

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION
TO BE ANSWERED ON 09.02.2017
REDUCTION IN SIZE OF PHOTOVOLTAIC PANELS

1308. **SHRI PONGULETI SRINIVASA REDDY:**

Will the Minister of NEW & RENEWABLE ENERGY be pleased to state:

- (a) whether the Union Government is planning to introduce sophisticated technology to reduce the size of photovoltaic panels, which generates same amount of power and occupies less space in a bid to overcome the challenge of scarcity of land for further expansion of solar power Industry;
- (b) if so, the details thereof;
- (c) whether the Union Government has taken any steps for technological upgradation of solar panels/appliances to be synchronized with solar irradiance: and
- (d) if so, the details thereof?

ANSWER

THE MINISTER OF STATE (IC) FOR POWER, COAL, NEW & RENEWABLE ENERGY
AND MINES (SHRI PIYUSH GOYAL)

(a): Ministry of New & Renewable Energy (MNRE) is supporting an R&D schemes under which the efforts are being made to make the more efficient Solar cells/Solar module to generate more power with same area. MNRE has sanctioned several R&D projects for development of high efficiency solar cells which will require less area for deployment of the PV modules.

(b): The details of R&D projects are given in the Annexure.

(c) & (d): The grid tied inverters being used in the PV power plants to feed the power to the grid are of high quality with total harmonic distortion (THD) < 3 % and overall system efficiency including *Maximum Power Point Tracking* (MPPT) >96%. There is no problem of synchronization due to solar irradiance.

Annexure

Sl. No.	Name of the Project	Name of the PI and Institution	Sanction & MNRE contribution (Lakh)
1.	Dye Sensitized Solar Cell (DSSC)/Quantum dot Dye Sensitized Solar Cell	Dr. L. Giribabu, Scientist, Central Scientific Industrial Research – Indian Institute Chemical Technology, Hyderabad	Total cost: 4232.28 MNRE Share: 4232.28 Duration : 4 years
2.	Advanced research on thin silicon solar cells and photovoltaic systems	Prof. H Saha Indian Institute of Engineering Science and Technology (IEST) Kolkata	Total cost: 1476.10 MNRE Share: 1476.10 Duration: 3 years
3.	Development of novel, efficient and cost effective power electronics based single phase system to convert Solar Energy from solar PV to Electric Energy.	Dr. Atheshamul Haque, Jamia Milia Islamia university, New Delhi	Total Cost: 106.31 MNRE Share: 106.31 Duration: 2 years
4.	Design and development of an efficient soft-switching converter with adaptive maximum power point tracking (MPPT) controller for a standalone photovoltaic power generation system.	Dr. Rajneesh Kumar, Associate Professor Birla Institute of Technology and Science Pilani, Rajasthan	Project cost = 29.39 MNRE Share: 29.39 Duration = 2 years
5.	Development of High Efficiency selective large area N-Type crystalline silicon solar cell.	Prof. Utpal Gangopadhyay Megnad Saha Institute of Technology, Nazirabad Kolkata.	Project cost = 298.40 MNRE Share = 298.40 Duration = 3 Years
6.	National Centre for Photovoltaic Research and Education (NCPRE) Phase-II	Prof. B G Fernandes and Prof C S Solanki, Indian Institute of Technology Mumbai	Project cost = 6235.00 MNRE share = 6235.00 Duration = 5 years
7.	From Cell towards Module using low cost Organo-Metal Halide Perovskite Materials	Dr. Shaibal K. Sarkar Indian Institute of Technology Bombay, Powai, Mumbai-	Project cost = 318.00 MNRE share = 318.00 Duration = 3 years