**What is renewable energy?**

Renewable energy, often referred to as clean energy, comes from natural sources or processes that are constantly replenished. For example, sunlight or wind keep shining and blowing, even if their availability depends on time and weather.

This type of energy source stands in contrast to fossil fuels, which are being used far more quickly than they are being replenished. Although most renewable energy is sustainable energy, some is not, for example some biomass is unsustainable.

Renewable energy often provides energy in four important areas: electricity generation, air and water heating/cooling, transportation, and rural (off-grid) energy services.

**What are the advantages of renewable energy?**

* A Fuel Supply That Never Runs Out
* Zero Carbon Emissions
* Cleaner Air and Water
* A Cheaper Form of Electricity
* Renewable Energy Creates New Jobs

**What are the disadvantages of renewable energy?**

Higher Capital Costs

Electricity Production Can Be Unreliable

Energy Storage Is a Challenge.

**Types of Renewable energy:**

Solar Energy

Wind Energy

Tidal Energy

Hydro Energy

Geothermal Energy

Biomass Energy

**What is solar energy?**

Solar power is energy from the sun that is converted into thermal or electrical energy. It is the cleanest and most abundant renewable energy source available. Solar technologies can harness this energy for a variety of uses, including generating electricity, providing light or a comfortable interior environment, and heating water for domestic, commercial, or industrial use.

**What are the advantages of solar energy?**

It nullifies the electricity usage and can power a lot of day-to-day necessities.

With Low maintenance costs one does not have to spend much on maintenance.

Technology Development is one of the great by-products of solar energy. Its major advantage is that causes no pollution.

**What are the disadvantages of solar energy?**

Cost of installation and storage of energy generated is expensive.

It is heavily depended on weather.

Solar power stations do not match the power output of similar sized conventional power stations.

**What is net metering?**

Net metering is a mechanism which allows domestic or commercial users who generate their own electricity using solar panels or photovoltaic systems to export their surplus energy back to the grid.

The process of net metering provides system owners with the opportunity to gain extra revenue by selling their excess power to the grid while also making up for shortfalls via the grid. If the amount of energy generated is more than the amount of energy consumed, then the owner gets compensated for the excess amount.

**Method of BILLING:**

In net metering, the owner is billed for the “net” energy that is used, which is the difference between total energy produced by the system and total energy consumed. Net metering accounts the difference of excess power exported back to the grid and total power consumed by the owner. Hence, surplus energy earns revenue while the shortage of energy is covered by the grid.

**Advantages:**

Eliminates the need for battery storage and backup generator:

Unlike off-grid PV systems, owners don’t require battery storage systems while using net metering since the extra power is stored by the utility grid itself. It also eliminates the need for exorbitant generators since the electricity grid also acts as a backup generator.

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