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FCS3309

Improving Savings and Health through Minor Conservation Measures in the Home[1]

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Quick Facts

- Mechanical upgrades can increase the overall performance of a house by as much as 40%–50%.
- The remaining 50%–60% inefficiency in the overall performance of a home is largely misunderstood.

Terms to Help You Get Started

- **Home:** The house, the land where it is sited, and the occupants residing therein.
- **Overall Home Performance:** How well the house, its land, and its occupants function to maximize resources.
- **Mechanical Upgrades:** Largely related to higher-costing heating, ventilation, and air conditioning improvements.
- **Minor Conservation Measures:** Largely related to lower-costing mechanical upgrades or behavior modifications.
- **Maintenance:** Actions that are executed on a routine basis in order to prevent repairs from occurring.
- **Family Operations:** Routines and behaviors that are practiced at home by the occupants.

Keywords

Home performance, home-occupant behavior, home maintenance, family operations, home finances

Introduction: A Personal Lesson in Using Cost-Saving Technology in the Home

In order to show my family how our various practices and routines used electricity in our home, I recently installed a power cost monitor (NBC, 2011). The monitor communicated with the electric meter so that I could show my family how the monthly electric bill was being generated. My family tentatively agreed to the experiment and went about its business as usual. I felt that installing the power cost monitor was a small step to take in order to show my family how we all could contribute to improve the overall performance of the home. Although my wife was intrigued, she preferred to blow-dry her hair without the guilt caused by viewing a power cost monitor. The potential overload of information may have been too much, too fast for my family to fully "buy-in" to my idea of monitoring our power use.

The point from this story is that small steps should be taken in your pursuit of improving the overall performance of your home. Improving the overall performance of your home is rarely a direct, uninterrupted path to success,

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but the extra effort caused by small steps will be worth it in the long run. Although the power cost monitor is no longer used in my household, we are much more aware of the information that it revealed to us while it was in use. Whether we all admit it or not, we now know when we are diminishing the overall performance of our home.

This EDIS series of publications will provide information about how improving your home's overall performance can help you improve savings, health, and your happiness. This publication discusses ways to improve your home by making minor conservation measures in your home. Other publications in this series include the following:

- *Improving Savings and Health by Maintaining Your Home at a Ready-to-Sell Level* (http://edis.ifas.ufl.edu/fy1321)
- *Improving Savings, Health, and Happiness by Modifying How the Family Operates the Home* (http://edis.ifas.ufl.edu/fy1322)
- *Improving Savings, Health, and Happiness by Making Small Modifications to Your Home* (http://edis.ifas.ufl.edu/fy1323, for an academic audience)

How Can Your Family Benefit from Improving Your Overall Home Performance?

The concept of overall home performance has much to do with re-thinking how we can be happier, but this is not necessarily synonymous with being comfortable. Finding ways to keep our family members together under the same roof and in a relatively peaceful state is no easy task. Many families may decide to spend extra money on the family rather than paying for unnecessarily excessive costs of maintaining a home. This is understandable because keeping the family together and happy is a good goal and worthy of pursuit. If families focus on the various factors comprising their overall home performance, there exists the real possibility of creating financial savings for the family as well as having more discretionary time. However, improving the home performance sometimes takes place in small increments. It often requires extended periods of time before the benefits are truly noticeable.

Which Minor Conservation Measures Can Help Improve Your Overall Home Performance?

Respondents from a representative sample in the United States were asked to rate multiple items—as identified in the literature—that could improve the overall performance of a home (Cantrell, 2012). The goal was to determine which of 81 items the respondents thought had the greatest likelihood of improving the remaining 50%–60% of their home's overall performance. Within the Minor Conservation Measures Category, they chose 25 of 27 modifications.

Minor Conservation Measures That Can Potentially Improve Savings and Health

Lists 1 through 3 show the Minor Conservation Measures that the sample participants felt could most likely improve the overall performance of their home (these modifications were most reflective of improvements to the family's savings and health). Please note that all the items contained in the lists are unranked and not in any order of priority. The implementation timeframes are listed so that readers can gauge how soon they can hope to realistically make these types of modifications within their home.

List 1. Nine Minor Conservation Measures to Consider Implementing Immediately

- Unplug electronics when not in use. When you see a little red or green light lit up on an appliance that is in the "off" position, keep in mind that it requires electricity for that little light to stay lit.
- Turn off fans when people are not using the room. Fans only cool skin temperature and do nothing to reduce the temperature of a room.
- Keep interior doors to unoccupied rooms open. Opened interior doors help to maintain balanced air pressure in the house. A home is designed to be tightly wrapped with a breathable membrane that allows air in but not water. This "tightness" of modern homes can sometimes trap undesirable gases from leaking out of the house like they did in the past. It is imperative that the house be properly ventilated, both mechanically (forced air) and passively (free-flowing air).

- Use detergents on clothes/dishes that have the least impact on pipes, the environment, etc. Some detergents are less damaging, especially for septic systems.
- Turn off water during activities such as shaving and brushing teeth in order to conserve water.
- Wash clothes at the coolest tolerable water temperature possible in order to conserve hot water (i.e., electricity).
- Avoid the pre-rinsing of dishes whenever possible in order to conserve water.
- Air dry dishes whenever possible in order to conserve electricity.
- Reduce the thermostat setting on the hot-water heater in order to conserve electricity.

List 2. Eight Minor Conservation Measures to Consider Implementing during the Short Term

- Install CFL or LED lighting throughout the home. These types of lights use less energy, reduce the amount of heat emitted into the house, and last longer than standard incandescent bulbs.
- Make sure that the dryer vent is clear of any debris. Dryer-vent blockage can cause dryer fires and require more clothes-drying time.
- Wrap insulation around the hot-water heater tank. Insulation wrapped around the hot-water heater reduces heat loss to the atmosphere.
- Insulate behind electrical outlet boxes, and cap off ones not being used. Insulating behind electrical outlet boxes reduces air leakage.
- Trim ½" off the bottom of interior doors that do not have visible clearance, or install louvered doors. Sufficient clearance helps to maintain balanced air pressure in the house.
- Maintain unbroken weather stripping around windows and exterior doors. Weather stripping reduces air leakage.
- Ensure that the bathroom tub and sink drains do not leak. Leaking drains cause water to be continuously used during activities.
- Install a clean air-conditioning filter. Dirty AC filters require more suction and can cause strain on a compressor.

List 3. Eight Minor Conservation Measures to Consider Implementing during the Long Term

- Ensure that properly sized exhaust-vent fans are installed in the kitchen and bathrooms. Exhaust fans not removing sufficient vapor can result in mold while those removing too much can pull undesirable gases into the house's airflow.
- Install a programmable thermostat. Programmable thermostats allow greater control over the time and temperature in which air is forced throughout the house, which results in reduced electricity use and costs.
- Install low-flow toilets and water fixtures. Low-flow toilets and water fixtures conserve water and electricity.
- Ensure that air ducts are sealed tightly at each joint. Sealed air ducts reduce air leakage.
- Ensure that attic space is filled with uncompressed insulation that is piled high. Insulation is designed to capture air and should never be compressed.
- Install a tankless hot-water heater. Tankless water heaters save electricity by only heating water when needed.
- Ensure that the home heating unit is inspected and that it displays an inspection-card history. Inspected heating units indicate that it is safe to operate the unit.
- Ensure that the electrical panel has its circuits/breakers clearly identified on the panel door. Identified circuits on the electric-panel door show which breaker to reset.

Summary

Mere minor conservation measures in the home will not necessarily result in instant improvements in overall savings and health. However, when combined with other home-performance measures (e.g., maintenance and family operations), the results will become more noticeable over time. The point is not to seek instant results but rather to establish a lifestyle that naturally gravitates toward conserving and optimizing resources.

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