

12. A Study on the Effects of Introducing Technologies for Using Renewable Energy

Masaya Iwashita

Corporations and organizations have been developing methods for evaluating zero energy buildings with a view to realizing such buildings. No satisfactory methods have, however, yet to be established for evaluating energy-saving technologies, those using renewable energy in particular. This study focused on air-conditioning systems using soil heat and solar heat as typical examples of energy-saving technologies using renewable energy. The relationship between the scale of these systems installed and the reduction of energy was identified. For air-conditioning systems using soil heat, a planning method was proposed that could maximize energy reduction in the case where the building area was restricted.

Key words: zero energy buildings, use of soil heat, use of solar heat, air-conditioning systems