



Program – CIVIL ENGINEERING
Program Code – CE

Course- ENVIRONMENTAL STUDIES
Course Code – 22447

08/07/2020

MSBTEs e-content

MSBTE LEAD- STUDY AT YOUR DOORSTEP





Unit II: Energy Resources

CO 2: Select alternative energy resources for Engineering Practices

UO 2a: List various natural resources.

08/07/2020

**Topic:
Natural
Resources**



Learning Objective/ Key takeaways

Students can list various natural resources.

Content

2.1 Natural Resources

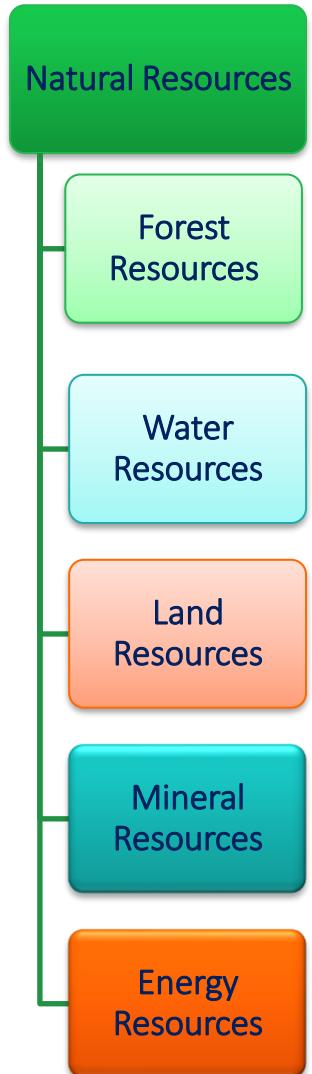
1 Forest Resources

2 Water Resources

3 Land Resources

4 Mineral Resources

5 Energy Resources



Natural Resources



What is Resources?

Any thing, which is useful to man, or can be used to produce a useful thing, can be referred as 'resources'. Example: rocks, minerals, soil, rivers, plants & animal.

Natural Resources

Resources that are drawn directly from the nature and used without modifications are called Natural Resources.

Eg.: air, water, minerals etc.



1. Forest Resources

- Forest is an area with a high density of trees, together with other plants, covering a large area of land.
- Forests are home to 50% to 90% of earth's species.
- These forests produce innumerable material goods



Functions of forest resources

Productive Functions

- Timber, bamboos, food, essential oils
- Latex, medicines etc.

Protective Functions

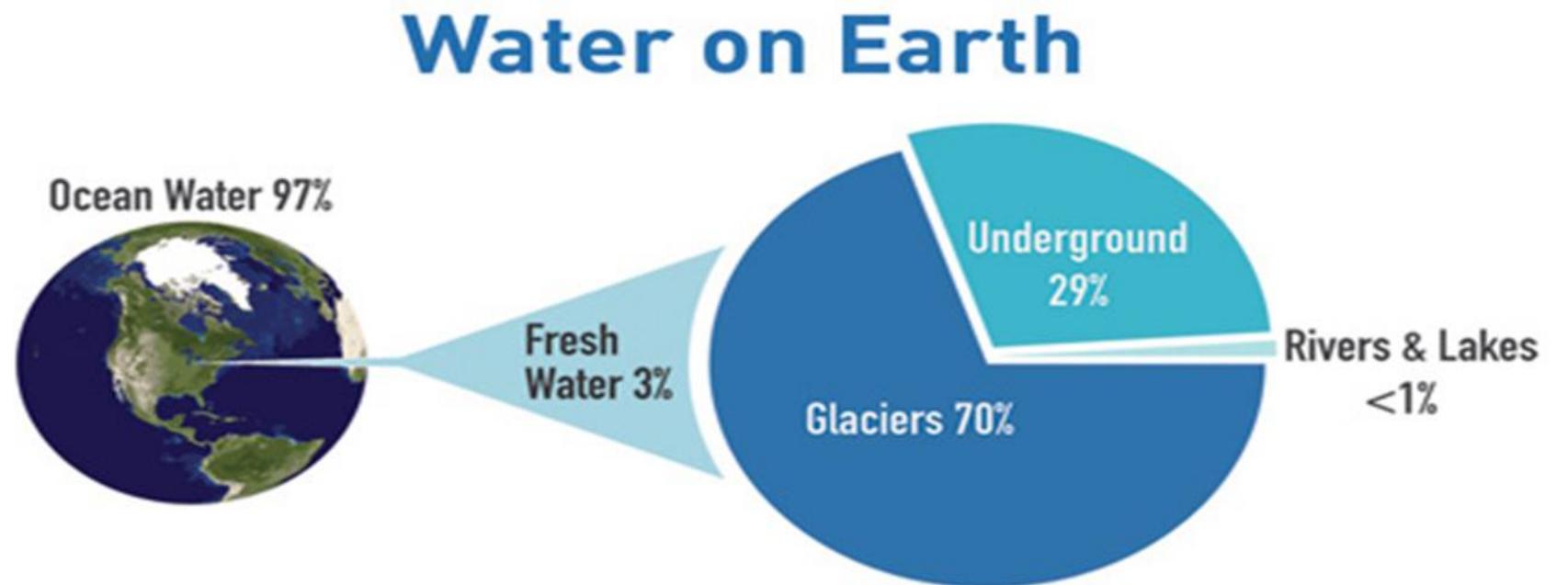
- Conservation of soil and water
- Prevention of drought
- Protection against wind, cold, radiation, noise.

Regulative Functions

- Absorption, storage and release of gases, water, mineral elements.

2. Water Resources

- Earth is known as the "Blue Planet" because 71 % of the Earth's surface is covered with water.
- About 97% of the earth's water is strong saline.
- The rest 3% is freshwater.
- Fresh Water Sources
 - 1. Glaciers- 70%
 - 2. Underground Water- 29%
 - 3. Rivers and lakes- 1%
- Only 1 % is pure and usable water.



Importance of Water

- Water is an essential natural resource for sustaining life.
- Water is one of the most important substance on earth.
- If there is no water there would be no life on earth.
- All plants and animals must have water to survive.
- Water is a renewable but limiting resource.



Uses of water

Apart from drinking water have many applications.



Agricultural
Uses



Industrial
Uses



Household
Uses



Recreational
Uses



3. Land Resources

- ▶ Land is among the most important natural resources. It covers up only 29% of the earth's surface
- ▶ Land is a naturally occurring finite resource. It provides the base for survival of living beings. It holds everything that constitutes terrestrial ecosystems.



Uses of Land Resources

1. Agricultural Land: Agricultural land is typically land devoted to agriculture.

It is land capable of being ploughed and used to grow crops.



2. Habitat for animals and plants: Forest is a habitat for many plants and animals because it provides a suitable environment for them.



3. Industrial and commercial Area: Commercial area is generally reserved for businesses like offices, retail stores, restaurants etc



Uses of Land Resources

4. Residential Area: **Residential area** means land used as a permanent residence, such as a house, apartment, nursing home, school, child care facility.



5. Waste Disposal Area (Landfills) : Proper solid-waste collection and disposal is **important** for the protection of public health, safety, and environmental quality.



6. Mineral source: **Mineral** resources are **the most important** benefits obtained from land as it accelerate Industrial and economic development of a **country**



4. Mineral Resources

- Minerals are naturally occurring, inorganic, crystalline solids
With characteristic properties.
- Minerals are exhaustible.



Types of Minerals

1. Metallic minerals – e.g. Bauxite, Hematite, iron, copper, silver, gold etc
2. Non-metallic minerals – e.g. Coal, Limestone, Marble, Granite, sand, stone, salt, phosphates etc

Uses of Minerals

- ▶ Development of industrial plants and machinery.
- ▶ Generation of energy e.g. coal, lignite, uranium.
- ▶ Construction, housing, settlements.
- ▶ Defense equipment weapons, armaments.
- ▶ Communication- telephone wires, cables, electronic devices.
- ▶ Jewellery— e.g. Gold, silver, platinum, diamond.



5. Energy Resources

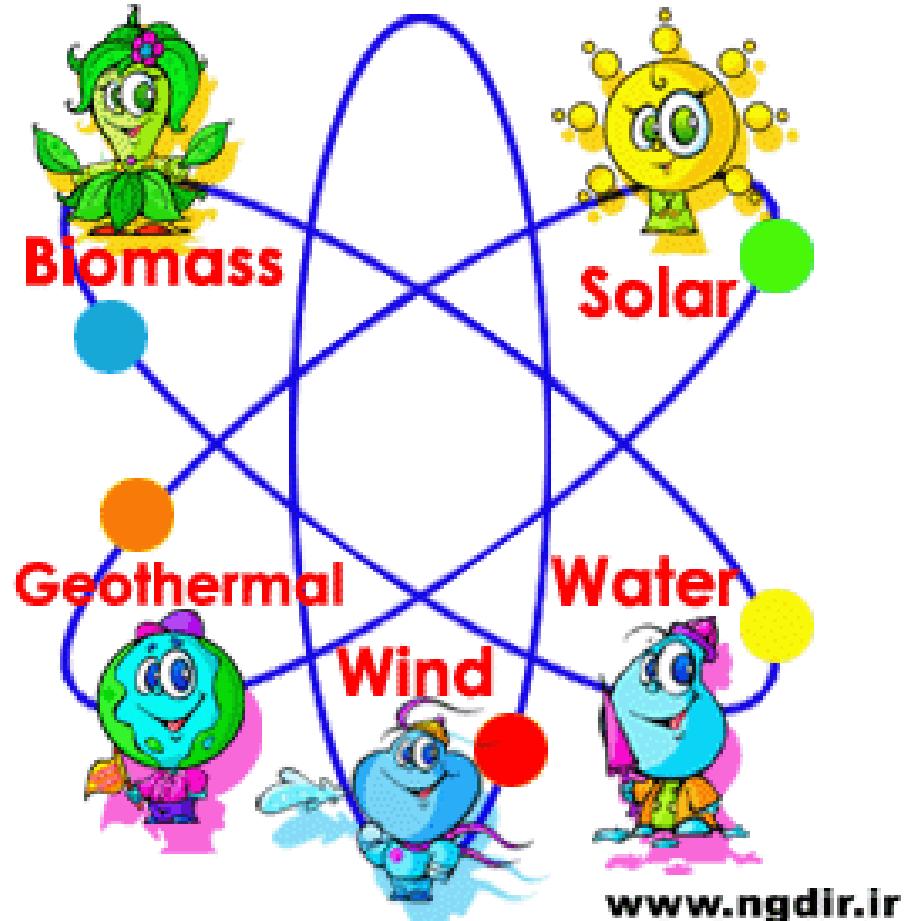
- The substances from which we produce energy are known as energy sources.
- We need energy for our day to day life.
- The energy we use are of two broad categories:

1. Renewable energy

These energy sources are continuously replenished at a constant rate.

2. Non-renewable energy

These sources of energy are known as fossil fuels and these took millions of years to form and cannot be regenerated in a matter of years.



Energy Resources

► Renewable sources of Energy

1. Solar power
2. Hydro power
3. Wind energy
4. Tidal energy
5. Geothermal energy
6. Biogas



► Non-renewable of Energy

1. Coal
2. Petroleum
3. Natural gas





References:

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Natural Resources



The knowledge of Natural resources is very essential to understand its applications, Global need, and future demands

Once you understand the importance of natural resources,
you will understand the need of its conservation

Summary

We have studied :

Types of Natural Resources

1. Forest Resources
2. Water Resources
3. Land Resources
4. Mineral Resources
5. Energy Resources





THANK YOU ALL
HAVE A NICE DAY

Now let's have a Quiz.....