



**82 Newer heat pump technologies**

Heat pump water heaters can be two to three times more efficient than conventional.

**83 Worth the pane**

Install storm windows. It's great as a type of insulation and a way to seal up openings that create drafts for both cold and hot weather conditions.

**84 Here's the dish ...**

Since newer dishwashers with internal heaters and load sensors can use up 25% less energy, consider upgrading.<sup>6</sup>

**85 Go tankless?**

Consider natural gas on-demand or tankless whole house water heaters, which heats water directly without using a storage tank. Energy savings can be up to 30% compared to a standard natural gas storage tank water heater.<sup>7</sup>

**86 Capture that lost heat**

Consider installing a drain-water waste heat recovery system. Drain water, or greywater heat recovery systems capture the energy from waste hot water—such as showers and dishwashers. It uses this to preheat cold water entering the water heater, thus reducing initial heating energy.

**87 Wrap up some warmth**

Get a water heater insulation blanket to make it operate more efficiently — which could cut costs by up to 9%.<sup>10</sup>

**88 Get some Star power!**

Install an ENERGY STAR®-rated ceiling fan. They usually offer the best efficiency ratings.

**89 Avoid those drafts ...**

Test your home for air tightness. On a windy day, carefully hold a lit incense stick or a smoke pen and go all around your house to seek places where air may leak.

**90 Caulk and weather strip doors and windows where you find leaks.**

**91 Seal those ducts, it's critical in ceilings and soffits for maintaining effective airflow.**

**92 Install foam gaskets** behind electric outlets and switch plates on walls.

**93 Inspect for mold in your insulation.**

Remove mold and seal leaks with low-expansion spray foam made for this purpose.

**94 Caulk any air leaks at interior wall/ceiling joints and wall/floor joists.**

**95 Use foam sealant on larger gaps** around windows, baseboards and other places where air may leak.

**96 Cover your kitchen exhaust fan** to stop air leaks when not in use.

**97 Have a qualified contractor seal air leaks** with fire-resistant materials such as sheet metal, sheetrock or furnace cement caulk.

**98 Get an x-ray of your home**

Thermal imaging of your exterior can reveal leaks and locations of weak insulation.

**99 Try this oven alternative**

Toaster ovens can use one half to one third less energy than a conventional electric oven for small meals.<sup>16</sup>

**100 Zone it in**

Convection ovens can use up to 40% less energy than a regular electric oven.

**101 Want some new exterior doors?**

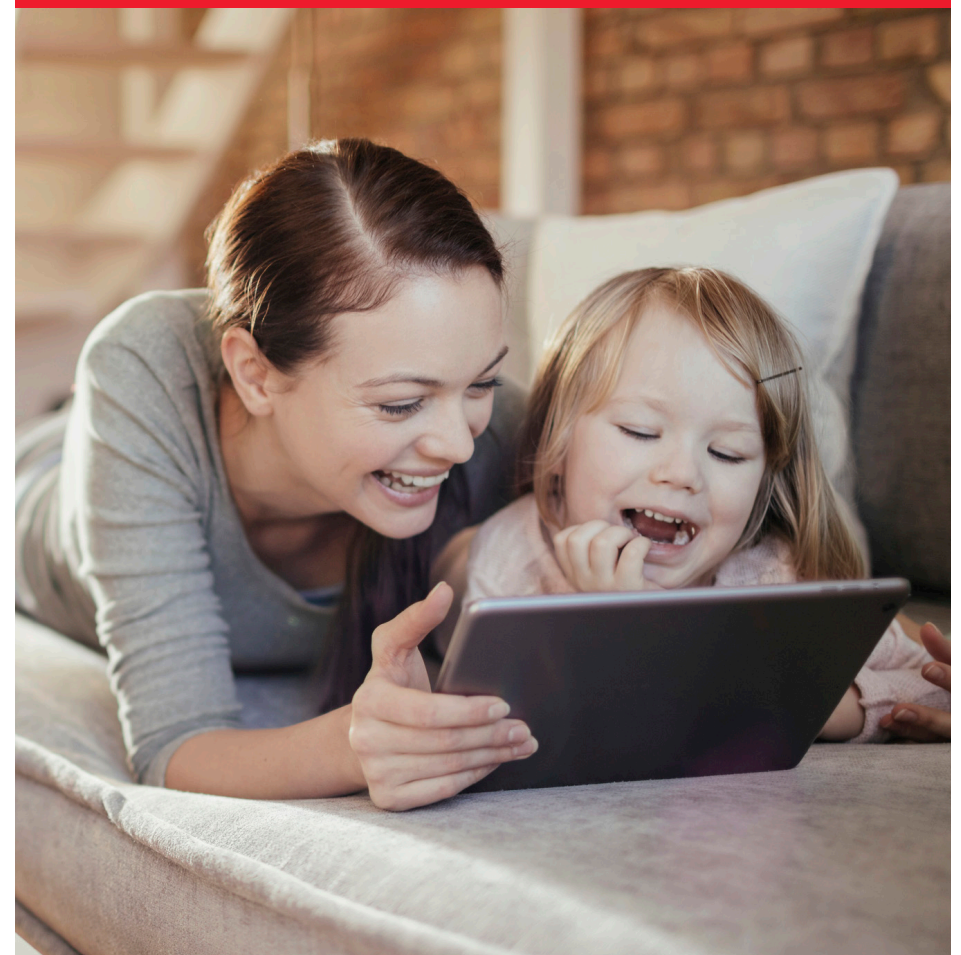
Then go for insulated versions — wood doors with foam filling work best.



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# 101 energy tips

Manage your energy your way



## Comfort me

### 1 Be fan-friendly

Install ceiling fans to keep cool air circulating so you can turn down your air conditioner. Still, make sure to turn off your fan when you leave the room.

### 2 Embrace layers

Rather than crank up your heat in the winter, keep your thermostat at a moderate level and bundle up. (Who doesn't love fuzzy slippers?)

### 3 Cool off your hot water

Set your hot water heater to no higher than 120 degrees Fahrenheit. This isn't just energy smart — it's also safer, since it reduces the likelihood of accidental burns. In fact, lowering 10 degrees Fahrenheit saves you 3% to 5% on water heating costs.<sup>2</sup>

### 4 Invest in high efficiency

High-efficiency appliances and light bulbs may cost a bit more up-front, but they can save big money over the life of the product. Plus, some energy-efficient equipment may be eligible for rebates to offset the initial cost.

### 5 Insulate, insulate and insulate

What's the point in filling your home with cool or warm air, only to have it disappear? Invest in high-quality insulation to help keep temperature-controlled air where it belongs.

### 6 Get with the program

A programmable thermostat can help you save big on energy costs, adjusting the temperature when you're at work, at play or asleep.

### 7 Space heating

Heat a smaller area to stay warmer when you are in one place for a while.

### 8 Upgrade your furnace

Consider replacing your old furnace with a high-efficiency unit.

### 9 Cover up, will ya?

Use window treatments that provide insulation to slow down heat loss in the winter, and heat gain in the summer.

### 10 Go down under in the summer

Move your base of operations to your basement where it is naturally cool.

### 11 Only AC one room

By using window AC only in your most needed room — most likely your bedroom — you can cut down electric use.

### 65 Let it flow

Ventilation of an attic or crawl space is as important as vapor barriers to protect insulation from moisture. A well-ventilated attic lets unwanted heat escape in the summer and warm, moist air escape during the winter. This helps maintain a maximum R-value for the insulation.

#### Consider these three replacement window strategies:

66 Multiple panes are best, double-pane, triple-pane and even quadra-pane windows are available.

67 Gas fillings. Argon is a common gas used to fill the air space between panes. It's like invisible insulation because it's clear and doesn't conduct heat as quickly as air.

68 Special coatings. Low-e is a special coating that reflects infrared heat back into your home, preventing it from escaping via the window.

## Furnace and boiler quick tips:

69 Vacuum out vent covers to keep ducts clean and unobstructed.

70 An annual tune-up is a good way to check on operational safety and efficiency.

71 Bleed radiators annually to make sure they are free of air and full of water.

72 Dust radiator fins for better heat distribution.

73 Peel back accumulated layers of paint, they reduce energy effectiveness of radiators.

74 Save 1% of your total heating bill for every degree you set back your thermostat.<sup>17</sup>

75 Proper use of a programmable or setback thermostat can cut your energy bills by almost \$200 per year.<sup>18</sup>

## Home front

### 76 Stop those obvious leaks

Find and seal leaky ducts, drafts around doors and windows, fireplace dampers, and other places where air might escape.

### 77 Plant trees

Carefully positioned trees can save up to 25% of the cooling energy a typical household uses. Research shows that summer daytime air temperatures can be 3 to 6-degrees Fahrenheit cooler in tree- shaded neighborhoods, than in areas without trees.<sup>1</sup>

### 78 Take it to the top

Want to make a strong statement about energy efficiency and environmental sustainability? Consider a green roof. These include plant materials and a deep cushion of soil. Green roofs provide great insulation that also helps soak up rain water.

### 79 Go white up top

Install a white roof or lighter colored shingles. These lighter colored materials help reflect heat away.

### 80 Let your solar side shine

Want to keep up with the trends? Look into using solar panels for generating electricity or hot water.

### 81 Runs hot and cold

A ground source heat pump can deliver heating efficiencies 50% to 70% higher than many conventional heating systems; and cooling efficiencies 20% to 40% higher than available air conditioners.<sup>3</sup>



**52 Enjoy eight degrees of separation?**

Ceiling fans can make the internal temperature feel up to 8 degrees Fahrenheit cooler.<sup>12</sup>

**53 Close off those windows**

Cellular and honeycomb shades will help you reduce both heat loss (up to 86%) and gain (up to 80%) in one fell swoop.<sup>13</sup>

**54 Slow the flow**

Faucet aerators can reduce your water flow from the usual 2.2 to 1.5 gallons per minute, saving you on water consumption.<sup>14</sup>

**55 Check your gas dryer vent to be sure it is not blocked.**

This will save energy and may prevent a fire.

**56 Replace door bottoms and thresholds** with ones that have pliable sealing gaskets.

**57 An open and shut case**

Opening the door of your oven can lower the cooking temperature by as much as 25 degrees Fahrenheit.<sup>15</sup>

**58 Cool rinse**

Simply rinse your dishes with cool instead of hot water.

**59 Stop cooking, now!**

Turn off your oven 10 minutes before the end of cooking. The oven will retain the temp — plus you'll avoid over-cooking.

**Caulk 101. The most common types of caulk are:**

**60** Siliconized acrylic and siliconized latex caulk can be used indoors or outdoors. Inexpensive, paintable, long-lasting and easy-to-use — best as a general-purpose caulk.

**61** Pure silicone works well for caulking seams in ducts and areas exposed to high temperatures. While it cannot be painted, it is extremely durable and has excellent elasticity.

**62** Expanding or non-expanding plastic foam fills larger gaps than standard caulk. Allow for expansion when applying. This is best for filling gaps between different materials like metal, plastic or stone.

**63 R you aware of R-values?**

A material's resistance to heat flow is called its Resistance-value or R-value. Placing high R-value insulation in the cavities of your home slows the flow of heat through walls, floors and ceilings. For example, our rebate program requires R44+.

**64 Vapor barriers**

Vapor barriers safeguard insulation against moisture. If your insulation has no built-in vapor barrier, install the vapor barrier next to the insulation on the warm-in-winter side to reduce moisture flow. A 4 mil or 6 mil polyethylene sheet provides an excellent vapor barrier.



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**12 Get hot, on-demand**

Install an under-the-sink, on-demand water heater in your kitchen to save energy by only using it when you need it.

**13 Open up inside**

Keep interior doors open to help air circulate more freely and maintain constant heat and cooling levels.

**14 Clean out your lint trap**

Keeping airflow moving through your dryer can help optimize performance.

**15 Keep the fireplace flue damper tightly closed when not in use.**

**16 Winter fans**

Run the fan in a clockwise direction to push warm air down from the ceiling, adding comfort and savings.

**17 Go counter clock-wise for summer relief**

Reverse fan motion to circulate cooler, conditioned air.

**18 Seal air leaks** where plumbing, or electrical wiring comes through walls, floors, ceilings and soffits over cabinets.

**19 Take it outside**

In the summer, cooking outside can reduce extra heat build-up in your kitchen.

**20 Thermo down when burning**

When using your fireplace, turn down your thermostat because a fireplace can draw heat out of the room it's in.

**21 Cooking pans: Smaller is smarter.**

Small pans take less energy to use.

**22 Contain the heat**

Get three times the efficiency by covering your pots when cooking.

**23 Surprise! Use these pans that heat faster**

Glass or ceramic pans actually heat up faster than metal pans.

**24 Use dead space to reduce heat loss**

Window coverings should create dead-air spaces (areas with low air movement and little heat transfer) between window coverings and windows.

**25 Use electric space heaters wisely!**

- Direct your heater toward people, not spaces.
- Keep papers, clothes and other flammable materials away.

<sup>1</sup> Landscaping for Energy Efficiency, Dep't of Energy, GO-10095-046, 2-3 (Apr. 1995), <http://www1.eere.energy.gov/library/pdfs/16632.pdf>.

<sup>2</sup> Joe Bousquin, How to Reduce Your Water Heater's Energy Use, HOUSELOGIC (last visited Oct. 2, 2015), <http://www.houselogic.com/home-advice/water-heaters/water-heater-energy-saving-tips/>.

<sup>3</sup> Int'l Ground Source Heat Pump Ass'n, Frequently Asked Questions (last visited Oct. 2, 2015), <http://www.igshpa.okstate.edu/geothermal/faq.asp>.

<sup>4</sup> Windbreaks that Work, WI DNR, FR-070 (2003), <http://dnr.wi.gov/topic/forestmanagement/documents/pub/FR-070.pdf>.

<sup>5</sup> Landscaping for Energy Efficiency, Dep't of Energy, GO-10095-046 (Apr. 1995), <http://www.mass.gov/eea/docs/doer/publications/landscapeee.pdf>.

<sup>6</sup> 60 Simple Ways to Save Money on Your Energy Bill, Xcel Energy, [http://www.builditsolar.com/Projects/Conservation/60\\_Ways.pdf](http://www.builditsolar.com/Projects/Conservation/60_Ways.pdf).

<sup>7</sup> Tips: Water Heating, Dep't of Energy (last visited Oct. 2, 2015), <http://energy.gov/energysaver/articles/tips-water-heating>.

<sup>8</sup> ENERGY STAR @ home tips (last visited Oct. 2, 2015), [https://www.energystar.gov/index.cfm?c=products.es\\_at\\_home\\_tips](https://www.energystar.gov/index.cfm?c=products.es_at_home_tips).

<sup>9</sup> Top 10 Energy-Saving Tips, Good Housekeeping (last visited Oct. 2, 2015), <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=2>.

<sup>10</sup> Top 10 Energy-Saving Tips, <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=5>.

<sup>11</sup> Top 10 Energy-Saving Tips, <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=6>.

<sup>12</sup> Top 10 Energy-Saving Tips, <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=8>.

<sup>13</sup> Top 10 Energy-Saving Tips, <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=9>.

<sup>14</sup> Energy Saving Tips — Kitchen, La Plata Electric Association, Inc. (last visited Oct. 2, 2015), [http://www.lpea.com/efficiency/energy\\_tips\\_kitchen.html](http://www.lpea.com/efficiency/energy_tips_kitchen.html).

<sup>15</sup> ENERGY STAR Kitchen and Industry Scoping Report: Toaster Ovens 4 (Nov. 2011), [http://www.energystar.gov/ia/products/downloads/ENERGY\\_STAR\\_Scoping\\_Report\\_Toaster\\_Ovens.pdf](http://www.energystar.gov/ia/products/downloads/ENERGY_STAR_Scoping_Report_Toaster_Ovens.pdf).

<sup>16</sup> Top 10 Energy-Saving Tips, <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=4>.

<sup>17</sup> Top 10 Energy-Saving Tips, <http://www.goodhousekeeping.com/home/g2359/energy-saving-tips/?slide=4>.

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## You can do it

- 26 Stay in the dark**  
Turn off your lights when you leave the room — even if you'll only be gone for a moment.
- 27 Be finicky about filters**  
Change or clear your furnace filters per manufactures recommendation. Clogged filters can lower the airflow and may cause your system to work less effectively.
- 28 Insulate your pipes**  
Similar to a real hug, wrapping your hot water pipes in the cushy arms of insulation warms them inside and out. So go hug your pipes; your water heater will thank you for it!
- 29 Get smart about thermostats**  
New smart thermostat technology can help your heating and cooling systems use energy more efficiently.
- 30 Hit the roof**  
Insulating your attic is probably the highest sustained return on investment of any of the energy-saving insulation tips.
- 31 Localized heating**  
Use space heaters to reduce the need of heating your entire home.
- 32 Plant a windbreak**  
Windbreaks with evergreens, if properly placed, can reduce annual home heating costs by 10% to 15%.<sup>4</sup>
- 33 Save in the shade**  
Positioning trees and shrubs can shade your air conditioner unit, helping it run up to 10% more efficiently.<sup>5</sup>
- 34 But be sure branches and leaves don't restrict airflow!**
- 35 Fan up**  
Use all sorts of fans to stay cool, even with your AC running.
- 36 Light, only when needed**  
Use outdoor motion detection lighting.
- 37 Strip down your technology**  
Use a power strip or electronics timer for your computers, monitors, printers and TV and other appliances to reduce phantom power usage.
- 38 De-lint de dryer!**  
By cleaning out the exhaust vent on your gas dryer you can help your dryer run more efficiently and use less energy.



- 39 Clean that AC**  
Keeping your AC coils clean can help improve efficiency.
- 40 Lids please**  
By keeping your left-overs in sealed containers, you can avoid moisture escaping, which can cause your fridge to run less efficiently.
- 41 Plug every leak**  
Repair leaky faucets promptly. A leaky faucet wastes gallons of water in a short period of time, especially costly for hot water faucet leaks.
- 42 Less flow more savings**  
Low-flow water faucets can help reduce your hot water consumption, which can save energy.
- 43 Cool cycle more**  
Try using more cool settings on your washing machine to save on hot-water use.
- 44 Top it off**  
Always wash with full loads of clothes.
- 45 Cool it**  
Use the low setting for the dryer. It keeps your gas use down.
- 46 Micro that please**  
When possible, use the microwave instead of the oven — it can use as much as 80% less energy.<sup>9</sup>
- 47 M-m-m toasty!**  
Use a toaster oven for small cooking tasks.
- 48 Stove it up**  
When you can, use the stove top instead of the oven.
- 49 Air 'em out**  
Air dry dishes instead of using your dishwasher's drying cycle.
- 50 Dim it down**  
Still using incandescent light bulbs? Dimming a fixture by 10% more than doubles bulb life.<sup>9</sup>
- 51 Blow with the flow**  
Window fans aid natural ventilation, and when there is no breeze, they can create air flow through your home.