SHOWCASE PROJECT: BREWSTER APARTMENTS

SOLUTION OVERVIEW
Built in 1916, The Brewster Apartments consists of 35 units: 28 studio apartments and seven 1-bedroom apartments. Brewster is located in the Cascade community in the transforming South Lake Union area of Seattle, WA. As with buildings of a similar age, Brewster's natural gas wall furnaces and attic insulation were outdated and inefficient. The building's windows were also at the end of their useful life and in need of replacement. In 2016, the noise from a neighboring Seattle City Light electric sub-station construction project led to the installation of energy-saving upgrades at the property, as well as other improvements.

SECTOR TYPE
Multifamily

LOCATION
Seattle, Washington

PROJECT SIZE
24,000 Square Feet

SOLUTIONS
In keeping with the organization’s goal of operating an environmentally sustainable portfolio, Capitol Hill Housing (CHH) was motivated to make Brewster an energy-efficiency project showcase. While the installation of high-performance windows and doors served the dual purpose of mitigating noise from the abutting construction project and increasing the performance of the building envelope, the replacement of Brewster’s gas wall furnaces with an electric split heat pump (ASHP) system was the single most substantial energy-saving measure. In total, four different energy upgrades were installed resulting in a source energy reduction of 26%.

The ASHP specifications and other project details include:

- ASHP, SEER rating of 18 and a coefficient of performance of 3.4.
- Replacement of 115 apartment unit windows and 2 entry windows with new VPI Quality Windows with a U-factor ?.26 and a solar heat gain coefficient \( \leq 0.18 \).

For more information, visit [https://betterbuildingssolutioncenter.energy.gov/showcase-projects/brewster-apartments](https://betterbuildingssolutioncenter.energy.gov/showcase-projects/brewster-apartments)
• Replacement of the east and west entry doors with new metal-clad doors, glass, and hardware.
• New fiberglass blown-in insulation with an R-value of 49 in the top floor attic.

OTHER BENEFITS
When the electric sub-station abutting Brewster began construction, CHH surveyed residents about general living conditions and residents cited noise, disruption, and health concerns associated with the construction as concerns. The Brewster experienced elevated resident turnover during the construction period and CHH faced a challenge in re-leasing the vacant units. Given these impacts, Seattle City Light provided more than $500,000 in incentives to help pay for energy-efficient retrofits and other building upgrades.
### Annual Energy Use
(Source EUI)

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<tr>
<td>Annual Energy Use</td>
<td>77 kBtu/sq. ft.</td>
<td>57 kBtu/sq. ft.</td>
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**Energy Savings**
26%

### Annual Energy Cost

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<tr>
<td>Annual Energy Cost</td>
<td>$16,500</td>
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**Cost Savings**
$20,000