

R.J. Aley Building Contractor LLC

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CT Home Improvement Lic. #HIC0570003

HOME ENERGY USE ANALYSIS

Year home was built: 1840

Size of Home: 3,473 S.F.

For the energy use analysis that we performed for this Westport CT home we utilized 2012 as the base year (Jan-Dec). The energy analysis takes into consideration all types of energy use, electric, gas, oil, propane and natural gas.

The analysis takes into consideration and adjusts for heating degree days (HDD). HDD is the ability to take into account years that are colder or hotter requiring more or less energy to heat or cool your home.

The energy use analysis does not take into consideration homeowner habits and use such as changes in the number of occupants, increase or decreases in thermostat settings, increases or decreases in lighting or increases or decreases of hot water use (longer or shorter shower times).

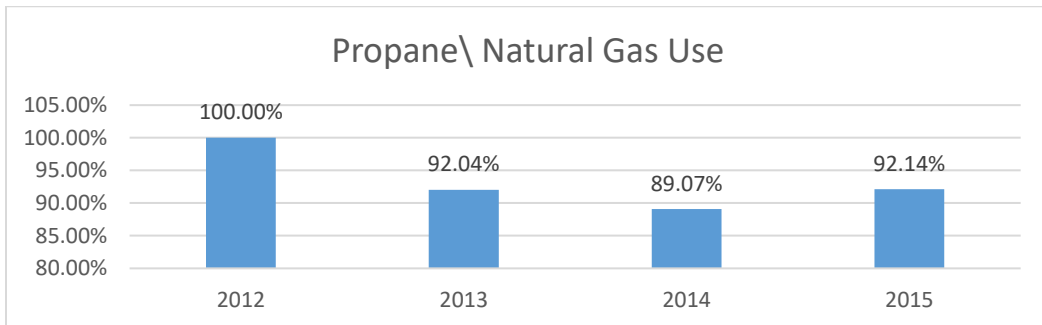
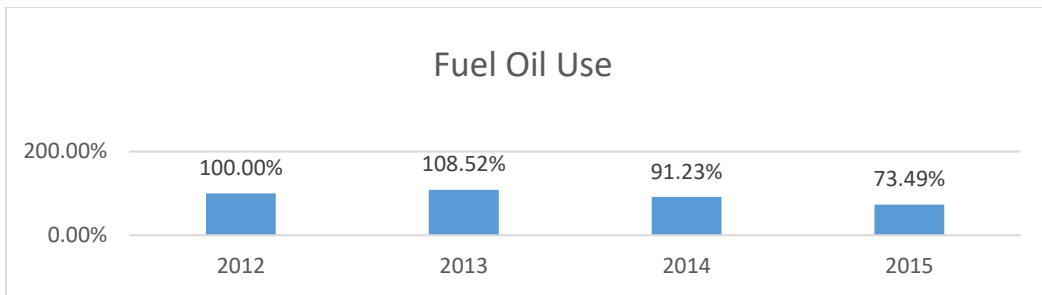
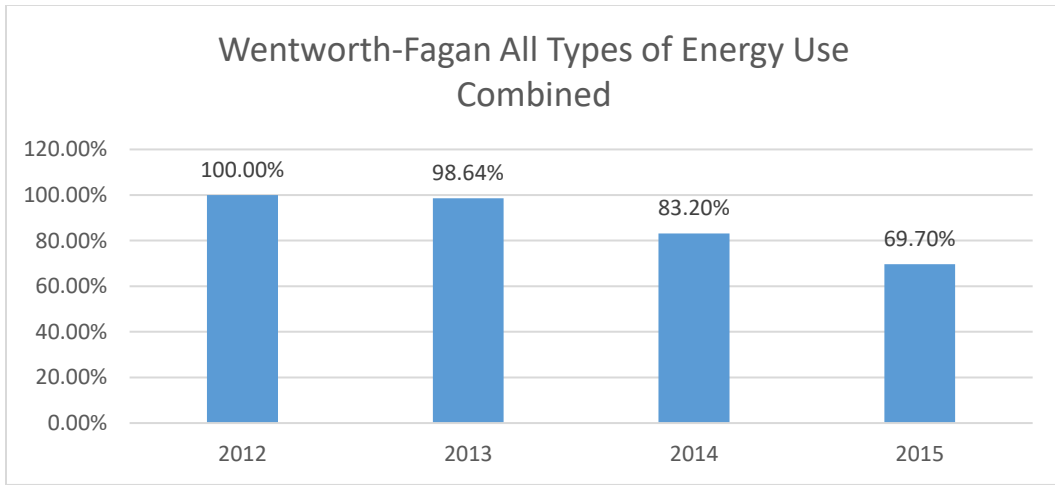
Shown in the graphs below, from 2012 to 2013 there was a 4% increase in overall energy use, but from 2012 to 2015 there was an overall reduction of 30.3 %.

The energy efficiency improvements we have performed to date are as follows:

- | | |
|-----------|---|
| 8/1/2012 | Install custom round top wood storm windows on cupola |
| 8/1/2012 | Replace storm windows in living room, dining room, and parlor |
| 10/1/2012 | Excavate dirt crawl space under kitchen and install insulated concrete slab |
| 11/1/2012 | At crawl space under kitchen and rear entry permanently close up vents that were open to the outside |
| 12/1/2012 | Build 2" thick foam board insulated and weather-stripped doors and install at bottom of basement bulkhead stair to the exterior |
| 1/1/2013 | Insulate rim joist in crawl space under kitchen bump out/sink and under breakfast area |

- 1/1/2013 Insulated soffit over kitchen sink and close off un-needed soffit vents.
- 1/1/2013 Removed crushed flex ducts in attic storage room and replace with solid duct to improve air flow to 2nd floor. In the crawl space remove excess lengths of flex duct and straighten and relocate ducts where appropriate.
- 5/1/2013 On 10/13/09 Howell Renewable Energy LLC of White Plains NY performed a blower door test to see how much air leaked out of the house. The test revealed the **house leaked 9,850 cubic feet a minute** with the blower door set to the industry standard of 50 pascals. R.J. Aley performed a 2nd blower door test on 5/1/13 which revealed that **air leakage had been reduced to 7,200 cubic feet a minute**. A reduction of 2,650.
- 9/1/2013 Insulate cupola walls and install weather stripping on inner windows
- 1/1/2014 Blow in 8"-12" all Borate cellulose insulation for an additional R28-R36 into dining room ceiling and Ben's bedroom ceiling
- 2/1/2014 Un-cover main HVAC trunk duct damper lever in attic storage closet bench and adjust to direct more air toward rear bedrooms (Abbey & Bens Rooms.)
- 9/1/2014 Remove original clapboards with peeling paint from front half of right side of house, remove original 1x8 sheathing, install plywood sheathing and air seal wall, install drainable house wrap and new 1"x6" cedar clapboard siding.
- 10/1/2014 Insulate 2nd floor rear bath walls with R21 Roxul insulation
- 10/1/2014 Open ceiling in Abbeys bedroom and remove HVAC supply over door and patch main plenum to direct more air to Bens room.
- 10/1/2014 Blow in 8"-12" all Borate cellulose insulation for an additional R28-R36 into ceilings over Abbeys room, Reeds room and rear 2nd floor bath and hallway.
- 5/1/2015 Convert fuel source from oil to gas and installed new high efficiency gas furnace
- 5/1/2015 Remove 40-gallon propane fired water heater and replace with 80-gallon electric heat pump water heater

The data does not take into consideration the homeowner habits and usage.



Electrical Use

