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Solar power to empower India for economic growth and development

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ABSTRACT

Renewable source of energies is playing an important role in the national and international podium. There has been a tremendous increase in solar power in India and this energy is utilized for further development of the household and industrial sector. Various initiatives have been taken to promote the development of Solar Power in India. This renewable energy is not only strengthening the economic sector but it is also empowering the social sector by creating many employment opportunities. Thus, solar power can be considered an important tool for promoting overall economic development.

Keywords— Renewable energy, Economic sector, Social sector, Employment

1. INTRODUCTION

Renewable source of energies is playing an important role in the global scenario. They can be renewed and can be used often there is no dearth of renewable energy. Wind energy, Solar energy, Geothermal energy, water energy are the major renewable energy. Solar power has been playing an important role in the present context. It is gradually replacing the non-renewable energy resources which are indeed a matter of pride. Developing countries need to trap this solar energy so that they can at least save their financial resources on tapping their natural resources and need not have to rely on fossil fuels. The global average solar radiation per m² and per year can produce the same amount of energy as a barrel of oil, 200kg of coal or 140 m³ of natural gas. The solar installed capacity of Europe is the highest followed by Asia 98.8GW and 92.3 GW respectively¹. Center for Climate and Energy solutions reported that in US renewable energy is the fastest-growing source. Solar energy is projected to climb from 7 per cent total US renewable generation in 2015 to about 36 per cent by 2050 making it the fastest growing electric source².

2. ESCALATION IN INDIA'S SOLAR POWER

The cumulative renewable energy capacity of India doubled over the years from 2013-14 to 2017-18 within the last four the cumulative renewable energy capacity has been increased from 3500 MW to 70000 MW³.

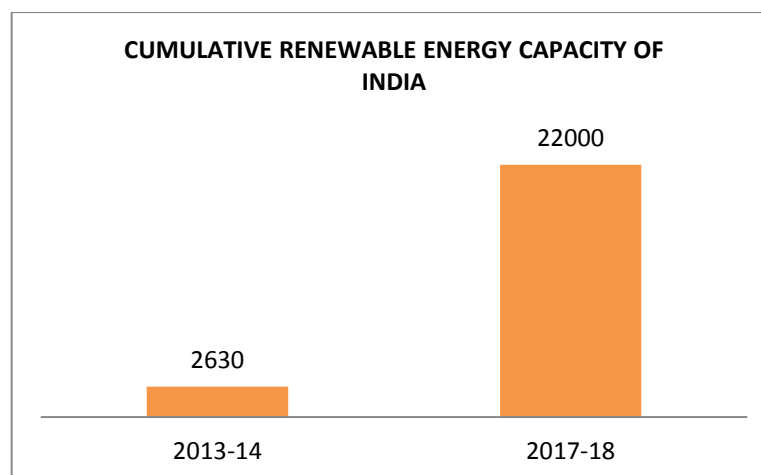


Fig. 1: Cumulative renewable energy capacity of India

2.1 Source

This has been possible by the efforts of the good human and technological resources backed up by the policy of growth with the efficiency of the government of India. And the target for the year 2022 is 175000 MW¹.

India very well knows the importance of solar power and has taken initiative to harness this energy, so within four years there has been a potential increase in solar power. Solar power has been increased by over 8 times in the last four years (2013-14 to 2017-18) from 2630 MW to 22000MW.

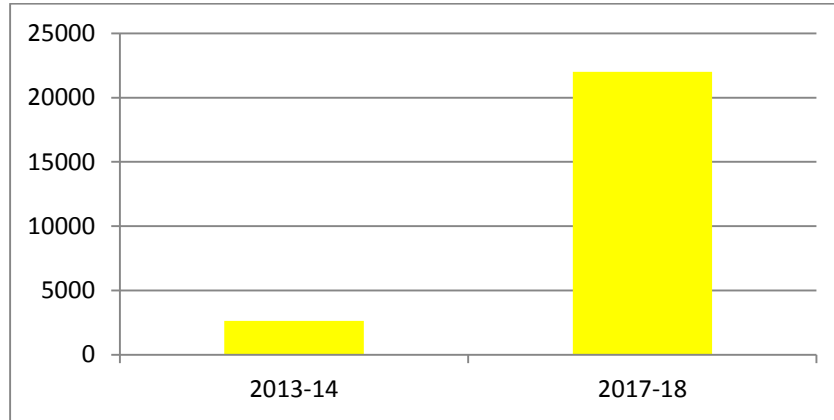


Fig. 2: Growth In solar power

There has been a tremendous increase in solar power in India and this energy is utilized for further development of the household and industrial sector. In order to make solar power more cost effective there has been a transparent bidding process and due to this there is a reduction in per unit cost for solar power. In the year 2014 per unit cost for solar power was rupees 6.17 and it reduced to rupees 2.44 by 2018.

Due to the good generation of solar power the household sector, the agricultural sector and the industrial sector is developing.

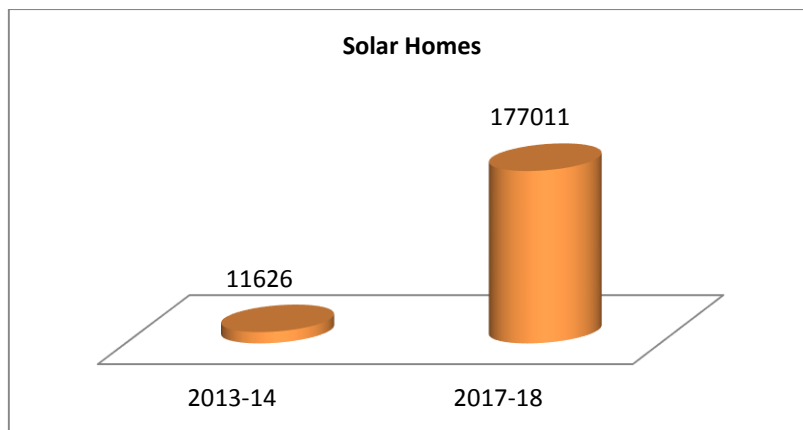


Fig. 3: Solar homes

There has been a good increase in solar homes there by leading to a reduction in electricity through fossil fuels.

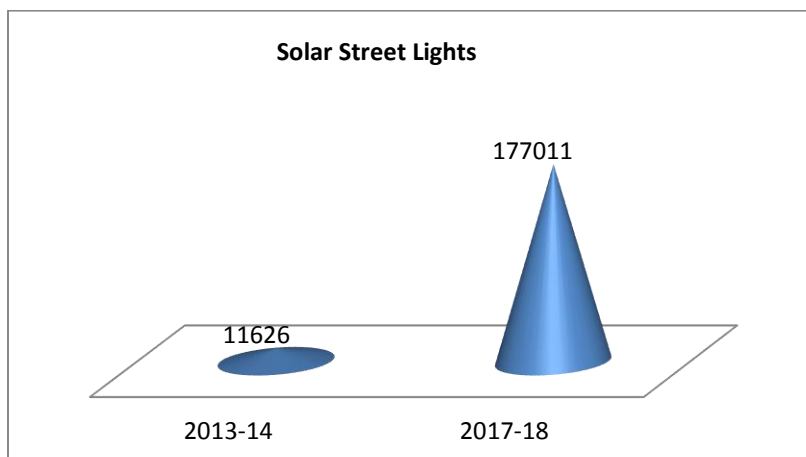


Fig. 4: Solar street lights

In the year 2013-14, there were only 274679 solar street lights and by the year 2017-18, this number increased to 620196. These solar street lights are used in urban and rural areas. They have turned out to be very beneficial. ³

The solar pump sets are also playing an important role in the agricultural sector due to their increase in irrigation of fields have increased.

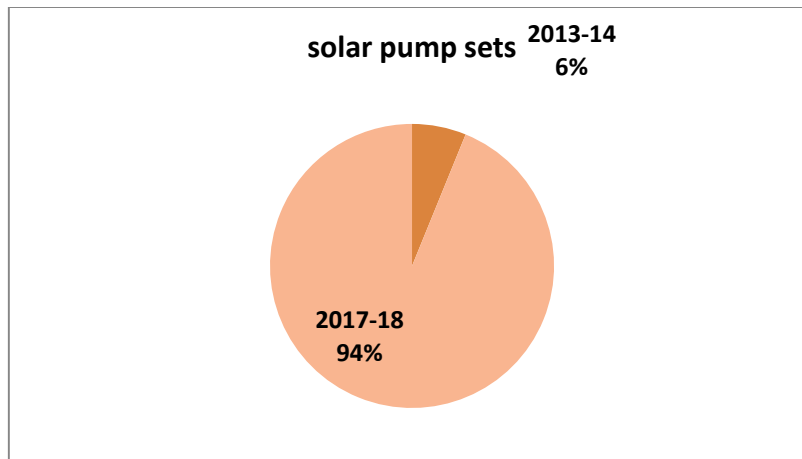


Fig. 5: Solar pump sets

In the year 2013-14, there were only 6 per cent solar pumps and by 2017-18 this percentage grew to 94 per cent³.

3. IMPACT OF RENEWABLE ENERGY IN PAVING WAY FOR EMPLOYMENT GENERATION

Renewable energy is also creating employment at all levels. About 10 million man-days employment has been created per annum. Hence, directly and indirectly, it is creating employment for the youth of the people.³

4. CONCLUSION

Solar power is a boon for India, through advancement in technology this renewable resource has increased its scope. It has provided energy not only in the industrial sector but also in the social and agricultural sector.

There are merits and demerits of solar energy. The basic goodness of solar energy is that it does not create much pollution as compared to fossil energy. Due to the innovation in nano technology and quantum physics, the electrical performances of solar panels have improved over the years. The improved technology has reduced the maintenance cost of the solar panels and now in the coming years, these solar panels will be quite cheap and will obviously increase energy consumption leading to industrial growth and development. Apart from pros, there are certain demerits also the manufacturing of the solar panels require certain minerals which increase the carbon emission and cause pollution, certain parts are quite costly and the installation of solar panels require massive space, hence an average house hold in India cannot afford it easily.

In a country like India where the potential for solar energy is high should make efforts to produce less costly solar panels using eco-friendly materials and for this, the private technological institutes, IITs, NITs, need to take initiatives for innovating alternative sources of tapping solar energy. Tax Rebates and subsidies need to be provided to the units manufacturing any material related to solar energy generation. Engineering college students and faculty members should be provided with special scholarships, incentives and other financial benefits who are working on solar projects or are planning to work on it.

5. REFERENCES

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