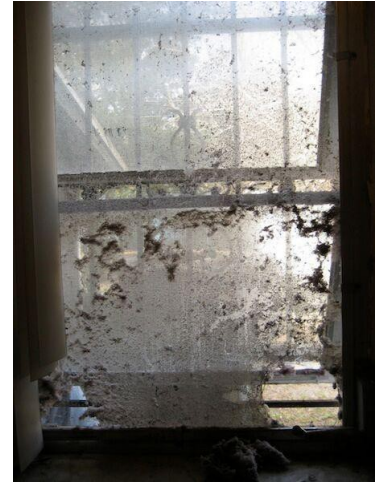


## CWC Duval Community Case Study 2015-16

In November 2015, two Community Weatherization Coalition (CWC) auditors completed an audit at the home of 15-1102 as part of our “autumn audit blitz” in the Duval Community. The blitz, partly funded by the Gainesville Renewable Energy Center (GREC), resulted in 13 audits in the Duval community in autumn 2015 and spring 2016. 15-1102 is an elderly widow on a fixed income who, despite living alone, reported having utility bills exceeding \$400/month during the peak heating/cooling seasons.

In their report, the auditors noted several concerns:

**-Building envelope:** the client was in severe need of added weatherstripping, caulking, and repairs to her doors. In her utility room, which was in conditioned space, her dryer vent was venting out of a broken awning-style window which was left permanently open. Though 15-1102 had replaced a few of her windows, several others had broken panes and/or missing screens. She was also missing screens on several of her soffit vents, allowing openings for vermin to enter her attic. Finally, her attic was poorly insulated, with only 2-3” of old, settled loose fill insulation and an uninsulated attic hatch.



**-Heating, Ventilation, Air Conditioning (HVAC) system:** the HVAC system was approximately 15-25 years old (the client could not recall when it had been installed) and was inefficient and in disrepair, including missing refrigerant line insulation, an inoperable and poorly-sealed furnace, and poor sealing of the air handler unit to the attic. She also did not have functioning Carbon Monoxide detectors in the home, a significant safety concern. During peak heating/cooling months, 15-1102 essentially could not afford to use her HVAC system and instead opted for inefficient space heating and a poorly-sealed window unit in her living room.

**-Water:** the auditors identified and replaced inefficient water fixtures, including installing kitchen and bathroom aerators and a low-flow showerhead. An active leak at the washing machine was uncovered, as well as safety issues with the washer plugged into a non-GFCI receptacle. There was also an active leak at the water heater piping, which had caused the water heater to become extremely corroded.

**-Lighting:** the home was being mostly lit with inefficient incandescent bulbs. The auditors replaced these with a combination of highly-efficient CFL and LED bulbs.

Due to funding constraints, the CWC would normally have fixed whatever items we could during the initial audit, then provided the client with some energy/water conservation education and a copy of the audit report. We also would have referred her to other agencies which may be able to provide services (e.g., GRU’s Low-Income Energy Efficiency Program, or LEEP; Central FL Community Action Agency; Property Assessed Clean Energy lenders, etc.). However, due to an additional \$2,200 provided by GREC, we were able to perform significant follow-up work on 15-1102’s home, including:





**-Diagnostics:** we provided the client with a blower door test which revealed that the home was “much leakier than other houses in its age range” and pointed out several areas of particular concern.

**-Access to other services:** our Program Coordinator assisted 15-1102 in applying for GRU’s LEEP program. She was successful in her application and received a new HVAC system, improved duct and attic sealing, and added insulation through the LEEP program. CWC volunteers corresponded with LEEP contractors throughout the process to make sure they were aware of relevant issues we’d uncovered in our audit.

**-Building envelope:** we created a properly-sealed dryer vent through an exterior wall instead of the window and repaired the window so that it would close properly. We also had her sliding glass doors repaired so that they would open and close properly. We helped convince her to remove the window AC unit and to seal the windows. We added a fresh bead of caulk around all of her windows, added weatherstripping and a new threshold to her front door, and replaced her missing soffit vents. While we were not able to repair or replace other poorly-sealed windows in the home, we did provide her with an estimate from two window contractors for this work and 15-1102 plans to pursue these repairs on her own.

**-Water:** we worked with a plumbing contractor to replace her damaged water heater, bringing its installation up to current Code. We also repaired the leak issues with the washing machine.

**-Safety:** CWC volunteers are replacing her washing machine receptacle with a GFCI safety receptacle and are also installing new CO detectors in the home.

## Results

These repairs were carried out throughout the spring of 2016 and completed in June ‘16. The CWC spent slightly over our allotted \$2,200 and GRU contributed an additional few thousand dollars via LEEP. 15-1102 has been extremely pleased with the services she’s received and has already seen a noticeable drop in her utility bill as compared with 2015. In the first five months following her CWC audit and follow-up weatherization efforts, the client saw an average decrease of 24% in her electricity consumption compared with the previous year. Once GRU's LEEP Program upgrades were combined with the CWC's efforts, the client's average electricity consumption dropped 35% compared with the previous year.

This case demonstrates the significant opportunities related to conservation, comfort, and safety when nonprofit, municipal, and private entities collaborate to help improve the homes of low-income residents. The CWC audit and diagnostics provided a road map for least-cost, highest effectiveness repairs and upgrades, GRU (and GREC) provided additional funding and expertise, and our partnering contractors provided quality, warrantied work at discounted pricing. The “handyman” type work that the CWC performed was an excellent complement to GRU’s LEEP program, and we will continue to refer our clients to LEEP as a source of capital-intensive efficiency-related improvements.