

SOLAR POWER SAND FILTER

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Abstract – Filtration is commonly the mechanical or physical or OPERATRION which is used for the separation of solids form fluids (liquids or gases) by interposing a medium through which only the fluid can pass. The fluid that passes through is called a filtration. Oversize solids in the fluid are retained, but the separation is not complete; solids will be contaminated with some fluid and filtrate will contain fine particles (depending on the pore size and filter thickness.) filtration is also used to describe some biological processes, especially in water treatment and sewage treatment in which undesirable constituents are removed by absorption into a biological film grown on or in the filter medium as in slow and filtration. Actually all filter machines is available in market are hand operated and fuel operated but by making this solar power sand filter we save fuel as well as the human art work. This is a research topic and more development is required in this project. This is totally non-conventional energy operated project.

Key Words: concentrated solar power, thermal energy storage, heat transfer fluid.

1.INTRODUCTION

Actually all filter machine is available in market are hand operated and fuel operated but by marketing this solar power sand filter we save fuel as well as the human art work. This is research topic and more development is required in this project. Sand is a naturally occurring granular material composed of finally divided rock and mineral particles. The composition of sand is highly variable, depending on the local rock source and conditions, but the most common constituent of sand in inland continental settings and non-topically coastal setting is silica(silicon dioxide, or SiO₂), usually in the quartz. In different size granules and all required filtration and we make that filter plan of sand.

The second most common type of sand is calcium carbonate, for example aragonite, which has mostly been created, over the past half billion years, by various forms of life, like coral and shellfish. It is, for example, the primary form of sand apparent in areas where reefs have dominated the ecosystem for millions of years like the Caribbean. The use of alternative to river sand is increasing with the ban on sand mining. General decline in the availability of river sand, and pressure from active environmental groups to protect nature.

2. Literature Survey

If we get to the literature study of the sand filtration, we could able to understand the importance of the sand filtrations as terrifically increased as per the increasing demand of the mankind

If we compare today condition with the condition regarding 5 years later, we could able to see the increasing graph of the sand filtration regarding its cost and increasing demand. The prize of 1 brass of sand filtered in 2009 were 150 Rs/brass. Now due to the increasing demand of the sand it has been increased terrifically to 2000 Rs/brass.

The raise in the prize is not only due to the demand, but due to the machinery filtration the quality of sand as also been increased. Later on the sand was directly taken from the sea or a river site for the use and later it is been purified and used for a particular purposes. Now a days the sand is been filtered on the same site which consequently raises the total cost for the needer.

The machine worked for the purification of sands generally work on a diesel basis which is terms also increases the total cost to the needer. For each machine, the requirement of the diesel is about 250 litre/ day with includence of the diesel transportation. Which exactly coses 15000 Rs/day. And this all the filtered sand is been highly transfer to the mega cities like dubie, Singapore via sea ways.

So this project clearly shows the innovative technique with the idea of the prize losses again the filtration of sand and the profit regarding to it.

3. Problem definition:

Solar panels can be expensive to install resulting in time-lag of many years for saving on energy bills to match initial investment. Electricity generation depends on countries exposure to sunlight, this could be limited by a countries climate. Solar power stations do not match the power out of similar sized conventional power stations, they can also be very expensive to build.

Solar cells make absolutely no noise at all. On the other hand, the giant machines utilized for pumping oil are extremely noisy and therefore very impractical.

In the long term, there can be a high return on investment due to amount of free energy a solar panel can produce, it is estimated that the average household will see 50% of their energy coming in from solar panels.

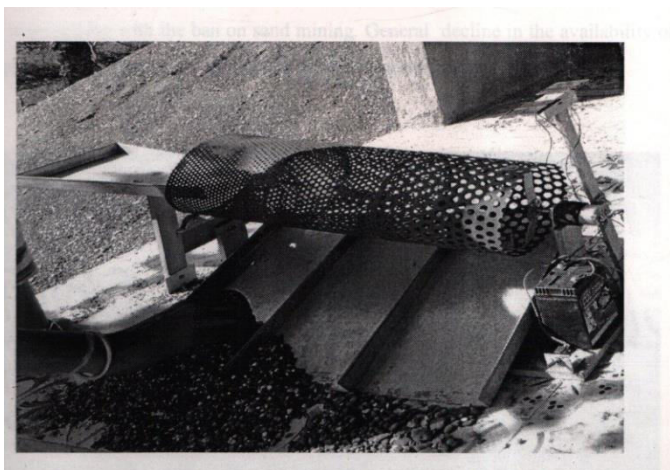


Fig.1 Diagram of project models

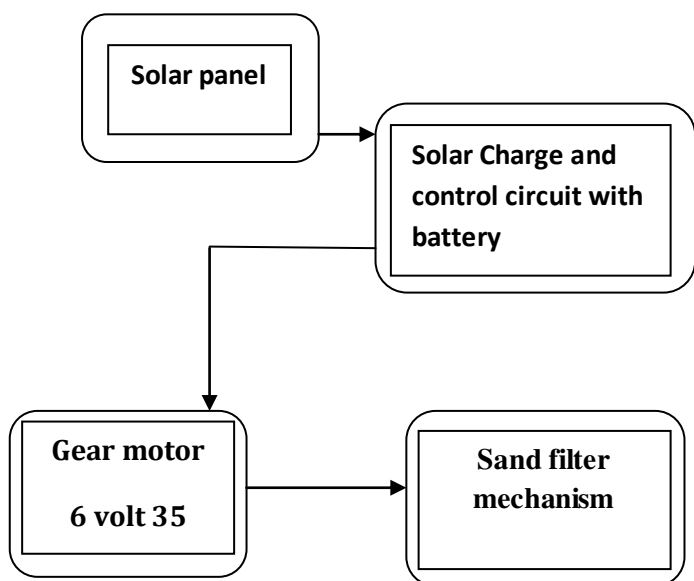


Fig.2 Flow chart

3. CONCLUSIONS

There are currently many different hybrid-electric system designs utilizing clean diesel engines, alternative fuel engine, gas turbine or fuels cells conjunction with batteries. There are even some new technology concept in the development stage that is solar panel with battery with out using the any kind of fuel. Us of two different of energy sources define a hybrid.

There is one of the battery alternate vehicles to fulfill the today's requirement. After 10 or 20 years crises must become at that time we must think of this alternative

machines. It basically based on solar plus battery which makes it different from the others in the field of the today's required to reduced the pollution.

It's the better option with less vibration, low cost, low maintenance or totally less emission as compare to the other machines.

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