

building is driven by a fan. Detailed analysis is presented in the LANL Report on the performance of the collector/rock bin subsystem.

The building had glazing to floor ratio of 0.20, solar gain of 147 Kbtu/sf.Y and SHF of 0.84. The overall system efficiency as cited in the SANDIA report, was 31%. Significant losses (40%) were from the rock bin, mainly by reverse thermosyphonic flow at night. It was concluded that with effective dampers and duct insulation this system could be very effective.

The owner has commented that the indoor temperature was stable and comfortable, and was kept within 65 to 70 °F with very little use of auxiliary heating.

The building with the water wall and Direct Gain (Gunderson) has complex orientation of the glazing so that the "solar" glazing area could not be defined clearly. Consequently also the solar glazing to floor area ratio and the unit area solar gain could not be computed.

The annual SHF calculated in the SANDIA Report was 0.72.

The water walls has operable insulation which is closed in summer. The owner has commented that the hottest indoor temperature occurs in the fall but excess heat can be vented out by opening the doors and windows.

### Buildings in the Other Regions

Only three residential buildings in regions other than NM were evaluated in these Reports: one in Virginia (One Design), one in New Jersey (Kelbough) and one in Vermont (Green Mountain).

The house in Virginia (One Design) had water walls and Direct Gain through clerestories. The solar glazing to floor area ratio was 0.48, the solar gain per unit area was 46 Kbtu/sf.Year and the SHF 0.80.

The house in NJ (Kelbough) had a Trombe wall as the main solar element, and a greenhouse attached (without closeable doors) to the living area. The solar glazing to floor area ratio was 0.50, the solar gain per unit area was 39 Kbtu/sf.Year and the SHF 0.83.

It is of interest to note that the unit area solar gain in these two buildings, with the mildest climates (VA and NJ), were the lowest, and their collector to floor area ratio was the highest, of all the buildings reported in this Report. As information on the incident solar radiation is not available in the SANDIA report it is not possible to compare the performance of these buildings to other solar buildings in these regions reported in the SERI Reports and to determine the relative effects of the climatic conditions and the design details.

The performance of the solar building in Royalton, VT, (Green Mountain Homes) has been discussed above, in the summary of the AIA Research Corp. Report.