ABIOTIC NATURAL RESOURCES

What are resources?

Any material which is part of earth and **satisfy human need** and add value is called as resource.

Materials occurring in the environment thus are nothing more than 'neutral matter' until people recognize their presence, attach great importance to them, and develop means to capitalize on them. Then the natural materials **fulfill a function**

Example: rocks, minerals, soil, rivers, plants & animal.

Human is a resource because developing his skill, he can develop other resource by adding value to the physical material .

- Resources are commonly classified with respect to their exhaustibility.
- The differentiation between exhaustible and inexhaustible resources only focuses on their quantitative availability and not on their potential for natural growth and recycling.
- **Renewable** and **non-renewable** resources. This differentiation is by no means identical to the exhaustibility classes.
- Renewable resources (animals, tree species) **are exhaustible**
- **Non-renewable** resources (stones, different metals) **are**, economically speaking, **inexhaustible**.

Types Of Resources

Natural Resources

Human Resources

Man-made Resources

Natural Resources

All of Earth's organisms, air, water and soil as well as oil, gas and ores that are removed from the ground

List of Natural Resources

Forest resources (pertaining to plant and tree life)

Aquatic / Marine resources

Hydro geological resources (water bodies of all kinds)

Animal resources (domesticated animals, or those that can be easily approached by humans)

Microbial resources (organisms that aren't visible to the naked eye)

Human resources (the population at large)

Atmospheric resources (anything that humans cannot control - rainfall, sunlight, temperature, and the like)

Crop resources (agricultural growth)

Geological resources (naturally occurring formations - rocks, valleys, minerals, precious metals, and the like)

Edaphic resources (anything related to the soil and its properties)

Wildlife resources

Category Of Natural Resource

Renewable

non-Renewable

Renewable Resource

- are resources that have a continuing process of renewal and supply in nature
- commonly named "flow resources", as it is possible to maintain use indefinitely, provided the production (the flow) continues.

Example: solar energy crops (food and fiber)

water soil

air wind

biomass organic matter

wood geothermal energy

Non-Renewable

- types of resources whose physical quantity does not increase significantly with time
- the rate of renewal is so slow as to be negligible
- The non-renewable resources are often defined as "stock resources". The total supply of the resource is limited in quantity, and each rate of use diminishes some future rate of use.
- Most developed nations are dependent on *non-renewable* energy sources such as fossil fuels (coal and oil) and nuclear power.
- Industrialized societies depend on non-renewable energy sources.

Example Of Non-Renewable Resource

COAL

OIL

NATURAL GAS

OIL SHALE AND TAR SANDS

NUCLEAR POWER

Ores

Rocks

Petroleum and Natural Gas

Types of Natural Resources

- **BIOTIC** : Resources which are living in nature. Example: Forests ,Animals etc.
- **A BIOTIC** : Resources which are non-living in nature. Example: Air ,Water etc.
- **OTHERS RENEWABLE** : Resources which can be replenished easily. Example: Sunlight

ABIOTIC RESORCES

- FOLLOWING ARE A FEW EXAMPLES OF ABIOTIC RESOURCES.

Soil

Mixture of living and nonliving things (tiny rocks, minerals, organic matter, water and air) that provides habitat for plants and organisms.

Takes thousands of years to form

- Hot, humid climates form larger amounts more quickly
- Dry climates form small amount over longer periods

Soil only "renewable" as long as living organic matter stays fertile.

Sun

- **Solar energy**
  - **Provides heat and light**

- Provides energy needed by autotrophs (producers) to produce their own food

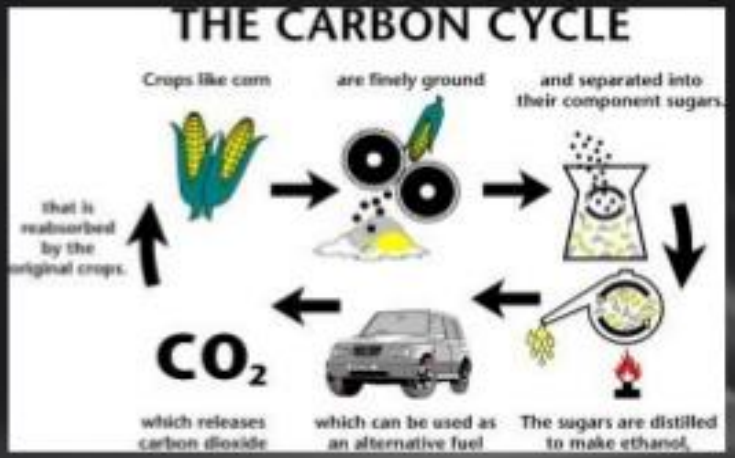
- **Essentially inexhaustible; estimated that it can continue to provide energy for 5 billion years**

Water

- Amount of water on Earth today is same as when Earth was formed
- Constantly cycles and changes form
- Only 3 percent is fresh water for use
- In many parts of world, clean, unpolluted water becoming scarce

- **Water used to generate energy**

Biomass Fuels

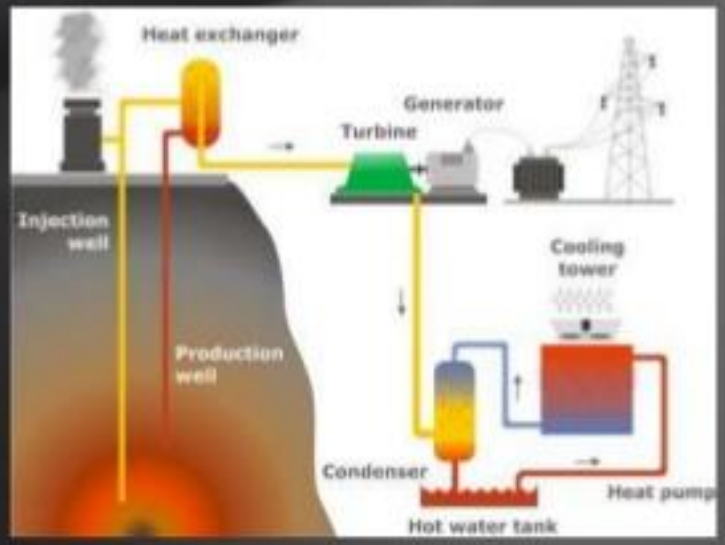


- Organic matter that contain stored solar energy
  - Mostly plant parts; wood, dried vegetation, crop residues and aquatic plants
  - Some derived from animal wastes
- Become one of the most commonly used and renewable energy sources

Geothermal Energy

- Heat generated deep within the Earth
- Fueled by the decay of radioactive elements

- Heat is transferred by water that absorbs heat from center of Earth
- Used to drive electric generators and heat buildings
- Inexhaustible energy source



Fossil Fuels

- **Fossil fuels do NOT come from dinosaurs! They come from decayed plant and animal remains from the ocean. From the TIME of the dinosaurs!**

Coal

- Fossil fuel that forms when wetland plants die, become buried, and undergo physical and chemical changes over millions of years
- Starts out as peat~50% carbon
- Over time peat becomes lignite ~ 70 % carbon

- Lignite becomes bituminous coal (soft coal) ~ 85 % carbon
- Bituminous coal becomes anthracite (hard coal) > 90% carbon… burns very cleanly

NATURAL GAS

Natural gas is a mixture of gases *methane ethane propane butane*.

It is cleanest burning fossil fuel

propane and butane are removed from the natural gas and made into *liquefied petroleum gas* (*LPG*)

methane

Natural gas is highly flammable and is odorless

natural gas is used primarily for heating, cooking, and powering vehicles

What are all the biotic and abiotic things in this picture?

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Thank You