

Appendix VI

About cooling load reduction of the solar collector roof system

Besides heat collecting function, the solar roof collector reduces part of the cooling load that comes from the roof structure. For an attic roof structure, the temperature of the attic space is reduced because the solar roof collector takes away the heat accumulated under the roof surface and transferred into domestic hot water tank heat exchanger. The cooled attic space will further reduce the cooling load of the indoor air. In order to make a precise estimation of the cooling load reduction, a dynamic model simulating these two steps is required. Further study may focus on this subject and estimate the total amount of reduction of the cooling load.