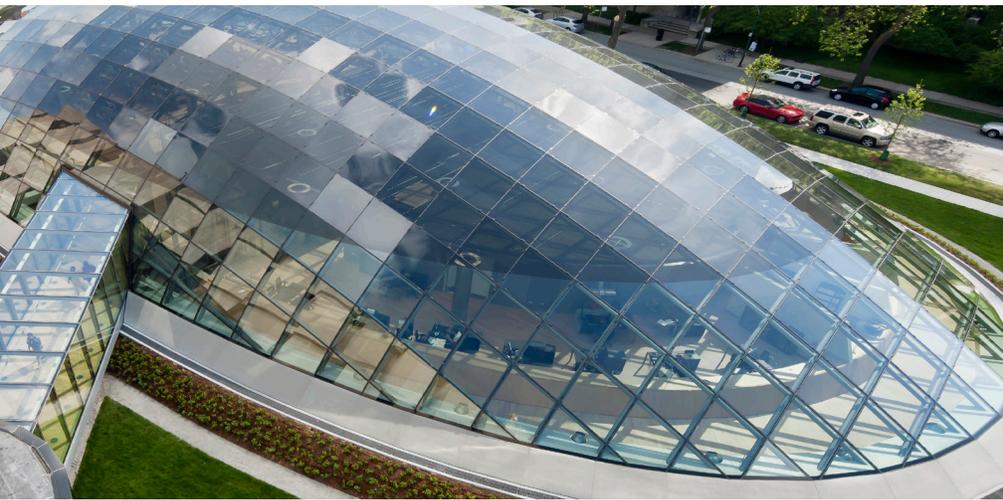
The University library joined the Retrofit Chicago Energy Challenge in 2019 and achieved their 20% energy reduction goal the same year.

The mission of Retrofit Chicago aligned with The University of Chicago's overall commitment to reduce their greenhouse gas emissions by 50% by the year 2030. The success of the Mansueto Library builds momentum for future energy projects at the University.

## Spotlight on Energy Efficiency Investments



- Air Handler Unit Optimization
- Reading Room Simultaneous Heating/Cooling Sequence Reset
- Installation of Steam Control Valve on Air Handler Units



Designed by renowned architect Helmut Jahn, the Mansueto Library has been recognized with a Distinguished Building Citation of Merit by the American Institute of Architects' Chicago chapter and a Patron of the Year Award by the Chicago Architecture Foundation.

The Mansueto Library is the most recently constructed building to join Retrofit Chicago. The Mansueto Library's striking design included innovative elements like ceramic fritted glass that covers 57% of the surface to reduce glare and block 98% of all UV light.

Despite its modern, sustainable design, the building still required modifications to optimize energy use throughout all of the systems conditioning the large, open space. The building was identified as a candidate for improvement through the PM+Cx (Preventative Maintenance and Commissioning) Program done by an in-house energy and sustainability group. The PM + Cx program identified the 38 buildings that accounted for 80% of the campus's total energy use.

A total of 13 air handling units are used in the Mansueto Library. An issue that occurred involved the placement of sensors and sequencing of air handling units that resulted in simultaneous heating and cooling of the space. By making adjustments to the summer settings, hot air was allowed to rise above the occupants without being reintegrated at ground level by the air handling units. This effectively shrunk the volume of air required to condition the space by 80%.

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### About Retrofit Chicago

The Retrofit Chicago Energy Challenge encourages, promotes, and celebrates voluntary energy efficiency leadership. Together, participating building owners, facility managers, engineers, and policymakers are demonstrating that energy efficiency is a winning proposition for Chicago's real estate industry as well as the environment.

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### The Key to Success for Mansueto Library

“ A preventative maintenance and commissioning program to identify opportunities for the **biggest impacts.**”

#### **Brian Bozell**

Senior Director,  
Energy Programs, The  
University of Chicago

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Buy-in was easy to gain from the library team, who were happy that the project resulted in increased occupant comfort. By reducing air flow, the reading area was quieter and preservation work on delicate items became easier.