

HEATING  
AND  
COOLING

OTHER  
EP&L  
SERVICES

# HOME EFFICIENCY CONSUMER GUIDE



## ENERGY SAVING GUIDELINES AND TIPS FOR YOUR HOME

ENERGY SAVING  
GUIDELINES  
& TIPS

PREPARED FOR  
THE CUSTOMERS OF  
FRANKLIN POWER & LIGHT  
AUGUST 20, 2018

UNDERSTANDING  
YOUR  
ELECTRIC BILL

HEATING  
AND  
COOLING

OTHER  
FP&L  
SERVICES

## Dear Customer,

Franklin Power & Light developed this booklet to aid its customers in understanding their home's energy consumption and also to help our customers become more aware of available resources when upgrading or purchasing a home. We hope that using the following information will eventually lead to a lower utility bill, and at the same time help to maintain our environment.

The booklet will also provide information on different services and programs available to you, our customer.

## Lifestyle and Energy Use

### Your Lifestyle . . .

ultimately dictates the frequency and amount of energy you use in your home. Therefore it becomes necessary to understand your wants or needs and know that they are directly related to your use of energy.

### Things to consider . . .

- Is water used sparingly when taking baths or showers?
- Are televisions, computers, or lights on when they are not in use?
- Are water heater thermostats adjusted to the most efficient set point?
- Are there water leaks present in the home's piping?

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Miss Utility of Virginia

Dial 811

Or

1-800-552-7001

Miss Utility of Virginia® is the free "one call" Virginia information exchange center for excavators, contractors and property owners planning any kind of excavation or digging. The name was part of the original advertising campaign in 1971 - "To miss the utilities, call "Miss Utility" before you dig." The Miss Utility center notifies participating utilities of the upcoming excavation work so they can locate and mark their underground facilities in advance to prevent possible damage to underground utility lines, injury, property damage and service outages.

Besides ensuring your safety, it is important to call Miss Utility at 811 or (1-800-552-7001) before you dig as you will be fined and/or become liable for any damage that is caused by **any** excavation.

## References

### City of Franklin

207 W. Second Ave  
Franklin, VA 23851  
[www.franklinva.com](http://www.franklinva.com)

### U.S. Department of Energy

Office of Energy Efficiency and Renewable Energy  
Springfield, VA 22161  
[www.eere.energy.gov](http://www.eere.energy.gov)

### Energy Star

1200 Pennsylvania Ave NW  
Washington, DC 20460  
[www.energystar.gov](http://www.energystar.gov)

### Virginia Dept of Mines Minerals & Deposits

202 North Ninth Street, Richmond, VA 23219  
<http://www.dmme.virginia.gov>

### Miss Utility of Virginia

[www.missutilityofvirginia.com](http://www.missutilityofvirginia.com)



Franklin Power & Light  
1050 Pretlow St.  
Franklin, VA 23851  
757-562-8568

## FP&L Services . . .



### Power Protection

Franklin Power and Light recommends its customers use surge suppression devices to help protect home appliances from damage caused by electrical surges that may occur during lightning storms.

Franklin Power and Light recommends that you do the following to protect your appliances:

#### STEP ONE

Have Franklin Power and Light install a meter base surge suppressor in the meter socket. This device will protect your major appliances such as heat pump motors, refrigerator compressors, etc. The current rate for the suppressor is \$5 per month.



**Participate in our Cycle N' Save program and offset the cost of added protection.**

#### STEP TWO

Purchase and use site specific surge protection devices. These devices plug into your electrical outlets and you then plug your appliances into them. Several models are available to provide power as well as telephone and cable TV surge protection. Franklin Power and Light recommends that homeowners purchase and use a high quality surge device to protect computers, TVs, stereo systems, cordless phones and telephone answering machines.

While Franklin Power and Light recommends a two step approach, either step may be used independently of the other.

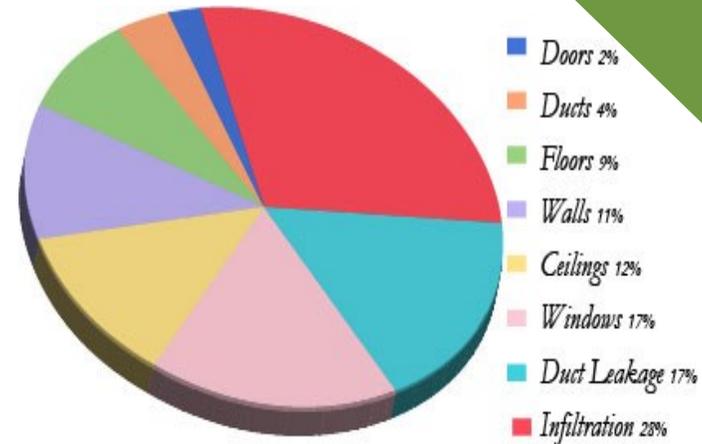


IT SHOULD BE NOTED THAT NO SURGE SUPPRESSION DEVICE WILL BE EFFECTIVE IF THE HOME'S ELECTRICAL SYSTEM IS NOT PROPERLY GROUNDED.

#### WARRANTY:

Franklin Power and Light provides no warranty on household equipment protected by either step one or step two surge suppression devices. The manufacturer of the surge suppression device provides any implied or expressed warranties. Franklin Power and Light strongly recommends that you carefully read all warranty information.

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HEATING  
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## Heating & Cooling Your Home . . .

Heating and cooling your home uses more energy and drains more energy dollars than any other system in your home. Typically, 50% of your utility bill goes for heating and cooling.

No matter what kind of heating, ventilation, and air-conditioning system you have in your house, you can save money and increase your comfort by properly maintaining and upgrading your equipment. But remember, an energy-efficient system alone will not have as great an impact on your energy bills as using the whole-house approach. By combining proper equipment maintenance and upgrades with appropriate insulation, air sealing, and thermostat settings, you can cut your energy bills and your pollution output in half.



**Thermostat Settings . . .** Your lifestyle will definitely dictate your decision when setting the thermostat, especially during extreme temperatures, but remember that your utility bill is largely comprised of heating and cooling. Setting the thermostat a few degrees higher or lower *will* make a difference.

### Guidelines . . .

You can easily save energy in the winter by setting the thermostat to 68°F while you're awake and setting it lower while you're asleep or away from home. By turning your thermostat back 10°–15° for 8 hours, you can save about 5%–15% a year on your heating bill—a savings of as much as 1% for each degree if the setback period is eight hours long.

Heat pumps are equipped with an auxiliary electric resistance heater. You may consider using a programmable thermostat as manually raising the temperature may cause this aux. heater to turn on which is very expensive as its purpose is to quickly raise the temperature to the desired setting.



In the summer, you can follow the same strategy with central air conditioning, too, by keeping your house warmer than normal when you are away, and lowering the thermostat setting to 78°F (26°C) only when you **are at home and need cooling.**

# HEATING AND COOLING

## Heat Pumps . . .

Although there are three types of Heat Pumps (Air-to-air, Water-to-air, and the ground closed-loop system), this booklet will address the Split-System Air-to-Air Heat Pump System which uses outside air as a heating and cooling source and is prevalent in our area. This system is most ideal and efficient to use in our area because of the mild temperatures we experience.

### What is a Heat Pump?

**In a nutshell** heat pumps work on a completely different principle than electric furnaces. Instead of just converting electricity into heat, a heat pump uses an electric compressor that "pumps" heat from one place to another. During the heating season, heat pumps move heat from the cool outdoors into your warm house; during the cooling season, heat pumps move heat from your cool house into the warm outdoors. Because they move heat rather than generate heat, heat pumps can provide up to 4 times the amount of energy they consume.

### How does a Heat Pump Work?

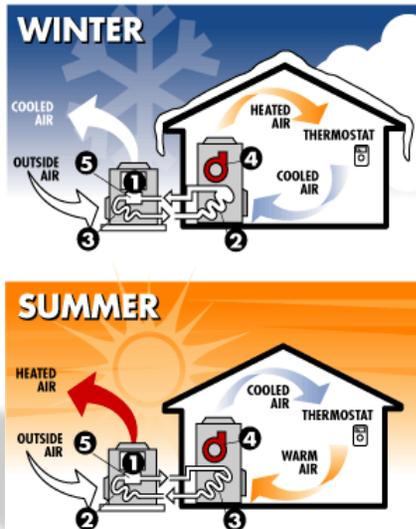
All heat pumps have the same basic components: a compressor which does the actual "pumping", an

indoor coil which heats or cools circulating house air, an outdoor heat source which supplies heat or cooling to the system, and copper tubing that circulates high pressure refrigerant fluid between the indoor and outdoor units. Residential heat pumps can utilize heat sources down to 25-30°F to heat indoor air up to 80-100°F.

Air-to-air heat pump systems are usually set up with a "two-stage" thermostat. As long as the temperature in the house remains within a few degrees of the thermostat setting, the heat pump operates normally. If the indoor temperature drops too low, the heat pumped by the compressor is supplemented by electric resistance heat and the heat pump's efficiency drops considerably. **For a typical home with a heat pump, the electric resistance heat comes on during two conditions:** when the outdoor temperature drops to about 25-30°F and when the heat pump is turned on suddenly when the house is cold.

### How are heat pumps rated?

**Heating** efficiency for air-source electric heat pumps is indicated by the heating season performance factor (HSPF), which is the ratio of the seasonal heating output in Btu divided by the seasonal power consumption in watts.



# OTHER FP&L SERVICES

## FP&L Services . . .

### Meter Base Generator Transfer Switch

FP & L maintains a high level of electric service reliability, but sometimes adverse weather conditions and other forces of nature such as hurricanes and floods can cause power outages which are beyond our control.

Franklin Power & Light is offering the GenerLink™ emergency transfer switch to its customers to deal with these situations. The GenerLink™ switch provides a quick, easy, and safe way to connect a portable generator to their home's electrical system. The GenerLink™ switch:

- ♦ Is installed behind the consumer's electric meter and requires no re-wiring of the consumer's electrical system.
- ♦ Includes a unique interlocking power cord for connection of the portable generator.
- ♦ Eliminates the use of extension cords that can be overloaded and other connections that can be hazardous.
- ♦ Detects when the generator is operating and automatically disconnects from the utility system, eliminating dangerous back feed.
- ♦ Provides the flexibility to run virtually any appliance, up to the capacity of the generator, by simply energizing appliances from the breaker panel.

### Rates:

The GenerLink™ emergency transfer switch is available for installation on single phase services with a 200 amp or smaller meter base. **A \$50 connection fee paid up front and a \$12.50 per month charge on your utility bill. A minimum 24 month lease agreement is required.**



**A generator with a 120/240-volt connector and necessary four wire 30-amp receptacle is required to work with the GenerLink™ switch.**

## Avoid BACKFEED . . .It Can KILL!!!



When power lines are down, residents can restore energy to their homes by using another power source such as a portable generator. If the generator is plugged into a household circuit, or if it is improperly sized, installed, or operated, the electrical current could reverse, go back through the circuit to the power grid, and then increase in voltage. If a worker attempts to repair power lines when this happens, the worker could be electrocuted. This problem is called backfeed or feedback in the electrical energy in power lines. Backfeed can seriously injure or kill repair workers or people in neighboring buildings.

## FP&L Services . . .

### Cycle and Save Program

Interested in receiving a \$5 monthly credit on your electric bill? Then join our Cycle and Save Program!

One of our representatives will install a load management switch on your water heater. During peak hours of electric operation, Franklin Municipal Power and Light will automatically cycle your water heater to conserve that precious energy for our community.

The Cycle and Save switch is installed at no cost to you and entirely at your convenience.

**Added Bonus:** Cycle and Save customers are eligible for free water heater troubleshooting and a \$100 rebate with the purchase of a new energy-

### Residential Energy Efficiency Survey

Ensuring your home is as energy efficient as possible not only conserves our community's energy but also saves you money.

For your free energy efficiency survey, call us today (562-8568) to request an appointment. We'll inspect your home and major appliances and provide you a listing of energy-saving recommendations specific to your house.

If you would like to perform your own online survey, visit the Department of Energy's web site: Home Energy Saver (<http://www.eere.energy.gov>) and complete the online survey to get energy saving tips and home energy efficiency recommendations.

### Light Rentals

Protect your family and home with a Dusk to Dawn Light. A 100W HPS fixture is the typical outdoor light we install when the application is for residential lighting, storage yards, and loading/receiving docks for a small business. They are great for illuminating areas around the house or barn. A light in the proper location will help you find your car keys on a dark night and let the kids play outside late.

With no installation fee and no maintenance required on your part it is easy to light up the night. A low monthly charge is all you pay so you can rest assured

that this light is always on the job.



**Rates - As of 08/16/2018**

**\* Please refer to City website for current rate.**

**The cost for a Dusk to Dawn light is added to your existing utility bill.**

Type	Lumens	Monthly Rate
100W	8000	\$11.00*
150W	14000	\$13.50*

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## How are heat pumps rated?

**Heating** efficiency for air-source electric heat pumps is indicated by the heating season performance factor (HSPF), which is the ratio of the seasonal heating output in Btu divided by the seasonal power consumption in watts. The (HSPF) rates both the efficiency of the compressor and the electric-resistance elements. The most efficient heat pumps have an HSPF of between 8 and 10. The minimum HSPF set by the Department of Energy is 7.7.

## Heat Pumps . . .

**Cooling** efficiency is indicated by the seasonal energy efficiency ratio (SEER), which is the ratio of the seasonal heat removed in Btu per hour to the seasonal power consumption in watts. The most efficient heat pumps have SEERs of between 14 and 18. As of January 2006, the minimum SEER rating was established at 13.

In warmer climates, SEER is more important than HSPF; in colder climates, focus on getting the highest HSPF feasible.

## When should I replace my Heat Pump?

- ◆ If your heat pump needs repair consider its age. If it is older than 10 years old, it is probably a good idea to replace the unit as repairs are expensive and new units operate much more efficiently.

## Selecting a Heat Pump . . .

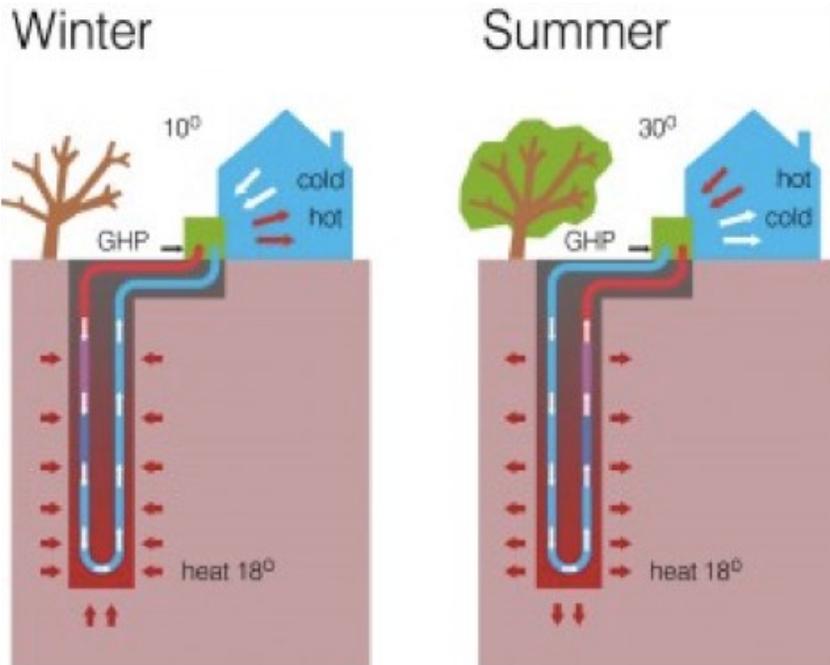
Ask your contractor to do a load calculation to determine the proper sizing of your system. If your system is undersized or oversized, this may be an additional reason to replace the existing system. For heat pumps and air conditioners, the situation is not as straightforward since it is not easy to measure the efficiency. Also ensure that any duct work is correctly sized for the unit. An undersized or oversized ducting can degrade the SEER rating and also damage or shorten the unit's operating life.

## Heating/Cooling System Guidelines . . .

1. Reduce your heating and cooling load by treating your house as a system and recognizing that a well insulated, air tightened house with good energy decision making occupants will be a household that is much easier to heat and cool.
2. Change your furnace and air conditioner filters every one to three months or whenever necessary.
3. Be sure to have your duct system tested for air leakage by a professional. Duct leakage can account for significant energy loss and potential health and safety issues.

## Heating/Cooling System Guidelines Continued...

4. Make sure that your duct system is properly insulated particularly if it is in an unconditioned space.
5. Get your heating and cooling systems inspected by a professional—preferably on an annual basis. The inspection should be thorough and include the use of testing and diagnostic equipment. All systems should be checked for efficiency and safety.
6. Use your thermostat to maximize the efficiency of your heating and cooling systems. Set your thermostat for 68°F in winter/ 78°F in summer, don't turn up high for faster heating, and (except for heat pumps) set back the temperature when the house is unoccupied.



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## Energy Star . . .

### About ENERGY STAR

ENERGY STAR is a government-backed program helping businesses and individuals protect the environment through superior energy efficiency.

Results are already adding up. Americans, with the help of ENERGY STAR, saved enough energy in 2005 alone to avoid greenhouse gas emissions equivalent to those from 23 million cars — all while saving \$12 billion on their utility bills.



### For the Home

Energy efficient choices can save families about a third on their energy bill with similar savings of greenhouse gas emissions, without sacrificing features, style or comfort. ENERGY STAR helps you make the energy efficient choice.

- If looking for new household products, look for ones that have earned the ENERGY STAR. They meet strict energy efficiency guidelines set by the EPA and US Department of Energy.

### Appliances

ENERGY STAR products are the same or better than standard products, only they use less energy. To earn the ENERGY STAR, they must meet strict energy efficiency criteria set by the US Environmental Protection Agency or the US Department of Energy. Since they use less energy, these products save you money on your electricity bill and help protect the environment by causing fewer harmful emissions from power plants. And you get the features and quality you expect.

Some examples:

- Qualified refrigerators are at least 15% more efficient than the minimum federal efficiency standard.
- Qualified TVs consume 3 watts or less when switched off, compared to a standard TV, which consumes almost 6 watts on average.
- Office equipment that qualifies automatically enters a low-power "sleep" mode after a period of inactivity.
- Qualified light bulbs (CFLs) use two-thirds less energy than a standard incandescent bulb and must meet additional operating and reliability guidelines.
- Qualified furnaces offer a rating of 90% AFUE or greater, which is about 15% more efficient than the minimum federal efficiency standard.

## TAX CREDIT is Available!!!

Tax Credit for purchasing various selected efficient items or systems is available from the federal and state government.

Check out the Department of Energy's website: <http://www.energy.gov/>

## Appliance Tips . . .



### Water Heaters

Using electricity to heat your water *can* be expensive, but it does not have to be. The following guidelines may reduce the amount of energy used to heat your water depending on the existing configuration and condition of your home's system.



- ◆ Each 10°F reduction in your water heater temperature will save 3-5 percent on your annual water heating bills. Usually, 120 degree water is perfectly adequate for household needs. (One exception is if you have a dishwasher without a booster heater. In this case, you may need to keep the temperature set at 140° for optimal dishwashing performance.)

◆ Wrapping your water heater with insulation can reduce water heating energy use by 4% to 9% and pays for itself in less than one year. Some new water heaters come with high levels of foam insulation and do not require blankets, but the extra insulation is cost-effective with most older models.

◆ Hot water pipes should be insulated wherever they are accessible. Pipe insulation not only saves energy, but also keeps water in the pipes warm. Either pre-formed foam insulation or wrap-around fiberglass insulation can be used.

◆ Use low-flow showerheads. Showerheads rated anywhere between 2 and 3 gallons per minute can save the amount of water you use and electricity used for heating. (These can be obtained from FP&L.)

◆ If your water heater is over ten years old (life expectancy of water heaters is 10-15 years) consider replacing it with a high efficiency model. Older water



### Water Heating Problems and High Electric Bills. . . Are they related?

If you have an unusually high electric bill, it may be related to a water heating system problem. Check these items to dismiss the possibility.

- ◆ A bad lower element
- ◆ Leaky faucets.
- ◆ A leaking or broken hot water pipe. (Usually located in the crawlspace)
- ◆ A bad lower element in a dual-element system.

ENERGY  
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## Insulation . . .

is important and necessary when trying to maintain any temperature. Insulation slows down the conduction of heat through walls, ceilings and floors in both winter and summer. Increasing existing levels of insulation or insulating areas that are uninsulated represent one of the most cost effective action a homeowner can do. There are many types of insulation to pick from, but all are rated by an "R-value" which stands for "thermal resistance". R-value is a measure of a material's ability to slow down heat flow. The higher the R-value, the better. The chart below will show locations that insulation should be installed or upgraded and the R-Values recommended for our area.

Location	Recommended R-Values	
Crawlspace	R-19	*While selection is important, proper installation is "a must" for desired results.
Ceiling/Attic	R-38 or R-49	
Ceiling/Cathedral	R-38	
Wall	R-13	

### Evaluating the R-value of Insulation Previously Installed in Existing Homes (Includes Effects of Aging and Settling).

Insulation type	R-value per inch of thickness
Fiber glass blanket or batt	2.9 to 3.8 (use 3.2)
High performance fiber glass blanket or batt	3.7 to 4.3 (use 3.8)
Loose-fill fiber glass	2.3 to 2.7 (use 2.5)
Loose-fill rock wool	2.7 to 3.0 (use 2.8)
Loose-fill cellulose	3.4 to 3.7 (use 3.5)
Perlite or vermiculite	2.4 to 3.7 (use 2.7)
Expanded polystyrene board	3.6 to 4 (use 3.8)
Extruded polystyrene board	4.5 to 5 (use 4.8)
Polyisocyanurate board, unfaced	5.6 to 6.3 (use 5.8)
Polyisocyanurate board, foil-faced	7
Spray polyurethane foam	5.6 to 6.3 (use 5.9)

Use this formula to determine the R-value of your **existing** insulation:

$$\boxed{\phantom{000}} \times \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

Thickness (inches) × R-value per inch = Total R-value

Use this formula to determine how much insulation you need to

$$\boxed{\phantom{000}} - \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

Recommended R-value - Existing insulation R-value = R-value needed

Do you want to know if you have the space available to add the insulation you need? Then use this formula to determine the *approximate* thickness you need to add:

$$\boxed{\phantom{000}} \div \boxed{\phantom{000}} = \boxed{\phantom{000}}$$

R-value needed ÷ R-value per inch = Approximate thickness needed

**However, remember to use the product information on the insulation packaging to determine the actual thickness for any new insulation.**

## Reading Your Meter . . .

Some FPL meters are dial-type meters that have four or five clock-like faces numbered in clockwise and counterclockwise directions (see Figure 1.). For these meters, you need to read the dials from right to left, according to the direction of the arrow. Follow these guidelines when reading the dials:

**If the pointer is between two numbers**, record the lowest number. (Unless it is 9 and 0, and then you should record the 9.)

- **If the pointer is directly on a number**, look at the dial to the right. If the pointer is between 9 and 0, record the smaller number. If it is between 0 and 1, record the larger number.

**To calculate usage**, read the numbers you recorded for each dial from left to right (the below example reading would be 75255). To determine how many kilowatt-hours (kWh) you have used, subtract the previous reading from the current reading.

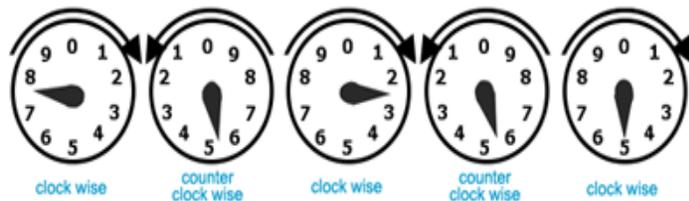


Figure 1

Other FP&L meters have numbers (digital or dial-type) (See Figure 2.)

**To calculate usage**, read the numbers you recorded for each dial from left to right.

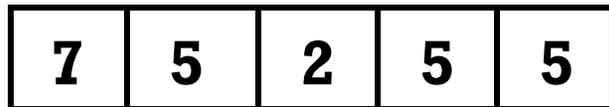


Figure 2

- To determine how many kilowatt-hours (kWh) you have used, subtract the previous reading from the current reading.

**Now you're ready to calculate your electric bill. Keep reading to find out how!**

UNDERSTANDING  
YOUR  
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## Lighting, Windows & Doors . . .

ENERGY  
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### Lighting

Using new lighting technologies can reduce lighting energy use in your home by 50% to 75%. Making improvements to your lighting is one of the fastest ways to cut your energy bills.

- ♦ Replace **“high use”** incandescent bulbs with LED. These use less electricity and last longer than incandescent. LED lamps also burn cooler. Although the initial cost to buy a LED may be higher the overall operating expense is less.
- ♦ Make use of natural day lighting whenever possible, especially in rooms that are used a lot during the daytime.
- ♦ Turn off lights in rooms that are not being used.

Incandescent Wattage	LED Wattage
25	5
50	9
60	12
75	13
100	20
120	25
150	28

This table compares the wattage of commonly available incandescent lamps and the wattage of a Compact Fluorescent Light (CFL) that will provide similar light levels.

### Windows

Although an easy solution to obtaining the best energy efficient window is to buy a new double-paned one with a low U-factor, low air leakage, and an acceptable solar transmission rating, most times your budget cannot accept this course of action. The following are easy tips to improve your existing window's efficiency.

- ♦ Install storm windows.
- ♦ Use weatherstripping.
- ♦ Replace/Repair putty.
- ♦ Caulk around windows.

**U-Value:** Windows lose heat in four ways. Convection, Radiation, Air leakage, Conduction. The rate at which a window loses heat through the combination of the four is called its U-value. It is the inverse of the R-value, so the lower the U-value, the greater the insulative value of the window.

### Doors

While there are generally only a few doors in a home, compared to a dozen or more windows, doors may often leak even more than windows. Doors are also rated with an R-rating similar to that of insulation. In general, insulated steel and fiberglass doors are more energy-efficient than wooden doors. Existing doors with gaps or other problems may be improved by the following tips:

- ♦ **Install a door sweep.** If there is a gap at the bottom of an exterior door, you should install either a door sweep that attaches to the door, or a vinyl-bulb threshold that creates a seal under the door.
- ♦ **Replace weather stripping.** Weather stripping can cover air leaks caused by warping or improper installation or framing.
- ♦ **Install a storm door.** Storm doors are a very cost-effective energy saving improvement in our climate as it becomes another barrier that will keep your home warm in the winter.

## Appliance Tips . . .

### Energy Guide Labels

To help you figure out whether an appliance is energy efficient, the federal government requires most appliances to display the bright yellow and black **Energy Guide Label**. Although these labels will not tell you which appliance is the most efficient, they will tell you the annual energy consumption and operating cost for each appliance so you can

### Refrigeration

- Make sure your refrigerator door seals are airtight. To test the seals, close a dollar bill in the door. If the dollar bill pulls out with no resistance, the seals probably should be replaced.
- Keep the condenser coils clean. Dust and dirt accumulation on the heat exchanger coils on the back or bottom of a refrigerator will reduce its efficiency.
- Don't keep your refrigerator or freezer too cold. Recommended temperatures are 37° to 40°F for the fresh food compartment of the refrigerator and 5°F for the freezer section.
- Avoid putting containers of hot food in a refrigerator or freezer. Let them cool first.
- Don't keep your freezer or refrigerator doors open any longer than necessary.

Based on standard U.S. Government tests

# ENERGYGUIDE

Refrigerator-Freezer  
With Automatic Defrost  
With Side-Mounted Freezer  
Without Through-the-Door-Ice Service

XYZ Corporation  
Model ABC-W  
Capacity: 23 Cubic Feet

**Compare the Energy Use of this Refrigerator with Others before You Buy.**

This Model Uses  
776 kWh/year

Energy Use (kWh/year) range of all similar models

Uses Least Energy 742      Uses Most Energy 836

kWh/year (kilowatt-hours per year) is a measure of energy (electricity) use. Your utility company uses it to compute your bill. Only models with 22.5 to 24.4 cubic feet and the above features are used in this scale.

Refrigerators using more energy cost more to operate.  
This model's estimated yearly operating cost is:

**\$68**

Based on a 1995 U.S. Government national average cost of 8.4¢ per kWh for electricity. Your actual operating cost will vary depending on your local utility rates and your use of the product.

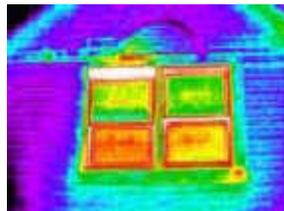
Important: Removal of this label before consumer purchase is a violation of Federal law (42 U.S.C. 6302).

- Estimated energy consumption on a scale showing a range for similar models
- Estimated yearly operating cost based on the national average cost of electricity.



Warm air leaking into your home during the summer and out of your home during the winter can waste a lot of your energy dollars. One of the quickest dollar-saving tasks you can do is caulk, seal, and weatherstrip all seams, cracks, and openings to the outside. You can save as much as 10% on your heating and cooling bill by reducing the air leaks in your home. Keep reading to find out how to stop leaks!!!

This infrared survey shows large heat losses through the windows in orange/yellow and slight losses in green.



## UNDERSTANDING YOUR ELECTRIC BILL

## Calculating your Electric Bill . . .

### Terms to be familiar with:

**watt** = a measure of electric power

**watt-hours** = watt x hours

**1 kilowatt-hour (kWh)** = 1,000 watt-hours

\*The rates listed in the example below are as of August 16, 2018

**For current rates check the back of your utility bill or City website.**

kWh used: 1000 kWh

Basic charge:		\$7.98
1000 kWh	$1000 \times .10851$	\$108.51
Fuel adjustment= total kWh times fuel rate.	$1000 \times .01190$	\$11.90
Total electric bill		\$128.39

