



MyHomeWorks™

Welcome to MyHomeWorks™! This website features practical tools and information to help you protect the systems that run your home, save you money and get technical support when you need it. It's free as part of your homeowners policy.

Protect My Property

Prevent common home systems and equipment failures. Protect against costly losses. Prepare for life's what ifs. Help is here.



Save Energy Save Money

Discover ways to optimize your home's efficiency. Get smart home and cyber security tips and more. Start saving energy and money now.



Insure My Property



It's inevitable. At some point, your heating or air conditioning system will stop working. It may cost hundreds, even thousands to install a

replacement or pay for repair parts and labor.

Did you know your typical homeowner policy doesn't cover breakdowns to these important home systems?

You may have product warranties, but they pay for parts only, and they expire. Home service contracts and extended warranties are expensive and exclude many types of breakdowns. *All come up short.* Yet with sensitive microcircuitry now controlling so much of our home equipment, breakdowns are more common than ever.

That's why Home Systems Protection is different. It's whole-house protection, it covers both parts and labor for a wide range of home systems and technologies, and costs just pennies a day.



This important and valuable coverage may be available to you as part of your homeowners policy. If you're not sure if you're covered, call your agent or chat with us to find out.

What's Covered?

Essential Home Systems

Every day you rely on essential and costly home systems for heating and cooling, electricity and hot water. Home infrastructure breakdown coverage protects permanently installed systems when a sudden mechanical or electrical accident, such as a power interruption, causes a failure.

Underground Service Lines

It can come as a shock to learn you're responsible for repairs when a water pipe, power or waste disposal line, or cable on your property fails or is accidentally broken. The fix often requires costly excavation. You can get coverage for the cost to repair or replace the broken line, but also other outdoor property damaged by the service line failure.

Other Coverage Features

Losses can go beyond physical damage to equipment. What if you can't stay at home during repairs? How much will it cost to expedite repairs? Home Systems Protection covers these costs and pays beyond the loss amount for a more efficient or environmentally friendly upgrade.



What Can Go Wrong

Essential Home Equipment

Home systems provide the essential comfort and conveniences of daily living and home operations. When they don't work, see how inconvenient lack of coverage can be.

Service Lines

Service lines that bring utilities such as water, waste disposal and natural gas to your home from the street are easily damaged by tree roots and freezing. Did you know that more often than not, failures occurring on your property are your responsibility to repair or replace? Both can be very costly.

Other Coverages

Other features available as part of your homeowners policy may pay claims beyond repair or replacement costs for equipment or service lines or repairs to landscaping damaged due to service line repairs.



Ramona
Essex, NJ

This coverage is essential if you own a home.

I recently purchased this coverage when I bought my new house and boy am I glad I did! Our water line was damaged when a contractor hit the line. I submitted my claim and the payment covered the cost of my landscape repairs saving me \$8,500.

What Can Go Wrong

▼ Essential Home Equipment

HVAC

When a homeowner's HVAC unit was not cooling properly, the repair company found the compressor motor for the HVAC unit had seized and the compressor had to be replaced. The replacement compressor's covered cost: \$900.

Furnace

A repair company discovered that a cracked heat exchanger was causing soot to escape from a home's furnace and vents. The furnace was old and no replacement for the heat exchanger was available, so the furnace was replaced. The covered cost to replace the furnace: \$3,513.

Boiler

An old boiler in the basement was leaking from the bottom. Low water had caused overheating and several sections had cracked. Since no replacement sections could be located, the whole boiler had to be replaced. The covered cost of replacement: \$3,019.

Pool Filter System

A homeowner noticed his pool's filter had stopped running. The repair company confirmed the filter pump motor had shorted out internally and the motor had to be replaced. Covered cost to replace the motor: \$801.

Water Heater

A homeowner found the water heater in the basement leaking profusely. Repairmen confirmed the bottom of the oil-fired water heater had ruptured and the whole unit had to be replaced. Covered cost to replace the water heater: \$3,200.

Water Softener

A home's hard, discolored water was caused by an internal short in the water softener system's control board. The unit was stuck in the regeneration cycle, allowing iron and sulfur to contaminate the water supply. Covered cost of service and system replacement: \$3,832.

> Service Lines

> Other Coverages

What Can Go Wrong

> Essential Home Equipment

▼ Service Lines

Sewer Line

Repairmen called about basement water found a backed-up sewer line and excavated the front yard. Tree roots invading the terra cotta sewer piping in several places caused the line to collapse, requiring sewer line replacement and landscape repair. Covered costs: \$8,049.

Septic Line

Excess water and foul odor near septic tank triggered a repair call. A camera snaked from house to septic tank revealed tree roots had caused the line to crack and collapse. To replace the line, trees and shrubs had to be removed and replaced. Cost of \$10,161 paid to \$10,000 limit.

Drain Line

Inspecting water in a basement, a repairman confirmed the drain line leading from the basement through the yard had cracked and collapsed due to tree roots. A total of 140 feet of piping had to be replaced in the yard. Covered cost: \$4,000.

Electrical Service Line

After a home's lights suddenly brightened, light bulbs broke and TVs were damaged, the utility found the neutral line buried in the yard was severed, causing a power surge in the house. A temporary line was installed until repairs were completed. Covered cost: \$8,098.

▼ Other Coverages

Environmental Efficiency Upgrades

When an old water softener seized and replacement parts were no longer available, instead of replacing it with a similar unit priced at \$750, the homeowner opted for a more energy-efficient model and received \$1,125 (150% of \$750) for the upgrade, plus the cost of labor.

Additional Living Expenses

When a strange odor in the house made two family members sick, their doctor diagnosed Carbon Monoxide poisoning. Repairmen found a cracked heat exchanger and the old furnace had to be replaced while family members stayed in a hotel. Covered furnace and hotel costs: \$4,573.

Home Efficiency Center

Jump To

 

Search All

Go

The appliances, electronics and systems in your home use a lot of energy to keep you comfortable, safe and entertained. The information on these pages will help you manage home energy consumption better. Learn how to select, use and maintain your household necessities to maximize efficiency and savings and make your home a little greener.



Appliances and Electronics

When is the right time to replace an old appliance? What are some simple steps to improve their efficiency? Is your TV or computer using more energy than necessary? Get the facts.



Energy Efficient Strategies

To control your energy costs, create a master plan to boost efficiency throughout your home. Sound overwhelming? Take a look at these simple strategies for energy efficiency. And take it a step at a time.



Home Systems and Structure

The efficiency of heating, cooling and water systems, roofs, windows and other home structures has a huge impact on the size of your utility bills. Find out what you can do to boost efficiency, reduce energy use and lower your costs.

My Connected Life

My Connected Life

Comfort, convenience, cost savings and security in your connected home. Cyber security tips for you and your family for all aspects of life. Get info here.



Utilities, Communications and Alternative Energy

The old rules about where we get power, fuel, phone service and Internet access are changing daily. Stay on top of the options so you can decide what's right for you and your home. You'll find helpful, up-to-date information here.

Home Efficiency Center List

Jump To

Appliances and Electronics



Search All

Go

- > Air Conditioner - Window**
An air conditioner may be permanently installed, but is often installed and removed seasonally. Humid air requires more energy to cool...
- > Ceiling Fan**
Ceiling fans are high-volume, low-speed air circulators, moving an average of 6,000 cubic feet of air per minute. In winter months...
- > Clothes Dryer - Electric**
Clothes dryers consist of an electric motor attached by a drive belt to a rotating drum where the clothes are dried. Electrical heating...
- > Clothes Dryer - Gas**
A natural gas or propane gas-powered clothes dryer consists of a metal housing with an access door and a rotating drum within...
- > Computer & Printer**
A home computer consists of memory and integrated circuits, and its central processing unit executes instructions and runs software...
- > Dishwasher**
Most dishwashers have pullout racks to hold the articles to be washed. The racks slide on rails or casters mounted on the...
- > Fireplace - Gas**
Natural gas and propane fueled (gas) fireplaces provide warmth and aesthetics without the mess associated with wood, pellets or...
- > Garage Door Opener**
A garage door opener consists of a power unit that contains an electric motor that is attached to a track that guides the door...
- > Microwave**
Microwave ovens heat using microwave radiation. A magnetron tube generates microwaves inside the unit causing certain molecules...
- > Range - Electric Stove/Oven**
The range's electric stovetop contains heating elements, or burners. They are shaped like flat coils. The temperature is controlled by...
- > Range - Gas Stove/Oven**
A gas range uses open-flame stovetop burners. Each burner has a heavy cast iron frame placed above it to support pots and pans...
- > Refrigerator - Freezers**
Combination refrigerator-freezers are designed to maintain safe food storage at 37°F in the refrigerator compartment and 5°F in the...
- > Stand-Alone Freezer**
A stand-alone freezer is designed to maintain safe frozen food storage at 0°F. These freezers are often located in the kitchen...
- > Television**
Nearly all televisions sold today are thin, light-weight units that use digital signals to display a vivid color, flat screen picture using...
- > Thermostat**
A thermostat is simply a temperature sensitive switch. It shows the current ambient temperature at the location of the thermostat...
- > Washing Machine**
There are two types of washing machines: The top loading and the front loading. In the top loading, or impeller type, the impeller...

Air Conditioner - Window



How It Works

Window air conditioners can be installed permanently or seasonally. They use an indoor and outdoor coil - along with a set of fans - to cool your room and remove heat. It generally takes more time and energy to cool humid air than it does to cool dry air. For efficient mobile cooling around your home, consider a portable air conditioner.

What Can Go Wrong?

If there's a problem with your air conditioning unit, you'll be the first to know. When the heat sets in, it's important to remember that a dusty filter is the most common and easily solved problem you'll run into. In rarer cases, the interior and exterior coils may need cleaning.

If your room isn't cooling within five minutes - and the air filters are clean - get a professional diagnosis. There may be a problem with the refrigerant charge, compressor, condenser or fan.

Environmental Impact

Window air conditioners typically use between 5,000 and 8,000 British Thermal Units per hour (BTUh). Even a 5000 BTU air conditioner can emit large amounts of carbon dioxide (CO₂) over the cooling season, so it's important to maximize efficiency when you can. Check out our energy conservation tips to save money and protect the systems that run your home with simple solutions from MyHomeWorks™.

Tips & Tricks

Maintenance Tips

- For safety, always unplug the unit before performing any maintenance.
- Replace your indoor air filter every two months for crisp, frigid cooling and maximum efficiency.
- Inspect the indoor and outdoor coils every month during the cooling season and clean them if necessary. Remove excess dust and dirt with a paint or vacuum brush and then run your air conditioner on its coldest setting to loosen and rinse away any leftover dust.
- Inspect the outdoor end of your window air conditioner to be sure it's free of obstructions.

Loss Prevention Tips

- Where possible, plug the unit into its own dedicated outlet with a sufficient amperage rating. This will help you avoid malfunctions due to overload or circuit breaker tripping.

Energy Conservation Tips

- Avoid opening the windows in high-humidity weather, since humidity requires more energy to cool.

Ceiling Fan



How It Works

Ceiling fans can make any room more comfortable without actually changing the temperature. Set your fan to rotate counterclockwise in the summer months to project cool air and create a "wind chill" effect. For the most efficient heating in the dead of winter, reverse your fan's rotation to redistribute warm air throughout your home.

What Can Go Wrong?

Ceiling fan pull-cords are a common point of failure you might run into, but they can be repaired or replaced. Small fans are particularly susceptible to motor failure caused by low voltage, especially during peak air conditioning season.

Physical damage to the blades or other key components may create unbalanced airflow. In these rare cases, it may cost more to repair your ceiling fan than to replace it.

Environmental Impact

Modern Ceiling Fan sizes range from about 29 inches to 54 inches in residential units - 50 inches is usually sufficient. Ceiling fans are low energy consumers, especially compared to air conditioners. Use your fan to supplement air conditioning for comfortable living at a reduced cost.

Tips & Tricks

Maintenance Tips

- Dust off the fan blades to maintain balanced air flow.
- Shut off the ceiling fan when leaving the room to extend its life.
- In the summer, the fan should run in a counter clockwise direction. In the winter, it should run in a clockwise direction.

Energy Conservation Tips

- Ceiling fans don't actually cool an area, so it's best to turn them off when a room is unoccupied to save energy.

Clothes Dryer - Electric



How It Works

Electric clothes dryers use electrical heating elements to dry clothes as they tumble around in a rotating drum. An electric motor and drive belt keep the drum in motion while a flexible duct carries away any remaining moisture. Heating temperature and cycle times can be adjusted with controls on the top or front of the dryer.

What Can Go Wrong?

Beware of overheating when it comes to your electric dryer. The unit must be able to exhaust its heated air to avoid damaging its internal components. A backup in the exhaust vent can be caused by a buildup of lint, faulty installation or confined space.

Environmental Impact

The power consumption of most electric dryers depends on the heat setting for each load. The average range is between 1800 watts (W) and 5000 W. Operating at 3,000 W for 6 hours each week, a typical dryer would consume 936 kilowatt-hours (kWh) and produce about 1,440 pounds of carbon dioxide (CO₂).

Gas versus Electric Dryer

Electric clothes dryers are easy to install and generally less expensive than gas dryers. However, electric dryers use much more electricity than gas dryers, so they can be less cost effective over time.

Tips & Tricks

TIP Maintenance Tips

- For safety, always unplug the unit before performing any maintenance.
- Check the exhaust duct and exterior dryer vent for lint buildup to avoid overheating and fire hazards.

Clothes Dryer - Gas



How It Works

Natural gas and propane gas clothes dryers use a rotating drum and hot gas burner to get the job done. The dryer pulls air through its vents, across the gas burner and into the drum where the super-heated air quickly dries clothes as moisture is carried outside through an exhaust vent.

What Can Go Wrong?

The gas dryer relies on temperature sensors to control the drying cycle and prevent overheating. If a sensor fails, it may cause the unit to shut down. The rotating drum relies on an electric motor and drive belt. Check the drive belt if your drum stops rotating and replace it if necessary. The hot, linty environment may eventually cause the electric motor to fail. Check out our maintenance tips for simple ways to avoid costly problems.

Environmental Impact

Gas dryers use electricity to power controls, fans and motors. A typical gas dryer might consume 700 watts (W) or about 220 kilowatt-hours (kWh) annually - much less than an electric dryer. This would result in about 338 pounds of carbon dioxide (CO₂).

Gas versus Electric Dryer

Gas dryers are more cost effective in areas where gas is cheaper than electricity. In the long run, you can save energy and money by switching to natural gas. However, gas dryers are typically more expensive and require a pre-installed natural gas line or propane supply to operate.

Tips & Tricks

Maintenance Tips

- Keep your dryer lint-free to avoid longer drying times and fire hazards. Regular build-up gathers in the lint screen and exhaust duct.
- The drive belt should be inspected regularly and adjusted - if needed - by a qualified professional.

Loss Prevention Tips

- Gas-powered clothes dryers should be installed on a base that prevents vibration. Any excess vibration can loosen or fracture the gas line.
- Route the exhaust duct without kinks and bends to the outside so that lint can escape without clogging.

Energy Conservation Tips

- Dry only full loads of laundry when possible: smaller loads get less done for a similar cost.

Computer and Printer



How It Works

Most of us rely on computers every day - but how do they work? A home computer consists of memory, integrated circuits and a central processing unit to execute instructions and run software for the user. Desktop computers use a separate monitor to view and interact with information and graphics. These screens can use cathode ray tube (CRT - looks like an old TV screen), liquid crystal display (LCD) or light emitting diode (LED) technology. The user typically interacts with the computer through a keyboard and mouse. Notebook and Laptop computers are smaller, portable versions of the desktop computer with the computer, screen, keyboard and mouse contained within a single unit. Computers have ports to enable electronic connection of other devices to enhance performance, computer memory and communications.

What Can Go Wrong?

Computers are susceptible to computer viruses and power line disturbances that can cause disruption of software, loss of data and hardware failure. Computers should always have antivirus software installed, operating and updated. Power surges can damage or even destroy your computer if you don't have the proper protection. If data is critical or is being used for a home-based business, the computer should be connected through an uninterruptible power supply (UPS) to insure continued operation and proper shutdown during power line disturbances and interruptions.

Environmental Impact

Computers use up to 250 watts (W) while operating and as much as 45 W when in sleep mode. If your desktop computer runs eight hours a day and sleeps the rest of the time, it can consume up to 990 kilowatt-hours (kWh) annually, which results in about 1,500 pounds of carbon dioxide (CO₂) per year.

Tips & Tricks

Maintenance Tips

- Install and regularly update antivirus software for safer internet browsing.
- Clean your keyboard, monitor and peripheral equipment.
- Change passwords frequently for maximum security.

Loss Prevention Tips

- Power your computer through a surge protector to minimize the harmful impact of power surges.
- Register your software and schedule automatic updates.
- An idle computer can be at risk of intrusion from computer hackers. Turn off your computer to avoid this risk.

Energy Conservation Tips

- Use sleep mode to significantly reduce energy consumption without completely shutting down your computer.
- Save energy by turning off your computer when it is not in use.

Dishwasher



How It Works

Most dishwashers use sliding racks to hold your dishes while spray nozzles on rotating arms shoot powerful streams of hot water to get your dishes clean. The arms rotate with a connected drive motor and may move up and down to reach every tray. A heating element mounted on the lower portion of the bottom rack provides heat during the drying cycle, and many units are equipped with water heaters to increase the temperature of the wash water. Dishwasher Detergent is automatically released during the wash cycle. Controls are usually located on the front of the dishwasher.

What Can Go Wrong?

The most common issue with older units is deterioration of the bottom seal which results in leakage. Cost to replace a bottom seal may approach costs to replace the entire dishwasher. Many modern dishwashers have controls embedded in a circuit board. If these controls fail, they are not repairable and must be replaced as a unit.

Automatic valves control the ratio of hot and cold water based on cycle settings. If these valves fail, the dishwasher will be unable to operate during the wash cycle. Motor breakdown sometimes makes the dishwasher inoperable. When possible, replacing a broken motor usually requires a complete removal of the dishwasher from its location.

Environmental Impact

Consider the cycle settings you typically use: heating cycles have the largest impact on energy efficiency and cost. A typical dishwasher (1200 watts) might use 30 kilowatt-hours (kWh) of electricity per year (at 30 loads per month), while producing about 46 pounds of carbon dioxide (CO₂). This excludes energy consumption and CO₂ production from the home water heater that heats the water used by the dishwasher.

Tips & Tricks

Maintenance Tips

- For safety, always unplug the dishwasher before performing any maintenance.
- Close all water valves before replacing components in the piping system.

Loss Prevention Tips

- Clean the filter at the bottom of your dishwasher to prevent water from backing up.
- Make sure the heating element is not damaged by protruding cutlery or other dishes.

Fireplace - Gas



How It Works

A natural gas or propane fireplace provides the warmth and distinctive beauty of a natural fireplace without the mess associated with wood, pellets or coal. Gas fireplaces come in three basic configurations: natural vent, direct vent and vent free.

In a natural vent fireplace, the chimney is combined with a double wall pipe - known as a B-vent flue - which runs from the fireplace to the exterior of the home. Some models use a firebox or fireplace insert inside the larger fireplace to retain more heat and reduce energy cost.

Direct vent fireplaces draw air from outside and return exhaust outdoors with a flue system. Vents leading to the outdoors can be installed behind the fireplace so there's no need for a chimney. This tightly sealed design only uses air from the outside for superior energy efficiency. The airtight system also works to prevent harmful emissions from entering the room.

Vent-free fireplaces are the easiest to install and operate; they vent exhaust straight into the room so there's no need for a chimney or direct vent system. However, the main disadvantage of this type of fireplace is the potential for carbon monoxide (CO) buildup in the air. Excess CO can be seriously or fatally harmful if the person affected is not removed to an area with normal oxygen and CO content in the air. To minimize this danger, vent-free systems have an oxygen-detection feature that shuts the fuel gas off when the room's oxygen level becomes hazardous.

What Can Go Wrong?

Many gas fireplaces use a small blower to move air and improve heating efficiency. These blowers are powered by motors that can fail over time.

Environmental Impact

Gas fireplaces burn cleaner and more efficiently than wood-burning fireplaces, operating between 12,000 and 60,000 British Thermal Units per hour (BTUh). Depending on usage and energy efficiency, they can produce hundreds of pounds of carbon dioxide (CO₂) annually.

Tips & Tricks

Maintenance Tips

- A qualified contractor should perform all installations following the original equipment manufacturer's instructions. The contractor should contact local and state code bodies to determine and adhere to all applicable codes and regulations. It is the responsibility of the homeowner to understand and comply with all applicable national, provincial or territorial and local codes and regulations.
- Have your fireplace serviced annually by a qualified professional to insure safety and efficient performance. Typical problem areas include the burner, fan, venting system, pilot light and thermostat.
- Follow manufacturer recommendations to keep your fireplace safe and warm.

Loss Prevention Tips

- Install carbon monoxide detectors and fire detectors per manufacturer recommendations and in compliance with federal, state and local codes and regulations.
- Regularly replace the batteries in your carbon monoxide detector(s).
- Glass doors covering the front of a gas fireplace can become extremely hot and present a serious burn hazard.

Garage Door Opener

How It Works

A garage door opener uses a power unit and electric motor to lift and lower the door using a chain, belt or screw type drive mechanism. Counterbalance springs add lifting power while the metal tracks typically guide the door up and down along a consistent route.

A garage door opener remote control is programmed with a secure digital code to open the door with the touch of a button via radio signal. Modern garage door openers are equipped with "safety eyes", which stop the door from closing when there are obstructions in the way.

What Can Go Wrong?

The most common problem with garage door openers is lack of power. If your garage door opener stops working, check to make sure that the unit is plugged in and that there are no breaks or ground fault interrupters (GFIs) that have tripped. If the unit has power, check that the safety eyes are properly aligned, working, and unobstructed. Check the tracks for blockage or obstructions. If none of these point to the problem, a circuit board or motor may have failed. Call a professional to troubleshoot the problem and make repairs as needed.

Environmental Impact

Motors for garage door openers come in three sizes based on Horsepower (Hp): 1/3 Hp (475 Watts), good for a small garage door; 1/2 Hp (650 Watts), preferred for double-doors; and 3/4 Hp (900 Watts) for unusually large or heavy doors. Direct current-powered garage door openers use less electricity and may include battery backup for power outages. Operating a typical 1/3 Hp garage door opener four times a day uses about 3.6 kilowatt-hours (kWh) per year and produces about 5.5 pounds of carbon dioxide (CO₂) annually.



Tips & Tricks

Maintenance Tips

- Keep the tracks secure year-round: Regularly inspect and refasten any loose brackets to keep the door working smoothly.
- Inspect and clean the area between your garage door's photoelectric safety eyes. They use a light beam to detect any obstructions and reverse the door's opening when necessary. Keep the eyes properly aligned for maximum safety.
- Replace the battery in the remote control when necessary to avoid battery failure and unexpected lockout.

Loss Prevention Tips

- The power unit contains circuit boards that are susceptible to lightning storms and power surges. Install surge protectors to avoid this type of failure.
- Lubricate metal rollers and hinges every few years or when opening noise becomes noticeable to extend the life of your garage door opener.

Microwave

How It Works

One of the most convenient appliances in our kitchens is also one of the most complex. Microwave ovens use microwave radiation to cook and heat foods from within. A typical microwave has an energy efficiency of 64 percent, consuming about two-thirds of its electricity to heat your food.

What Can Go Wrong

Microwaves sometimes lose their ability to heat food for a number of reasons. They may continue to buzz or hum without producing any real heat. A professional diagnosis and repair is usually possible, but it may be more economical to replace the unit.

Environmental Impact

Small microwave ovens use between 500 and 1,000 watts (W). Medium capacity units, which are most common, use between 1,000 and 1,500 W. Large capacity units are designed for heavy use and for cooking large meals with a range over 2,000 W. A 1000 W microwave used 15 minutes a day will consume about 91 kilowatt-hours (kWh), producing 140 pounds of carbon dioxide (CO₂).



Tips & Tricks

Maintenance Tips

- Clean the inside of the microwave frequently to extend its life and avoid potential issues. Leftover food particles absorb energy during operation and may cause damage to the microwave.
- The touch pad controls, door hardware, and other exterior trim pieces last longer when they're clean.
- Protect your microwave from voltage spikes with a surge suppressor.

Loss Prevention Tips

- Never operate a microwave oven without food or liquid inside. Without something inside to absorb the high frequency microwave energy, the energy can feed back to the microwave itself and permanently damage the internal microwave magnetron (antenna).
- Cover food when cooking in the microwave. This will minimize food spattering and reduce the likelihood of clogging components and damaging the appliance.

Range/Oven - Electric



How it Works

The range's electric stove top uses heating elements - or burners - shaped like flat coils to provide heat. The temperature and cooking cycle is controlled by a series of dials or touch screens. Some modern ranges have a glass stove top with built-in elements.

Ranges usually include an oven for baking, roasting and broiling. The electric range's oven heats up with one or several electrical heating elements, mounted at the bottom or back of the oven compartment. A heating element is also mounted at the top of the oven for roasting, grilling and broiling. Some ovens have electric fans to evenly distribute heat for cooking.

What Can Go Wrong?

Ranges are exposed to a harsh working environment. Heat, grease and electric power in some combination are usually the cause of breakdown. The stove top oven uses a circuit board that can eventually warp and crack - even under normal use. Its heating elements can fail because of broken down wiring, but they are easily replaced.

A serious impact to a glass-top range can sever connections and render its elements unusable. In these cases, glass-top replacement is often less cost effective than replacing the entire unit.

Environmental Impact

An electric range's energy consumption depends on how it is used: Many families use the electric stove top for quick meals and the oven for long-term cooking. A typical family of three will use about 1,272 kilowatt-hours (kWh) every year, while producing about 1,920 pounds of carbon dioxide (CO₂) per year.

Tips & Tricks

Maintenance Tips

- Extend the life of your electric range by keeping it clean. Manually clean the oven regularly in addition to the automatic cleaning cycles.
- Inspect the seal around your oven door. Any damage to this seal may allow heat to escape, reducing energy efficiency.

Loss Prevention Tips

- Heating elements sometimes break down in stages. If the heating element seems less warm than the setting indicates, do not wait to replace it.
- Avoid storing or hanging heavy articles (such as cooking implements) above a glass stove top. Even a minor impact from a falling object can crack the surface, rendering the unit unusable.

Range/Oven - Gas

How it Works

The gas range uses open-flame stovetop burners: each burner has a heavy cast iron frame above it to support pots and pans. These gas stoves regulate heat with valves activated by dial knobs. Depending on the model, the knob may double as an ignition switch or there may be an automatic striker or pilot light ignition source.

Ranges usually include an oven for baking, roasting and broiling. Some ovens use a fan to distribute heat for even cooking.

The gas range is connected by pipe to a propane tank or to a natural gas line, and should be installed by a licensed technician.

What Can Go Wrong?

Control valves regulate the flow of gas in each burner: when those valves fail, the corresponding burner will no longer work. Failure of such a valve may leave the burner in a set position.

Any impact to the stove top may damage the burner housing and cause a gas leak.

Environmental Impact

Although the gas range is more energy efficient than the electric stove because gas heats the food quicker, the carbon footprint is generally the same: they each produce about 160 pounds of carbon dioxide (CO₂) per month.



Tips & Tricks

Maintenance Tips

- Avoid placing a gas range where vibrations occur: vibration can loosen the gas line connectors and eventually cause a gas leak.
- Have your gas connection inspected regularly by a qualified professional.
- Inspect the seal around your oven door. Any damage to this seal may allow heat to escape, reducing energy efficiency.

Loss Prevention Tips

- Make sure that the oven's electrical fan is spinning freely: noise may indicate a faulty bearing.
- Make sure that liquid contents in the oven are covered to avoid splatter which can reduce heating efficiency, damage components or start a fire.

Energy Conservation Tips

- The gas range is more energy efficient when the system is kept clean. Inspect and clean areas that may be splattered on while cooking.

Refrigerator - Freezers



How it Works

Combination refrigerator-freezers safely store food at 37°F in the fridge section and 5°F in the freezer section. Some units come with a built-in ice maker, instantly producing ice cubes from a water line.

What Can Go Wrong?

Both units can suffer from temperature drop, causing rapid discoloration and obvious smells from warming food products. This can be an indicator of a thermostat problem (failure or improper setting), compressor issue or fan failure.

Failure of the ice maker is another common problem. Water may not be getting to the ice maker because of a kinked or frozen fill tube, a bad tap valve or a defective solenoid. A professional repair technician may be needed to diagnose and fix these problems.

Environmental Impact

Newer refrigerator models are built for superior energy efficiency: They use about 500 kilowatt-hours (kWh) per year, producing about 760 pounds of carbon dioxide (CO₂)

Tips & Tricks

Maintenance Tips

- Clean the interior surfaces with white vinegar and wipe dry to remove mold and mildew.
- Manually defrost the freezer twice per year, or whenever a quarter-inch of ice builds up.

Loss Prevention Tips

- Keep the freezer at least 50 percent full of frozen foods to minimize starting and stopping of the motor and increase energy efficiency.

Energy Conservation Tips

- A side-by-side refrigerator-freezer uses more energy and has less useable storage space than a bottom freezer refrigerator.
- Through-the-door features like cold water and ice dispensers use up to 20 percent more energy.

Stand-Alone Freezer



How it Works

A stand-alone freezer is designed to maintain safe frozen food storage at 0°F. These freezers are often located in the kitchen, basement or garage. The two types of stand-alone freezers - upright and chest freezers - come with different benefits and drawbacks. The upright freezer is easy to organize and takes less floor space while the chest freezer is typically more energy efficient and can hold more food per cubic foot. Modern freezers are equipped with door alarms to alert you when the door is ajar.

What Can Go Wrong?

A sudden rise in temperature can occur, causing softening and thawing of any food you're storing. This can be an indicator of a thermostat problem, compressor issue or fan failure. A professional repair technician may be needed to diagnose and fix these problems.

Environmental Impact

High efficiency, medium sized models use about 400 kilowatt-hours (kWh) per year, producing about 610 pounds of carbon dioxide (CO₂)

Tips & Tricks

Maintenance Tips

- Clean and dust off the heat rejection coils at the back or bottom of the freezer to improve cooling capability and reduce operating costs. Locate the freezer where air can flow around the coils.
- Manually defrost your freezer twice a year, or when a quarter-inch of ice builds up.

Loss Prevention Tips

- Keep the freezer at least 50 percent full of frozen foods to minimize starting and stopping of the motor and increase energy efficiency.
- Your freezer should be located in an area that is free from extreme temperatures. If it's too cold, your freezer may need heaters for oil lubrication. If it's too warm, your freezer may not reach adequate temperatures.

Energy Conservation Tips

- Chest freezers are more energy efficient than upright freezers - they can save you money in the long run.
- A manual defrost model may use up to 50 percent less energy than an automatic defrost model.

Television (Flat Screen)



How it Works

Television technology is improving every day and with new tech comes new advantages and disadvantages. Nearly all televisions sold today are thin, lightweight units that use digital signals for an eye-popping display using plasma, liquid crystal display (LCD) or light emitting diode (LED) technology. The TV remote sets the channel, input source, volume, picture adjustment and power. Many flat screen TVs include a matching TV stand for simple use or can be wall-mounted with a separate mounting unit. Although most TVs can receive over-air digital channels using a digital antenna, they are usually connected to cable or satellite. Most TVs can also connect with computers, DVD/Blu Ray players and gaming systems with the proper cables. Smart TVs connect to your home Wi-Fi for direct access to online entertainment like Netflix and YouTube.

What Can Go Wrong?

Broken screens, electrical shorts and screen discoloration can be caused by thrown objects, spilled liquids and other unexpected mishaps.

A plasma TV can suffer from "burn-in", where a single or common image is displayed for so long that it burns into the screen permanently. Plasma TVs also lose their brightness through pixel deterioration over time if left on for too long. LCD and LED TVs do not suffer from burn-in or pixel deterioration. All new TVs can be seriously impacted by electrical surge and other electrical issues.

Size & Environmental Impact

Flat screen TVs vary in physical size from handhelds to 60 inches or more. The average power consumption is 301 watts (W) for a plasma TV, 110 W for an LCD TV, and 101 W for an LED TV. A plasma TV left on for five hours a day would consume 550 kilowatt-hours (kWh) per year and produce about 850 pounds of carbon dioxide (CO₂).

Tips & Tricks

Maintenance Tips

- Keep your television free from dust to avoid problems like electrical shorts and other malfunctions. Use a soft cloth (ideally microfiber or 100 percent cotton) to dust the surface to avoid scratching.
- Avoid displaying a single image on a plasma screen to reduce "burn-in". Some plasma TVs have an option called "white flash": this option eliminates burned-in images but will also shorten the life of your screen.
- Use a quality electrical surge suppression device or battery based uninterruptible power supply (UPS) on the electrical power to the TV to protect it from electrical power issues.

Loss Prevention Tips

- Consider unplugging your television during thunderstorms and while on vacation: TVs are susceptible to localized lightning strikes and power surges.
- Avoid exposing your LCD TV to high room temperature and humidity, both of which can shorten the lifespan of your TV. Additionally, temperatures below 50°F can negatively affect response time and brightness.

Thermostat

How it Works

Your home thermostat is simply a temperature sensitive switch. It displays the current temperature and your target temperature. The thermostat is connected to your heating and cooling systems, automatically turning those systems on and off to reach a target temperature. Thermostats controlling gas and oil heating systems run on low voltage and are generally located in a central area on the same floor where the temperature is being controlled. Thermostats controlling electric heat - commonly known as line voltage thermostats - are often located in each room, on the opposite wall from where the electric heating element is located.

What Can Go Wrong?

Thermostats are simple devices that rarely fail. When there appears to be a problem with the thermostat, it usually turns out to be a problem with the heating or cooling system. However, a faulty thermostat installation can leave your home heating and cooling systems unable to start. Dirt can also affect a thermostat's calibration and interfere with operation, resulting in excessive heating or cooling, along with wasted energy and money.

Environmental Impact

A home thermostat doesn't consume much energy on its own, but it does control the most significant energy-consuming equipment in your home. Energy efficient thermostat settings can save huge amounts of energy on your heating and cooling. Electronic programmable thermostats enable varying temperatures to be set for different times of day and for specific days of the week. For every degree reduced in heating (or increased in cooling) over an eight-hour duration, energy consumption and cost is reduced by about one percent.



Tips & Tricks

Maintenance Tips

- Dust your thermostat's interior every couple of years to eliminate any erratic operation and maintain a comfortable room temperature. Use a small, soft paintbrush and don't forget to clean the thermostat contacts, which are small metal plates within the unit. Do not touch any of the interior parts with your fingers, as some parts may be energized.
- For a wireless thermostat, make sure to use the right size and type of batteries.

Loss Prevention Tips

- Programmable thermostats typically have two types of hold features to lock in the temperature setting: "temporary" and "hold/permanent/vacation". Avoid using "hold/permanent/vacation" setting to manage day-to-day settings. "Hold" and "vacation" features are designed to be used when away for an extended period of time.
- There may be switches on your home thermostat's base and near its temperature sensor, and those switches may loosen and corrode over time. Tighten loose connections with a screwdriver and use a cotton swab to clean away any corrosion.
- Smart thermostats are available and can help you remotely monitor and control the temperature when you're home or away.

Washing Machine



How it Work

There are two types of washing machines: the top loading and the front loading. The top loading (AKA the impeller type) uses an impeller to rotate and scrub your laundry. The front loader has a perforated drum that rotates at a predetermined speed and direction set by the different washing cycles. The front loading washing machine uses less water than a top loading machine, but is unable to perform a "soaking" cycle where the machine tub is left full to treat tough stains.

Drums for both types are suspended in a frame within the housing. An imbalance protection system shuts down the unit whenever there's an uneven load. The washing machine uses rubber tubing for hot and cold water supply lines and includes a discharge drain to release waste water. The flexible rubber tubing prevents damage to the piping system from washer

What Can Go Wrong?

Washing machines use a drive belt - connected to an electric motor - to rotate the impeller or drum. The drive belt degrades over time and will eventually cause the machine to stop working. A washing machine repair technician may be needed to replace the belt. The electric motor operates inside a damp environment. Typical motor problems and general degradation can be caused by overly full laundry loads or repeated slippage of the drive belt.

Environmental Impact

The difference between a low and high efficiency washing machine is partly measured by the cycle settings they offer. The load carried in each cycle will also affect the energy consumption. Energy usage per load varies significantly by age and condition of the washer, but a gross estimate based on six loads per week will consume about 996 kilowatt-hours (kWh), producing about 1,530 pounds of carbon dioxide (CO₂).

Tips & Tricks

Maintenance Tips

- For safety, always disconnect the unit from its power supply before performing any washing machine maintenance.
- Keep the drive belt properly tensioned to extend the belt's life and reduce wear on the motor.
- Make sure the washer door or lid is able to close properly. The machine will not run if the door or lid is not fully closed.

Loss Prevention Tips

- Before starting a washing cycle, make sure the inner drum moves freely to allow for an imbalanced load.
- Keep the discharge filter from the drum clean to allow draining between loads.

Home Efficiency Center List

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Connected Home 101

Consider this.....

The temperature outside is -4 degrees and you're heading home from work. You turned the thermostat down to 56 degrees when you left in the morning, but when you get home it's toasty and warm, the blinds are turned down, the lights are on, and your favorite music is playing. All of this was managed from your smart phone, which remotely controls devices connected to home systems, appliances and more.

The connected home can align everything from computers, TVs and Wi-Fi networks, appliances, HVAC systems, door locks, thermostats, garage doors, motion sensors, cameras, water leak sensors, light bulbs and switches, smoke and carbon monoxide detectors, plugs, outlets, power strips, and music systems.

Wondering if you forgot to turn the stove off? Remotely connect to your house to find out. And, even better, if you did leave it on, turn it off from afar! Away on vacation and forgot to water the plants? Your smart plant watering device will go to work for you while you're away.



Thinking about making your home smart?

The most common motivations behind making a home "connected" or "smart" are comfort, convenience, control, cost savings, and security. Once you decide on which goal matters the most to you, the options are endless.

Home automation solutions largely depend on time, money and technical capability. Since home automation can cost hundreds to thousands of dollars, you may want to start small with some simple do-it-yourself devices. Another possibility is to invest in a professional automation program, which will cost more to install and maintain. Either option can deliver effective results.

Are you building a new or retrofitting an existing home? It's important to have a home automation plan in mind that will take you years into the future. Our [wiring tips](#) can help.

Do you have kids who are at home during the day when you're not? Motion sensors and cameras can help you monitor them and provide you peace of mind.

Worried about an elderly parent who lives alone? In addition to wearable devices, there are some easy-to-install all-in-one devices that can help you communicate, control and care for them from afar.

Our best advice is to define your budget, clearly outline your needs, do your research, and decide if you want to execute your home automation plan or if you would rather hire a professional. There are a lot of options on the market today, so if you can't find a device to suit your needs now, stay tuned. New devices enter the market daily!

Lastly, some of the systems that these devices will be controlling (heating, cooling, security systems, etc.) may not be covered by a typical homeowners policy. Click below to see if you have proper coverage or find coverage through one of our partner companies.

Related Articles

[Wiring for the connected home](#) |

Buying or selling a connected home?

Cyber-hygiene tips for a smooth transition

Buying or selling a home is an exciting and busy time. Before you move in or out, make sure you practice good cyber hygiene. If the home contains "smart" devices, you'll want to make sure those devices are properly transferred to the new owner and that all personal information is deleted from memory.

What are smart devices?

These are devices that can be accessed remotely by a mobile device, or that communicate with the Internet or other networks such as:

- Security systems or cameras
- Remotely controlled garage doors, lighting, thermostats
- Smart plugs
- Keyless door locks
- Smart doorbells
- Sprinkler or water filtration systems
- Appliances

Important information

Many devices require passwords. Most store at least some personal information which you want to take with you when you move. If you're buying a smart home, make sure you have all the information you need to access the devices when you move in. You may need to formally transfer ownership to your name to have full functionality of the device, so don't forget about that during the closing!



Tips & Tricks

Maintenance Tips

Seller's tips:

- Create an inventory of all connected devices to give to the buyer
- Leave device manuals with the devices
- Don't forget remote controls or key fobs
- Remove personal info from the device
- Reset the passwords to default

Buyer's tips:

- Make sure devices are included in the sale
- Notify the manufacturer or vendor of change of ownership
- Change all passwords
- Make sure the seller's personal info has been removed
- Configure device settings to your preferences

Data breach and you

Personally Identifiable Information - PII

First of all, let's start with PII. What is it? PII is a person's name combined with a social security or financial account number. The definition may actually differ depending on the laws of the state you live in. Some states define PII to include a username, email address, or a "unique identifier" when combined with a password, security question and answer, or an "access code" that would permit access to an online account. For Canadian citizens, business email addresses are considered private information. And for those in the European Union, any non-public information that identifies an individual is private, including an Internet Protocol address.

What is a data breach and what if I am a victim?

A data breach occurs when PII is accessed or acquired without authorization. Laws in forty-seven states, Canada, the European Union and other countries provide for regulatory action and can result in fines or civil law suits.

If you received notification that you are a victim of a data breach, make sure you read the notice carefully to find out what information was breached and how. The notice will likely provide you with information about how to check your credit statement, which you should do and continue to do on a regular basis. Here are some other things to do if you've been a victim of data breach.

- Enroll in credit monitoring or purchase identity theft protection. If the company that breached your PII offers either of these, consider taking advantage of it. The service may not prevent someone from stealing your identity, but it will help you to catch any unwanted activity more quickly than you would on your own.
- Make sure you change your passwords on financial and other online accounts. This is especially important for any account for which you received a breach notification.
- Monitor your financial accounts frequently. Be diligent about this!
- Put a freeze on your credit. But before you do, make sure it's the right thing for you. A credit freeze will restrict access to your credit report and prevent new accounts from being opened in your name. This might not be a good idea if you are planning a large purchase in the near future, such as a home, car or furniture. In addition, if you may be looking for a job that entails a background check or you think you might need to have fast access to increased credit, a credit freeze may not be a good approach.

Consult the [Federal Trade Commission](#) website for information on credit freezes. See our tips section for more helpful resources.

What if you breach someone else's PII?

Do an inventory of what is on your personal devices. Think about situations where you might have PII of someone else.

Do you volunteer as a coach or a classroom parent where you might collect personal information from team or class members? Do you have a side business selling jewelry, clothing or other supplies where you take credit card information for sales? Are you a member of a board where you are in possession of information about others? You may have personal information on your device, computer or in your possession about other people that you've never thought about before. If you do, you can be vulnerable to a data breach.

So what can you do? Prevention is always the best course of action.

- Secure your mobile device with strong authentication tools. Turn on two-factor authentication if it's available to you.
- Remove PII about other people from your devices.
- Securely store or shred physical information about others.
- Think before you act. Be wary of communications that require you to act immediately, offer something that sounds too good to be true or ask for personal information.
- Lock Down Your Login. Your usernames and passwords are not enough to protect key accounts like email, banking and social media. Fortify your online accounts by enabling the strongest authentication tools available, such as biometrics, security keys or a unique one-time code through an app on your mobile device.
- Consider purchasing cyber insurance which can cover most or all of the costs of a personal, client or business data breach. You can consult your insurance agent to find the right product for you.

Related Articles

[You've been hacked, now what?](#) |



Tips & Tricks

Loss Prevention Tips

- Change passwords on credit and financial accounts. Do not use the same password for all accounts.
- Enroll in credit monitoring or identity theft protection.
- Be diligent about protecting your mobile devices, especially if you store PII about other people.
- Turn on two-factor authentication.
- Talk to your agent about cyber insurance.

Protect your connected home from hackers

Could your connected home be hacked and taken over?

The answer is a resounding YES. How can you make sure that this does not happen to you? Here are some basic steps every homeowner should take to improve their home security.

Suggested modifications to your router

Generally, we advise to not use the router as configured out of the box. Here are some recommendations at the top of our security list:

- Change the "default" network name on your router. Home routers/firewalls often set the default SSID to something that describes the specific hardware i.e., (Linksys). From a hacker's perspective, knowing the specific hardware platform that you're attacking makes the job easier. Use a random, innocuous name.
- Change the preset 'default' password on your router. These passwords are well known and well documented. Change each admin password to a strong complex password.
- When setting passwords, use upper and lowercase characters. Include at least one 'special' character to help ensure that brute-force cracking will be harder to do. Do not use any personally identifiable information in the name (i.e., "Smith Family").
- Include 'hiding' or do not broadcast the SSID.

Disable guest access

Allowing guests to access your home network may seem like a nice convenient thing to do, however, you should be very wary about allowing any "non-authenticated" users to access your network.

Use the WPA2 to secure the network

The older WEP protocol has serious weaknesses and is easily compromised. While WPA2 isn't infallible, it does provide a higher level of security and is significantly harder to compromise.

Once the Wi-Fi network is secured

Take a look at each home automation device you're installing. Securing specific devices will depend on the individual capabilities of each specific device. At a minimum, the approach should include the following:

- Generic email - If the device has the capability to notify you via email, set up a generic email account. Do not use your personal email account or email server.
- Mobile security - Install mobile security software on the devices used to control the home automation devices (i.e.; mobile phone). It's often easier to exploit a mobile application instead of hacking the device directly.
- Patching and updating firmware -Check for firmware updates on a regular basis and install updates as soon as possible.
- Internet access - If the home automation device doesn't need access to the internet, disable its access within your firewall.

In addition to preventing hacking, you'll want to make sure you prevent other equipment losses from happening in your home. Click below, fill out our form, and we'll contact you with information for your connected home.

Related Articles

| [Tips to Make Your Connected Home Secure](#) |



Tips & Tricks

Maintenance Tips

Here are some more tips for our technical readers!

- Firewall everything. Set your router/firewall to restrict all incoming connections. Only open ports that are specifically needed for a device.
- Set up a 2nd Wi-Fi network. If your router supports it, set up a 2nd Wi-Fi network specifically for home automation devices. Separating the two networks will ensure that if a home automation device gets compromised it will not jeopardize your primary network.
- Disable remote management. If you do not plan to manage your router/firewall remotely then you should disable remote-management access.

Ransomware

What is ransomware?

"Ransomware" has quickly become one of the most pervasive cyber risks affecting single user systems to multi-user networks. While there are several versions of the threat, there are many common themes.

Unlike other types of viruses that may go undetected by the user, ransomware is readily apparent. Once affected, a computer becomes inoperable or data inaccessible. The virus may either disable the computer or encrypt the hard drive, specific data or the drive and backup systems.

A warning appears on the screen that states that in exchange for a payment, usually in digital currency such as Bitcoin, the computer or data will be released. The ransom demanded ranges from \$150 to hundreds of thousands of dollars, depending upon the type of virus, the target affected and likelihood of payment.

Often, the message accuses the user of downloading illegal or embarrassing content that frightens users to comply with the hackers' demands without notifying law enforcement. For instance, a common ransomware message appears to come from the FBI and claims that the user is under investigation for downloading child pornography or copyrighted content, such as movies or video games.

Practice good physical cyber hygiene

- Make sure that virus protection, firewalls, operating system and software updates are current. Stop clicking, "remind me later," and take time to install updates.
- Back up important data, and the more redundant your back ups—within reason—the better. For a single computer, backing up to a cloud service and a detachable external hard drive or large capacity flash drive is a simple solution. Maintain at least one good copy of your back up data before overwriting it with a newer version. Of course, the more recent a back up is, the less extensive a data loss can be.
- For larger networks, the same principles apply—use more than one back up method, ensure that at least one of them is stored offline and make sure there's always at least one good copy of your data. This will minimize the possibility of ransomware contaminating back ups in addition to the core system.

Be vigilant about cyber

The most up-to-date security cannot protect us if we engage in unsafe online behavior. Practice cyber vigilance by:

- Remaining security conscious when reading and responding to email. Don't click on links before you copy them and google them. Most of the time, if the link is known to spread malware, you will receive a wealth of responses documenting the dangers of clicking on the link.
- Not downloading documents—especially word documents or pdfs—that may be suspect. If you're not expecting a document, don't download it without investigating it first. For example, if you receive an email that says your item has shipped, but you didn't order anything recently, don't click on the link or download the attachment. If you receive an attachment from someone and the email doesn't contain other text, that is suspicious. If you receive a document, pdf or file from someone you don't normally receive material from, investigate before downloading or opening the file.
- Taking a look at the source of the email—even if the email is from someone you normally converse with, take a look at the extension to the email and the address itself. Many times, hackers change one letter or substitute a number for a letter in an email address in an effort to exploit our tendency to trust the source and gloss over details.



Tips & Tricks

TIP Maintenance Tips

- Install firewalls, antivirus and malware protection
- Keep software up-to-date
- Back up important data
- Don't click on links in emails unless you know the source and the content
- Don't download files unless you were expecting them and are confident in the trustworthiness of the source
- Confirm the source of emails

Say Watt?

Want to save money on your energy costs?

Doesn't everyone? When you look around the house, what's one of your biggest expenses? Many homeowners would say energy costs, which can run into the thousands of dollars each year! Fortunately, there are smart devices available that can help.

Remember that quote by Sir William Thompson, "If you cannot measure it, you cannot improve it"? With electricity monitoring, it has been proven that the more granular measurements are, the easier it is for consumers to make energy-management decisions which turns out to be the least expensive way of reducing energy usage and lowering your bills. Simply knowing detailed information about your electricity usage can lead to behavior changes which can save three to twelve percent off your bill. Think about it, if you could identify the "energy vampires" in your home, would you change how you use those devices?

Electricity Monitoring Systems

There are different types of electricity monitoring systems available today. Two of these types involve installing equipment inside the electrical panel in your home and connecting a device to your home's router to facilitate internet access.

- Method A - involves installing components known as Current Transducers (CTs) around the main electrical lines coming into the house. This will measure total electricity being consumed by ALL circuits in the home.
- Method B - involves the same thing as Method A but adds additional CTs around circuits of interest. This allows you to also monitor additional electricity usage for things like:
 - electric hot water heaters
 - electric baseboard radiators
 - freezers/refrigerators

Costs of the systems vary, but can typically run from \$400 to over \$1,000. And, they usually require a licensed electrician to install the devices into the electrical panel.

Once the devices are installed, real-time and historical data can be viewed online or through a mobile app. Information like energy trends and estimates for your next utility bill can also be provided.

Having this information readily available can allow you to make informed choices about electricity usage, which will translate into real cost savings!

Would you change behavior if you could save \$?

With information in your hands, now you can see how those "normal" things you do in the house translate to electricity usage. The systems referred to above could tell you how much energy you use for the:

- porch light you left on in the evenings when you're home
- refrigerator door you leave open while getting all the ingredients for dinner
- dehumidifier that's "stuck" on in the basement
- lights the kids left on when they went to school
- long, hot showers your teenagers take

If you knew how much these things cost, would you change your behavior?

Want more energy solutions, tips and coverage for the systems that run your home? Click below for information.

Related Articles

[Reduce My Utility Rates](#) | [Energy Efficient Strategies](#) |



Tips & Tricks

TIY Maintenance Tips

Simple tips to save electricity and money:

- Leaving the room? Turn off the lights.
- Plug small appliances into power strips and turn it off when not in use.
- Don't leave the refrigerator door open.

Social media safety for all ages

Social media is a great way to keep up with friends, family and interests. Using social media wisely is part of keeping yourself and your family safe online. Here is some helpful information to socialize safely online for all ages.

For tweens and teens

Whether you're a tween, teen or adult, you probably have at least one social media account. Here are some tips to help maintain your privacy and keep your account secure.

- Don't share your password. If you do, change your password if there comes a time when you no longer want the other person to have access to your account.
- Check your privacy settings. If you are able to adjust the privacy settings, choose the right level to suit your comfort. Only choose to share the information you want with the connections with whom you wish to share it.
- Don't accept invitations to connect from strangers. Even if the invitation comes from someone who shares a common connection. Your shared connection may not know the person either. If you wish to keep your private information private and your computer system secure, at least confirm that the invitation is legitimate by contacting your mutual connection.
- Ponder before you post. Use good judgment when posting online. Internet content is forever. Everything you post is promoting you and your personal brand. If a picture or post is something that would embarrass you, your parents, or your employer, don't post it.
- Don't engage in online bullying. If someone posts something negative, disengage.

For seniors

Social media is a great tool for seniors to stay connected and pursue their interests. If you're a senior citizen, you are among the demographic group which tends to be more trusting, less technologically savvy and have greater financial resources than younger people, making you more vulnerable to Internet fraud and attractive targets for scammers. Using a few precautions while online can make engaging in social media safer and more enjoyable. Here are some tips to avoid common scams:

- Beware what you share. Review your social media accounts and make sure that they are set to "private," so that only your friends and family can see your posts.
- Search your name. Try putting your name into an Internet search engine to see what information about you comes up. That will tell you what a potential scammer would be able to find. Do the same thing without logging on to social media accounts and see what others can see about you. If you are sharing too much information, go to the privacy settings and restrict who can see your information and what information they can see.
- Confirm that you actually know your social media "friends." When you receive a friend request, even if the person has a friend in common with you, confirm that the request is legitimate and that the person is actually who they say they are.
- Practice caution if you're active on dating sites. Even if a dating site is legitimate, the person one meets may not be. When corresponding with a potential love interest, watch for frequent spelling errors, fake photos, professing love early in the relationship and avoiding an in-person meeting. Scammers often claim to be working overseas. Always be on alert for anyone asking for money. Never send money to anyone you meet online.
- Be leery of callers. No one from the government will ever call you and demand money or your personal information or threaten you with arrest or legal action if you do not provide it. If you get a call from someone claiming to be from the government, ask them to send you a certified letter. If you actually receive a letter (odds are that you will not), search for the return address and phone number online and, if it's a legitimate address and number, call to follow up. If you receive an email or call from the IRS, call them directly at 1-800-829-1040 for information.



Tips & Tricks

Loss Prevention Tips

General tips for all ages when socializing online.

- Control your privacy settings.
- Beware of what you share. Don't overshare. Consider your personal brand and post wisely.
- Ponder before you post.
- Be leery of unknown callers or email sources. Don't click on links in emails from unknown sources.

The Hub of the Home

What's a hub and what does it do?

Connected home devices can network in many different ways. Some communicate using radio signals and others connect directly to the Wi-Fi network. Ultimately they all hook directly, or through a hub, to the home router for Internet access, so they can be easily controlled or monitored with mobile apps and websites.

The hub is a piece of hardware that connects and communicates with home automation devices. It's like a brain for the house! It coordinates a series of devices that may not otherwise be capable of communicating with each other. But hubs can do more than just connect devices.

Many hubs are specifically designed to coordinate the home to match the occupant's habits. For example, you could set up a schedule using different inputs – such as time of day or location tracking. As a result, porch lights can turn on after 11pm, coffee can be ready before you get up, and the house and garage doors can be locked when the you leave.

An issue with smart devices today is some come with their own proprietary hub which only communicates with specific products. Just like other electronic systems, smart devices all run on a variety of different protocols or languages, with rules and standards for communicating. If one device only speaks ZigBee and another only speaks Z-Wave, they won't be able to communicate with each other. So, you may be in a situation where you have multiple hubs.

Ideally the home will be outfitted with devices that all speak the same language. Or, all you may need in the future is your smartphone as the hub.

Related Articles

[Home Automation Protocols](#) |



Tips & Tricks

Maintenance Tips

- Keep your hub updated with the latest software. Manufacturers are constantly discovering vulnerabilities and provide patches and updates. Be vigilant about keeping them updated.
- Products like IFTTT and Stringify can help bridge the gap between disparate hubs allowing them to work together.
- Be wary about setting up automated 'open or unlock' sequences as a mis-configuration could leave your house open.

Water damage prevention



Worried about water damage?

Ever come home from vacation to a flooded basement? May sound far-fetched, but it's happened to at least two of us on our team. And, statistics show homeowners are actually four times more likely to have a water-related issue in the home that something stolen. Think about how common some of these things are:

- Leaking toilets
- Burst washing machine hoses
- Leaking pipes due to corrosion, rust, or cracks

If the leak occurs when nobody is home, then the problem is usually much worse.

So how can a water damage situation be prevented?

Water sensor technology

Fortunately, there are sensor technologies available that can detect and even prevent water damage. They detect a change in the environment, transmit data to the internet and notify you when a leak occurs. Paying attention to alerts on your phone or a quick check of an email can prevent some serious damage from occurring.

So how do these technologies work? Basically, there are three categories:

- Individual sensors placed in problem areas – Usually, you'll install these where a leak is most likely to occur like the base of the water heater tank, by the toilet, by the washing machine, and even by a sump pump in the case of an overflow or pump failure. These sensors are simple sensors that contain two leads that get "short-circuited" when water is present. When that happens, you get notified by email or text. The advantage of this solution versus the next two is that this method does not assume you have a problem. If the sensor detects water then there is definitely a problem. Look for detectors that have rope sensors that can reach places for potential leaks can start.
- Water flow detection – There two types of these devices. One is installed in the main water line and requires a licensed plumber to install. These sensors typically contain an impeller inside the pipe that can measure the amount of water flow. The other is mounted on the pipe and can be done without the help of a plumber. This type of sensor works by detecting temperature differences at two separate points on the pipe which indicates how much water is flowing in the pipe. The idea behind both sensors is that if water is flowing for longer than normal or is flowing when the house is not occupied, then an alert will get generated. The advantage of this solution over the first option is that you only need one sensor on your main water line versus a variety of sensors placed throughout your house.
- Automatic shut-off valves – This solution usually works in conjunction with one of the two methods described above. You will need a licensed plumber to install the device in line with the water main. When a water sensor in either of the previous examples detects water, a signal is sent to the sensor on the main water line. The sensor contains a ball valve in the pipe which will then close effectively shutting of the water to the whole house. The advantage of this solution is that the water damage will be limited to a few seconds preventing thousands of dollars of damage.

Which method is right for me?

That all depends on the problem you are trying to solve.

If you have a basement that is prone to flooding and you'll have time to react, then the first option is the least expensive and the easiest to set up. You will get alerted immediately when water is detected and you will know exactly where the problem is.

If you're worried about a leak occurring anywhere in the house where it may not be feasible to place a water sensor, for example, a pipe behind a wall, or you don't want to place a lot of sensors in multiple locations of your home, then the flow detection device would be best.

If you're away from home a lot or have a vacation home that is often vacant, the automatic shut-off solution is highly recommended.

Whichever water sensor solution you decide to put into play, you'll want to make sure you have the right coverage for your water heater, devices and your home. Click below, fill out our form and we'll contact you to make sure you're covered.

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- Place water sensors on the floor out of the way of foot traffic. We like them under sinks and washing machines, next to toilets and water heaters, and even around sky lights and hot tubs.
- Make sure the sensor leads are level on the ground at a height where the water will trigger the sensor correctly.
- If the water shut-off valve is located far away from your hub connected, you may need a repeater to extend the signal to the device.

Ways to wire the connected home

New construction or retrofit

When constructing a new home, you have the luxury of being able to wire for now and the future. If retrofitting, you may need to relocate your distribution panel to a location where it will be easy to feed additional wires to other locations in your home. Either way, you want to make sure you have a good understanding of your home automation needs to wire for communication, entertainment and security.

We suggest the following:

- Develop a plan that will support your home automation program needs now and years into the future.
- Know which devices you will need hard-wired, requiring an Ethernet cable, and those that can work wireless.
- Consider outlets, light switches, hvac and entertainment needs.
- Don't forget the common or C wire. This is typically required for successful powering of most smart thermostat models.

A skilled, professional electrician should be able to help advise wiring options specifically for your needs.

Don't forget the common wire

Common wire, or C wire, is not typically found in homes. Your home may have 4 wires: G wire (fan), R wire (power), W wire (heat), and Y wire (air conditioning).

The C wire is a fifth wire that enables the continuous flow of 24 VAC power to the thermostat to keep it running, working in conjunction with the R wire. Most smart thermostats need this power, other thermostats typically run on battery.

The common color standards for wires are:

- Blue or Black – C, this is the common wire
- Red – R – power
- Green – G – fan
- White – W – heat
- Yellow – Y – air conditioner

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TIP Maintenance Tips

- Use deep junction boxes to accommodate a variety of switch sizes and extra wires.
- Don't forget the common or C wire.
- Plan for future connected home needs, not just today.

You've been hacked! Now what?

Do this now

You've been hacked. You either can't access your data or your computer system is compromised. Here are a few tips to help you recover.

- As quickly as possible reset your passwords using a different computer. If your system has been hacked, there's a good chance that your activity is being sent to the hacker, so to prevent a future compromise, use another, non-infected, computer to change your passwords.
- Tell your friends that you have been hacked. Compromised systems and accounts are often used to send phishing emails to contacts. Give your friends notice so they can protect themselves.
- Monitor your bank and credit card accounts for fraud. If you don't have time to check your accounts regularly, consider signing up for credit monitoring or identity theft protection.

Options for fixing your computer

- Consider starting over with a new computer. It is often safer to replace a compromised system than to try to fix the problem yourself or hire a professional to do it. Sometimes buying new can cost less than fixing your old machine! And, you may get an upgrade on performance.
- If you stick with your old machine, wipe out your old hard drive and reinstall the software. Or, purchase a new hard drive and install the operating system and software. These options definitely require some degree of technical skill and plenty of time. Before you choose one of these options, make sure that you have the installation disks or download information for your operating system and software. If you purchase a new hard drive, make sure to buy the same size and speed drive you had in your old system.
- If you stick with your old hard drive, simply reformatting the drive does not eliminate the malicious code. You'll need to wipe the old drive using software designed to replace the old data stored on the drive with a different character. After wiping the drive, format it before reinstalling software.

All about your data

Backing up your data is always a good plan. Hindsight, however, is 20/20. If you've been hacked and can no longer access data that you need or is very valuable to you, you may need to hire a data recovery or digital forensics professional to restore your data. Before you hire anyone, research alternatives. You may be able to reconstruct your data from alternate sources, such as emails, data sticks or photo flash cards.

Data recovery and restoration can be expensive. Services can range from a few hundred dollars to several thousand, and it is unlikely to find anyone who will guarantee their work. Search for providers online, get a quote in advance and check the service provider's online reviews and references before making a substantial investment.

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Loss Prevention Tips

- Make sure you change ALL of your passwords—social media, email, banking, credit cards.
- Use a combination of letters, characters and numbers when setting passwords, or use a password manager.
- Monitor your financial or credit card accounts and contact financial institutions if you detect some unfamiliar activity.
- Reinstall your operating system and backup your data.

ZigBee, Z-Wave...what's the difference?

Here's the 411

There are a wide variety of technology platforms, or protocols, that smart devices are built on. Some work well together, others don't.

Bluetooth

Bluetooth Low Energy (BLE) technology is found in everything from bike locks to light bulbs to speaker docks, and sometimes in home automation. BLE does not use a lot of power and has a fairly limited range compared to other networking protocols, so it's not recommended for devices like security systems and motion sensors, which must be connected all the time.

Thread

A new IP-based wireless networking protocol developed by a consortium of technology and security companies, Thread is built on open standards and designed as a low-power, "mesh network." This means one Thread product will pass the signal along to another until it reaches its intended destination. This relay system greatly extends its range. But Thread does not bring together disparate networks.

Wi-Fi

Homes that have a wireless router do not require a hub to connect Wi-Fi-compatible devices. But bandwidth and response time may be compromised if the house is already filled with Wi-Fi-connected devices. Wi-Fi also consumes a lot of power, so it's not ideal for battery-based smart products like doorbells and locks.

ZigBee

ZigBee is another low-power, mesh-network structure that offers excellent range and speedy communication between devices and is the only open, global wireless standard. ZigBee is typically used in products related to smart energy, health care, equipment monitoring, remote controls, and home automation.

Z-Wave

Z-Wave also uses a "mesh network" and has extremely low power requirements, which is ideal for battery-operated devices. Z-Wave is typically recommended for home security and automation with short-range remote functions, such as lighting, heating, motion monitoring, and entertainment systems.

When connecting your home, make sure you have the right coverage for your devices and the systems that run your home. Click below, fill out our form, and we'll contact you with coverage solutions.

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