

Q What is Energy Security and How can we achieve it? Suggest some measures for it.

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Answer

Introduction

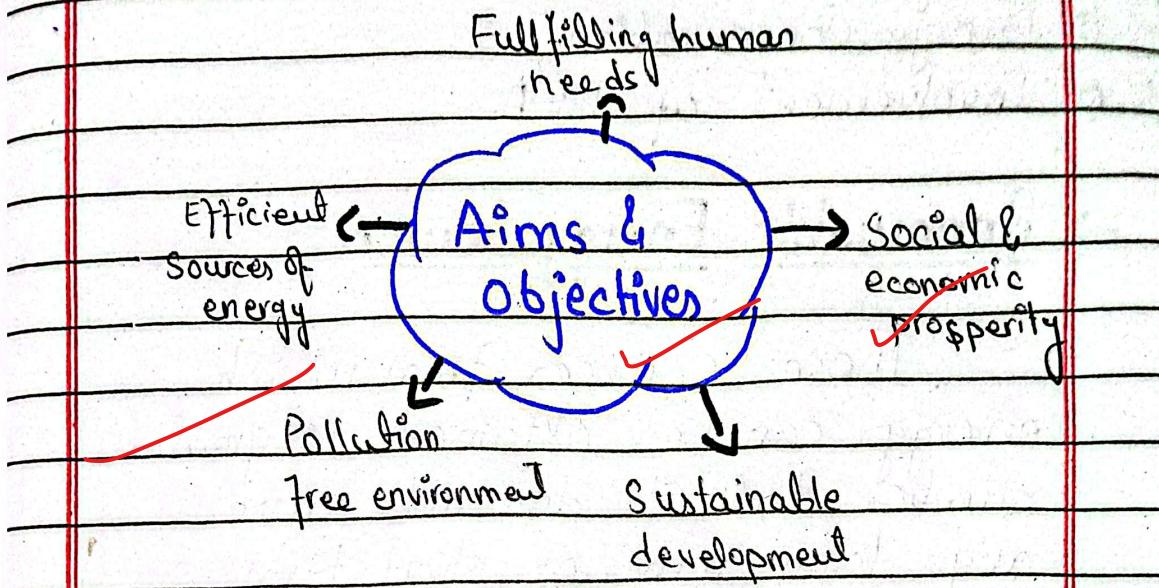
Energy security is all about the availability of energy sources in affordable range, which are reliable and efficient in nature. It has become much debated in contemporary world because fossil fuels cause 30% pollution in earth. And ~~because~~ these fossil fuels are non-renewable, ~~in this~~ way humans cannot use it for more than 40 years. That's why humans trying to adopt some renewable resources for energy by framing policies, introducing efficient infrastructure and seeking international collaboration.

Definition of Energy Security

According to UN Department of Economic and Social Affairs, Energy security is availability, reliability and affordability of energy sources, without compromising future

generation needs."

Features and Aims:



Features:

- ① Energy Security look for renewable sources, which upon using in excessive manner can still remain sufficient
- ② It seeks humans (communities) or nations involvement or participation-
- ③ It focuses on green projects i.e. green buildings
green jobs
green infrastructures (EVs)

→ Guidelines For Achieving it :

In order to make our

communities sustainable and our
keeping our energy sources sufficient,
we need to switch to ~~①~~ Renewable
energy sources

- ② Energy Conservation
- ③ Involvement of IEA.

→ Renewable Energy Sources

Those sources from which
energy can be obtained in greater
number but it does not cause
any long-term or short-term
damage to our environment and
its sources.

These sources are of different
types:

Different Types
of Sources
(Renewable)

→ Geo-thermal Energy

→ Wave energy

→ Tidal energy

→ Biogas or Biofuels

① Geo-thermal Energy

Derived from greek roots,

Geo = Earth

Thermal = Heat

It refers to the amount of energy which can be produced from ~~energy~~ earth, by heating up crust of the earth.

Thermal Convection Process

1

Inner Core of Earth
produce heat upto
5000°C



2

This melt rocks and
other earthern-
minerals



3

Conduction of heat
occurs



4

Heat transfer to
the crust of earth

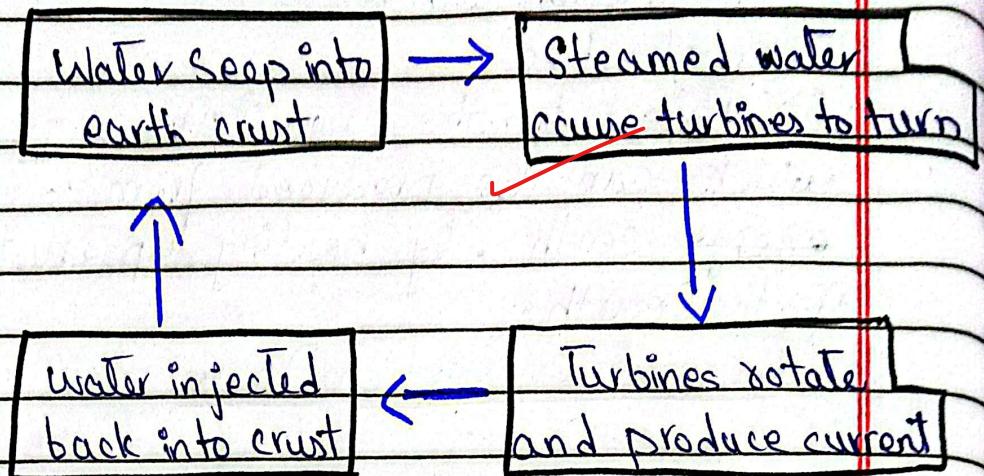


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Crust release
Steam and heat

Energy Production from Geo-thermal :

Electric current is produced from Thermal-Convension by using the medium of water.



② Wave Energy

Every wave in the ocean or sea carry energy which is kinetic in nature. This energy can be transformed into ~~into~~ electric current.

→ This kind of energy is ~~Unpredictable~~ because rate and speed of waves depends on ocean atmosphere.

③ Wind Energy

Amount of energy that is obtained from the moving of air or winds.

→ This kind of energy ~~can~~ be obtained from high-shore

or wind-prone areas.

→ Because, more the speed of wind, high would be the production of tidal energy.

④ Biogas or Biofuel:

The amount of gas or fuel that is produced by the breakdown and decomposition of organic matter using enzymes or microorganisms. This process is usually carried out in absence of O_2 .

→ The obtained biogas, transforms into biofuels, with the process of lignification.

Example:

Biodiesel and Ethanol

→ Major key ways to obtain energy security:

There are several ways through which energy efficiency & security could be obtained.

1 Use energy-efficient technologies

Replace Compact fluorescent lamps with ~~fluorescent~~ LED's. Try to adopt energy conservation technique means switching off unnecessary lights.

- Taking less shower.
- Keep windows open during daytime to avoid using lights

2) Effective Reforms and Policies

Leadership should take responsibility of introducing laws against using fossil fuels and other fossil fuels.

And using renewable energy sources for acquiring energy.

3) Control birth Rate:

National and local platforms should work to promote and introduce conceiving and family planning for couples. In order to curb this high population problem, which in turn causes resources depletion and lackage.

4) Green Projects:

It includes, training farmers to use environment-friendly

techniques to produce crops in large amount without causing harm to human health and ^{its} environment.

Educate youth and layman to grow crops on ~~domestic~~ basis; so that pressure on crops would be mitigated.

→ Conclusion:

Hence, Energy Security is of vital importance and it lies in various forms. It is not just a national responsibility but layman should also need to participate in it. Therefore, measures should be taken to achieve it.

CONTENT IS FINE AND SATISFACTORY
OVER ALL ANSWER IS RELEVANT

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