

Chapter 11

Amenities

Recommendations	First Cost	Energy Use Reduction by Following Recommendations	Energy Use Savings by Following Recommendations
1. Reduce impact of energy-intensive amenities — pools, spas or Jacuzzis, fireplaces, skylights, freezers.	R/N/S	20-75%	—
2. Use energy-saving amenities — porches, microwave ovens, outdoor cooking areas.	M/H	—	5%

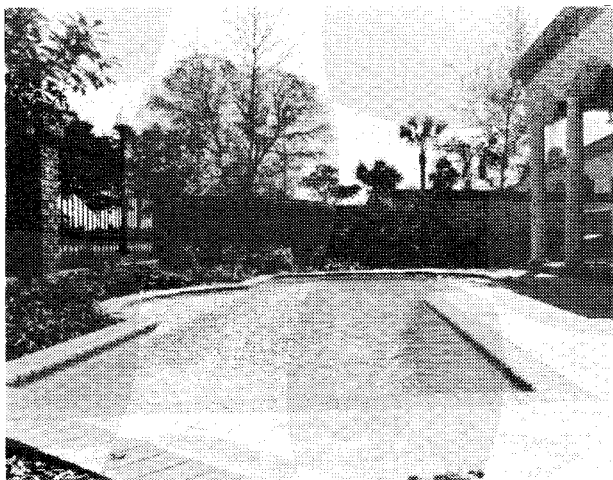
Cost Codes: R = reduced
 N = negligible
 S = small (<\$0.25/ft² of floor area)
 M = medium (>\$0.25 and <\$1.00/ft² of floor area)
 H = high (>\$1.00/ft² of floor area)

Marketing Energy-Efficient Amenities

Amenities are those little (or big) extras you put into your homes even though they are not essential. They can be sold by describing them to clients, but they usually will be easier to sell when they can be seen, as in a model home. A home buyer typically will view an amenity either as something that looks nice but is useless — or as a delicious ice-cream topping. In the latter case, it may be the feature that makes a good house irresistible. Because amenities can be desirable to some but not all home buyers, it generally is best to market them as options.

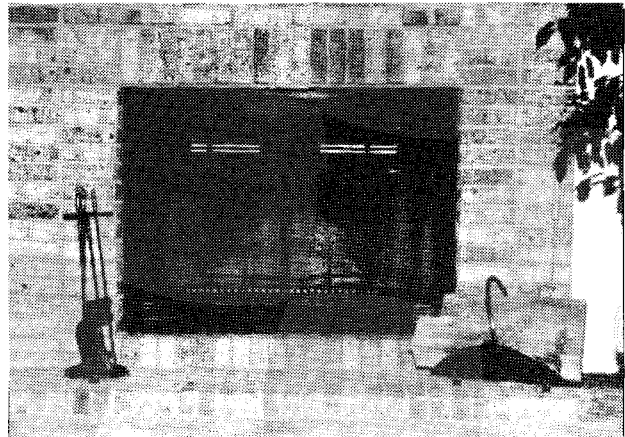
Although energy savings rarely is the prime reason a home buyer chooses an amenity, both you and the buyer should be aware of its energy impact and most effective use. This chapter provides you with the energy information on amenities and ideas for marketing them.

Amenities that can significantly affect a home owner's energy bills are termed energy-intensive. If you have built and marketed an energy-efficient house, and the home buyer chooses to have skylights, swimming pool, Jacuzzi, freezer and/or fireplace, the utility bills are likely to be quite high. Without discouraging home buyers' desires, you should inform them of the energy costs of the



Correct pump choice and run times will reduce the energy consumption of swimming pools.

amenities so they will not accuse you of building a home that consumes too much energy. This chapter contains important tips on how to minimize the impact of energy-intensive amenities, including advice to pass on to your clients.



Fireplaces are attractive, but conditioned air escapes year round unless preventive measures are taken.

The table below points out the typical energy impact of some of the more common amenities:

Amenity	Energy Use	Monthly Cost
2x4 ft clear skylight	240 kWh/year *	\$ 4 ^s
16 cu ft vertical freezer	900 kWh/year	\$ 6
20,000 gallon swimming pool		
— pump	3000 kWh/year	\$20
— heat	Fuel dependent	\$100-200 ^w
500 gallon spa (pump & heat)	3000 kWh/year	\$20
Fireplace	450 kWh/year**	\$ 3

* due to increased air conditioning load

** due to increased infiltration of air, whether in use or not

^s summer months only

^w when heat is required: typically late fall, early spring, and winter months

Fortunately, if strategies described later in this chapter are followed, the energy costs of these amenities can be reduced by 30-40% on average. It should not be difficult to promote sealing the chimney penetrations or using tight-fitting glass doors on fireplaces. Promote an efficient freezer the same way you promote any other efficient appliance (see Chapter 10).

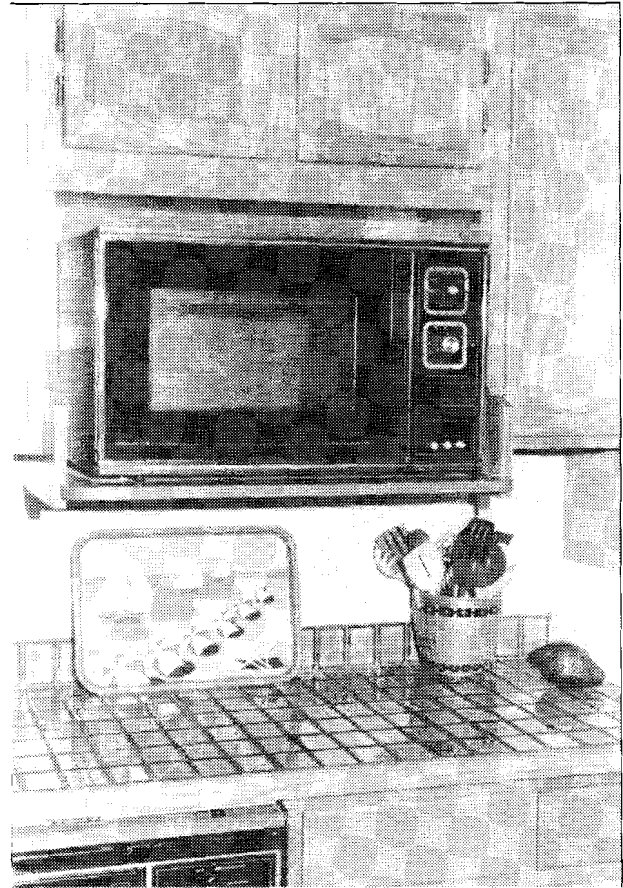
Promote the advantages of shaded skylights, as opposed to clear unshaded ones, because they provide better-quality light and greater comfort for occupants, as well as lower air conditioning bills. Recommend proper running times, efficient pumps and efficient heaters for pools and spas or Jacuzzis. The cost savings can be outstanding, as shown in the table below:

Savings in pool pumping costs by:		Savings from base (\$240/year)
Running pump only for the required time	60%	\$140
Efficient pump choice	40%	\$100
Combination of pump choice and running time	75%	\$180

Some amenities can be promoted as energy-saving. Covered porches, microwave ovens, ceiling fans and outdoor cooking areas can reduce air conditioning costs.

Promote covered porches as an excellent energy-saving amenity that provides both shade for the house and an outdoor living area. The shade helps reduce cooling bills. And, if occupants spend time on the porch rather than inside the house, the load on the air conditioner is reduced even more.

Having the microwave unit built in can assure a convenient location and reduce counter clutter. Inform potential home buyers that microwave cooking is five times more efficient than with a conventional oven. With less wasted heat, the air conditioner will not have to work as hard. The kitchen will be more comfortable, a benefit every food preparer will appreciate. Add a ceiling fan in the kitchen to further that comfort. As you know, a kitchen, like a bath, often is the room that makes people buy the house.



Provide a shelf for a microwave oven.

An alternative for hot-food preparation in summer is the outdoor barbecue, a popular amenity. Point out the greater convenience of a built-in outdoor grill. For upscale home buyers, suggest an entire outdoor food preparation area — sink, grill and storage space for dishes and utensils — that invites cooking out more often. The obvious energy saving is in not having to cool the heat created by cooking indoors. If you provide a shady location and an exhaust fan, the barbecuer may discover a new world of cooking comfort!

Selecting Energy-Efficient Amenities

1. Energy-intensive amenities

As noted earlier, energy-intensive amenities are those which can significantly affect the home owner's utility bills. Here is how to reduce their impact through proper selection and application.

Skylights. The amount of heat entering through six skylights (8 square feet each) at noon in July is enough to cause a one-ton air conditioner to run the entire hour. Due to the high angle of the summer sun, skylights let in two to four times as much heat as do vertical windows. Stopping this heat is



Skylights should be located on a porch rather than in the conditioned space.

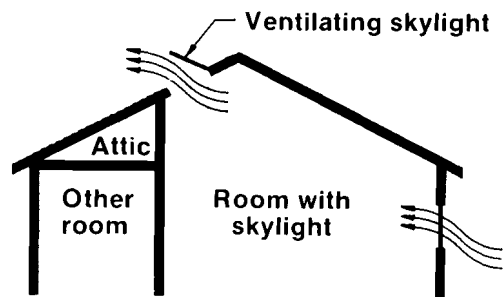
important. First, consider if the skylight can be replaced by vertical glass or eliminated. Next, consider reducing the size of the skylight, particularly if its benefit is limited because of location. A bathroom, for example, is most frequently used in early morning and before bedtime when the daylight may not even be available. Finally, provide skylight shade in the form of:

- interior shades, blinds or panels (available from skylight manufacturers and dealers) that can be controlled manually or by mechanical remote control, or
- skylight glazing with a low shading coefficient (see Chapter 7 for selection criteria).

A shaded skylight, in comparison to an unshaded one, can provide a more uniform source of light and reduce discomfort from the sun's rays and heat intrusion.

Consider including a skylight on a porch adjacent to a window (see photo) instead of in the house. The skylight will be attractive and will help light the home, but far less heat will enter the house. Furthermore, if a leak ever develops the porch will get wet, not the inside of the house.

If you are going to locate a skylight in a high ceiling or in a bathroom without a window, choose a ventilating skylight (one that can open) to take away the hot air that rises to ceiling level. Although rods are frequently used to open skylights, some manufacturers offer remote control devices which make it easier for the home owner. There is one instance where a ventilating skylight may create cross-ventilation in a



Skylight openings can aid cross-ventilation.

room otherwise without it: that is, when the skylight is on a roof section facing a different direction than the room window.

If you use plastic glazed skylights, make sure they have been treated to withstand ultraviolet light.

Follow manufacturer's installation instructions and seal the unit thoroughly to prevent water or air leakage. The skylight should be as air-tight as possible: Industry standards are 0.5 cfm/ft of skylight perimeter, but be sure to choose skylights that *far exceed* this industry standard. High-quality roof work around the skylight is important.

Fireplaces. Most fireplaces are poor heat providers, wasting more heat than they give to a house. Air is drawn from other rooms and used for combustion of the fire. The rising combustion gases serve as an air pump, drawing additional conditioned air into the fireplace and up the chimney. It then escapes out the chimney, causing unconditioned outside air to be sucked into the home. Due to the extra ceiling penetrations and the chimney or flue itself (most

