TRINITY VALLEY ELECTRIC COOPERATIVE

REPORT:
BILLING ANALYSIS & REVIEW

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Executive Summary

Purpose & Scope

Guernsey has worked to provide a thorough and unbiased review of Trinity Valley Electric Cooperative's (TVEC, Cooperative) activities and data provided in response to various questions and concerns raised by Cooperative Members in regard to higher than expected February 2015 billing. Guernsey's review of the TVEC Member concerns was performed in much of the same manner in which a regulatory body would review high bill complaints. Guernsey investigated the application of Board approved tariff rates, metering accuracy and billing correctness.

This Report explains the substance of the most significant issues reviewed during our work including an analysis of Member consumption, billing, power cost and power cost recovery factor (PCRF), advanced metering infrastructure, meter testing, and billing software.

Overview of Guernsey

Founded in 1928, Guernsey has a proud history of partnering with clients on projects around the globe. Guernsey is an employee-owned engineering, architecture and consulting firm headquartered in Oklahoma City, Oklahoma. The firm employees approximately 150 professional and administrative staff. Guernsey's staff includes engineers, architects, planners, consultants, environmental scientists, designers, analysts, accountants and managers. Guernsey clients include:

- federal, state and local governments
- military entities
- electric and water utilities
- universities
- fortune 500 companies
- oil and gas companies

Guernsey specializes in electric cooperative consulting and engineering. Since the signing of the REA Act in 1936, Guernsey has been an integral partner with electric cooperatives. Our experience and knowledge of the cooperative landscape is diverse. Guernsey electric cooperative services include:

- cost of service and rate design
- financial forecasting
- management & regulatory consulting
- power supply planning
- renewables and energy efficiency
- load forecasting
- power system planning
- transmission, substation and distribution engineering-related services
- training and education
- environmental engineering and consulting
- architectural planning and design

Guernsey's unique relationship with cooperatives and their organizations enables our staff to stay abreast of important issues affecting electric cooperatives across the nation. Guernsey's services have spanned eight decades, hundreds of cooperatives across the nation, and a wide portfolio of engineering, architectural and consulting projects.

Section 1 — Member Inquiries

TVEC Member Relations Specialists (MRS) began receiving numerous Member inquiries and high bill complaints late in January and through the month of February. Members called regarding invoices for January consumption. The Cooperative anticipated Members' concerns regarding their electric bills. With an unseasonably warm December, average consumption increased significantly and Member bills were much higher than those rendered in the previous billing cycle. In order to inform Members, TVEC's "Coop News" included on the Member's billing statement included the following,

> "With a drop in temperature comes a rise in electricity use. Be aware our heating units work harder to maintain those comfort levels as the temperature drops."

Understandably, many Members contacted the Cooperative to inquire about their electric consumption and billing statement. In some cases, Members were concerned with the accuracy of their meter. Others questioned the billing rates applied to their consumption. Some wondered if the Cooperative had increased billing rates. In an attempt to immediately respond to the swell of Member concerns, the Cooperative addressed Member concerns through TVEC's website (www.tvec.net) and Facebook page. The Cooperatives News page included an update regarding Member concerns over higher than expected electric bills.

Member Concerns

In addition to Member calls to TVEC MRSs, the Cooperative's Facebook page was used frequently to voice concerns. Cooperative management and staff closely monitored the site to keep apprised of Member concerns and how best to continue interacting with concerned Members. In all, many concerns were raised by TVEC Members either by directly calling MRSs, on the Cooperative's Facebook page, in other social media and with local news media. Expressed concerns generally included increased consumption, billing accuracy, metering concerns, and lack of customer choice of suppliers.

Consumption

TVEC staff investigated Member concerns regarding increased consumption. Cooperative MRSs attempted to explain much of each Member's increased billing for January consumption was directly related to colder weather in January as compared to the much milder weather during the previous month, December.

Metering

TVEC began deployment of advanced metering and communication infrastructure in 2012. Deployment for the first 58,000 meters was conducted by Standard Utility Construction Inc. between 2012 and 2014. The final 8,000 meters were deployed by TVEC personnel during the first and second quarter of 2015.

Much information has been published regarding the benefits of advanced metering and communication equipment and the benefits to utilities and customers, including the Public Utility Commission of Texas "Report to the 82nd Texas Legislature: A Report on Advanced Metering as Required by House Bill 2129. Included in the report is the Public Utility Commission of Texas' assertion that the deployment of advanced metering will enhance reliability and give customers more control over their electric bill.

Opponents of such technology have also been very vocal and much misinformation spread via the internet and by special interest groups. Some Cooperative Members, via social media, cited common myths of advanced metering and blamed advanced metering for the cause of their high bills.

Billing

Many TVEC Members contacted the Cooperative questioning their billing statement. Others voiced concerns on social media. Members were simply concerned with the extent of the increase in their electric bill over the previous billing period. Many Members questioned the accuracy of their bills, asserting their winter bills had never been as high as the billing cycle in question.

Power Cost Recovery Factor

Some Members questioned Cooperative MRSs regarding the addition and/or the application of the Power Cost Recovery Factor (PCRF). The PCRF is a regulatory approved rate component used to recover fluctuations in purchased power costs not already included in the Cooperative's base rate.

Other Concerns

- Relationship between the Cooperative and Rayburn Country Electric Cooperative (Rayburn)
- Operation Round-up
- Annual Meeting Notice and Board Elections
- Perception of Rate Increase
- Customer Choice

ADDRESSING CONCERNS

- Review Sample Individual Customer Billing Data
- Review Meter Testing Data
- Review Sample Customer Invoices
- Review Monthly Wholesale Power Bills
- Review Power Cost Recovery Factor (PCRF) Calculation
- Review Meter Testing Criteria

Addressing Member Concerns

At the direction of the Board of Directors, TVEC contracted with Guernsey to review, analyze and provide a report relating to Member concerns regarding recent higher than expected billing. The Cooperative requested Guernsey analyze power cost, PCRF calculations, billing data, Member billing, meter testing data and meter testing criteria.

TVEC provided the following data for review and analysis:

- Monthly Statement of Operations (2014 and month ending February 2015)
- Annual Statement of Operations (2005 thru 2014)
- Monthly Sales Reports (12-mo. ending February 2015)
- Monthly Wholesale Power Bills (12-mo. ending February 2015)
- PCRF Development (January 2008 to current)
- PCRF Factors Applied (January 1998 to current)
- Monthly Revenue Class kWh Sales & Revenue (2014, 2015)
- General Ledger Monthly Revenue Class kWh Sales & Revenue (2014, 2015)

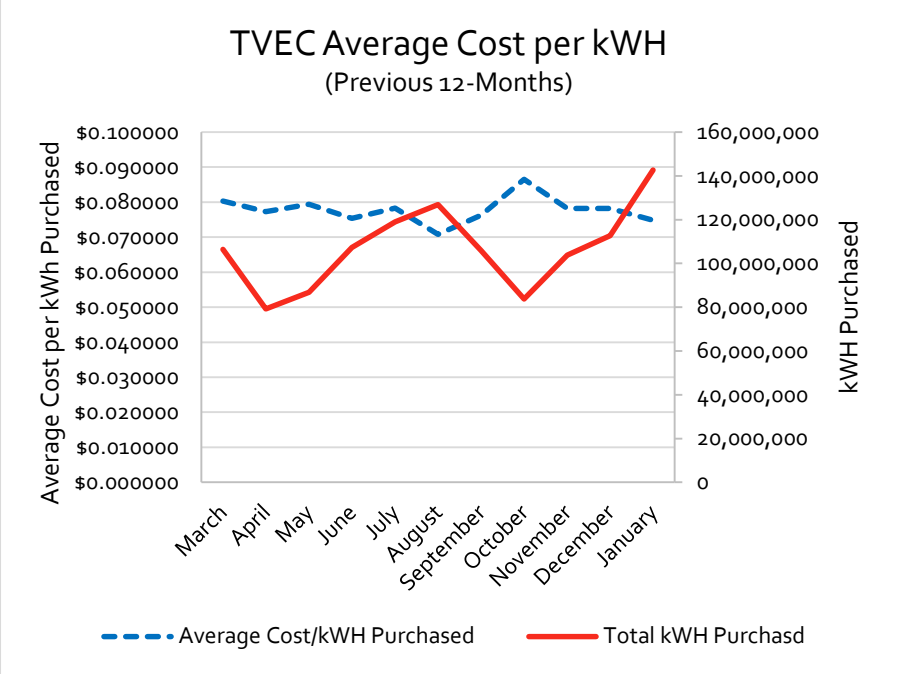
- AMI versus Non-AMI Metering data (redacted)
- Member Bill Statements (77 Accounts - redacted) for Rate 1, cycles ending:
  - January 22, 2015
  - January 26, 2015
  - February 3, 2015
  - February 4, 2015
  - February 9, 2015
  - February 12, 2015
  - February 15, 2015
  - February 20, 2015
- Billing System data for 59,799 Rate 1 Accounts (December 2014 cycles - redacted)
- Billing System data for 59,799 Rate 1 Accounts (January 2015 cycles - redacted)
- Billing System data for 59,826 Rate 1 Accounts (February 2015 cycles - redacted)
- Meter Test Results 252 - redacted

All data provided by the Cooperative was redacted of account names, addresses and account numbers.

Section 2 — Member Consumption

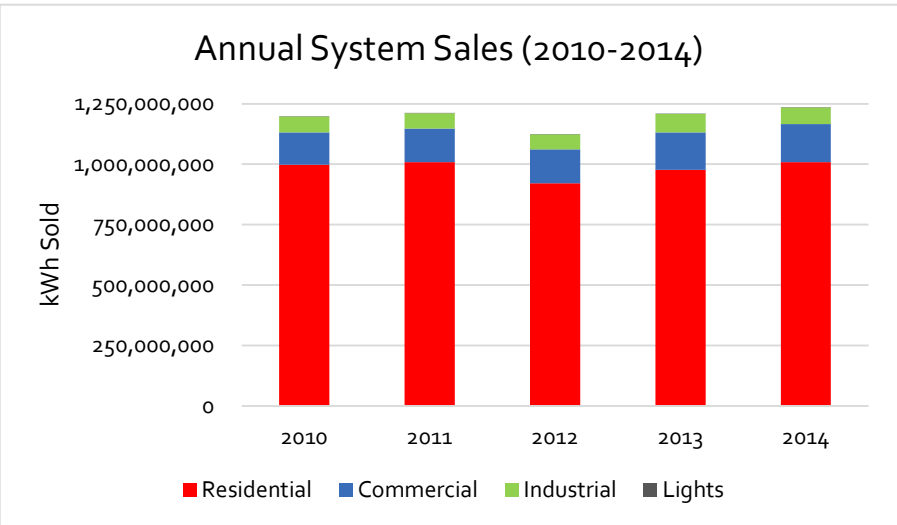
Purchases and Sales

TVEC is a full requirements Member of Rayburn Country Electric Cooperative. TVEC purchases all wholesale energy and capacity from Rayburn. TVEC's purchase power agreement with Rayburn helps ensure long-term, reliable and competitive electric costs for the Cooperative.



Rayburn bills TVEC monthly for capacity and energy at fixed and variable rates. TVEC incurs generation, transmission, and distribution related costs based upon the Cooperative's metered demand and kWh purchased.

TVEC's wholesale power cost over the past twelve months has remained relatively stable with average costs increasing late in 2014 before declining in 2015 due to lower variable billing rate components. TVEC's average annual kWh purchased between 2008 and 2014 was 1,252 MWh.



Changes in Consumption

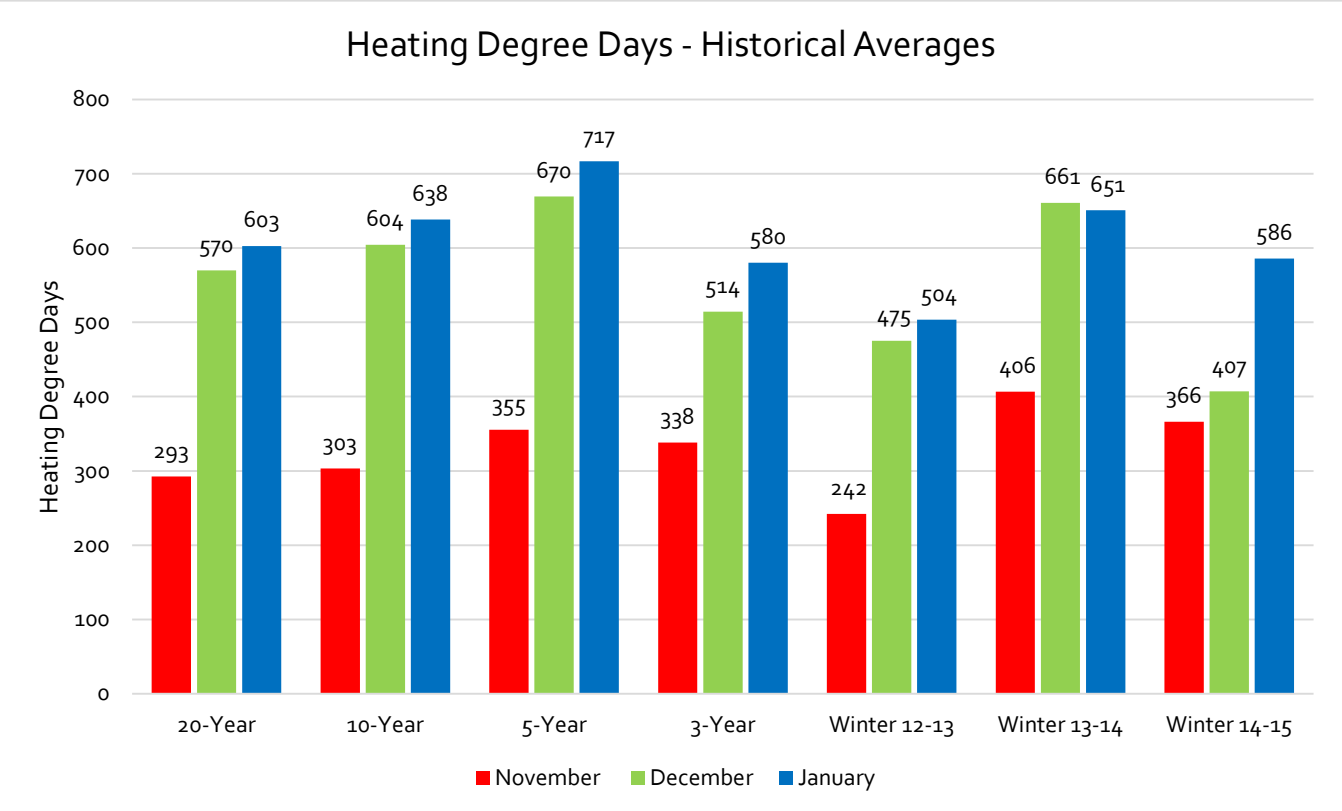
TVEC annual sales are largely driven by the level of Residential sales in any given month. Over the previous twelve months, Residential sales accounted for 81% of kWh sold and 83% of revenue derived from the sale of electric energy. Over the previous twelve months, energy sales to Residential Members was a low of 75% of system sales in May to a high of 85% in January 2015. The month in question regarding much of the concern for higher than expected kWh consumption correlates to the highest energy sales months for the system. Since 2010, sales to Residential Members has fluctuated considerably as

historical data shows. Fluctuations in kWh sales is expected not only at the system level but also at the Member level. Significant fluctuations are generally driven by changes in weather.

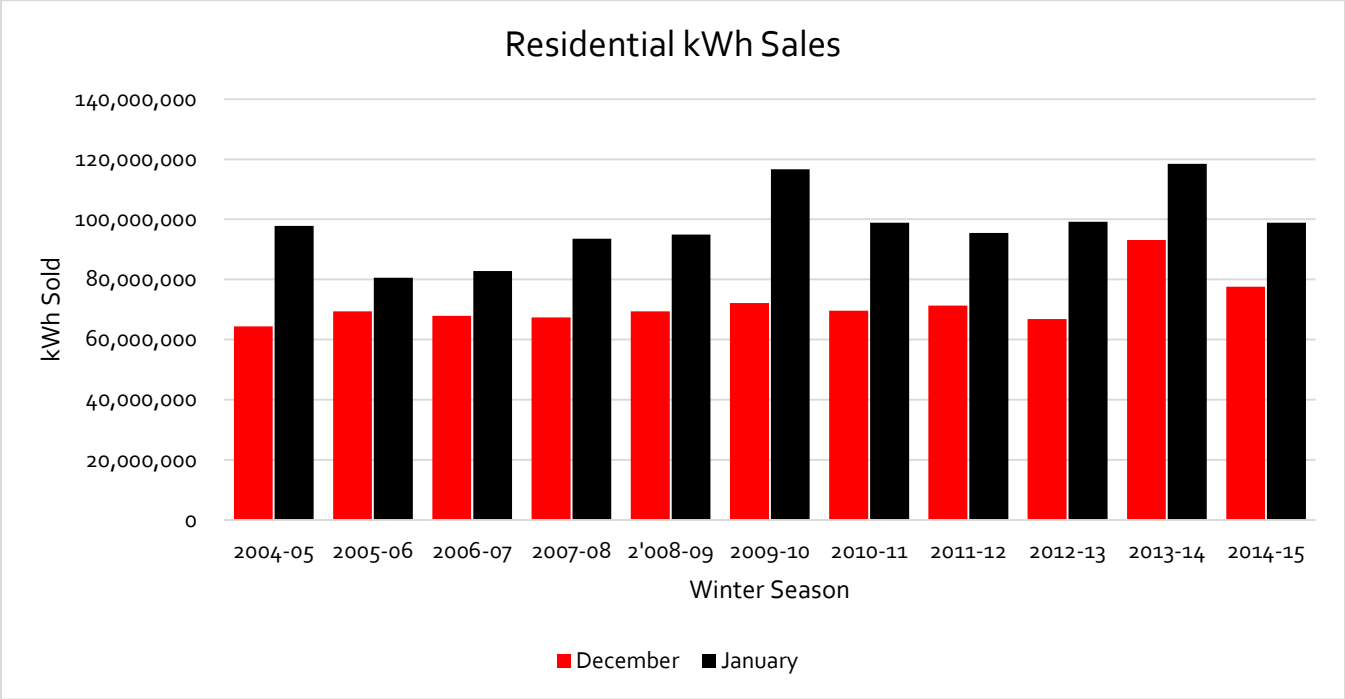
Heating Degree Days

The increase in consumption for Residential Members is directly attributable to the increase in Heating Degree Days (HDD) for the months in question. A HDD is a measurement designed to reflect the demand for energy needed to heat a building. It is derived from the outside air temperature and is a way to relate each day's temperatures to the demand for fuel to heat buildings. HDD may also be used as a way to relate how much more or less a consumer might spend on heating based upon their location and the outside air temperature. A similar measurement, Cooling Degree Day (CDD), reflects the amount of energy used to cool a home or business.

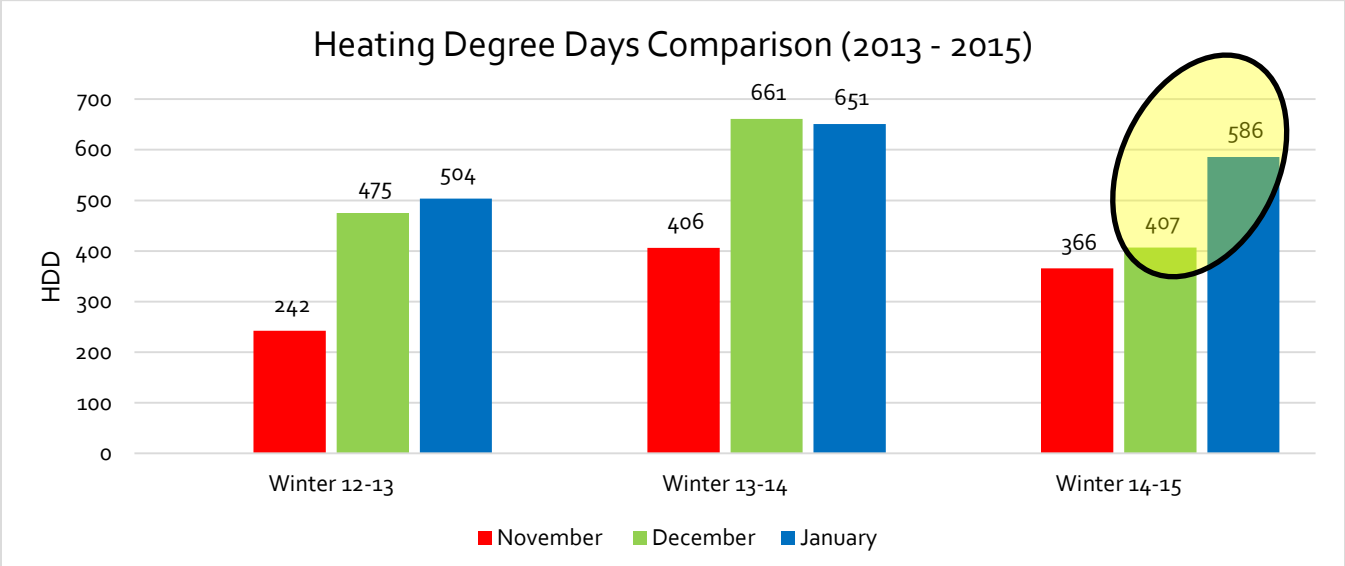
Guernsey utilized National Oceanic and Atmospheric Association degree data processed by the Southern Regional Climate Center. HDD data includes January 1985 through February 2015 and is from weather stations located in the Cooperative's service area. A summary of the data is located in Appendix A. The following chart depicts historical average heating degree days for the months of November, December, January and February over the past 20 years, 10 years, 5 years, 3 years and the most recent four months. The increase in HDDs in January 2015 over those in December 2014 (44%) is indicative of the higher than expected kWh consumption of Members. The increase in HDDs during this period is far greater than the average in any of the denoted years.



Heating Degree days directly impact kWh consumption. The following chart shows the total Residential kWh consumption for the two month period (December, January) of each year from 2005 thru 2015. Generally, Members generally see higher bills in January over December.

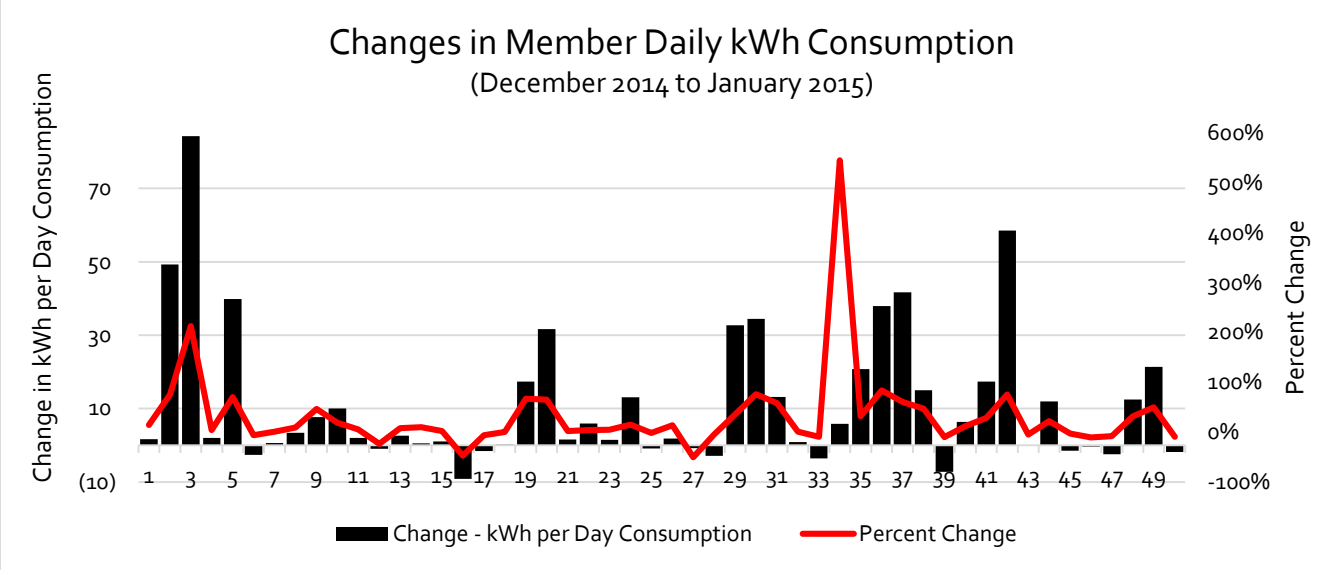


A more detailed look at the most recent three years may also explain the surprise of many Members when seeing the increase in kWh consumption from the January billing period over the previous month. Generally speaking, based upon historical degree days, the average change in consumption between December and January (reflected in February bills) is insignificant. However; the most recent year's month over month change between January and December HDD is significant. The increase from December to January represents a 44 percent increase in HDDs.



Average Daily Consumption

The result of the significant increase in HDD is reflected in the increase of average daily consumption during the same period. TVEC provided billing data for all Residential tariff Members for the months of December 2014, January 2015 and February 2015. An analysis of 50 randomly selected accounts shows that average daily consumption from December to January increased by nearly 12 kWh per day, a 26.4 percent increase for this sample group. The median increase was approximately 5 kWh per day or a 12 percent increase in daily kWh consumption. Member's individual percentage increase in daily kWh consumption over the previous billing period is shown in the below graph. The left axis depicts the daily increase in kWh consumption while the right axis depicts the corresponding percent increase in daily kWh consumption over the previous month.



Findings

There is a direct correlation in the increase in heating degree days from December to January and consumption. Much of each Member's higher than expected electric bill for January consumption is directly contributable to that Member's increased kWh usage compared to the previous month's billing cycle consumption. The unexpectedly mild weather in December followed by a colder than normal January was the cause of the significant change in consumption for the billing period in question.

Section 3 — Metering

In order to completely and thoroughly address Member concerns, TVEC provided extensive information regarding the Cooperative's efforts to determine if other factors besides weather contributed to higher than expected Member bills. TVEC provided meter and billing data as well as meter test results.

In 2005 the Texas Legislature enacted HB 2129 encouraging the adoption of advanced metering. Advanced metering infrastructure (AMI) is an integrated system of smart meters, communications networks and data management systems that enables two-way communication between TVEC and Members. Automating the meter reading process with advanced meters provides the Cooperative and Members with numerous benefits. One distinct benefit of advanced metering is the reduction of billing errors related to misread meters or data entry errors as was more common with mechanical meters and keyed meter data entry. According to the Report to the 84th Texas Legislature, 2015 Scope of Competition in Electric Markets in Texas, the deployment of advanced meters is 95 percent complete with more than 6.7 million meters installed. [1]

TVEC began deployment of Aclara's Two-Way Automated Communications System (TWACS) in 2012. The Aclara UMT-R-G with remote disconnect is being integrated with the GE-I210 meter for residential accounts. For commercial accounts the Aclara UMT-C-KV is being integrated with the GE KV2C meter. These integrations are taking place at GE's manufacturing facility. The deployment of TVEC advanced meters was completed during the second quarter of 2015.

Information collected from the meters includes energy usage, peak demand, energy used per hour, voltage, the number of times the meter experiences a loss of power and the date and time for each of these events.

Concerns regarding advanced metering continue to be voiced by consumers, including the accuracy of AMI meters. In 2010, Navigant Consulting presented a report to the Texas Public Utility Commission (Evaluation of Advanced Metering System (AMS) Deployment in Texas – Report of Investigation, July 30, 2010)[2]. The contents of the report include a focused investigation into the accuracy of Transmission/Distribution Service Provider (TDSP) deployed advanced metering systems in response to increased customer complaints and perceived correlation of higher electric bills. Navigant's analysis included:

- Conducting independent tests of over 5,600 advanced meters
- Reviewing historical tests of nearly 1.1 million advanced meters and 86,000 electromechanical meters
- Four years of historical records for over 1.8 million residential customers

The report concludes advanced meters deployed by Texas TDSPs were "significantly more accurate than the average electromechanical meters they were replacing." Based upon industry standards, AMI meters are clearly very accurate.

Concerns regarding AMI safety is also an important point of discussion. Some assert smart meters, which use wireless radio frequency (RF) to transmit customer energy-usage information for data collection, are harmful to

[1] Report to the 84th Texas Legislature, Scope of Competition in Electric Markets in Texas, January 2015
[2] Evaluation of Advanced Metering System (AMS) Deployment in Texas, Report of Investigation, Navigant Consulting, July 30, 2010.

humans. TVEC meters do not use RF to transmit meter data. Instead, the Cooperative's advanced meters use power-line communications technology to transmit meter data.

Advanced Metering Infrastructure Deployment

TVEC, recognizing the importance of communicating with Members throughout the meter conversion, routinely reached out to Members regarding the Cooperatives activities and status of the AMI deployment. Deployment for the first 58,000 meters of the project was conducted by Standard Utility Construction Inc. and occurred between March 2012 and November 2014. The final 8,000 meters were deployed by TVEC personnel during the second quarter of 2015. The deployment process consists of the following steps:

1. Member education began December 2011 via the Cooperative's monthly newsletter and website.
2. Members are notified via direct mail letter four to six weeks in advance of their scheduled meter change-out.
3. Members are notified via automated phone call approximately 2 weeks prior to their scheduled meter change-out.
4. Notification of meter deployment giving general area descriptions in the Cooperatives monthly newsletter beginning one month prior to each deployment phase and continues in each issue of the newsletter during the deployment process.
5. Installers must make an attempt to notify Members in person once they are on the property.
6. Voltage is checked before and after the meter is changed out.
7. The old meter number with the removal reading, the new meter number with the installation reading, before and after pictures of the installation along with GPS coordinates are recorded in Trimble Juno T41 handheld devices and uploaded to a central server for processing.
8. Each meter change record is reviewed manually comparing the old and new meter information to the old and new pictures taken to ensure accuracy.
9. Once the review process is completed, the meter change data is uploaded to the billing system and applied to each account.

Benefits of Advanced Metering

Once the Cooperatives advanced metering infrastructure is completely in place and fully operational, Members are expected to receive a number of potential benefits including:

- Timely access to consumption data
- Improved service such as reduced outage response time
- Improved reliability through system analytics
- Improved billing accuracy

Deployment of advanced metering will also provide the opportunity to offer alternative rates such as prepaid metering.

Meter Accuracy

Every meter regardless of type is tested prior to installation on Member facilities. Currently, all AMI meters are tested by GE prior to being received by the Cooperative. Since 2012, the Cooperative has entered GE's meter testing verification into the billing system not only to maintain an additional record of the test but also to compare future test results.

The Cooperative also has a long-established process for testing deployed meters in order to determine accuracy. Just as was the case with conventional electromechanical meters, Members on occasion are concerned with the accuracy of their meter. Many factors contribute to questions regarding higher than expected consumption. Regardless, the Cooperative wants to ensure Members that their metering equipment is accurate and functioning properly.

Meter Testing Procedures

If a Residential Member contacts TVEC and is concerned with the accuracy of their meter, they are informed of their options. The Member can request a trained TVEC representative test the meter or request an independent third-party testing facility test the meter. At the time of the request, a service order is created in order to initiate a field test. The Operations Department is notified of the meter test service order. The Operations Department will send a trained service representative to complete each service order and field test the meter in question. When a trained service representative arrives at the Member's location they will verify the meter serial number to ensure they are at the correct location. They will do a visual inspection of the meter, meter base, seal and obtain a reading. The meter will be pulled and inspected and the voltage checked. The meter will be tested on light load and full load and the results documented. All meters must test within the standards of acceptable performance as required by ANSI C12.1 regulations. Meters not performing within these standards are removed from service.

Questions Surrounding AMI Accuracy

A central focus of numerous studies conducted by utilities, consultants and industry is the evaluation and investigation into advanced metering accuracy and perceived failure of advanced meters to accurately record demand and energy usage. The Navigant Consulting report notes 5,627 advanced meters were independently tested. 5,625 (99.96 percent) of those meters were found to be accurate within +/- 2.0 percent as required by the Commission.

Meter Testing Criteria

The American National Standards Institute (ANSI) coordinates the development and use of voluntary consensus standards in the United States. ANSI C12.1 covers the acceptable performance criteria for electric metering. ANSI C12.1 establishes acceptable performance criteria for new types of ac watt-hour meters, demand meters, demand registers, pulse devices and auxiliary devices. It describes acceptable in-service performance levels for meters and devices used in revenue metering. It also includes information on related subjects, such as recommended measurement standards, installation requirements, test methods and test schedules. ANSI C12.1 is designed as a reference for entities concerned with electricity metering, such as

utilities and regulatory agencies. TVEC follows the ANSI C12.1-2008 Section 5.1.5.1. Method 1 procedures for testing meters as does the third party entity.

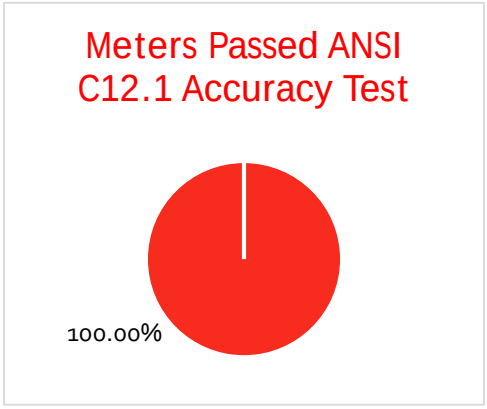
Meter Testing

Between January 2, 2015 and March 23, 2015, TVEC tested 252 residential meters. All 252 meters were tested due to Member requests. Some Members requested a third party conduct the test. The Cooperative procured HD Supply – Power Solutions. HD Supply is one of the largest industrial distributors in North America. HD Supply – Power Solutions offers the electric power industry portfolio of products, services and solutions for the public power, investor-owned utilities as well as construction and industrial markets. Specifically, HD Supply offers smart grid related services including design, strategic sourcing, deployment and life-cycle management.

TVEC's meter testing policy provides that the Cooperative may charge for multiple meters tests if the meter is tested and found to be within the accuracy standards established by the American National Standards Institutes. Due to the increased concern voiced by Members as a result of higher than expected bills during this period of time, the Cooperative did not charge Members requesting a meter test.

Meter Test Results

All 252 meters tested by HD Supply and TVEC tested accurate based upon the ANSI C12.1 standards.



Meter Reading Data Verification

To address Member concerns and ensure the accuracy of data received via the Aclara's Two-Way Automated Communications System (TWACS) system, TVEC provided metering data for review and comparison:

- January 2015 AMI kWh Reading versus Billing kWh
- February 2015 AMI kWh Reading versus Billing kWh
- January 2015 Average kWh/Meter Comparison – AMI versus non-AMI meters
- February 2015 Average kWh/Meter Comparison – AMI versus non-AMI meters
- Meter Reads – Manual versus AMI

TWACS Remote versus Manual Reads

TVEC individually tested and verified remote meter readings. The test was conducted to compare remote meter readings and determine if they accurately reflect actual consumption recorded at the meter location. Between the dates of February 23, 2015 and March 30, 2015, TVEC service representatives remotely read 127 meters while at the same time collected consumption data by manually reading the Member's meter.

The results of the comparison between the manual meter read and the remote meter read indicate the meters and communication system are working properly. Of the sample, 127 meters (100.00%) remote read and manual read matched.

Remote vs. Manual Meter Read Comparisons

Meters Sampled	Difference (kWh)	Percent
127 meters	0	100.00%

TWACS Remote kWh versus Billing kWh

To further verify the accuracy of data recorded at Member locations to what was billed by the Cooperative, Guernsey compared data transmitted by the Aclara's Two-Way Automated Communications System (TWACS) and GE-I210 meter to billing data. The data compared consisted of 95,501 meter readings with read dates ranging from December 12, 2014 to February 21, 2015. The Cooperative found that 95,466 out of 95,501 (99.94 percent) of meters' kWh consumption billed exactly matched kWh consumption recorded the TWACS AMI system. There were 55 instances where the meter reading did not exactly match. In each instance, Guernsey investigated. The Table below shows a breakdown of the results of the AMI versus billing kWh.

AMI Meter Read vs Billing kWh Comparisons

Meters Sampled	Percent	Explanation
95,446 meters	99.94%	No difference between AMI kWh reading and kWh billed
26 meters	0.03%	Meter exchanged due to various reasons such as: • AMI meter replacing a standard non-AMI meter • Non-communicating AMI meter replaced • Member related service issues such as meter base repair/upgrade or Member service upgrade
1 meters	0.00%	Communication failure on initial read request
18 meters	0.02%	Communication failure causing uncertainty in reading. Required manual re-read.
7 meters	0.01%	TWACS reading valid. Manual meter reading recorded. Manual reading used for billing.
1 meter	0.00%	Meter disconnected for repairs. Manual reading used for billing.
2 meter	0.00%	Meter disconnected due to service location work order. Manual reading used for billing.
95,501	100.00%	Total Sample

Section 4 —Billing

TVEC's Member billing software is provided by [Vendor Redacted]. [Vendor] was formed as a Cooperative Corporation in the 1970s with nineteen original Member Cooperatives. [Vendor] currently serves over 230 Member Utilities throughout North America.

TVEC uses [Vendor]'s Consumer Information System (CIS) and Billing software to manage Member accounts with a Member service and billing solution. TVEC MRSs use the software to obtain and modify any data relating to a Member, including specific details about location, meter, special equipment and account balances.

Bill Statement Generation and Verification

TVEC verifies billing data prior to transmitting information to its third party processor who prints and mails bill statements. The pre-bill process begins three to four days prior to the actual billing date. The process is intended to closely examine each of the Cooperative's eight billing cycles to:

- identify usage abnormalities
- confirm billing cycle duration (number of days)
- review all bills whose service duration is over 33 days
- confirm new connects, reconnects, etc.
- review previous month bill estimates, if applicable
- identify missing data
- identify missing meter readings
- query for deposit refunds

TVEC's billing process is common among electric cooperatives and other utilities. Data is checked and re-checked in order to verify consumption data prior to printing bill statements. The day prior to billing, all accounts billed during the cycle are processed again and any billing error codes reviewed. The missing meter reading report and deposit refund query is also run.

On each billing cycle date, billing staff:

- confirm billing rates
- run the missing meter reading report
- run the pre-bill for a third time
- run the Tax Query and Active Status Query
- run the Membership & Deposit Report

After billing is complete, Cooperative staff run an array of reports to check for anomalies in billing data. Queries include previous cycle kWh usage versus current cycle kWh usage. Abnormal variances are investigated.

In addition to verifying data prior to bill statement printing, TVEC reviews printed bill statements to further confirm Member statements are correct. Once statements are generated through the billing system module, TVEC samples one bill statement from each rate class in order to confirm each billing cycle is billed correctly.

For the actual printing function, TVEC utilizes [Vendor]'s [redacted] Information System subsidiary. [Redacted] provides a paper billing and mail service which complements [redacted] and is widely used by other electric cooperatives. According to [Vendor], [redacted] mails over 8 million billing statements, notices and other related pieces on a monthly basis.

Prior to mailing billing statements, Cooperative staff ensure calculations of each billing cycle match what [redacted] actually produced on the physical bill statement.

Investigating Member Concerns

TVEC provided Guernsey billing system generated reports to investigate, cross-reference and further ensure Member billing was done correctly for the billing cycles in which higher than expected bills occurred. The Cooperative provided summary data or full Member billing data sets for:

- December 2014 versus January 2015 Residential data
- January 2015 versus February 2015 Residential data

TVEC compared data transmitted by the Aclara's Two-Way Automated Communications System (TWACS) and GE-I210 meter to kWh billing data. As explained in the Section 3 – Metering, the only differences observed were related to routine occurrences of:

- Meter exchanges
- Theft
- Meter disconnect
- Manual reading over-rides
- No reading transmitted

In all other instances (99.94 percent of meter reading comparisons), [redacted] CIS billing kWh matched Aclara metered kWh.

Reproducing Member Billing

TVEC provided billing and revenue data for residential Members:

- December 2014 (59,799 meters)
- January 2015 (59,799 meters)
- February 2015 (59,826 meters)

The data set included Number of Service Days as well as kWh Sold billing units in order to recalculate the Cooperative's billing. The Residential tariff rate was applied to the billing units and variances were investigated. The tariff states a monthly rate of $20.00 per meter and per kWh charge of $0.104848 shall be applied each billing period. The Cooperative billing system truncates the per kWh charge rate to five decimal places. The applied per kWh charge is rounded down to $0.10484. The amount billed to the Member is slightly lower than the stated rate in the approved tariff.

The billing recalculations show the Cooperative is correctly calculating Member bills. The review did not find any discrepancies not normally encountered in utility billing due to:

- account connects and disconnects pro-ration
- final bills pro-ration
- out of cycle meter reads on new connects
- estimated usage due to inaccessible meters (locked gates, aggressive dog in fence, etc.)
- contracts established with Members.

Summary findings of the recalculated billing is below:

December 2014 Billing – Calculated versus Billed

Customer Charge		$20.00 per month
kWh Charge		$0.104848 ($0.10484 applied)
Meters Analyzed	**Percent**	
59,795	99.993%	Calculated vs. Billed equal
4	0.007%	$0.00 total variance
	2-	$0.01 – Estimated Reading Adjustment (locked gate, dog, inaccessible meter)
	2-	($0.01) – Member read meter (due to rounding)
59,799	100.00%	

January 2015 Billing – Calculated versus Billed

Meters Billed	**Percent**	
59,772	99.955%	Calculated vs. Billed equal
27	0.045%	$13.40 total variance
	13	($87.83) – Prior period adjustment, PCRF refund for prior period kWh sales
	5	($25.51) – Estimated Reading Adjustment (locked gate, dog, inaccessible meter)
	7	$2.69 – Member read meter, PCRF refund for prior period kWh sales
	1	$104.05 – Bill dispute credit
	1	$20.00 - Customer Charge not applied to monthly billing
59,799	100.00%	

February 2015 Billing – Calculated versus Billed

Meters Billed	**Percent**	
59,815	99.982%	Calculated vs. Billed equal
11	0.018%	$106.06 total variance
	4	$111.37 – Prior period adjustment, PCRF refund for prior period kWh sales
	4	($5.20) – Estimated Reading Adjustment (locked gate, dog, inaccessible meter)
	3	($0.11) – Member read meter, PCRF refund for prior period kWh sales
59,826	100.00%	

Section 5 — Power Cost and Recovery

TVEC provides electric service to residential Members under the Board approved 202.1 Residential Rate Schedule effective January 1, 2008. The tariff provides for service to domestic single-family or multi-family residential installations and small farming and ranching installations under 50 kW. The rate consists of monthly customer charge, flat energy charge and billing adjustments. Each Member served under this rate is also billed monthly a power cost recovery factor (PCRF).

Rayburn bills TVEC for wholesale power cost through rate components which recover fixed and variable costs. TVEC's monthly wholesale power cost invoices includes fixed components for administration, delivery points, energy, and generation, transmission and distribution demand. Variable components are billed for variable fuel through a PCRF energy charge per kWh purchased.

Power Cost Recovery Factor

TVEC's retail rates are developed to recover a fixed amount of wholesale power cost. The wholesale cost of power represents 71 percent of TVEC's total cost of providing service. The PCRF provides TVEC a billing mechanism to track changes in the wholesale cost of power. Any changes in wholesale power cost over or under the amount included in the base retail rate is passed on to Members using the PCRF. Given the high percentage of the total cost of providing service that wholesale power cost represents, the PCRF mechanism is an essential and important rate component to ensure the appropriate recovery of fluctuating costs. TVEC does not earn any margin on the PCRF. The PCRF is utilized by Texas electric cooperatives, IOUs and electric municipal systems.

Calculating the PCRF

The Cooperative calculates the PCRF factor on a monthly basis. The methodology for determining the factor is defined in the Cooperative's Tariff, Section 201.1 Power Cost Recovery Factor. The methodology used by TVEC is standard approved methodology by the Public Utility Commission of Texas (PUCT, Commission) and dates back to the period during which cooperatives were jurisdictional to Commission oversight.

TVEC's methodology includes:

1. Total purchased power cost
2. Less estimated purchased power cost for direct bill industrial customers
3. Less base power cost of $0.082201 per kWh sold (excluding direct bill industrial customer kWh sold)
4. Remainder system power cost divided by remainder system kWh sold

TVEC accounts for the monthly over/under collection of power cost to ensure the Cooperative is appropriately recovering or crediting power cost to Members. Due to the lag between power cost billed to the Cooperative and kWh sold to Members, TVEC attempts to smooth out fluctuations in power cost recovery in order to minimize Member impact during periods of fluctuating power cost.

Below is a table depicting the monthly PCRF factors charged to TVEC Members' kWh consumption dating back to 2010. There are 63 months of factors in which only two appear as a charge to Members. Members have benefitted from stable and/or declining fuel prices and TVEC has passed along those savings.

Historic PCRF Values (2010 – Current)

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
2010	0.000	-0.0025	-0.005	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.010	-0.011	-0.011
2011	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	-0.0125	-0.010	-0.0125	-0.0125
2012	-0.015	-0.015	-0.015	-0.020	-0.020	-0.020	-0.020	-0.020	-0.020	-0.030	-0.030	-0.020
2013	-0.010	-0.010	-0.010	-0.020	-0.020	-0.020	-0.010	-0.015	-0.010	-0.010	-0.010	-0.010
2014	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	0.000	0.000	0.000	0.000	0.000	0.000
2015	0.010	0.010	0.000									

PCRF (Over)/Under Recovery

Over the course of 2014, TVEC saw its PCRF Energy Charge from Rayburn fluctuate from as low as $0.029621 per kWh sold to as high as $0.042434. The Cooperative's PCRF (Over)/Under balance ballooned from a low of $1,038,299 under-recovered in April 2014 to a high of $5,640,881 under-recovered in January 2015. The Cooperative had maintained a PCRF of $0.000 or less (a credit to Member bills) since August 2009. For the first time in 64 months (over 5 years), TVEC charged its Members a PCRF factor of $0.0100 per kWh. The application of the PCRF factor in January and February 2015, reduced the Cooperatives PCRF (Over)/Under balance by approximately $2.2 million. The application of the PCRF factor of $0.010 per kWh in January and February and subsequent months was appropriate in order to begin collecting the unrecovered PCRF amount.

PCRF (Over)/Under Recovery

March 2014	$1,629,084.71
April 2014	$1,038,298.57
May 2014	$2,270,790.44
June 2014	$3,673,715.01
July 2014	$4,567,457.31
August 2014	$4,428,715.88
September 2014	$3,014,993.95
October 2014	$2,654,710.51
November 2014	$4,272,765.50
December 2014	$5,470,724.29
January 2015	$5,640,881.16
February 2015	$3,037,639.28

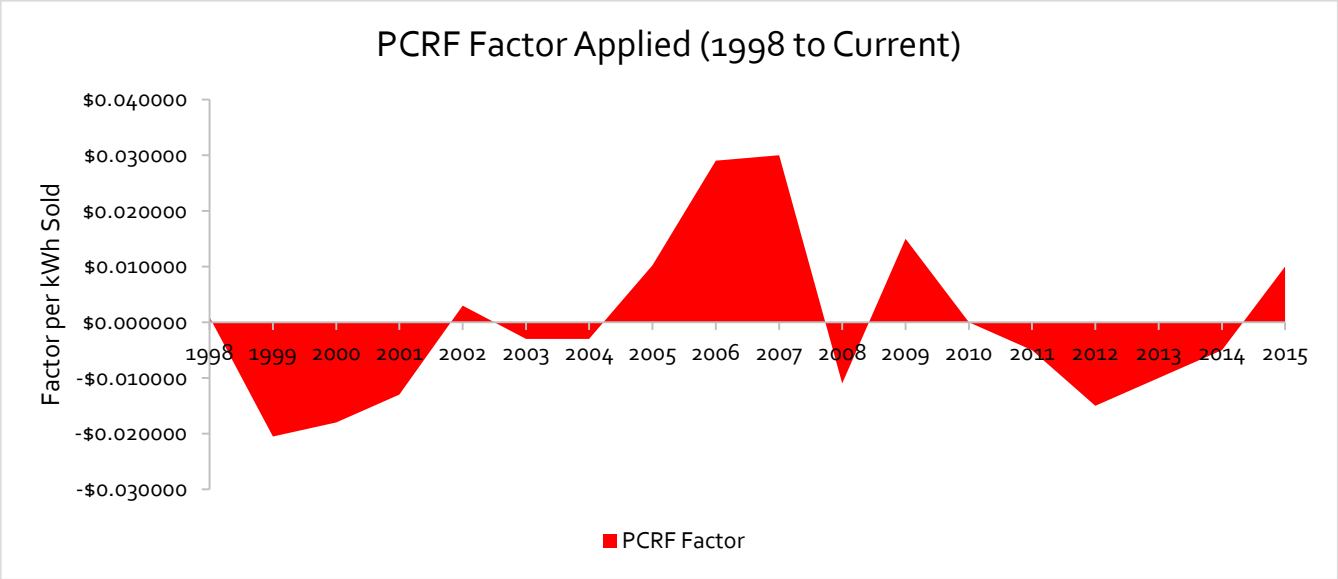
TVEC Tariff 203.1 Power Cost Recover Factor is included in Appendix B. TVEC's PCRF applied from 1998 to 2015 is included in Appendix C.

PCRF Application

Billing Statement

TVEC's bill statements are produced via the Cooperative's billing software. The Cooperative coordinates with its software vendor to determine the content and layout of the Member's billing invoice. A sample bill

statement is included in Appendix D. The statement includes information about the previous month consumption and billing as well as the current month.



Upon review of the billing statements of Members who contacted the Cooperative due to higher than expected bills, TVEC staff recognized the need to modify the content of the bill statements. For the months of July 2014 through December 2014, the Cooperative PCRF factor had been $0.000. Due to the formatting of Member's billing statements, the $0.000 PCRF factor did not show on the invoices. When the Cooperative implemented the January 2015 $0.010 PCRF factor, Members perceived this as a new charge. In fact, it was not a new charge but had not appeared as a line item on billing invoices for six months since it was neither a charge nor a credit.

Among other changes to Member billing statements, the PCRF factor will now be shown each month regardless of whether it is a charge, credit or $0.000. A revised billing statement is included in Appendix E.

Calculation & Application

The Cooperative is appropriately calculating its monthly PCRF factor and tracking the recovery of power cost. TVEC applied a $0.010 per kWh PCRF factor when its under-recovery of power cost reached approximately $5 million. The January factor held the under-recovery and did not allow it to increase.

Section 6 — Customer Choice

Retail Competition in Texas

In 1999, the Texas Legislature passed Senate Bill 7 which introduced competition to the retail electric market in Texas. Beginning January 1, 2002, electric customers of Texas investor owned utilities had a choice of their retail electric provider (REP). Electric cooperatives and municipal electric systems, as well as those customers of IOUs in non-ERCOT regions were exempted from participating in deregulation. Instead, electric cooperatives and municipal electric systems were given the choice to opt-in to electric competition.

Regions Exempt from Competition in Texas

The Texas PUC delayed implementation of retail access in the Southeastern Electric Reliability Council (SERC) in southeast Texas, Western Systems Coordinating Council in western Texas and areas covered by the Southwest Power Pool (SPP) in the Texas Panhandle area and north Texas region. The PUC cited a lack of a regional transmission organization (RTO) in the SERC region and the absence of marketing by retail electric service providers as the primary reasons for the decision. Reasons cited for the delay in the SPP included the lack of an RTO in that region, no retail electric suppliers, and wholesale electricity markets in the area were not yet competitive.

The complexities of establishing a competitive marketplace and the Texas Legislatures action delaying competition in non-ERCOT regions of Texas directly affects TVEC's potential ability to implement retail access. A portion of TVEC's service territory is located in the SPP while the remainder is located within the ERCOT. The Cooperatives power supplier, Rayburn also has service territory located in both the SPP and ERCOT. The factors affecting the ability to offer retail access are very complex and potentially very costly to TVEC and its Members.

The Cooperative Difference

TVEC is not a vertically integrated utility. That is, they do not generate, transmit, distribute and sell electricity as a single entity. Instead, TVEC purchases wholesale generation from Rayburn who also provides for the transmission of that capacity and energy. As a distribution provider, TVEC owns and maintains the distribution system used to transport wholesale energy to the Cooperative Member's electric meter. Therefore, the Cooperative's bill statement may effectively be separated into three functions:

- Generation
- Transmission
- Distribution

Functional Unbundling

Electric deregulation changed the manner in which energy is bought and sold. In Texas, electric deregulation functionally unbundled integrated utilities. Large investor-owned utilities were required to separate into generation companies, transmission and distribution (T&D) companies and retail electric providers (REP). Electric cooperatives and municipal-owned systems were allowed to opt-out of competition and not forced to

change the structure or operations of the Member-owned utility. One electric cooperative opted- in to electric competition. It was required to separate their T&D function from the REP function.

At the wholesale level, generation companies sell wholesale power at market prices instead of at cost-based rates as was the case prior to electric deregulation. REPs also sell retail electricity at market prices instead of at cost-based rates as was the case prior to electric deregulation. As stated previously, some studies cite the benefits of competition while others clearly show the costs for electric consumers are higher as a result of deregulation. Regardless, electric deregulation did not change the manner in which power is transmitted and delivered. The T&D function is still provided by the local distribution service provider.

Keeping Rates Competitive

In the case of TVEC, rates are developed to be functionally unbundled; albeit, they are not shown as such on bill statements to Members. The Cooperative designs rates to recover the cost of power with no markup. The remaining portion of the Cooperative's rates recover the distribution cost of providing electric service plus the margin component. The margin component is necessary to meet lender requirements on long-term debt, maintain the appropriate equity level and rotate patronage capital. TVEC is a not for profit electric cooperative; therefore, there is no profit built into the cost of power nor the retail sale. Thus, the fulfillment of the Cooperative's Mission Statement — to deliver safe and reliable electric power at a competitive price, with a strong emphasis on Member service, community and sound business practices.

Electric Cooperatives Exempt from Competition in Texas

Senate Bills 7 dramatically changed the electric industry in Texas. It also changed the regulatory model of electric cooperatives in Texas. Prior to SB 7, electric cooperatives were rate-regulated by the Public Utility Commission of Texas. Because of the new electric model, electric cooperative rate regulation would become the responsibility of each cooperative's elected board of directors. Electric cooperatives are democratically controlled and owned by Members to whom they provide electric service. Electric cooperative members elect their board of directors, who in turn set policy and rates.

Opting-In: An Irrevocable Decision

It is a cooperative's board who has the ability to choose whether or not the cooperative offers customer choice. The cooperative board can elect to participate and offer Members customer choice. However, once the decision is made to "opt-in", it is irrevocable. There are 64 electric cooperatives who provide distribution services in Texas. All but one electric cooperative has chosen a "wait and see" approach to deregulation. Many have determined the potential cost of opting-in to exceed the potential savings to cooperative members.

Section 7 — Member Focus

Member Communication

TVEC utilizes numerous outlets to communicate important information regarding the Cooperative's operations, democratic process, energy conservation and energy efficiency messages as well as other timely Member information. Common media for TVEC to include such information and messages include:

- Texas Co-op Power – all Members receive this free, award-winning publication
- billing statement messages – short messages printed directly on each Member's monthly bill statement
- billing inserts – pamphlets inserted into Member's monthly billing envelopes
- TVEC website – www.tvec.net
- TVEC Facebook page - https://www.facebook.com/pages/Trinity-Valley-Electric-Co-op/1414841205401146
- TVEC Twitter account
- local radio
- local newspaper
- brochures

Potential High Bills & Related Information

Throughout the period of time in which Members have questioned consumption and billing, TVEC has maintained communication through multiple medium. Throughout the year, the Cooperative provides routine communication, including:

- billing statement memos (Appendix F) – April, May, June, July, September, December 2014 messages were all energy efficiency and energy consumption related messages
- Texas Co-op Power Member newsletters (Appendix G)
- electronic media including the Cooperative's website and Facebook page (Appendix H):
    - www.tvec.net
    - www.facebook.com

The Cooperative also uses its social media and phone notifications to alert Members of planned outages due to operations or maintenance as well as restoration activities resulting from storm damage.

Official Cooperative Business – Annual Meeting and Director Elections

In addition to using the aforementioned media for communicating with Members regarding consumption and billing, TVEC also provides notice regarding Director elections and the Cooperative's Annual Meeting. The June 2014 Texas Co-op Power (Appendix I) featured:

- Notice of Board Election and Director Nomination instructions
- Save the Date for the 2014 TVEC Annual Membership Meeting on October 30, 2014

The September 2014 billing cycle featured a bill insert notifying Members of the upcoming October 30, 2014 Annual Membership Meeting (Appendix I).

The October Texas Co-op Power Issue (Appendix I) featured the 2014 Annual Meeting announcement and Notice of Board Election.

- Official Notice - TVEC Annual Membership Meeting on October 30, 2014
- Nominating Committee Report
- Board Candidate Biographies
- Board election voting instructions and ballot
- Official 2014 Director Election Ballot

TVEC utilizes numerous outlets to communicate important information regarding the Cooperative's operations, democratic process and other timely Member information.

Alternative Billing Options

TVEC offers traditional monthly billing for residential Members as well as levelized billing. Levelized billing helps residential Members "smooth-out" the extreme fluctuations due to seasonal usage. With Levelized Billing, Cooperative Members know the amount of their electric bill will be approximately the same month after month — even throughout peak cooling and heating periods. Levelized billing is calculated by adding the Member's current actual electric bill to their previous 11 months' total and dividing by 12.

The Cooperative is also considering a prepaid billing option for residential customers. The deployment of AMI enables the Cooperative to offer prepaid billing. Members will be able to pay for their electric service in advance using a prepaid payment option; thereby, eliminating any surprises resulting from increased consumption due to cold or hot periods. Prepaid payment options provide more flexibility and eliminate fees normally associated with late payments or disconnected service. Once the deployment of TVEC's AMI is complete, the Cooperative plans to begin investigating how best to implement this billing option.

Deferred Payment Options

TVEC offers a deferred payment plan to residential Members who have expressed an inability to pay all of their electric bill. The Cooperative's written policy is located in the Board approved Tariff for Electric Service, Section 324.8 Deferred Payment Plan. The policy states the Cooperative may in its discretion enter into a deferred payment plan for any amount owed by a residential member. Certain limitations are required and payment terms are defined in the policy. TVEC waived all restrictions during this period of high bill complaints in order to accommodate all Members. Members were allowed to make any arrangement they needed to accommodate their financial situation.

Energy Audits

As a service to TVEC Members, the Cooperative offers free Home Energy Audits. Upon request, trained TVEC personnel will visit a Member's home and offer advice on ways you can improve the management of your energy usage. Since January 1, 2015, the Cooperative has conducted 51 energy audits.

Free Energy Audits Conducted by TVEC Staff

2012	60
2013	85
2014	106
2015 Year-to-Date (April 20)	51

Improved Bill Presentation

January 2015 was the first month since July 2014 that the PCRF factor was not $0.0000 per kWh. Over the previous six months, the bill statement line item denoting the PCRF Factor applied and associated billing had not appeared on the statement due to the fact that it was $0.0000 per kWh. When the $0.0100 per kWh January 2015 factor was applied, many Members thought the Cooperative had raised rates or added a new charge to their bill.

In order to avoid future confusion, TVEC worked with their bill software vendor to ensure the PCRF Factor would show on all bill statements regardless the value of the factor. A before and after bill statement is included with Appendix D and Appendix E, respectively.

Daily Member Consumption Data

TVEC's deployment of AMI offers numerous benefits to the Cooperative and Members. One benefit of the Cooperative's advanced metering is the presentation of consumption data. The data is presented through the online Member Service Portal (Portal).

Many Members contacted the Cooperative upon receiving their February bill statement. Some had reviewed usage data on the Portal and noticed there was a difference between the Portal data and their bill statement data. TVEC determined:

- the Portal was updating consumption data out of sequence with the data actually being collected by the metering system
- a communication outage at the Scurry substation from February 19 through February 23 resulted in hourly usage data not being recorded and displayed on the Portal. Service was restored and data available on February 24.

The unfortunate timing of the Portal errors caused further confusion for those who sought to more closely inspect their consumption. It is important to make clear, the difference between the portal daily kWh summaries did not affect Member billing units. These issues have been corrected.

Energy Efficiency Reporting

As mandated by the 82nd Legislature in 2011, TVEC reports the Cooperative's Energy Efficiency efforts annually (2014 Report – Appendix J).The Report includes all Cooperative messages related to energy efficiency and conservation. TVEC routinely provides Members tips and suggestions on how to conserve electricity and manage electric bills, especially during historically high consumption months.

Section 8 — Findings and Considerations

Member Consumption

The increases in January Member consumption over December consumption is directly related to the increase in heating degree days over the same period of time. Official weather data provides credible evidence that electric consumption should have increased for most electric consumers, including those served by TVEC. TVEC Members were among many electric consumers across the state of Texas who experienced higher than expected electric bills when compared to their previous month's billing.

Metering

Guernsey did not find any abnormalities in the metering data presented for review. Cooperative and third party meter accuracy tests indicate 100% of meters tested are operating within the ANSI standards for electronic metering.

Non-Standard Metering Opt-Out

As a cooperative, TVEC does not have outside investors. Any increase in cost for the Cooperative not paid by those receiving the requested service, ultimately results in either higher rates or lower patronage for all Member-owners. TVEC has invested in the additional costs associated with advanced metering in order to reduce outage response times, improve the quality of service, increase efficiency and improve reliability. Without advanced metering, the Cooperative cannot realize the anticipated gains in efficiency, quality and reliability nor can the Cooperative offer potential services to Member such as prepaid metering, time-of-use rates, demand-side management or central office connect and disconnect of services.

Some Members have refused to allow the Cooperative to install an advanced meter. Others have requested it be removed because they falsely believe advanced meters incorrectly record consumption, increase electric bills, are harmful to public health or record private data. Several Texas utilities have adopted a non-standard metering rate for customers who choose to replace their advanced meter. The fee is a regulatory approved fee for investor-owned utilities and has also been implemented by cooperatives and municipalities. It is a fee specifically for those who choose to have a non-standard meter. Generally, there is a one-time charge related to the service call for the meter change-out. There is also a monthly fee for the additional cost the utility incurs for meter reading, processing non-standard meter reading data and maintaining an inventory of non-standard meters. The fee is cost of service based and based on estimated time and material for providing non-standard metering services.

Billing

Guernsey applied the Board approved tariff rate for approximately 60,000 accounts (180,000 total bill records) in December 2014, January 2015 and February 2015. Guernsey did not find any abnormalities in the computation of the tariff rate not normally associated with adjustments such as pro-rated customer charges, inaccessible meters and contract related charges.

PCRF Recovery

A thorough review and analysis of the Cooperative's PCRF factor calculation shows TVEC is appropriately developing the monthly calculation to determine the PCRF factor which would recover or refund the appropriate power cost. Once the PCRF factor is calculated, TVEC uses this calculation to decide the actual amount of PCRF factor to apply. Generally, the Cooperative applies a factor rounded to one thousandths of one cent and attempts to smooth any changes in power cost through gradualism.

In January 2015, the Cooperative applied a PCRF factor of $0.010 per kWh. The Cooperative's under recovered balance had grown from approximately $1.6 million in March 2014 to $5.6 million in January 2015. The increase of $4.6 million dollars had occurred over the course of the previous ten months. The application of the January factor helped prevent the under recovered balance from further increasing. The continued application of the factor in February was appropriate to begin reducing the under recovered balance.

PCRF (Over)/Under Recover

March 2014	$1,629,084.71
April 2014	$1,038,298.57
May 2014	$2,270,790.44
June 2014	$3,673,715.01
July 2014	$4,567,457.31
August 2014	$4,428,715.88
September 2014	$3,014,993.95
October 2014	$2,654,710.51
November 2014	$4,272,765.50
December 2014	$5,470,724.29
January 2015	$5,640,881.16
February 2015	$3,037,639.28

Conclusion

TVEC has thoroughly assessed all potential areas of concern in order to ensure the Cooperative is appropriately responding to Member concerns regarding higher than expected bills. The Cooperative has assessed its:

- Bill statements
- Billing data
- AMI and non-AMI meter data
- Power Bills
- Power Cost Recover Factor calculations
- Meter Accuracy
- Member Communications

In addition to the Cooperative's efforts to ensure it is accurately metering and billing Members, the Cooperative enlisted the expertise of Guernsey to further review the Cooperative's activities. Guernsey finds the Cooperative is acting in the interest of its Members. Not only has the Cooperative investigated on its own each of the aforementioned critical components of its billing function, but also provided extensive data to a third party for independent review and further analysis.

The review and analysis of metering and billing data supports the Member billing data provided for review.

Section 9 — Background

TVEC is an electric cooperative corporation operating under the Electric Cooperative Corporation Act (art. 1528b, V.A.C.S.) and the laws of the State of Texas and is owned by its Members. TVEC was organized in 1997 with the merger of Kaufman County Electric Cooperative and New Era Electric Cooperative; organized in 1938 and 1940, respectively. The Cooperative's business affairs are managed by a board of directors who are elected to the board from and by the Cooperative's Members in accordance with the provisions of its bylaws.

The Cooperative provides electric utility service through the operation of a retail electric distribution system. TVEC does not engage in the generation of electric power, instead purchasing all electric energy requirements from Rayburn.

Trinity Valley Electric Cooperative, Inc.

In 2014, the Cooperative provided service to over 64,000 consumers with annual sales of 1,235,418 MWH, energy sales revenue of $140 million, and other revenue of $2.2 million. The Residential class comprised 93% of the consumers, 81% of the MWH, and 83% of the revenue. The Cooperative has 6,489 miles of overhead distribution line and 847 miles of underground distribution line. At the end of 2014, the Cooperative had 155 full-time employees and total utility plant investment of $355 million.

The Cooperative conducts business from its central headquarters located in Kaufman as well as district offices in Athens, Gun Barrel City and Wills Point. The service area of the Cooperative includes all or portions of Anderson, Dallas, Henderson, Hunt, Kaufman and Van Zandt counties.

Key Financial Statistics - 2014

Operating Revenues	$144,007,169,
Purchased Power	$100,573,864
O&M and Fixed Expenses	$141,397,975
Operating Margin	$2,609,194
Capital Credits Paid	$2,116,034
kWh Sold	1,235,418,859
Average Cost/kWh Sold	$0.113289

Rayburn Country Electric Cooperative, Inc.

Rayburn was formed in 1979 by seven electric distribution cooperatives in northeast Texas, including TVEC. The Member cooperatives united to gain bargaining power in critical wholesale purchased power negotiations.

Power Supply

In the mid-1980s, Rayburn began seeking additional hydropower and concentrated its efforts on obtaining more economical and reliable power to serve its distribution Members. In 1992, Rayburn began construction on its first Rayburn-owned transmission facilities -- 100 miles of loop 138 kV transmission line. In 2009, The Board of Directors implemented a strategic plan to diversify Rayburn's power resources through purchase power agreements and owned assets, thus providing more control over the Cooperative Members' energy future. One year later, Rayburn became the owner of a 25 percent interest in the Freestone Energy Center owned by Calpine.

In early 2012, Rayburn extended its power supply contract with Constellation, ensuring a dependable source of energy through 2018. Ever cognizant of its need to secure sustainable and low cost power for TVEC and other Members, Rayburn continues to evaluate power supply options.

Management and Board

Directors of Rayburn include five Board Members and five Alternates from Member Systems. The Rayburn Board meets monthly with the G&T's staff to discuss and approve business operations.

Rayburn is managed and operated in much the same manner as TVEC. TVEC is a Member of Rayburn and purchases all wholesale power from Rayburn. TVEC is assigned patronage capital based upon purchases made by the Cooperative. Cash payments in the form of capital credits from Rayburn to TVEC are passed thru to Members of TVEC in the years they are received.

TVEC's General Manager serves on the Rayburn Board with one TVEC Board Member serving as the Alternate. There is not outside compensation in the form of stock or shareholder benefits as there are no Rayburn shareholders.

TVEC Members greatly benefit from the power supply arrangement between Rayburn and its Member systems. Without the current power supply arrangement, TVEC Members would likely be forced to enter into much shorter, less favorable and more volatile pricing arrangements with other power supply entities in the marketplace.

The Cooperative Model

Electric cooperatives are Member-owned, democratically governed utilities. Electric cooperatives are firmly anchored in the communities they serve and are regulated by their consumers. Electric cooperatives were created after President Franklin D. Roosevelt established the Rural Electrification Administration (REA) in 1935. The Executive Order establishing the REA and the passage of the REA Act a year later marked the first steps in a public-private partnership that has, over the last 70 years, bridged the vast expanse of rural America to bring electric power to businesses and communities.

Today more than 900 electric cooperatives provide reliable and technologically advanced service to over 40 million Americans while maintaining a unique consumer-focused approach to business.

Since 1939

For over 75 years, TVEC has provided safe, reliable and low cost electric power to its Members. The Cooperative has seen its mostly rural service area transition into a blend of rural and urban areas. The Cooperative has managed this transition over the past seven decades with dedicated leaders, hard-working staff and line workers as well as a forward-thinking Board of Directors.

MISSION STATEMENT:

At TVEC, we are committed to our Member-owners to deliver safe and reliable electric power at a competitive price, with a strong emphasis on Member service, community and sound business practices.

Member Control

TVEC Members are active in shaping the future of the Cooperative. Member-owners annually elect board of directors which oversees the Cooperative's operations. The Board of Directors consist of seven directors from as many Cooperative Districts. Board Member terms are 3 years in length.

TVEC solicits Director Nominations for upcoming elections in June or July, depending upon the date of the Cooperative's annual meeting. The TVEC annual meeting is held annually; generally between September and December of each year. The Cooperative publishes announcements regarding director nominations and annual meeting dates in the Texas Co-op Power magazine.

TVEC invests in routine Board training in order for Member-elected Directors to stay abreast of a challenging utility environment. A properly trained and educated Board of Directors is necessary in order to carry out the fiduciary responsibility of a director on behalf of those who elected them to their position of leadership and oversight.

Member and Community Focus

The Cooperative is Member-focused, striving to make doing business with TVEC as easy and convenient as possible. Maintaining district offices and a presence in the communities the Cooperative distinguishes itself from other utilities who have closed local offices, conduct business through remote call centers and lack an overall presence in the communities they serve. TVEC values its "local and community focused" way of conducting business with Members much in the same manner it has for over 70 years. Contrasting this unique mindset is the Cooperative's focus on deploying technology to enhance Member service, reduce outages and response times and provide low-cost electricity. Advanced technology and communication exhibits the Cooperatives focus on its Member-consumers.

Capital Credits

In addition to actively participating in the governance of the Cooperative, TVEC Members also participate financially. Unlike other utility models, electric cooperatives do not earn profits. Instead, when revenues exceed expenses, the Cooperative earns a margin. Annually, TVEC allocates margins in the form of capital credits back to its Members. In the same manner the Cooperative borrows money to fund capital projects, the Cooperative utilizes a portion of margins contributed by Members to finance the Cooperative's operations.

At the end of each year, the Cooperatives Board of Directors determines the amount of capital credits which will be retired and returned to TVEC Members. The retirement of capital credits is based upon that year's financial condition of the cooperative. In 2014, TVEC returned to its Members over $2 million dollars. Since the inception of the Cooperative, Members of TVEC have received more than $26 million dollars in capital credit payments.

Capital Credit Payments to Members	
2014	$2,116,034
2013	$2,103,692
2012	$2,237,658
2011	$3,130,758
2010 and Prior Years	$16,765,910

Seven Cooperative Principles

Cooperative businesses are special because they are owned by the consumers they serve and because they are guided by a set of seven principles that reflect the best interests of those consumers. All cooperative businesses adhere to these seven guiding principles:

1. Voluntary and Open Membership

Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of Membership, without gender, social, racial, political, or religious discrimination

2. Democratic Member Control

Cooperatives are democratic organizations controlled by their Members, who actively participate in setting policies and making decisions. The elected representatives are accountable to the Membership. In primary cooperatives, Members have equal voting rights (one Member, one vote) and cooperatives at other levels are organized in a democratic manner.

3. Members' Economic Participation

Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of Membership.

Members allocate surpluses for any or all of the following purposes: developing the cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting Members in proportion to their transactions with the cooperative; and supporting other activities approved by the Membership.

4. Autonomy and Independence

Cooperatives are autonomous, self-help organizations controlled by their Members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their Members and maintain their cooperative autonomy.

5. Education, Training, and Information

Cooperatives provide education and training for their Members, elected representatives, managers, and employees so they can contribute effectively to the development of their cooperatives. They inform the general public, particularly young people and opinion leaders, about the nature and benefits of cooperation.

6. Cooperation among Cooperatives

Cooperatives serve their Members most effectively and strengthen the cooperative movement by working together through local, national, regional, and international structures.

7. Concern for Community

While focusing on Member needs, cooperatives work for the sustainable development of their communities through policies accepted by their Members.

Appendix A:
Weather Data

TRINITY VALLEY ELECTRIC COOPERATIVE, INC.

HEATING DEGREE DAYS - SEASON NOVEMBER THRU JANUARY
BASELINE TEMPERATURE 65 °F

Month	Heating Degree Days						
	Average				Nov 2012	Nov 2013	Nov 2014
	20-Year	10-Year	5-Year	3-Year	Feb 2013	Feb 2014	Feb 2015
November	293	303	355	338	242	406	366
December	570	604	670	514	475	661	407
January	603	638	717	580	504	651	586
Percent Change over Previous Month							
November							
December	94.8%	99.3%	88.4%	52.1%	96.2%	62.6%	11.2%
January	5.8%	5.6%	7.1%	12.8%	6.0%	-1.5%	44.0%

Source: National Oceanic and Atmospheric Association Southern Regional Climate Center

Appendix B:
Power Cost Recovery Factor Tariff

203. Billing Adjustments.

The Cooperative shall adjust all bills in accordance with the following adjustments if applicable:

203.1 Power Cost Recovery Factor (PCRF).

The monthly charges for all Customers other than those served under rate schedules providing for the direct recovery of power cost charges or credits shall be increased or decreased on a uniform per kWh basis computed monthly as follows:

$$\frac{PCRF=(A-B\pm C)}{kWhs}$$

Where:

PCRF = Power Cost Recovery Factor (expressed in $ per kWh) to be applied to estimated energy sales for the billing period.

A = Total purchased power cost (excluding credits or purchases from all suppliers that are applied directly to particular customers) from all power suppliers including fuel for the billing period.

B = Total estimated purchased power cost (excluding credits or purchases from all suppliers that are applied directly to particular customers) from all suppliers including fuel which are included in the Cooperative's base rates. The base power cost is computed as:

B = (D)(kWhs)

D = Base power cost in $/kWh sold of $.082201.

kWhs = Total estimated energy sales for the billing period (excluding kWh sales associated with direct recovery of power cost charges or credits).

C = Adjustment to be applied to the current monthly billing to account for difference in actual purchased electricity costs and actual PCRF revenues recovered in previous periods.

Trinity Valley Electric Cooperative
JAN - 1 2008
Approved
Board of Directors

Appendix C:
Power Cost Recovery Factors Applied

TRINITY VALLEY ELECTRIC COOPERATIVE, INC.

POWER COST RECOVERY FACTORS APPLIED

1998 - 2015

Year	January	February	March	April	May	June	July	August	September	October	November	December
1998	0.0009	-0.0020	-0.0020	-0.0010	-0.0013	-0.0013	-0.0060	-0.0090	-0.0200	-0.0250	-0.0250	-0.0250
1999	-0.0205	-0.0190	-0.0180	-0.0165	-0.0115	-0.0100	-0.0105	-0.0150	-0.0160	-0.0170	-0.0180	-0.0180
2000	-0.0180	-0.0165	-0.0150	-0.0150	-0.0150	-0.0140	-0.0140	-0.0100	-0.0070	-0.0080	-0.0100	-0.0100
2001	-0.0130	-0.0140	-0.0120	-0.0120	-0.0070	-0.0070	-0.0070	-0.0030	0.0000	0.0000	0.0000	0.0030
2002	0.0030	0.0030	0.0040	0.0040	0.0040	0.0042	0.0042	0.0000	-0.0028	-0.0028	-0.0028	0.0000
2003	-0.0030	-0.0075	-0.0075	-0.0075	-0.0075	-0.0029	0.0019	0.0040	0.0000	0.0032	0.0000	0.0020
2004	-0.0030	-0.0030	0.0000	0.0020	0.0042	0.0032	0.0042	0.0062	0.0042	0.0062	0.0072	0.0072
2005	0.0102	0.0000	0.0000	0.0000	0.0000	0.0000	0.0100	0.0130	0.0120	0.0220	0.0240	0.0240
2006	0.0290	0.0260	0.0300	0.0310	0.0320	0.0320	0.0320	0.0300	0.0120	0.0140	0.0180	0.0280
2007	0.0300	0.0300	0.0270	0.0210	0.0210	0.0210	0.0210	0.0180	0.0170	0.0170	0.0170	0.0100
2008	-0.0110	-0.0050	-0.0050	-0.0005	-0.0050	-0.0030	0.0100	0.0250	0.0250	0.0250	0.0250	0.0250
2009	0.0150	0.0050	0.0050	0.0050	0.0050	0.0050	0.0050	0.0025	0.0000	0.0000	0.0000	0.0000
2010	0.0000	-0.0025	-0.0050	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100	-0.0100	-0.0110	-0.0110
2011	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050	-0.0050	-0.0125	-0.0100	-0.0125	-0.0125
2012	-0.0150	-0.0150	-0.0150	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0200	-0.0300	-0.0300	-0.0200
2013	-0.0100	-0.0100	-0.0100	-0.0200	-0.0200	-0.0200	-0.0100	-0.0150	-0.0100	-0.0100	-0.0100	-0.0100
2014	-0.005	-0.005	-0.005	-0.005	-0.005	-0.005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2015	0.01	0.01	0.000									

Appendix D:
Bill Statement

TRINITY VALLEY ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

PO Box 888
Kaufman, TX 75142-0888

Please see reverse side for explanation of PCRF and customer charges

24 Hour Outage System - (800) 967-9324
24 Hour Automated Service - (800) 720-3584
Office - (972) 932-2214 or (800) 766-9576
Web Site - www.tvec.net

ACCOUNT NUMBER	ACCOUNT NAME	RATE	CLASS	SERVICE ADDRESS	METER NUMBER
12345678901	MEMBER NAME	1	1	STREET ADDRESS	87654321

SERVICE FROM	SERVICE TO	NO. DAYS	RDG CODE	READING PREVIOUS	READING PRESENT	MULTIPLIER	KWH USAGE	CHARGES
11/26/14	12/26/14	31	2	51853	53192	1	1339	140.38

OPERATION ROUND UP	0.62
CUSTOMER CHARGE (REVERSE SIDE)	20.00
TOTAL CURRENT CHARGES DUE 01/23/15	161.00
PREVIOUS AMOUNT DUE	104.00
THANK YOU FOR YOUR PAYMENT 12/22/14	-104.00
PLEASE MAIL YOUR PAYMENT 5 BUSINESS DAYS PRIOR TO DUE DATE TO ENSURE TIMELY DELIVERY AND POSTING OF PAYMENT.	

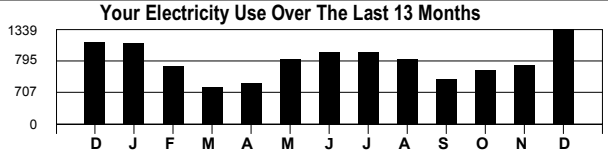
TOTAL DUE $ 161.00

COMPARISONS	DAYS SERVICE	TOTAL KWH	AVG. KWH/DAY	COST PER DAY
CURRENT BILLING PERIOD	31	1339	43	5.17
PREVIOUS BILLING PERIOD	31	795	26	3.33
SAME PERIOD LAST YEAR	31	1437	46	5.51

Disconnect Date/Amount

CURRENT BILL	Paid By	01/23/15	161.00
	Paid After	01/23/15	171.00

Your Electricity Use Over The Last 13 Months



PLEASE EXAMINE YOUR BILL CAREFULLY AS ANY RIGHT TO DISPUTE IS WAIVED AFTER 30 DAYS.

Co-op News

As a service to our members, we offer free Home Energy Audits. Trained TVEC personnel will offer advice on ways you can reduce your energy usage. Call 800-766-9576.

KEEP

PLEASE DETACH AND RETURN THIS PORTION WITH PAYMENT

SEND
TX01620B

TRINITY VALLEY ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

PO Box 888
Kaufman, TX 75142-0888
(972) 932-2214 or (800) 766-9576
www.tvec.net
ADDRESS SERVICE REQUESTED

ACCOUNT NUMBER	CYCLE	AMOUNT DUE
12345678901	123	161.00
BILLING DATE	DUE DATE	AFTER DUE DATE PAY
01/05/15	01/23/15	171.00
ENTER AMOUNT PAID		

AUTO UTOSCH 5-DIGIT 87654

MEMBER NAME 0000 00
STREET ADDRESS
CITY, STATE

TRINITY VALLEY ELECTRIC COOPERATIVE INC
PO BOX 1228
KAUFMAN TX 75142-5403

Appendix E:
Revised Bill Statement

TRINITY VALLEY ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

PO Box 888
Kaufman, TX 75142-0888

Please see reverse side for explanation of PCRF and customer charges

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24 Hour Automated Service - (800) 720-3584
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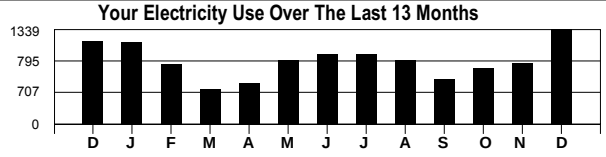
SERVICE FROM	SERVICE TO	NO. DAYS	RDG CODE	READING PREVIOUS	READING PRESENT	MULTIPLIER	KWH USAGE	CHARGES
11/26/14	12/26/14	31	2	51853	53192	1	1339	140.38
0.000000	PCRF ADJUSTMENT (REVERSE SIDE)						1339	0.00
OPERATION ROUND UP								0.62
CUSTOMER CHARGE (REVERSE SIDE)								20.00
TOTAL CURRENT CHARGES DUE 01/23/15								161.00
PREVIOUS AMOUNT DUE								104.00
THANK YOU FOR YOUR PAYMENT 12/22/14								-104.00
PLEASE MAIL YOUR PAYMENT 5 BUSINESS DAYS PRIOR TO DUE DATE								
TO ENSURE TIMELY DELIVERY AND POSTING OF PAYMENT.								

TOTAL DUE $ 161.00

COMPARISONS	DAYS SERVICE	TOTAL KWH	AVG. KWH/DAY	COST PER DAY
CURRENT BILLING PERIOD	31	1339	43	5.17
PREVIOUS BILLING PERIOD	31	795	26	3.33
SAME PERIOD LAST YEAR	31	1437	46	5.51

Disconnect Date/Amount		
CURRENT BILL Paid By	01/23/15	161.00
Paid After	01/23/15	171.00

Your Electricity Use Over The Last 13 Months



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KEEP

PLEASE DETACH AND RETURN THIS PORTION WITH PAYMENT

SEND
TX01620B

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A Touchstone Energy® Cooperative

PO Box 888
Kaufman, TX 75142-0888
(972) 932-2214 or (800) 766-9576
www.tvec.net
ADDRESS SERVICE REQUESTED

ACCOUNT NUMBER	CYCLE	AMOUNT DUE
12345678901	123	161.00
BILLING DATE	DUE DATE	AFTER DUE DATE PAY
01/05/15	01/23/15	171.00
ENTER AMOUNT PAID		

AUTO UTOSCH 5-DIGIT 87654

MEMBER NAME 0000 00
STREET ADDRESS
CITY, STATE ZIP

TRINITY VALLEY ELECTRIC COOPERATIVE INC
PO BOX 1228
KAUFMAN TX 75142-5403

Appendix F:
Bill Statement Memos

The following energy efficiency messages were printed on member bills:

April 2014	Do a little. Save a lot. Everything you do, from flipping a switch to upgrading to CFL's, can add up to big savings for you and your neighbors. Visit Togetherwesave.com.
May 2014	Did you know a computer can draw as much electricity as a new refrigerator? Turn it off when not in use or switch on its energy-saving mode. Visit Togetherwesave.com.
June 2014	Summer is fast approaching, temperatures are rising quickly, for some cool savings set your thermostats up to 78 degrees and be sure and change filters monthly.
July 2014	Installing a programmable thermostat will help lower cooling costs. Caulking cracks and openings can help conserve as well. Watch energy saving videos at Togetherwesave.com.
September 2014	This fall, locate and plug air leaks in your home, add or repair attic insulation and call a professional to check your heating system.
December 2014	For every degree you lower your thermostat you save about 2 percent off your heating bill. Remember to close the fireplace damper when not in use.

Appendix G:
Texas Co-op Power Member Newsletter

Payment Address Reminder:

Please remember to change your electronic bill payment address for your TVEC utility bill payment.

P.O. Box 1228
Kaufman, TX 75142

Win $25 Just for Reading

Somewhere, hidden between Pages 20-23, is a TVEC account number. Read closely. If the account number is yours, contact the Member Services Department by January 31, 2014, to receive a $25 credit on your electric bill. Don't miss out—you could be a winner.

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Athens District Office
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Contact Us

For information during office hours and outages after hours

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1-800-720-3584

24-HOUR OUTAGE REPORTING
1-800-967-9324

FIND US ON THE WEB AT
tvec.net

Using appliances such as a microwave oven can cut cooking time and save energy.

Cook Up Savings with

Kitchen Efficiency

BY JAMES DULLEY

Dear Jim: I'm updating my kitchen appliances. I am a bit of a chef, so I want efficient tools. What are the best appliances for cooks? Can you share a few energy-efficient cooking tips?—Barb R.

Dear Barb: If you're a frequent cook, you consume a lot of energy. The major energy user in the kitchen is the refrigerator. Odds are if you prepare a lot of food, you have a large refrigerator and open it often. Place commonly used items (milk, butter, etc.) near the front of your fridge. Keep the fridge fairly full; use water jugs if needed.

In addition to selecting efficient kitchen appliances, there are simple tips to cut energy use. Keep in mind that cooking tips change from winter to summer.

During winter, the heat and humidity from cooking help warm your house and reduce the heating load on your furnace or heat pump. During summer, this same heat makes your air conditioner run more, increasing electric bills.

When installing kitchen appliances, locate them properly. The range and oven should not be directly next to the refrigerator. Their heat will make the refrigerator compressor run longer. Also, don't put the range or oven under a window; a breeze can carry away heat before it gets into your pots and pans.

When it comes to ovens, electric is preferred by most professionals. It holds more even heat than gas for baking. Another advantage, especially during summer, is that electric does not introduce extra moisture into your house. Extra moisture means more work (and energy use) for your air conditioner. When gas or propane burns, the basic products of combustion are water and carbon dioxide.

Want great energy savings in the kitchen? Use small countertop appliances when possible instead of an oven or stovetop. For example, a toaster oven, especially one with a convection option, uses significantly less electricity than large oven elements.

Microwave ovens are still the most efficient appliance for cooking. They run on lower wattage and offer shorter cook times. However, if you are cooking larger quantities of food, a large oven remains the best choice. Plan your baking to make several recipes simultaneously or consecutively while the oven is hot.

AMANA

WARNING:

Don't Bake All Bulbs

Oven lights are handy. Curious if a casserole's ready? Flip the switch. There's no need to open the oven and release heat. But be careful when replacing this little light. Never put a bulb in the oven that's not built for high heat.

Compact fluorescent lamps use less energy than classic incandescent bulbs, but they're not safe in extreme temperatures. Most lighting labels designate safe temperatures, but warnings may be in fine print.

NEED TO REPLACE YOUR OVEN LIGHT? Look for appliance lightbulbs. These bulbs are designed for extreme temperatures in ovens and refrigerators. The hardy bulbs are here to stay; 40-watt appliance bulbs are exempt from federal lighting efficiency standards. 60143771001

EMPIRE ELECTRIC ASSOCIATION

CFL LIGHTBULBS ARE GREAT—BUT NOT FOR EVERY APPLICATION. A CO-OP MEMBER SCRAPED THIS MELTED CFL OFF THE SIDE OF HIS OVEN. THE CFL WASN'T DESIGNED FOR OVEN USE.

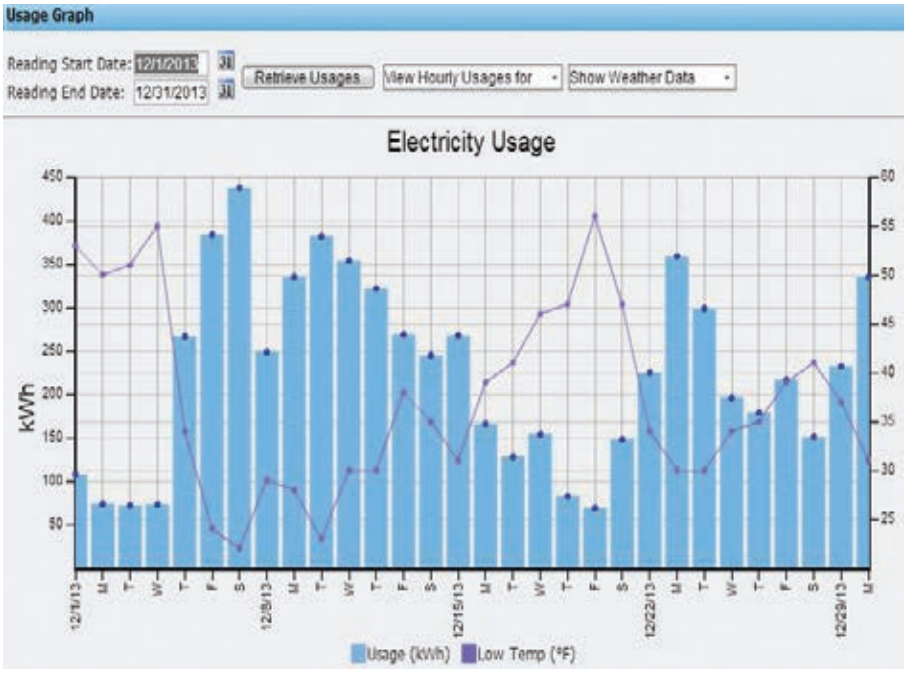
WHY WON'T CFLS WORK? Instead of heating a filament until white-hot to produce light like an incandescent bulb, a fluorescent lamp contains a gas that produces ultraviolet light when excited by electricity. The UV light and the white coating inside the bulb result in visible light. Because CFLs don't use heat to create light, they are 75 percent more energy efficient. But the technology that cuts energy use doesn't stand a chance in an oven's 400-plus degree heat.

Record-Setting Winter Translates to Higher Energy Usage and Bills

According to the National Weather Service, the winter of 2013 ranked No. 1 on record locally for the most freezes in a season through December 31 with 24 days below the freezing mark. December was ranked as the 12th coldest on record with an average low temperature of 32.3 degrees. December was also ranked fourth on record for the most freezes with 19 days below the freezing mark.

Heating systems have no doubt been working overtime to keep our homes warm. If you have an advanced meter you have a new tool at your disposal to help you understand the effect that weather is having on your electricity usage. The graph below was taken from the usage area of the Member Service Portal (available from the Manage My Accounts button on tvec.net). The graph depicts actual usage in December 2013. The graph indicates that when temperatures are in the 40- to 60-degree range, this member's usage ranges from 75 to 150 kilowatt-hours per day. In contrast, when the temperature drops below 40 degrees, usage ranges from 200 to 450 kilowatt-hours per day. These colder-than-normal temperatures have a direct effect on your usage, resulting in a higher-than-normal electric bill.

With more than 45 days of winter remaining, TVEC is continuing to encourage members to look for ways to control their energy usage. For tips on saving energy, visit togetherwesave.com. Members can also take advantage of free, in-home energy audits from TVEC. To set up an energy audit at your home, please call member services at 1-800-766-9576.



Win $25 Just for Reading

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FIND US ON THE WEB AT
tvec.net

TV Boxes To Be Energy Smarter

Here's some little-known trivia about the box for your TV set that allows you to watch your favorite shows via cable or satellite: It's an energy hog.

Nationwide, set-top boxes, known as STBs, guzzle so much electricity that cable and satellite providers concede consumers could save a collective $1 billion-plus a year if manufacturers made the devices more energy efficient.

So the big-name industry players have reached a voluntary agreement with environmental advocates and government regulators to create STBs that are up to 45 percent more energy-efficient by 2017.

Verizon in January introduced a "light sleep" option on some of its FiOS boxes, and cable companies such as Comcast and Time Warner soon will send software changes to 10 million cable boxes already in homes to put them in a "light sleep" mode when they're not in use.

That move could cut the boxes' power use by up to 30 percent. Eventually, it will affect 90 million boxes and save enough power to run about 700,000 homes, according to the National Resources Defense Council.

The boxes waste energy because they run even when your TV is turned off.

Over the next few years, the companies will test "deep-sleep" devices to learn if that's an even more-efficient option.

Cable and satellite companies will soon make software changes to reduce standby energy consumption.

Win $25 Just for Reading

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FIND US ON THE WEB AT
tvec.net

Prepare for Summer Heat, Increase Energy Savings

BY B. DENISE HAWKINS

Adding a few items to your list of spring chores can help make your home more energy efficient and deliver electric bills that won't make you sweat when temperatures soar.

Start with Your Air Conditioner

Spring and early summer are good times to make sure that your air-conditioning unit is ready to work when you flip the switch.

► Have a professional inspect and service your unit. The service should include a thorough check of wiring and electronic and mechanical systems, lubrication of all moving parts and calibration of the thermostat.

► Give your air conditioner a do-it-yourself cleaning. Shut the unit off and clear away weeds, leaves and yard debris from the outside condenser. Inside the unit, clean or replace filters. Dirty filters can restrict airflow and reduce overall efficiency by making the air conditioner work harder on hot summer days. Dust the fan blades if you can do so safely. Make sure air can flow freely over the inside and outside coils. Vacuum registers to remove any dust buildup.

FUSE | THINKSTOCK

If your thermostat still looks like this, you should consider upgrading it to a programmable model to increase efficiency.

► When using window units, ensure that weatherstripping is in place. Placement should be between the middle of the top and bottom window panes.

Examine Your Roof

See how well your roof has weathered the winter. Few things can shorten the life of your home faster than a roof leak. Even a minor one can damage your attic insulation before you know it.

A roofing professional can assess the roof's condition and repair loose or missing shingles, plug leaks and clear gutters.

Make Your Electric Cooperative a Resource

The energy advisers at TVEC can help you determine the right steps for your home, including whether an energy audit will help find more savings. You can also visit TogetherWeSave.com to find out how little measures around the house can add up to big energy savings as temperatures outside climb.

Win $25 Just for Reading

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Gun Barrel City

Wills Point District Office
582 N. Fourth St., Wills Point

Lobby Hours
Monday-Friday, 8:15 a.m.-4:45 p.m.

Contact Us

For information during office hours and outages after hours

CALL US
(972) 932-2214 local or
1-800-766-9576 toll-free

24-HOUR AUTOMATED ASSISTANCE
1-800-720-3584

24-HOUR OUTAGE REPORTING
1-800-967-9324

FIND US ON THE WEB AT
tvec.net

Switch the direction of your ceiling fan with the change of the seasons to improve airflow.

Ways To Be More Energy Wise

Make sure all exhaust fans in your home are working properly and are dust-free. Regularly wash or replace filters. Consider installing a timer switch on your bathroom fan so that it runs only as long as it is required.

Make sure you change the direction of airflow on your ceiling fan. In the winter, let the fan run clockwise to push warm air toward the floor. In summer, switch the direction to draw air upward, cooling the room and ensuring constant airflow.

In preparing for the summer, consider investing in some insulated, thermal-backed drapes for your windows. They'll help keep your home cool in summer and warm in winter.

Before buying an air-conditioning unit or system, find out its energy-efficiency ratio. Calculate the EER by dividing the unit's cooling capacity (Btu/hour) by its energy requirement (watts). An EER of 10 or more is very good, and 6 or 7 is fair. Remember to buy the smallest capacity unit or system that will meet your needs. 30047447001

Have you ever thought about installing an attic ventilator? An attic ventilating system draws cool air up through the house and can provide the same level of comfort as an air conditioner at a much lower cost. Pump in cool air during summer evenings then seal your home during the day. Attic ventilation can help lower winter heating bills, too.

Have a look at your foundation walls. If you have an unfinished basement or crawlspace, check for air leaks by looking for spiderwebs. If there's a web, there's a draft. A large amount of heat is also lost from an uninsulated basement.

Does your home have a sliding glass door? Make sure to keep its track clean. A dirty track can ruin the door's seal and create gaps where heat or cold air can escape.

When dust and pet hair build up on your refrigerator's condenser coils, the motor works harder and uses more electricity. As part of your cleaning routine, make sure the coils are cleaned and air can circulate freely.

Don't forget to check the seals on your refrigerator door to make sure they are clean and tight. Your refrigerator accounts for up to 11 percent of your household's total energy use, which can have a major effect on your energy bill.

If you're thinking about purchasing a new appliance, always look for the Energy Star label on new appliances. These products are more energy efficient and can help reduce your energy costs.

(C) GREAT KIICHEN/DOLLAR PHOTO CLUB

Win $25 Just for Reading

Somewhere, hidden between Pages 20-23, is a TVEC account number. Read closely. If the account number is yours, contact the Member Services Department by May 31, 2014, to receive a $25 credit on your electric bill. Don't miss out—you could be a winner.

TVEC
TRINITY VALLEY ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

Operating in Anderson, Dallas, Henderson, Hunt, Kaufman and Van Zandt counties

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Jerry B. Boze

Kaufman District Headquarters
1800 E. Highway 243, Kaufman

Athens District Office
909 W. Larkin St., Athens

Cedar Creek District Office
1012 W. Main St., Ste. 102
Gun Barrel City

Wills Point District Office
582 N. Fourth St., Wills Point

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FIND US ON THE WEB AT
tvec.net

Grants Awarded by Charitable Foundation

The TVEC Charitable Foundation recently awarded the following grants:

Tool Community Food Pantry—$3,000
Provides food to seniors, individuals and families. The program also includes a monthly cooking class to help individuals achieve greater self-sufficiency.

Eustace Intermediate Backpack Program—$4,200
This program will provide backpacks that are complete with essential hygiene products for self-care that will help the children gain more self-esteem and confidence.

The TVEC Charitable Foundation is funded entirely by donations from members who participate in Operation Round Up. For more information, visit tvec.net.

LAURA MELTON

◄ TVEC Board Member Ed Reeve presents a grant check for $4,200 to Brett Powers, school counselor, left, and Marcy Warren, assistant principal.

Thank you!

For making the first year of Operation Round Up® at TVEC a success. The TVEC Charitable Foundation has donated to over 49 agencies and given out more than $247,000.

Don't Sweat Summer Bills

A few simple steps can help you lower your electric bills this summer:

► Keep blinds or shades closed. When open, the sun can really heat up a room. And, turn off the lights when not needed. They add heat just like sunlight does.

► Clothes dryers are energy intensive and produce heat. Try using a clothesline instead. Run only full loads in your clothes washer and wash with cold water.

► Look around and see where you think cool air might escape. Any door that can be closed should be closed. That leaves less living space to cool. 60152626001

► Consider doing exercise outside. The less movement you do inside, the less heat you produce.

► Set the A/C thermostat and leave it. Bring in cool morning air with a box fan in a window. Shut windows as the day warms up.

► If you have a central air system, keep the fan setting in the "on" position instead of "auto." It will circulate the air throughout your home and make it feel cooler.

► Leave the house for a trip outside or to the library, a store or the movies. When you do go, make sure everything is turned off and items that use standby power—such as electric coffee pots, TVs and computers—are unplugged.

► If it's cool at night, open the windows and turn the thermostat off. It feels so great to have a nice, cool breeze while sleeping.

PHOTOGRAPHEE.EU | DOLLAR PHOTO CLUB

TVEC Hosts Lineman Career Day

TVEC recently hosted two career day events in an effort to stave off a looming shortage of electrical lineman. Industrywide statistics show that roughly 40 percent of lineman jobs will need to be filled by 2015. To avoid costly vacancies in these key positions, the career days were part of a larger effort to identify, recruit and hire future linemen at TVEC.

About 100 students attended the two events—one held at the Athens office and one at the Kaufman Headquarters. The students were given the opportunity to see the day-to-day duties of a lineman. TVEC personnel went through a mockup of several of the most common repair jobs they perform, including patching a downed line and replacing a transformer.

All of the demonstrations were performed on TVEC's training facilities which are nonenergized, life sized versions of a typical distribution system.

While the linemen worked, other TVEC employees explained the processes step by step, always emphasizing the potential dangers of the job at hand.

To further drive home the importance of safety, the students were also presented an arcing demonstration in which trained employees draw a visible and audible arc of electricity in a controlled situation.

The students were given a tour of the respective facilities and offices and then treated to lunch.

"The career day events will help us identify future employees to fill critical positions at the co-op," said TVEC Manager of Human Resources Donna Hindman. "We are trying to build up the pipeline to avoid any shortages of lineman in the future."

LAURA MELTON

► Pictured right a lineman demostrates how to change out a transformer while the students look on. Top photo, TVEC Crew Foreman Kevin Newbill displays safety articles that each lineman must wear to do their job safely.

Summer Energy Efficiency: Myth vs. Fact

Myth: When I'm not home, keeping my air conditioner at a lower temperature throughout the day means it doesn't have to run harder to cool my home when I return.

Fact: To save energy, set your thermostat to a higher temperature (85 degrees is recommended) when no one is home, and lower it to 78 degrees when you return home.

Myth: Running ceiling fans will help keep empty rooms cooler.

Fact: Ceiling fans generate a wind-chill effect, cooling people, not rooms. Just like the lights, you should turn ceiling fans off when you exit a room.

Myth: Time of day doesn't matter when it comes to running my appliances.

Fact: Time of day does matter when running electrical loads. To avoid peak times of use and save energy, take advantage of the delay setting and run your dishwasher at night. 53130002

Myth: Bigger is always better when it comes to cooling equipment.

Fact: Too often, cooling equipment isn't sized properly and leads to higher electric bills. A unit that's too large for your home will not cool evenly and might produce higher humidity indoors.

©ISTOCKPHOTO.COM | TSUJI

Local Teens Explore Nation's Capital

Savanna Morgan of Forney and Reichart Bauder of Tennessee Colony recently participated in the Electric Cooperative Youth Tour sponsored by TVEC. The two spent seven days in Washington, D.C., with 120 of their peers from Texas.

Each year in June, an action-filled week provides high school students opportunities to learn first-hand about politics, community service and today's pressing issues in the energy industry. Students met their elected representatives in the U.S. House and Senate, saw historic sites, and met nearly 1,600 students from across the country who participated in their state's Youth Tour program.

▲ Reichart Bauder, Bobbi Byford and Savanna Morgan take in the sights of Washington, D.C., including the capitol.

The Electric Cooperative Youth Tour has been a joint effort of local electric co-ops including TVEC, their statewide co-op associations and the National Rural Electric Cooperative Association, for 50 years.

Morgan said she had a great experience meeting people from across the nation during the trip.

"The trip taught me that you have to be yourself," Morgan said. "Going in, you don't know anyone, and by the time it's over, you have made lifelong friends."

Morgan particularly enjoyed the opportunity to visit Mt. Vernon.

"It was neat to see what life was like during the time of George Washington," she said.

Reichart also commented "I gained a new appreciation for what they do," speaking of elected officials.

For more information on how you can participate in the Youth Tour program, contact Bobbi Byford at 469-376-2234.

•NOTICE•

Our 24-hr Automated Assistance number 1-800-720-3584, will be down for maintenance Thursday, August 14 at 8:30 a.m. until Friday, August 15 at noon. Any change to this schedule will be posted on tvec.net and to our Facebook page.

MATTHEW HART/ISOCK/THINKSTOCK

A slow cooker is a great way to cook without adding excess heat to your home.

Cook Less, Cook Quicker When It's Hot

Cooking and baking during this summer can heat up your house, compete with air conditioning and make everyone uncomfortable. So cooking less can save you energy and keep you cooler.

▶ Prepare your main course outside on the barbecue grill. Even if it's hot outdoors, you won't add heat to the inside of your home.

▶ When a cooler day or evening rolls in, take the opportunity to cook. Prepare two or three meals at once and freeze them, so all you'll have to do is thaw and reheat them in the microwave the next time it's too hot to cook. 60174069003

▶ Enjoy cold meals and snacks that don't need cooking, like vegetable salads; fruit, cheese and bread; hummus or guacamole with chips or celery; sandwiches; cold soups and smoothies.

▶ If you must cook, use the microwave oven or a covered pan on the stovetop. Either one pushes less heat into the kitchen than a hot oven.

▶ Choose foods that cook quickly, like fish and vegetables. Chopping veggies into small, evenly sized pieces speeds cooking time.

▶ Don't use the microwave or oven to defrost frozen food. Instead, place the frozen item in the refrigerator and let it thaw out overnight before cooking it the next day.

▶ Preparing food in an electric skillet, wok or slow cooker adds less heat to the air than cooking on the stove.

Grants Awarded by Charitable Foundation

The TVEC Charitable Foundation recently awarded the following grants:

Faith In Action Outreach—$4,000
Faith In Action Outreach provides several services around the eastern Cedar Creek Lake area. The grant will help support the Food for the Weekend program. This program provides over 100 needy children in the Malakoff, Cross Roads and Eustace school districts nutritious food to get through the weekend.

Heritage Park Museum of East Texas—$3,000
The park was established in 1976 and sits on 18 lots in downtown Edgewood. The owner/operator's mission is to preserve the past and to promote a greater appreciation of our ancestors and their role in our rural heritage. It consists of 21 circa-1900 buildings, authentically restored and furnished.

Jesus Connection—$4,900
Jesus Connection is a food pantry operated by the First Baptist Church of Eustace. It serves approximately 340 individuals in the TVEC service area.

Sharing the Love Foundation—$2,000
A program to provide educational and volunteer opportunities for youth with a focus on community. The opportunities include summer education field trips, learning activities and healthy eating workshops. Located in Forney, they serve only Kaufman County residents.

The TVEC Charitable Foundation is funded entirely by donations from members who participate in Operation Round Up. For more information, please visit tvec.net.

JOY LONG

▲ TVEC Public Relations Representative Kari Wilmeth, far right, presents a grant check for $4,000 to representatives from the Faith In Action Outreach. Pictured from left are Cheryl Trout, Zo Bailey, Mike Cromer, Jeri Smith, Rosemary Ferrell and Teri Caswell.

LAURA MELTON

▲ TVEC Manager of Public Relations Bobbi Byford, right, presents a grant check for $3,000 to Alice Bomar, left, and Linda Clark, representatives from the Heritage Park Museum of East Texas.

Power Tip

When it's hot outside, appliances and lighting can heat up our homes more than we think. To save energy, minimize the activities that generate additional heat, such as burning open flames, continuously running a computer or using hot hair devices like curling irons. This will utimately keep your house cooler.

© ISTOCK.COM | GREKOV

Advanced Metering Status

TVEC is installing advanced meters to improve reliability, efficiency and service.

Deployment of advanced meters will ramp back up this month. Crews will begin installing meters near the following communities in southern Kaufman County: Scurry, Rosser, Crandall, Kaufman, Oak Grove, Gray's Prairie, Warsaw and Kemp. Crews will move to Van Zandt County in the communities of Mabank, Kemp, Phalba, Prairieville and south of Canton in the middle of October.

The full project map—as well as much more information regarding the AMI project—can be found on our website, tvec.net, under the Advanced Metering page. If you have any questions or concerns, please give us a call at 1-800-766-9576.

October is National Co-op Month

Each October, millions of co-op members across the U.S. observe National Co-op Month to celebrate cooperatives and the qualities that make the business model unique—local, democratic control; a commitment to supporting and improving quality of life in the communities they serve; special benefits and services; and the return of margins to members in the form of capital credits.

Electric cooperatives were formed when rural communities were struggling because investor-owned utilities weren't willing to invest in rural America. So neighbors banded together and lit up the countryside when no one else would. That's the spirit in which we at TVEC celebrate during National Co-op Month each October, and every day of the year.

Co-ops are special

Cooperatives are owned and governed by their members—the same people who use the co-op's goods or services. Profits are distributed to members (not stakeholders) or reinvested in the co-op or the community, often meeting technological, humanitarian or other civic needs that might otherwise go unmet.

In addition to electric cooperatives, Texans are served by credit unions, food co-ops, agricultural co-ops and more. All of these member-controlled organizations are guided by the Seven Cooperative Principles:

1. Voluntary and Open Membership
2. Democratic Member Control
3. Members' Economic Participation
4. Autonomy and Independence
5. Education, Training and Information
6. Cooperation Among Cooperatives
7. Concern for Community

Cooperatives provide a viable alternative to the traditional for-profit business model for more than 130 million members across the U.S. Co-ops range in size from small storefronts to large Fortune 500 companies, including REI and Nationwide Insurance. TVEC is one of more than 900 electric cooperatives serving 42 million people in 47 states.

Co-ops make connections

Co-ops strengthen ties with members and their communities through education and networking opportunities. Today, just as in the past, we connect with other cooperatives by practicing Cooperative Principle No. 6, or "Cooperation Among Cooperatives." Co-ops also connect with members through annual meetings and publications; with policymakers through advocacy; and with young people through youth and leadership programs.

Your electric cooperative has a basic responsibility to provide reliable, affordable and safe electricity, but we take it a step further by supporting our members, enriching our schools and enhancing our communities.

For more information on cooperatives, visit ncba.coop or tvec.net.

Embrace Fall's Bounty

For natural energy savings

We're about to enjoy the best of autumn weather, when it's too cool to leave the air conditioner running but too warm to power up the heating system.

So throw open the curtains during the day to let the sun's rays naturally light and heat your home. South-facing windows, especially, should go uncovered on sunny days. Close drapes at night to keep out autumn drafts.

Next, inspect the windows in rooms that feel cold at night, even when it's not too cold outside. Chances are, the windows are drafty.

Resolve the problem by covering the offending windows with heavy-duty, clear plastic, or with clear plastic film that adheres right to the windowpanes. Seal the plastic tightly to the frame so the cold night air cannot push through gaps between the film and the window frame.

Don't like the look? Replace lightweight drapes or curtains with tight-fitting, insulating fabric shades or drapes.

Third, resist the urge to crank up the heat when it's cool but not cold outside. Throw an extra blanket on the bed or pull on your flannel pajamas. Still cold? Set the thermostat as low as is comfortable during waking hours, and dial it down at least 10 degrees for overnight hours.

Advanced Metering Status

TVEC is installing advanced meters to improve reliability, efficiency and service.

Crews are nearing completion of meter installations in the following communities in southern Kaufman County: Scurry, Rosser, Crandall, Kaufman, Oak Grove, Grays Prairie, Warsaw and Kemp. Crews will move to Van Zandt County in the communities of Mabank, Kemp, Phalba, Prairieville and south of Canton in the middle of October.

The full project map—as well as much more information regarding the AMI project—can be found on our website, tvec.net, under the Advanced Metering page. If you have any questions or concerns, please give us a call at 1-800-766-9576.

LAURA MELTON

Holiday Cooking Safety Tips

The kitchen is the heart of the home and usually the place where everyone congregates during a gathering. Sadly, it's also the room where two out of every five home fires start. Many home fires occur during the time of year that is supposed to be the happiest—the holidays.

Thanksgiving, Christmas Eve and Christmas Day are traditionally celebrated with special meals. Safety should always be considered in the kitchen, but during the holidays when the kitchen produces more meals and receives more visitors, extra caution is advised.

As we embark on the holiday season, TVEC urges you to remember these simple safety tips to identify and correct potential kitchen hazards:

- Never leave cooking equipment unattended, and always remember to turn off burners if you leave the room.
- Supervise the little ones closely in the kitchen. Make sure children stay at least 3 feet away from all cooking appliances.
- To protect from spills and burns, use the back burners as often as possible, and turn the pot handles inward, away from reaching hands.
- Prevent potential fires by making sure your stovetop and oven are clean and free of grease, dust and spilled food.
- Remember to thoroughly clean the exhaust hood and duct over your stove on a regular basis.
- Keep the cooking area around the stove and oven clear of combustibles such as towels, napkins and potholders.
- Always wear short or close-fitting sleeves when cooking. Loose clothing can catch fire.
- Locate all appliances away from the sink.
- Plug countertop appliances into outlets protected by ground-fault circuit interrupters to avoid electric shocks caused by contact with water.
- Keep appliance cords away from hot surfaces like the range or toaster.
- Unplug the toaster and other countertop appliances when not in use.
- Be sure to turn off all appliances when cooking is completed.

For more important safety tips to keep yourself and your family safe this holiday season and throughout the year, visit esfi.org.

NOVEMBER 11

Warm Up Your Water Heater

You're not the only one who stays warmer when you zip up a fluffy winter jacket. Your water heater does, too.

Adding insulation to the outside of a water heater can reduce the amount of heat it loses by more than 25 percent. And because it will direct that extra heat to warming up your home's water, you could see a savings of 5 percent or more on your water heating bill. That's substantial, considering that water heating accounts for about 18 percent of an average home's utility bill.

For $30 or so, you can buy a water heater blanket made from an insulating material that's easy to wrap around your device. 30023522001

Brand-new water heaters come with a lot of insulation, so you might not need a blanket if yours is new. The tank of an older water heater that could benefit from an insulating blanket will feel hot to the touch. Or, if your water heater is located in a spot that gets extra-cold during the winter, the blanket will help it operate more efficiently.

Explore LED Holiday Lighting

WHETHER YOU PREFER simple lighting decorations during the holidays or a more elaborate statement of festivity, selecting the lights themselves will inform all your other decorating choices. This year, be sure to check out a safer and smarter lighting option: LEDs.

© ISTOCK.COM | ALARIFOTO

Made of light-emitting diodes, LED holiday lights have many advantages over incandescent lights. To begin with, LEDs emit little heat, which decreases safety risks.

However, be on the lookout for poor-quality LEDs. They can flicker or dim over time, or emit light unevenly. Look for Energy Star-certified LEDs, which have been tested to ensure that they emit quality light over their long lifetimes.

The style choices of LED lights continue to expand. Some resemble traditional mini-lights, some lights are made to have wide lighting angles and some have multifaceted cone shapes, while others are made to look like larger, older-style bulbs.

There are LED lights designed for both indoor and outdoor use. Different types of strands are also available. Options include rope, string, net, icicle and snowfall styles.

Some shoppers are concerned that an LED white light may be too harsh or too blue for the effect they want to create with their holiday lighting. However, there are both cool and warm shades available. Plus, white is not the only color option; there are many different colors of LED lights available.

For more information on electrical safety and energy efficiency, visit energyedcouncil.org.

TVEC to Retire $2.1 Million in Capital Credits

During its October meeting, the TVEC Board of Directors approved the retirement of more than $2.1 million in capital credits.

The distribuion represents outstanding patronage capital for the year 1986.

In plain terms, capital credits are akin to dividends and are paid to members from year-end margins.

For active members who were members during the year to be retired, bill credits will be issued during the month of December. Checks will be mailed to those who are no longer TVEC members.

The retirement of capital credits is just one of the many benefits of being a co-op member.

Appendix H:
TVEC Electronic Media

Update regarding member concerns over higher-than-expected electric bills

We have had a number of members express concern regarding the display of usage information in our online Member Service Portal (Portal). In an effort to address those concerns, we have carefully reviewed this process and have identified issues that affected the display of usage information in the Portal. There are three software systems involved: the metering system, the billing system and the Portal. For billing purposes, the billing system communicates directly with the metering system, not the Portal. In other words, bills are not generated based off of the usage information displayed in the Member Service Portal. Under normal circumstances, usage information in the Portal will match what a member sees on their bill. However, given the circumstances described below, daily and hourly usage information in the Portal may be incomplete. It is important to note that these issues affected only the display of information within the Portal for certain members and had no effect on the calculation of electric bills.

Prior to March 2nd, the Portal was requesting updates from our metering system before it finished collecting the readings each day. In this case, members whose readings had not been completed for the day were seeing an estimated usage in the Portal. Other members whose reading information had been collected for the day were unaffected. When the same process ran the following day to update the Portal, the update process looked back 24 hours and collected usage information that it missed the prior day. The Portal was then updated, replacing the estimated usage with actual usage information. This timing issue was discovered and corrected on March 2nd.

The second concern relates to members not seeing hourly usage information on specific days. The cause was a loss of communications to the metering system in our Scurry substation from February 19 through February 23. This issue affected the display of usage information for approximately 3,900 meters. As a result, hourly usage information was partially available on the 19th and 23rd, and unavailable from the 20th through the 22nd. Daily usage information displayed within the Portal was estimated for each of the days from the 19th through the 23rd. Communications were reestablished on the 23rd and hourly readings began coming in at noon. Full daily and hourly usage information was available again beginning on the 24th. Please be assured that only the information displayed within the Portal was affected.

We sincerely apologize for the resulting confusion that these issues may have caused. Again, only the display of usage information in the online Member Service Portal was affected. The meters continued to register kilowatt-hour consumption and billing processes were unaffected.

If you have any questions regarding the information above or have any other questions regarding your account, please call our Member Services Department at 1.800.766.9576.

Continuing to Assist Members

We continue to be sensitive to the concerns of our members. Over the past two weeks we have been reviewing our billing, engineering and meter reading data and all indicators continue to show that the increased usage is a result of cold weather.

TVEC representatives are continuing to assist members by providing payment arrangement options and free home energy audits. If we can be of service to you, please contact our member services department at 1.800.766.9576.

High Bill Matters Addressed

We have received a number of comments from members, regarding high bills.

We understand the frustration of receiving an unexpectedly high bill. We all pay monthly electric bills just as you do and many TVEC employees are also co-op members.

TVEC has not had a rate increase since January 2008. Kilowatt hour usage may vary from month to month due to changing weather patterns and individual usage.

The most recent bills have been higher than the prior month due to colder temperatures. Comparing usage from the same period of the previous year will likely reveal similar usage.

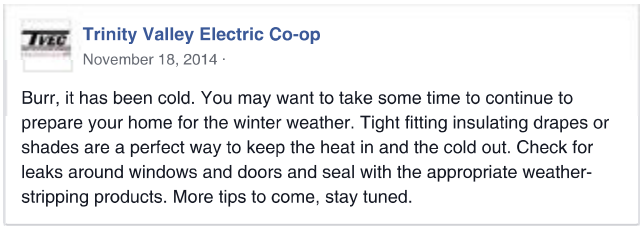
The Power Cost Recovery Factor (PCRF) is how we adjust for the fluctuating cost of wholesale power. PCRF for the two most recent billing periods was a positive one cent per kilowatt hour to recover the wholesale power cost billed to the cooperative.

In order to help you better manage your energy usage, we offer a number of services, including a free home energy audit and payment assistance options. If you would like to discuss these service options or review your bill with us, please call our Member Service Department at 1-800-766-9576. To ensure privacy, we cannot discuss details of any member's individual billing on social media.

Record-Setting Winter Translates to Higher Energy Usage and Bills

According to the National Weather Service, the winter of 2013 ranked No. 1 on record locally for the most freezes in a season through December 31 with 24 days below the freezing mark. December was ranked as the 12th coldest on record with an average low temperature of 32.3 degrees. December was also ranked fourth on record for the most freezes with 19 days below the freezing mark. Heating systems have no doubt been working overtime to keep our homes warm. That translates to higher usage and, in turn, higher bills. And with many more days of winter remaining, TVEC is continuing to encourage members to look for ways to control their energy usage. Members with advanced meters can view their usage and see exactly how it correlates with the temperature. The feature can be found on our website by clicking the Manage My Account button and then the My Usage tab.

For tips on saving energy, visit togetherwesave.com. Members can also take advantage of free, in-home energy audits from TVEC. To set up an energy audit at your home, please call member services at 1-800-766-9576.



Trinity Valley Electric Co-op
November 18, 2014 ·

Burr, it has been cold. You may want to take some time to continue to prepare your home for the winter weather. Tight fitting insulating drapes or shades are a perfect way to keep the heat in and the cold out. Check for leaks around windows and doors and seal with the appropriate weather-stripping products. More tips to come, stay tuned.

Appendix I:
Board Election & Annual Meeting Notice

TVEC ANNUAL MEMBERSHIP MEETING
OCTOBER 30, 2014
REGISTRATION @ 6 PM
THE CAIN CENTER - ATHENS, TEXAS

Watch for the official notice and ballot for director elections in the October issue of Texas Co-op Power. YOUR VOTE IS IMPORTANT. And you could win a $500 bill credit just by casting your vote.

OFFICIAL NOTICE

Trinity Valley Electric Cooperative

ANNUAL MEMBERSHIP MEETING

Thursday, October 30, 2014

Cain Center • Athens, Texas

Registration and Food • 6 p.m.

Business Meeting • 7 p.m.

Prize Drawings • 8 p.m.

Jo Ann Hanstrom, Secretary

Vote in this year's director elections and you could win one of four $500 electric bill credits.

Winners will be selected from ballots that are received by 5 p.m. on Tuesday, October 28, 2014, at the Bolinger, Segars, Gilbert & Moss, L.L.P. office. Four winners will be selected.

OFFICIAL BALLOT ON INSIDE COVER

VOTING PROCESS FOR 2014 ELECTION

This year's board election is conducted by mail-in ballot only. The cooperative's auditing firm, Bolinger, Segars, Gilbert & Moss, L.L.P., will conduct the tabulation of ballots and present the final election results at the annual meeting. No ballots will be accepted the day of the annual meeting or at any TVEC office. The official 2014 Director Election Ballot is included below. A postage-paid return envelope addressed to the Cooperative's auditing firm is included inside of this magazine.

According to the cooperative's bylaws, you must be a member as of August 31, 2014, to vote. You may vote for all districts, regardless of the district you reside in, and you may only vote for one candidate in each district. To cast your vote for a listed candidate, place an "X" in the box before the candidate's name. If you wish to vote for a write-in nominee, write his or her name in the blank space provided and place an "X" in the box before the name. Write-in nominees must meet the qualifications for a director as set forth in the cooperative's bylaws.

Be sure to mark your ballot exactly as instructed. If not marked correctly, the ballot will be invalid. After marking your ballot, sign your name (member name) in the space provided, and place the ballot in the return envelope. Mail-in ballots must be received by 5 p.m., Tuesday, October 28, 2014.

If your ballot is received by 5 p.m. on Tuesday, October 28, 2014, you will be eligible for a drawing to receive a $500 bill credit. Four winners will be selected.

CAST YOUR VOTE

Your vote is important. Your vote is the determining factor in meeting a required quorum at the annual meeting. Meeting the quorum is necessary for the co-op to conduct its business. So please take the time to check your ballot and vote.

1) **Mark your ballot** by placing an "X" in the appropriate box(es).

2) **Remember**, you may vote for all districts, regardless of the district you reside in, and you may only vote for one candidate in each district.

3) **Sign your ballot** in the space provided. Your signature is an essential part of the election validation process.

4) **Place your ballot** in the enclosed business-reply postage-paid envelope.

5) **Ballots** must be received at the offices of Bolinger, Segars, Gilbert & Moss, L.L.P., by 5 p.m. Tuesday, October 28, 2014, to be valid.

OFFICIAL 2014 DIRECTOR ELECTION BALLOT

Vote for a nominee in each district. Mark the box before the nominee's name with an "X." To vote for a write-in candidate, write the candidate's name in the space provided and mark the box before the candidate's name with an "X." You may vote for all districts, regardless of the district you reside in, and you may only vote for one candidate in each district.

Ballot must be received at the **offices of Bolinger, Segars, Gilbert & Moss, L.L.P. by 5 p.m. Tuesday, October 28, 2014, to be valid.**

District 1	District 4	District 5
☐ Carolyn Minor	☐ Jo Ann Hanstrom	☐ Ed Reeve
☐ _____ WRITE-IN	☐ _____ WRITE-IN	☐ _____ WRITE-IN

Member Account Number or Address _____

Print Full Member Name _____

Member Signature Required _____

Ballot must be signed to be valid.

NOMINATING COMMITTEE REPORT

In accordance with the bylaws of Trinity Valley Electric Cooperative, Inc., the nominating committee, duly appointed by the board of directors of the cooperative, met at the cooperative's Athens office on Tuesday, August 26, 2014.

The nominating committee consisted of Marvin Holcomb, Chuck Cade, Foy Kirkland, Maxie Turner, David Cadden, Ben Childress, James McGehee, Jennifer Burns, Ralph Fortner, Dave Bigley, Dorene Watts and Ken Roberts. The nominating committee nominated three (3) candidates for director of Trinity Valley Electric Cooperative, Inc., to be voted on at the annual meeting.

The nominating committee submitted the following names as candidates for the board of directors.

District 1	District 4	District 5
Carolyn Minor	**Jo Ann Hanstrom**	**Ed Reeve**

Candidates for Board Election

DISTRICT 1 • INCUMBENT: CAROLYN MINOR

Carolyn Minor, a resident of Wills Point and retired postal worker. She volunteers for the American Cancer Society, visits the nursing home and serves on her church board of stewardship. She is also a member of Extension Education and a local crimewatch leader, both for 25 years.

"I consider it a privilege to serve as a TVEC Board Member with the knowledge that I have obtained over the last 18 years." said Minor.

Minor is a widowed mother of five children, 12 grandchildren and six great-grandchildren.

DISTRICT 4 • INCUMBENT: JO ANN HANSTROM

Jo Ann Hanstrom has lived in the Cedar Creek Lake area for over 20 years. She has been the president of the Cedar Creek Lake Area Chamber of Commerce for the past 14 years. She has served on several committees through various organizations both past and present, including the Mabank ISD Education Foundation and Better Business Bureau. She also contributes to several local charities.

Hanstrom wants to continue to serve the membership of TVEC through the TVEC Board of Directors and the TVEC Charitable Foundation.

Hanstrom resides in Tool with her husband, Bill. They have two sons and two grandchildren.

DISTRICT 5 • INCUMBENT: ED REEVE

Ed Reeve has resided in the Eustace area for most of his life. He is a past city council member and mayor pro-tem for Eustace. He has been the finance chair for the First Baptist Church, a volunteer fireman, president of Lighting Engineer of North Texas, has served on the park board and is a past Boy Scout Master. He is currently the vicechairman of the Lone Star Credit Union. He has also held several positions in the electric and gas service industry.

"I believe my work experience, time dedicated as a co-op member and many years of experience on co-op boards will bring value to TVEC," said Reeve.

Reeve has two sons and four grandchildren.

DIRECTIONS

Annual Meeting Location
Cain Center
915 S. Palestine St. (Highway 19 S)
Athens, TX

From Highway 31 East or West go to the courthouse square in downtown Athens. Take Highway 19 South. The Cain Center entrance will be on the left, approximately 300 yards from the red light at Highway 59 (approximately 1.3 miles from the square).

From Highway 175 go to the courthouse square in downtown Athens. Take Highway 19 South. The Cain Center entrance will be on the left, approximately 300 yards from the red light at Highway 59 (approximately 1.3 miles from the square).

From Highway 19 South (Palestine) continue on toward downtown Athens. Approximately 1.3 miles from the loop, look for the entrance to The Cain Center on your right.

From Highway 19 North (from Canton) continue on Highway 19 South from the courthouse square in downtown Athens. The Cain Center entrance will be on the left, approximately 300 yards from the red light at Highway 59 (approximately 1.3 miles from the square).

PROGRAM

Thursday
October 30, 2014

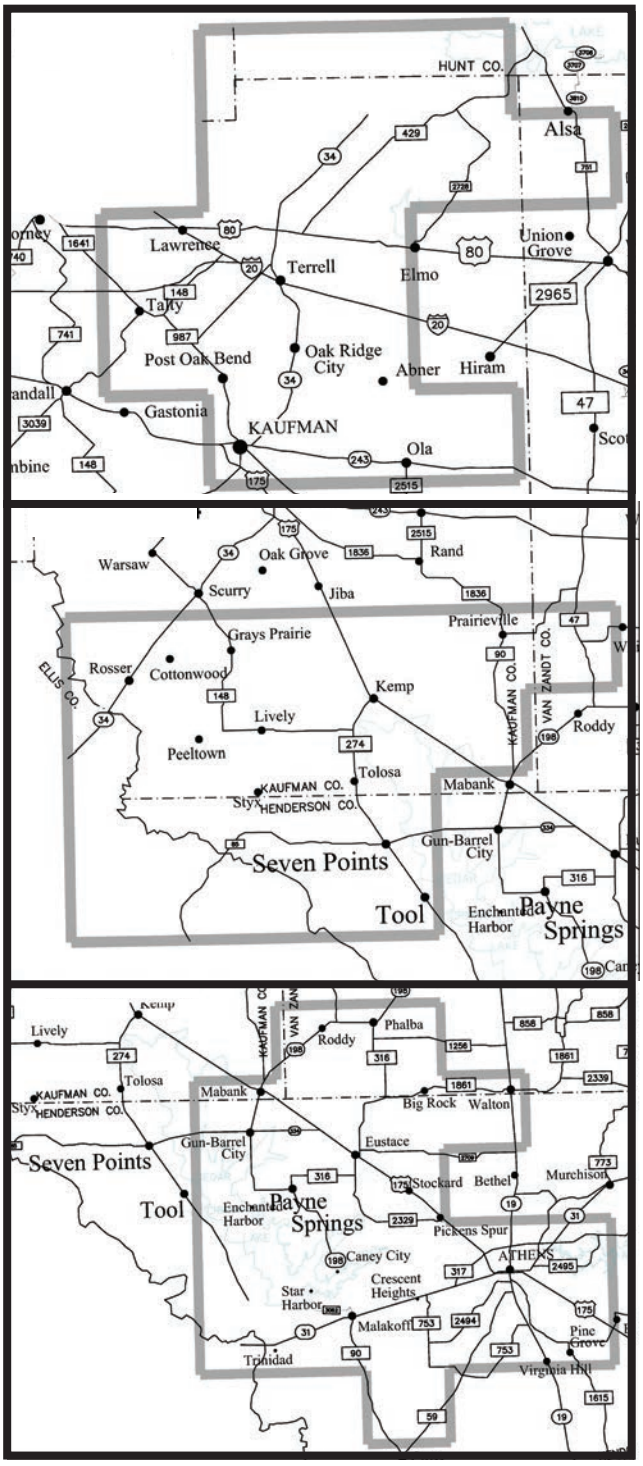
- **Welcome**
- **Invocation**
- **Posting of Colors and Pledge of Allegiance**
- **Determination of a Required Quorum**
- **Reading of Notice of Annual Meeting**
- **Call to Order**
- **Reading of Unapproved Minutes**
- **General Manager/CEO Report**
- **Report of Nominating Committee**
- **Election Results**
- **Unfinished Business**
- **New Business**
- **Adjournment/Drawing of Door Prizes**

Vote in this year's director elections and you could win one of four $500 electric bill credits.

OFFICIAL BALLOT ON INSIDE FRONT COVER

Notice of Board Election

Board Districts 1, 4 and 5 of Trinity Valley Electric Cooperative will be up for election at the annual meeting to be held in October. As a member, if you are interested in having your name placed before the Nominating Committee to represent District 1, 4 or 5 as a director, you must complete a nomination form, which will include the qualifications to be a director. You may contact Laura Melton at (972) 932-2214 ext. 2231, for information on how to obtain a nomination form. All completed nomination forms must be received at the cooperative's headquarters office in Kaufman by July 1, 2014.



DISTRICT 1

INCUMBENT: CAROLYN MINOR

DISTRICT 4

INCUMBENT: JO ANN HANSTROM

DISTRICT 5

INCUMBENT: ED REEVE

Keeping You Informed

MESSAGE FROM GENERAL MANAGER/CEO JERRY BOZE

Have you ever opened your mailbox and wondered, "Why am I getting this magazine?"

The answer is: because you are a member of Trinity Valley Electric Cooperative.

Texas Co-op Power is provided as a benefit of membership to those 1.3 million households and businesses that get electricity from one of the 60 subscribing co-ops across the state of Texas. In the center of the magazine is what we refer to as "local pages." These pages allow TVEC to communicate pertinent information related to your cooperative. These pages, which are unique to the edition published for TVEC, also give us an opportunity to share information on electrical safety, energy efficiency, and community news and events. This fits with two of the principles this cooperative was founded on: Concern for Community; and Education, Training and Information.

This year's October edition will contain the Official Notice of the TVEC Annual Meeting, along with ballots to elect the TVEC Board of Directors. We hope you will take the time to carefully read the information relating to your annual meeting and participate in the director election process.

Texas Co-op Power has received numerous awards for it's editorials, illustrations and photography. TVEC is proud to provide this award winning magazine, and we hope you look forward to receiving it each month.

•SAVE THE DATE•

TVEC ANNUAL MEMBERSHIP MEETING

OCTOBER 30, 2014

REGISTRATION @ 6 P.M.

THE CAIN CENTER - ATHENS, TEXAS

WATCH FOR THE OFFICIAL NOTICE AND BALLOT FOR DIRECTOR ELECTIONS IN THE OCTOBER ISSUE OF TEXAS CO-OP POWER.

★ ★ ★ ★ ★ ★ ★

This nation will remain the land of the free only so long as it is the home of the brave.

—Elmer Davis

★ ★ ★ ★ ★ ★ ★

TVEC

will be closed on July 4, 2014 to celebrate

Independence Day

As always, crews will be on standby for outages and emergencies.

★ ★ ★ ★ ★ ★ ★

WATCH FOR THE OFFICIAL NOTICE AND BALLOT FOR DIRECTOR ELECTIONS IN THE OCTOBER ISSUE OF TEXAS CO-OP POWER.

TVEC ANNUAL MEMBERSHIP MEETING
OCTOBER 30, 2014
REGISTRATION @ 6 P.M.
THE CAIN CENTER - ATHENS, TEXAS

Grants Awarded by Charitable Foundation

The TVEC Charitable Foundation recently awarded the following grants:

Care & Share Food Pantry—$3,000
This food pantry has been operating since 1980 in the Gun Barrel City area. They served approximately 1,000 individuals in 2013. The ministry is supported by four churches including the First Baptist Church of Gun Barrel City, St. Peter's Lutheran Church of Gun Barrel City, Payne Springs Baptist Church and Payne Springs United Methodist Church.

Friends of the Carnegie Public Library—$2,500
The friends of the library supports a summer reading program for children up to 17 years old. The program runs from mid-June through mid-August.

Humane Society of Cedar Creek Lake—$3,500
The humane society promotes humane treatment of animals through care, education and advocacy. It provides shelter, food, medical treatment and care to every animal brought to the facility. It rescues and cares for more than 3,500 animals each year.

Modoc Cemetery Association—$500
Maintains upkeep of the cemetery grounds located south of Athens on Highway 19.

The TVEC Charitable Foundation is funded entirely by donations from members who participate in Operation Round Up.

For more information, please visit tvec.net.

LAURA MELTON

▲ TVEC Key Accounts Representative Dustin Tallant, 2nd from left, presents a grant check for $2,500 to representatives from the Friends of the Carnegie Public Library in Terrell. Pictured from left are Kristi Self, Tallant, Rebecca Murphey, Becky Sullivan and John Davidson.

LAURA MELTON

▲ TVEC Manager of Public Relations Bobbi Byford, left, presents a check to Colleen Tapia and Donny Shubert of the Humane Society of Cedar Creek Lake.

Preparation Under Way for the 2014 Annual Membership Meeting

As we near the end of summer and ease into the more relenting temperatures of fall, here at TVEC we are preparing for this year's annual meeting. In fact, we've been planning the meeting for some time now and we hope you will plan to join us. It will be held at the Cain Center in Athens, on October 30, with registration beginning at 6 p.m.

The annual meeting is an opportunity for us to meet face-to-face with our members, to let them know how their co-op is performing and give them an idea of what is in store for the next year. It is also when we will announce the election results for our board of directors.

▲ General Manager/CEO Jerry Boze addresses members at the 2013 Annual Membership Meeting with his opening remarks.

Ballots for the board election will be found in your October issue of Texas Co-op Power. You should receive the issue around the first of the month. Your vote is your voice in how the co-op is managed and you have this say because of Cooperative principle No. 2: Democratic Member Control. Cooperatives like TVEC are democratic organizations controlled by their members. As a member, you have the ability to elect directors from among the membership. And those directors are accountable to you. This is one of many ways the cooperative form of business is different from for-profit corporations.

Your vote is also the determining factor in meeting a required quorum for the annual meeting. In essence, the co-op depends on your vote so it can carry on its business. So please take the time to check your ballot and vote.

As an added bonus for participating in the election process, we will draw four ballots and award $500 bill credits to each of those members.

We always look forward to the annual meeting at TVEC and we hope you will make plans to join us this year.

WATCH FOR THE OFFICIAL NOTICE AND BALLOT FOR DIRECTOR ELECTIONS IN THE OCTOBER ISSUE OF TEXAS CO-OP POWER.

TVEC ANNUAL MEMBERSHIP MEETING
OCTOBER 30, 2014
REGISTRATION @ 6 P.M.
THE CAIN CENTER - ATHENS, TEXAS

Your Cooperative, Your Meeting

MESSAGE FROM

GENERAL MANAGER/CEO JERRY BOZE

The time is here for this year's annual membership meeting. Though we communicate with the membership throughout the year via Texas Co-op Power, tvec.net, Facebook and other means, this meeting provides your board of directors and employees the opportunity to greet and meet those folks who we work for and represent.

For over 75 years the cooperative has provided electric service to its members. The principles that electric cooperatives were founded on still exist today. The board of directors, management and employees use those same principles to run the day-to-day affairs of your cooperative.

We're all in this together. As a member-owner, you have a voice when it comes to the way we do business. You have the ability to elect the board of directors who play a key role in making important decisions for your cooperative, which is why members' voices must be heard.

The purpose of an annual meeting is to conduct any business that needs to come before the membership, such as the election of directors, and to provide reports and updates regarding the operations of the cooperative.

We want your annual meeting experience to be both enjoyable and entertaining. In the past couple of years, prior to the official opening of the business portion of the meeting, we have shown vintage videos of the Grand Ole Opry. We have received many positive comments about these videos and plan to show some new ones this year. Just as last year, food and drink will be ready for you when registration opens at 6 p.m. We will end the evening with the drawing of door prizes.

As an electric cooperative member, you are part of a very special group, a group rich in history and prepared for the future.

I hope you are able to attend this year's meeting, and as the long-running TV and radio commercial says, "We'll leave the light on for you."

Yours Truly,
Jerry Boze
CEO/General Manager

▲ General Manager/CEO Jerry Boze addresses members at the 2013 Annual Membership Meeting with his opening remarks.

Vote in this year's director elections and you could win one of four $500 electric bill credits.

Winners will be selected from ballots that are received by 5 p.m. on Tuesday, October 28, 2014, at the Bolinger, Segars, Gilbert & Moss, L.L.P. office. Four winners will be selected.

OFFICIAL BALLOT ON INSIDE FRONT COVER

Appendix J:
Cooperative Energy Efficiency Efforts

MOU/CO-OP Energy Efficiency Programs Reporting Form

For: Electric Cooperatives that had retail sales of more than 500,000 megawatt hours in 2005, and Municipally-Owned Utilities

Form# 50-814

Energy Systems Laboratory

SECO State Energy Conservation Office

This form is intended to partially fulfill the reporting requirement. Please provide all the information requested below.

Purpose of this document: *As mandated by the 82nd Legislature (2011), beginning April 1, 2012, all electric cooperatives that had retail sales of more than 500,000 megawatt hours in 2005 and all municipally owned utilities must report each year to the State Energy Conservation Office (SECO), on a standardized form developed by SECO, information regarding the combined effects of the energy efficiency activities of the electric cooperative/utility from the previous calendar year, including the annual goals, programs enacted to achieve those goals, and any achieved energy demand or savings goals. [Sections 39.9051 and Section 39.9052 of the Utilities Code].*

Data for a consecutive 12-month period. *Beginning:* 1-1-2014 *Ending:* 12-31-2014

Trinity Valley Electric Cooperative
MOU/Co-op

Bobbi Byford, Manager of Public Relations
Contact Person (Name & Title)

1800 Highway 243 East, Kaufman, Texas 75142
Address

469-261-9876
Phone

bobbi@tvec.coop
Email

Please attach a copy of the detailed report containing the below information.

Energy Efficiency Program	Estimated Electric Peak Demand Savings (kW)	Estimated Electricity Use Savings (kWh)	Estimated Natural Gas Increase From Fuel Switching – If Applicable *Specify Units:* ☐CCF ☐MCF ☐Therms	Other Program Performance Metric
Res./Comm. Energy Audits 106 in 2014				
Energy Management Presentations:				
Tennessee Colony Community Meeting				
Internal Employee Energy Mgmt. Training				
Agri-Life Child Care Conference-2 times per yr.				
Master Wellness Volunteer - 1 time per yr.				
Kaufman Co. Leadership Adv. Bd. - 1 time yr.				
Senior Citizens Groups - 1 time per yr. in				
Kaufman, Forney and Terrell				
Athens Rotary				
Keep Athens Beautiful Garden Show				
Athens Kiwanis				
Totals:				

Email completed forms to SECO at SB924.Reporting@cpa.state.tx.us

For more information on Senate Bill 924 Requirements visit: http://seco.cpa.state.tx.us/energy-reporting/utilities.php

Requirement 2:
Energy Efficiency Goals

Trinity Valley Electric Cooperative, Inc.

Kaufman, Texas

BOARD POLICY 403

ENERGY CONSERVATION

I. OBJECTIVE

To establish policy concerning use of energy by the Cooperative and its members, particularly in regard to effectiveness, efficiency, and conservation of energy. This objective is consistent with the utility responsibilities of a full-service cooperative and its prime concern for members needs.

II. POLICY

It shall be the policy of Trinity Valley Electric Cooperative to:

A. Constantly examine its own use of energy. This includes, but is not limited to, plant engineering design and construction, lighting and climate control and use of vehicles.

B. Develop and carry out a system-wide program of energy management including energy conservation, adequate home insulation and weatherization, efficient irrigation and other farm and business uses. Alternate energy sources will be appropriately considered.

C. Develop and carry out an information program so that the need for energy management is understood along with understanding of what each member can do to meet energy use needs most effectively.

D. Develop and carry out an information and education program with major groups involved in housing, including the building industry and local government organizations, to assure understanding and coordination in methods of energy management.

E. Develop training as appropriate for all employees.

III. RESPONSIBILITY

The General Manager/CEO shall have responsibility for the implementation of this policy.

Howard Tillison, Board Chairman

February 28, 2012
Date

Trinity Valley Electric Cooperative
FEB 2 8 2012
Approved
Board of Directors

Requirement 3:Energy Efficiency Programs

Trinity Valley Electric Cooperative does not track estimated energy savings for residential or commercial consumers. We offer to members estimated energy savings in percentages for various energy conservation improvements; however, we do not feel that it is realistic to associate a monetary value to those savings. There are too many factors that affect a members bill to determine how much of a reduced bill was due to energy savings versus other factors such as weather, wholesale power costs, reduced/increased power cost recovery factor, etc.

Requirement 4:
Program Materials/Additional Information

Website Information

www.tvec.net

A Touchstone Energy® Cooperative

Energy Management

Home Energy Audits

As a special service to our members, we offer free Home Energy Audits. Upon request, trained TVEC personnel will visit your home and offer advice on ways you can improve the management of your energy usage. If you are interested in this valuable service, call our Member Service Department toll-free at 800-766-9576 for an appointment. We will be happy to explain the details.

TogetherWeSave

The Department of Energy estimates that by 2035 residential demand for electricity will increase 24% above 2008 levels. We want to work with you to keep your electric bill affordable. Find out how you can save by visiting www.togetherwesave.com

You Have the Power

Download your copy of You Have The Power, a free guide to help lower your utility costs by using energy wisely. This guide will give you all the information you need to manage energy effectively in your home or business. Remember, doing all you can to effectively manage energy use will have a direct impact on your energy costs and quality of life. As a co-op member, that's the kind of power you have. Download your copy here.

Becoming Energy Wise

In this 13-minute video, consumers learn how to reduce their energy costs. The video demonstrates simple, effective improvements to make homes more energy efficient. Contact Bobbi Byford at (469) 376-2234 for more information.

Energy Tips

The following tips will help you make your home safer, more energy efficient and a more comfortable place to live. By following these simple tips, you can be health-wise and energy-conscious.

Co-op Connections® Card
TVEC
TRINITY VALLEY ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

MISSION STATEMENT: At Trinity Valley Electric Cooperative, we are committed to our member-owners to deliver safe and reliable electric power at a competitive price, with a strong emphasis on member service, community and sound business practices.

Set the thermostat from 76 degrees to 78 degrees in the summer months.
Set the thermostat from 68 degrees to 70 degrees in the winter months.
Use fans to circulate air to help stay comfortable.
Use curtains, drapes or blinds to help control the temperature inside your home.
Repair or replace broken or cracked windows.
Change or clean your heating/cooling unit filter once a month.
Run dishwasher and washing machine only when they are fully loaded.
Insulate hot water pipes and ducts wherever they run in unheated areas.
Replace older, inefficient appliances with new energy-efficient models.

Weatherizing

Put a draft stopper along cracks, beneath doors and windows.
Place movable insulation in windows to block heat gain during the summer and keep heat indoors during the winter.
Use caulk and weather stripping around doors and windows to prevent air leakage.
Install inexpensive gaskets around light switches and electrical outlets to seal against air leaks.

Water Heating

Check your water heater thermostat setting. If the thermostat is set between 140 degrees and 160 degrees, or "high", you can reduce the setting to between 110 degrees and 120 degrees, or "medium", and save at least $20 a year with an electric water heater or $10 a year with a gas water heater. The lower thermostat setting can also prevent scalding.
Look for and repair leaky faucets.
Replace your showerhead with a low-flow showerhead. This can reduce the flow of water from 8 gallons to 3 gallons per minute, and save up to 4,000 gallons of water a year.
Run your dishwasher and washing machine only when they are fully loaded.
Save even more hot water by using a cold water laundry detergent so you can wash and rinse with cold water. Normally, only very greasy clothes need to be washed in warm or hot water.

Lighting

Replace two bulbs with one bulb that produces a similar amount of light. For instance, you could replace 60-watt bulbs with one 100-watt bulb. However, be sure that the fixture is rated to use the higher wattage bulb.
Change to fluorescent lamps wherever possible by replacing the entire fixture or by changing from incandescent to compact, fluorescent bulbs. The initial cost of a compact, fluorescent bulb is more than an incandescent bulb, but it can last up to 12 times longer and produce less heat, which will reduce the load on your air conditioner.

Cooking

Cook several foods at one time when using your oven. Prepare dishes that can be stored or frozen for later use.
Bake food in glass pans. Glass pans allow you to reduce the oven temperature by 25 degrees.
Use small cooking appliances, such as deep fryers, electric skillets, toaster ovens, microwave ovens and pressure cookers. These appliances use less energy than your range or oven.
Match the size of the pan to the heating element when cooking on the stove. More heat will get to the pan and less will be lost to the surrounding air.
Place lids on pots when cooking to retain the heat. This will help your food cook faster and keep vitamins from going up in steam.

USING ENERGY WISELY.

Energy efficiency is everyone's responsibility, but that doesn't mean it's a lot of work. That's because when we work together, using energy wisely and saving money go hand in hand. And with helpful energy efficient tools and resources from your electric co-op, doing both is easier than you think.

Click this video to see how we should all use energy wisely.

SAVING AT HOME

Find out how much you can save by taking the Energy Savings Home Tour now.

WATCH & LEARN

See helpful videos teaching homeowners about using energy wisely.

ENERGY BLOG

Find information on heating and cooling, lighting, new technologies and more.

TIP OF THE DAY

See a new tip every day to help you save money and energy at home.

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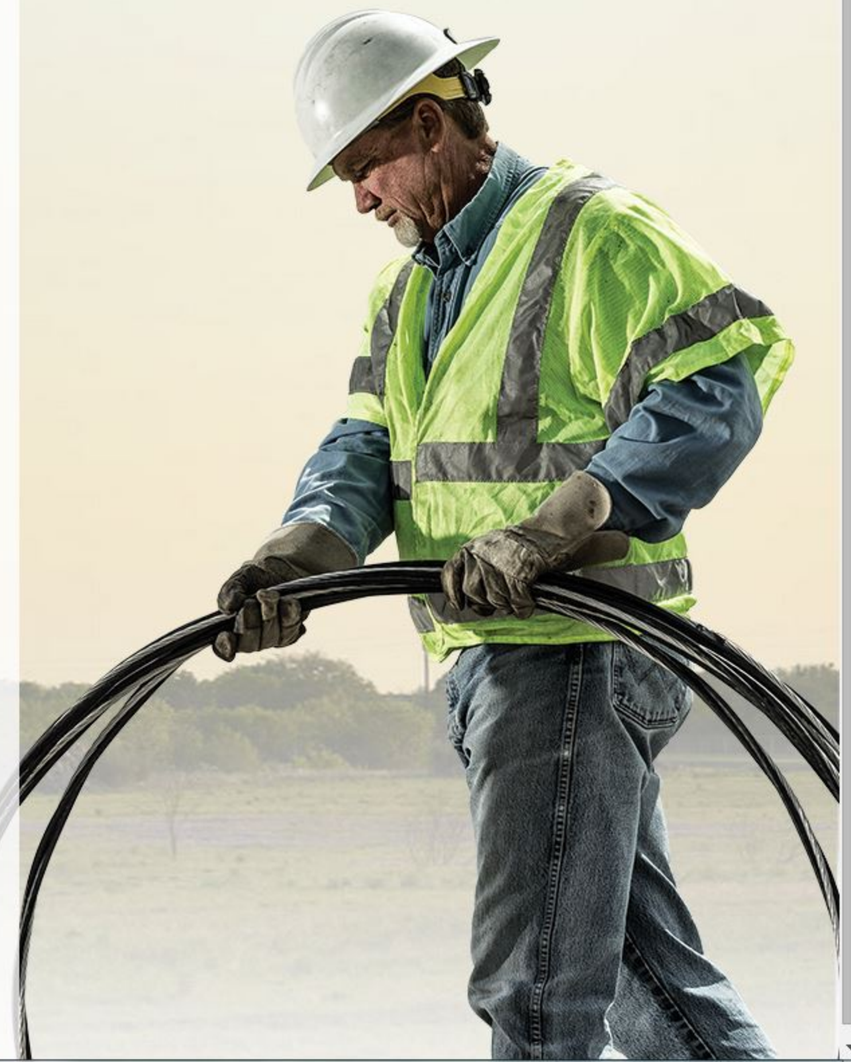

TAKE THE ENERGY SAVINGS HOME TOUR:

Flipping a switch. Changing the air filter. Unplugging electronics. Making small changes and using energy wisely can help you save energy and money, and the interactive home tour will show you how.

Find out how much you can save by taking the ENERGY SAVINGS HOME TOUR now.

TOGETHERWESAVE.COM APP
Discover easy ways to save energy and money in your home.

HOME EFFICIENCY ANALYSIS TOOL
Find projects that make your home energy efficient while saving money.

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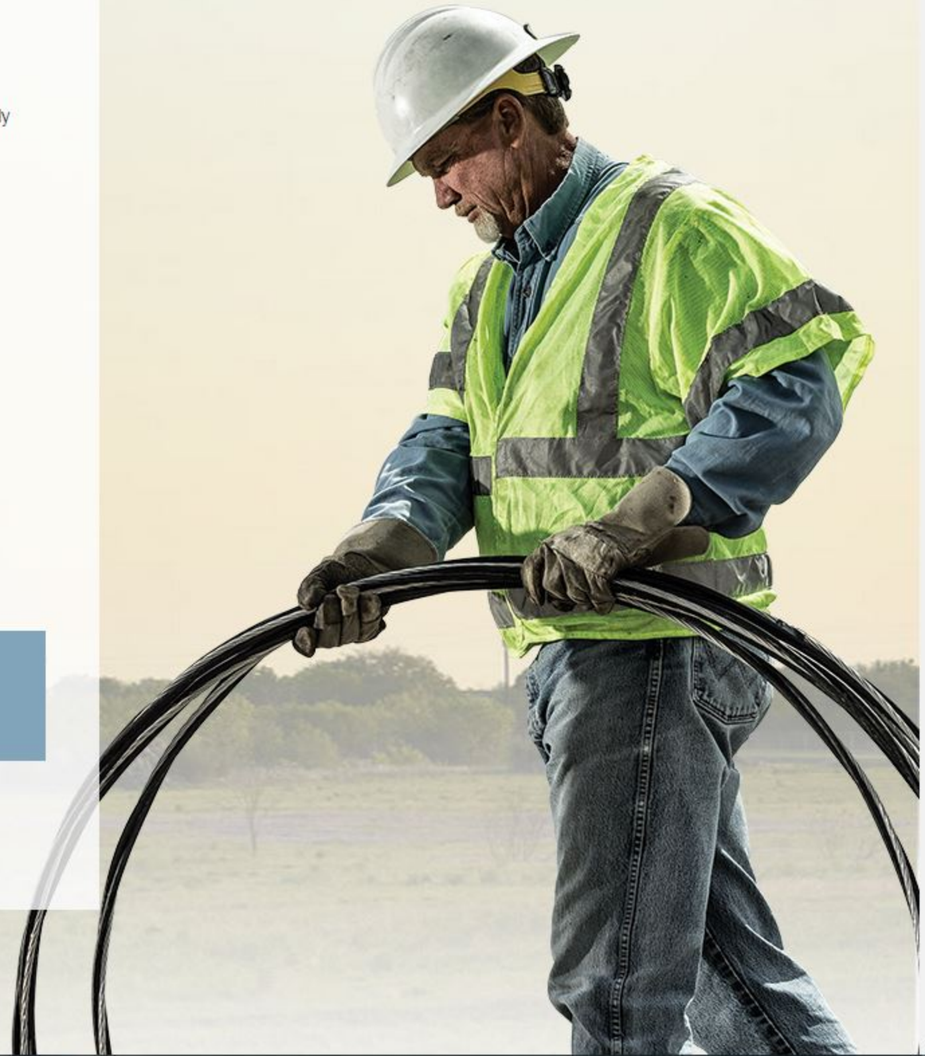


WATCH ENERGY SAVING VIDEOS.

See helpful videos teaching homeowners about using energy wisely.

MORE VIDEOS

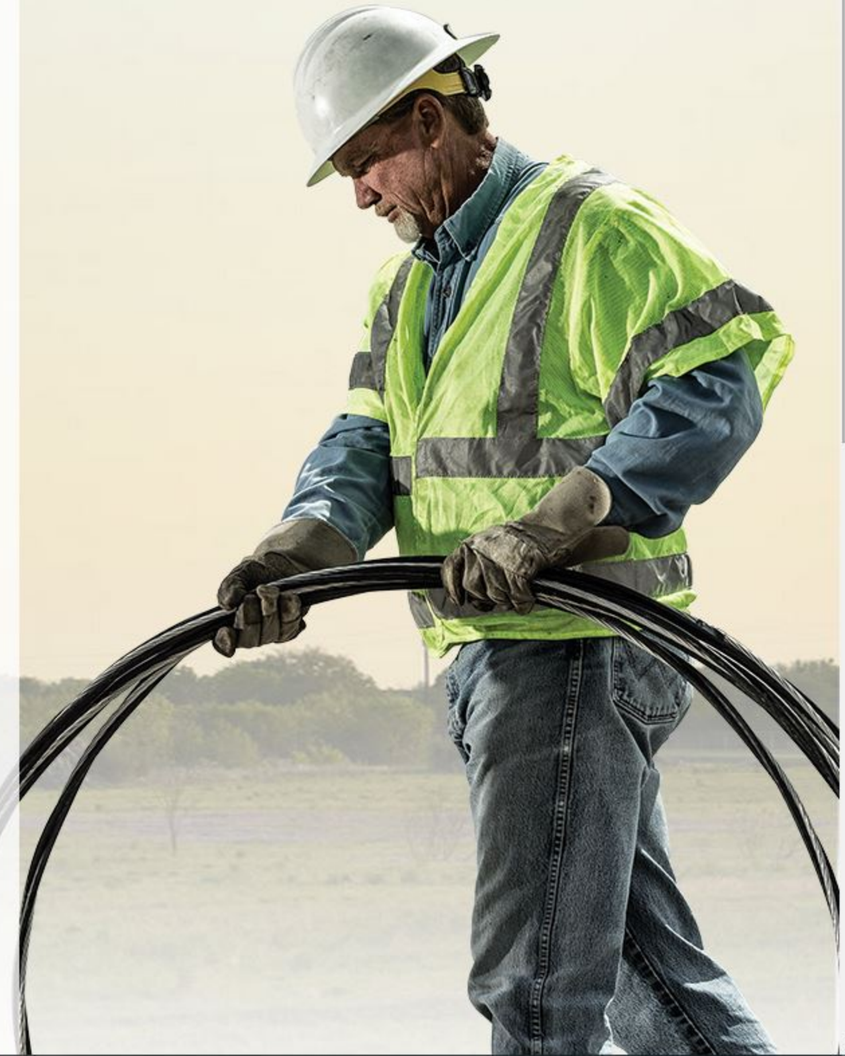
All Videos

Using an Energy Recovery Ventilator

Dishwasher Tips

Clean Your Refrigerator's Coils

Check Your Refrigerator's Seals



March 24, 2015

TIP OF THE MONTH: LAUNDRY

Did you know that 90 percent of the energy used to operate a washing machine comes from using hot water? A simple switch from hot to cold can save energy and money. Also, consider air drying or line drying to save even more on your energy bill. Source: U.S. Department of Energy. Water heating and

READ MORE »

December 31, 2014

START SAVING THIS WINTER

As national temperatures continue to drop, the demand to heat our homes and offices increases significantly. Save money this winter by making a few New Year's resolutions to save energy. 1) Door Seals: Cold air can enter into the house through open cracks and gaps from doors, windows and floors. Simple, weather stripping and foam seals will

READ MORE »

December 4, 2014

DECK THE HALLS WITH LIGHTS AND SAFETY

Fa la la la la…Yes, it is time for unraveling lights, stringing garland and flipping the switch with fingers crossed that all the bulbs work. Decorating season is here, and there is no better time to replace old products, review safety and save energy. There are many options for holiday decorations, especially when it comes

READ MORE »

November 3, 2014

A LIGHTING COMPARISON FOR THE

SEARCH

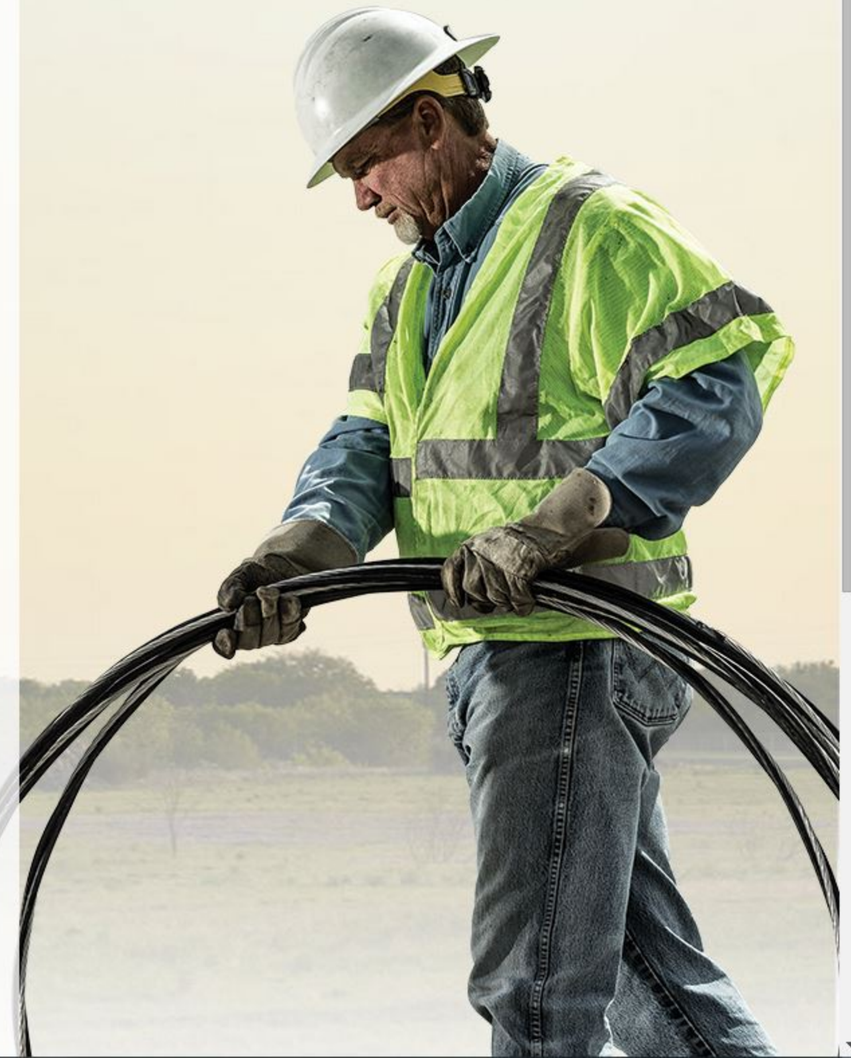
SEARCH

TIP OF THE DAY

Lower the blinds in the summer to keep the heat out.

CATEGORIES

- 12 Days of Holiday Savings
- Energy Information
- Energy Savings
- Energy Star
- Heating & Cooling
- Insulation
- Lighting
- Quick Tips
- Rebates
- Share Your Story
- Summer Safety and Savings
- Summer Savings
- Taxes



Newsletters

Payment Address Reminder:

Please remember to change your electronic bill payment address for your TVEC utility bill payment.

P.O. Box 1228
Kaufman, TX 75142

Win $25 Just for Reading

Somewhere, hidden between Pages 20-23, is a TVEC account number. Read closely. If the account number is yours, contact the Member Services Department by January 31, 2014, to receive a $25 credit on your electric bill. Don't miss out—you could be a winner.

TVEC
TRINITY VALLEY ELECTRIC COOPERATIVE
A Touchstone Energy® Cooperative

Operating in Anderson, Dallas, Henderson, Hunt, Kaufman and Van Zandt counties

BOARD OF DIRECTORS

Howard Tillison, Chairman, *District 6*
Carolyn Minor, Vice Chairwoman, *District 1*
Jo Ann Hanstrom, Secretary, *District 4*
Jerry Priest, *District 2*
Paul Weatherford, *District 3*
Edward Reeve, *District 5*
David Lang, *District 7*

GENERAL MANAGER/CEO

Jerry B. Boze

Kaufman District Headquarters
1800 E. Highway 243, Kaufman

Athens District Office
909 W. Larkin St., Athens

Cedar Creek District Office
1012 W. Main St., Ste. 102
Gun Barrel City

Wills Point District Office
582 N. Fourth St., Wills Point

Lobby Hours
Monday-Friday, 8:15 a.m.-4:45 p.m.

Contact Us

For information during office hours and outages after hours

CALL US
(972) 932-2214 local or
1-800-766-9576 toll-free

24-HOUR AUTOMATED ASSISTANCE
1-800-720-3584

24-HOUR OUTAGE REPORTING
1-800-967-9324

FIND US ON THE WEB AT
tvec.net

Using appliances such as a microwave oven can cut cooking time and save energy.

Cook Up Savings with

Kitchen Efficiency

BY JAMES DULLEY

Dear Jim: I'm updating my kitchen appliances. I am a bit of a chef, so I want efficient tools. What are the best appliances for cooks? Can you share a few energy-efficient cooking tips?—Barb R.

Dear Barb: If you're a frequent cook, you consume a lot of energy. The major energy user in the kitchen is the refrigerator. Odds are if you prepare a lot of food, you have a large refrigerator and open it often. Place commonly used items (milk, butter, etc.) near the front of your fridge. Keep the fridge fairly full; use water jugs if needed.

In addition to selecting efficient kitchen appliances, there are simple tips to cut energy use. Keep in mind that cooking tips change from winter to summer.

During winter, the heat and humidity from cooking help warm your house and reduce the heating load on your furnace or heat pump. During summer, this same heat makes your air conditioner run more, increasing electric bills.

When installing kitchen appliances, locate them properly. The range and oven should not be directly next to the refrigerator. Their heat will make the refrigerator compressor run longer. Also, don't put the range or oven under a window; a breeze can carry away heat before it gets into your pots and pans.

When it comes to ovens, electric is preferred by most professionals. It holds more even heat than gas for baking. Another advantage, especially during summer, is that electric does not introduce extra moisture into your house. Extra moisture means more work (and energy use) for your air conditioner. When gas or propane burns, the basic products of combustion are water and carbon dioxide.

Want great energy savings in the kitchen? Use small countertop appliances when possible instead of an oven or stovetop. For example, a toaster oven, especially one with a convection option, uses significantly less electricity than large oven elements.

Microwave ovens are still the most efficient appliance for cooking. They run on lower wattage and offer shorter cook times. However, if you are cooking larger quantities of food, a large oven remains the best choice. Plan your baking to make several recipes simultaneously or consecutively while the oven is hot.

AMANA

WARNING:

Don't Bake All Bulbs

Oven lights are handy. Curious if a casserole's ready? Flip the switch. There's no need to open the oven and release heat. But be careful when replacing this little light. Never put a bulb in the oven that's not built for high heat.

Compact fluorescent lamps use less energy than classic incandescent bulbs, but they're not safe in extreme temperatures. Most lighting labels designate safe temperatures, but warnings may be in fine print.

NEED TO REPLACE YOUR OVEN LIGHT? Look for appliance lightbulbs. These bulbs are designed for extreme temperatures in ovens and refrigerators. The hardy bulbs are here to stay; 40-watt appliance bulbs are exempt from federal lighting efficiency standards. 60143771001

EMPIRE ELECTRIC ASSOCIATION

CFL LIGHTBULBS ARE GREAT—BUT NOT FOR EVERY APPLICATION. A CO-OP MEMBER SCRAPED THIS MELTED CFL OFF THE SIDE OF HIS OVEN. THE CFL WASN'T DESIGNED FOR OVEN USE.

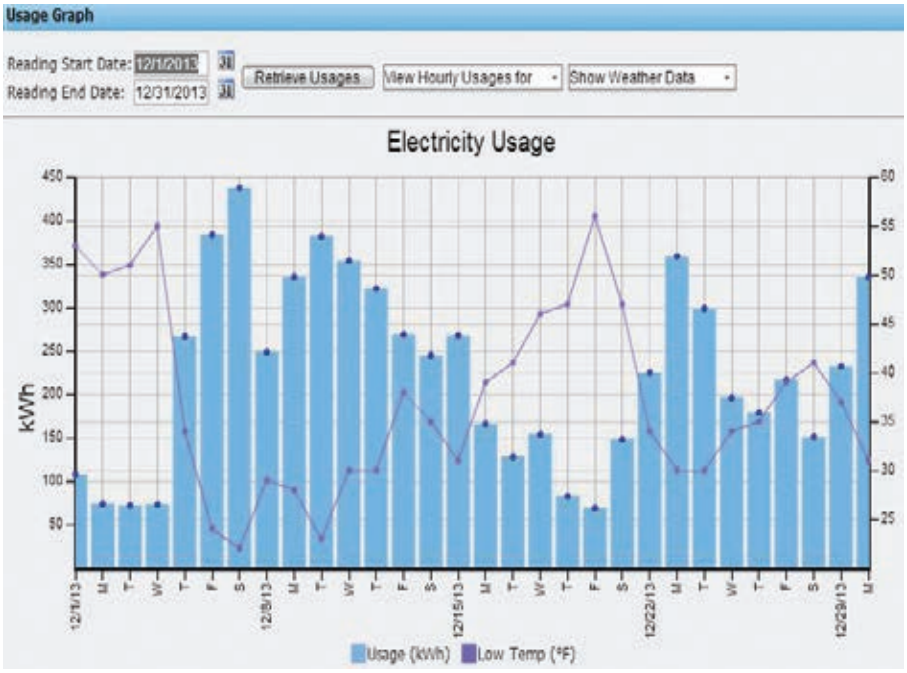
WHY WON'T CFLS WORK? Instead of heating a filament until white-hot to produce light like an incandescent bulb, a fluorescent lamp contains a gas that produces ultraviolet light when excited by electricity. The UV light and the white coating inside the bulb result in visible light. Because CFLs don't use heat to create light, they are 75 percent more energy efficient. But the technology that cuts energy use doesn't stand a chance in an oven's 400-plus degree heat.

Record-Setting Winter Translates to Higher Energy Usage and Bills

According to the National Weather Service, the winter of 2013 ranked No. 1 on record locally for the most freezes in a season through December 31 with 24 days below the freezing mark. December was ranked as the 12th coldest on record with an average low temperature of 32.3 degrees. December was also ranked fourth on record for the most freezes with 19 days below the freezing mark.

Heating systems have no doubt been working overtime to keep our homes warm. If you have an advanced meter you have a new tool at your disposal to help you understand the effect that weather is having on your electricity usage. The graph below was taken from the usage area of the Member Service Portal (available from the Manage My Accounts button on tvec.net). The graph depicts actual usage in December 2013. The graph indicates that when temperatures are in the 40- to 60-degree range, this member's usage ranges from 75 to 150 kilowatt-hours per day. In contrast, when the temperature drops below 40 degrees, usage ranges from 200 to 450 kilowatt-hours per day. These colder-than-normal temperatures have a direct effect on your usage, resulting in a higher-than-normal electric bill.

With more than 45 days of winter remaining, TVEC is continuing to encourage members to look for ways to control their energy usage. For tips on saving energy, visit togetherwesave.com. Members can also take advantage of free, in-home energy audits from TVEC. To set up an energy audit at your home, please call member services at 1-800-766-9576.



Win $25 Just for Reading

Somewhere, hidden between Pages 18-21, is a TVEC account number. Read closely. If the account number is yours, contact the Member Services Department by February 28, 2014, to receive a $25 credit on your electric bill. Don't miss out—you could be a winner.

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A Touchstone Energy® Cooperative

Operating in Anderson, Dallas, Henderson, Hunt, Kaufman and Van Zandt counties

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TV Boxes To Be Energy Smarter

Here's some little-known trivia about the box for your TV set that allows you to watch your favorite shows via cable or satellite: It's an energy hog.

Nationwide, set-top boxes, known as STBs, guzzle so much electricity that cable and satellite providers concede consumers could save a collective $1 billion-plus a year if manufacturers made the devices more energy efficient.

So the big-name industry players have reached a voluntary agreement with environmental advocates and government regulators to create STBs that are up to 45 percent more energy-efficient by 2017.

Verizon in January introduced a "light sleep" option on some of its FiOS boxes, and cable companies such as Comcast and Time Warner soon will send software changes to 10 million cable boxes already in homes to put them in a "light sleep" mode when they're not in use.

That move could cut the boxes' power use by up to 30 percent. Eventually, it will affect 90 million boxes and save enough power to run about 700,000 homes, according to the National Resources Defense Council.

The boxes waste energy because they run even when your TV is turned off.

Over the next few years, the companies will test "deep-sleep" devices to learn if that's an even more-efficient option.

Cable and satellite companies will soon make software changes to reduce standby energy consumption.

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Prepare for Summer Heat, Increase Energy Savings

BY B. DENISE HAWKINS

Adding a few items to your list of spring chores can help make your home more energy efficient and deliver electric bills that won't make you sweat when temperatures soar.

Start with Your Air Conditioner

Spring and early summer are good times to make sure that your air-conditioning unit is ready to work when you flip the switch.

► Have a professional inspect and service your unit. The service should include a thorough check of wiring and electronic and mechanical systems, lubrication of all moving parts and calibration of the thermostat.

► Give your air conditioner a do-it-yourself cleaning. Shut the unit off and clear away weeds, leaves and yard debris from the outside condenser. Inside the unit, clean or replace filters. Dirty filters can restrict airflow and reduce overall efficiency by making the air conditioner work harder on hot summer days. Dust the fan blades if you can do so safely. Make sure air can flow freely over the inside and outside coils. Vacuum registers to remove any dust buildup.

FUSE | THINKSTOCK

If your thermostat still looks like this, you should consider upgrading it to a programmable model to increase efficiency.

► When using window units, ensure that weatherstripping is in place. Placement should be between the middle of the top and bottom window panes.

Examine Your Roof

See how well your roof has weathered the winter. Few things can shorten the life of your home faster than a roof leak. Even a minor one can damage your attic insulation before you know it.

A roofing professional can assess the roof's condition and repair loose or missing shingles, plug leaks and clear gutters.

Make Your Electric Cooperative a Resource

The energy advisers at TVEC can help you determine the right steps for your home, including whether an energy audit will help find more savings. You can also visit TogetherWeSave.com to find out how little measures around the house can add up to big energy savings as temperatures outside climb.

Win $25 Just for Reading

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Switch the direction of your ceiling fan with the change of the seasons to improve airflow.

Ways To Be More Energy Wise

Make sure all exhaust fans in your home are working properly and are dust-free. Regularly wash or replace filters. Consider installing a timer switch on your bathroom fan so that it runs only as long as it is required.

Make sure you change the direction of airflow on your ceiling fan. In the winter, let the fan run clockwise to push warm air toward the floor. In summer, switch the direction to draw air upward, cooling the room and ensuring constant airflow.

In preparing for the summer, consider investing in some insulated, thermal-backed drapes for your windows. They'll help keep your home cool in summer and warm in winter.

Before buying an air-conditioning unit or system, find out its energy-efficiency ratio. Calculate the EER by dividing the unit's cooling capacity (Btu/hour) by its energy requirement (watts). An EER of 10 or more is very good, and 6 or 7 is fair. Remember to buy the smallest capacity unit or system that will meet your needs. 30047447001

Have you ever thought about installing an attic ventilator? An attic ventilating system draws cool air up through the house and can provide the same level of comfort as an air conditioner at a much lower cost. Pump in cool air during summer evenings then seal your home during the day. Attic ventilation can help lower winter heating bills, too.

Have a look at your foundation walls. If you have an unfinished basement or crawlspace, check for air leaks by looking for spiderwebs. If there's a web, there's a draft. A large amount of heat is also lost from an uninsulated basement.

Does your home have a sliding glass door? Make sure to keep its track clean. A dirty track can ruin the door's seal and create gaps where heat or cold air can escape.

When dust and pet hair build up on your refrigerator's condenser coils, the motor works harder and uses more electricity. As part of your cleaning routine, make sure the coils are cleaned and air can circulate freely.

Don't forget to check the seals on your refrigerator door to make sure they are clean and tight. Your refrigerator accounts for up to 11 percent of your household's total energy use, which can have a major effect on your energy bill.

If you're thinking about purchasing a new appliance, always look for the Energy Star label on new appliances. These products are more energy efficient and can help reduce your energy costs.

(C) GREAT KIICHEN/DOLLAR PHOTO CLUB

Win $25 Just for Reading

Somewhere, hidden between Pages 20-23, is a TVEC account number. Read closely. If the account number is yours, contact the Member Services Department by May 31, 2014, to receive a $25 credit on your electric bill. Don't miss out—you could be a winner.

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Grants Awarded by Charitable Foundation

The TVEC Charitable Foundation recently awarded the following grants:

Tool Community Food Pantry—$3,000
Provides food to seniors, individuals and families. The program also includes a monthly cooking class to help individuals achieve greater self-sufficiency.

Eustace Intermediate Backpack Program—$4,200
This program will provide backpacks that are complete with essential hygiene products for self-care that will help the children gain more self-esteem and confidence.

The TVEC Charitable Foundation is funded entirely by donations from members who participate in Operation Round Up. For more information, visit tvec.net.

LAURA MELTON

◄ TVEC Board Member Ed Reeve presents a grant check for $4,200 to Brett Powers, school counselor, left, and Marcy Warren, assistant principal.

Thank you!

For making the first year of Operation Round Up® at TVEC a success. The TVEC Charitable Foundation has donated to over 49 agencies and given out more than $247,000.

Don't Sweat Summer Bills

A few simple steps can help you lower your electric bills this summer:

► Keep blinds or shades closed. When open, the sun can really heat up a room. And, turn off the lights when not needed. They add heat just like sunlight does.

► Clothes dryers are energy intensive and produce heat. Try using a clothesline instead. Run only full loads in your clothes washer and wash with cold water.

► Look around and see where you think cool air might escape. Any door that can be closed should be closed. That leaves less living space to cool. 60152626001

► Consider doing exercise outside. The less movement you do inside, the less heat you produce.

► Set the A/C thermostat and leave it. Bring in cool morning air with a box fan in a window. Shut windows as the day warms up.

► If you have a central air system, keep the fan setting in the "on" position instead of "auto." It will circulate the air throughout your home and make it feel cooler.

► Leave the house for a trip outside or to the library, a store or the movies. When you do go, make sure everything is turned off and items that use standby power—such as electric coffee pots, TVs and computers—are unplugged.

► If it's cool at night, open the windows and turn the thermostat off. It feels so great to have a nice, cool breeze while sleeping.

PHOTOGRAPHEE.EU | DOLLAR PHOTO CLUB

TVEC Hosts Lineman Career Day

TVEC recently hosted two career day events in an effort to stave off a looming shortage of electrical lineman. Industrywide statistics show that roughly 40 percent of lineman jobs will need to be filled by 2015. To avoid costly vacancies in these key positions, the career days were part of a larger effort to identify, recruit and hire future linemen at TVEC.

About 100 students attended the two events—one held at the Athens office and one at the Kaufman Headquarters. The students were given the opportunity to see the day-to-day duties of a lineman. TVEC personnel went through a mockup of several of the most common repair jobs they perform, including patching a downed line and replacing a transformer.

All of the demonstrations were performed on TVEC's training facilities which are nonenergized, life sized versions of a typical distribution system.

While the linemen worked, other TVEC employees explained the processes step by step, always emphasizing the potential dangers of the job at hand.

To further drive home the importance of safety, the students were also presented an arcing demonstration in which trained employees draw a visible and audible arc of electricity in a controlled situation.

The students were given a tour of the respective facilities and offices and then treated to lunch.

"The career day events will help us identify future employees to fill critical positions at the co-op," said TVEC Manager of Human Resources Donna Hindman. "We are trying to build up the pipeline to avoid any shortages of lineman in the future."

LAURA MELTON

► Pictured right a lineman demostrates how to change out a transformer while the students look on. Top photo, TVEC Crew Foreman Kevin Newbill displays safety articles that each lineman must wear to do their job safely.

Summer Energy Efficiency: Myth vs. Fact

Myth: When I'm not home, keeping my air conditioner at a lower temperature throughout the day means it doesn't have to run harder to cool my home when I return.

Fact: To save energy, set your thermostat to a higher temperature (85 degrees is recommended) when no one is home, and lower it to 78 degrees when you return home.

Myth: Running ceiling fans will help keep empty rooms cooler.

Fact: Ceiling fans generate a wind-chill effect, cooling people, not rooms. Just like the lights, you should turn ceiling fans off when you exit a room.

Myth: Time of day doesn't matter when it comes to running my appliances.

Fact: Time of day does matter when running electrical loads. To avoid peak times of use and save energy, take advantage of the delay setting and run your dishwasher at night. 53130002

Myth: Bigger is always better when it comes to cooling equipment.

Fact: Too often, cooling equipment isn't sized properly and leads to higher electric bills. A unit that's too large for your home will not cool evenly and might produce higher humidity indoors.

©ISTOCKPHOTO.COM | TSUJI

Local Teens Explore Nation's Capital

Savanna Morgan of Forney and Reichart Bauder of Tennessee Colony recently participated in the Electric Cooperative Youth Tour sponsored by TVEC. The two spent seven days in Washington, D.C., with 120 of their peers from Texas.

Each year in June, an action-filled week provides high school students opportunities to learn first-hand about politics, community service and today's pressing issues in the energy industry. Students met their elected representatives in the U.S. House and Senate, saw historic sites, and met nearly 1,600 students from across the country who participated in their state's Youth Tour program.

▲ Reichart Bauder, Bobbi Byford and Savanna Morgan take in the sights of Washington, D.C., including the capitol.

The Electric Cooperative Youth Tour has been a joint effort of local electric co-ops including TVEC, their statewide co-op associations and the National Rural Electric Cooperative Association, for 50 years.

Morgan said she had a great experience meeting people from across the nation during the trip.

"The trip taught me that you have to be yourself," Morgan said. "Going in, you don't know anyone, and by the time it's over, you have made lifelong friends."

Morgan particularly enjoyed the opportunity to visit Mt. Vernon.

"It was neat to see what life was like during the time of George Washington," she said.

Reichart also commented "I gained a new appreciation for what they do," speaking of elected officials.

For more information on how you can participate in the Youth Tour program, contact Bobbi Byford at 469-376-2234.

•NOTICE•

Our 24-hr Automated Assistance number 1-800-720-3584, will be down for maintenance Thursday, August 14 at 8:30 a.m. until Friday, August 15 at noon. Any change to this schedule will be posted on tvec.net and to our Facebook page.

MATTHEW HART/ISOCK/THINKSTOCK

A slow cooker is a great way to cook without adding excess heat to your home.

Cook Less, Cook Quicker When It's Hot

Cooking and baking during this summer can heat up your house, compete with air conditioning and make everyone uncomfortable. So cooking less can save you energy and keep you cooler.

▶ Prepare your main course outside on the barbecue grill. Even if it's hot outdoors, you won't add heat to the inside of your home.

▶ When a cooler day or evening rolls in, take the opportunity to cook. Prepare two or three meals at once and freeze them, so all you'll have to do is thaw and reheat them in the microwave the next time it's too hot to cook. 60174069003

▶ Enjoy cold meals and snacks that don't need cooking, like vegetable salads; fruit, cheese and bread; hummus or guacamole with chips or celery; sandwiches; cold soups and smoothies.

▶ If you must cook, use the microwave oven or a covered pan on the stovetop. Either one pushes less heat into the kitchen than a hot oven.

▶ Choose foods that cook quickly, like fish and vegetables. Chopping veggies into small, evenly sized pieces speeds cooking time.

▶ Don't use the microwave or oven to defrost frozen food. Instead, place the frozen item in the refrigerator and let it thaw out overnight before cooking it the next day.

▶ Preparing food in an electric skillet, wok or slow cooker adds less heat to the air than cooking on the stove.

Grants Awarded by Charitable Foundation

The TVEC Charitable Foundation recently awarded the following grants:

Faith In Action Outreach—$4,000
Faith In Action Outreach provides several services around the eastern Cedar Creek Lake area. The grant will help support the Food for the Weekend program. This program provides over 100 needy children in the Malakoff, Cross Roads and Eustace school districts nutritious food to get through the weekend.

Heritage Park Museum of East Texas—$3,000
The park was established in 1976 and sits on 18 lots in downtown Edgewood. The owner/operator's mission is to preserve the past and to promote a greater appreciation of our ancestors and their role in our rural heritage. It consists of 21 circa-1900 buildings, authentically restored and furnished.

Jesus Connection—$4,900
Jesus Connection is a food pantry operated by the First Baptist Church of Eustace. It serves approximately 340 individuals in the TVEC service area.

Sharing the Love Foundation—$2,000
A program to provide educational and volunteer opportunities for youth with a focus on community. The opportunities include summer education field trips, learning activities and healthy eating workshops. Located in Forney, they serve only Kaufman County residents.

The TVEC Charitable Foundation is funded entirely by donations from members who participate in Operation Round Up. For more information, please visit tvec.net.

JOY LONG

▲ TVEC Public Relations Representative Kari Wilmeth, far right, presents a grant check for $4,000 to representatives from the Faith In Action Outreach. Pictured from left are Cheryl Trout, Zo Bailey, Mike Cromer, Jeri Smith, Rosemary Ferrell and Teri Caswell.

LAURA MELTON

▲ TVEC Manager of Public Relations Bobbi Byford, right, presents a grant check for $3,000 to Alice Bomar, left, and Linda Clark, representatives from the Heritage Park Museum of East Texas.

Power Tip

When it's hot outside, appliances and lighting can heat up our homes more than we think. To save energy, minimize the activities that generate additional heat, such as burning open flames, continuously running a computer or using hot hair devices like curling irons. This will utimately keep your house cooler.

© ISTOCK.COM | GREKOV

Advanced Metering Status

TVEC is installing advanced meters to improve reliability, efficiency and service.

Deployment of advanced meters will ramp back up this month. Crews will begin installing meters near the following communities in southern Kaufman County: Scurry, Rosser, Crandall, Kaufman, Oak Grove, Gray's Prairie, Warsaw and Kemp. Crews will move to Van Zandt County in the communities of Mabank, Kemp, Phalba, Prairieville and south of Canton in the middle of October.

The full project map—as well as much more information regarding the AMI project—can be found on our website, tvec.net, under the Advanced Metering page. If you have any questions or concerns, please give us a call at 1-800-766-9576.

October is National Co-op Month

Each October, millions of co-op members across the U.S. observe National Co-op Month to celebrate cooperatives and the qualities that make the business model unique—local, democratic control; a commitment to supporting and improving quality of life in the communities they serve; special benefits and services; and the return of margins to members in the form of capital credits.

Electric cooperatives were formed when rural communities were struggling because investor-owned utilities weren't willing to invest in rural America. So neighbors banded together and lit up the countryside when no one else would. That's the spirit in which we at TVEC celebrate during National Co-op Month each October, and every day of the year.

Co-ops are special

Cooperatives are owned and governed by their members—the same people who use the co-op's goods or services. Profits are distributed to members (not stakeholders) or reinvested in the co-op or the community, often meeting technological, humanitarian or other civic needs that might otherwise go unmet.

In addition to electric cooperatives, Texans are served by credit unions, food co-ops, agricultural co-ops and more. All of these member-controlled organizations are guided by the Seven Cooperative Principles:

1. Voluntary and Open Membership
2. Democratic Member Control
3. Members' Economic Participation
4. Autonomy and Independence
5. Education, Training and Information
6. Cooperation Among Cooperatives
7. Concern for Community

Cooperatives provide a viable alternative to the traditional for-profit business model for more than 130 million members across the U.S. Co-ops range in size from small storefronts to large Fortune 500 companies, including REI and Nationwide Insurance. TVEC is one of more than 900 electric cooperatives serving 42 million people in 47 states.

Co-ops make connections

Co-ops strengthen ties with members and their communities through education and networking opportunities. Today, just as in the past, we connect with other cooperatives by practicing Cooperative Principle No. 6, or "Cooperation Among Cooperatives." Co-ops also connect with members through annual meetings and publications; with policymakers through advocacy; and with young people through youth and leadership programs.

Your electric cooperative has a basic responsibility to provide reliable, affordable and safe electricity, but we take it a step further by supporting our members, enriching our schools and enhancing our communities.

For more information on cooperatives, visit ncba.coop or tvec.net.

Embrace Fall's Bounty

For natural energy savings

We're about to enjoy the best of autumn weather, when it's too cool to leave the air conditioner running but too warm to power up the heating system.

So throw open the curtains during the day to let the sun's rays naturally light and heat your home. South-facing windows, especially, should go uncovered on sunny days. Close drapes at night to keep out autumn drafts.

Next, inspect the windows in rooms that feel cold at night, even when it's not too cold outside. Chances are, the windows are drafty.

Resolve the problem by covering the offending windows with heavy-duty, clear plastic, or with clear plastic film that adheres right to the windowpanes. Seal the plastic tightly to the frame so the cold night air cannot push through gaps between the film and the window frame.

Don't like the look? Replace lightweight drapes or curtains with tight-fitting, insulating fabric shades or drapes.

Third, resist the urge to crank up the heat when it's cool but not cold outside. Throw an extra blanket on the bed or pull on your flannel pajamas. Still cold? Set the thermostat as low as is comfortable during waking hours, and dial it down at least 10 degrees for overnight hours.

Advanced Metering Status

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LAURA MELTON

Holiday Cooking Safety Tips

The kitchen is the heart of the home and usually the place where everyone congregates during a gathering. Sadly, it's also the room where two out of every five home fires start. Many home fires occur during the time of year that is supposed to be the happiest—the holidays.

Thanksgiving, Christmas Eve and Christmas Day are traditionally celebrated with special meals. Safety should always be considered in the kitchen, but during the holidays when the kitchen produces more meals and receives more visitors, extra caution is advised.

As we embark on the holiday season, TVEC urges you to remember these simple safety tips to identify and correct potential kitchen hazards:

- Never leave cooking equipment unattended, and always remember to turn off burners if you leave the room.
- Supervise the little ones closely in the kitchen. Make sure children stay at least 3 feet away from all cooking appliances.
- To protect from spills and burns, use the back burners as often as possible, and turn the pot handles inward, away from reaching hands.
- Prevent potential fires by making sure your stovetop and oven are clean and free of grease, dust and spilled food.
- Remember to thoroughly clean the exhaust hood and duct over your stove on a regular basis.
- Keep the cooking area around the stove and oven clear of combustibles such as towels, napkins and potholders.
- Always wear short or close-fitting sleeves when cooking. Loose clothing can catch fire.
- Locate all appliances away from the sink.
- Plug countertop appliances into outlets protected by ground-fault circuit interrupters to avoid electric shocks caused by contact with water.
- Keep appliance cords away from hot surfaces like the range or toaster.
- Unplug the toaster and other countertop appliances when not in use.
- Be sure to turn off all appliances when cooking is completed.

For more important safety tips to keep yourself and your family safe this holiday season and throughout the year, visit esfi.org.

NOVEMBER 11

Warm Up Your Water Heater

You're not the only one who stays warmer when you zip up a fluffy winter jacket. Your water heater does, too.

Adding insulation to the outside of a water heater can reduce the amount of heat it loses by more than 25 percent. And because it will direct that extra heat to warming up your home's water, you could see a savings of 5 percent or more on your water heating bill. That's substantial, considering that water heating accounts for about 18 percent of an average home's utility bill.

For $30 or so, you can buy a water heater blanket made from an insulating material that's easy to wrap around your device. 30023522001

Brand-new water heaters come with a lot of insulation, so you might not need a blanket if yours is new. The tank of an older water heater that could benefit from an insulating blanket will feel hot to the touch. Or, if your water heater is located in a spot that gets extra-cold during the winter, the blanket will help it operate more efficiently.

Explore LED Holiday Lighting

WHETHER YOU PREFER simple lighting decorations during the holidays or a more elaborate statement of festivity, selecting the lights themselves will inform all your other decorating choices. This year, be sure to check out a safer and smarter lighting option: LEDs.

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Made of light-emitting diodes, LED holiday lights have many advantages over incandescent lights. To begin with, LEDs emit little heat, which decreases safety risks.

However, be on the lookout for poor-quality LEDs. They can flicker or dim over time, or emit light unevenly. Look for Energy Star-certified LEDs, which have been tested to ensure that they emit quality light over their long lifetimes.

The style choices of LED lights continue to expand. Some resemble traditional mini-lights, some lights are made to have wide lighting angles and some have multifaceted cone shapes, while others are made to look like larger, older-style bulbs.

There are LED lights designed for both indoor and outdoor use. Different types of strands are also available. Options include rope, string, net, icicle and snowfall styles.

Some shoppers are concerned that an LED white light may be too harsh or too blue for the effect they want to create with their holiday lighting. However, there are both cool and warm shades available. Plus, white is not the only color option; there are many different colors of LED lights available.

For more information on electrical safety and energy efficiency, visit energyedcouncil.org.

TVEC to Retire $2.1 Million in Capital Credits

During its October meeting, the TVEC Board of Directors approved the retirement of more than $2.1 million in capital credits.

The distribuion represents outstanding patronage capital for the year 1986.

In plain terms, capital credits are akin to dividends and are paid to members from year-end margins.

For active members who were members during the year to be retired, bill credits will be issued during the month of December. Checks will be mailed to those who are no longer TVEC members.

The retirement of capital credits is just one of the many benefits of being a co-op member.

Energy Efficiency Tip

Displayed on TV’s around our offices.

Energy Efficiency Tip

Look to your windows for energy savings. Use weather stripping on old windows, and, if you can, add storm windows. In hot climates, add solar film screening to west-facing windows to catch heat. For new units, consider double-glazed panes; in cold climates, “low-e” coatings on glass can help reduce heat loss. Find more ways to save at TogetherWeSave.com.

Source: Touchstone Energy® Cooperatives

Energy Efficiency Tip

Two degrees can make a big difference on your electric bill. Setting your thermostat 2 degrees Fahrenheit higher in summer and lower in the winter results in major energy savings. Investing in a programmable thermostat can save even more—these devices automatically lower and raise your homes's temperature. Set it and forget it! Find more ways to save at TogetherWeSave.com.

Source: Touchstone Energy® Cooperatives

Energy Efficiency Tip

Keep energy efficiency in mind as the ground thaws and you plan spring landscaping. Properly selected and planted trees, shrubs, and bushes can create a windbreak that lowers home heating bills in the winter and insulates your home year-round. Before you start, check on the right plants and techniques for your climate at EnergySavers.gov.

Source: U.S. Department of Energy

Energy Efficiency Tip

Properly installed shades can be one of the most effective ways to improve windows' energy efficiency. Lower them during summer; in winter, raise during the day and lower at night on south-facing windows. Dual shades, with reflective white coating on one side and a heat-absorbing dark color on the other, can be reversed with the seasons and save even more energy. Learn more at EnergySavers.gov.

Source: U.S. Department of Energy

Energy Efficiency Tip

Your swimming pool doesn't have to be a drain on your electric bill. Simply covering it will go a long way to reducing evaporation, which will cut back on refilling and reheating. Also consider investing in a high-efficiency or multi-speed pool pump when it's time for a replacement—They cost more but save a lot more energy than older models. Visit EnergySavers.gov for more info.

Source: Cooperative Research Network

Energy Efficiency Tip

Lighting accounts for about 13 percent of the average household's electric bill—cut costs by choosing new light bulbs that have increased output and longevity. Some cost more up front, but prices are dropping as technology advances. Options include color, brightness, and even dimming and multi-way functions. Combining lights with automatic sensors can cut costs further.

Source: Cooperative Research Network

Energy Efficiency Tip

Your kitchen can yield big energy savings. Check the refrigerator door seal for a tight fit. Run only full dishwasher loads, and use the microwave rather than oven to reheat food and make small meals. Finally, unplug small appliances when not in use—many draw power even when turned off. Find more ways to save at TogetherWeSave.com.

Source: Touchstone Energy® Cooperatives

Energy Efficiency Tip

Your heat pump can use 10 percent to 25 percent more energy if it's not properly maintained, which includes regularly checking and replacing the air filter when it's dirty to keep parts from working too hard or even becoming damaged. Keep brush and plants tidy around the outdoor unit, and dust the return registers inside. For more details on heat pump maintenance, visit EnergySavers.gov.

Source: U.S. Department of Energy

Energy Efficiency Tip

Sleek new flat-panel TVs can consume almost as much electricity as a refrigerator. In general, the bigger the screen the more power it draws, and HD pulls more, too. Plasma screens use the most energy, while LCD TVs use much less. And remember to change your new TVs default settings to a power saver mode, and turn down the LCD backlight to save energy without sacrificing picture quality.

Source: Cooperative Research Network

Energy Efficiency Tip

Did you know a computer can draw as much electricity as a new

CFLs use 75 percent less energy
lbs. To save even more, look for
e that have automatic daylight
rn more at EnergySavers.gov.

longest. ENERGY STAR-qualified
than traditional incandescent bu
fixtures designed for outdoor use
shutoff and motion sensors. Lear

Energy Efficiency Tip

Appliances account for about 13 percent of your home's energy use. If they have energy-saving settings, use them. If they're nearing voting age, consider replacing them with a new, energy-efficient model. And remember to try smart power strips for smaller appliances and electronics that continue to draw power even when turned off. For more tips, visit EnergySavers.gov.

Source: U.S. Department of Energy

Bill Message Lines

Bill messages

The following energy efficiency messages were printed on member bills:

April 2014	Do a little. Save a lot. Everything you do, from flipping a switch to upgrading to CFL's, can add up to big savings for you and your neighbors. Visit Togetherwesave.com.
May 2014	Did you know a computer can draw as much electricity as a new refrigerator? Turn it off when not in use or switch on its energy-saving mode. Visit Togetherwesave.com.
June 2014	Summer is fast approaching, temperatures are rising quickly, for some cool savings set your thermostats up to 78 degrees and be sure and change filters monthly.
July 2014	Installing a programmable thermostat will help lower cooling costs. Caulking cracks and openings can help conserve as well. Watch energy saving videos at Togetherwesave.com.
September 2014	This fall, locate and plug air leaks in your home, add or repair attic insulation and call a professional to check your heating system.
December 2014	For every degree you lower your thermostat you save about 2 percent off your heating bill. Remember to close the fireplace damper when not in use.

Brochures

Brochures are displayed in the lobbies of all four TVEC office locations

HOME ENERGY SAVINGS GUIDE

Touchstone Energy® Cooperatives

TOGETHERWESAVE.COM

Touchstone Energy®
Cooperatives

TOGETHERWESAVE.COM

FIND OUT HOW THE LITTLE CHANGES ADD UP.

FLIP THE SWITCH. LOWER THE BLINDS. INSULATE YOUR ATTIC. LOWER THE TEMPERATURE ON YOUR THERMOSTAT. THESE SOUND LIKE SIMPLE TASKS. TAKE ALL OF THESE STEPS AROUND YOUR HOME AND YOU CAN RACK UP BIG SAVINGS.

TOGETHER WE SAVE.

THIS HOME ENERGY SAVINGS GUIDE CONTAINS VALUABLE TIPS ON HOW TO IMPROVE YOUR HOME'S EFFICIENCY.

FOR MORE INFORMATION, PLEASE CONTACT YOUR LOCAL TOUCHSTONE ENERGY COOPERATIVE AND VISIT TOGETHERWESAVE.COM.

HOME ENERGY SAVINGS

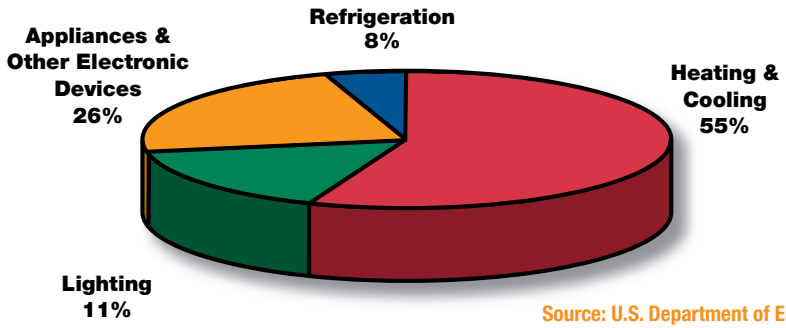
Your Touchstone Energy cooperative works hard to hold down energy prices. You, too, can play an important role in controlling your energy costs by evaluating your home and taking simple steps to trim unnecessary energy use. The following are some tips to help you reduce your energy costs.

HOME ENERGY COSTS

Get a clear picture of which parts of your home use the most energy.

- **The first step in reducing home energy costs is to review last year's utility bills. Using the below national "percentage" averages, a homeowner who spent $1,900 a year for home energy would have paid roughly:**
  - **$1045 for heating and cooling**
  - **$494 for appliances and other electronic devices**
  - **$209 for lighting**
  - **$152 for refrigeration**
- **When implementing energy-saving measures, remember, you cannot save more than you are spending.**
- **Contact your local Touchstone Energy cooperative to review your bills and receive a more accurate estimate. Go to TogetherWeSave.com for more information.**

AVERAGE HOME ENERGY USAGE



Source: U.S. Department of Energy

HOME ENERGY SAVING TIPS

Assess how your family uses energy in your home.

- Leaving unnecessary lights on increases energy costs.
- Turn off computers and other office equipment when they're not being used, especially overnight and on weekends.
- Heating your home to higher than 68° in the winter or cooling it below 75° in the summer costs more.
- Taking long showers runs up the water heating (and water/sewer) bills.

INSULATION

- If you have insulation in your attic graded at R-19 or less, consider bringing it up to R-38 in moderate climates and R-49 in cold climates.
- In cold climates, if you have floor insulation graded at R-11 or less, consider bringing it up to R-25.

WINDOWS

Windows leak heat. If you have single-pane windows, consider doing the following:

- **Tighten and weather-strip your old windows and then add storm windows.**
- **Replace your old single-glazed windows with new double-glazed windows.**
- **In colder climates, "low-e" coatings on glass can help reduce heat loss through windows.**
- **In hot climates, consider adding solar screening to west-facing windows that catch a lot of heating late in the day. Solar screening is sold at many home improvement stores.**

AIR INFILTRATION

Air that transfers in and out of homes through cracks, crevices and holes increases energy consumption. Here are some helpful tips to avoid air infiltration:

- **Seal around pipe penetrations coming through walls.**
- **During hot and cold weather, ensure windows are closed tightly and locked.**
- **Ensure weather-stripping around doors and windows is tight.**
- **When your fireplace is not operating, its flue should be closed tightly, with a sign hanging from the flue handle warning it is closed.**
- **Check the ceiling behind the cornice of built-in bookshelves for holes cut during construction.**
- **Drop-down stairways should fit tightly into the ceiling and be carefully weather-stripped.**
- **Whole-house attic fans should be sealed tightly during the winter.**
- **Make sure your outside dryer vent door closes when the dryer is not in use. This requires cleaning away lint accumulation periodically.**

DRYERS

Drying clothes uses a lot of energy.

- **Don't over-dry your clothes. If 50 minutes works, don't set to 70 minutes.**
- **Make sure to clean the inside lint filter before each drying cycle.**
- **Periodically check your flexible metal dryer vent hose to ensure it is still tightly connected and not kinked.**

WATER HEATER

Your water heater works with many of your home's other systems.

- **Make sure your water heater is set at the lowest point. Try setting it to 120°.**
- **Washing clothes with warm water and rinse with cold water.**
- **Overfilling your washer can increase your energy use.**
- **If your water heater is located in an unconditioned space, consider installing a thermal wrap around it. Take care to install it in accordance with the tank and wrap manufacturer instructions.**

REFRIGERATION

Trim your refrigerator's energy use.

- **Make sure refrigerator and freezer seals fit tightly when doors close.**
- **Keep outside coils clean. Dirty coils make your refrigerator compressor work longer to remove heat.**
- **Setting your freezer below 0° uses extra energy.**
- **Setting your refrigerator below 37° uses extra energy.**

HEATING & AIR CONDITIONING

Heating, ventilating, and air conditioning (HVAC) uses the largest chunk of your home energy dollar. Keep it running "lean and mean."

- **HVAC systems should be checked to verify they are moving the correct amount of air. An HVAC technician can tell you if it is.**
- **Heat pump and air conditioning systems should be checked annually to verify they are properly charged, strictly in accordance with manufacturer guidelines.**
- **Inside and outside coils should be kept clean and free of debris.**
- **Gas furnaces should be tuned for maximum combustion efficiency.**
- **Return filters should be changed monthly.**
- **Have an HVAC technician check carefully for duct leaks. Leaks that are found should be sealed with fiberglass mesh and mastic sealant.**

LIGHTING

Take a look at your home's lighting. Consider these points:

- **A 100-watt lamp costs roughly a penny an hour to operate.**
- **Consider replacing incandescent lighting with energy-saving compact fluorescent lamps. They use about one quarter of the wattage, last much longer and give off less heat.**
- **When you finish cooking, turn off the kitchen lighting and the range exhaust fan.**
- **Don't leave unnecessary lighting on during the day.**
- **Take a look at the security lighting you use at night. Check with your Touchstone Energy cooperative to see if it can help save you money by installing a pole-mounted outdoor light.**

SELECTING A CONTRACTOR

Some of the work you will want to complete will require the services of a contractor. When selecting a contractor, keep in mind that the best price is not always the best value. Here are some questions to ask when deciding who to use:

- **How long have you been in business?**
- **Can you provide proof that you are state-licensed and carry workers' compensation insurance?**
- **Can you provide the names of neighbors who have used your services?**
- **Are you a member of the Better Business Bureau?**

NOTES:

Touchstone Energy® Cooperatives

TOGETHERWESAVE.COM

FOR MORE INFORMATION ON ENERGY SAVINGS CHECK WITH THE FOLLOWING SOURCES:

- VISIT TOUCHSTONEENERGY.COOP FOR INFORMATION AND TO LOCATE YOUR LOCAL TOUCHSTONE ENERGY COOPERATIVE.
- U.S. DEPARTMENT OF ENERGY – ENERGY.GOV/YOURHOME.HTM
- ENERGY STAR – ENERGYSTAR.GOV
- ALLIANCE TO SAVE ENERGY – ASE.ORG
- YOUR STATE'S ENERGY OFFICE.

For more information, please contact your local Touchstone Energy cooperative or visit TogetherWeSave.com.

101 EASY WAYS TO SAVE ENERGY AND MONEY

Touchstone Energy® Cooperatives

TOGETHERWESAVE.COM

Touchstone Energy®
Cooperatives

TOGETHERWESAVE.COM

DO A LITTLE. SAVE A LOT.

EVERYTHING YOU DO, NO MATTER HOW SMALL, CAN ADD UP TO BIG SAVINGS — FOR YOU AND YOUR NEIGHBORS. FROM FLIPPING A SWITCH TO UPGRADING TO CFLs. SO TAKE YOUR PICK, AND SAVE YOUR MONEY.

FIND OUT HOW THE LITTLE CHANGES ADD UP AT TOGETHERWESAVE.COM.

WATER HEATING

1. Set water heater temperature no higher than 120^0F.
2. For households with 1 or 2 members, a 115^0F setting may work fine.
3. Install water-heater wrap per manufacturer's instructions.
4. Drain 1-2 gallons from bottom of water heater each year to reduce sediment build up.
5. Install heat traps on hot and cold water lines when it's time to replace your water heater.
6. Insulate exposed hot water lines.
7. Limit shower length to 5-7 minutes.
8. Install low-flow shower heads.
9. Fix dripping faucets.
10. Don't let water run while you are shaving.
11. Don't let water run while brushing your teeth.

LAUNDRY

12. Wash clothes in cold water. Use hot water only for very dirty loads.
13. Only do full laundry loads.
14. If you must do smaller loads, adjust the water level in the washing machine to match the load size, especially when using hot water.
15. Always use cold-water rinse.
16. Use bath towels at least twice before washing them.
17. Clean your dryer's lint trap before each load.
18. Make sure the outdoor dryer exhaust door closes when the dryer is off.
19. Verify dryer vent hose is tightly connected to inside wall fitting.
20. Check that the dryer vent hose is tightly connected to dryer.
21. Make sure dryer vent hose is not kinked or clogged.
22. Minimize clothes drying time; use moisture sensor on dryer if available.
23. Dry consecutive loads to harvest heat remaining in dryer from last load.
24. Consider using a "solar-powered" clothes dryer, an old fashioned clothes line.

KITCHEN

25. Use your refrigerator's anti-sweat feature only if necessary.

26. Switch your refrigerator's power-saver to "ON," if available.

27. Clean refrigerator coils annually.

28. Set the refrigerator temperature to 34^0 - 37^0F and freezer temperature to 0^0 - 5^0F.

29. Ensure gaskets around door seal tightly.

30. Unplug unused refrigerators or freezers.

31. Use microwave for cooking when possible.

32. When cooking on the oven range, use pot lids to help food cook faster.

33. If you are heating water, use hot tap water instead of cold.

34. Remember to use the kitchen exhaust fan when cooking and turn it off after cooking.

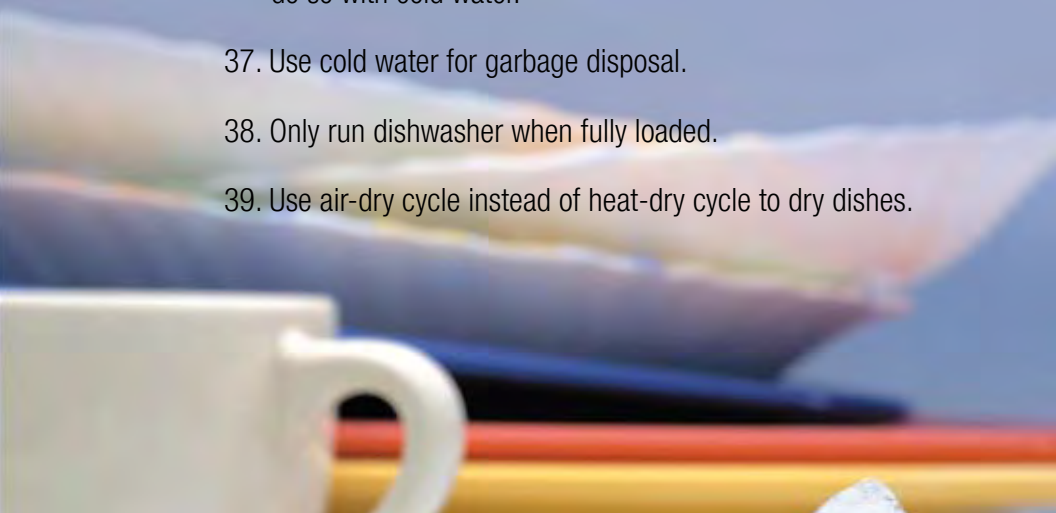
35. Use a crockpot instead of simmering foods on the stove.

36. If rinsing dirty dishes before putting them into the dishwasher, do so with cold water.

37. Use cold water for garbage disposal.

38. Only run dishwasher when fully loaded.

39. Use air-dry cycle instead of heat-dry cycle to dry dishes.



LIGHTING

40. Replace any light bulb that burns more than one hour per day with its equivalent compact fluorescent bulb.

41. Turn off unnecessary lighting.

42. Replace outdoor lighting with its outdoor-rated equivalent compact fluorescent bulb.

43. Use fixtures with electronic ballasts and T-8, 32-watt fluorescent lamps.

44. Use outdoor security lights with a photocell and/or a motion sensor.

MISCELLANEOUS

45. Turn computers and monitors off when not in use.

46. Make sure electric blankets are turned off in the morning.

47. Turn waterbed heater off when not needed.

48. Turn large-screen TV's off completely when not in use.

49. Turn off stereos and radios when not in use.

50. Remember to turn off hair curling irons and hot rollers.

51. Turn off coffee makers when not in use.

52. Turn off pool pump and/or heater when not needed.

53. Verify livestock water tank heaters are off when not needed.

54. Make sure heat tape is off when not needed.

55. Unplug battery chargers when not needed.

56. Ensure all new appliances purchased are Energy Star approved.

HEATING & AIR CONDITIONING

57. Set thermostats to 78^0 F in summer, 68^0 F in winter.

58. Run ceiling paddle fans on medium, blowing down in summer.

59. Run ceiling paddle fans on low, blowing up in winter.

60. Change HVAC filters monthly.

61. When installing new air filters, make sure they are facing in the correct direction (look for arrow on side of filter).

62. When heating or cooling, keep windows locked.

63. Insulate electric wall plugs and wall switches with foam pads.

64. Caulk along baseboards with a clear sealant.

65. Close fireplace dampers when not burning a fire.

66. Caulk around plumbing penetrations that come through walls beneath bathroom and kitchen sinks.

67. Caulk electrical wire penetrations at the top of the interior walls.

68. Close shades and drapes at night to keep heat in during the winter.

69. Make sure drapes and shades are open during the day to catch free solar heat in winter.

70. Close shades and drapes during the day to help keep heat out in summer.

71. Ensure attic access door closes tightly.

72. Insulate attic access door.

73. Make sure insulation in your attic does not block soffit vents.

74. Do not close off unused rooms that are conditioned by forced-air systems.

75. Do not close supply air registers.

76. Check to be sure return air grilles are not blocked by furniture or bookcases.

77. Ensure windows and doors are properly weather-stripped.

78. Make sure outside soffit vents are not blocked.

79. Do not use roof-top power ventilators for attic exhaust as they may evacuate conditioned air from your home.

80. Have your HVAC system serviced once per year by a NATE-certified technician.

81. Monitor your home's relative humidity in the summer. If it consistently stays in the 60 percent range or higher, ask your HVAC technician about lowering your central air conditioning unit's indoor fan speed.

82. Ensure window A/C units are weather-stripped.

83. Ensure windows with window mounted A/C units have weather-stripping between the middle of the top and bottom pane.

84. Remove and clean window A/C filter monthly.

85. Keep "fresh-air" vents on window A/C units closed.

86. Use heavy-duty, clear sheets of plastic on the inside of windows to reduce the amount of cold air entering your home.

87. Minimize use of electric space heaters.

88. Ensure your outdoor heat pump/air conditioning unit is kept clean and free of debris.

89. When using the fireplace, reduce heat loss by opening damper in the bottom of the firebox (if provided) or open the nearest window slightly.

90. In a basement, seal the sill and band joist with durable caulking or foam sealant.

91. Ensure floor registers are not blocked with rugs, drapes or furniture.

92. Outside your home, caulk around all penetrations including telephone, electrical, cable, gas, water spigots, dryer vents, etc.

93. Caulk around storm windows.

94. Caulk around basement windows.

95. Verify your supply air duct “boots” (behind supply air registers) are caulked to your ceiling or wall sheetrock or flooring.

96. If in unconditioned space, verify your ducts are tightly connected to your HVAC equipment.

97. Verify all outdoor doors (including storm doors) close and seal tightly.

98. In two-story homes serviced by one HVAC system, a paddle fan at the top of the stairs can push down hot, second-floor air.

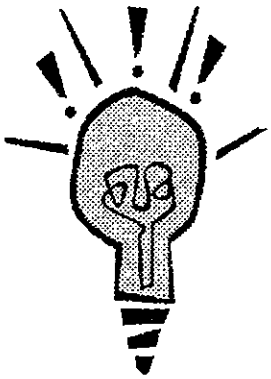
99. Install 15 minute, spring-wound timers on bathroom ventilator fans.

100. Always run your HVAC system fan on “AUTO.” Running it on “ON” uses more electricity and can decrease your air conditioner’s ability to remove moisture.

101. Keep your garage door down. A warmer garage in the winter and cooler garage in the summer will save energy.

For more information, please contact your local Touchstone Energy cooperative or visit TogetherWeSave.com.

LIGHTING and HEATING AND COOLING

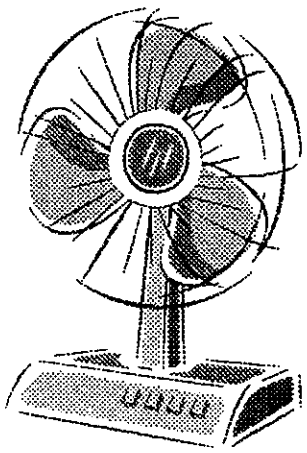


LIGHTING

- By replacing incandescent lights with fluorescent lights nearly four times as much light per watt can be produced and last 9 to 12 times as long.
- Keep light fixtures clean. Dust can absorb up to 20 percent of emitted light.

HEATING AND COOLING

- Programmable thermostats can be programmed to meet your family's life style. The thermostat will turn heat down automatically when you depart and up again when you return.
- In the summer fans can be used to circulate the air to make you feel cooler and used in the winter on reverse cycle to pull the heat down from the ceiling and circulate to make you feel warmer.



- Set thermostat at 78 degrees in the summer and 68 degrees in the winter.
- Insulate and tape ductwork
- Annual "checkup" for system
- Monthly filter cleaning or replacement
- Heat is constantly lost or gained in a home - 30 percent through the attic and 10 percent each through wall and floors
- Since heat moves from hot to cold areas, the idea of insulation is to create a barrier of resistance. The greater the R-factor, the better insulating power. Recommended R-factor is 30 for ceilings and 11 for walls.
- If the attic has 4 or more inches of insulation, added insulation is not vital. If there is less or no insulation, consider adding 6 to 9 inches of batt or blanket insulation or 6 to 12 inches of blown-in insulation.

ENERGY *tips* **from** TVEC TRINITY VALLEY ELECTRIC

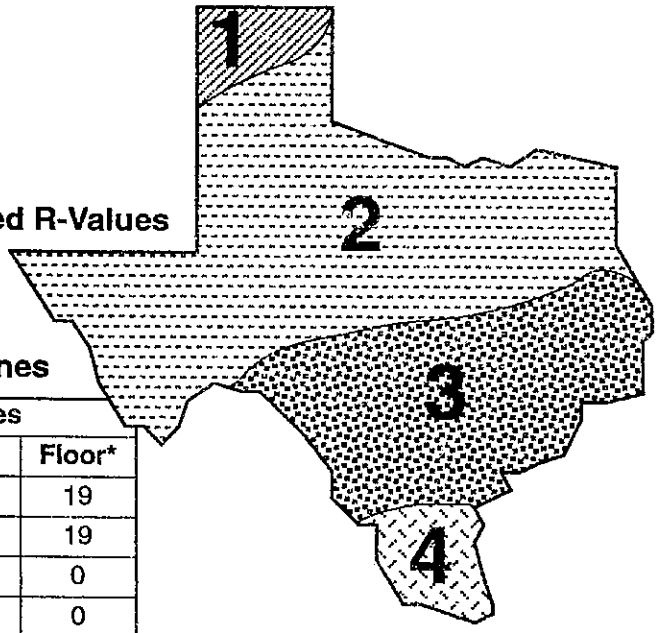
Additional Lighting and Heating and Cooling Tips

THICKNESS IN INCHES FOR INSULATION TO OBTAIN R-VALUES*					
	BATTS or BLANKETS		LOOSE and BLOWN FILL		
R-Value	Fiberglass	Mineral Wool	Fiberglass	Cellulose	Vermiculite
R-11	4 – 5 1/4	3 1/4 – 3 3/4	4	3 3/4	5 1/2
R-19	7 – 8 3/4	5 3/4 – 6 1/4	8	6 1/2	9
R-30	11 – 14	9 – 9 1/2	12	10 1/2	14 1/2
R-38	14 – 17 3/4	11 1/2 – 12	17	13	18

**Consult the manufacturer's recommendation for applications. Specific products may deviate from these nominal thicknesses, and specific R-values depend on material density and aging.*

Source: U.S. Department of Energy

Recommended R-Values for Existing Houses in Four Insulation Zones



	R-Values		
Zone	Ceiling	Walls	Floor*
1	38	11	19
2	30	11	19
3	30	11	0
4	19	11	0

*Floors over unheated crawlspaces and basements.

Source: U.S. Dept. of Energy

INSULATION CHECKLIST

- ❑ Check with electric cooperative for R-level recommendation
- ❑ Inspect current insulation for type, condition, and level
- ❑ Inspect vapor barriers
- ❑ Add appropriate type of insulation to bring to recommended R-level
- ❑ Keep insulation at least three inches from heat producers

FIREPLACE CHECKLIST

- ❑ Add glass fireplace doors and keep them closed
- ❑ Check damper fit (insulate in summer) and keep closed when not using fireplace
- ❑ Check into alternatives: outside air vent, fireplace inserts, circulation systems, etc.
- ❑ Keep ash box clean, especially if outside, to provide air source.

ENERGY Tips FOR RENTERS

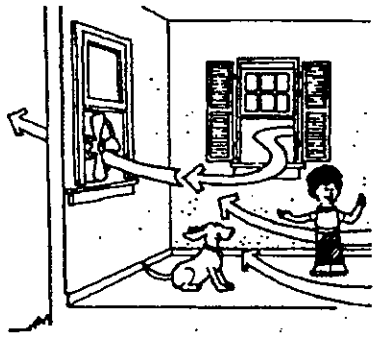
from TRINITY VALLEY ELECTRIC CO-OP

Whether you pay for utilities yourself or they are included in your rent, *you* pay for them. That's why it's important to learn how much energy you use and how to save. If you pay for your utilities directly, there are many simple suggestions in this tips sheet to help you save on electricity and gas.

If your landlord pays for utilities and they're included in your rent, take the steps recommended to avoid *wasting* energy. If you save, you reduce the landlord's cost of operation and that can help prevent rent increases.

COOLING AND HEATING

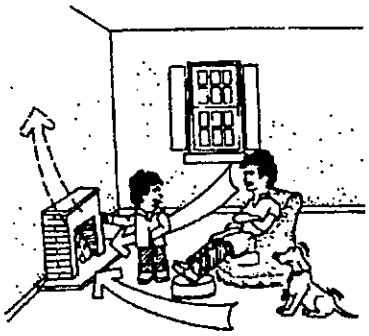
The easiest way to save is to set your thermostat up to 78 degrees during the summer and down to 65 degrees for winter days and 55 degrees for winter nights. Thermostat set-up and set-back can save from 9 to 15 percent of your cooling and heating bills.



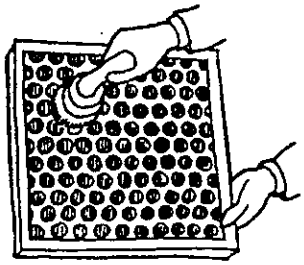
Summer Cooling

- Use fans to supplement your air conditioner. Air movement allows you to set your thermostat 6 to 8 degrees higher and maintain the same comfort level.
- Keep the sun's heat out of your home by lowering shades or closing drapes and curtains.
- When outdoor temperatures are more pleasant, turn off the air conditioner and open the windows to take advantage of natural breezes. Fans again will make you feel more comfortable.
- Dress in light, loose, comfortable clothing.

Winter Heating



- Use the sun to heat your apartment. Open curtains and shades when the sun is shining, and close them at night or on overcast days to keep out the cold.
- Wear warm clothing. This may include sweaters, socks, shawls, and/or long underwear. Wear several layers of clothing.
- Use your fireplace sparingly. In a typical, open-hearth fireplace, about 85 to 90 percent of the firewood's heating value is lost up the chimney in the form of hot combustion flue gases. In addition, heated room air is drawn out of the living space to keep the fire burning.
- When the fire is out, close the flue damper.



Year 'Round

- Seal cracks around windows and doors with inexpensive weatherstripping.
- Change or clean filters on air handling systems regularly. Dirty filters can cause excessive wear on your cooling and heating circulation system, reduce cooling or heating efficiencies, and increase the amount of energy needed to cool or heat your home.

Saving energy is easy . . .

APPLIANCES

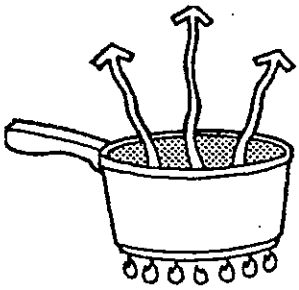
Major appliances account for 20 to 30 percent of all the energy used in the home, whether that's a house or an apartment. So, it will pay to take the following advice.

Water Heating

- Check the temperature of your hot water. If it's above 140 degrees, you can save energy by simply lowering the thermostat setting on the water heater. For most purposes the medium setting should provide sufficiently hot water.
- Have the landlord replace washers on leaky faucets to save hot water.
- When washing dishes in the sink, plug the sink and fill it with water instead of letting water run constantly.
- If you use a dishwasher, stop the machine before it gets to the dry cycle and let dishes dry in the air. Run the dishwasher only when full, and if it has an energy-saver cycle, be sure to use it.
- A 4-minute shower uses less water than a bath. Put a flow restrictor in your showerhead and save even more by cutting water flow from 8 gallons a minute to 2 or 3 gallons per minute.

Food Preparation and Storage

- Toaster ovens, microwave ovens, and slow cookers use less energy than the range-top or oven.
- When you use the oven, bake several items at the same time. Preheat for only 5 minutes (or not at all) and turn off the oven 10 minutes ahead of time.
- Open the refrigerator door as little as possible and close the door quickly. A list of snack food posted on the outside of the refrigerator door helps end refrigerator stare.

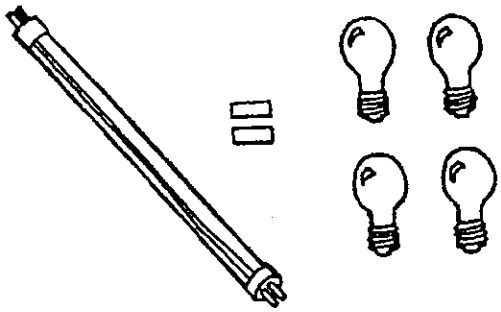


- For oven-cooked meals, turn heat off for the last 10 minutes.
- Clean burner pans often so they reflect more heat.
- Boil only the amount of water you need.
- Allow hot foods to cool to room temperature before refrigerating or freezing them.
- Keep commonly used items in a handy place near the front of the refrigerator.
- Keep the oven door closed rather than opening it to look in.
- Use the right size pan for each burner.
- Keep the freezer as full as possible to save energy.

- When you cook on the range, a cover on the pot will save a third of the energy used without a cover.
- Bake in ceramic or glass instead of metal and you can set your oven thermostat 25 degrees lower on any given recipe.
- Defrost the freezer when the ice is a quarter of an inch thick. More ice on the walls begins to act like a layer of insulation and decreases the efficiency of the freezer.

Lighting and Small Appliances

- Always turn off lights and small appliances when you're not using them.
- Choose light colors when you or your landlord paint. Light-colored walls reflect light so that you need less artificial light.
- Use energy-saver light bulbs that require 10 percent less electricity.
- Use lower wattage bulbs wherever possible and use fluorescent lights when you can. They are 3 to 5 times more efficient and last up to 12 times longer. New compact fluorescent bulbs are now available for use in table lamps and other fixtures designed for incandescent bulbs. Plus, you can take your more efficient bulbs with you when you move.



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ENERGY tips for LANDLORDS and APARTMENT MANAGERS

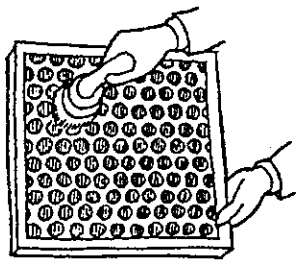
from TRINITY VALLEY ELECTRIC CO-OP

If you are an apartment manager or a landlord, you know that energy consumption can account for a large portion of operating expenses, particularly if the tenants' utilities are included in the rent. If tenants pay their own utility bills, you still may have to pay for energy supplied to common areas such as pools, laundry rooms and parking lots.

This tips sheet contains suggestions on how you can reduce energy use in and around your rental units. By following these tips, you can help keep utility bills and related rent increases under control and make your rental units more comfortable places to live.

Cooling

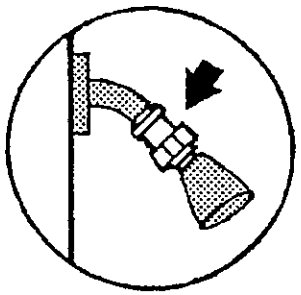
- Install ceiling fans in all units.
- Change or clean filters on air-handling systems regularly. Dirty filters can cause excessive wear on your cooling and heating circulation system and increase the amount of energy needed to cool or heat the units.



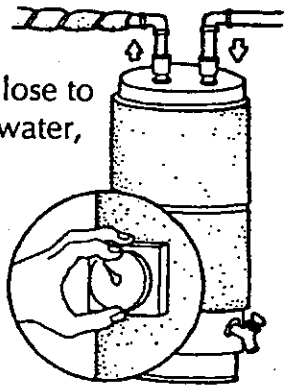
- Add exterior shading to decrease heat gain through windows and to help air conditioner compressors run more efficiently.

Equipment

- Install flow restrictors on faucets and shower heads to save water. Low-flow shower heads cut water flow from 8 gallons per minute to 2 or 3.



- Consider installing energy-saving water heaters and put them close to the greatest use of hot water, usually the kitchen or laundry room. Set the temperature at 120 to 130 degrees F, or medium, and suggest to tenants that they leave it there.



- Install an aerator in kitchen sink faucets. An aerator reduces the amount of water in the flow.
- Replace the washers on leaky faucets to conserve water.
- Consider installing heat pumps if your source of energy for heating is electricity. They use about half as much energy as electric resistance heating.

Painting

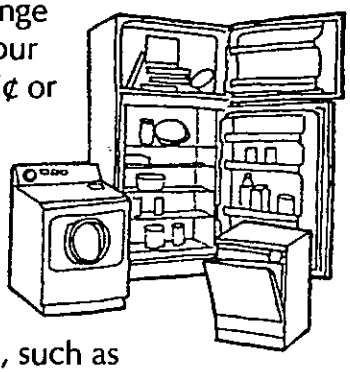
- Paint the exterior of the rental units according to climate. For example, painting a building white helps it reflect more of the sun's radiant heat.

Saving energy is easy . . .

- Choose light colors when painting the interior of the units. Light-colored walls reflect light so that less artificial light is needed.

Appliances

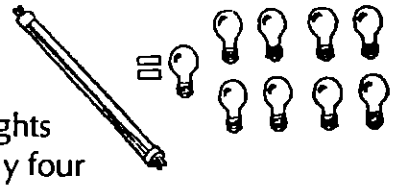
- Be energy conscious when buying appliances for a rental unit. Compare energy-use information and operating costs of similar models. Although more efficient appliances may cost more initially, they will cost less to operate and may last longer.
- Keep in mind when shopping for ranges that an electric range uses 1 kilowatt-hour per meal, about 7¢ or 8¢ worth. A gas range uses about 6¢ worth of gas per meal.



- Install the refrigerator away from heat sources, such as the stove, dishwasher or direct sunlight.
- Keep appliances in good working order. They will last longer, operate more efficiently and use less energy.
- Choose a gas range that has an electric ignition. A pilot light uses 11¢ worth of gas every day.
- Consider purchasing automatic dishwashers: An efficient automatic dishwasher can consume less energy than washing dishes by hand.

Lighting

- Replace incandescent lights with fluorescent lights in kitchens, bathrooms and laundry rooms. Fluorescent lights produce nearly four times as much light per watt as typical incandescent lights and last 9 to 12 times as long.



- Consider installing lighting timers on outside lights. Timers turn lights on and off automatically at pre-set times.

Washer/Dryer

- If you have central laundry rooms in a rental complex, be sure to keep the dryers' lint traps clean. A dirty lint trap slows the flow of air in the dryer so it takes longer and uses more energy to dry laundry.
- If there are washer/dryer connections inside the units, dryers should be vented outside to avoid adding excess moisture to the inside air.

Swimming Pools

- Clean the skimmer and pump-strainer baskets frequently.
- Follow the manufacturer's recommendations for servicing the filter.
- Keep the pool thermostats at 80 to 82 degrees F or below, and operate the pool heater only when the pool is being used.

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ENERGY tips FOR THE ELDERLY

from TRINITY VALLEY ELECTRIC CO-OP

The following tips will help you make your home energy efficient, safe and a more comfortable place to live. By following these simple tips you can be health wise and energy conscious.

Weatherizing

- Put a draft stopper along cracks beneath doors and windows.
- Place movable insulation in windows to block heat gain during the summer and keep the heat indoors during the winter.
- Caulk and weatherstrip around doors and windows to prevent air leakage.
- Install inexpensive gaskets around light switches and electrical outlets to seal against air leaks.
- Control your home's inside temperature with existing curtains, drapes or blinds. Open them in the winter to let warming sunlight in and close them in the summer to keep the heat out.
- Change or clean your heating/cooling unit's filter about once a month when the unit is operating.

Water Heating

- Look for and repair leaky faucets.
- Check your water heater thermostat setting. If the thermostat is set between 140 degrees F and 160 degrees F, or "high", you can reduce the setting to between 110 degrees F and 120 degrees F, or "medium", and save at least $20 a year with an electric water heater or $10 a year with gas. The lower thermostat setting can also prevent scalding.
- Replace your shower head with a low-flow shower head. It can reduce the flow of water from 8 gallons to 3 gallons per minute, and save up to 4,000 gallons of hot water a year.
- Run your dishwasher and washing machine only when they are fully loaded.
- Save even more hot water by using a cold-water laundry detergent so you can wash and rinse with cold water. Normally only very greasy clothes need to be washed in warm or hot water.

Lighting

- Replace two bulbs with one bulb that produces a similar amount of light. For instance, you could replace two 60-watt bulbs with one 100-watt bulb. However, be sure that the fixture is rated to use the higher wattage bulb.
- Change to fluorescent lamps wherever possible by replacing the entire fixture or by changing from incandescent to compact fluorescent bulbs. The initial cost of a compact fluorescent bulb is more than an incandescent bulb, but it can last up to 12 times longer and produce less heat, which will reduce the load on your air conditioner.
- Keep light fixtures clean. Dust can absorb up to 20 percent of emitted light.

Cooking

- Cook several foods at one time when using your oven. Prepare dishes that can be stored or frozen for later use.
- Bake food in glass pans. Glass pans allow you to reduce the oven temperature by 25 degrees.
- Use small cooking appliances, such as deep fryers, electric skillets, toaster ovens, microwave ovens and pressure cookers. These appliances use less energy than your range or oven.

- Match the size of the pan to the heating element when cooking on the stove. More heat will get to the pan and less will be lost to the surrounding air.
- Place lids on pots when cooking to retain the heat. This will help your food cook faster and keep vitamins from going up in steam.

Winter Tips

To save energy and money during the winter, set the thermostat at about 70 degrees F during the day and at night. For older adults, it's important to avoid the possibility of hypothermia, or lowering of the body temperature. This condition develops when body heat is lost faster than it can be replaced and is particularly common in winter. Because hypothermia can come on gradually, watch for these telltale signs: stiff muscles, shivering, puffiness in the face, or poor coordination. Some tips to save energy and avoid hypothermia include:

- Insulate your home properly.
- Dress warmly.
- Cover your legs with a blanket when reading or watching TV.
- Add an extra blanket at night.
- Avoid prolonged exposure to the cold.
- Get proper rest and drink plenty of fluids.

Summer Tips

To save energy and money during the summer, set your thermostat at 78 degrees F. In addition, guard against hyperthermia, or heat stress, which is a sudden increase in the body temperature. Heat stress can lead to heat exhaustion, heart failure or stroke. Some of the warning signs to watch for include dizziness, rapid heartbeat, diarrhea, nausea, cramps, or dry skin. Blistering Texas summers make heat stress a concern of the elderly. Some tips to save energy and avoid hyperthermia include:

- Dress in cool, loose-fitting clothes that are light in color.
- Wear a hat when you are outdoors or take an umbrella to protect your head and neck.
- Make use of fans; they help to keep the air circulating and aid to remove excess body heat.
- Keep physical activity to a minimum during the hottest part of the day.
- Drink plenty of fluids (check with your doctor).

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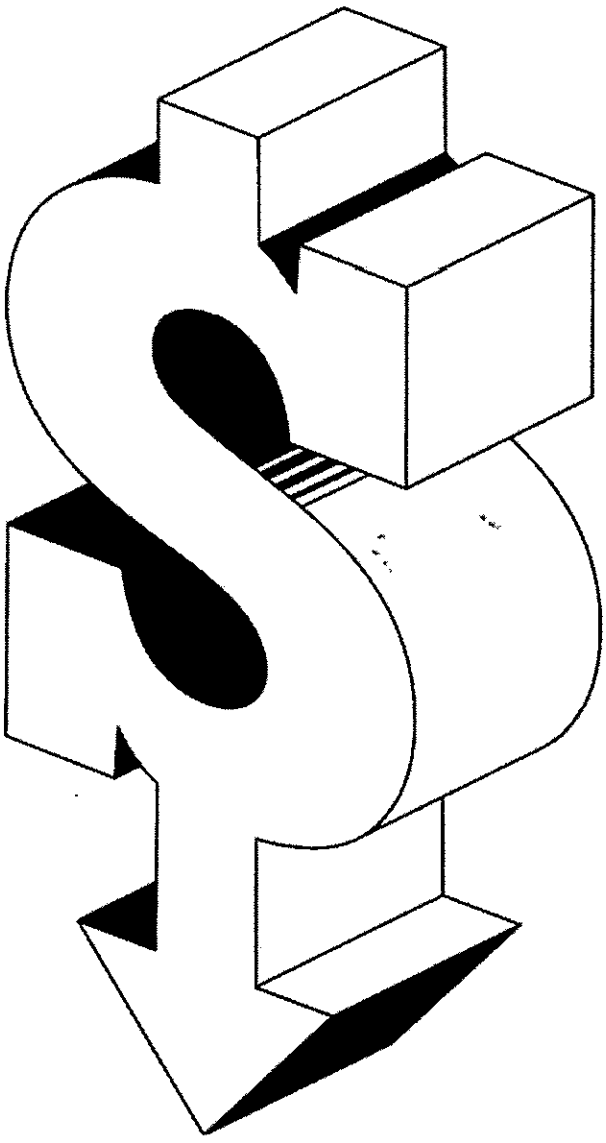
You have the

POWER!

A Guide to Cost-Cutting Conservation Measures

A Guide to Lowering Utility Costs by Using Energy Wisely

One of the best things about being a member of an electric cooperative is that you have the power to directly affect what you pay for energy.



When all co-op members make the effort to manage their energy use more effectively, the result is that the co-op ultimately doesn't need to buy as much energy to serve members' needs. That means that the cost of energy comes down for everyone in the co-op. Not only that, you'll also be helping to reduce your co-op's dependence on power generated by fossil fuels. That means cleaner air for everyone.

This guide is designed to give you all the information you need to manage energy effectively in your home or business. You'll learn how to make the most efficient use of energy in everything from heating and cooling systems to lighting and appliances. There are tips on saving energy in small ways every day, as well as detailed information about taking energy efficiency into account when it's time to replace major appliances or if you're undertaking a major home renovation.

Remember, doing all you can to effectively manage energy use will have a direct impact on your energy costs and quality of life. As a co-op member, that's the kind of power you have.

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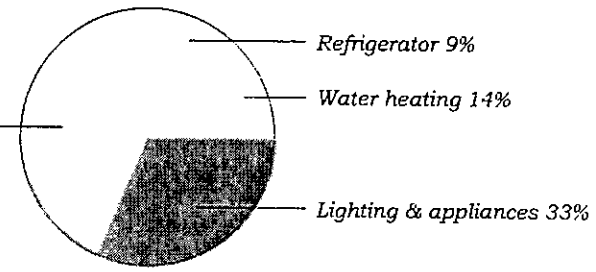
Heating and Cooling

Because you spend the largest portion of your energy dollars staying warm or cool, you'll save the most on energy by taking steps to use your heating and cooling systems more efficiently. Follow the tips on the next few pages, and you can reduce your heating and cooling bills by as much as 50 percent.

Heating and Cooling: The Biggest Piece of the Energy Pie



Adapted from the U.S. Department of Energy's Energy Savers booklet, available at www.eere.energy.gov.

Simple Steps You Can Take to Save on Heating and Cooling

There are many simple, low-cost (or no-cost) things you can do every day to reduce your use of energy for heating and cooling, such as setting your thermostat appropriately or using ceiling fans to circulate heated or cooled air more effectively.

Set Your Thermostat on "Savings"

The single best way to reduce heating and cooling costs is to set your thermostat at 78° or higher in summer and 68° or lower in winter. If you're keeping your thermostat at 72° in the summer, consider this: According to the U.S. Department of Energy, raising that setting to 78° could save you up to 47 percent on cooling costs.

You'll save additionally by greater adjustments to your thermostat (higher in summer, lower in winter) while you are away from home or asleep. When you return or wake up, don't set it at an unnaturally lower or higher setting to try to cool or heat the house faster. That doesn't work; it just cools or heats the house more than you need, which uses more energy.

Do keep in mind that if you have an infant or an older person living in your home, they may require cooler or warmer temperatures to stay healthy. Use your common sense.

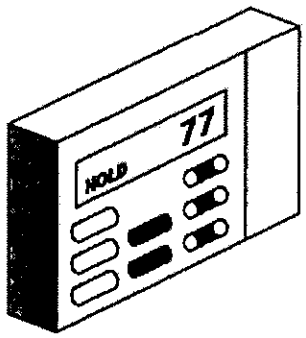
> Every degree above 78 that you set your thermostat in summer will save up to 3 percent on cooling costs.

Consider the Alternatives

The principle is simple: It's a lot cheaper to move air around than it is to heat or cool it. With that in mind, consider these ways to stay cool in summer and warm in winter without depending entirely on your central system.

In the heat of the summer, use fans to circulate cooled air while you keep the thermostat at a higher setting.

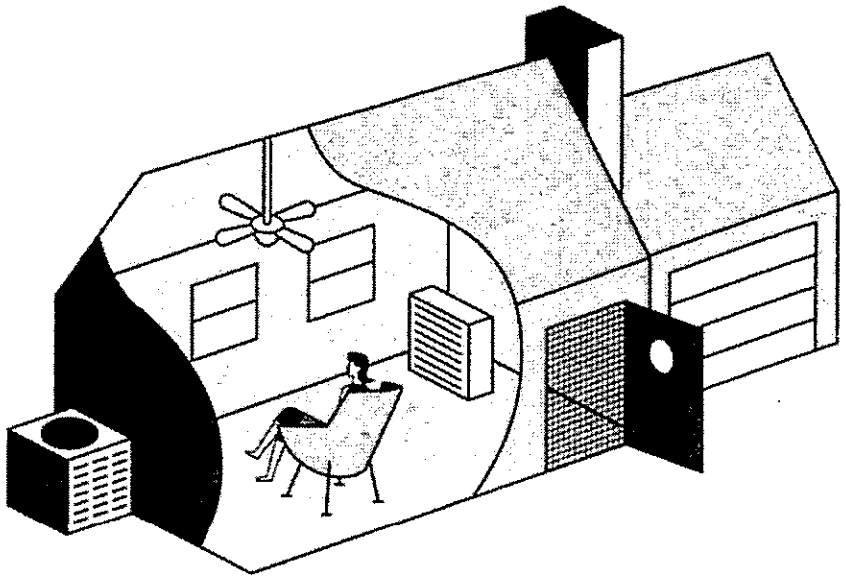
If you live in a part of the state with low humidity, consider an evaporative cooler as an alternative to central air conditioning. Evaporative coolers use water evaporation to cool the air and a fan to circulate it.



Programmable Thermostats

For maximum energy efficiency in heating or cooling, use a programmable thermostat to automatically adjust the setting when you leave the house or go to bed and then turn it back to normal when you return or wake up. Programmable thermostats range in cost from $45–$100+, but can easily pay for themselves in energy savings.

There are many options for heating and cooling your home. During temperate weather, consider leaving windows and doors open if you feel safe doing so. Use floor and ceiling fans to circulate air. For maximum cooling, use the central system supplemented by fans, and lower window shades to keep out the sun. For maximum heating, use the central system supplemented by fans, and open shades to take advantage of the sun's rays. ▶



In spring and fall, when it's not particularly hot or cold, a whole house fan can be an excellent alternative to your central system. Installed in the ceiling, a whole house fan draws outdoor air inside to cool the house.

Use pleated instead of mesh filters in your central air-and-heat system for better filtration.

Get Your Ducts in a Row

Are the air ducts in your home delivering all the warmth or cooling your system is generating–or are they losing it due to poor performance? Here's what you can do to make sure your ducts are working properly and delivering the conditioned air you're paying for.

Be sure your ducts aren't leaking. You or your service professional will be looking for:

- Obvious holes in the ducts.
- Dirty spots on the duct insulation and around air vents.
- Areas where connections have become separated.

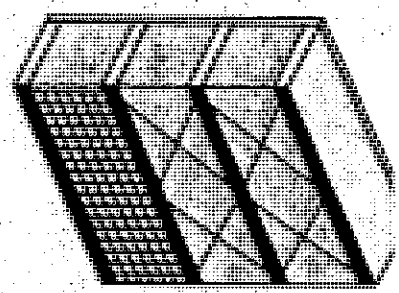
If you find only a few problem areas and you're a do-it-yourselfer, you can repair and seal them with duct tape. Just be sure to use tape with the Underwriters Laboratories (UL) logo on it to avoid tape degradation or cracking over time. However, if you find that your ductwork is very poorly insulated or has extensive leakage problems, call a service professional.

In winter, set your ceiling fan to turn clockwise to send warm air downward into the room. In summer, set it to turn counter-clockwise to circulate cool air through the room.

Attic Insulation

- Measure carefully to be sure you buy the correct amount of insulation.
- Get the right stuff. Choose batts or blankets to fit between joists, and use rolls or blankets on the attic floor.
- Install a vapor barrier of thick plastic sheeting if you choose insulation in the form of "faced" batts or blankets.
- Follow the product instructions and wear proper protective gear when installing insulation.
- Have attic vents installed along the ceiling cavity; this will ensure proper airflow from soffit to attic to control moisture and maintain the insulating power.

In a multi-story building, lightweigh fencing (left) or wire lacing (right) retains insulation between floors.



Home Improvements That Can Save You Plenty

Energy-related home improvements may not be as inexpensive as buying a fan or as simple as scheduling a system checkup, but they can be well worth the expense or time they require.

Save With a Heat Pump

Like standard systems, heat pumps can meet your heating and cooling needs in one unit. The difference is that a heat pump will heat for significantly less cost than a typical electric resistance-heating unit. There are two types of heat pumps available today.

- Air-source heat pumps draw heat from the air outside to heat your home in winter, and expel heat outside to cool your home in summer. An air-source heat pump may reduce your heating costs by up to 50 percent if you convert from an electric furnace to an all-electric air-source heat pump. Generally, the colder it gets where you are, the less the savings, since the colder the air outside, the more difficult it is to extract heat from it.
- Ground-source heat pumps (also known as geothermal or earth-energy systems) make use of the earth's ability to store natural heat. They pump heat from deep in the earth into your home rather than taking it from the air. A ground-source heat pump may cost more than a conventional system, but the energy savings could pay for the unit in three to five years.

Regular System Maintenance

Like any other mechanical device, a central heating and cooling system will only work well if it's regularly maintained. That means keeping the system properly "tuned" with regular professional checkups, frequent filter cleanings or replacements, and periodic observation of both the inside and outside units.

Be Good to the Planet and Your Pocketbook: Go Solar

Using passive solar energy to heat and cool your home can cut your heating costs by more than 50 percent and help reduce your cooling costs, too. If you're building a new home or doing a major renovation of your existing home, consider passive solar techniques such as:

- Placing larger, insulated windows on south-facing walls for more efficient heating.
- Improving heat transfer by locating thermal mass, such as a concrete slab floor or heat-absorbing wall, close to windows.
- Using reflective coatings on windows, exterior walls and roof to keep out heat in summer.
- Installing strategically designed overhangs to shade the house from summer sun.

Keep the Air Inside Where It Belongs

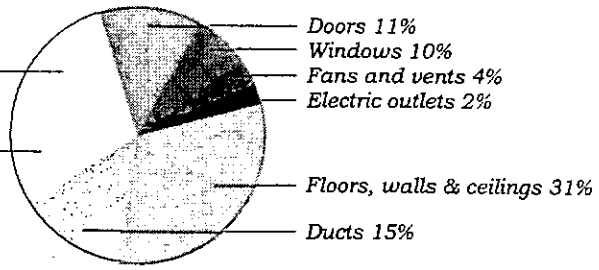
If your heating and cooling dollars are going out the window due to air leaks in your house, you need to caulk, weather-strip and insulate.

Caulking, or filling cracks and gaps in your home will eliminate air leakage around doors and windows as well as in areas where plumbing, ducting or electrical wiring penetrates the house. Weather-stripping is also useful around doors and windows that leak air.

Insulation creates a barrier of resistance to keep heat from escaping in winter or coming in during summer. The "R-factor" assigned to different types of insulation refers to the level of resistance. Different R-factor ratings are appropriate for different parts of the state, so check with your co-op and a local insulation dealer to see what's right for you.

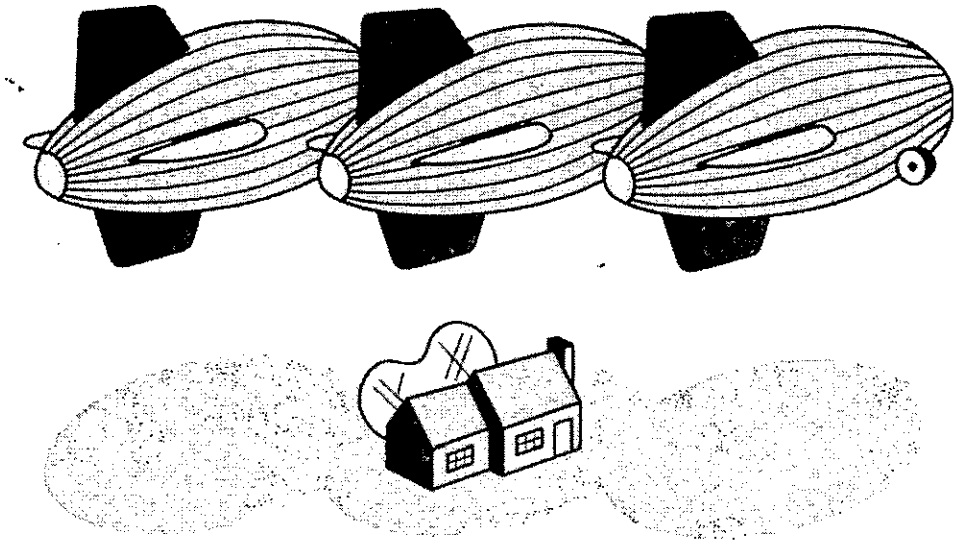
The best place to start insulating is the attic. That's because heat tends to rise and is therefore more likely to be lost or gained through the highest part of the house. The attic is also one of the easiest places to install insulation.

Where Does the Air Go?



Adapted from the U.S. Department of Energy's Energy Savers booklet, available at www.eere.energy.gov.

More than 600,000 cubic feet of air passes through the older Texas house daily. That's enough to fill three Goodyear blimps every 24 hours. ▶



Let the Sunshine In (But Only in Winter)

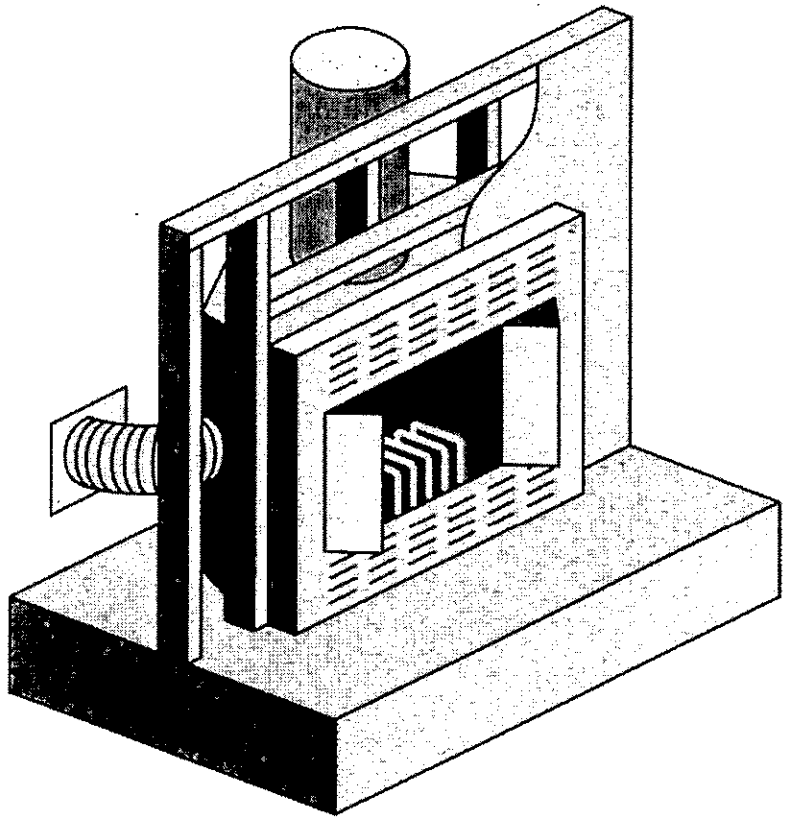
The U.S. Department of Energy estimates that one-fourth of the energy used to cool and heat your home is lost through windows.

Things you can do inside:

- Use lined draperies, opaque roller shades or special thermal shades on windows.
- Choose carpeting over fibrous padding for optimal heat gain or loss.
- Use fabric or woven wall coverings.

Things you can do outside your home to reduce energy loss:

- Consider installing storm windows and double-pane windows, which are at least twice as effective as single-pane windows.
- When you do spring planting, choose deciduous greenery for the south and west sides of your house that will leaf out and block the sun in summer--but lose its leaves and let in warming rays in winter.
- Consider the new solar panels that can absorb and dissipate up to 70 percent of the sun's heat and glare before it reaches the windows. They are easy to install and can be removed in winter.



Keep your fireplace damper closed unless a fire is going. Leaving the damper open is like throwing open a 48-inch window. The damper should be well sealed. It's best to cover the firebox opening with metal or glass doors, which will restrict the amount of heated air drawn from the house.

Keep the Home Fires Burning Efficiently

As much as 30 percent of your conditioned air could vanish right up the chimney. That's because a fireplace needs air to keep the fire burning—and it gets that air from inside your home, where you've already paid to make the air warm. Take these steps to improve fireplace efficiency:

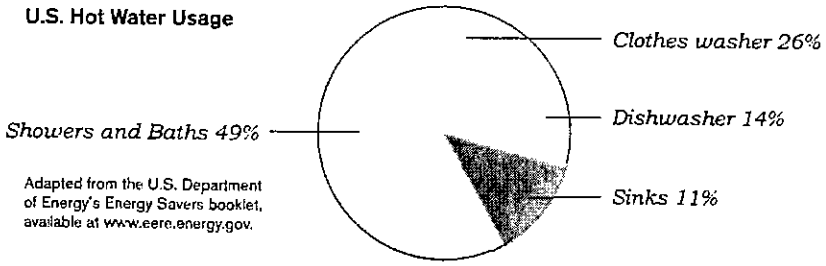
- Cover the firebox opening with tight-fitting metal or glass doors.
- Have a tight-fitting flue damper with an accessible handle; keep the damper open when the fireplace is in use and closed when it's not.
- Use a combustion air intake with a tight-fitting damper to draw air from outside into the firebox.
- Keep ash box clean, especially if outside, to provide air source.
- Use well-aged firewood, which burns hotter and cleaner.
- Caulk around the hearth.
- Plug and seal the chimney flues of unused fireplaces.

Stay Out of Hot Water

Water heating accounts for a sizable part of your energy bill—about 14 percent. Fortunately, there are a number of things you can do to ensure that you have plenty of hot water without wasting energy in the process.

Start by thinking of ways to use less hot water. Take showers instead of tub baths, for example. Or install low-flow showerheads and faucets. You can also reduce your energy consumption for water heating by turning down the water heater thermostat. (A setting of 120 degrees will provide a comfortable water temperature for most uses.) And you can insulate your hot-water storage tanks and pipes to reduce heat loss.

U.S. Hot Water Usage



Adapted from the U.S. Department of Energy's Energy Savers booklet, available at www.eere.energy.gov.

Heating and Cooling in a Nutshell

- Set the thermostat at 78 degrees in summer, 68 degrees in winter.
- Consider alternatives such as fans to take the load off your central system.
- Have your system serviced regularly for efficient operation.
- Clean or replace filters regularly.
- Keep ducts in good repair to avoid air leaks.
- Caulk, weather-strip and insulate.
- Install storm windows and double-pane windows.
- Landscape with plants that will block the sun in summer and let it in during winter.
- Choose window coverings, carpet and wall coverings with energy efficiency in mind.
- Take steps to minimize air loss through the fireplace.
- Lower the water heater thermostat to 120 degrees.

SEER:
We Spell It Out for You

When buying a new central system or heat pump, check the unit's SEER (Seasonal Energy Efficiency Ratio) number. The higher the SEER, the more efficient the unit's performance

Appliances

The energy costs to operate everyday appliances such as refrigerators and freezers, ranges and ovens, washers and dryers, and dishwashers account for about 20 percent of your electric bill. You can reduce these costs by using appliances efficiently and by looking for high-efficiency choices when it's time to buy new ones.

Tips for Using Appliances Efficiently

Refrigerators and Freezers

Keep it clean. Regularly defrost models that aren't frost-free, and clean the condenser coils of your refrigerator three or four times a year.

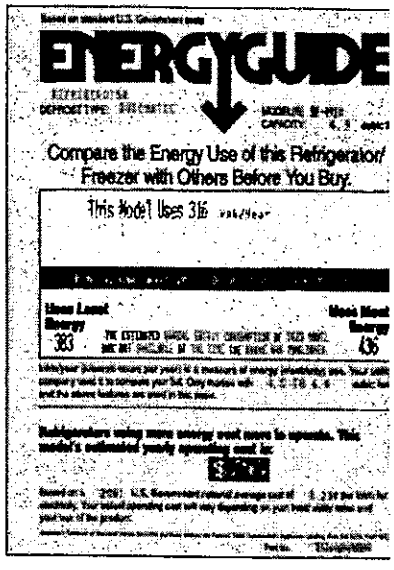
Shut the door. Don't stand in front of an open fridge contemplating the contents. Decide what you need before you open the refrigerator, then get what you need and shut the door.

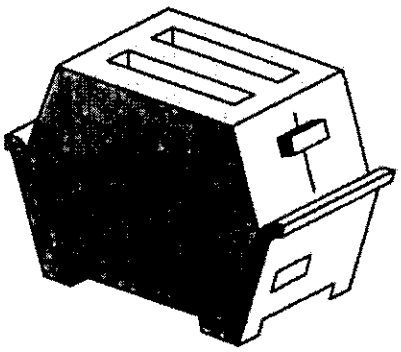
Fill the freezer. A freezer that's two-thirds to three-quarters full requires less energy to operate than an empty one. If you don't have enough food to fill the freezer, add some water-filled plastic milk cartons or soda bottles.

Test the seals. Fold a paper towel, shut the refrigerator door on it and then pull the towel out of the closed door. If there's no resistance, you probably need new seals around the door to keep the cold air in.

Maintain the right temperature. Optimum refrigerator temperature is 38 to 42 degrees. For the freezer, it's 0 degrees or higher (although not higher than the freezing point of 32 degrees, obviously).

Pay Attention to the EnergyGuide Label. It includes the estimated energy consumption in kWh on a scale with similar appliances and the estimated yearly operating cos based on the national average cos of electricity. ▼





How Much Are You Paying to Run Your Appliances?

To determine how much electricity an appliance uses, follow these steps:

1. Find the wattage of the appliance. (It's usually listed on the serial number plate.)
2. Estimate the hours per month that you use the appliance.
3. Multiply the wattage by the hours of use per month. Divide the result by 1,000 to get your total monthly kilowatt-hour (kWh) usage for the appliance.
4. Figure out your average monthly cost per kWh by dividing your total monthly electric bill by the number of kWh used. (kWh used will be listed on the bill.)
5. Determine your monthly energy cost for the appliance by multiplying the kWh usage by your cost per kWh.

Electric Ranges and Ovens

Keep it covered. Use pan lids to retain the heat in the pan. Remember that water boiled in a covered pan comes to a boil faster.

Use the right pan. Don't waste energy by using a pan or pot that is too small for the burner, or that is too large or heavy for the amount or type of food you are cooking.

Turn off burners sooner. Because electric burners stay hot for a while after they're turned off, you can turn the burners off several minutes before the allotted cooking time. The food will finish cooking without using more electricity.

Preheat selectively. Baked goods may require a preheated oven to come out just right, but other foods don't. There's no need to preheat when you're cooking a main dish or heating a casserole.

Use heat-conducting cookware. Ceramic, glass and stainless-steel cookware conduct and retain heat better, which means that you can reduce the oven temperature by 25 degrees when you use them.

Close the door. The oven loses about 25 degrees of heat every time you open the door. Use a timer to gauge doneness instead of opening the oven door every few minutes to check.

> A toaster oven uses a third to half as much energy as a full-sized oven, which makes it a great choice for small meals and snacks.

Washers and Dryers

Don't run small loads. Wait until you have enough laundry for a full, large load.

Sort by wash temperature. Use hot water only for whites and hard-to-clean items. Wash everything else in warm or cold water to save on water heating costs.

Pretreat stains. The more you can do to remove stains and heavy soil before you wash, the less likely you'll have to wash an item a second time.

Shorten the wash cycle. Cutting washing time from 15 to 7 1/2 minutes will save about 25 percent of the electricity needed to run the washer.

Fill the dryer. Don't waste electricity by drying just one or two items.

Dry heavy items separately. Dry heavy items like towels in a separate load from lighter-weight items that don't need as much drying time.

Don't over dry. Use the cool-down cycle to allow clothes to finish drying with the residual heat in the dryer. If your dryer has a moisture sensor that automatically shuts off the machine when clothes are dry, use it.

Install a vent/filter kit. This will allow you to vent clean, warm air from your clothes dryer into your home during winter, recycling heat that would otherwise be wasted.

Use a clothesline. Anytime you can dry clothes outside instead of in the dryer, do. That's free solar energy!

Dishwashers

Run a full load. Don't run your dishwasher when there are only a few items in it.

Shorten the cycle. Keep the dishwashing cycle as short as possible. Don't use a long "pots and pans" cycle if you're only washing plates, glasses and silverware.

Air-dry dishes. Skip the drying cycle to reduce the amount of electricity needed to run the dishwasher.

It takes less water to wash a load of dishes in the dishwasher than to wash them by hand—approximately 9.9 gallons compared to an average of 15.7 gallons.

Buying New? Put Energy Efficiency First

There's plenty of consumer information available to you today to help you make the most energy-efficient choices when purchasing new appliances. (See sample EnergyGuide label on page 7.)

When buying a new freezer, choose a chest-style freezer instead of an upright model. Chest-style freezers retain cold air better when the door is opened.

Clean Up With the Right Laundry Temperature

Water Temperature	Electricity Saved
Hot wash/warm rinse	0%
Hot wash/cold rinse	33%
Warm wash/warm rinse	33%
Warm wash/cold rinse	67%
Cold wash/cold rinse	100%

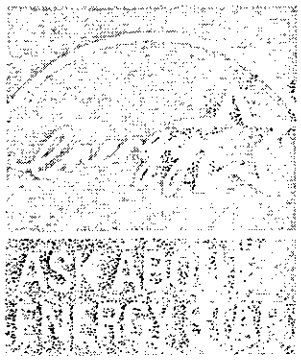
Front-loading washing machines use:

40 to 60% less water

30 to 50% less energy

50 to 70% less detergent

than top-loaders. ▶



Look for the Energy Star

Appliances that receive an Energy Star rating from the U.S. government are among the most efficient available today. They may cost more to purchase, but they will also cost less to operate over the time you own them.

- An Energy Star washing machine may use about a third of the energy and less water than other machines.
- Most Energy Star washers remove more water from your clothes during the spin cycle, so the clothes don't take as long to dry in the dryer.
- An Energy Star refrigerator can save $35-$70 a year compared to older models. That adds up to $525-$1,050 over the average 15-year life of the unit.
- Energy Star dishwashers use less water and energy, and must exceed minimum federal standards for energy efficiency by at least 25 percent.

Appliances in a Nutshell

- Consider lower-cost cooking alternatives such as toaster ovens and microwaves.
- Know how to read an EnergyGuide label.
- Look for the Energy Star to find highly energy-efficient new appliances.

Home Electronics

While individual energy consumption of home entertainment systems, computers and other home electronics may be relatively low, the cost can add up.

Unplug to Save

When you're away from home for the weekend or longer, don't just turn off your TV, DVD player and cable box. Unplug them. As long as these and other small electronics are plugged in, they'll draw power to operate timer displays and other functions that stay on even when the device is switched off. You won't save a fortune–from $.25-$3 a month per device–but every little bit counts.

Protect Against Power Surges

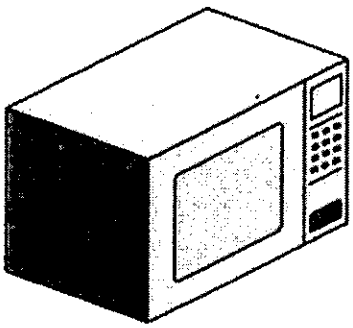
This simple step isn't about lowering your electric costs for home electronics. It's about avoiding the big hit you'll take if a power surge destroys your DVD player or other small electronics. Power surges are slight changes in voltage that happen during storms or other electrical events. They can damage the sensitive circuits inside electronic devices. To protect against them, plug your electronics into a surge protector.

Take Advantage of Built-In Computer Features

If you have a computer that runs on Microsoft Windows, use the power management controls to put your computer to sleep after it idles for a specified period (adjustable from five minutes to more than an hour). The hibernation mode reduces the amount of power the computer uses (up to 300 watts at full power) to 15 watts or lower. In addition, some of the newest computers available have a feature called IAPC (Instantly Available PC) that sends the computer into a sleep mode of less than 8 watts–and then allows it to go right back to where you left off instantaneously when you turn it back on.

Microwaving Makes Sense

Reduce your energy bills for cooking by using your microwave instead of your range or oven when you can. Microwave ovens use less energy than traditional appliances, and they don't heat up your kitchen.



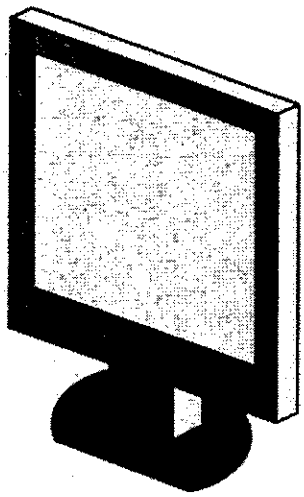
Don't confuse a power strip with a surge protector: A power strip offers no protection from power surges.

Home Electronics in a Nutshell

- When you're away for extended periods, unplug small electronics.
- Invest in a surge protector to keep power spikes from harming electronics.
- Take advantage of your computer's power management controls.
- Consider a flat-panel monitor for energy savings.

Gives New Meaning to "Flat Rate"

Been wanting a sleek, new flat-panel computer monitor–but worried about the high price? Does it help to know they use only about a third of the energy of a traditional monitor? You may pay more for one initially, but the savings over time are likely to make up for that.



Lighting

Go fluorescent. A 25-watt fluorescent light will generate as much light as a 100-watt incandescent bulb for one-fourth the energy. Fluorescent lights cost more to buy, but far less to operate. They last longer, too.

Turn out the lights. Don't waste energy by leaving lights on when you're not using them. Consider installing timers or sensors to reduce the amount of time your lights are on.

Use task lighting. Focus the light where you need it for reading, studying, sewing and other tasks, rather than just brightly lighting the entire room.

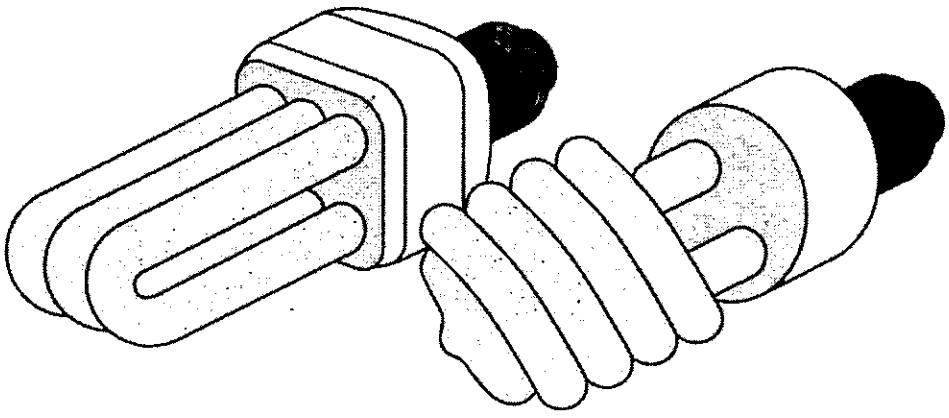
Avoid long-life incandescent bulbs. They are the least efficient of all incandescent light bulbs.

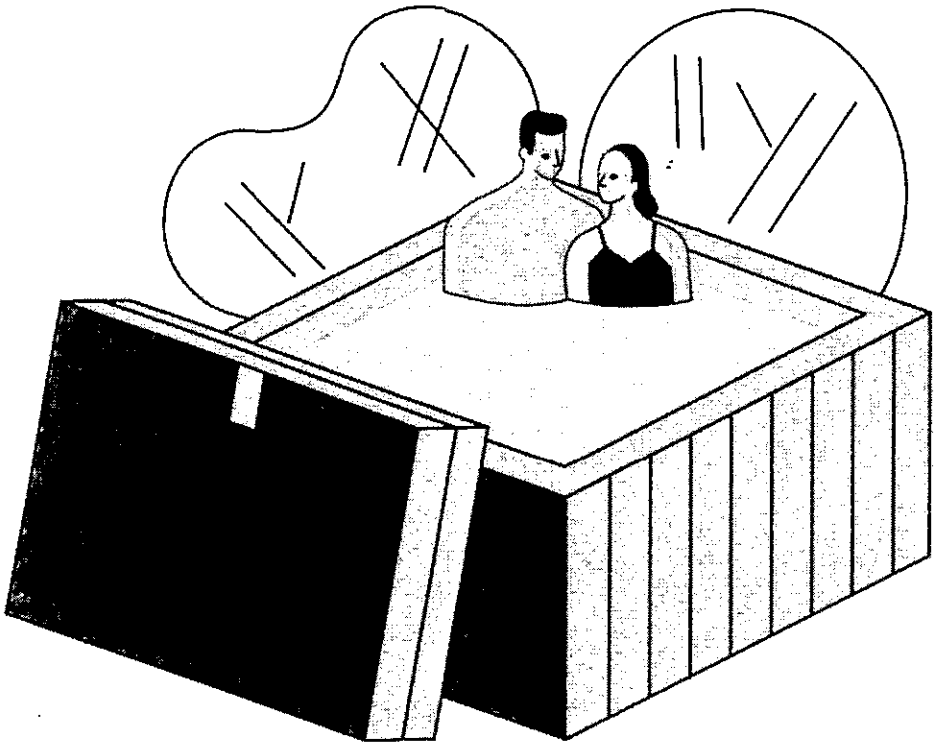
Buy fixtures with fewer bulbs. A 100-watt bulb glows with nearly 50 percent more light than four 25-watt bulbs.

Look for the Energy Star. Light bulbs and light fixtures are eligible for the Energy Star rating. Energy Star lighting uses two-thirds less energy and lasts six to 10 times longer than traditional lighting.

Replace 25 percent of the incandescent lighting in high-use areas with fluorescent lighting, and you'll save about 50 percent on the lighting portion of your electricity bill.

Fluorescent lighting is four times more efficient than incandescent lighting. ▶





Timers, covers, solar heating, lower temperature settings and insulation reduce the cost of using spas.

Pools and Spas

Relaxing in your pool or spa is even more enjoyable when you know it's not costing you a fortune to operate. A few simple steps can make a big difference in the energy cost to heat and circulate the water in your pool or spa.

Use a timer. A timer on the pool pump will make it easier to reduce the running time to only what it takes to keep the water clean and sanitary.

Keep it covered. Cover your spa with a tight-fitting, insulated cover when not in use.

Lower the temperature. Reduce the temperature or turn off the pool or spa heater between uses.

Consider solar heating. It's a much more affordable way to heat your pool than traditional electrical resistance heating.

Look for good insulation. When purchasing a new pool or spa, look for insulation that has been applied directly to the fiberglass or wood that holds the water. This type of insulation reduces heat loss and helps maintain water temperature.

Together, We Can Keep Energy Costs Under Control

Your electric cooperative is dedicated to delivering energy and energy solutions to you safely, dependably and at a reasonable cost. As a co-op member, you have the power to help keep that cost under control. When you use the information in this booklet to use energy efficiently in your home or business, you play an important part in reducing energy demands and controlling your co-op's energy costs. Thanks for taking the time to learn more about action you can take, and thanks for doing your part.

Resources

Air-Conditioning and Refrigeration Institute, **www.ari.org**

The Alliance to Save Energy, **www.ase.org**

American Architectural Manufacturers Association, **www.aamanet.org**

American Council for an Energy-Efficient Economy, **www.aceee.org**

American Society of Landscape Architects, **www.asla.org**

American Solar Energy Society, **www.ases.org**

Association of Home Appliance Manufacturers, **www.aham.org**

Cellulose Insulation Manufacturers Association, **www.cellulose.org**

Efficient Windows Collaborative, **www.efficientwindows.org**

Energy Star, **www.energystar.gov**

Federal Trade Commission, Bureau of Consumer Protection, **www.ftc.gov**

Insulation Contractors Association of America, **www.insulate.org**

National Arbor Day Foundation, **www.arborday.org**

National Association of Home Builders, **www.nahb.org**

National Association of State Energy Officials, **www.naseo.org**

National Insulation Association, **www.insulation.org**

North American Insulation Manufacturers Association, **www.naima.org**

Polyisocyanurate Insulation Manufacturers Association, **www.pima.org**

Rocky Mountain Institute, **www.rmi.org**

Solar Energy Industries Association, **www.seia.org**

Solar Rating and Certification Corporation, **www.solar-rating.org**

Texas Electric Cooperatives, **www.texas-ec.org**

U.S. Department of Energy's Energy Efficiency and Renewable Energy portal, **www.eere.energy.gov**

Window and Door Association, **www.wdma.org**