

It is with great pleasure that we offer our home to PACE for their 2017 House Tour. In doing so we feel that we have come full circle. It was through visiting several PACE homes in the past that we were first introduced to the idea of building a home that would be environmentally friendly, efficient and comfortable. In particular, we toured a home where the owners themselves facilitated the entire build. This spoke to the possibility that with enough desire and dedication anyone could do this. It turned out to be true. With no previous experience or building knowledge of any kind, we were able to do the research, execute the necessary steps and build a net zero energy home.

Final HERS rating with renewables -15

ACH50 .49

All electric ranch with a 1680 sq.' footprint and 1560 sq.' of conditioned space.

A south orientation for both passive solar and an 8.4 kw system using LG 280 watt panels with solar optimizers that produces 100% of the homes electrical load

10" double wall construction with dense pack cellulose of R-40. Ceilings have R-19 Kraft batts with an R-41 blown cellulose on top for a total of R-60. Basement ceiling has R-38 Kraft Batts. Basement floor has 2" foam boards under slab.

House is wrapped with the ZIP system.

Triple Pane Windows - uPVC construction with an R value of 9.8 and 5 point locking system provides for exceptional air tightness. Window glazing does not exceed 20% of conditioned living space and 53% of all glass is on the south facing wall. Two foot roof overhangs shade south facing glass in the summer. An SHG of .61 provides supplemental solar heating during winter months.

Heating, Cooling, and Hot Water:

Mitsubishi Electric Ductless Mini Split Heat Pump System with H2i Technology. A single zone system serves the great room and a multi zone system handles the bedrooms and studio.

Water heater is a State Hybrid Residential heat pump model SPX50DHPT

A basement dehumidifier will be used during summer months. Santa Fe Compact 70 pint energy star rated.

(The hot water tank is located just below the kitchen sink and the laundry and bathroom were placed in the design to allow for the shortest possible runs to boost hot water conservation. The low flow toilets and shower head were also included.)

Ventilation:

HRV system is a Greentek by Imperial Air Technologies Model # PH 7.15. It draws stale air from the bathrooms and kitchen and feeds fresh air to the bedrooms and side entry hall. It has continuous air flow on reduced speed with boost timers in the bathrooms and a dehumidistat in the living space.

Special Features:

The high air quality was achieved through all no VOC paints and finishes and low VOC glues. Kitchen cabinets were made by Executive Cabinetry certified by the Environmental Stewardship Program, Forest Stewardship Council and Greenguard Environmental Institute.

Masonite's Safe & Sound series were used for all interior doors for their NAHB and CARB ratings.

Organic garden beds were added just beyond the kitchen door providing enough produce to help feed the family throughout the summer and fall months.

Electrical:

All appliances are energy star rated. The cooktop is induction and all lighting is LED.

Project Team Listing

Home location: 89 Bogel Rd. East Haddam CT 06423

Homeowners: Donna Martin & Ken Stanwicks – 860-817-6051

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Home design: Donna Martin

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