

**GOVERNMENT OF INDIA  
NEW AND RENEWABLE ENERGY  
LOK SABHA**

UNSTARRED QUESTION NO:4191  
ANSWERED ON:22.03.2013  
ASSESSMENT OF SOLAR PANELS  
Kalmadi Shri Suresh

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

- (a) whether any assessment has been made regarding hazardous or toxic effects of worn out and outdated Solar Panels;
- (b) if so, the details thereof;
- (c) whether the Government has taken preventive / precautionary measures in advance for safe disposal of expired panels in coordination with the manufacturers of solar panels and environmental NGOs; and
- (d) if so, the details thereof and if not, the reasons therefor?

**Answer**

THE MINISTER OF NEW AND RENEWABLE ENERGY (DR. FAROOQ ABDULLAH)

(a)&(b): No, Madam. However, the Government is aware that solar photovoltaic cells used in solar panels are essentially large area electronic semiconductor devices and like any other such device, can contain some hazardous/ toxic substances, exact levels of which depend on fabrication technology employed.

(c): Yes, Madam.

(d): The Government has formulated rules for management and disposal of hazardous/ toxic wastes, which are applicable for disposal of solar panels also. Increased awareness about the same is being created. One leading foreign manufacturer/supplier of solar panels in India is also undertaking to take back its discarded solar panels for safe recycling and disposal.