

# ALL ABOUT ENERGY

**GENERATION**  **E**



# WHAT IS ENERGY?

- ✪ Energy, in physics, is the capacity or power for doing work.
- ✪ Energy can exist in various forms.
- ✪ Types of energy include potential, kinetic (movement), thermal (heat), electrical, chemical, nuclear, etc.



# WHAT IS ENERGY?

Electricity

Heating and cooling

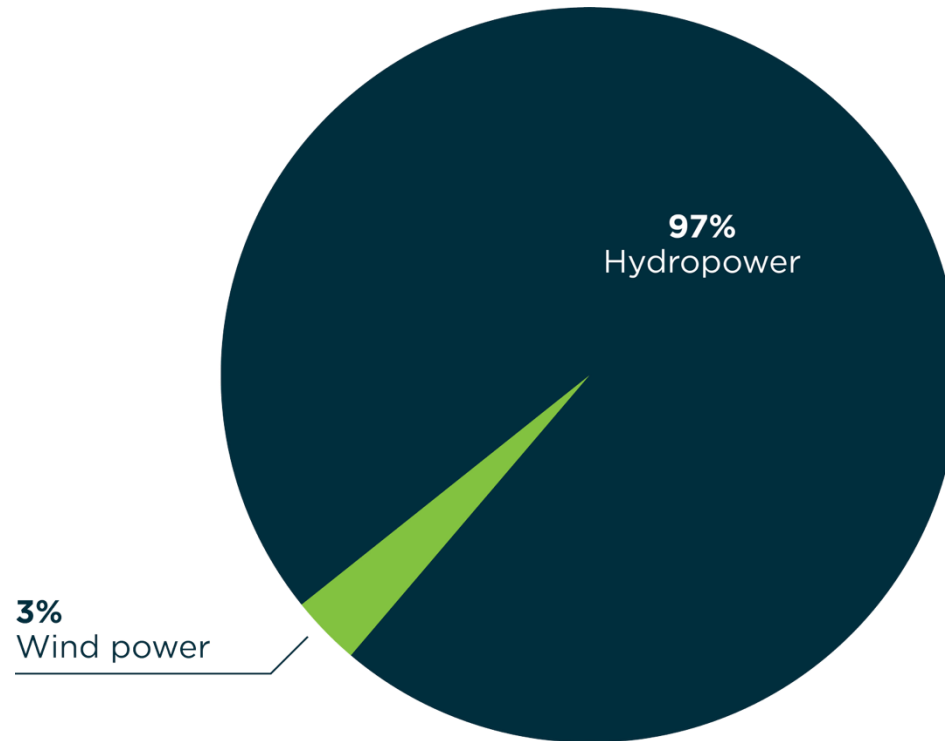
Movement





# HOW DOES MANITOBA PRODUCE ITS ELECTRICITY?

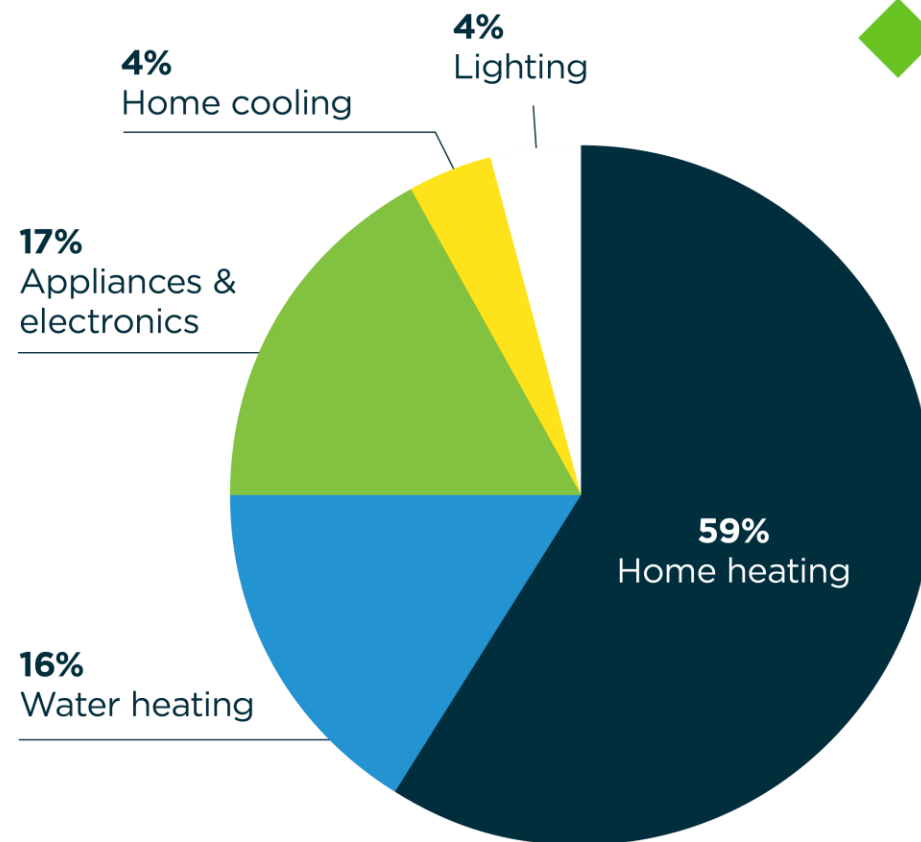
- 97% Hydropower
- 3% Wind power



# 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



# HOW DOES HYDROPOWER WORK?

Build dams to block the flow of water in a river

---

Water spins big wheels (turbines)

---

The wheels spin generators producing electricity

---

Electricity is transported through transmission and distribution, or "power" lines for homes, businesses, and schools to use



# HOW DO WE GET ENERGY FROM FOSSIL FUELS?

- ✱ Burn oil, coal, or gas
- ✱ Capture the heat
- ✱ Use directly or transform to other energy



# WHAT IS THE GREENHOUSE EFFECT?



Greenhouse gases (GHGs)



Captures sun's heat

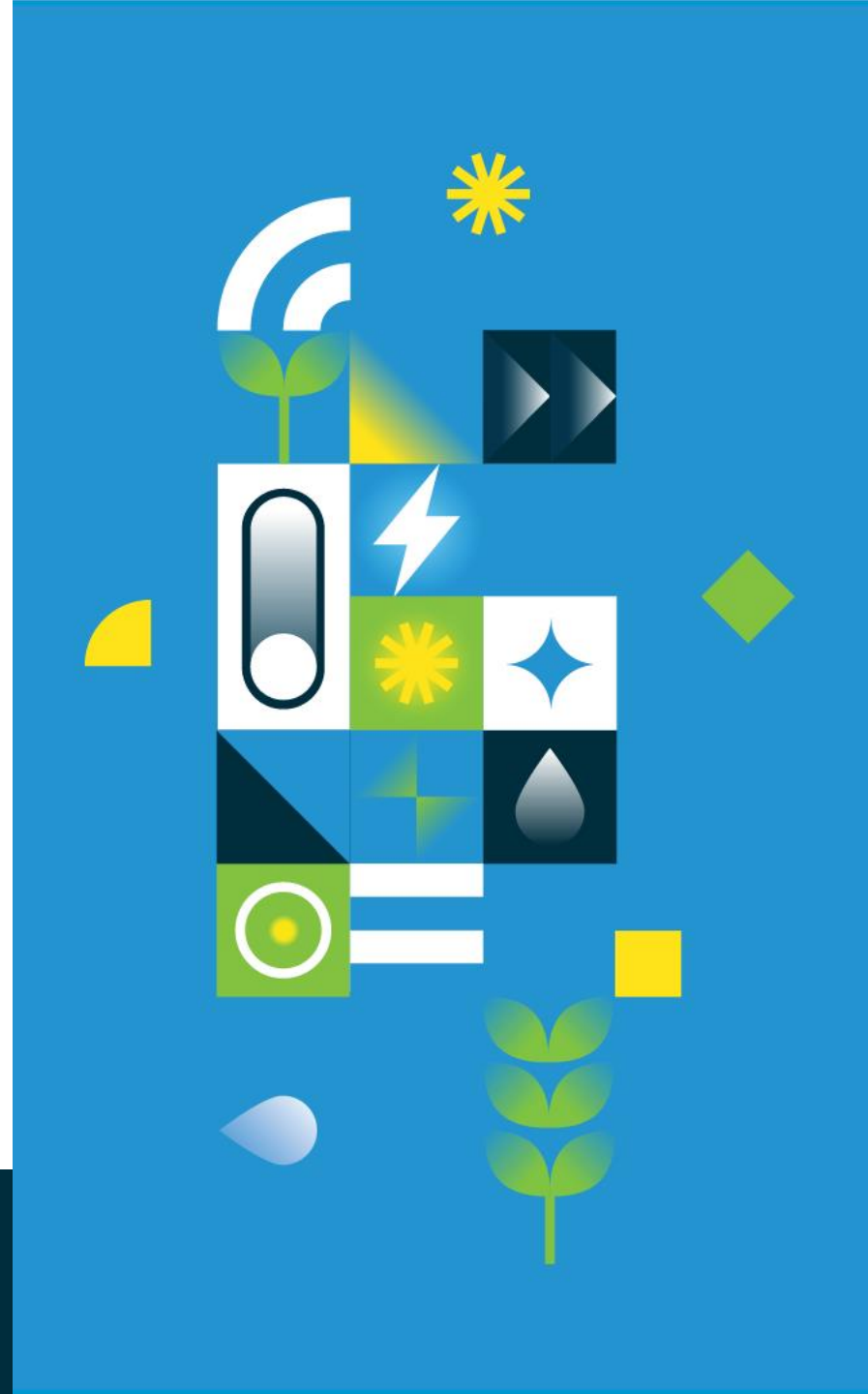


Warms the earth



# WHAT HAPPENS WHEN WE BURN FOSSIL FUELS?

- ☀️ A lot of carbon dioxide (CO<sub>2</sub>) emissions
- ☀️ Contributes to greenhouse effect
- ☀️ Global warming



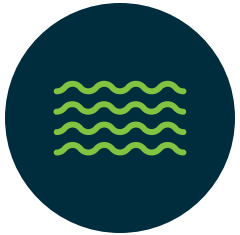
# WHY IS GLOBAL WARMING BAD?



Arctic ice melts



Extreme weather events  
(floods, droughts, storms)



Sea levels rise



Climate change



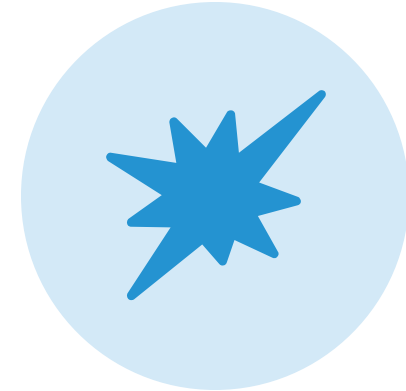
# WHAT HAPPENS IF WE DON'T MAKE CHANGES?



Plants and animals will start to  
go extinct



Islands and coastal lands  
will disappear



More conflict

# BUT, WE HAVE AN OPPORTUNITY TO MAKE A CHANGE BY...

- ✱ Reducing our energy use
- ✱ Changing our own behaviours
- ✱ Choosing climate responsible companies



# WHAT ARE NET ZERO EMISSIONS?

Removing what  
you emit

Best way  
to net zero = using  
less



# ENERGY EFFICIENCY SAVES MONEY & THE PLANET



Lowers your family's energy bill



Reduces GHG emissions



Reduces your impact  
on the environment

# PITCH ACTIVITY

GEN  E

