POTENTIAL SOURCES OF CLEAN ENERGY

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GREEN TAXES IN INDIA:

As humans, we prefer to categorise things as good or bad, difficult or simple, rich or poor, stupid or brilliant. The same may be said about how people perceive various energy sources, such as renewable energy against traditional energy, green power versus brown power, clean energy versus dirty energy. Such perfect binaries, however, do not exist, and the clean energy / "dirty" energy dichotomy is no exception.

When you think of clean energy, you typically think of renewable energy sources such as solar and wind — and you'd be right! If you wrote nuclear energy on an exam, you'd also earn a checkmark. However, depending on who's grading, you'd probably receive half credit if you pencilled in natural gas, because there's a controversy about whether fossil fuels can truly be clean?

Clean energy, according to Chariot Energy, is synonymous with renewable energy — energy that does not emit greenhouse gases or other pollutants.

Others argue that nuclear energy, natural gas, and even clean-burning coal are on the greener side of the spectrum. In this article, we discuss the various forms of clean energy, such as nuclear and natural gas, and why we feel "clean" should be synonymous with "renewable." Clean energy is energy that comes from renewable, zero emission sources that do not pollute the atmosphere when used, as well as energy saved by energy efficiency measures. There is some overlap between clean energy and green or renewable energy sources, but they are not identical. To grasp the distinction, it is necessary to first understand what it signifies.

What Does Clean Energy Mean?

Clean energy is obtained from sources that do not emit air pollutants, whereas green energy is obtained from natural sources. Even though they are sometimes referred to as the same, there is a small distinction between these two energy kinds. Renewable energy is power generated from sources that are constantly being replenished. These renewable energy resources won't run out, unlike fossil fuels and gas, and include wind and solar energy

While the majority of green energy sources are renewable, not all renewable energy sources are considered green. Hydropower, for example, is a renewable resource, but some claim that it is not green because the deforestation and industrialization associated with the construction of hydro dams can harm the environment.

Green energy meets renewable energy, such as solar and wind energy, to create the ideal clean energy balance.

The following is a simple approach to recall the distinctions between these several sources of energy:

- Clean energy equals clean air.
- Green energy comes from natural sources.
- Renewable energy comes from recyclable sources.

How Does it Work?

Clean energy generates electricity without negatively impacting the environment, such as the release of greenhouse gases like carbon dioxide. Wind power, some hydro resources, and solar energy generation are all examples of clean energy that is also renewable.

Why is it Important?

The environmental benefits of clean energy are the most crucial feature of a global energy future. While clean, renewable energy help to maintain the world's natural resources, they also lessen the likelihood of environmental disasters like fuel spills and natural gas leaks. It is feasible to develop stable power supplies to boost energy security, ensuring there is enough to meet our demands, through fuel diversification, which involves diverse power plants employing different energy sources.

Benefits

Clean energy has numerous environmental and economic benefits, including reduced air pollution. A varied clean energy supply also decreases reliance on imported fuels (and the resulting financial and environmental consequences).

Renewable clean energy also saves money because there is no need to collect and transport fuels like oil or coal because the resources replenish themselves spontaneously.

Another industrial advantage of a clean energy mix is the development of jobs to develop, manufacture, and install future clean energy resources.

How Can We Get Clean Energy?

Clean energy can be obtained from a variety of sources which, when put together, could create solutions for all of our energy needs.

- Sunlight is the most plentiful and freely available energy resource on the world; in fact, the quantity of solar energy that reaches the Earth in one hour is sufficient to supply the planet's overall energy requirements for an entire year. Solar power is, of course, restricted by the time of day, the seasons, and geographical location. Despite this, solar energy is already being employed on a large and residential scale.
- Wind power is another abundant source of sustainable energy, with wind farms contributing significantly to electricity generation in the UK and abroad. While domestic 'off grid' wind energy is currently accessible, not every home is appropriate for a wind turbine.
- Water power is one of the most commercially developed renewable energy sources. This energy source is considered more reliable than wind or solar power, and it also provides for easy storage of generated energy so that it may be used as needed. Municipal hydropower is also being researched, which means that in the future, we may all be generating electricity by running water through pipes in our homes. Tidal power is a large-scale variant of hydro power that, while not a continual source of energy, is very predictable and reliable.
- Geothermal energy, unlike water, solar, and wind energy, is not derived from the sun. It is instead energy in the form of heat from the Earth. Geothermal energy is most commonly utilised to heat and cool people's houses.

- The Earth's heat energy is used to boil water and create steam to generate geothermal electricity. This steam then turns turbines, which provide electricity. It's comparable to a coal-fired power plant, but instead of burning fossil fuels, it runs on the heat of the Earth.
- To generate electricity, biomass employs solid fuel derived from plant components. Although this energy source still requires the combustion of organic materials, it is no longer wood and is considerably cleaner and more energy efficient than in the past. Using agricultural, industrial, and household waste as solid, liquid, and petrol fuel provides both economic and environmental benefits.

Is Clean Energy Really Clean?

By definition, all clean energy sources are 'clean,' but not all renewable energy sources are. For example, while burning wood from sustainably managed forests is renewable, it is not clean because it emits carbon dioxide into the environment.

To be completely clean, the carbon cost of production and storage must be zero, which is why sources such as solar power and wind energy are regarded as truly clean and renewable

The Future of Clean Energy

Clean energy has a promising future, with recent data showing that more renewable energy capacity has been added globally than new fossil fuel and nuclear capacity combined. Renewable energy sources now account for more than one-third of all installed power capacity worldwide. As an illustration of this expansion, the UK will be powered entirely by renewable energy for the first time on Wednesday, June 10, 2020.

As the world's population grows, so does the demand for energy, and renewable sources are the answer to delivering sustainable energy solutions while also safeguarding the globe from climate change.

Clean energy adoption is not simply happening on a national scale; localities and states are also developing legislation to encourage renewable energy use. In the United States, 29 states have established renewable energy portfolios that require a particular percentage of energy consumption to originate from renewable sources, and over 100 cities across the world now use at least 70% renewable energy. As more cities strive to become 100% renewable, corporations are also playing a role by purchasing record amounts of renewable energy.

Of course, due to fossil fuels being a finite resource, it makes sense that the future is renewable and so it is expected that renewable sources will continue to increase in number, driving down the cost too.

Conclusion

Clean energy appears to be the future for humanity's power needs around the world, as reliance on fossil fuels continues to decline. As the push for clean, green, and renewable energy increases, the cost will come down and more jobs will be created to develop and implement these new power solutions.

More and more people are realising the environmental, societal, and economic benefits of clean energy, and this trend will continue as more towns, states, and nations sign on to a green power agenda.