CASE STUDY

Commissioning a Deep Renovation of a Historic Firehouse

Net Zero Energy Assurance Through Commissioning

Pittsburgh, PA

The City of Pittsburgh has publicly committed to becoming carbon neutral by 2050 and has also adopted a Net Zero Ready Building Ordinance for municipal buildings as part of that strategy. For Firehouse #8, building envelope commissioning played a critical role in helping align the project's design intent with its expected real-world performance.

By pursuing Zero Energy Ready outcomes in deep renovations, the City of Pittsburgh is connecting capital improvement decisions to long-term public goals.

For Illustrative Purposes Only

Owner's Project Goals

The owner's project goals can be understood as both performance-driven and policy-driven.

First, the city sought to deliver a renovation that aligns with its municipal Zero Energy Ready requirements and larger climate commitments. Pittsburgh's carbon-neutral by 2050 goal, together with its adoption of net-zero-ready standards for municipal buildings, shows that the city is not treating building performance as optional

Second, the project aimed to create a building that performs better operationally by reducing energy demand through a high-performing enclosure. Building envelope commissioning helps ensure that critical enclosure systems are installed and performing in a way that supports the project's expected outcomes.

Benefits of Zero Energy Ready

A Zero Energy Ready approach offers benefits that extend well beyond code compliance. reducing carbon emissions in existing buildings:

1. **Lower energy demand and a more cost-effective path to decarbonization**
   Zero Energy Ready projects prioritize reducing loads before adding renewable energy systems.
2. **Better comfort and indoor environmental quality**
   High-performance building enclosures help stabilize indoor temperatures, reduce drafts, and improve overall comfort.
3. **Improved resilience**
   Zero Energy Ready buildings are inherently better positioned to protect occupants during extreme events because they rely on stronger enclosure performance.

Existing Building

Historic Firehouse

Project Team

AUROS Group

Ae7 Architects

Project Reference

Claire Mastroberardino,
City of Pittsburgh,
Department of Public Works

Claire.mastroberardino@pittsburghpa.gov

AUROS GROUP

243 East Main Street
Carnegie, PA 15106

beth.eckenrode@aurosgroup.com

www.aurosgroup.com