

Agnate Endeavor of Biogas and Offshore Prospective

C. Anushka Roy ¹

Department of Electrical and Electronics Engineering, S.V. Engineering College for Women, Tirupati
Chittoor, Andhra Pradesh, India

ABSTRACT: Akin assay of biogas and offshore potentials signifies the parallel study of biogas and the offshore energy. Both the potentials are sustainable energies. Energy is the key portion to indicate the share of entire categories of work completed by nature and Homo sapiens. There are two types of energy sources in world they are non-renewable and renewable energy sources. Examples of non-renewable sources are nuclear power, natural gas, petroleum and coal. These are usually not eco-friendly and not sustainable resources. Renewable energies are inexhaustible. The best examples of renewable energy sources are solar, offshore, onshore, biogas and geo thermal energies etc...

KEYWORDS: Potentials, inexhaustible, eco-friendly, sustainable.

I. INTRODUCTION

Both the biogas and off shore potentials are renewable energy resources .Renewable energy means the energy which can be regenerated within certain period of time. There are many renewable energy resources like solar, geo thermal, wind and biomass etc... These are eco-friendly.



Fig.1 Renewable energies

Biogas

Biogas energy is used for the production of power from bio wastes like cattle dung, dead plants. Biogas energy is a renewable, sustainable and clean resource which produces energy from biological wastes. Biogas is produced from the reaction or deprivation of the organic wastes in the absences of the air i.e. in anaerobic conditions. This reaction can be carried out even in the room temperature conditions also. This idea of energy produced from bio wastes goes to the very antique period. About 19 th century in 1859 first biogas plant was mounted in INDIA. Later in 1895 UK laid the first step to produce the electricity from biogas by giving the connection and blowing the street lights.



Fig.2: The first bio plant.

Offshore

Offshore energy is at the budding stage in India to extent its capacity to produce power. Off shore energy is a part of wind energy which is a renewable energy. As India is a peninsula and large country it has a large coastal line. MRNE has focused on offshore wind energy in the 21 th century to meet the power consumption needs. The costal line of India which has sea coast is 7600 kms.The progress of wind energy in India had started in 1986's itself.



Fig.3: wind turbines near the sea.

II. SOURCES

The Sources of biogas and offshore wind energies are as follows

Biogas Sources

There are many sources for the production or for the formation of biogas. They are bio organic wastes like cattle dung, dead organic plants and animals, sewage wastes, manure, animal slurry, human excreta, diary factory waste, slaughter house waste, distillery waste, meat packing waste, brewery waste etc... are the sources of the biogas energy.

Offshore Wind Sources

The name itself indicates that the source of the off shore winds is wind energy i.e. the winds blew near the shore where the wind turbines are installed.



Fig.4 wind fans near the sea shore.

Uses

There are many intakes of these renewable energy resources. These intakes are mentioned as follows, the ingesting of the biogas and its wastes can be used as liquid fertilizers with less odour it is a good fertilizer to the crops and various domesticated plants. Coming to the offshore potentials the fans are rotated with the help of wind energy, by this rotation mechanical energy is produced so that this are connected to the turbines so that the electricity is produced. The intense use of both the energies is to produce the electricity to meet the power demand, as INDIA is a developing nation and it had seen colossal growth in its development, so power consumption plays a major role in the development of any nation.

Advantages

There are many benefits from these specified renewable energy resources.

Profits of Biogas Energy

There are sundry gains by using the biogas for electrification i.e. it produces energy. Even after conversion of waste to electrical energy the discarded waste is also useful in various ways, as follows

- It is used for cooking.
- It can be utilized for even heating also.
- Here no green gas is produced, so there is no scope of possibility of greenhouse reaction.
- It is eco friendly
- Easy to produce the biogas.

Yields of Offshore Wind Energy

The benefits by using off shore wind energy are copious. And they are mentioned here

- It is clean energy.
- It doesn't produce any environmental hazards like greenhouse effect.
- After installation it is penniless.
- It is to operate the offshore turbines and to produce the electricity.
- It produces the electricity with less cost compared to the biogas.

These are the benefits obtained by using the renewable energy resources like off shore wind energy and biogas energy for production of the electricity.

Disadvantages

For every energy which has advantages it automatically will also have the disadvantages too. So the drawbacks of the energies are discussed below in a sequential manner.

Outlays of Biogas Energy

The hindrances for the production of the electricity for bio organic wastes are mentioned below

- Installation cost of bio gas digesters is huge burden for people in rural areas.
- Biogas digester should have to be paid high care.
- Maintenance cost is very high compare to off shore wind turbines.
- To form more quantity of the biogas, more quantity of the cattle dung is required.

Set Backs of Offshore Wind Energy

There are many barriers for obtaining the electricity from the off shore winds and some of them are referred below

- Large amount of the capital should be invested.
- Winds are not uniform in all seasons.
- Installation of wind fans near the sea is very risky process.

- Skilled labour are required for installing the off shore wind mills.

These are the major obstacles faced during the installation and in the operating conditions of the biogas producer i.e. the digester and the offshore wind farms.



Fig.4. Biogas plant and Wind farm

III. INDIAN SCENARIO

As India is emerging as a developed nation, it has many needs to be satisfied and power is one among the need that should be satisfied. Due to large population to meet the electricity demand India had concentrated on both renewable and non-renewable energy resources, but the more usage of non-renewable energy is not eco-friendly and over usage of it cause the damage to the environment.

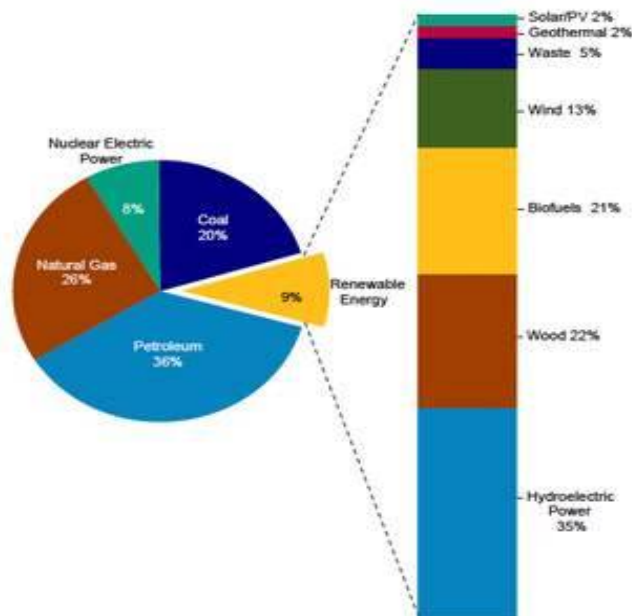


Fig.5: Renewable energy status in India.

As we know India is a agro based country the production of biogas is done from ancient period but it did not reached to the estimated capacity. But it contributes to produce for power generation mainly in rural areas this biogas plant is also used for waste water management. Even though it has many advantages and feasibility but production cost i.e. the installation cost is high and this plant should maintain with care. This biogas plant can be used for multi-purpose sat present but it has its own drawbacks .compared to offshore wind farm high maintenance cost .By

introducing the offshore wind farm the one unit cost of power can be reduced. In India due to climatic conditions and population there is decrease in the number of cattle Which are the primary sources for the biogas plants in agro based countries like India .so, at present the production of the gobar gas became limited. So definitely we should search for an alternative, and that alternative should be a renewable energy. In such case we can select the offshore potential which belongs to the branch of wind energy which is also a renewable resource.

Even though India has limited coast line but it can produce huge amount of electricity based on the winds near the sea shore the first offshore wind mill was constructed in India in 1986 at sea side areas of the states like Gujarat state , Maharashtra state, and the Tamil nadu state.

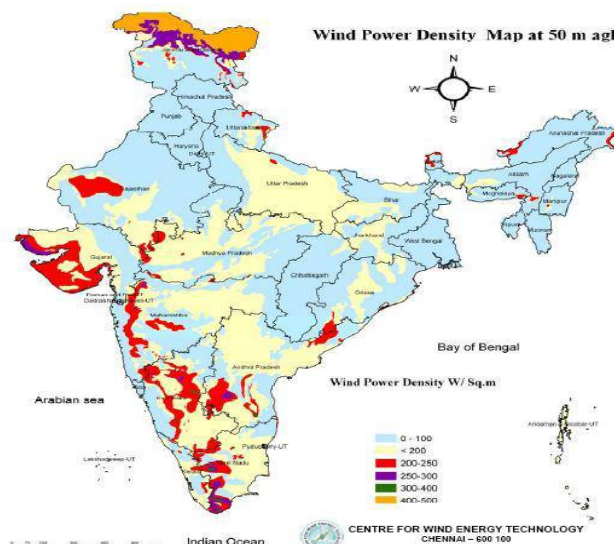


Fig.6. India's Cumulative Wind Installation (MW)

Although the wind energy is preferable in India but the main distress is that the winds are seasonal winds and the winds are more available in the south west monsoon and there is a chance of formations of wind gales, tsunami and cyclone etc... And the technology of the wind mills is not yet appraised. At present Ministry Of Non Renewable Energy [MNRE] is having its full focus on the extraction of the power from the renewable energies like wind energy.

IV. CONCLUSION

This time to emerge the India into a powerful nation, so it need to powerised insipte of the draw backs of it .power i.ie the electricity is one of the weapon that can be used for renovating India. At present due to many factors in India, the agro based country there is a decline in the climatic changes condition and population of the livestock, so there won't be huge chance of producing energy from gobar gas. Albeit the offshore wind energy is at the budding stage it reduces the cost of one unit electricity and it is a clean resource to produce the electricity. Hence the production of electricity from the offshore winds should be enhanced.

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