GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 3913
ANSWERED ON 12.08.2026

RECYCLING CAPACITY OF SOLAR PANEL WASTE

3913. SHRI UMMEDA RAM BENIWAL

Will the Minister of ***New and Renewable Energy*** be pleased to state:

(a) whether any assessment has been undertaken by the Government regarding the generation of end-of-life solar panel waste and the requirement for recycling capacity in the country and if so, the details thereof;
(b) whether any policy, scheme or incentive exists for promotion of manufacturing and recycling activities relating to end-of-life solar panels and associated renewable energy equipment and if so, the details thereof;
(c) whether any locations have been identified for establishment of facilities for recycling of solar panels and related renewable energy equipment and if so, the details thereof; and
(d) the steps taken by the Government to promote investment, employment generation and circular economy practices in the renewable energy manufacturing and recycling sector?

ANSWER
THE MINISTER OF STATE FOR NEW & RENEWABLE ENERGY AND POWER

(SHRI SHRIPAD YESSO NAIK)

(a) With the support of Ministry of New and Renewable Energy (MNRE), the Council on Energy, Environment and Water, a think tank, has estimated that cumulative waste from existing and projected solar capacity installations in India could reach around 600 kilo-tonnes by 2030. It is also estimated that an annual processing capacity of 3,600 tonnes, would be required by 2047 for the environmentally sound management of end-of-life solar PV waste.

(b) to (d) The Government has taken several measures to promote manufacturing, recycling and circular economy practices relating to end-of-life solar panels and associated renewable energy equipment. These include:

a) Government has constituted committees to prepare action plans to expedite transition from linear to circular economy in 11 focus area including solar sector.
b) The Ministry of Environment, Forest and Climate Change, Government of India has notified the E-Waste (Management) Rules, 2022. These rules also cover environmentally sound management of e-waste generated from electrical and electronic equipment, these rules govern the for management of e-Waste including solar photo-voltaic (PV) modules or panels or cells. An online Extended Producer Responsibility (EPR) Portal for E-Waste management has also been made operational by the Central Pollution Control Board (CPCB) wherein all manufacturer, producer, refurbishers and recycler are required to register on this portal.
c) The MNRE had launched an “Innovation Challenge for Circularity in Renewable Energy Technologies – Batteries and Solar Photovoltaic” to support research and innovation in recycling,

second-life applications, and circular design of solar modules and batteries under the Renewable Energy Research and Technology Development (RE-RTD) programme.

d) The Department of Science and Technology (DST), issued a Call for proposal on "Recovery and Recycling of End-of-Life Solar PV Panels/Modules" to develop economically viable recycling processes and equipment through academia–industry partnerships and

e) Ministry of Mines (MoM) launched a recycling incentive scheme with an outlay of Rs. 1500 crore under the National Critical Mineral Mission (NCMM) to develop domestic capabilities for recovering critical minerals from e-waste, lithium-ion battery waste, and components of end-of-life vehicles, supporting circular economy practices in clean-energy supply chains.

No specific locations have been identified by MNRE for establishment of recycling facilities for solar panels and related renewable energy equipment.

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