

# Year 7 - Energy and resources

## SOW Learning Map

### Key terms

Resource - a source or supply of something from which a benefit is produced

Renewable - a resource which is not depleted when used

Non-renewable - a resource which is depleted when used

Finite - limited in amount or size

Fossil fuel - a resource created from fossils e.g coal, oil or natural gas

Geothermal energy - energy created using heat from inside the earth's crust

Hydroelectricity - electricity generated from moving water e.g 3 Gorges Dam

Biofuel - fuel created from living matter e.g plants

Sustainable - meeting the needs of people, money and the environment, now and into the future

Environment - the natural environment e.g plants, animals, water, soil, air ect

Social - People

Economic - Businesses, jobs and money

Pollution - when harmful substances are released into the environment

Drought - a period of time with below average rainfall/water availability (South Africa)

Famine - a period of time with below average food availability

Eco-town - a town which aims to be sustainable

Coltan - a mineral mined from the ground, used in portable devices (e.g mobile phones) to store battery power

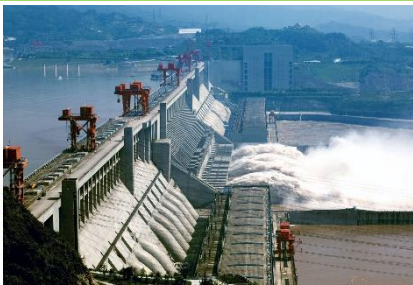
### Energy

#### What types of energy are there?

- Energy is used to create heat or electricity that can be used in several forms.
- These include to power our homes, businesses and transport
- Energy can be classed as **renewable or non-renewable**.
- **Non-renewable** energy includes fossil fuels, which will eventually run out.
- **Renewable** energy includes solar, wind, hydro and geothermal power.

#### Is all energy good?

- There are advantages and disadvantages to using both non-renewable and renewable energy.
- For example, **oil and natural gas** are easy to transport through pipelines (**TAP**) (+)
- However, these pipelines can break or become damaged, resulting in pollution (-)
- **Biofuel** is good as it only releases the same amount of **CO<sub>2</sub>** as it removed from the atmosphere (+)
- However, growing it can take up land which is needed for growing food crops (-)



## What is sustainability?

- To be 'sustainable', something needs to meet the needs of people, money and the environment, now and into the future
- Everything has its own level of sustainability. You, your household, a car, a business, a school ect

## How do we measure sustainability?

- We can look at and discuss if something is good for people (socially sustainable). Are people happy? Are they involved and informed of any changes? Are they healthy? Are they being listened to?
- We can look at and discuss if something is good for the economy (businesses, jobs and money). Is it going to cost a lot? Does it create or lose jobs? Is it expensive? Is it wasting money?
- We can also look at and discuss if something is good for the environment (environmentally sustainable). Does it cause pollution? Does it encourage people to save energy, or other resources like water?

## How can we be more sustainable?

- There are many ways to be sustainable in your everyday life
- Saving energy in your home (which also saves money), buying food locally and not wasting as much, walking instead of driving and recycling your waste when possible are all great examples.
- **Eco-towns** are settlements built to specifically be as sustainable as possible,
- They are designed and built with sustainability in mind.



## Resource misuse

### How can we misuse resources?

- Around the world, there are lots of examples of how resources are not used sustainably, and are misused
- Water is often wasted through industries such as agriculture
- As a result of this, the price of these resources can increase, and the amount available can decrease, meaning many people cannot access them (**South Africa, Fiji**)

### Can we sustainably manage our resources?

- Other resources, such as copper, can be reused, however this is often not sustainable.
- In **Ghana**, e-waste dumps provide many people with jobs, however cause negative impacts on peoples health and the environment
- Coltan is a mineral which is mined in the **Democratic Republic of Congo (DRC)**
- The mines provide thousands of people with a small income, with which they can buy food, medical care and schooling ect
- However, these mines are often run by rebel army groups, who use violence to control people
- Tropical rainforest is also destroyed to create the mines, meaning animals such as gorillas are killed.

