

MEMBER CARE SERVICES

# Home Energy Efficiency Guide

A personal plan to save energy and money.



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**YOU'RE IN POWER.**

## MEMBER CARE SERVICES

# Home Energy Efficiency Guide

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### FARMERS EC OFFICES:

#### Greenville Main Office

M-F 8am to 5pm  
Farmers Electric Cooperative  
2000 East Interstate 30, Greenville, TX 75402

#### Sulphur Springs

M-F 8am to 5pm | Closed 1pm to 2pm  
Farmers Electric Cooperative  
301 N. Hillcrest, Sulphur Springs, TX 75482

#### Wylie

M-F 8am to 5pm | Closed 11am to Noon  
Farmers Electric Cooperative  
108 West Marble, Wylie, TX 75098

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### PAYMENT OPTIONS:

Online at [FarmersElectric.coop](http://FarmersElectric.coop)  
By telephone  
Bank Draft and Credit Card  
MoneyGram  
Fidelity Express  
In person at any Farmers EC office

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### COOPERATIVE SERVICES:

Bill Plans  
Payment Methods  
SmartHub  
360 Green  
Renewable Energy  
Nest Rush Hour Rewards  
Construction Services  
Paperless Billing  
PDF Resources  
Energy-Efficiency Rebates  
Scholarships and Youth Programs  
Operation Round Up

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### OPERATING IN THE FOLLOWING COUNTIES:

Collin, Dallas, Delta, Fannin, Franklin, Hopkins,  
Hunt, Kaufman, Rains, Rockwall, Van Zandt,  
and Wood



## INTRODUCTION

# To lower your bill, you have to reduce your energy use.

Sometimes that is easier said than done. Everyone's homes, circumstances, resources, and energy needs are different. Plus, factors like having a total electric home versus one with gas appliances create variables during months when peak energy use typically occurs. Regardless, receiving a bill that's higher than expected can be surprising and distressing.

When that happens, members often suspect a faulty meter, a billing error, or some other outside factor. Most often, the answer is a lot simpler: How efficient is your home and its heating and cooling system? The more electricity your home requires, the more you pay.

This guide will help you understand the factors that affect electricity use. You will investigate your situation to find out what might be causing your high bill, resolve the problems, and learn how to monitor and manage your use to take charge of your bills in the future.



## STEP 1: Understanding Energy Use

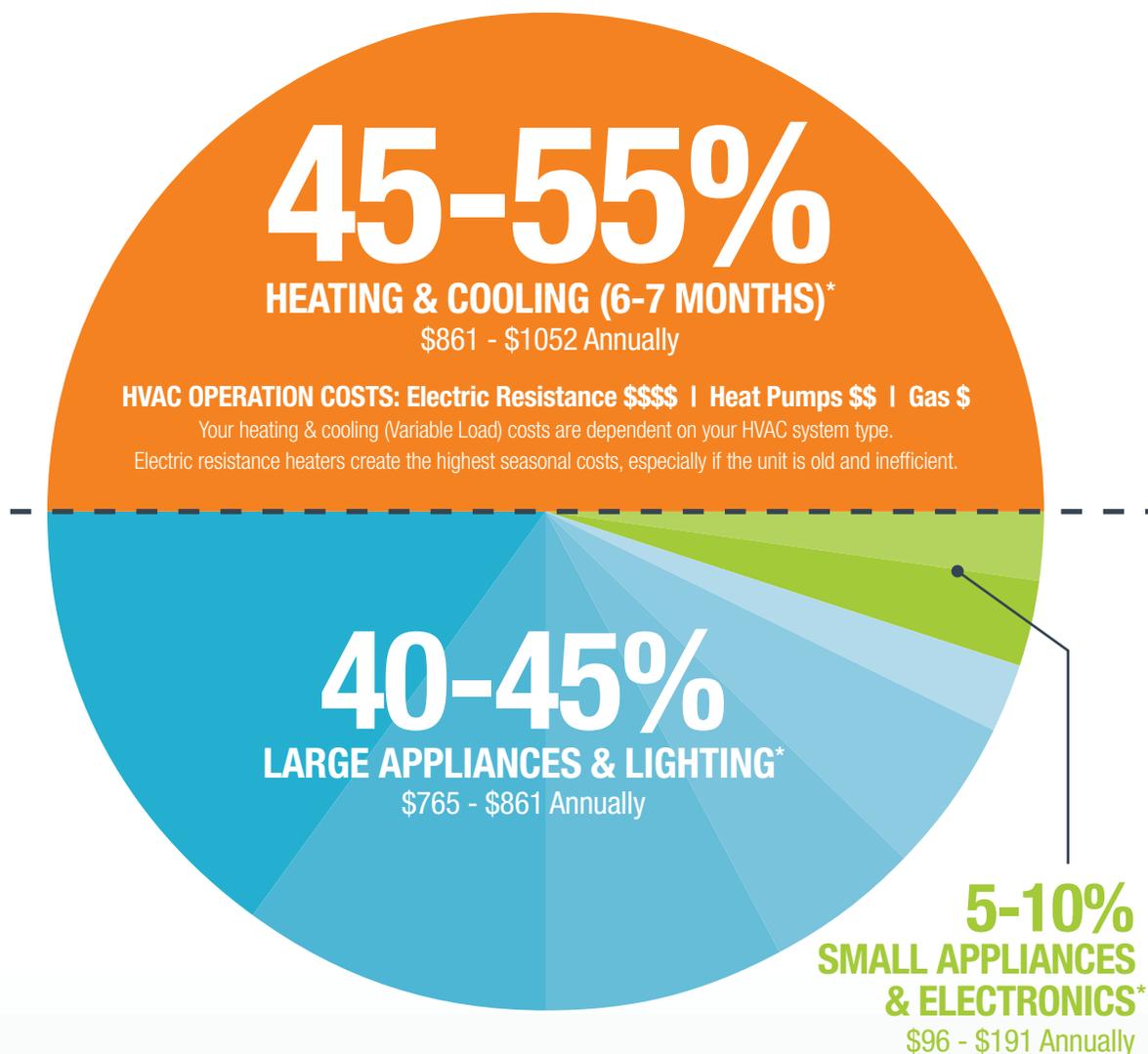
# By the numbers.

## How we use energy.

Before we take action to reduce high bills, we need to have a basic understanding of how heating and cooling systems, appliances, and lighting contribute to the overall cost of our electricity. It turns out we have more control over some factors than we do others. Where we choose to make changes—adjusting our habits versus buying new windows—is critically important to the return on your investment.

## Main areas of energy use.

Here you can see how much electricity is used where. Comfort costs (orange) account for about 6 to 7 months of use, but make up the largest piece of your annual usage. The other two categories (blue and green) account for a more-or-less stable “Baseload.”

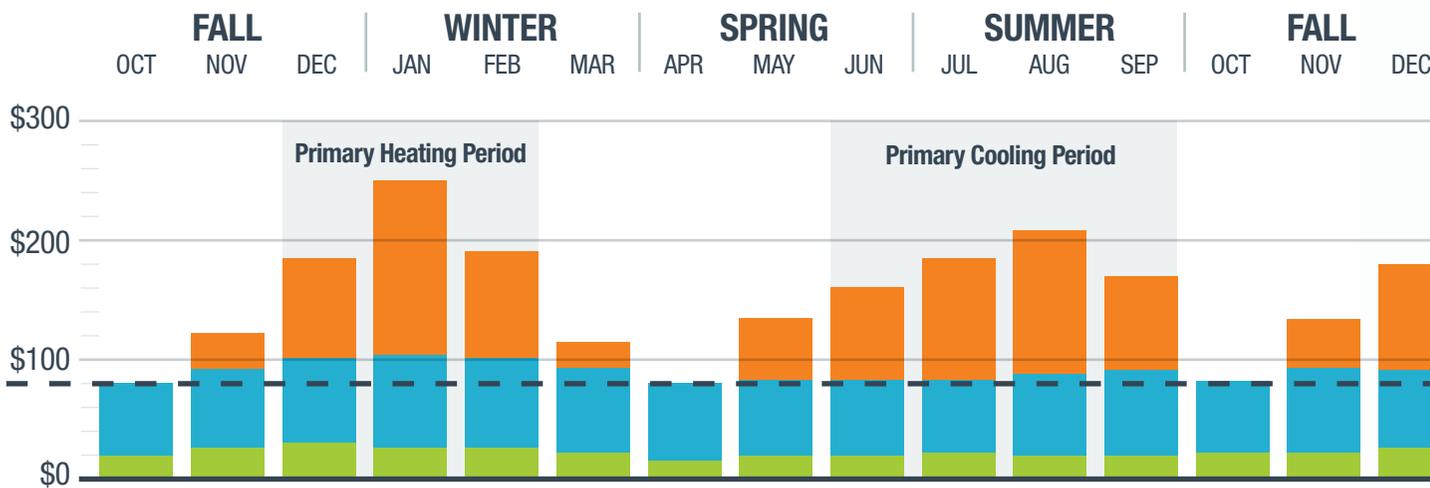


\* Figures based on an average Farmers EC residential member electricity bill of \$1913 annually / \$159 a month at \$.1075 kWh for a total of 1483 kWh per month.

# Variable Load and Baseload energy use.

This graph shows average electricity use and costs for a Farmers EC member. The Baseload is the area below the dotted line (green and blue). It remains stable throughout the year compared with the Variable Load for heating and cooling above the line (orange).

## Average Farmers EC residential members electricity bill: \$1913 annually.\*



### ● VARIABLE LOAD

While your Variable Load is almost half of your annual usage, it is compressed into about 6-7 months of the year. This makes your Variable Load the primary cause for spikes in seasonal billing. Energy savings here make substantial impacts in your annual electricity costs.

### ● ● BASELOAD

Your Baseload is simply the typical amount of energy needed to run your home, minus heating and cooling costs. This includes powering large appliances and lighting as well as small appliances and electronics. While they add up to roughly half the amount you spend on electricity, not all these factors are created equal. Bottom line: Large appliances and lighting offer modest opportunities to save energy and money. Small electronic use and personal habits have minimal impact on overall annual costs.

## USE YOUR BASELOAD TO CREATE AN ENERGY REDUCTION GOAL.

**STEP 1:** Gather your electric bills for the last 12 months. If you do not have your paper statements, you can review your history online through your SmartHub account. If you do not have a SmartHub account, now is a good time to create one. Sign up at [FarmersElectric.coop](http://FarmersElectric.coop).

**STEP 2:** Find your two lowest months for the 12-month period—most likely during the early fall and early spring. Average these two months together to determine your Baseload. Also try to recall if these months included any heating or cooling. Not every member has months that they completely turn off their heating/cooling system. Some members

may have a small amount of heating and cooling associated with their Baseload. That is okay. The important part is to understand the minimum amount of energy you use each month with the least influence from heating or cooling your home.

**STEP 3:** Now subtract your Baseload from your most expensive month. This is your highest Variable Load. Now you can set a goal to reduce your Variable Load and can measure your efforts against the next high bill month. Using the information in the following pages, you could be able to reduce your highest Variable Load by 20 - 50%.



#### DID YOU KNOW?

Inefficient appliances, drafty windows and doors, poor insulation, or other easy-to-fix energy wasters cost U.S. consumers an estimated \$130 billion annually.

### STEP 1: Understanding Energy Use

# Top 3 troublemakers.

## Weather, inefficiency, and home habits.

Three major factors will always affect your electricity use—and therefore, your bill. Although you can't control the weather, you can do something about how efficient your home is, and how wisely you use your power.

Aside from extreme weather, the things that cause high bills are usually under the member's control. If heating and cooling systems—and the home itself—aren't set up to work efficiently, that can account for a large chunk of wasted energy. The good news is that you can take charge and

reduce your use with items like Energy Star® appliances and HVAC systems with high SEER ratings.

Finally, your home habits—things like your thermostat setting, water heater temperature, how you use refrigerators and other appliances, and simply turning off lights—can cost you extra Baseload money, too.

# Breaking down the big 3.

When figuring out why your bill is high; consider these culprits first. Together, they have the biggest impact on how much energy you use—and waste—and indicate where you can make money-saving changes.

## WEATHER

As seasons come and go, you keep your home within a fairly consistent internal temperature range (65° - 75° F). That means, during peak conditions, your heating and cooling systems have to work harder due to the temperature gap between the exterior and interior of your home—and it shows up on your bill.

### Summer vs. Winter. Who's the bigger culprit? It's all about the Temperature Gap.

Look at it this way. You have your home's thermostat set at 70°. In summer, when the exterior temperature reaches 100° F, you have a 30° gap between inside and outside temperatures. This gap becomes smaller at night when temperatures come back down, so your AC unit doesn't have to work as hard to overcome the difference.

Winter is a different story. The same thermostat setting of 70° F may have a daytime gap of about 20° if the outside temperature is in the 50s. But when the sun sets, temperatures drop and the gap increases. And if temperatures dip into the 20s, your heating system is working against a 50° difference. That temperature gap would be equivalent to a 120° F summer day. Plus the nights are longer, so you are inside using more interior lighting. And the energy usage list keeps growing. Even in Texas, it takes a lot of energy to overcome those winter nights.

## INEFFICIENCY

Wasting energy due to a home's inefficiency is a common reason for an electric bill to be higher than expected. This is a factor over which we have more control. Being aware of them is the first step.

### Thermal integrity (Building Envelope)

New building codes and building materials make modern homes more efficient. However, the older your home is the more likely its thermal integrity is very low and costing you money. You might find you have air leaks, insufficient amounts of insulation, or other problems. Windows are another area that may cause a home to be inefficient, but be aware that the replacement costs are sometimes greater than the energy savings they provide.

### Heating and cooling systems

If you have an older home with poor thermal integrity and an older, inefficient HVAC system, you have a double whammy. Electric Resistance Heaters and AC units are the biggest users of energy in any home, hands down, and become increasingly less efficient as they get older. Replacing your HVAC system will be the biggest single action you can take to impact your seasonal variable energy use.

Also don't forget your HVAC's ducting. Too many bends, improper sizing, or leaks will make your system work harder.

### Appliances

As part of a complete efficiency update, consider that older and redundant appliances can waste a lot of electricity, especially in unconditioned spaces. For instance: How much is that extra fridge toiling in the hot garage costing you?

## HOME HABITS

Sometimes it's hard for a co-op member to realize or accept that their high bill might have something to do with their own habits. Yet knowing what you're doing wrong is the first step toward changing.

### Thermostat set too high or too low

It costs a lot to indulge in 75° F indoors in January—and in August, 65° F is an expensive proposition, too.

Most people tend to leave their thermostat set to the same settings when they are gone. That may be okay for a quick errand, but if you are going to be gone for long periods or all day, cut back on heating or cooling by three to five degrees.

### Water temperature too high

Do you know the temperature setting of your water heater right now? It might be hotter than you want or need. Older electric units take more energy to heat and maintain.

### Refrigerator/Freezer temperature too low

If you've never checked the setting on your fridge or freezer, now is a good time to see whether it might be wasting money.

### Washing and drying clothes

Thoughtless habits can get expensive in the laundry room. Most clothes can be washed in cold water. Make sure you are using full loads. Smaller more frequent loads cost you.

### Leaving lights on

A lot of us wander into and out of rooms without giving a thought to the lights we leave on. It all adds up. It's also one of the easiest factors to control through habits and LED bulbs.

### Electronics

Many electronic devices are designed to stay in standby mode—using electricity even when they're switched off. Unplug them when not being used for long periods of time.



#### DID YOU KNOW?

The average American wastes 283 kWhs of energy each month. That's the equivalent of running an electric oven at 350° for six full days or about \$31 dollars per month.

## STEP 2: Investigate Your Case

# Identifying the problem.

This time it's personal.

We've discussed what kinds of energy use usually account for high bills and covered the basics of what can be controlled to bring those bills down. Now it's time to investigate your individual case to find out what might be causing your bill to be higher than expected. You'll need to examine everything mentioned to pin down what's happening in your home.

We know it can seem overwhelming at first. That's why, no matter what your investigation turns up, Farmers EC is here to help you make sense of your situation and give you the support you need to take charge of your electricity use. Whether that's help from our Member Care team, information from our website or SmartHub, or results from a FREE Home Energy Assessment, you'll never be left on your own!



# Start with the big stuff.

Knowing which items use the most electricity gives you a head start on tracking down the cause of your high bill. Remember, if you need help getting questions answered, Farmers EC is here for you.

## HEATING & COOLING CHECKLIST

- How old is your home?** \_\_\_\_\_  
If your home is more than 15 years old, you may be experiencing increased outside air getting into your home through cracks in doors, windows, and exterior walls from settling. Very old homes will experience this issue even more. Inspect your doors, windows, exterior walls, and roof for cracks and gaps.
- How old is your HVAC system?** \_\_\_\_\_  
If more than 10-15 years old, you need to invest in a new Energy Star® efficient system.
- What type is your heating system?**  GAS  HEAT PUMP  ELECTRIC RESISTANCE  
Gas and heat pump systems are the most efficient. Electric resistance central heat is the most expensive to operate. If you have electric resistance, you will need to upgrade to a heat pump to lower heating bills.
- Are you changing your air filters monthly?**  YES  NO  
Dirty air filters make your system work harder, especially in older systems.
- When was the last time you had your AC and furnace tuned up?** \_\_\_\_\_  
Yearly and seasonal maintenance is key to preventing costly breakages and extending unit life.
- Are your ducts insulated?**  YES  NO **Are they in an insulated space?**  YES  NO  
Creating cool or warm air is hard enough for your HVAC system. Having ducting affected by opposing temperatures makes it even more difficult.
- Is your ducting properly sealed?**  YES  NO  
If your ducts have leaks, you are paying to heat or cool areas of your home that don't need it, or worse, outside your home.
- Are you using space heaters?**  YES  NO  
Space heaters are just as expensive to run as an inefficient heating system. If you are using them along with your heating system, it's a double whammy.
- Do you have enough insulation in your attic, walls, and floors?**  YES  NO  
All exterior walls and floors should be fully insulated and your attic should have a minimum of 10-14 inches of insulation. Attics should have an insulation value of R38. Walls should be insulated to R13-15 and floors to R25.
- Do you have a fireplace?**  YES  NO  
Fireplaces can suck heat out through the chimney when not used. Keep the flue closed when not in use.

## LARGE APPLIANCE & LIGHTING CHECKLIST

- How old is your water heating system?** \_\_\_\_\_  
Unless you have an on-demand gas water heating system, you most likely have an electric water heater. Electric water heaters use a lot of energy (approx. \$40-\$50/month) to keep water heated. If it is more than 10-13 years old, you most likely need a new water heater. It should be inspected annually along with your HVAC system for optimal efficiency.
- What is the temperature of your water heating system?** \_\_\_\_\_  
Your system should not be set any higher than 115° F for a one to two person home and 120° F for a three or more person home.
- Is your water heater insulated on the outside?**  YES  NO  
Wrapping your water heater can help increase its efficiency, especially if its located in a garage or an area with more exposure to cold temperatures in the winter.
- Do you use your stove and oven significantly in the summer?**  YES  NO  
Oven cooking adds heat to your home and makes your AC work harder to cool your home, which is already warm. Use a microwave, a toaster oven, or a slow cooker when you can.
- How old is your washer and dryer?** \_\_\_\_\_  
If your washer and dryer are more than 8-12 years old, you should upgrade. With modern detergents you can wash most everything in cold water. Only use warm or hot for very dirty loads. Wash full loads. Multiple small loads use more energy.
- How old is your refrigerator and freezer(s)?** \_\_\_\_\_  
If your refrigerator and/or freezer are more than 15 years old, you should upgrade to a more efficient Energy Star® unit. Older units must work harder to keep food and beverages cool.
- Do you have a freezer in a garage?**  YES  NO  
Asking a freezer to work in a hot summer garage that can reach 120° F just uses more energy. If you rarely use it, unplug it and sell it as a home energy upgrade project.
- What is the temperature set on your refrigerator and or freezer(s)?** \_\_\_\_\_  
Set your refrigerator between 34° - 37° F and freezers to 0° - 5° F.
- Have you changed all your light bulbs to LEDs?**  YES  NO  
This is one of the easiest investments and can actually lower costs associated with your Baseload.



### DID YOU KNOW?

Gas systems and electric heat pumps are recognized as the most efficient heating units. Electric resistance systems are cheaper upfront, but they will cost significantly more over time through higher bills.

## STEP 3: Resolve Your Issues

# Reducing use.

## FIRST: Heating and cooling.

If you want to make big reductions in your energy bill, start with heating and cooling. While there are free and affordable things you can do yourself to start lowering your electric bill, ultimately you need to replace your old inefficient HVAC system. Big changes mean a big investment. That usually means upgrading your HVAC system and insulating your home—potentially cutting your Variable Load (heating and cooling) in half.

If you cannot make that investment right now, implement the short-term and long-term solutions we've outlined as you can afford to do so. Start with the free tasks and then move on to the less expensive tasks. Taking one step at a time will add up to big changes. You may also want to consider changing to one of our alternate bill plans—like Budget Billing or Proactive Billing—to help better deal with seasonal spikes in your usage. You can learn more about these plans in the Taking Charge section of this guide.

## VALUE SCALE

### FREE

It does not get any easier than this to save energy. A little effort on your part and you can start saving energy and money now.

### \$ = \$1 to \$100

A little investment now can save for the long run.

### \$\$ = \$100 to \$500

While more of an investment, these projects will start paying off more quickly.

### \$\$\$ = \$500 to \$2,500

Even more savings seen here.

### \$\$\$\$ = \$2,500+

You will find these projects and investments will impact your energy bill the most.



## SHORT-TERM INVESTMENTS

The quickest and easiest way to get started saving on your energy bill is to implement these free and moderately-priced tasks. You can do a lot yourself. Do research on the internet for price comparisons and how-to tips. Watch YouTube videos for visualization of tasks. It is always easier

### **FREE Set your thermostat properly for winter and summer.**

On heat pumps, do not use the Emergency Heat setting unless there is an emergency. For all systems, set your thermostat on average to 73° F during the day and 75° F before bed in the summer. For winter, 68° F during the day and 65° F at night. Use portable fans to aid in cooling in summer. Set ceiling fans to pull hot air up in the summer and reverse them to blow warm air down in the winter.

### **FREE Do you have a fireplace?**

Fireplaces can suck heat out through the chimney when not used. Keep the flue closed when not in use.

### **FREE Stop using space heaters.**

It takes about 1,500 watts to power a space heater—regardless of size. That's about \$45 a month—per heater—if used eight hours a day.

### **\$ AC and furnace tune up. | \$50 Rebate from Farmers EC\***

Yearly and seasonal maintenance is key to preventing costly repairs and extending unit life.

### **\$ Changing your air filters monthly. | FREE Delivery with FilterChange.coop**

Dirty air filters make your system work harder, especially for old systems.

## LONG-TERM INVESTMENTS

Not everyone can make the larger changes right away, but do them first when you can. These create the biggest bang for your buck in reducing your energy usage. Replacing an HVAC system can be expensive. Be sure to shop around. You may be able to do some of these tasks yourself,

### **\$\$ Add thermal film to windows.**

This is a more cost-effective and efficient way to upgrade your existing windows' efficiency. If you can not use film, apply plastic sheeting to the outside of windows for additional efficiency and remove in the spring.

### **\$\$ Wrap metal ducts with insulation.**

Creating cool or warm air is hard enough for your system. Having ductwork affected by opposing outside temperature makes it even more difficult.

\*Farmers EC Rebates are subject to change and availability.

to see someone do something than it is to read about it. When you are shopping, be sure to ask store associates any questions and explain what you are trying to accomplish. They may be able to point you toward a better solution.

### **\$ Caulking and weather stripping. | \$100 Rebate from Farmers EC\***

If your home is more than 15 years old, you may be experiencing increased outside air getting into your home through cracks in doors, windows, and exterior walls. Very old homes will experience this issue even more. Seal cracks and gaps in and around your doors, windows, exterior walls, and roof.

### **\$ Properly seal your ducts.**

If your ducts have leaks, you are paying to heat or cool areas of your home that don't need it, or worse yet, outside your home.

### **\$\$ Install sun shades.**

This is an affordable way to block harsh warm sunlight in the summer. Attach them to your roof's eaves in front of south-facing windows. Roll them up at night when you come home from work.

### **\$\$\$ Add thick curtains to cold or hot windows.**

Curtains can go a long way to blocking heat and cold from windows and they can add a touch of style to your home. Close your curtains during the day in the summer. Open them up for warm sunlight and heat in the winter, then close them at night.

but they can be more complex, difficult, and time consuming. You may want to hire a professional to complete these tasks. When hiring a professional, check the Better Business Bureau for recommendations and ratings, and make sure they warranty the workmanship.

### **\$\$\$ Add insulation in your attic, walls, and floors. | \$500 Rebate from Farmers EC\***

All exterior walls and floors should be fully insulated and your attic should have a minimum of 10-14 inches of insulation. Attics should have an insulation value of R38. Walls should be insulated to R13-15 and floors to R25.

### **Replace your HVAC system.**

If more than 10-15 years old, you need to invest in a new Energy Star® efficient system.

**\$ Electric Resistance:** Efficiency - Fair

**\$\$ Heat Pump:** Efficiency - Better

**\$\$\$\$ Gas:** Efficiency - Best



### DID YOU KNOW?

Every appliance has two costs: the purchase cost and the operating cost. Think of the purchase as the down payment. The operating cost is what you will pay in energy consumption for the next 10-20 years.

## STEP 3: Resolve Your Issues

# Reducing use.

## SECOND: Large appliances and lighting.

After you have done as many of the energy-reducing tasks for heating and cooling as you can, you should move on to large appliances and lighting. As you saw in the Variable Load and Baseload graphic, large appliances and lighting make up 40-50% of your monthly bill. This group is comprised of many appliances used for varied periods of time throughout the month, unlike heating and cooling which is primarily your HVAC system.

You will see a less dramatic reduction in monthly energy bills with these tasks, but the annual effect on Baseload energy use could be up to a 15-20% savings. Most of the tasks are free or low cost. Your largest expense will be replacing old and inefficient appliances. Start with the water heater if you can, and then proceed with the next oldest appliance. Making these updates along with your heating and cooling tasks will add up.

## VALUE SCALE

### FREE

It does not get any easier than this to save energy. A little effort on your part and you can start saving energy and money now.

### \$ = \$1 to \$100

A little investment now can save for the long run.

### \$\$ = \$100 to \$500

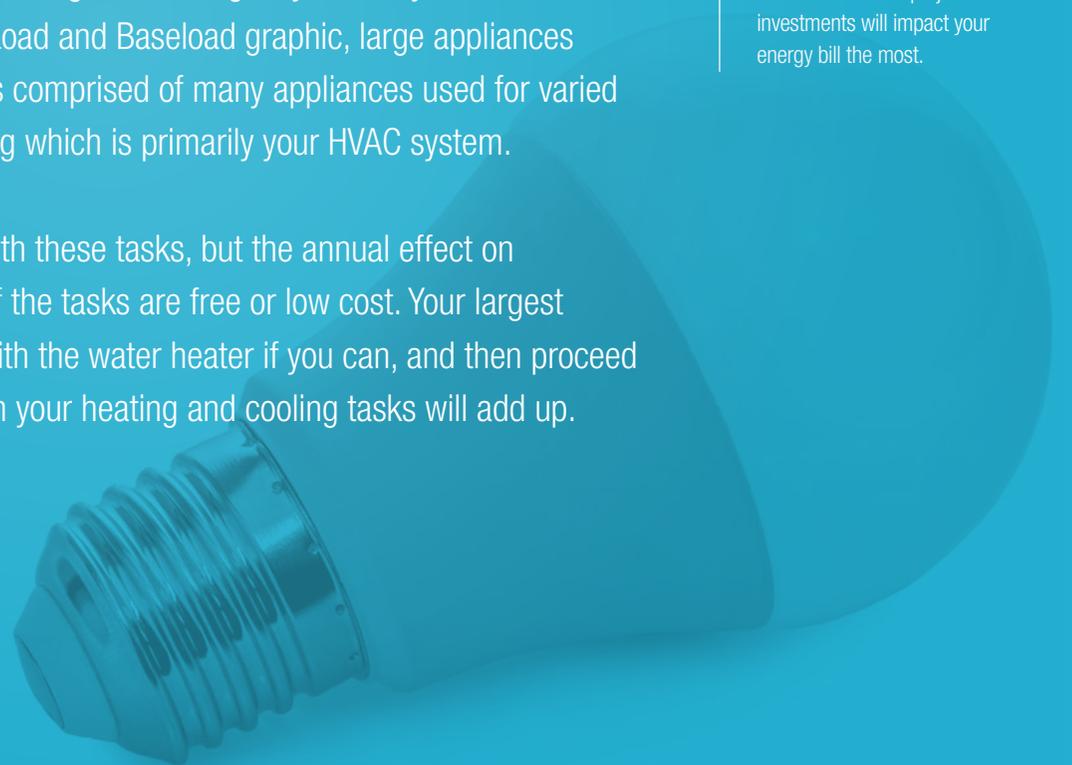
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### \$\$\$ = \$500 to \$2,500

Even more savings seen here.

### \$\$\$\$ = \$2,500+

You will find these projects and investments will impact your energy bill the most.



## SHORT-TERM INVESTMENTS

The quickest and easiest way to get started saving on your energy bill is to implement these free and moderately-priced tasks. You can do a lot yourself. Do research on the internet for price comparisons and how-to tips. Watch YouTube videos for visualization of tasks. It is always easier

### **FREE Limit dishwasher use.**

Only run your dishwasher with full loads. If you only have a few dirty dishes, consider cleaning by hand and save the hot water.

### **FREE Limit the time for hot showers.**

The more demand on electric water heaters, the more energy used—especially in households with multiple members. Long showers might be relaxing, but keeping your shower under five minutes gets you clean and saves energy.

### **FREE Set a proper temperature for your water heating system.**

For a household of one or two people, set the temperature to 115° F. For households of three or more persons, set the temperature to 120° F.

### **FREE Limit the use of your stove and oven in the summer.**

If it's hot outside, don't make your house hotter by cooking and baking. Use a microwave, a toaster oven, or a slow cooker for summer meals.

### **FREE Wash clothes in cold water and full loads.**

Most clothes used in everyday situations can be cleaned in cold water. Modern detergents also help clean better and in cold water. Only use warm or hot water for very dirty loads.

### **FREE Dry your clothes old school.**

If you have the time, hang your clothes outside on a clothesline to dry.

### **FREE Remove that refrigerator or freezer in the garage.**

If you have a refrigerator or freezer in your garage, move it inside to a cooler area where it does not have to work so hard. If you don't use it on a regular basis, unplug and/or sell it.

### **FREE Set a proper refrigerator and or freezer(s) temperature.**

Set your refrigerator between 34° - 37° F and freezers to 0° - 5° F.

to see someone do something than it is to read about it. When you are shopping, be sure to ask store associates any questions and explain what you are trying to accomplish. They may be able to point you toward a better solution.

### **\$ Change your old light bulbs to LEDs.**

Lighting can account for a significant amount of energy. Swap out all your interior and exterior lights with long-lasting, low-energy use LEDs.

### **\$ Insulate your hot water heater.**

Wrapping your water heater can help increase temperature retention, especially if located in a garage or an area exposed to cold winter temperatures.

### **\$ Perform annual maintenance on hot water heaters.**

Flush and check coils for rusting and structural integrity. Fixing small issues costs less, maintains efficiency, and increases longevity in your investment. You may want a professional to do the inspection.

## LONG-TERM INVESTMENTS

Remember, there are two costs associated with appliances — the cost at the store and the cost to operate them. Plus, not all appliances are used equally. Start by replacing the appliances that are in use the most throughout the day or week. Refrigerators, freezers, and water heaters operate

### **\$\$ Replace your old refrigerator and freezer(s).**

If your refrigerator and/or freezer(s) are more than 15 years old, you should upgrade to a more efficient Energy Star® unit. If your old units were to break, the cost to fix is sometimes more than a new unit.

### **\$\$ Replace your old dishwasher.**

If your dishwasher is older than 8-12 years old, consider upgrading to a more energy efficient unit. They use less hot water and clean more efficiently in shorter periods of time.

continually so their replacement will have the biggest impact on annual energy use. Ovens, dishwashers, and laundry appliances do not have to be used daily, so their replacements can be considered as secondary to the more frequently used ones.

### **\$\$ Replace your old washer and/or dryer.**

If your washer and dryer are more than 8-12 years old, you should upgrade. Look for Energy Star® rated units. Try to purchase units that have water sensors that detect how much water is needed to wash the clothes. If possible, opt for a front loading washer as they are more efficient and use less water.

### **\$\$\$ Replace your old water heating system.**

Upgrade your old electric water heater with a new Energy Star® rated unit.



### DID YOU KNOW?

SmartHub lets you compare your electricity use over time.

## STEP 4: Monitor & Manage

# Taking charge.

## Manage and control your bill.

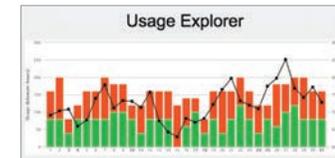
Now you have the tools, tactics, and tips you need to dig into your home's energy use, address your high bill, and start to bring it down. You also have our assurance that Farmers EC is ready to connect with you and work to help make it happen. It's time to take charge.

While you're tackling whatever is causing the trouble, you'll want to track your progress and monitor your results. It's easy with SmartHub. Beyond bill paying and outage information, SmartHub provides secure account details and useful insights into your electricity use. Get the app and much more when you visit us at: [FarmersElectric.coop](http://FarmersElectric.coop).



## POWER BEYOND PAYMENTS

SmartHub is so much more than a payment portal. It's a powerful application that puts your entire account and its history at your fingertips. Use SmartHub to track, analyze, and understand how you're using electricity, how it affects your bill, and how to reduce costs and inefficiency.



### Monitor use

SmartHub's Usage Explorer gives you a detailed look at past and current usage. This data can also be viewed with weather trends by month or day.

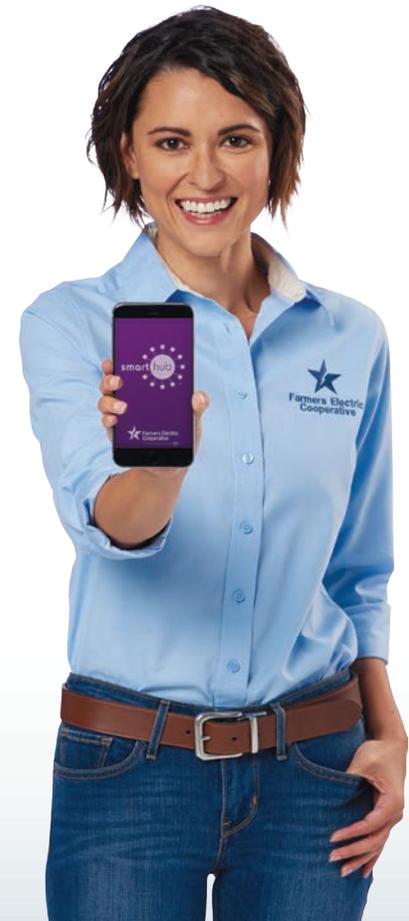
### Compare bills

See how your energy use has changed from month-to-month or year-to-year. SmartHub even lets you see how temperature changes might have affected your bill.

### Enjoy access anywhere

Connect to your account any time and manage it securely, from wherever you have WiFi or mobile service.

**DOWNLOAD THE FREE SMARTHUB APP FOR APPLE OR ANDROID AT: [FarmersElectric.coop](http://FarmersElectric.coop).**



# Alternate Bill Plans

In addition to our month-to-month Traditional Plan, we've created two alternate billing plans to help members who experience and have difficulty dealing with high seasonal energy bills. These plans are a great way to supplement your energy-reducing efforts. If you cannot invest in expensive upgrades at this time, you should consider one of the following plans until you can.

## BUDGET PLAN

Don't like surprises? Budget billing might be for you. Simply pay an average amount each month, avoiding Variable Load spikes during the hottest days of summer or the coldest of winter.

### Find an average

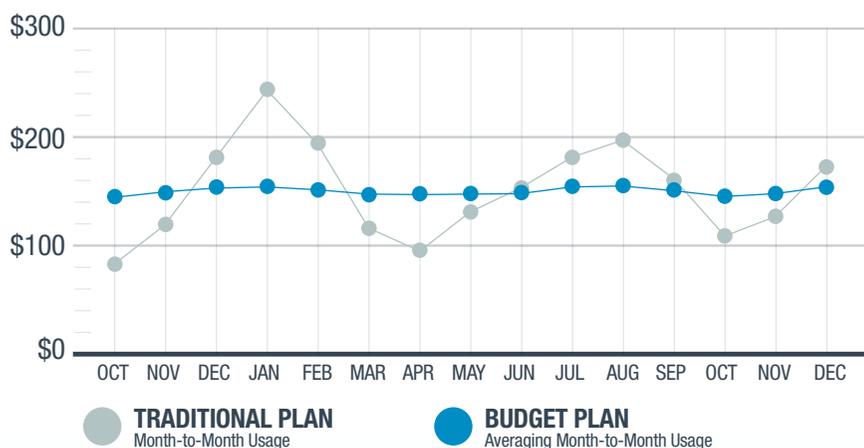
We'll calculate an average based on the past 11 months plus your current month's bill. You simply pay the average amount each month.

### Smooth out the spikes

Sail through the seasons knowing what to expect, relieving the stress of keeping your home comfortable during weather extremes.

### Maximize your Budget Plan

Be sure to sign up for a FREE Home Energy Assessment to make your home more efficient. Pay for those efficiency upgrades with energy Rebates. Also, purchase a Nest thermostat and sign up for Nest Rush Hour Rewards to get a bill credit and the ability to adjust your home's temperature from anywhere to maximize your Budget Plan.



**KEEP YOUR BILL CONSISTENT WHEN THE WEATHER ISN'T.  
SIGN UP FOR OUR BUDGET PLAN. CALL: 903 455 1715**

## PROACTIVE PLAN

Take charge of your energy use with a proactive, prepaid PowerUp account from Farmers EC. The Proactive Plan is like data plans or streaming services for members who want total control over their energy usage needs. Pay-as-you-go ensures members keep bills low by monitoring and adjusting consumption on an as-needed basis.

### Control your costs

Keep track of your daily energy use so you get a better grip on when, why, and how much you're spending.

### Easy account management

Use SmartHub to access your account securely from anywhere you have service.

### Payment options

Members can manage and add money to their account with SmartHub, or use MoneyGram Express Pay, Fidelity Express, or by phone and have the payment credited to their account the same day.

### Free monitoring with SmartHub

Go to FarmersElectric.coop to create a SmartHub account and download the mobile app to your Apple or Android device.

### Maximize your Proactive Plan

Be sure to sign up for a FREE Home Energy Assessment to make your home more efficient. Pay for those efficiency upgrades with energy Rebates. Also, purchase a Nest thermostat and sign up for Nest Rush Hour Rewards to get a credit on your bill and to adjust your home's temperature from anywhere to maximize your Proactive Billing Plan.

**MONITOR AND CONTROL YOUR ENERGY USE WITH  
OUR PROACTIVE PLAN. CALL: 903 455 1715**



#### DID YOU KNOW?

Energy-efficient appliances can save a U.S. household up to \$500 per year on utility bills.

#### STEP 4: Monitor & Manage

# Energy and money-saving resources.

More ways Farmers EC can help.

From FREE Home Energy Assessments to Rebates and Energy Tips, we're constantly looking for ways to help you make the most of reducing your energy needs. Using these resources in combination with the information outlined in this guide will go a long way to help reduce your monthly energy bill as well as be comfortable paying for it.

## FREE Home Energy Assessment.

Ask for a FREE Home Energy Assessment from Farmers EC. We'll send an energy advisor to check out your home and show you how to save now and in the long run.



#### Identify energy loss

Find the weak points where money and energy are being wasted.

#### Long-term upgrades

Identify upgrades that will make a bigger difference over time.

#### Make quick fixes

Suggest easy tips and changes you can make now to start saving.

#### Farmers EC rebates

Show you which rebates will help improve your efficiency.

**TAKE CHARGE. SCHEDULE YOUR FREE HOME ENERGY ASSESSMENT TODAY: 903 455 1715**

# Reduce upgrade costs with Farmers EC Rebates.

We're ready to help you take the first steps toward greater energy efficiency by offering rebates on selected upgrades. See the full list and qualification details at [FarmersElectric.coop](http://FarmersElectric.coop).

## Weather Stripping/Sealant\*

**REBATE: Up to \$100 | For Energy Efficiency Upgrades ONLY**

**RULES:** We will accept only one weather stripping/sealant rebate request per year. See website for further purchasing rules.

## Attic Insulation\*

**REBATE: Up to \$500 | For Energy Efficiency Upgrades ONLY**

**RULES:** Additional insulation must obtain R49 value to qualify for the rebate. The rebate is based on your attic's dimensions and the type of insulation you prefer. See website for further purchasing rules.

## EF 2.0 Rated Electric Water Heater\*

**REBATE: \$300 | For Energy Efficiency Upgrades ONLY**

**RULES:** Applies to the replacement of an existing unit. Dealer to provide EF rating via product. Certification form required with rebate form. The unit must have an energy factor (EF) of 2.0 or greater. Tankless units DO NOT qualify for the rebate. See website for further purchasing rules.

## HVAC System Tune-Up\*

**REBATE: \$50 | For Energy Efficiency Upgrades ONLY**

**RULES:** Limited to one rebate per HVAC system per member per year. See website for further requirements.

## Geothermal Heat Pumps\*

**REBATE: \$1000 | NEW Systems ONLY**

**RULES:** Applies to new systems only. Applies to horizontal, vertical, slinky, and pond loops. Three-ton minimum per unit to qualify. See website for further purchasing rules.

**TAKE CHARGE. DOWNLOAD YOUR FARMERS EC REBATE FORM AT: [FarmersElectric.coop](http://FarmersElectric.coop)**

\*Farmers EC Rebates are subject to change and availability.

# Download more money-saving energy tips.

Once you've learned to take charge of your power, you'll likely continue to find ways to make money-saving changes. There are plenty more ideas online, too!



## Water Heating

How much hot water you use affects your energy bill. Hot water habits sometimes need to be re-examined. Check our maintenance tips for electric water heaters and reducing water flow.

## Kitchen

Preparing meals should be fun and healthy. Bad habits in the kitchen can cost you year-round. We have tips that save you money and still make great meals.

## Laundry

While today's washers and dryers are more efficient than ever, if you are not efficient with your laundry needs, you are losing money.

## Heating & Cooling

For your biggest energy use, we have a lot of efficiency and habit changing tips.

## Lighting

Save money with these illuminating tips.

**TAKE CHARGE. DOWNLOAD YOUR ENERGY TIPS PDF AT: [FarmersElectric.coop](http://FarmersElectric.coop)**



## APPENDIX

# Knowledge is power.

## Useful energy terminology.

To better understand your energy use and to be able to speak with professionals like contractors and sales people, we have comprised a list of terminology for easy reference.

### Baseload

Refers to the portion of your energy bill minus the heating and cooling. Your Baseload is comprised of large and small appliances, lighting, and electronics. Your Baseload can account for 45-50% of your energy use. You can determine your Baseload by finding the month with your lowest electric bill. This is usually a month with no or very little heating or cooling. This reflects the minimum energy requirement to operate your home.

### Variable Load

Refers to the portion of your energy bill related to heating and cooling only. It makes up 50-55% of your annual use.

### SEER Rating

Stands for Seasonal Energy Efficiency Ratio. SEER measures air conditioning and heat pump efficiency. A SEER rating is a maximum efficiency rating, similar to the miles per gallon for your car. Trading in a gas guzzler for a more efficient car reduces your annual gasoline cost. The same is true when replacing your HVAC system.

When upgrading your air conditioner or heat pump system, look for a higher SEER rating which means greater energy efficiency. The minimum standard SEER is 13 for air conditioners. Most modern air conditioners have a SEER that ranges from 13 to 21. It's important to remember the efficiency of your system can also depend on the size of your home, your current ductwork, and other variables.



### Energy Star Rating

Energy Star is a voluntary program launched by the U.S. Environmental Protection Agency (EPA) and now managed by the EPA and U.S. Department of Energy (DOE) that helps businesses and individuals save money and protect the environment through superior energy efficiency. Look for appliances with the Energy Star sticker for efficiency and environmental friendliness.

### R-Value & Rating

R-Value is the rating system used to grade insulation products or a material's insulating properties. The "R" stands for "resistance" and refers to the resistance a material has to heat flow, or temperature conduction. When a product or home has a high R-Value, this means it is well insulated.

### Heat Pump

A heat pump is a mechanical-compression cycle refrigeration system that can be reversed to either heat or cool a controlled space. Installation for this type of system typically consists of two parts: an indoor unit called an air handler and an outdoor unit similar to a central air conditioner, but referred to as a heat pump. A compressor circulates refrigerant that absorbs and releases heat as it travels between the indoor and outdoor units. Heat Pumps are 200-300% more efficient than Electric Resistance Heating units.

### Resistance Heating

Electric Heaters are a resistance heating device. It produces heat by passing an electric current through a material that preferably has high resistance. As the current passes through the material, ohmic losses ( $I^2R$  losses) occur. These losses cause the conversion of electrical energy into heat.

While new electric heaters are more efficient than ever, they are still the most expensive solution for heating a home.



### EnergyGuide Label

When you're shopping for a new appliance, look for the EnergyGuide label (the yellow tag you find attached to most appliances). It tells how much energy an appliance uses and makes it easier to compare the energy use of similar models. Remember to consider the long-term operational costs that will add up over the 10-20 year lifespan of the appliance. That is more important than a cheaper, upfront cost.

### Kilowatt Hour (kWh)

A measure of electrical energy equivalent to a power consumption of 1,000 watts for one hour. Energy bills are calculated by kilowatts. The average energy use in the U.S. is about 900 kWh per month.

## NOTES

As you begin tackling the tasks outlined in this guide, use this space to keep ideas, checklists, phone numbers, etc. to aid in your energy-reduction goals. And be sure to keep this guide in a visible area as a reminder to reduce your energy consumption.

## MISUSES AND MISCONCEPTIONS

Sometimes it's not that we don't know enough—it's that we know so much that isn't true. Here are a few examples of conventional wisdom that actually are not so wise.

### **Space Heaters cost little to operate.**

Many people believe they can save during a cold snap by cozying up next to a space heater instead of turning on the central heating system. It takes 1,500 watts to fully power a space heater—regardless of size. Since you should never use a space heater while sleeping, it would cost \$2.82 a day to use one for 16 hours a day (based on the national average electricity rate). That's about \$85/month—PER HEATER. It is more efficient to use your heating system designed to do it right than multiple space heaters.

### **Window upgrades are a good investment.**

One of the first things you'll hear when you start asking about efficiency upgrades is that you need to get new windows. It's true that advanced windows keep heat from radiating into or out of a home, but is it worth the cost?

Inefficient windows contribute to heating/cooling loss so they only impact your Variable Load costs (refer to page 4). The energy associated with windows is approximately 20% of the Variable Load. That means the cost of new windows impacts 20% of 45-55% of your annual energy bill.

In other words, when a window company says new windows will save you 50% on energy costs, they mean they will save you 50% on that 20% associated with a window's heating/cooling loss—NOT 50% on your annual electricity bill. For the typical northeast Texas home, that is reducing a \$16/month cost to \$8/month. So paying \$5000 - \$7000 for new windows would take more than 50 years to repay from the annual energy savings on your bill.

A better solution is to upgrade to a heat pump for the money. You will significantly reduce bills and offset the installation cost more quickly. Applying thermal films is another solution that is affordable and will reduce energy loss through your windows.



FARMERS ELECTRIC COOPERATIVE



# 5 POINT PHILOSOPHY

**WE'RE FOCUSED ON OUR MEMBERS' INTERESTS.**

- 1 LONG-TERM RATE STABILITY.**  
We are locking in value with long-term consistent prices.
- 2 YOU'RE A MEMBER, NOT A METER.**  
Members are in power and it doesn't get any simpler than that.
- 3 COMMUNITY INVOLVEMENT.**  
Giving back to our communities is a founding principle of all cooperatives.
- 4 OUTAGE PREVENTION.**  
Whether replacing damaged lines or trimming trees, we are on it every day.
- 5 MEMBER SERVICE INNOVATION.**  
From easy payment methods to free home energy audits, we put members first.

LEARN MORE AT: [FarmersElectric.coop](http://FarmersElectric.coop)

