THE STATE OF THE ART IN PASSIVE SOLAR HEATING

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ABSTRACT

Three hopeful developments of the last several months suggest that passive techniques will come to hold an important place in the energy future, both in new construction and in "retrofit" modifications of existing buildings.

First, federal legislators have acknowledged the viability of passive solar heating concepts by including passive systems in the proposed new federal solar rebate program. This has been done despite initial doubts concerning the definition and evaluation of passive systems for administrative purposes. The New Mexico experience with a similar rebate program has established its feasibility in the administrative real world.

Second, simultaneous developments in the monitoring and simulation of passive buildings and components have generated new confidence in the reliability and predictability of passive systems in real climates. New design and evaluation criteria have emerged in the process of study and have begun to make headway as usable rules of thumb for the building trades. The intuitive perception of passive systems as cost-effective can now be bolstered with realistic estimates of energy savings and cost trade-offs.

Finally, the practice of passive solar design, with concommitant advances in simulation and monitoring, has gained ground outside the Southwest, where its practicality is intuitively self-evident, in a variety of less-promising environments. The Canadian experience is especially interesting in this regard.

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