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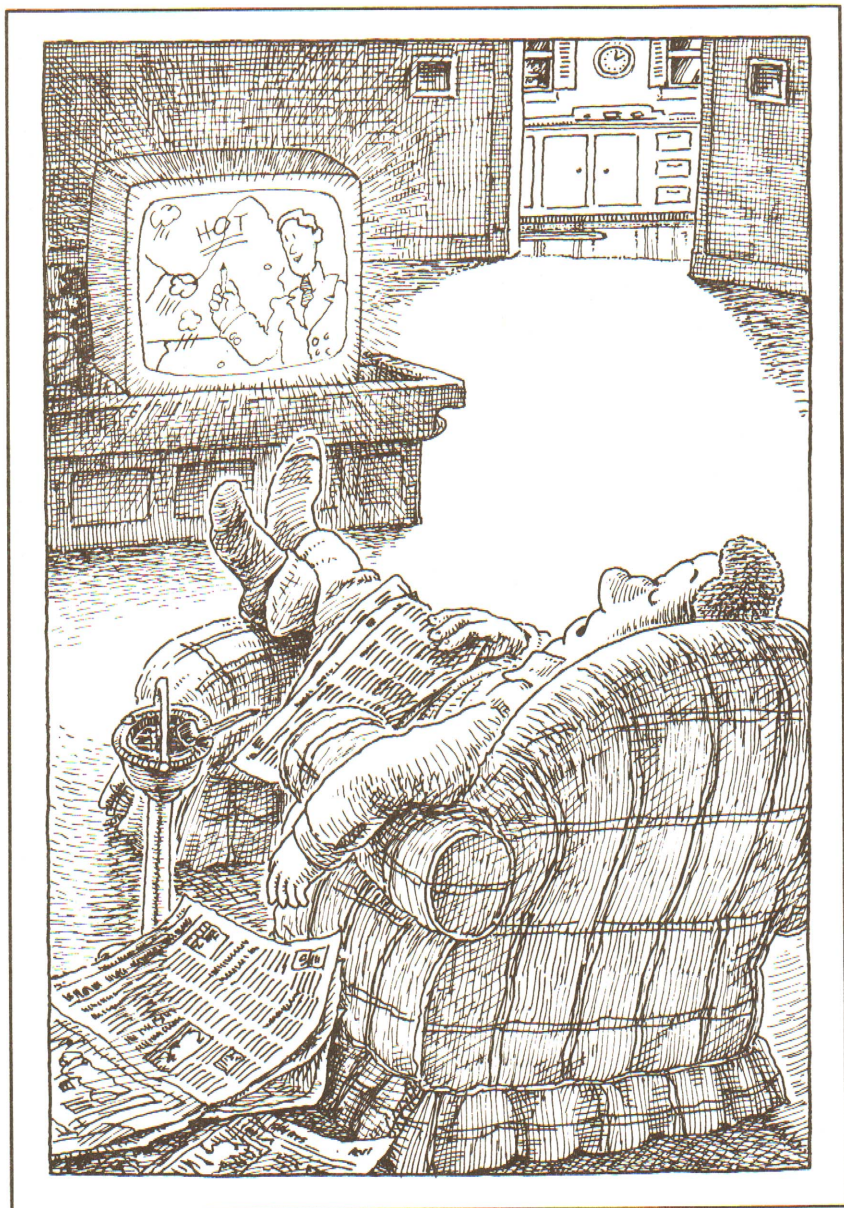
# **HOW TO SAVE ON YOUR ELECTRIC BILL.**

COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY

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**This booklet reprinted, with minor revisions, courtesy of the Virginia Farm & Home Electrification Council and the Virginia Electric and Power Company.**

**ELECTRICITY IS SUCH A BARGAIN TODAY  
THAT MOST OF US FORGET TO STOP USING IT  
WHEN WE'RE THROUGH. WE ALSO TEND TO  
WASTE IT WHILE WE'RE USING IT.**



The size of your electric bill is determined by two things. The electricity requirements of each appliance in your home (watts), and the length of time you use them (hours).

Your bill is calculated in kilowatt-hours, or the combination of these two things. So, a 100-watt light bulb burned for 10 hours will register on your meter as 1,000 watt-hours, or one kilowatt-hour.

Saving on your bill is as simple as reducing either the wattage or the time you use each item. Since the wattage of most things is controlled in the factory where they're made, the easiest way to reduce your bill is to control the length of time you use each appliance, and to use them more efficiently.

Remember, though, that some things that affect the size of your electric bill are out of your control. A prolonged cold spell will cause higher bills in the winter simply because your heating system operates more often. The same is true of hot weather and air conditioning expenses. Other subtle factors are at work, too, such as colder water coming into your water heater in the winter; holiday cooking and entertaining; or, on the other hand, the tendency to use fewer lights and perhaps stay outdoors and watch less television in the summer.

This booklet tries to help you use electricity the way you should. By doing that, you can help prevent waste of this vital power source—and save yourself money.

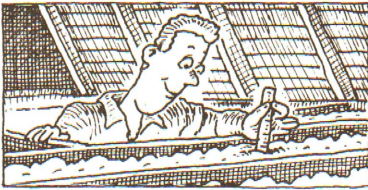
# HOW TO KEEP FROM GETTING HOT UNDER THE COLLAR OVER THE COST OF HEATING YOUR HOME.



The easiest way and the best way is to use some common sense. That involves thinking about how you heat your home. Not what system you use, but how you use whatever system you have.

Electricity plays a big part in home heating, regardless of what system you have. It takes electricity to run the blowers, fans and pumps that are common to most heating plants. So anything you do to save on your electric bill will help keep your fuel bill down, too.

**Insulation.** There's no need to heat all the



great outdoors along with your house. Insulation can be installed in most existing frame houses very reasonably.

As a rule of thumb, you should have six inches of insulation in the attic (R-19), three inches of insulation in unheated crawl spaces (R-11), and three inches in side walls (R-11). If you do the job yourself, be careful not to restrict outside air flow to furnaces using a flame system. They must have air to operate safely and efficiently. Your local power supplier or a reputable contractor can advise you on your specific insulation needs.

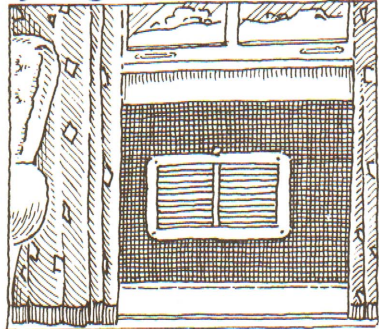
**Storm windows.** Here is where your greatest heat loss can occur. Either double-glazed windows or storm windows keep cold air out, and heat costs down. (Clear plastic tacked across your windows can help to serve the same purpose.)

**Cracks.** Seal them up. Weather stripping and caulking windows and doors helps keep the cold out, and the heat in.

**Chimneys.** Keep dampers closed or block off fireplaces when they're not in use. Otherwise, a lot of heat goes right up the flue.

**Sunshine.** Let it in. Keeping shades up and draperies open during the day helps heat your home. At night, close them for added insulation effect. Draperies should fit tight around window and across window sill or floor when closed to prevent cool air from spilling out of the bottom.

**Radiators and supply registers.** Don't let furniture or drapes block off a radiator or supply register. Be sure they are clean and free of dust or obstructions so that the warm air can circulate freely.



**Unheated space.**

If you have unused rooms and areas, keep them closed off. Also make sure all doors leading to unheated areas are kept closed. But if you have ducted warm air, make sure that closing off unused rooms won't interfere with the air circulation patterns in your home and cause your heating plant to operate irregularly.

**Thermostat.** Once you have found a comfortable setting on your thermostat, leave it there. Raising it doesn't cause the house to



heat up any faster. It just causes the temperature to continue to rise beyond a comfortable point which results in higher heating bills. Never turn your thermostat down very low for brief periods or overnight. Any small savings you might make by doing so would be achieved at the price of discomfort during the reheat period on cold mornings. A reduction of about five degrees maximum at night may result in some savings and to many people affords more comfortable sleeping conditions.

If you choose to open a bedroom window at night, close your bedroom door so that the cold air doesn't hit the thermostat and cause the rest of the house to overheat. If your bedroom has its own thermostat, this should be dropped considerably if you elect to open a bedroom window.

Thermostats should be placed on the inside walls of your home at a location free from drafts. They should never be blocked off, nor should a lamp or other heat-producing appliance be placed nearby. The heat produced will cause a higher reading and tempt you to constantly adjust the thermostat to provide comfortable room temperatures.

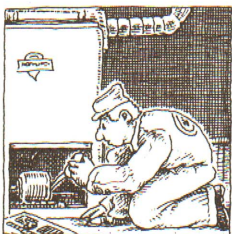
Never turn a thermostat completely off when leaving your home for a few days. A sudden cold snap could cause your pipes to freeze and burst causing substantial damage to your home.



**Humidification.** A home that's too dry must be kept warmer than one with the proper humidity level to give the same comfort. So a humidifying device is a good investment, whether it is one installed with your heating plant or a free-standing electric humidifier.

**Vents.** If your attic and crawl space are properly insulated, you can leave vents in these areas open during winter. It helps keep moisture levels in your home at a proper degree. If you don't have insulation in your crawl space, you can close some of the vent openings in the winter (don't close them all). Make sure they all are opened again in the spring. *Do not* close attic vents in the winter as this could cause moisture condensation and damage.

**Maintenance.** Have your central heating system checked before the start of cold weather. Flues should be cleaned, belts checked and adjusted, motors and pumps lubricated, and combustion units adjusted. If you have a ducted warm air system, check the duct work to make sure it's tight and not leaking air. Duct work in unheated areas such as attics and crawl spaces should be properly insulated. Filters in a ducted system should be cleaned and periodically replaced during the heating season.



The whole point of what we're trying to say is think about your heating. Be careful and avoid wasting the heat your system produces.

# HOW TO KEEP COOL WITH ELECTRICITY, AND KEEP YOUR COOLING COSTS DOWN.



If your home has air conditioning, here are a few ways you can help keep your bills down without losing any of the cooling benefits.\*

**Blinds.** Keep the hot sun out. Draw your blinds, shades or draperies during the day, particularly on the sunny side of your home. Light-colored draperies will reflect more heat back to the outside than dark ones.

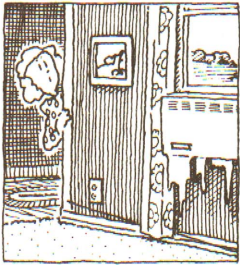
**Insulation.** Insulate your home. Even if you can't get into the side walls, extra insulation in your attic will not only keep you cooler in the summer but also warmer in the winter.

**Air.** Take advantage of cooler air. When the outside temperature drops below the temperature inside your home—as in the evening—open your windows to let the inside heat escape. The best way is to open windows at both the top and the bottom. In a two-story home, open windows in both upstairs and downstairs rooms to pull cool air in on the first floor and push warm air out on the second.

**Attics.** Install an attic vent fan. The temperature in your attic can reach 140-160 degrees on a hot day. A small attic vent fan will exhaust the heat and keep it from radiating downward through your home. These fans are economical to operate, and some units come with a thermostatic switch that turns the unit on and off automatically. (A light-colored roof on your home will reflect sunlight and help prevent heat buildup.)

**Heat.** Don't add extra heat. Cut down on heat-producing uses inside the home, such as unnecessary cooking, ironing, lights, television sets, and radios that are on but not being used or watched.

**Cooling.** Don't overcool. A five degree change in your thermostat setting can mean a



substantial decrease in your operating costs. Raise your setting to 76 degrees or 78 degrees as recommended by most air conditioning specialists. For maximum comfort, don't try to keep the inside

temperature more than 15 degrees cooler than the outside temperature. Walking into a 75-degree house on a 95-degree day feels like walking into a refrigerator.

Don't try to cool the great outdoors. When air conditioners are on, keep windows closed. Check for cracks around window units. Keep outside door openings and closings to a minimum.

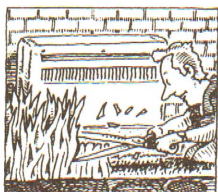
**Temperature.** If you are a working family or plan to be away all day, raise the thermostat setting on your air conditioner by five degrees when you leave. It should only take a few minutes to bring the temperature back down when you return, and you will save on operating costs. Turning the unit off completely will probably not save money because the unit will have to work extra hard to remove the heat built up during the day and

thus require a much longer cool-down period when you come home. If you plan to be away until later in the evening when cooler outside air will begin to cool your house down naturally—or if you are planning to be away several days—then shut your air conditioning off when you leave.

**Location.** Put window unit in best location. A window that is in the middle of the area to be cooled is the best place. If possible, avoid corners and hallways as locations for the unit. Make sure large pieces of furniture are not blocking the circulation of air both into and away from the unit.

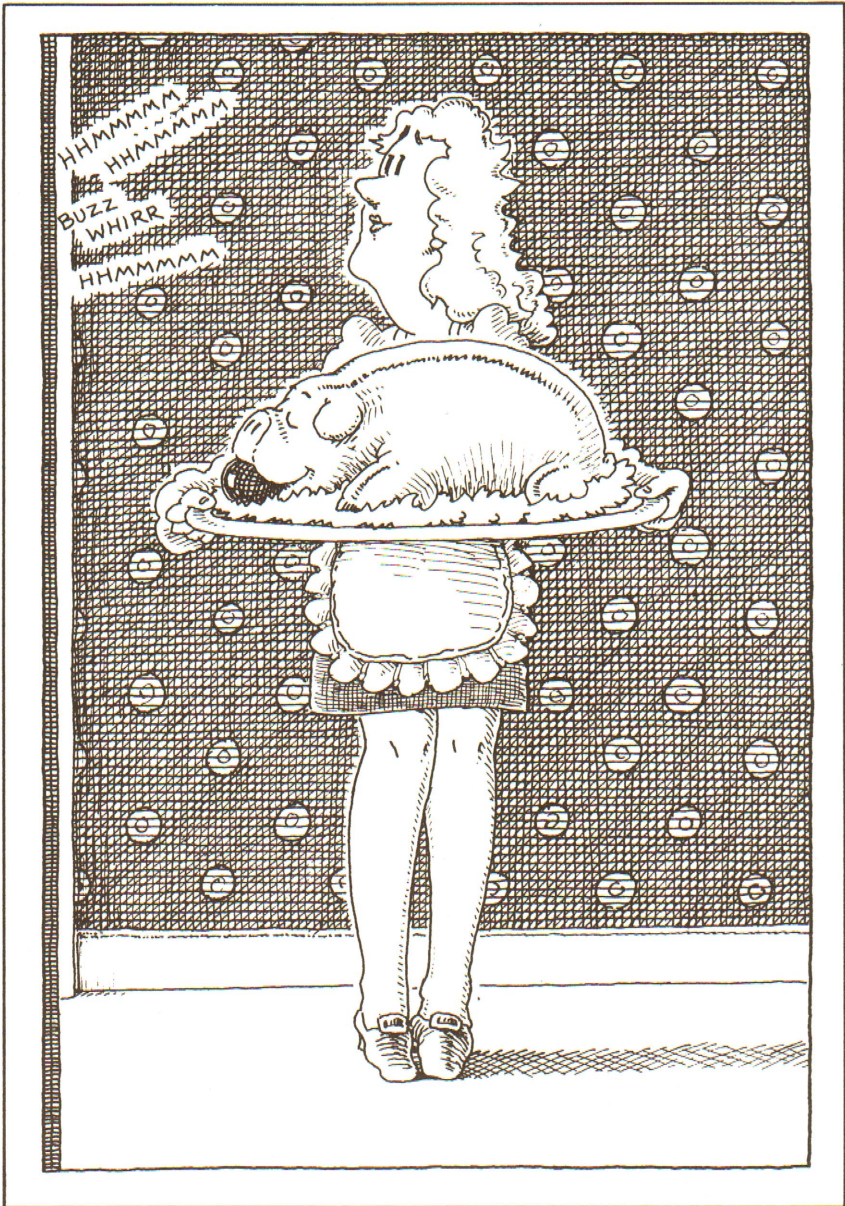
**Cleaning.** Keep filters clean. Dirty filters will run up your cooling costs by restricting air flow and thus make your unit work harder and longer.

**Care.** Have your central cooling unit serviced each year. An air conditioner that is out of adjustment can increase your operating costs while giving you very little cooling. Don't let shrubbery, grass, or grass clippings reduce the flow of air over the outside condensing coils of your central unit or the outside-the-house portion of your window unit. The heat removed from your house will not be able to escape from the condenser.



These suggestions should help you enjoy the summer even more. The savings you get from the proper use of electricity are bound to make you happy.

# HOW TO KEEP ELECTRICITY THE BEST BUY IN YOUR KITCHEN BUDGET.



Just a little attention to the right way of using electric kitchen appliances can make a difference in your utility bills. So check these facts about refrigerators, dishwashers, and ranges. You might save yourself some bread.

**Defrost.** If your freezer isn't frostless, make sure you defrost it before the ice gets one-fourth inch thick. More ice than that cuts down on the cooling power of the coils.\*\*

**Refrigerator doors.** Leave them shut as much as possible. Don't make repeated trips to remove items one-by-one when planning your meals. Also, make sure door gaskets have a good seal. They'll become brittle and lose their effectiveness with age.

**Temperatures.** Never set the controls lower than required to maintain proper temperatures. You're just wasting power if you do. If you are going away for a few days, raise the temperature setting slightly. The closed door will keep things cold.

**Capacity.** Keep your freezer full. The cold you have paid for can be retained much better by the food in your freezer than it can by air (which can spill out each time you open the door). Don't buy a freezer too big for your needs.

**Dishwashers.** Use your dishwasher only when you have a full load. Meanwhile, use it to store soiled dishes.

**Baking.** Plan your oven meals. A complete meal can be cooked in the oven as economically as one food item. Get foods into the oven as soon as it is preheated. Also, avoid using the oven for small amounts of toast. And turn the oven off as soon as you are through.

**Boiling.** When cooking vegetables, use a small amount of water. It takes less time to bring them to a boil. As soon as water reaches the boiling point, you can cut the setting back. When boiling water for coffee or tea, heat only as much as you need. Remember, too, that water comes to a boil quicker in a covered pan.



**Utensils.** Avoid using undersized pans on your surface units. Match pan size to element size. Use pans with flat bottoms (not warped) to permit close contact with surface unit. Be sure pans have tight-fitting lids.

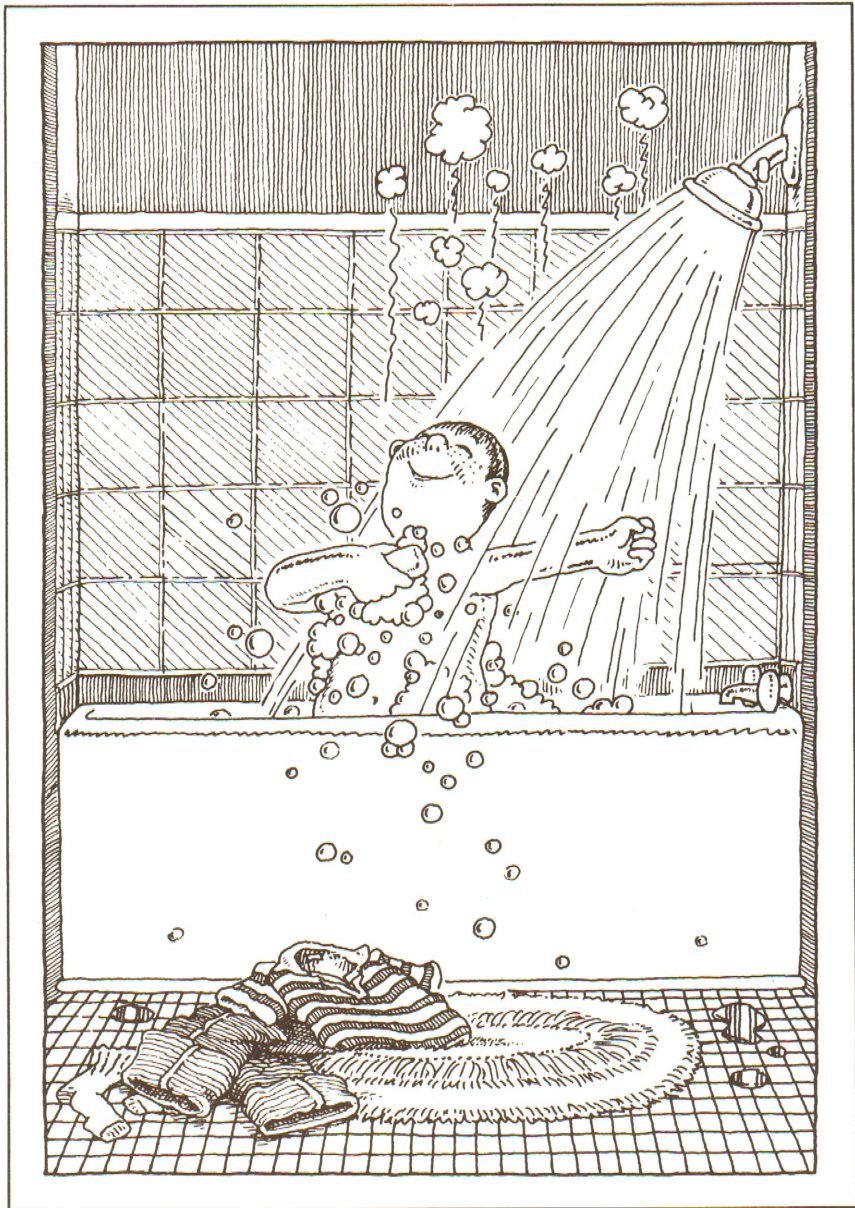
**Cook and freeze.** Prepare double recipes for meals like spaghetti sauce, soups, and stews that take a long time to cook. Then freeze half for future use.

**Counter-top cooking.** Electric frypans, broilers, rotisseries generally use less electricity than your range when cooking the same food.

**Oven doors.** Avoid opening the oven door unnecessarily. Make sure the door seal is tight and not leaking heated air.



# HOW TO STAY IN HOT WATER AND SAVE ON YOUR WATER HEATING BILL.



The places you use hot water in your house fall into two general categories. The laundry room and everywhere else. First, let's look at the correct way to use it everywhere else.

**Bathing.** When you're shaving or washing at a basin, don't leave the water running. You're just wasting the hot water that



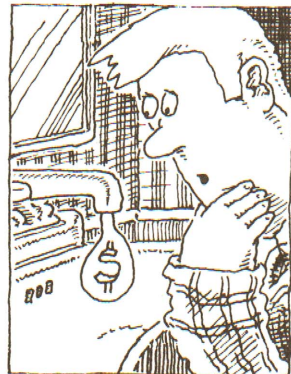
you have to pay for. Reduce the time the water runs in the shower or the depth to which you fill the tub.

**Dishwashing.** If you wash dishes by hand, don't leave the water running to wash or rinse each plate separately.

**Water heater location.** Install your water heater as close as possible to the place where you will have the greatest use to eliminate long pipe runs. All the hot water left in the pipes when you turn off the faucet is wasted.

**Faucets.** Repair leaky hot water faucets. One drop per second adds up to about 200 gallons per month. That's a lot of hot water down the drain.

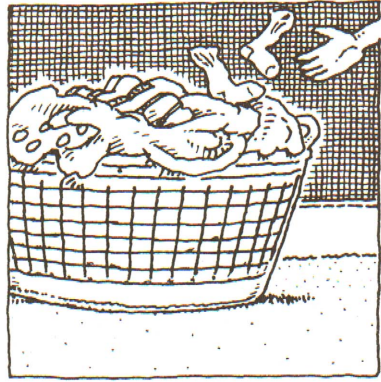
**Temperatures.** Set the water heater thermostat between 150-160 degrees. This will give you the required water temperature for dish-



washers and the laundry.

Now let's check the laundry.

**Wash full loads.** It saves time, hot water, and electricity. If you must wash a partial load, select the water level to fit the amount of clothes.



**Avoid overwashing clothes.** It's just a waste. Use cold water and cold water detergents wherever they can do an adequate job.

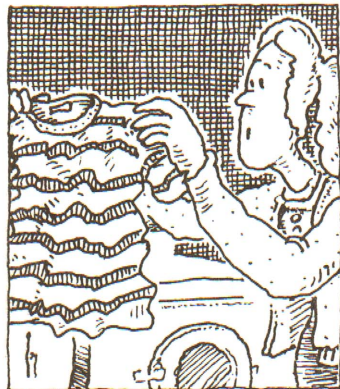
Now, while on the subject of laundry rooms, here are a few tips on how to get the most out of your electric dryer.

**Keep it clean.** Lint traps should be cleaned after each load. A clogged lint trap or filter will reduce the dryer's efficiency.

**Vents.** A vent from dryer to the outside will exhaust heat and moisture. This can save on your air conditioning.

**Drying.** Don't over-dry clothes. This wastes electricity and sets wrinkles in the clothes.

So remember. Electricity works hard for you all over the house. And when you use it correctly, it gets even more done—for less cost.



**AND NOW A FEW FINAL WORDS  
ON SOME OTHER WAYS YOU CAN GET THE  
MOST FOR YOUR ELECTRICITY DOLLARS.**



Electricity touches almost every room of your home, and almost every activity that occurs in your home.

There are electric appliances that include everything from toasters to televisions. Electric worksavers that range from hedge trimmers to hair curlers.

And, of course, there's the everyday convenience of electric lighting.

### **First, electric appliances.**

Items like electric clocks are low wattage users, and they don't contribute very much to your bill. Similarly, items that are used for brief periods, like carving knives, tooth brushes, and small tools, have very little effect on your bill.

But to get the most out of all electric appliances, they should be kept in good repair. When they don't operate efficiently, they require more power, and you don't get full use from them.

Also, be careful not to leave appliances on when they're not being used. This is especially true for items like televisions, electric blankets, and room heaters.

### **Now, lighting.**

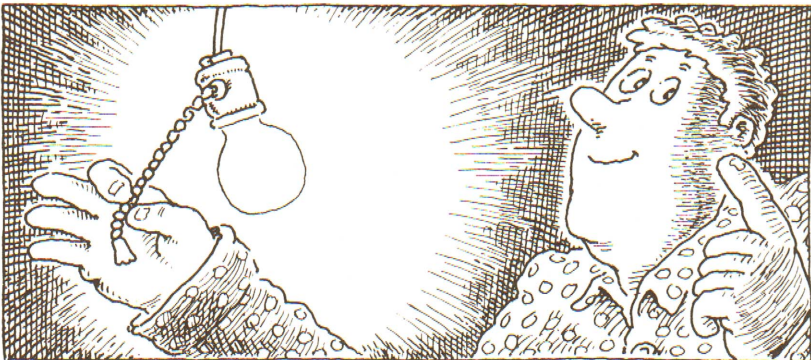
Only about five percent of the average annual bill comes from lighting. So, it doesn't make sense to use bulbs that are too low in wattage and run the risk of eye strain or accidents. In the same vein, night lighting on your porch and in the house has been found to be the best protection against criminal break-ins.

Considering that, the two or three cents a night these lights cost is a cheap price to pay.

There are a few common sense tips to help save on lighting. Fluorescent lighting costs considerably less than incandescent bulb lighting for the same amount of light. This might make it worth considering where lights are on for long periods of time, such as the kitchen.

Turning off lights in unused rooms can result in savings. And contrary to some popular beliefs, turning a light on and off does not use more electricity than leaving it on. But in the case of fluorescent lighting, the life of the fluorescent tube is shortened about two hours each time it is turned off and restarted. With an incandescent bulb though, there is little effect on the life of the bulb.\*\*\*

So, enjoy electricity throughout your house. But use it sensibly. You'll get the best results. And save yourself money, too.



## ADDENDA

- \*The actions suggested on pages 9-10, under Blinds, Insulation, Air, Attics and Heat, will help you keep your home cooler even without air conditioning. Trees that shade your house and awnings that shade windows also help to keep your house cooler in hot weather. By following these practices, and using fans on hot days, you may find that you can be comfortable without adding the extra energy and dollar costs of air conditioning.
  
- \*\*If you are selecting a new refrigerator or freezer, remember one that is frostless can use over 1½ times as much electricity to operate as the model you defrost yourself, and so will increase your utility bill.
  
- \*\*\*Also select efficient light fixtures that let as much light as possible reach the activity where light is needed. Avoid shades and diffusers that absorb too much of the light. And keep bulbs, shades and diffusers clean so that all the light you're paying for reaches you.

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