good morning everyone presents here

Myself Karan Kumbhar

And my topic for the presentation is renewable sources of energy

These are some sources of energy, some are renewable, and some of them are non-renewable. You may feel boring by seeing this slide But in this presentation, I am not going to talk about solar energy, wind energy or geothermal energy as these are one of the repeating topics

So what I am going to present?

In this presentation, I am going to talk about some unusual alternatives of energy sources which are energy from jellyfish, energy from sewage sludge, and energy from body heat

you may never heard about some of them. Some of these sources are not completely developed but have great vision and some of them are only available or useful in a specific part of the world.

I will go through them one by one

1.) The first source of energy is body heat, it was a noticeable fact that the heat of our body can heat an entire building with complete offices, apartments, and shops. You can see a picture of a building in Paris it gains much of its energy from a nearby metro station.

How it is possible?

So, the heat is captured by train communicators by the district heating system. This is the district heat system and this is the source of energy, These are transmission pipes. In this system, heat is provided to apartments by warm water, and then after using it cooled water returns to the source of heat.

Such type source of energy is developed or implemented in countries like Sweden, France

2). Next One is energy from jellyfish

So you may have a question how to produce energy from jellyfish?

As we know that jellyfish produced glow in dark. this glow is produced by GFP (Green fluorescent protein) which is present in jellyfish

So researchers found that when a drop of GFA is put on an aluminum rod And exposed to UV light. It releases electron which travels in the circuit to produce electricity

GFA is also used for making biological fuel cell which makes electricity without external light sources.

So research regarding this source of energy is still going on. There are some challenges such as less energy density and funding issues for research. Which can be overcome in the coming days.

3)next one is sludge; sewage sludge is also useful material for energy production.

7 Lakh metric tons of dried sludge can produce 10 million kilowatt-hours of electricity per Day And that much sludge is produced annually in cities like California.

To produce electricity from sludge it should be first dried to make it burnable for the gasification process. And then it will turn into electricity

Sludge emits 58% less GHG emissions than natural gas. This is the benefit over the conventional energy source.

In the left side pitcher, you can see the powerplant used for the gasification process.

This type of source of energy is implemented in China, and Croatia. It needs a high initial cost and regular supply so not implemented in most of the countries.

4.) next One exploding lakes

first of all, what are exploding lakes? Exploding Lakes contain a huge amount of methane reservoir and co2 trapped in the depth. This gas is used as fuel to produce electricity.

There are three Known Exploding lakes in the world lake Kivu, Lake Monoun, And Lake Nyos. Most of them are in Africa.

So, the powerplant over the lake sucks noxious gases from the lake to power large generators which produce electricity. this helps to reduce the risk of eruption

5.) so the next one is the solar wind, as we know that these sources contain a huge amount of energy

But still, there is no completely developed method to use this energy. As per the latest tech. Dyson – Harrop satellite which contains large copper wire which produces a magnetic field perfect for snagging electrons and energy produced by it beamed by the satellite via infrared laser to earth. but still, there is a technical problem that scientists try to overcome.

6) next way to produce energy is by vibration

This is also one of the strange way to produce energy Countries like the Netherland uses the vibration from people walking and dancing to power a light show. How does it work?

This is possible because of piezoelectric material which produces electrons when put under stress. Using the same technique American army planned to use this material to charge their radio by the vibration of shoes.

7) the last one is energy production by bacteria

We can use bacteria by two ways

This is the E-coil bacteria contain fatty acids which can be used for the production of biodiesel fuel.

And also By using MFC we can convert sugar to hydrogen which is one of the cleanest sources of energy without use of any external heat sources

conclusion

<https://www.salon.com/2016/12/17/are-we-ready-for-this-jelly-fluorescent-jellyfish-may-help-solve-our-energy-crisis/>

https://www.bbc.com/future/article/20201009-lake-kivu-the-african-lake-that-could-explode-with-methane

https://www.veolia.com/en/solution/sewage-sludge-green-energy-biogas-wastewater

Biological systems have the advantages of being self-assembling and self-repairing. Also, they are extremely cheap and environmentally friendly to manufacture and scale-up, compared with traditional solar cells. But there is a long way to go," he said. "First of all, the power density must be increased significantly. There are many potential solutions for this. Genetically engineered bacteria will be one of them."

 Also, the technique did away with the need for expensive and difficult-to-work-with titanium elements found in Gratzel cells, the solar cells that use dye to mimic plant photosynthesis. Now, scientists can grow their own, blender-free GFP.

It provides energy in the useful form from the input of the form of the energy that is not useful. Plus, it provides energy without causing any trouble to the nature or causing global warming. It is similar to foot step power generation. Nonconventional energy using foot step is converting pressure energy into the mechanical energy & then after into the electrical energy. The main aim is to develop much cleaner cost effective way of power generation method, which helps to bring down the global warming as well as reduce the power shortages. The mechanism contains the rack & pinion and dynamo. The pressure energy is imparted on floor by the human. This pressure energy is converted into mechanical energy with the help of rack & pinion mechanism. The mechanical energy is further transferred to the dynamo for the conversion into electrical energy with the help of speed conversion gears, chain and sprockets and the ratchet mechanism. There are some extra objects and mechanisms are used to minimize the energy waste during the transformation of energy from one place to another. Such as ratchet mechaIn some of the developing countries, there are several hours of daily power-cuts in rural areas as well as in urban areas like metro cities due to the increase in demand of electricity that cannot meet the increase in production of electric power. As a result, people in these countries are forced to use a powerinverter and/or rechargeable batteries or a diesel/petrol-run electric generator during the power-cut. The use of generators is common in industries, but it is unusual to utilize it at home. Because of the cost to run the diesel/petrol-run electric generator is high. Besides, it also causes pollution which increases global warming. So we proposed the method which can be a help in smaller scale to save the power in the urban areas like metro cities. And the power saved by this method can be used to light up the rural areasnism