Experimental base study for finding Maximum Energy, Produce by solar parabolic dish for consumption of Electric energy

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Abstract- **This experimental analysis based on output of solar energy under studied in ahmednagar city. In every minute solar energy changes with time because of earth rotation in this experiment we will find angle of solar parabolic dish in which maximum energy will get. Nowadays energy is important factor in our life so concentrate on saving energy. With maximum use of renewable energy sources save fuel and life period of fuel increases. This statistical data in which we taken reading in every hours basis and evaluate maximum output energy at some angle. In this Experiment we studies in ahmednagar city which latitude 19.09 degree N , the optimum tilt angle for solar panels during winter will be 19.09 + 15 = 34.09 degree. Solar energy produced when hydrogen convert in to helium form that time energy is produced which transfer i all direction. Up to this year more than one lack villages not having electricity so use of solar is essential for devolved nation. When solar energy use there no any harmful material produced during production of electric energy. This experiment done in industry where steam generation available. For maximum output energy we changes angle with respect to time and observe that steam producing system so it will beneficial cost consumption as well as time consumption but during manufacturing time is very important factor so minimum time we will find out so during that maximum steam generated and evaluate that angle. Solar depended on geography because of are closer to equator have greater solar energy. Doe to that position will be changes with respect to solar position.**

Index Terms—**Solar Parabolic Dish, Tilt Angle, Latitude, Solar Tower.**

I. INTRODUCTION

Experiment we use parabolic type dish collector. Basically there are four type of parabolic dish collector. They are Linear Fresnel , Parabolic Trough, Parabolic Dish , Solar Tower respectively. In linear Fresnel which focusing type is line which having 1 tracking axis concentration ratio is 10 to 40. Which give temperature between 60 to 250 degree Celsius. Second type is parabolic trough which is one tracking axis , focusing type is line which concentration ration is 10 to 85 and maximum temperature range is 60 to 400 degree Celsius. A parabolic trough is of solar thermal collector that is straight which is one dimension and curved as a parabola in the other two, lined with a polished with metal mirror.

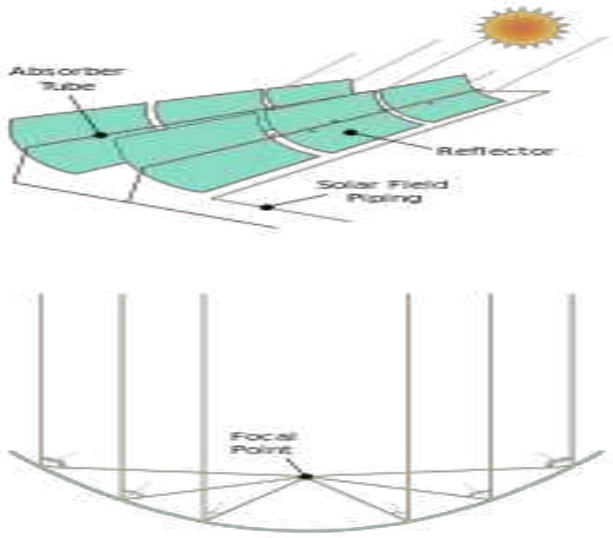

Fig. 1 Parabolic Trough

Third type is parabolic dish type in which focusing type is fixed which is point in one point we get all energy and tracking axis is two which type generally use in various application concentration ration is 600 to 2000 due to that temperature range is also high which is 100 to 1500 degree Celsius. Forth type is solar tower which is also point type focus and two tracking axis concentration ration is 300 to 1500 which gives temperature is 150 to 2000 degree Celsius temperature. The solar power tower is also called as 'central tower' power plants or 'heliostat' power plants or power towers in which is a type of solar furnace using a tower to receive the focused sunlight. It applicator for an array of flat, movable mirrors (called heliostats) to focus the sun's rays upon a collector tower (the target).

Fig. 2 Solar Power Tower

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This experiment conduct in ahmednagar city where we will find tilt angle for that we obtain maximum solar energy in may and minimum in December because of winter season.

II. PROCEDURE

A. *Review Stage*

We will find maximum output tilt angle where maximum solar energy get for that in every day we observe temperature of given. Solar radiation strikes on parabolic dish then after by concentration this energy transfer to receiver and then by conduction, convection heat transfer to water. This experiment actually work in European countries but in India there is no any research on tilting angle and output of temperature.

By Tougochi Method we evaluate best utilized method to find angle which give maximum output.

B. *Methodology*

In this Experiment Tilt angle means deflection of tower and observe temperature.

Instrument use in experiment:-

We work on parabolic dish type for observation of temperature. Generally mostly use of solar type this parabolic type dish are use where angle will be changes by manually.

Fig.3 Parabolic Type Dish.

Fig.4 Angle changing handle

This Instrument are use foe changing Angle of parabolic dish which is change type. Where handle arrangement is there by suing that dish angle will changes. Rotation of devise is measure and respect to changes rotation angle of dish type parabolic observe.

Fig.5 Water Storage device

This is water storage device in which hot water stored under the process. Insulation are covered to tank so reduce losses and maximum output given.

Fig. Electric Panel

In this Experiment we compare our result with diesel engine which already use for application. We compare our experiment for that so energy will be save.

C. *Final Stage*

By hanging angle of parabolic dish observe temperature of output and evaluate best angle for in any season so that angle will be for throughout year. Purpose of project is to save electric a energy and diesel energy so here we compare diesel engine result also..

III. CONCLUSION

Changing angle of parabolic dish is very hectic so reduce human effort as well as to evaluate angle which is beneficial for industry so that energy will save.

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