



Solar Air Heating For Commercial Buildings

at the Southeast Solar Summit

Friday, October 26, 2007

10:00 a.m. - 12 noon

[Register now as space is limited!](#)

Join Solar Labs for a comprehensive seminar on Solar air-heating for commercial buildings.

Solar air heating, virtually unknown in the green building field, harnesses full-spectrum sunlight to provide substantial heat and energy savings for buildings. Differing from other solar technologies that supply electricity or hot water, solar air heating technology is a one-step process whereby the sun heats building air with unparalleled efficiency.

In this seminar, a solar air heating design will be presented in which tepid layer ceiling air is fan-forced through roof panels housing solar absorber membranes that trap heat at over 80% efficiency. The air stream is divided, drawing heat from both sides of the absorber before flowing downward to deliver warmth to the building's lower air mass. In daily use, the panels function as the first auxiliary stage of an existing heating system: on cold, sunny days, the solar air system cycles prior to the building's principal heating system and then runs in tandem, supplying extra heat to the building. This process reduces main system cycle time which in turn lowers the building's natural gas requirements. Dual thermostats in the solar air heating system ensure the panels are off during warm or cloudy days.

As in non-storage solar electric and wind systems feeding the larger utility grid, the need for storage in a solar air heating system is eliminated by feeding heat into a larger building environment. This concept emphasizes net energy savings in BTUs rather than sustained heating capacity per cubic foot of building space.

Solar air heaters have been supplying auxiliary heat to a small percentage of residential structures for decades. In years past, the technology was limited by low fossil fuel costs, site restrictions and poor materials. The technology has languished since the 1980s, but with significant design and materials improvements, commercial siting advantages and current fossil fuel costs, the equivalent of grid parity for natural gas is within reach.

The seminar will introduce an innovative, full-scale prototype panel (not pictured) that combines cost efficiency and durability. Topics will include BTU calculations, energy monitoring, return-on-investment scenarios and installation for new construction and retrofit applications.

