Solar energy is radiant light and heat from the Sun that is harnessed using a range of ever-evolving technologies such as solar heating, photovoltaics, solar thermal energy, solar architecture, molten salt power plants and artificial photosynthesis.[1][2]

It is an important source of renewable energyand its technologies are broadly characterized as either passive solar or active solardepending on how they capture and distribute solar energy or convert it into solar power. Active solar techniques include the use of photovoltaic systems, concentrated solar power and solar water heating to harness the energy. Passive solar techniques include orienting a building to the Sun, selecting materials with favorable thermal mass or light-dispersing properties, and designing spaces that naturally circulate air.

The large magnitude of solar energy available makes it a highly appealing source of electricity. The United Nations Development Programme in its 2000 World Energy Assessment found that the annual potential of solar energy was 1,575–49,837 exajoules(EJ). This is several times larger than the total world energy consumption, which was 559.8 EJ in 2012.[3][4]

In 2011, the International Energy Agency said that "the development of affordable, inexhaustible and clean solar energy technologies will have huge longer-term benefits. It will increase countries' energy security through reliance on an indigenous, inexhaustible and mostly import-independent resource, enhance sustainability, reduce pollution, lower the costs of mitigating global warming, and keep fossil fuel prices lower than otherwise. These advantages are global. Hence the additional costs of the incentives for early deployment should be considered learning investments; they must be wisely spent and need to be widely shared

The following is a list of products powered by sunlight, either directly or through electricity generated by solar panels.

- Solar air conditioning
- Solar balloon
- Solar charger
    - Solar backpack
    - Solar cell phone charger
    - Strawberry Tree
- Solar chimney
- Solar calculator
- Solar-powered waste compacting bin
- Solar cooker
- Solar dryer
- Solar-powered fan
- Solar furnace
- Solar inverter

- Solar keyboard
- Solar lamp
- Solar pond
- Solar road stud
    - Solar street light
    - Solar traffic light
    - Solar Tuki
    - Solar-powered flashlight
- Solar notebook
- Solar-powered calculator
- Solar-powered desalination unit
- Solar-powered pump
    - Solar-powered fountain
- Solar-powered radio
- Solar-powered refrigerator
- Solar-powered Stirling engine
- Solar-powered watch
- Solar-pumped laser
- Solar roadway
- Solar Spark Lighter
- Solar still
- Solar tree
- Solar vehicle
    - Solar balloon
    - Solar boat
    - Solar bus
    - Solar car
    - Solar golf cart
    - Solar panels on spacecraft
    - Solar sail
    - Solar thermal rocket.
    - Solar Operated Automatic Milk Collection Unit
    - Tracker
    - Windmill
    - Fan
    - Computer

Top 10 solar companies in India are as follows

EMMVEE

Stationed in Bengaluru, EMMVEE, led by DV Manjunatha, is one of the most diverse solar companies in India. Their dealings range from solar-powered water heaters to sophisticated photovoltaic cells. When you think that the company was only founded in 1992, it just fascinates what it has managed to achieve in such a small time span. EMMVEE is one of the fastest growing and prominent solar companies in the country and has paved the way for groundbreaking innovation in the solar industry.

Kotak Urja Pvt. Ltd.

Joining the bandwagon of India's leading solar companies is Kotak Urja. Just like EMMVEE, it is a newly founded company. This also gives you the idea that harnessing solar energy is slowly gaining prominence in the country. Kotak Urja aims at providing a solar-powered alternative for people to use on a day-to-day basis. The company mostly deals with the manufacture of solar powered water heaters.

Icomm Tele Ltd.

Founded in the year 1989, Icomm Tele Ltd. is one of the very few companies in India to have a global reach. For starters, the firm has a strong presence in countries like Nepal, Sri Lanka, and Bangladesh along with several Middle Eastern nations. Being one of the leading solar companies in India, Icomm has a diversified wing with solar solutions in the fields of telecom, power, defence, and infrastructure. When you have such diversity to boast about, you are bound to be identified among the leading players of India's solar industry.

Moser Baer Solar Ltd. (MBSL)

Like Icomm, MBSL also boasts of a massive global presence, In India however, the company's current solar might stands at 250 MW, according to current efficiency levels. In 2013, the company became one of the major driving forces in Kerala's ANERT program that aimed at installing solar panels on residential rooftops. Headed by Deepak Puri,

MBSL is making giant strides in making India one of the most significant hotspots for solar power production.

Indosolar Ltd.

The newest company on this list, Indoslar was founded very recently in 2008 by Bhushan Kumar Gupta. However, in less than a decade of operations, the company has already started manufacturing solar panels and other instruments for the Indian and global markets. With a capacity to produce 450 MW of solar power, it has made its name among the leading solar companies in India.

Waaree Solar Pvt. Ltd.

Founded in 1989, Waaree Solar has become one of the leading players in India's solar market. Like all great companies, it has a diversity of the solar equipment that it produces. Besides solar power, the company provides industrial valves, and process control instrumentation. Apart from that, the company also has a significant global presence.

Websol Energy System Ltd.

Although the company had to face some financial issues when it opened, it soon got over it and became one of India's leading solar companies. The company aims at making solar power accessible to common people.

Vikram Solar Pvt. Ltd.

Its parent company has an experience of over 4 decades in engineering and manufacturing activities. Due to its lineage, it is recognised as one of the most prominent solar companies in the subcontinent. They have one of the largest solar plants, located in West Bengal. The solar company has already done several successful projects in states of Rajasthan and Tamil Nadu.

Photon Energy Systems Ltd.

The USP of Photon Energy Systems is its active R&D department. Equipped with state of the art facilities and technologies Photon has managed to establish its name as a major Indian solar company. The company deals with the production of solar PV modules and solar thermal systems.

The industrial revolution in the 18th and 19th century was the beginning of many changes that govern the world around us today. Apart from urbanizing people and accelerating economic growth, it gave us the internal combustion engine, something that changed the world in many ways. For all the convenience that machines running on fossil fuels bring, there is always an ethical conundrum related to it. All of it comes at an expense: nature. The effort that these companies are putting to make solar power more usable and accessible is commendable indeed. With no adverse effect on nature, solar power certainly seems like the power of tomorrow.