

1) What is renewable energy?

→ Renewable energy is any energy we use that comes from renewable natural sources. Renewable means that it's naturally replenished, so can't run out. Things like the sun will never run out, same with trees, because although we can cut them down to make biomass energy, we can still replant them, so it's a renewable source.

Sunlight, water, air and heat from the earth are all renewable sources that we can use to make solar, tidal, wind and geothermal energy. Sometimes renewable energy is also called green or eco energy.

2) How many types of renewable energy are there normally said to be?

→ Seven types.

(i) Solar (ii) Wind (iii) hydro (iv) biomass (v) waves
(vi) tidal (vii) deep geothermal.

3) Why don't we use renewable energy all the time?

→ With an endless supply of renewable resources, we have the potential to power the earth from clean energy alone. The main obstacle to this is the overall cost of renewable energy.

4) What are the main sources of renewable energy;

→ From the late 1800's until today, fossil fuels - coal, petroleum and natural gas - have been the major sources of energy. Hydro-power and solid biomass were the most used renewable energy resources until the 1990s. Since then, the shares of U.S. energy consumption from biofuels, solar, and wind energy have increased.

5) Which renewable energy is the best?

→ The most efficient forms of renewable energy geothermal, solar, wind, hydroelectricity and biomass. Biomass has the biggest contribution with 50%, followed by hydroelectricity at 26% and wind power at 18%. Geothermal energy is generated by harnessing the Earth's natural heat.

6) What are the advantages of renewable energy.

→ One major advantage with the use of renewable energy is that as it is renewable it is therefore sustainable and so will never run out.

Renewable energy facilities generally require less maintenance than traditional generators. Their fuel being derived from natural and available resources reduces the costs of operation.

Even more importantly, renewable energy produces little or no waste products such as carbon dioxide or other chemical pollutants, so has minimal impact on the environment.

Renewable energy projects can also bring economic benefits to many regional areas, as most projects are located away from large urban centers and suburbs of the capital cities. These economic benefits may be from the increased use of local services as well as tourism.

7) What are the disadvantages of Renewable energy.

→ It is easy to recognize the environmental advantages of utilizing the alternative and renewable forms of energy but we must also be aware of the disadvantages.

One disadvantage with renewable energy is that it is difficult to generate the quantities of electricity that are as large as those produced by traditional fossil fuel generators. This may mean that we need to reduce the amount of energy we use or simply build more energy facilities. It also indicates that the best solution to our energy problems may be to have a balance of many different power sources.

Another disadvantage of renewable energy sources is the reliability of supply. Renewable energy often relies on the weather for its

source of power. Hydro generators need rain to fill dams to supply flowing water. Wind turbines need wind to turn blades, and solar collectors need clear skies and sunshine to collect heat and make electricity. When these resources are unavailable so is the capacity to make energy from them. This may be unpredictable and inconsistent. The current cost of renewable energy technology is also far in excess of traditional fossil fuel generation. This is because it is a new technology and as such has extremely large capital cost.

8) Why do we need to change renewable energy / Why should we not use renewable energy,
→ Renewable energy ~~provides~~ often has trouble creating the same amount of power that fossil fuels make because of its inefficiency. This means that people must either reduce the amount of energy they use or we need to build more efficient operations.

9) Why should I study renewable energy,
→ Using renewable (as oppose to fossil fuels) brings other advantages and opportunities, ranging from environmental to socio-economic and political. Combatting climate change. The burning of fossil fuels for energy results in a significant amount of green house gas emissions that contribute to global warming.

10) Is paper a renewable resource?

→ Paper is one of the most sustainable products as it is made from renewable resources. It is biodegradable and can cycle back as its own source for renewable energy. When wood, one of the raw materials used in paper, is grown in sustainable, managed forests, it ensures healthy growth and prevents deforestation.

11) How does renewable energy help the environment?

→ Many renewable energy sources are also better for the environment than burning fossil fuels. They produce less pollution which will help protect the environment and provide us with cleaner air and water. Wind power - Large wind turbines generate electricity from the power of the wind.

12) Can renewable energy replace fossil fuels?

→ Renewable energy will replace fossil fuels because they will be less expensive, as reliable, and as convenient as fossil fuels.

13) What energy source will replace fossil fuels?

→ Most analysts think that the world's demand for energy will keep growing in the near future. But they also believe that as time passes, renewable sources of energy - hydroelectric, biomass and perhaps nuclear energy, but above all wind and solar - will replace fossil fuels, reducing carbon emissions.

14) Should we stop using fossil fuels?

→ Burning fossil fuels like coal, oil and gas results in carbon pollution, which causes climate change. So if we want to stop climate change (and avoid devastating extreme weather, sea level rise wiping out communities, global conflict and instability, etc.) we have to stop burning fossil fuels.

15) Should we depend on fossil fuels or renewable energy?

→ The availability and high energy density of fossil fuels make them a more economical resource to depend on for energy. However, they significantly contribute to global warming whereas renewable energy is a non-pollutant with limitless technological potential and output.

16) Does renewable energy cause pollution?

→ Although renewable energy sources produce relatively low levels of GHG emissions and conventional air pollution, manufacturing and transporting them will produce some emissions and pollutants. The production of some photovoltaic (PV) cells, for instance, generates toxic substances that may contaminate water resources.

17) Is cotton a renewable resource?

→ Yes, cotton is a renewable resource because it can be planted and harvested year after year. Cotton also tends to be biodegradable, so it can replace.

18) Is water a renewable resource,

→ Water is a renewable resource because it evaporates out of the oceans to clouds, which generate rain falling on the land. The water then runs into rivers and dams where it is used and the waste is partially cleaned before it makes its route to the sea, where the cycle begins again.

19) How fast is renewable energy growing,

→ Renewable energy is the fastest growing energy source in the United States, increasing 100% from 2000 to 2018. Renewables made up more than 17% of net U.S. electricity generation in 2018, with the bulk coming from hydropower (7%) and wind power (6.6%).

20) Can renewable energy power the world,

→ Renewable energy won't save the world on its own. Power generation accounts for about a quarter of greenhouse-gas emissions being released into the atmosphere in the U.S. The rest comes mainly from transportation, manufacturing, agriculture and heating and cooling homes and businesses.

21) How fossil fuels are formed,

→ Fossil fuels are formed when organic matter that has been buried deep within the earth are subject to heat and pressure over millions of years. In the case of oil and natural gas, the organic material is ~~water~~ marine in origin whereas coal is formed from ancient peat forests.

22) What is fossil fuel used for,

→ Fossil fuels are found in almost every product we use daily. One major use of these products is as fuel, gasoline for cars, jet fuel, heating oil and natural gas used to generate electricity.

23) Who discovered fossil fuels,

→ The theory that fossil fuels formed from the fossilized remains of dead plants by exposure to heat and pressure in the Earth's crust over millions of years was first introduced by Andreas Libavius in his 1597 Alchemia [Alchymia] and later by Mikhail Lomonosov "as early as 1757 and certainly by 1763".

24) Why is it called fossil fuel,

→ Fossil fuels are called so because they have been derived from fossils, which were formed millions of years ago during the time of dinosaurs. They are fossilized organic remains that over millions of years have been converted to oil, gas and coal. These fuels are made up of decomposed plant and animal matter.

- 25) How can we stop using fossil fuels?
- (i) Buy food that is locally produced.
 - (ii) Whenever possible, avoid buying processed food.
 - (iii) Install solar panels on your roof at home so you can generate more renewable energy instead of relying entirely on oil, gas etc.
 - (iv) Before you turn on the ignition, ask yourself if you really need to take the car.

26) Is biomass a fossil fuel?

→ Biomass and biofuels made from biomass are alternative energy sources to fossil fuels - coal, petroleum, and natural gas. Burning either fossil fuels or biomass releases CO_2 , a greenhouse gas.

27) Why is fossil fuels bad?

→ Burning fossil fuels emits a number of air pollutants that are harmful to both the environment and public health. Sulfur dioxide (SO_2) emissions, primarily the result of burning coal, contribute to acid rain and the formation of harmful particulate matter.

28) What is the cleanest fossil fuel?

→ Natural gas, composed primarily of methane, is the cleanest of all fossil fuels, producing only CO_2 and water vapour when it is burned. Coal and oil produce higher levels of harmful emissions, including ~~the~~ Nitrogen oxides and sulfur dioxide when burned.

29) Advantages of fossil fuel :-

- (i) Large amounts of electricity can be generated in one place using coal, fairly cheaply.
- (ii) Transporting oil and gas to the power stations is easy.
- (iii) Fossil fuels are very easy to find.
- (iv) Power stations that make use of fossil fuel can be constructed in almost any location.

30) Disadvantages of fossil fuel :-

- (i) Basically, the main drawbacks of fossil fuel is pollution. Burning any fossil fuel produces CO_2 which contributes to the greenhouse effect.
- (ii) It also produces sulphur dioxide, a gas that contributes to acid rain.
- (iii) Mining coal can be difficult and dangerous. Strip mining destroys large areas of the landscape.
- (iv) Coal-fired power stations need huge amounts of fuel, which means train-loads of coal almost constantly.