



Net Zero Wisconsin

Forward House



Project Summary

Forward House is located in Milwaukee, WI, in a neighborhood blighted by foreclosure in the 30th corridor. A return to a classic Wisconsin craftsman style with a Milwaukee flair will help reinvigorate the neighborhood while remaining true to its roots. The overarching goal to provide an affordable home with a people-centered interior design that will deliver comfort and high energy performance, reducing the cost of living to a first time home owning family.



Relevance of Project to the Goals of the Competition

The hope is that the net zero performance and efficiency of Forward House will provide not only comfort, but also more financial security to the occupants with reduced utility bills by using efficient building design and HVAC equipment. The chosen location is similar to many of the vacant lots in the area, so the design strategies of Forward House should be able to extend beyond the bounds of our current lot and impact an even larger community.

Design Strategy and Key Points

Architecture: Community was an important part of the overall design and the mechanical systems team and architecture team had to work together to maintain the craftsman feel while optimizing performance.

HVAC: The goal of the HVAC system is to minimize upfront equipment cost without compromising performance. To this end the domestic hot water system and cold weather heating have been integrated into one system with easy to install ductwork.

Envelope: The envelope was designed to be easy to install and to keep the harsh Wisconsin climate using high insulation values.

Project Data

- Northern Milwaukee at 3227 North 25th Street.
- Climate Zone: 6
- Forward House conditioned square footage: 2684 [ft²]
- Bedrooms: 4, bathrooms: 2, and Stories: 2
- HERS Score: 0
- Monthly Utilities: \$51
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Technical Specifications

- Wall Insulation R-Value = 38
- Foundation Insulation R-Value = 15
- Roof Insulation R-Value = 60
- Window Performance: SHGC = 0.190, U-Value = 0.220
- HVAC specifications: 'Dual Fuel'; Gas Heating/DHW = 95% CAE; Heat Pump Heating/cooling = HSPF 10, SEER 14; HRV = 80% SRE at 112 [CFM]