

Smart Savers

No-Cost, Low-Cost & Smart Investment Tips

to help you save energy & money















smart rewards

smart rebates

It's easy to be energy wise!



Our community's energy needs are growing, making it more important than ever that we all use our power wisely. Reducing your electrical use can be easy — and the results can be far-reaching. On a personal level, you can save money. Region-wide, we all benefit because, by using less power, we delay the need for costly new power plants and reduce our overall environmental impact.

We all have opportunities to save energy at home through simple actions like flipping switches and unplugging unused appliances and electronics, as well as investments in home weatherization and energy-efficient appliances.

Where does my energy go?

Your electric usage likely varies from that of your friends and neighbors, due to a variety of factors including the number of people in your household, your lifestyle, the size of your home, your heating system and the insulation levels in your home.

For examples of how much electricity common appliances and electronics use, and what they cost you to operate, please refer to pages 10-12.

Explore the following ways to save and start reducing your energy use today!

Heating

An electric heating system (such as a forced air furnace, baseboard or wall heaters) can account for 50% or more of winter PUD bills. Whether you rent or own, live in a house, apartment/condo or manufactured home, you can reduce the amount of energy required to keep your home comfortable through free behavioral changes and low-cost upgrades, as well as smart investments.

	Cost	Energy Savings	Other
Let the sunshine in! Open the shades or drapes on south-facing windows during the day to let the sun in and close them at night to keep the warmth inside.	FREE	*	
Dress warmer when the days get colder. It's less expensive and more efficient than turning up the heat.	FREE	*	
Insulate outlets and switches on exterior walls with foam gaskets to prevent heat loss. Gaskets are available at most home improvement and hardware stores.	\$	*	TDIY
Keep your heat flowing by keeping radiators and warm-air outlets free from clutter. Arrange furniture, curtains and drapes so the air-flow from heat registers is not blocked.	FREE	**	
Heat only the spaces you're using. If you have baseboard or wall heaters, turn down the thermostats in unused rooms and close the doors.	FREE	**	
Keep your fireplace damper closed when not in use, and use a glass screen to minimize heat loss. TIP: If you can still feel a breeze when your damper is closed or do not have a damper, purchase and install a fireplace plug.	FREE or\$	**	TDIY
Upgrade your thermostat. Install a smart or electronic thermostat compatible with your heating system to ensure your home is heated as efficiently as possible.	\$\$	**	PUD :
Help your furnace or heat pump breathe by checking the filters every month and replacing as needed. Have your system professionally serviced every one to two years to maximize operating efficiency.	\$	**	ITDIY

(continued)

(Heating tips continued)	Cost	Energy Savings	Other
Control your thermostat. Set your thermostat to 68 degrees or lower when you're home and awake, and set it to 55 degrees when you're asleep or away. Each degree you lower your heat will save you 2%-3% on the heating portion of your bill. If you set-back your heat pump thermostat, ensure it has an adaptive control feature to maintain the efficiency of your system.	FREE	***	
TIP: If you don't have a digital thermostat, put a simple thermometer next to the thermostat. Your non-digital thermostat could be off by as much as 10 degrees too hot or too cold.			
Caulk and weatherstrip windows and doors to reduce heat loss and drafts. This is an excellent do-it-yourself project using supplies from a local hardware store.	\$	***	ITDIY
Seal leaks in heating ducts. Sealing your ductwork in unheated areas prevents conditioned air (warmed or cooled) from escaping.	\$\$	***	PUD
Upgrade your heating system. If you're ready to replace or upgrade your existing electric heat system, look for a high-efficiency ground or air source heat pump; you could reduce the electricity you use for heating by as much as 50%-60%. If your home does not have an existing duct system, consider a ductless heat pump.	\$\$	***	PUD⊞
Increase your insulation levels for your ceiling, wall and floor to reduce your heating costs and make your home more comfortable. Unless your home was specially constructed for energy efficiency, you can usually reduce your energy bills as much as 10% to 20% by adding more insulation. Improved insulation also reduces noise from street traffic, neighbors, wind, etc.	\$\$	***	PUD⊞
Replace your windows. Replacing your single-pane or older metal double-pane windows will not only increase the comfort and value of your home, it will also reduce your home heating costs. Choose the most efficient windows (windows with a U-value of 0.30 or less) that fall within your budget and design needs.	\$\$	***	PUD⊞

PUD offers instant rebates to qualifying customers with electric heat who install energy-efficiency upgrades, including insulation, efficient windows and sliding glass doors, and heat pumps (ducted and ductless). All work must be done by a PUD Registered Contractor. For weatherization details and requirements, visit **snopud.com/weatherization**; for heat pumps, visit **snopud.com/heating**.

Water Heating

Heating water can account for 14% to 25% of the energy consumed in your home. Reducing the amount of hot water you use, and the energy used to heat it, is a cost-effective way to lower your energy bills as well as help the environment. Using less water is a win-win for you and your water utility, and it helps protect our local waterways and fish.

	Cost	Energy Savings	Other
Use a low-flow showerhead. For maximum water efficiency, select a showerhead with a flow rate of less than 2.0 gallons per minute (gpm). By using less hot water, you'll save energy and save money on your water and sewer bill.	\$	**	PUD fill
Take short showers. Eliminating a couple minutes off your shower can really add up since every minute you cut from your shower time saves an average of 3 gallons of water and the energy used to heat the water. As a general rule, showers use less hot water than baths.	FREE	**	
Install low-flow faucet aerators in the kitchen and bathrooms. Choose faucet aerators – the screw-on tip of the faucet – that have flow rates of no more than 1.0 gpm.	\$	*	TDIY
TIP : When replacing an aerator, bring the one you're replacing to the store with you to ensure a proper fit.			
Repair leaking or dripping hot-water faucets to keep the energy used to heat your water from going down the drain.	\$	*	!TDIY
Set your water heater thermostat to 120° F, and you'll save energy as well as prevent scalding.	FREE	**	TDIY
Flush sediment out of your water heater once or twice a year using the manufacturer's instructions. Sediment build-up in the hot-water tank reduces water heating efficiency.	FREE	*	ITDIY
Turn off your water heater when you will be gone for three days or more. The easiest way to do this is by switching the electricity off using the breaker at your main electrical panel or fuse box.	FREE	*	
Insulate all accessible hot water pipes to reduce heat loss and wait-time for hot water.	\$	*	TDIY

(continued)

Cost: \$ = Low-cost \$\$ = Smart Investment

Energy Savings: ★★★ = Very Significant ★★ = Significant ★ = Moderate

Other: TDIY = Do It Yourself projects PUD = PUD incentives available

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(Water heating tips continued)	Cost	Energy Savings	Other
Install a heat pump water Heater. A heat pump water heater is twice as efficient as a standard electric water heater. You can save up to 60% on your water heating cost. That's around \$200 per year!	\$\$	***	PUD :



PUD is offering a \$500 instant reward when you buy an eligible heat pump water heater at a participating local retailer. For program details, visit snopud.com/hpwh.

PUD also offers special pricing on efficient showerheads at participating retailers. For program details and a list of retailers, visit **snopud**. **com/showerheads**.

Appliances

Appliances are major consumers of electricity in your home. The way you maintain and use them can have a big impact on your energy usage.

When buying a new appliance, remember that it has two price tags: the price you pay to take it home and the price you pay for the energy and/or water it uses over the lifetime of the appliance. Efficient appliances incorporate advanced technologies that use 10% to 50% less energy/water than standard models. The money saved on your utility bills over the life of the appliance will almost always exceed any additional costs associated with purchasing the more efficient model.

Refrigerator and Freezer

Because your fridge/freezer are the only appliances that are on full-time, keeping them in tip-top shape is important.

	Cost	Energy Savings	Other
Keep your refrigerator & freezer tempera- tures at the right settings. Recommended tem- peratures are 37° - 40° F for the refrigerator compartment and 5° F for the freezer section. If you have a stand-alone freezer: 0° F.	FREE	**	
Defrost your freezer when ice or frost build-up is 1/4" or thicker.	FREE	**	
Check your refrigerator/freezer door gaskets periodically by closing the door on a \$1 dollar bill and slowly pulling it out — if there is little or no resistance, you should replace the gasket or adjust the door, if possible, or buy a new refrigerator if necessary.	\$	**	TDIY
Vacuum or brush the cooling coils (in back or underneath) at least once every six months.	FREE	**	TDIY
Allow hot food to cool for no longer than 30 minutes before putting it in the fridge to prevent spoilage.	FREE	*	
Recycle your old fridge or freezer. That second or third fridge that you barely use in your garage or basement could be costing you hundreds of dollars a year to keep plugged in. Older models consume as much as three times the electricity as new Energy Star models. Also, recycling is the only way to ensure that the harmful chemicals and materials from that old fridge or freezer are properly discarded or reused.	\$	***	
Choose an Energy Star refrigerator and/or freezer. Energy Star qualified refrigerator models use at least 20% less energy than required by current federal standards and 40% less energy than the conventional models sold in 2001. Energy Star qualified freezers are at least 10 percent more energy efficient than the minimum federal standard.	\$\$	***	PUD⊕

PUD The PUD offers a reward for the purchase of eligible new efficient appliances or home products. To find out which items are eligible for a PUD Smart Reward and/or to claim your reward, visit **smartrewards.snopud.com**.

Cooking

	Cost	Energy Savings	Other
Use small cooking appliances (such as microwaves, toaster ovens and slow cookers) whenever possible. They use 50% to 80% less power than your oven or range to cook the same meal.	FREE	**	
Choose the right pan. Use flat-bottom pans for best contact with the heat, and always match your pan size to element size.	FREE	*	
Put a lid on it. Use tight-fitting lids to keep steam in the pan and cook food faster. If you're cooking on an electric range, you can turn off the burners a few minutes early because they will remain hot for a while.	FREE	*	
Use smaller amounts of water for cooking and use the lowest possible heat to maintain boiling or steaming.	FREE	*	
Preheat oven only 5 to 8 minutes when baking. Do not preheat oven for broiling or roasting.	FREE	**	

Dishwasher

	Cost	Energy Savings	Other
Run the dishwasher only when full, and you'll save water and the energy needed to heat the water – about 80% of that used to wash a load of dishes.	FREE	**	
Use "air-dry" and other power-saving switches if your dishwasher has them.	FREE	**	
Buy an Energy Star dishwasher. Replacing a dishwasher that is more than 10 years old with an Energy Star model will save you energy and water since Energy Star rated models use at least 41% less energy than the federal minimum standard for energy consumption and 33% less water.	\$\$	**	

Washer and Dryer

	Cost	Energy Savings	Other
Wash clothing in cold water instead of hot and save up to 90% of the energy needed to run a normal load of laundry. Use the cold-water rinse setting for all loads.	FREE	**	
Wash your laundry in less water. If your clothes washer has a water level-selector, use the lowest practical level.	FREE	*	
Wash full loads only.	FREE	*	
Buy an Energy Star clothes washer. Energy Star certified clothes washers use about 25% less energy and 40% less water than regular washers. They also reduce drying time!	\$\$	**	PUD⊞
Hang your laundry to dry. Your dryer is a significant energy user in your home. By hanging just half of your laundry on a clotheslines or drying rack, you'll not only save energy, your clothes will last longer, too.	FREE	**	
Clean the lint filter in your dryer before every load to keep it working well and to reduce risk of fire. Wash it once a month if you use fabric softener or dryer sheets to remove the residue that builds up on the screen.	FREE	*	
Dry loads back-to-back . Because a dryer retains heat, you can reduce the energy used for later loads by drying several loads in a row. Dry lightweight items together on a lower heat setting to reduce drying time.	FREE	*	
Use the "auto-dry" feature if your dryer has one. The built-in moisture sensors will determine when clothes are dry and shut the dryer off automatically.	FREE	**	
Check and clean the dryer vent at least once a year to keep your dryer operating at maximum efficiency and to prevent blockages/fire.	FREE	**	
Buy an Energy Star dryer. Energy Star certified dryers use 20 percent less energy than conventional models without sacrificing features or performance.	\$\$	**	PUD

PUD The PUD offers a reward (a prepaid VISA and/or 10 LED bulbs) for the purchase of eligible new efficient appliances or home products. To find out which items are eligible for a PUD Smart Reward and/or to claim your reward, visit **smartrewards.snopud.com**.

Lighting

Lighting can account for up to 20% of your households electricity use. Switching from traditional light bulbs ("incandescents") to LEDs is a simple energy-saving change that anyone can make. However, using lighting efficiently is about more than just switching bulbs. See the tips below for more ideas to reduce your lighting energy use.

	Cost	Energy Savings	Other
Turn off lights in unoccupied rooms and when you are not home.	FREE	**	
TIP: Turn off lights if the room will be unoccupied for 5 minutes or longer.			
Use natural daylight as much as possible. It's free and environmentally friendly.	FREE	*	
Use task lighting. By using only the light you need to complete your task, such as a desk or reading lamp or undercounter lighting, you'll create ambiance and save energy.	FREE or \$	*	
Replace incandescent light bulbs with new Energy-Star-rated LEDs.	\$	***	PUD fi
Use timers, photo-sensors or motion detectors on outdoor lights to automatically turn them on only when they're really needed, reducing the electricity they consume by 80%. These controls may not work with CFLs. Check packaging to confirm compatibility.	\$	**	TDIY
Use occupancy sensors in the garage, basement and other seldom-used spaces to turn lights on and off automatically.	\$	**	TDIY
Choose Energy Star when replacing or installing new light fixtures.	\$\$	**	PUD fi

PUD The PUD offers special pricing for LEDs and Energy Star lighting fixtures when purchased at participating retailers in Snohomish County and on Camano Island. For a list of participating retailers and full details, visit snopud.com/ specialoffers.



Electronics

Home electronics account for almost 15% of the energy usage in the average home. That's a larger share than ever before because of additions like game consoles, DVRs, HD TVs, mobile device chargers, etc. Because home electronics have such an impact on your energy consumption, it is important that you make smart decisions about the models you buy and the ways that you use them.

	Cost	Energy Savings	Other
Reduce your computer's energy use when you're away from it by turning it off or enabling the energy-saving settings on your computer. Set the computer to go into sleep or hibernate mode after 20 minutes of no activity.	FREE	**	
Turn off power to the TV, cable/satellite box, game consoles and accessories when not in use. Your entertainment center could use more energy when you're not watching it than when you are.	FREE or \$	**	
TIP: Use a smart power strip or a power strip with a timer to do this automatically.			
Turn down your TV display. Many televisions are shipped from the factory with the screen at the brightest setting. To save energy and improve the picture quality, dim the screen using the TV's settings (see owner's manual).	FREE	*	
Vanquish the vampires. Any device that has a clock or a remote control draws power continuously unless unplugged — this is called a "vampire load." Either unplug the devices, or turn off the power strip they're plugged into when not in use.	FREE	*	
Pick a laptop over a desktop. Laptops use 75% to 90% less energy than desktop computers because they're designed to efficiently use batteries.	\$\$	**	
Choose Energy Star computers, electronics and televisions to save energy and money. Visit energystar.gov to find out more and get lists of qualified models.	\$\$	***	

PUD The PUD offers smart rewards for the purchase of certain efficient home products (for example, smart thermostats and sound bars). To see which home products are eligible for a reward, or to claim your reward, visit smartrewards.snopud.com.

Appliance Cost Fact Sheet

Use this fact sheet to find out the **approximate** cost to run appliances in your home and office. The hours operated per month are based on an average family of four and have been rounded to the nearest whole dollar. On the inside back cover, you will find the formula used to figure out these costs, so that you can adjust these to fit your own situation or calculate costs for any appliances not listed.

	Average Watts	Hrs Operated Per Month	Kilowatt- Hrs/Mo.	Average Cost/Mo.
KITCHEN				
Blender	385	5	1.9	Under 25¢
Broiler Broiler	1,400	4	5.6	Under \$1
Can opener	180	1	0.2	Under 5¢
Clock	3	Continuous	2.2	Under 25¢
Coffee-maker, automatic, brew cycle	880	Twice daily	13.6	\$1
Coffee-maker, automatic, warm cycle	80	30	2.4	Under 50¢
Coffee-maker, drip, brew cycle	1,500	Twice daily	23.3	\$2
Coffee-maker, drip, warm cycle	70	30	2.1	Under 25¢
Convection oven	1,600	30	48.0	\$5
Crock-Pot	80	32	2.6	Under 50¢
Dishwasher with heater	1,200	31	37.2	\$4
Fan, kitchen	250	30	7.5	Under \$1
Freezer (16 cu. ft.), manual defrost	330	220	72.6	\$8
Freezer (16 cu. ft.), auto defrost	400	260	104.0	\$11
Food processor	480	0.5	0.2	Under 5¢
Fryer, deep fat	1,500	4	6.0	Under \$1
Frying pan	1,200	8	9.6	\$1
Garbage disposal	450	3	1.4	Under 25¢
Hot plate with 2 elements	1,250	2	2.5	Under 50¢
Microwave oven	1,000	30	30.0	\$3
Mixer (portable)	125	8	1.0	Under 25¢
Popcorn popper	660	5	3.3	Under 50¢
Range (surface unit and oven)	12,000	11	132.0	\$14
Range, during self-cleaning process	5,000	1	5.0	Under \$1
Refrig/Freezer (14 cu. ft.), new	130	300	39.0	\$4
Refrig/Freezer (14 cu. ft.), older	280	380	106.4	\$11
Refrig/Freezer (18 cu. ft.), Energy Star	175	280	49.0	\$5
Refrig/Freezer (18 cu. ft.), older	400	380	152.0	\$16
Slow cooker	200	225	45.0	\$5
Toaster	1,100	2	2.2	Under 25¢
Toaster oven	1,500	5	7.5	Under \$1
Trash compactor	400	15	6.0	Under \$1
Waffle iron	1,200	2	2.4	Under 50¢

JTILITY/LAUNDRY ROOM				Cost/Mo.
Clothes dryer	5,000	24	120.0	\$13
Clothes washer, general	500	18	9.0	Under \$
Clothes washer, horizontal axis	263	18	4.7	Under 50
ron	1,100	4	4.4	Under 50
Sewing machine	75	12	0.9	Under 10
Vacuum cleaner	900	4	3.6	Under 50
BEDROOM AND BATH				
Blanket, electric	200	85	17.0	\$:
Hair dryer	1,000	15	15.0	\$
Hair curlers	350	7.5	2.6	Under 50
Shaver	15	7.5	.1	Under 5
Sun lamp	250	10	2.5	Under 50
Toothbrush, electric	10	10	.1	Under 5
Water bed heater	300	380	114.0	\$1:
LIGHTING				
CFL (1600 lumens)	23	150	3.5	Under 50
CFL (1100 lumens)	18	150	2.7	Under 50
CFL (800 lumens)	13	150	2.0	Under 25
Floodlight, outdoor, with photocell	150	350	52.5	\$
Holiday string lights, 100 mini-lights	60	180	10.8	\$
Holiday string lights, 100 CT lights	500	180	90.0	\$
Holiday string lights, 100 LED lights	3	180		Under 10
ncandescent, 100w (1600 lumens)	100	150	15.0	\$:
incandescent, 75w (1100 lumens)	75	150	11.3	\$
incandescent, 60w (800 lumens)	60	150	9.0	Under \$
LED (1600 lumens)	16	150		Under 50
LED (1100 lumens)	13	150		Under 25
LED (800 lumens)	8	150		Under 25
LIVING ROOM				
Fan, box, 20"	130	120	15.6	\$
Fan, ceiling, small	60	120	7.2	Under \$
Fan, ceiling, large	100	120	12.0	\$
Fan, oscillating	47	120	5.6	Under \$
Radio	20	120		Under 50
Radio/stereo	80	120	9.6	\$
Television, black & white	55	244	13.4	\$
Television, color	120	244	29.3	
Felevision, HD LCD 42"	213	244	52.0	\$
Television, HD plasma 50"	350	244	85.4	\$

	Average	Hrs Operated	Kilowatt-	Average
}	Watts	Per Month	Hrs/Mo.	Cost/Mo.
LIVING ROOM (CONT'D.)				
Television, HD rear-projection 60"	212	244	51.7	\$5
TV add-on: Cable box	15	730	11.0	\$1
TV add-on: DVD player	20	46		Under 10¢
TV add-on: DVR	33	730	24.1	\$3
TV add-on: VCR	40	62		Under 50¢
TV add-on: Playstation 3 Original	190	175	33.2	-1 -
TV add-on: Playstation 3 Slim	85	175	14.9	
TV add-on: Playstation 4	120	175	21.0	\$2
TV add-on: Wii	19	175	7.0	
TV add-on: Wii U	35	175	6.1	4
TV add-on: Xbox One	95	175	16.6	,
TV add-on: Xbox 360 Original	180	175	31.5	-1-
TV add-on: Xbox 360 S	90	175	15.7	\$2
(HEATING/AIR				
Air-conditioner, room	200-	67	13.4-	\$1-\$2
\	320		21.4	
Air-conditioner, central	2500-	67	167-	\$17-\$60
\	8500		569.5	
Dehumidifier	250	210	52.5	\$5
Electric furnace w/o air-conditioner	8500	321	2728.5	\$284
Electric heater, 5-ft baseboard	1250	300	375.0	\$39
Electric heater, portable	1500	240	360.0	\$37
Humidifier	170	63	10.7	\$1
Water heater, (quick recovery)	4500	78.4	352.8	\$37
OFFICE MACHINES (BASED ON 30% OF NAME-PLATE RATING)				
Calculator, desk	14	15		Under 5¢
Calculator, printing	70	15		Under 25¢
Computer	100	300	30.0	\$3
Wireless router	7	730	5.1	
FAX machine	65	720	46.8	
Photocopier, small	420	240	100.8	
Photocopier, large	1600	240	384.0	\$40
Printer, inkjet	125	240	30.0	\$3
Printer, laser	600	240	144.0	\$15
Typewriter	138	240	33.1	\$3
Water cooler	140	240	33.6	\$4
\ \				
MISCELLANEOUS	250	4.4	2 -	
Garage door opener	350	11		Under 50¢
Furnace fan	650	150	97.5	\$10
Hot tub	4,500	75 25	337.5	\$35
Well pump (1 horsepower)	1,000	95	95.0	\$10

Figuring out your energy costs

If you really want to control how much you spend for your electric energy, it's important to know how to compute the operating costs of your electrical appliances, your electric furnace and your lights.

Knowing these costs will help you see where your electric energy dollars are going, how much one appliance costs to operate compared to others, and how to conserve energy to lower your electric bill. Snohomish County PUD charges for the electricity you use by the kilowatt-hour (kWh).

To determine the kilowatt-hour usage of an appliance, you must first determine the wattage of the appliance. For example, a 60-watt light bulb has a wattage of 60; a 1500-watt portable heater has a wattage of 1500. You should be able to find the wattage listed on the appliance.

Next, you need to determine how many continuous hours per month you use the appliance. The formula to determine kilowatt-hours is: (Wattage x Hours of use) divided by 1000.

To determine the operating cost of that appliance (per month), you would then multiply the kilowatt hours (kWh) by the current PUD rate for electricity. As of October 1, 2017, the PUD has a rate of 10.4¢* per kWh. To determine the operating cost, the formula is: kWh times the PUD rate.

FOR EXAMPLE:

Your fan uses 600 watts and you use it for 40 hours per month. To determine kilowatt hours: $(600 \times 40) \div 1000 = 24$ kWh for a month. The cost to operate this fan in one month would be: 24 kWh x .104 or \$2.50 for a month.

Free Home Energy Profile Assessment!

Take 5 minutes to discover the savings potential in your home with our **Home Energy Profile** online tool. You'll get a free energy assessment that tells you how much you can save, where to get started and PUD conservation programs you might be eligible for. No sign-up required! Visit **snopud.com/energyprofile** to find your energy savings!

When shopping for new appliances, look for the Energy Star™ logo.

This designation means that the appliance has been rated as energy efficient by the U.S. Department of Energy.

*For the most current rates, visit **snopud.com/rates** or call the Energy Hotline at 425-783-1700 (M-F, 8a-5p).



Energy Hotline 425-783-1700

Toll-free in Western Washington and outside the Everett local calling area at 1-877-783-1000, extension 1700, Monday through Friday, 8 AM to 5 PM



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snopud.com

