

Take charge!



Measure your energy use with a
Kill A Watt™ meter



JCE Co-op's instructional guide
on using a Kill A Watt meter

Kill a Watt Electricity Usage Meter

The Kill A Watt meter is a simple household energy reader designed to help you save energy and money by giving you the information you need to make informed decisions about your home's energy consumption.

Use this meter as a tool to determine which of your appliances are drawing high amounts of electricity and phantom loads (standby energy). This knowledge can help you decide which appliances to limit use and which to replace with more efficient models.

General Information

- Please read all instructions in this manual before using the Kill A Water electrical usage meter.
- The display shows: Volts, Current (Amps), Apparent power (VA), Watts, Frequency, Power factor and Hours in real-time.
- The meter begins to record time and energy use once it is connected to a power supply.
- To reset, remove power from unit by unplugging it from the outlet.
- For any questions or comments please contact JCE Co-op's Member Services Department at 800-858-5522.

Determine the Energy Consumption of an Electric Appliance

- ① Plug the Kill A Watt meter directly into a working wall outlet. The display will show information.
- ② Plug the appliance (≤ 15 amps) you want to measure into the socket on the front of the Kill A Watt meter.
 - Push the "Watt" button to see how many watts of electricity the device requires to operate.
 - If it reads "0.0" then the appliance does not draw standby energy.
 - To calculate the energy used while the appliance is running, turn the appliance on.
- ③ Leave the appliance and Kill A Watt meter plugged in for at least one hour—a longer period is required for large appliances that run in cycles, such as refrigerators, clothes washers, window A/C unit, cable box, video game system, etc...
- ④ At the end of your desired measurement period, return to the Kill A Watt meter and unplug the appliance from the meter. **DO NOT** unplug the Kill A Watt meter from the wall outlet. It has no battery life or memory to hold the data it has recorded.

5% Average household's monthly energy bill spent powering devices in standby mode

5 Gather the following information by pushing the pink button on the Kill A Watt meter.

_____ kWh

_____ time in hours

NOTE: Time will initially display as Hours: Minutes (from 00:00 to 00:59) and switch to Hours (100.0) after 99:59 of measured time has elapsed.

If Hours: Minutes are recorded, divide the number of minutes by 60 and add the number of hours to convert the time to hours.

Hours + (_____ min./60 min.) = _____ hours

6 Determine your electric rate.

(\$ _____ /kWh) = cost per kWh + power cost adjustment

Rates can be found on your most recent electric statement, by calling your electricity distribution provider or visiting jcecoop.com/rates.

Bill sample

Purchased Energy Costs		
Energy Charge	732 X 0.0398400	\$29.16
Generation Charge	732 X 0.0468400	\$34.29
Transmission Charge	732 X 0.0287700	\$21.06
Power Cost Adjustment	732 X -0.015000	-\$10.98
Distribution Costs		
Facility Charge		\$33.00
Member Service Charge		\$5.00
Delivery Charge	732 X 0.0362000	\$26.50

7 You now have all the information you need to calculate the electricity consumption and cost of the appliance. Plug the information into the following formulas.

Per hour

$$\frac{\text{_____ kWh}}{\text{Time (hr)}} = \text{_____ kWh/hr}$$

.....

Per day

$$\text{_____ kWh/hr} \times 24 \text{ hrs/day} = \text{_____ kWh/day}$$

$$\text{_____ kWh/day} \times (\$ \text{_____ /kWh}) = \$ \text{_____ /day}$$

.....

Per month

$$\text{_____ kWh/hr} \times 732 \text{ hrs/month} = \text{_____ kWh/month}$$

$$\text{_____ kWh/month} \times (\$ \text{_____ /kWh}) = \$ \text{_____ /month}$$

.....

Per year

$$\text{_____ kWh/hr} \times 8760 \text{ hrs/year} = \text{_____ kWh/year}$$

$$\text{_____ kWh/year} \times (\$ \text{_____ /kWh}) = \$ \text{_____ /year}$$

For questions or to schedule your FREE home energy assessment, please call Inspector Watts at JCE Co-op, 800-858-5522.

Track your Results

Print your own tracking sheet at jcecoop.com/kill-watt-meters

		A Watts consumed	B Calculate kW deman A ÷ 1,000 =	C Hours used per day	D Calculate kWh per day B × C =	E Calculate kWh per month D × 30.4 =	F Calculate kWh per year E × 12 =	G Calculate lbs. of CO ₂ per year F × 1.45 =
Example appliance								
While ON	Cost = kWh x \$0.154 ¹	20 watts →	0.02 kW →	3.0 hrs. →	0.06 kWh → \$0.009	1.82kWh → \$0.28	21.89 kWh → \$3.37	31.74 lbs of CO ₂
while OFF	Cost = kWh x \$0.154	8 watts →	0.01 kW →	21.0 hrs. →	0.17kWh → \$0.026	5.11 kWh → \$0.79	61.29 kWh → \$9.44	88.87 lbs of CO ₂

Television

While ON	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂
while OFF	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂

Refrigerator

While ON	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂
while OFF	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂

Cable box

While ON	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂
while OFF	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂

Appliance _____

While ON	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂
while OFF	Cost = kWh x \$0.154	_____ →	_____ →	_____ →	_____ → \$ _____	_____ → \$ _____	_____ → \$ _____	_____ → lbs of CO ₂

¹The current cost is ≈ \$ 0.154 per kWh. Residential rates can vary over time. To calculate your own electric rate, add all of your annual bills and subtract monthly fixed charges that are not based on kWh. Electric rates can also be found on jcecoop.com.

Additional tools for analyzing and reducing energy consumption located here at jcecoop.com/inspector-watts.

Technical Terms

Amperes (Amps) – Watts/Volts

Frequency (Hz) – Measurement of output voltage

Kilowatt (KW) – The basic unit of electric demand, equal to 1,000 watts.

Kilowatt hours (kWh) – A unit of energy equal to 1,000 watt hours. The basic measure of electric energy generation or use. A 100-watt light bulb burning for 10 hours uses one kilowatt-hour.

Meter – A device used to measure and record the amount of electricity used by a consumer.

Phantom load – The electric power consumed by electronic appliances while they appear to be off; also called standby power or energy vampires.

Power factor (PF) – The ratio of the real power to the apparent power in an AC electrical current. It is measured as a decimal between 0 and 1 or as a percentage; $PF = W/VA$

Vrms arms (VA) – Apparent power; W/PF

Volts (V) – True RMS voltage; $W/Amps$

Watts (W) – Real power; $V \times Amps$; $VA \times PF$



Free Walk-Through Home or Business Energy Assessments

This service is provided to our JCE Co-op members. Inspector Watts (John Scott, energy advisor at JCE Co-op) is here to provide you with several whole-house, low-cost energy analysis options tailored to your needs.

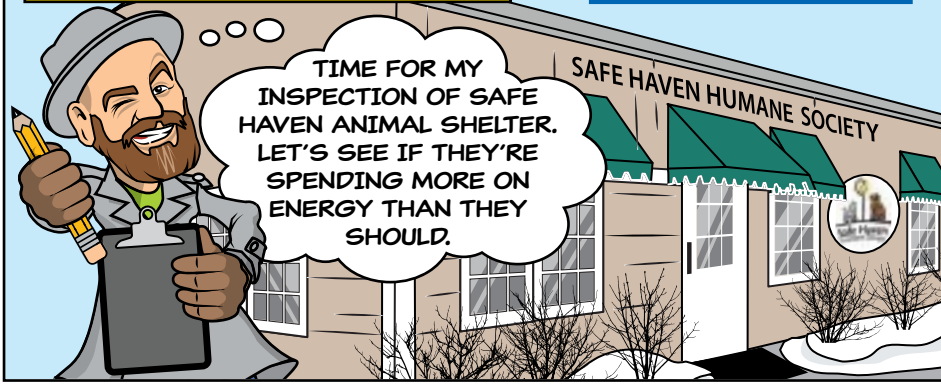
For a fee, we also do:

- Whole house and business energy audits
- Commercial and agriculture energy audits
- Duct leakage testing
- Blueprint plan review for IECC compliance
- New home IECC field inspections and mandatory testing with report and certificate

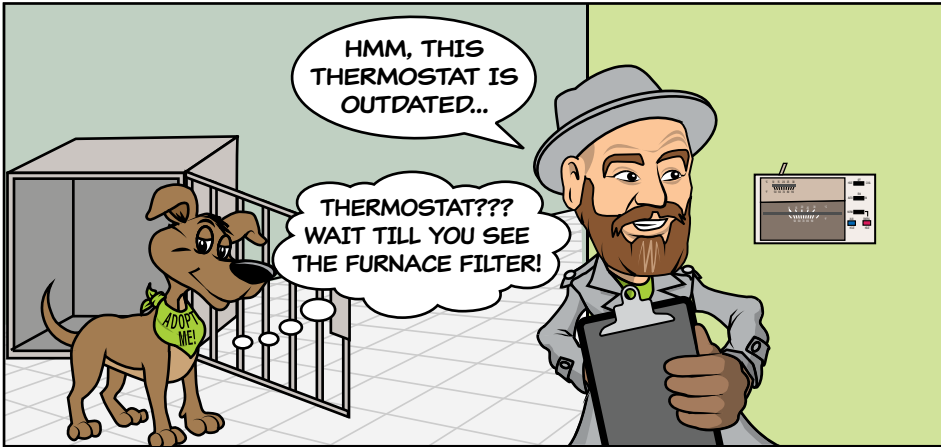
Call Inspector Watts
800-858-5522

MEET INSPECTOR WATTS, ENERGY ADVISOR EXTRAORDINAIRE FOR JCE CO-OP. HE'S ON A MISSION TO HELP MEMBERS UNCOVER ENERGY INEFFICIENCIES AND SAVE MONEY.

INSPECTOR WATTS

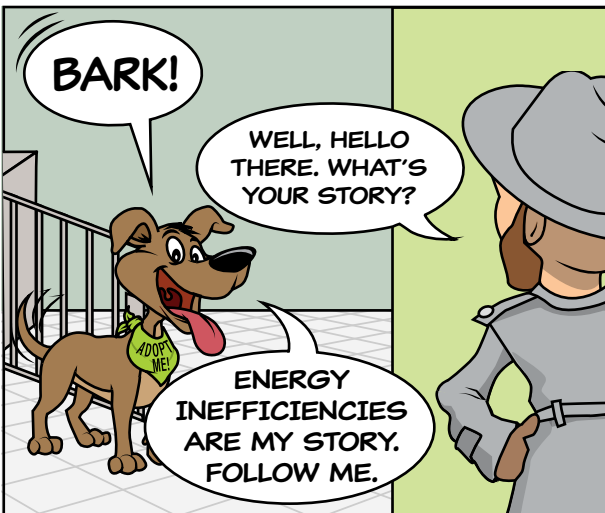


TIME FOR MY INSPECTION OF SAFE HAVEN ANIMAL SHELTER. LET'S SEE IF THEY'RE SPENDING MORE ON ENERGY THAN THEY SHOULD.



HMM, THIS THERMOSTAT IS OUTDATED...

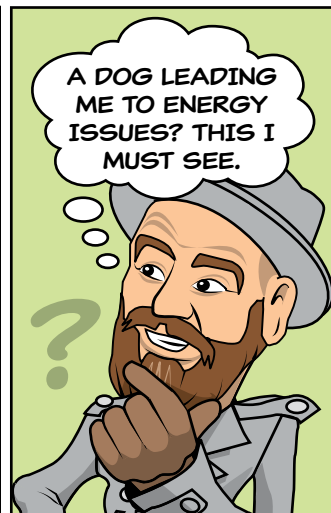
THERMOSTAT??? WAIT TILL YOU SEE THE FURNACE FILTER!



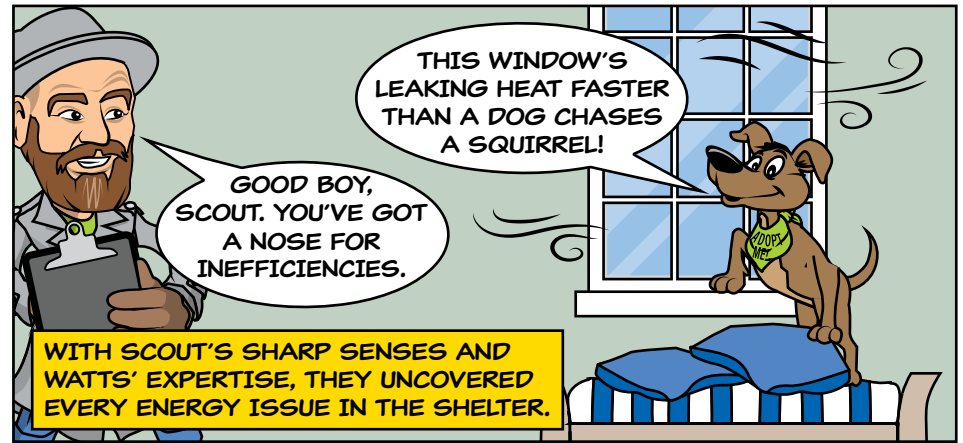
BARK!

WELL, HELLO THERE. WHAT'S YOUR STORY?

ENERGY INEFFICIENCIES ARE MY STORY. FOLLOW ME.



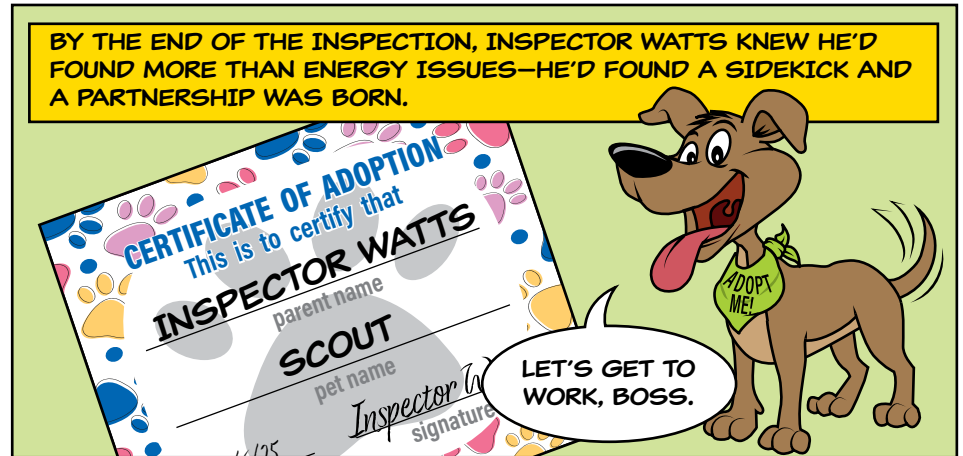
A DOG LEADING ME TO ENERGY ISSUES? THIS I MUST SEE.



THIS WINDOW'S LEAKING HEAT FASTER THAN A DOG CHASES A SQUIRREL!

GOOD BOY, SCOUT. YOU'VE GOT A NOSE FOR INEFFICIENCIES.

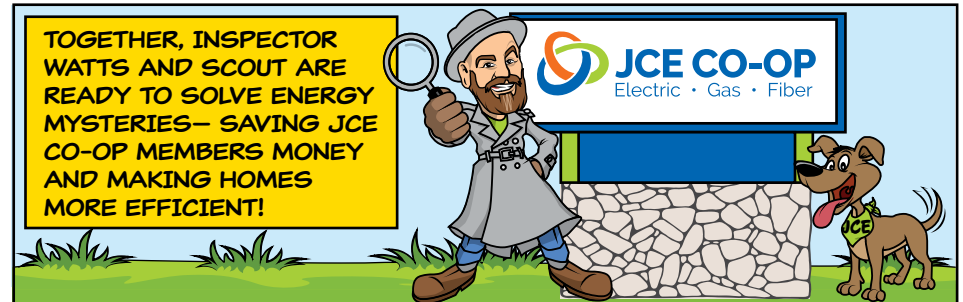
WITH SCOUT'S SHARP SENSES AND WATTS' EXPERTISE, THEY UNCOVERED EVERY ENERGY ISSUE IN THE SHELTER.



BY THE END OF THE INSPECTION, INSPECTOR WATTS KNEW HE'D FOUND MORE THAN ENERGY ISSUES—HE'D FOUND A SIDEKICK AND A PARTNERSHIP WAS BORN.

CERTIFICATE OF ADOPTION
This is to certify that
INSPECTOR WATTS
parent name
SCOUT
pet name
Inspector Watts
signature

LET'S GET TO WORK, BOSS.



TOGETHER, INSPECTOR WATTS AND SCOUT ARE READY TO SOLVE ENERGY MYSTERIES—SAVING JCE CO-OP MEMBERS MONEY AND MAKING HOMES MORE EFFICIENT!

JCE CO-OP
Electric • Gas • Fiber



LET'S GO SCOUT!!!

Please return this book to



- OR -

Meters borrowed directly from a JCE Co-op office can be returned to any of the following offices:

Elizabeth Headquarters, 793 US Rt. 20 W.
Mon.- Fri.: 7:30 a.m.-4 p.m.

Savanna Office, 103 Chicago Ave.
Mon.-Fri.: 7:30 a.m.-1 p.m., 1:30 p.m.-4 p.m.

Geneseo Office, 1004 S. Chicago St.
Mon.-Fri.: 7:30 a.m.-1 p.m., 1:30 p.m.-4 p.m.

