International Journal of Advances in Engineering and Management (IJAEM)
Volume 4, Issue 6 June 2022, pp: 1077-1078 www.ijaem.net ISSN: 2395-5252

Solar Energy Schemes in India 2022

Raj Kumar

Submitted: 01-06-2022 Revised: 10-06-2022 Accepted: 15-06-2022

ABSTRACT:
In the Union budget 2022-23 the government allocated 19500 crore for a production linked Incentives scheme to boost manufacturing of high efficiency solar modules. Globally India ranked 5th in solar power capacity and 4th in Renewable energy capacity and wind power.The central Electricity authority estimates India's power requirement to grow to reach 817 GW by 2030[1].
Keywords: Solar energy, Renewable energy, Scheme related to solar

I. INTRODUCTION:

The sun has been worshiped as a life giver to our plant since ancient times. India has tremendous solar energy potential. India's land area receives about 5,000 trillion kWh of energy each year, with most sections receiving 4-7 kWh per sq. m per day[2]. Solar photovoltaic power may be effectively harnessed in India, allowing for massive scalability. Solar also allows for dispersed power generation and allows for rapid capacity expansion with short lead periods[3]. Rural electrification and addressing other energy needs for power, heating, and cooling in both rural and urban areas would benefit from off-grid decentralized and low-temperature applications[4]. Solar is the most secure of all energy sources in terms of energy security because it is abundantly available[5].
Solar power installed capacity has been increased by 18 times from 2014 to December 2021 and the data is around 2.63 GW to 49.3 GW respectively[1].

II. METHODOLOGY:

Solar power play a crucial part in India's climate oath as well. Out of 175 GW of renewable energy that India promised to install by 2022 as part of the 2015 Paris agreement[6], 100 GW were supposed to come from solar sector alone[7].
On Grid: JNNSM (Jawaharlal Nehru National Solar Mission): Announcement were made in the year of 2008 and started the mission from 2010 when union budget were presented.
Executed in 3 phases:

i. Phase 1st is from 2010-2013
ii. Phase 2nd is from 2013-2017
iii. Phase 3rd is from 2017-2022

In 2010 when union Budget were presented than a 50rs/tonneCess was imposed on coal. In 2014 it was increased to 400 Rs/ tonne and that cess is related to Clean Environment cess and that cess is transfer into National clean energy fund and that will be diversified in the 2nd and 3rd phase of JNNSM.
Solar Energy Corporation of India was made in 2011 and that work is execution of solar power project.
In 2013 Government of India come with a proposal of Domestic content requirement (DCR) but US argument that this will violating the national treatment clause of WTO.
In 2015 COP (Conference of parties) which was held in Paris ISA (International solar alliance) came into existence. This is the initiative taken by India and France to promote solar energy.
Out of 1 lakh megawatt on grid targeted break up will be in following order

1. 40,000 MW Will come from Rooftop panels
2. 40,000 MW will come from UMSPP (ultra-mega solar power project)
3. 20,000 MW will come from the Miscellaneous like self

Ultra-mega solar power project are those which are having a capacity of 500 MW or more.
Government initiatives for Rooftop panels:

i. SARAL Index (State rooftop solar attractiveness index)
ii. Net metering (Smart grid)
iii. International solar alliances(ISA) : Starting in Paris agreement 2015

Off grid:

1. PM-KUSUM for Agriculture sector and have 3 component

i. Promote 17.5 lakh standalone solar pumps with capacity up to 75 horsepower.
ii. Solidarization of 10 lakh grid connected pump with capacity up to 75 horsepower.
iii. 10,000 MW of grid connected renewable solar power and the size is up to 2 MW.

2. Solar Street light : 3lakh solar street light
3. Solar study lamp: target is 25 lakhs

4. 7 million study lamp scheme for school going children
5. Scale up of access to clean energy for rural livelihood
6. 100 MW_poff grid solar power project
7. Solar power project within 25 MW_p where areas are not connected to grid

III. CONCLUSION:

There are various schemes run by the government of India to improve the solar energy.Governments recognize that in order to meet these lofty goals, the renewable energy sector will require significant financial support in the form of targeted subsidies, import tariff restrictions, interest-free loans, improved tax structures, and careful policy framing for both states and power distribution companies (discoms).

REFERENCES:

[1] "Renewable Energy," no. February, 2022.
[2] "Indian Budget 2022-23," 2022. [Online]. Available: https://www.india.gov.in/spotlight/union-budget-fy-2022-2023
[3] R. Kumar, K. K. Samar, and S. K. Jain, "Economic Evaluation of Passive Solar Distillation System," Int. J. Environ. Clim. Chang., pp. 50–53, Jan. 2022, doi: 10.9734/ijecc/2022/v12i130614.
[4] R. Kumar, S. K. Jain, and K. K. Samar, "Energy Analysis of Passive Solar Distillation Unit," J. Exp. Agric. Int., pp. 24–31, Feb. 2022, doi: 10.9734/jeai/2022/v44i130785.
[5] "India Energy Outlook 2021," India Energy Outlook 2021, 2021, doi: 10.1787/ec2fd78d-en.
[6] K. H. Solangi, M. R. Islam, R. Saidur, N. A. Rahim, and H. Fayaz, "A review on global solar energy policy," Renew. Sustain. Energy Rev., vol. 15, no. 4, pp. 2149–2163, 2011, doi: 10.1016/j.rser.2011.01.007.
[7] R. Kumar, S. K. Jain, and K. K. Samar, "Exergy Analysis of Passive Solar Distillation Unit in India at Udaipur," Curr. J. Appl. Sci. Technol., pp. 36–43, Dec. 2021, doi: 10.9734/cjast/2021/v40i4331617.