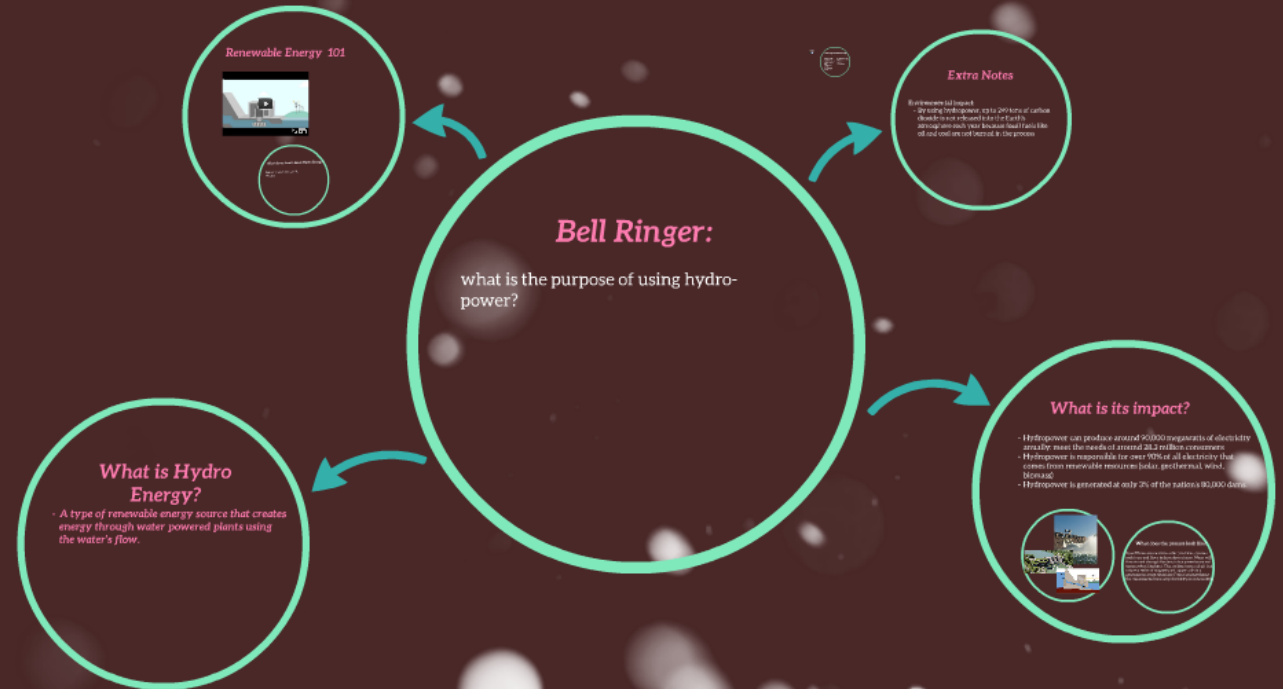
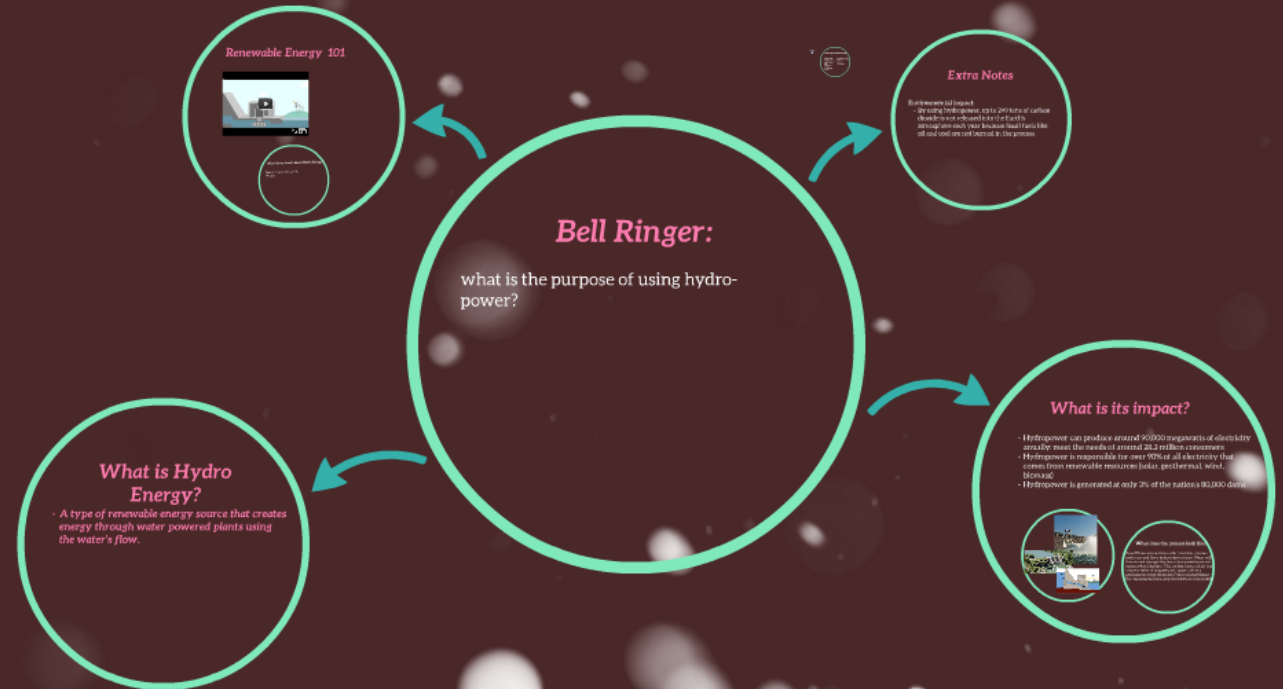


# HydroPower



# HydroPower

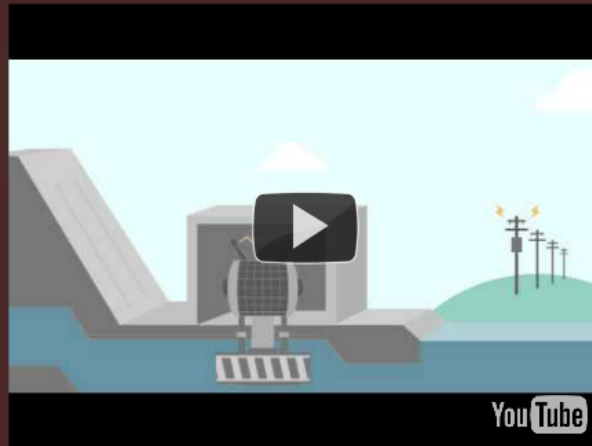


• By using hydro-  
power, carbon  
dioxide is not  
released into the  
atmosphere.  
Oil and coal  
burning release

## *Bell Ringer:*

what is the purpose of using hydro-  
power?

# Renewable Energy 101



What do we know about Hydro Energy?

Define in your own words.  
Discuss

# What do we know about Hydro Energy?

Define in your own words.

Discuss

# What is Hydro Energy?

- *A type of renewable energy source that creates energy through water powered plants using the water's flow.*

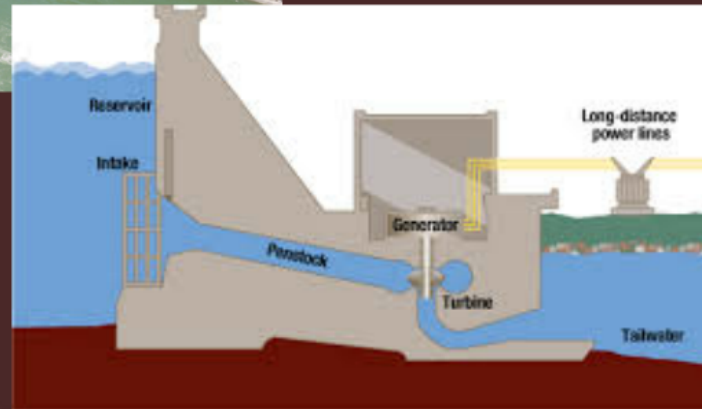
## What is its impact?

- Hydropower can produce around 90,000 megawatts of electricity annually: meet the needs of around 28.3 million consumers
- Hydropower is responsible for over 90% of all electricity that comes from renewable resources (solar, geothermal, wind, biomass)
- Hydropower is generated at only 3% of the nation's 80,000 dams.



### What does the process look like?

Runoff from seasonal rain collects in lakes, streams and rivers and flows to dams downstream. Water will then funnel through the dam, into a powerhouse and turns a wheel (turbine). That turbine turns a shaft that rotates a series of magnets past copper coils in a generator to create electricity. From the powerhouse the transmission lines carry electricity to communities.



Run  
and  
then  
turn  
rota  
gen  
the



## What does the process look like?

Runoff from seasonal rain collects in lakes, streams and rivers and flows to dams downstream. Water will then funnel through the dam, into a powerhouse and turns a wheel (turbine). That turbine turns a shaft that rotates a series of magnets past copper coils in a generator to create electricity. From the powerhouse the transmission lines carry electricity to communities.

## *Extra Notes*

Environmental impact:

- By using hydropower, up to 249 tons of carbon dioxide is not released into the Earth's atmosphere each year because fossil fuels like oil and coal are not burned in the process

# Advantages VS Disadvantages

- Renewable( limited number of suitable reservoirs can be built)
- Green (not an excessive amount of pollution)
- Reliable
- Flexible(adjustable water flow and electricity)
- Safe (no fuels other than water burned)
- Interventions with nature
- Expensive (high expense to build dams, low maintenance cost)
- Droughts
- Limited reservoirs

# Fun Facts

- Hydropower generates in the USA about 9% of total energy supply.
- Today it provides about 20% of the worlds electricity and is the main energy source for more than 30 countries
- The largest hydroelectric power station in the world is the Three Gorges Dam in China.



# HydroPower

