

# ENERGY EFFICIENCY AT HOME

GENERATION **E**



# OVERVIEW

What is Generation E?

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What is energy efficiency?

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Ways to make a home more energy efficient

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The student-led home energy review activity



# WHAT'S EFFICIENCY MANITOBA?

- \* An organization dedicated to helping Manitobans save energy, money, and the environment
- \* They offer programs and rebates for Manitoba homes, businesses, and communities to reduce their energy use

GEN **E**



# WHAT'S GENERATION E?

- ✦ An initiative by Efficiency Manitoba to empower the next generation of energy savers
- ✦ The goal is to teach young people the importance of energy efficiency and protecting the environment





# ENERGY & ENERGY EFFICIENCY



**QUESTION:**

**WHAT DO WE NEED  
ENERGY FOR?**







# WHAT IS ENERGY EFFICIENCY?

GEN  E



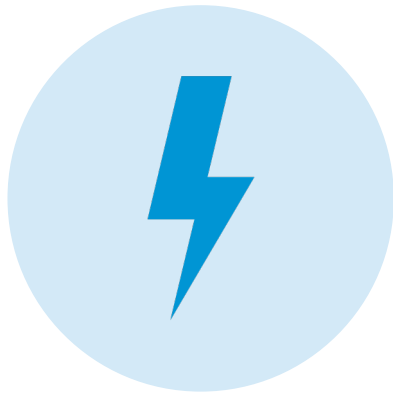


# WHAT IS EFFICIENCY?

$$\text{Efficiency} = \frac{\text{output}}{\text{input}} \times 100$$



# WHY ENERGY EFFICIENCY?



Save energy



Save money



Save the  
environment

# WHAT CAN MAKE A HOME MORE ENERGY EFFICIENT?

Adding insulation

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Using high-efficiency heating systems

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Installing LED lighting

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Using ENERGY STAR® certified appliances and electronics

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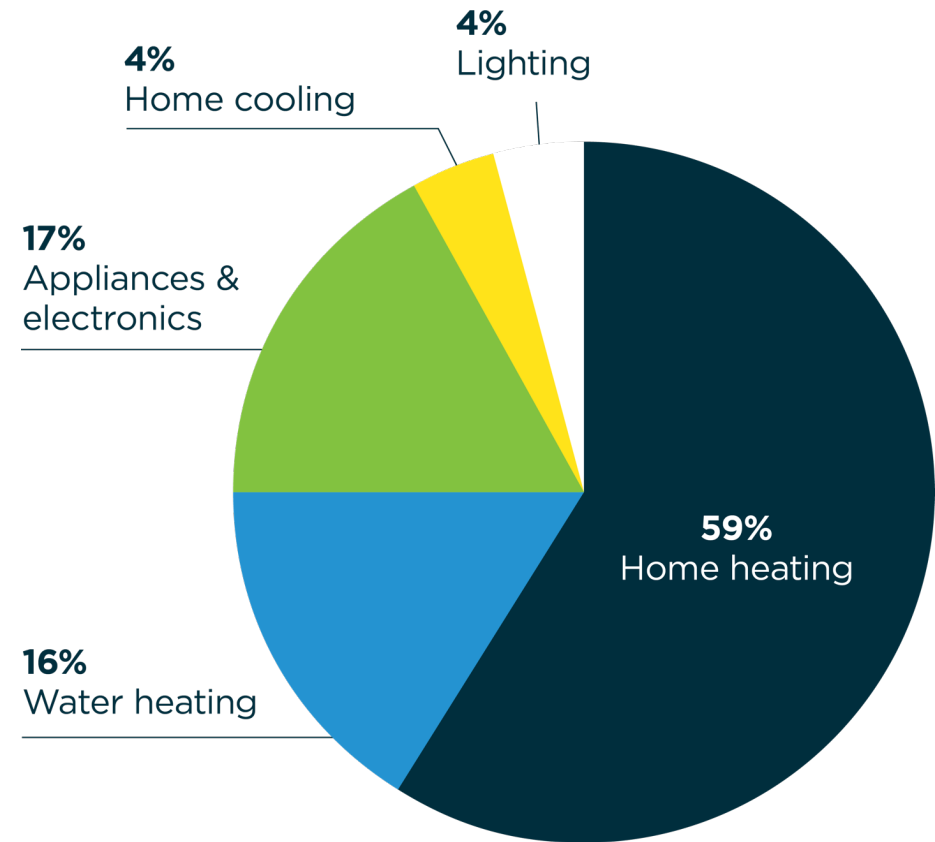
And so much more!




# HOW DO WE USE ELECTRICITY AND NATURAL GAS IN OUR HOMES?


**75%**

of the energy used in an average Manitoba home goes towards home space and water heating




# WHAT AFFECTS YOUR HOME'S ENERGY CONSUMPTION?

 Age of your home (older homes tend to have less insulation and other energy-efficient features than newer homes)

 Number of people in your household (more household members means more energy consumers)

 Square footage of your home (larger homes tend to use more energy)

 Individual behaviours (your thermostat settings, hobbies, and habits can all impact energy use)

# FURNACE & WATER HEATING SYSTEMS

Water vs. space heating

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Standard-efficiency vs. high-efficiency natural gas furnaces

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Other types of heating systems:

- \* Natural gas boilers
- \* Electric baseboard heat
- \* Geothermal heat pumps
- \* Wood stoves
- \* Electric furnaces
- \* Etc.





# AGE OF HOME & ENERGY EFFICIENCY

There are codes that say how homes should be built

Before 1999, those codes required less insulation than is required now

Adding more insulation to attic, walls, and foundation not only saves energy but also improves comfort

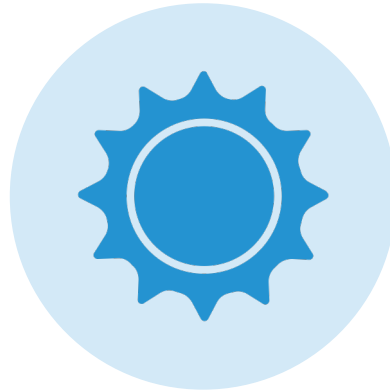




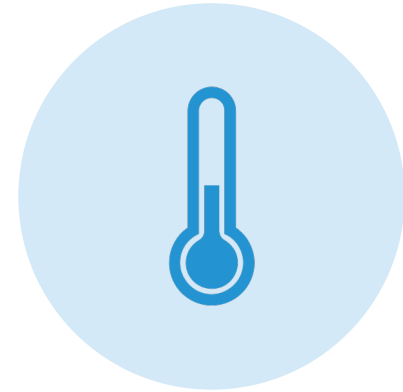
# ADJUSTING YOUR THERMOSTAT



**You can save heat by turning back your thermostat a couple degrees at night or when you're away from home**



**In the summer, increase the temperature by 3°C or more for at least 8 hours a day to save up to 4% on cooling costs (opposite for winter)**



**Temperature adjustments are easy with programmable and smart thermostats**

# LIGHT BULBS



Easy change you can make:  
turn off the lights when you  
aren't using them!



Every LED your house  
installs can save up  
to \$4 per year



Upgrade to LEDs: they last up  
to 25 years and use 80% less  
electricity than traditional  
incandescent bulbs



Think of how many bulbs you  
have in your home and how  
much you could save!



# WATER SAVINGS



You can use a flow bag to measure the flow rate of the showerheads and faucets in your home



Energy-efficient showerheads usually have a flow rate of around 5.7 litres per minute (1.5 gallons per minute)



Saving hot water = saving energy used to heat the water



# BENEFITS OF HIGH-PERFORMANCE WINDOWS

Energy savings

Comfort

Reduced condensation

Noise reduction



# EASY ENERGY- SAVING TIPS

- ✱ Unplug
- ✱ Shorter showers
- ✱ Turn off lights
- ✱ Do you have other ideas?



# NEXT STEPS

- ✱ Go to [generation-e.ca/home-energy-review/](https://generation-e.ca/home-energy-review/)
- ✱ Enter the password your teacher provided you
- ✱ Get your parent or guardian to fill out the form with you (it should take around 20 to 30 minutes)
- ✱ While you're filling out the form, remember to think about how you can be saving energy
- ✱ Come back to class ready to reflect on what you learned!

