

Three "Big Bang" Energy Efficient Features

2. Insulation in roof or attic can reduce interior ceiling temperatures by about 15° F.

1. Solar water heaters reduce water-heating bills by about 90 percent, a savings of about \$626 per year for a family of 4.

2. Radiant barriers reflect up to 85 percent of the sun's heat and can help home occupants feel 9° F cooler.

3. Natural ventilation: Windows at body level improve comfort.



For a complete list of techniques in *Comfortable Homes in Hawaii: Guidelines for Energy Efficient and Economical Housing* or for more information on how to make your home more comfortable and energy efficient, visit our Web site: <www.state.hi.us/dbedt/ert/resguide.html>.

For more information on the State Income Tax Credits for solar water heater systems, please call the State Department of Taxation: 587-4242 (Neighbor Islands toll-free, 1-800-222-3229).

For more information on utility company rebates for solar water heater systems, please call:

- Hawaiian Electric Company (Oahu): 947-6937
- Hawaii Electric Light Company (Big Island): 969-0127
- Kauai Electric: 246-8280
- Maui Electric Company (toll free): 1-888-632-6786

For information on the Energy Star® Mortgage Program, please call the phone numbers above for Hawaiian Electric Company, Hawaii Electric Light Company (Big Island), or Maui Electric Company.

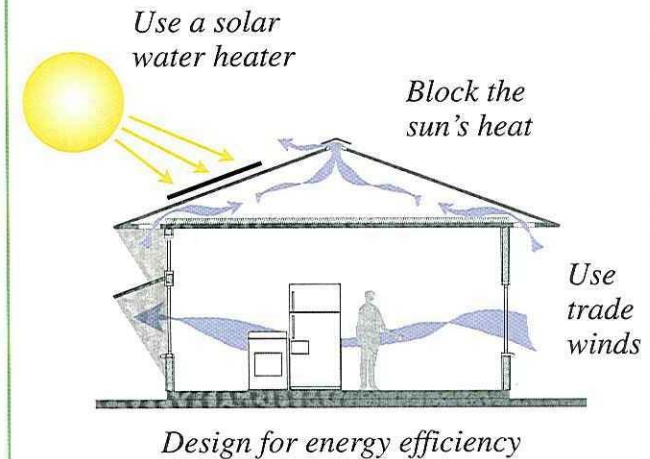
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Comfortable Homes in Hawaii: Guidelines for Energy Efficient and Economical Housing

Your guide to

Lower Utility Bills
Naturally Cooled Homes
Improved Quality of Life



Energy, Resources & Technology Division

DBEDT
THE DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
STATE OF HAWAII

Comfortable Homes in Hawaii: Guidelines for Energy Efficient and Economical Housing

The *Guidelines* are a sensible approach to achieving cooler, more comfortable living, while lowering utility bills, improving quality of life, and protecting our beautiful 'aina. They will help you:

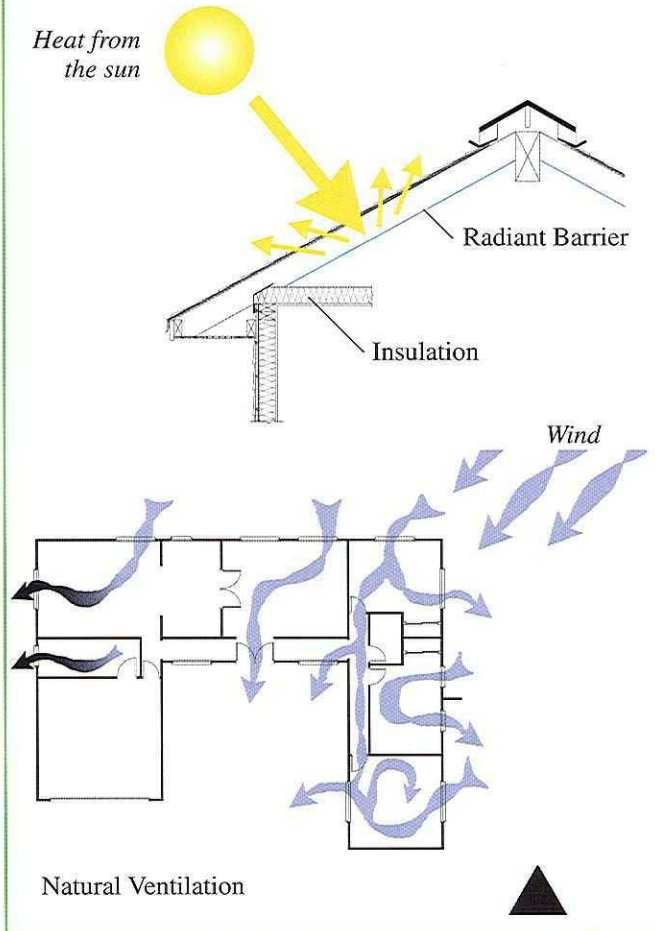
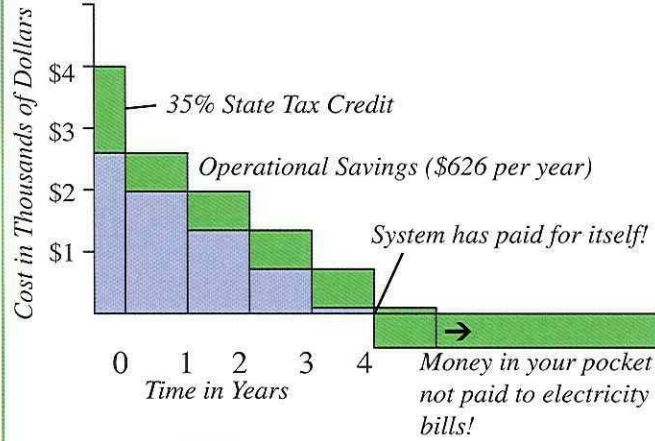
- Reduce heat build up in your home
- Ventilate naturally for maximum cooling
- Identify energy-efficient appliances

Did You Know?

- A roof can reach 150° F from the sun's heat.
- Using energy efficient features and appliances can save \$17,000 to \$28,000 over 30 years.
- You may qualify for a 35 percent State Income Tax Credit for installing a solar system, saving \$1,400 for a \$4,000 system. For more information, see the back of this brochure.
- By installing a utility-approved solar water heating system, you may receive a rebate of several hundred dollars or more. For more information, please call the electric utility in your county using the phone numbers listed on the back of this brochure.
- With an Energy Star® Mortgage, you may qualify for a lower interest rate, reduced closing costs, larger loan or more. A non-air-conditioned new home qualifies for an Energy Star® Mortgage when a HECO-approved solar water heating system is installed. For more information, call the phone numbers listed on the back of this brochure for Hawaiian Electric Company, Hawaii Electric Light Company (Big Island), or Maui Electric Company.
- A pre-designed home incorporating the three "Big Bang" techniques is available from Honsador Lumber Corporation (682-2011).

Three "Big Bang" Recommendations

To achieve the best results for your home, you will want to use many of the 50 techniques recommended in the *Guidelines*. Here is a preview of three "Big Bang" techniques:



1. Solar Water Heating

In most non-air-conditioned homes, water heating represents about 30 percent to 50 percent of the utility bill. Utilizing energy efficient alternatives can reduce this cost significantly.

By installing a solar water heater a family of four can reduce its water heating costs by up to 90 percent, saving about \$626 a year (based on 14.5¢ per kilowatt-hour).

2. Insulation and Radiant Barriers

Correctly installed insulation and radiant barriers can make you and your home cooler.

Insulation absorbs heat passing into the home through the roof and walls. An R-19 insulation value can reduce ceiling temperatures by more than 15° F.

Radiant barriers, thin sheets of reflective material installed in the roof, ceiling or walls, reduce the transfer of heat. Properly installed radiant barriers can reflect up to 85 percent of the sun's radiant heat and help occupants feel 9° F cooler.

3. Natural Ventilation

A home owner can save about \$400 a year in cooling bills when using a comprehensive approach to natural ventilation. You may be able to eliminate the need for air conditioning.

Strategically placed trees, fences and hedges can increase cool breezes through a home.

Designing overhangs and floor plans to capture the prevailing or trade winds, and installing the correct windows and ceiling fans will make a home significantly cooler.