

Green Building News

Cleantech's Model for Performance, Sustainability

A homebuilding education and consulting service unveils a showcase home that merges ecological features and traditional lines



By [Richard Defendorf](#) | August 2, 2010



Cleantech Homes LLC, a three-year-old residential development and consulting company, has taken the “show and tell” principle of marketing to its logical limit and built a demonstration home that the company designed to combine energy efficiency, sustainable materials and construction practices, and traditional and contemporary aesthetics.

Located in Beverly, Massachusetts, about 20 miles north of Boston, the 4,100-sq.-ft. house on Thursday will be inaugurated into the community by the town’s mayor, William Scanlon Jr., and begin a six-month stint as an R&D lab and tour center for building professionals, students, and the general public.

The tours will not be casual walkthroughs, however. Participation costs \$20 per person and must be arranged by selecting a date on the scheduling page that will be posted on the Cleantech website. Each tour is expected to take a little more than an hour and is intended to give participants a complete overview of the construction techniques, materials, appliances, and renewable-energy systems used, and how they work in concert to make the house comfortable, energy efficient, ecologically sensible, and financially manageable.

An apolitical approach

According to Cleantech, the exterior walls are insulated to R-28 with closed-cell foam and an outside layer of expanded polystyrene foam. The thermal resistance of the roof is R-42. The building is equipped with a solar power system, solar hot water, a ground-source heat pump, energy efficient lighting, and automated and remotely controlled energy-consumption and security systems. The company estimates that the house, which was among the first to qualify for the Environmental Protection Agency's WaterSense conservation program and is aiming for LEED for Homes Platinum certification, will use half the energy of a comparably sized home built to code.

Cleantech avoids extensive use of the word green on its website because, the company says, "the use of the term, however noble it once was, has become for many utterly polarizing and highly political." The terms high-performance and sustainable figure far more prominently in the Cleantech narrative and mission, which, the company says, includes demystifying what a high-performance, sustainably built home is.

A TV debut

The Cleantech house and concept caught the attention of renovation consultant Bruce Irving, known to many as executive producer of the "This Old House" series on PBS. Irving liked the Cleantech concept

enough to cite the home as “House of the Month” on his consulting company’s website and feature it in another TV series he is producing, “This New House”, which premiered July 29 on the DIY Network. “Everywhere you turn in the building,” Irving writes on his website, “there’s something worth noting, from the 100-year metal roof to the 50-year nontoxic wood decking to the whole-house energy-use ‘dashboard’ to the ground-source heat pump. And each factor has been analyzed for its return on investment, which pushes the project beyond ‘feel-good’ to a genuine educational experience.”



Cleantech Homes LLC – which describes itself as a specialist in educating building professionals and DIY individuals in sustainable building practices, methods and materials – built this 4,100-sq.-ft. showcase home in Beverly, Massachusetts. Image Credit: Cleantech Homes LLC



The foundation walls were precast from 7000 psi concrete, Cleantech says.



Walls were insulated with closed-cell foam on the inside and, on the exterior, foam board.



The house features solar power and solar hot water systems.



Cleantech offers tours of the house to help explain how its insulation and airtightness, and its HVAC, electrical, and plumbing systems, combine to make the building comfortable and operate efficiently.



The home's exterior features a traditional New England design, and a contemporary look inside.



Tours of the house are scheduled to begin on August 5.
