

Planning for the sustainable campus in the long-term

Vassar College



Outcomes

Reduced operating costs

Reduced GHG emissions

Improved O&M

Roadmap to net zero

Building on Vassar College's 2016 Climate Action Plan that targets carbon neutrality by 2030, the college undertook a study with Ecosystem to identify the best path toward deep decarbonization. The goal of the study was to ensure that the campus made the right investment and took the right first steps to progress to net zero. Vassar aimed to minimize lifecycle cost, improve resiliency and safety, enhance the campus experience, reduce GHG emissions, and maintain long-term flexibility.

Over six months, Ecosystem and Vassar collaborated on an iterative and analytical design process. The targeted outcome was an actionable plan based on potential scenarios and associated infrastructure upgrades. Ecosystem focused on the decarbonization of heating, replacing natural gas and fuel oil with the renewable energy sources. The study also evaluated modifications to the district energy network and the scope of work to the buildings' heating, ventilation, and air-conditioning infrastructure required for compatibility with renewable energy sources.

Ecosystem orchestrated the internal collaboration, ensuring that every stakeholder's needs were accounted for. For example, while the Sustainability Office's main goal was carbon neutrality, Facilities was concerned about cost savings and resiliency. Ultimately, Ecosystem found a proper balance of measures to satisfy all stakeholders.

The study set the stage for future campus projects and proposed a six-step Investment Roadmap to Net Zero. In 2020, the team proceeded to the next stage of implementing proposed changes with Ecosystem.

Customized Performance Measures

- Central heating plant optimization
- Distributed heat recovery
- Central cooling plant optimization
- Ventilation optimization
- Lighting upgrade
- Cooling system retrofit
- Air handling unit replacement

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|-------------------------|-----------|
| Project Period | 2020-2022 |
| Investment | \$11.85M |
| Incentives | \$1.85M |
| Annual Savings | \$905,000 |
| GHG Emissions Reduction | 21% |