Dear EarthTalk: I understand that there are many kinds of automatic features that can be incorporated into a home—even some that can be operated remotely—that can save energy and provide other environmental benefits. Can you enlighten? -- *Robert Goodman, Taos, NM*

Home automation may indeed be the next big trend in what consumers can do today to stand up for the environment. By setting up a wired (or even wireless) system, homeowners can optimize lighting level efficiency, cut heating and cooling energy costs and deactivate energy-consuming devices and appliances even when no one is home.

"An automated home brings together security, fire, lighting, temperature control, audio, video, pool, spa, drapery control, sprinklers, and anything else that you want so that these systems can talk to each other and work together," reports Jay McLellan of Home Automation Inc., a leading manufacturer of integrated automation and security systems for residential and commercial use. "In an automated home these devices work together to make the home more energy efficient, comfortable, more convenient and safer."

One easy way to dip a toe in the water of home automation is to swap out regular light switches for occupancy sensors, which can tell if a room is occupied and will turn lights on and off accordingly.

Upgrading to a programmable thermostat that will regulate heating and cooling according to a set schedule is another way to reduce energy consumption and save money. Some newer models, such as Nest from California-based Nest Labs, can program themselves based on occupants' routines and also offer the option to adjust heating and cooling settings remotely via the Internet. A built-in occupancy sensor signals to the Nest whether and when people are around, and the unit then adjusts heating or cooling accordingly. The newest version, Nest 2, can tell within a half hour when occupants have vacated and will set the indoor temperature to more energy efficient level on its own.

Shelling out $249 for Nest's so-called "learning thermostat" may seem a little extreme, but the feature may save enough money and electricity to pay for itself in as little as a year. Nest Labs helps consumers track their energy usage and savings with monthly "energy reports" that detail why home heating and cooling costs have gone up or down (based on usage and time away, as

well as other factors, such as weather). These reports also contain tips on how to optimize Nest as well as other tips to increase energy savings accordingly. Nest thermostats can replace most existing thermostats and do not require upgrading to a newer furnace or air conditioning system—although newer heating and cooling systems, especially those that meet the U.S. government's EnergyStar criteria for efficiency, do tend to save much more energy than older ones. Some 56 percent of the energy used in a typical American home goes to heating and cooling, so automation can make a big difference for the environment and the pocketbook.

Beyond lighting and thermostats, whole-house automation systems connect home electronics (including appliances and security systems) into an integrated wireless network that allows occupants to control from off-site, including via the Internet or a mobile phone app. A Sylvania Z-Wave Starter Kit from SmartHomeUSA.com is one affordable way to get started with whole-house automation; you can start small and gradually add electronics to the system.

CONTACTS: Home Automation Inc., www.homeauto.com; Nest Labs, www.nest.com; SmartHomeUSA, http://www.smarthomeusa.com/ShopByManufacturer/Sylvania/Item/SH50102.

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