



An Easy Alternative to Traditional Energy Audits

Preservation of Affordable Housing (POAH) is a nonprofit organization that rescues and restores at-risk rental housing to provide stability, hope, and economic security to low- and moderate-income individuals and families. As owner and operator of more than 8,000 affordable homes at more than 70 properties nationwide, POAH knows that reducing energy use is one important way to manage operating costs and sustain affordability. But traditional investment grade audits (IGAs) that provide detailed recommendations on how to save energy are expensive. So when Stewards of Affordable Housing for the Future (SAHF) asked POAH to test its EZ Retrofit audit tool, POAH Director of Energy Management Toby Ast welcomed the chance to put the free, easy-to-use tool up against an IGA.

EZ Retrofit is an Excel-based, do-it-yourself tool that streamlines the building review process. EZ Retrofit takes a whole-building approach to energy and water efficiency, considering how building systems can work together to reduce energy and water use and costs. Building owners or energy professionals can use EZ Retrofit for multifamily properties in any U.S. climate zone. “EZ Retrofit is one of the few tools available with this functionality,” Ast notes. “Plus, EZ Retrofit is free.”

EZ Retrofit Measures Up

The POAH Fairweather property in Danvers, Massachusetts, was selected to test EZ Retrofit. Built in 1964, Fairweather Danvers is a five-story property with 44 units in a mix of studio and one-bedroom apartments. “EZ Retrofit is a great tool for involving site staff in the building assessment process,” says Ast. “Property managers live and breathe Excel, so they’re very comfortable using EZ Retrofit. The maintenance

Added Value

EZ Retrofit is more than just a good standalone alternative to an expensive ASHRAE level 2 energy audit. Ast also finds EZ Retrofit useful for:

- **Inventories.** “Knowing how many appliances or light fixtures are in a building helps in planning for replacements, which saves property staff time. And EZ Retrofit helps me standardize the process across our portfolio of properties, rather than working with an assortment of spreadsheets.”
- **Acquisitions.** “We use EZ Retrofit to evaluate the performance of buildings we might acquire and estimate their energy and water retrofit needs.”
- **Verification.** “EZ Retrofit offers a ‘sanity check’ on projected savings from a third-party audit. A utility’s savings estimate can be overly optimistic, but EZ Retrofit is a more impartial assessment.”
- **Staff Engagement.** “EZ Retrofit is not only easy to use, but also produces results that are easy to understand, translate, and present to colleagues. Maintenance supervisors can use the results to support requests to management for energy and water efficiency investments.”



supervisor at Fairweather Danvers was able to answer 90 percent of the EZ Retrofit EZ Path questions right off the top of his head.” To gather the other data needed, Ast and the Fairweather Danvers maintenance supervisor walked around the building, noting the number of lighting fixtures, age of boilers, and other key systems data. “The entire process took only about two hours—significantly less time than you’d have to commit for a traditional energy audit,” Ast says.

POAH considered an energy performance contract model for retrofitting Fairweather Danvers. The organization hired an energy services company to conduct an IGA and compared the results with EZ Retrofit results. Both EZ Retrofit and the IGA recommended upgrades in six categories: heating boiler, domestic hot water boiler, lighting, refrigerators, variable frequency drives for water pumps, and water conservation. The IGA recommended two measures not assessed by EZ Retrofit: re-piping on domestic hot water and locking thermostats, but these potential upgrades accounted for less than 7 percent in cost savings and represented only a small portion of the possible retrofit scope.

In addition, EZ Retrofit energy and cost savings projections were similar to the IGA results, except for lighting. The IGA projected nearly twice the savings, but further investigation revealed that the IGA had accidentally double counted common area lighting, which led to the higher savings projections. The auditor revised the initial audit and the savings figures turned out to be closer to the EZ Retrofit results. POAH also contracted with a lighting consultant to conduct a separate lighting audit that aligned well with the EZ Retrofit projections.

Projected Savings: How EZ Retrofit Compares

	kWh Savings	Cost Savings
EZ Retrofit	27,800	\$3,336
Original Audit	45,175	\$6,034
Revised Audit	33,594	\$4,644
Lighting Audit	26,332	\$4,208

Comparing the Fairweather Danvers EZ Retrofit and IGA results confirmed the accuracy of the tool and highlighted its ability to validate third-party audit results. “EZ Retrofit offers a quick, impartial assessment without the expense of an energy audit,” Ast reports.

Following the EZ Retrofit test, POAH completed boiler improvements by installing controls that are helping Fairweather Danvers save energy and money. “We’re now using EZ Retrofit to identify energy and water efficiency improvements that are likely to be cost-effective at our other properties,” says Ast. “EZ Retrofit is putting all the pieces together for managing building efficiency and utility costs across the portfolio.”

Visit www.sahfnet.org/ezretrofit.html or email EZRetrofit@sahfnet.org to learn more about EZ Retrofit.



Stewards of Affordable Housing for the Future (SAHF) developed EZ Retrofit under a grant from the U.S. Department of Housing and Urban Development and in collaboration with affordable housing owners and managers and housing industry partners. Launched in 2003, SAHF is a network of 11 not-for-profit members who acquire, preserve, and are committed to long-term affordability of multifamily rental properties for low-income families, seniors, and disabled individuals. SAHF members own and operate housing in 49 states, the District of Columbia, Puerto Rico, and the U.S. Virgin Islands, providing homes to more than 115,000 low-income households.