



# What Are the Energy-Savings Benefits of a Smart-Home System?

By John Thorsen Jr.

Your car is smarter than your home. Your car's interior lights automatically turn on when the door is opened, staying on just long enough for you to find the ignition. When you exit the car, the interior lights turn off automatically. If you've accidentally left your headlights on they will be turned off automatically after a period of time so as to not deplete the car's electrical energy source. Does your house do any of this? Likely not, but if it did, you could realize terrific energy savings.

A smart-home system adds the intelligence necessary to automatically manage many of a home's systems. A smart-home system integrates a home's security, heating and cooling system, and lighting and appliances by connecting them to an intelligent, programmable controller. These systems can even be remotely controlled by the homeowner via phone and the Internet. Smart-home systems offer increased safety, convenience and most pertinently, energy savings.

Connected thermostats can automatically control a home's heating and cooling system by a number of variables including time and date, humidity, outdoor temperature, whether the house is occupied or not, and even the cost of energy. The heating and cooling system can be remotely monitored and controlled for just-in-time comfort so that a home isn't overly heated or cooled when unoccupied. Up to 50% of a home's energy consumption is for heating and cooling. A home's energy costs decrease 1% for every 1° the thermostat is lowered.

Lighting can account for up to 25% of a home's total energy consumption. Smart lighting can automatically turn outdoor lights off at sunrise and interior lights off when a house is unoccupied. Smart switches can be set to bring lights up to 90% brightness instead of 100%. Though this difference is imperceptible to the human eye, homeowners do notice the 10% energy savings for lighting and the doubling of bulb life. Occupancy sensors can turn lights on and off when a room is entered and exited. Light sensors can measure the amount of natural light in a room and dim artificial lights accordingly. Remote lighting control enables a homeowner to turn path lights on when needed instead of leaving them on unnecessarily.

Why heat water 24/7/365 when a home might only be occupied 100 days a year, or when the homeowner is asleep or at work? Heating water uses up to another 25% of a home's total energy consumption. A smart-home system can automatically provide just-in-time hot water. Appliances such as TVs and ovens can be automatically turned off when a house is unoccupied. Interior blinds and drapes and outdoor-irrigation systems can be controlled by input from sensors and even by weather report data gathered from the Internet.

Numerous devices are now available for tracking the energy consumption of individual appliances and the home's total consumption along with the current electric utility rate. This information is available to the homeowner via the Internet and can be used by smart-home controllers to tell dishwashers, for example, to delay running until the electric rate drops.

Energy efficiency and monitoring is becoming a key driver for the adoption of smart-home technology. Homeowners and builders alike are recognizing that a smart house is a smart investment, offering a rapid ROI, increased property value and the homeowner the special satisfaction of being simultaneously smart and green. Your car will feel right at home.

*John Thorsen Jr. is the founder and Managing Director of Connected Hearth, and is a Hamptons-based smart-home systems designer and installer whose customers enjoy energy savings, along with added safety and convenience. Visit their website at <http://www.connectedhearth.com>. Connected Hearth is a founding member of the Hamptons Green Alliance. ■*

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