

Renewable energy sources

Learn about five of the cleanest renewable energy sources used around the world.

From the activity: [Renewable energy around the globe](#)

Guess that power source

Converts light from the sun into energy..

You might see it in your community,
maybe even on your house..



Solar power

Solar panels turn the sun's rays into electricity.

They can be used around the world,
but work the best in sunny places



Benefits of solar electricity:



Harvests the sun's energy, which comes for free

Solar panels are becoming cheaper and more efficient

Can be installed on existing buildings—like your school

Top countries generating solar:

1. China
2. United States
3. India
4. Japan
- ...
26. Canada 

Why don't we have more?

Canada is further north and gets less radiation from the sun, and we have darker winter days. But solar is still growing in Canada.

Guess that power source

Turns running waterways into energy..

It's B.C.'s primary source of electricity...



Hydroelectricity

A dam is built on river to create a reservoir of water.

The reservoir water passes through turbines which spin and create electricity for us to use.



Benefits of hydroelectric power:



Doesn't create any air pollution or waste products

Uses natural waterways to create lots of energy

Water flow can be adjusted to make more or less electricity, depending on what we need

Top countries generating hydro:

1. China
2. Brazil
3. Canada 
4. United States
5. Russia

Our water superpower!

Canada is a world leader in using hydroelectricity, especially in Quebec and B.C.

Guess that power source

Stands tall with spinning blades..



Wind power

**Turbines high in the sky spin
when the wind hits the blades**

This spinning creates electricity

**Wind turbines are often installed
in big groups called a wind farm**



Benefits of wind power:



Efficient at collecting energy in windy places

Doesn't involve burning fuels which create pollution

Wind turbines can be installed in empty fields, open ocean, or alongside crops

Top countries using wind power:

1. Denmark
2. Lithuania
3. Ireland
4. Portugal
- ...
37. Canada 

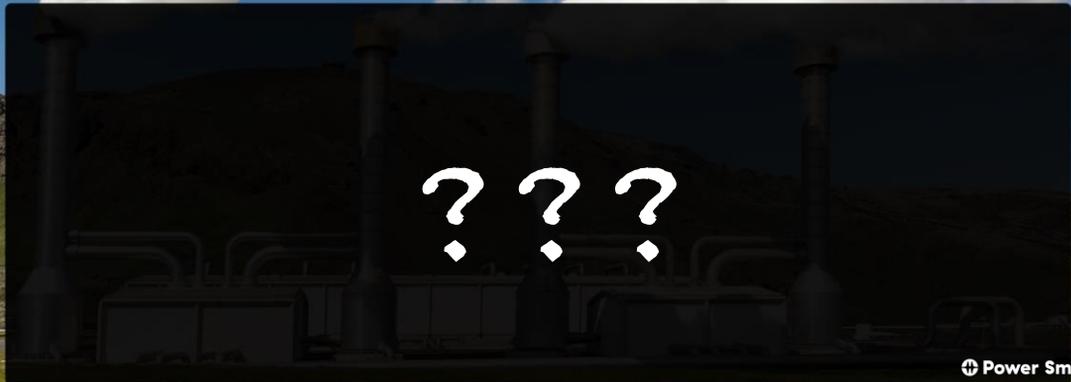
Where's our wind power?

We do produce lots of wind power, but we face challenges like high costs and cold winters. But it's growing fast in Canada!

Guess that power source

Digs deep into the ground for an energy source...

...but something clean, not oil or gas...



Geothermal power

Pipes go deep into the ground to pull up natural hot water or steam, which turns turbines and creates electricity.

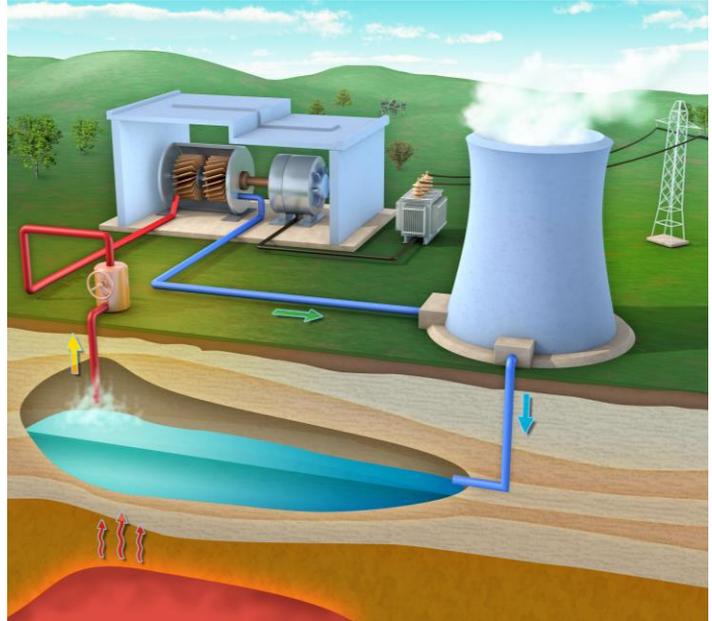


Benefits of geothermal

Provides energy 24/7,
any season or weather

It's renewable because it
uses water heated naturally
deep underground

Can be used to create
electricity or heat buildings



Top countries producing geothermal:

1. United States
2. Indonesia
3. Philippines
4. Turkey
5. New Zealand

What about Canada?

Canada has lots of potential for geothermal, but we currently don't create electricity from it.



Guess that power source

**Turns moving ocean water
into clean electricity..**

**It's not widely used yet, but
may become an important
renewable energy source..**

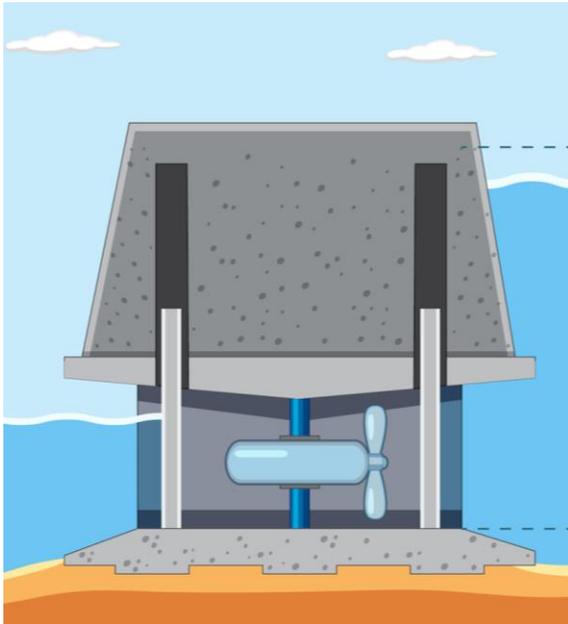


Tidal power

Tidal power stations use turbines to create energy from the movement of ocean tides.

Some are built a lot like hydro dams to channel water through them.

Benefits of tidal energy:



Harnesses clean energy from powerful tidal water currents

Can be combined with other useful purposes like road bridges and water barriers

Doesn't create pollution

Top countries using tidal energy:

1. South Korea
2. France
3. United Kingdom
4. China
5. Russia

Canada's tidal history

The Annapolis Royal Generating Station collected tidal power in Nova Scotia from 1984 to 2019.

Tidal power is challenging to build and has environmental risks. It also has lots of potential, though.

 **Power Smart** for Schools

schools.bchydro.com

© 2026