Application Overview

ENRG Blanket was part of the thermal design for this passive house in Portland, OR. The home is certified by the Passive House Institute. Advanced modeling showed an increase of over 91% in comfort level using ENRG Blanket by Phase Change Energy Solutions.

The builder wanted an easy-to-install, energy efficient solution to provide meaningful energy savings coupled with increased thermal comfort.

ENRG Blanket™ installed into the walls and ceilings in order to reduce energy consumption and improve thermal comfort
1. The Project
The Passive House Institute standards are globally recognized as one of the highest standards for energy efficient structures. The TrekHaus builder selected Phase Change Energy Solutions to provide the phase change material component to be part of the energy reduction strategy and study for this house.

2. The Challenge
This two unit structure was built as a proving ground for phase change materials. The building incorporated PCM’s in half of the building, as a means of measuring the effect of ENRG Blanket in reducing power consumption over the half that did not have ENRG Blanket installed.

3. The Solution
Using detailed, modeling, Phase Change Energy Solutions determined the proper amount of ENRG Blanket for the structure to optimize energy savings.

4. The Results
The impact of ENRG Blanket on this structure was immediate. Measured results indicated a 49% reduction in HVAC current consumption in the unit with ENRG Blanket as compared to the unit without a PCM component. The post installation energy model projected that ENRG Blanket will reduce HVAC energy consumption by 26%, or 30,000 kWhs per year. The return on investment for ENRG Blanket at this site is projected to be 2.4 years using a simple payback method.