

The "Pretty Good House" | Restoring the landscape

SPRING/SUMMER 2017

# Green & Healthy HOMES Maine

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home **SHOWCASE**

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construction

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ORGANIC LAWN CARE TIPS

Display through August 2017

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# Locally sourced Passive House timber frame

Otisfield, Maine

PHOTO: MICHAEL NEWSOM

**T**HIS FOUR-BEDROOM PASSIVE House is home to a family of three, and includes space for an in-home massage practice and yoga room. The Newsoms chose the property to be near close friends who share their desire to protect the environment and live as much as possible off the land. To this end, many of the materials used in the house were sourced from the area, including locally-harvested pine siding and timbers for the frame, as well as the stair treads and railings. Neighbors cut the timber frames and were involved in erecting the frame as part of a community event.

The house features many non-toxic materials including concrete countertops and stained concrete floors with zero VOC wax, zero VOC paints, bamboo flooring on the second floor and natural linoleum in the upstairs bathroom.

## Why we like it:

As a passive house, this home enjoys impressive performance and comfort. The home uses a vapor-open truss wall assembly and Danish triple pane windows. It also features a ground loop system that prewarms (or cools) the incoming fresh air for the energy recovery systems (ERV). The home is very tightly sealed with extremely high insulation values and is topped off with an evacuated tube solar thermal system for domestic hot water.

**EFFICIENCY:** Certified Passive House. \$596 annual cost for heat and electricity.

**BUILDING ENVELOPE:** **Slab**—8" concrete over 12" of rigid EPS insulation R-72. **Walls**—9.5" TJI (wood I-joist) studs combined with 2x6 wall construction filled with dense packed cellulose insulation R-50.

**Roof**—Truss system with 36" of loose fill cellulose R-120. **Windows**—Triple pane Danish tilt-turn.

**Airtightness**—ACH50 - 0.6

**SYSTEMS:** **Heating and Cooling**—ductless mini-split heat pump. **Ventilation**—Zehnder ERV with ground loop system. **Hot Water**—Evacuated solar thermal tube array and storage.

**RENEWABLES:** none

**SIZE:** 2016 sq ft

**COST:** \$156/ sq ft (includes solar hot water, but not PV)

## PROJECT TEAM

**DESIGNER:** Maine Passive House

**BUILDER:** Maine Passive House

**RENEWABLES:** Revision Energy (Solar hot water), Garbo-Kane (solar PV)

**ENERGY/PERFORMANCE CONSULTANT:** Maine Passive House