

Sustainable Living Through Energy Efficiency

This case study explores the innovative energy strategies implemented to develop a sustainable, design-forward apartment community. The project showcases a more advanced and sustainable approach to multifamily residential design that significantly reduces energy consumption and enhances living conditions.

BACKGROUND INFORMATION

■ Client Overview

Headquartered in Cincinnati, Ohio, PLK Communities is a privately held real estate company focused on the ownership, development, and management of multifamily apartment communities. With a growing portfolio across Ohio, Kentucky, and Florida, PLK is committed to creating exceptional living experiences through thoughtful design, community-driven operations, and a strong focus on sustainable development. The company manages more than 7,000 apartment homes and continues to lead with an emphasis on innovation, integrity, and resident satisfaction.

■ Project Overview

Initiated in September 2021, the ILA Hyde Park project represents PLK Communities' commitment to advancing energy-efficient multifamily living. In collaboration with Emerald Built Environments, PLK aimed to meet the Ohio Air Quality Development Authority's (OAQDA) Clean Air Improvement Program standards by designing and constructing an apartment community that prioritizes energy performance and long-term sustainability. This project reflects PLK's focus on innovative building design and operation, emphasizing their dedication to environmental stewardship and sustainable development.

CHALLENGES

■ Key Challenges

Achieving a 50% reduction in energy usage compared to standard constructions posed a significant challenge, complicated by the variability in tenant energy consumption behaviors within a residential complex.

■ Client's Goals

The goal was clear: surpass the ambitious threshold of a 50% improvement in energy efficiency over a baseline code-compliant building, thereby setting a new standard for sustainable residential developments.





STRATEGIES RECOMMENDED

A comprehensive strategy was developed to meet these challenges:

1

Early Energy Modeling

To ensure optimal energy performance from the outset.

2

On-Site Performance Verification Testing

Confirming that energy systems performed as designed.

3

Measurement and Verification Plan

Monitoring energy use and efficiencies during the first year of occupancy to ensure continued performance.



OUTCOMES

■ **Results Achieved**

The project successfully recorded actual energy savings of 53.7%, with projections up to 60%. These results not only met but exceeded the initial energy reduction targets, establishing ILA Hyde Park as a model for future developments.

■ **Impact on Client’s Operations**

The success of ILA Hyde Park has reinforced PLK Communities’ reputation as a leader in sustainable development, demonstrating the operational value and long-term impact of energy-efficient development.

■ **Environmental Benefits**

By significantly lowering energy consumption, the project contributes to reduced greenhouse gas emissions and promotes a healthier, more sustainable environment. Enhanced indoor air quality and thermal comfort also ensure a superior living experience for all residents.

CONCLUSION

ILA Hyde Park stands as a testament to the potential of targeted energy strategies and sustainable building practices to achieve profound impacts on energy savings, operational efficiency, and resident satisfaction. Through this project, Emerald Built Environments and PLK Communities have not only achieved remarkable energy efficiency but have also helped define a new standard for energy-conscious multifamily development.

