

GOVERNMENT OF INDIA
MINISTRY OF STEEL
RAJYA SABHA
UNSTARRED QUESTION NO. 315
FOR ANSWER ON 05/02/2024

USE OF PLASTIC WASTE IN STEEL INDUSTRY

315. SMT. KANTA KARDAM:

Will the Minister of STEEL be pleased to state:

- (a) whether Government has taken any initiative to use plastic waste in the steel industry;
- (b) if so, the details of the waste management practices being implemented at present to address the generation and disposal of plastic waste in the steel industry;
- (c) whether Government has taken any research and innovation initiatives to develop environment friendly alternatives to conventional plastic materials and if so, the details thereof; and
- (d) if not, the reasons therefor?

ANSWER

THE MINISTER OF STATE IN THE
MINISTRY OF STEEL

(SHRI FAGGAN SINGH KULASTE)

(a)&(b): Ministry of Steel has consulted the stakeholders from the industry and it is noted that plastic wastes have been used on trial basis in the steel plants. All types of plastic wastes cannot be used due to the presence of harmful elements such as Sulphur and Chlorine. Plastic wastes cannot be recycled directly as it contains many impurities like dust, ash, metals, water etc., which needs to be removed before it can be processed further. There is requirement of extensive pre-treatment for changing the shape & size of the plastic wastes for effective utilisation in the iron & steel making processes.

In addition, as per Plastic Waste Management Rules (PWM-2016) and subsequent amendment vide gazette notification G.S.R. 522(E) dated 06th July, 2022, issued by the MOEF&CC, only "End-of-Life Disposal" plastic is allowed for co-processing in the steel industry and other waste plastic which can be recycled has been mandated for recycling only. Presently, availability of "End-of-Life Disposal" waste plastic is a major constraint.

Under the aforesaid Plastic Waste Management Rules, the municipalities/ local bodies are responsible for the creation and establishment of the plastic waste segregation, collection, storage, transportation, processing, and disposal system either on their own or by engaging agencies or manufacturers.

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(c)&(d): Research and innovation initiatives taken by the Government to develop environment friendly alternatives to conventional plastic materials are given below:-

Through Waste Management Technologies (WMT) program of Technology Translation and Innovation (TTI) Division, Department of Science and Technology (DST), has supported following projects to promote the R & D on alternatives to single use plastics.

- Utilization of Paddy Straw for making Composites
- Sustainable, Biodegradable and Affordable Substitutes for 'Single use Plastic' using Castor Oil and Stubble Aggregate

In addition to the above, Council of Scientific and Industrial Research (CSIR) has rolled out a mission mode project in the year 2022 on plastic depolymerization and upcycling with an objective to address waste plastic menace and convert it to fuels and value added chemicals. Under the project, CSIR is developing Near-Infrared (NIR) based waste plastic segregation or sorting systems, converting waste plastic to diesel grade fuels and finding out ways/methods to valorize waste plastic to value added products such as alpha-olefins, surfactants, etc.

Further, constituent laboratory of CSIR namely, CSIR-Indian institute of Petroleum (CSIR-IIP) together with GAIL, a public sector unit, has undertaken a project to convert waste polyethylene and polypropylene type plastics into liquid fuel (gasoline and diesel) and petrochemicals. A 1 TPD pilot plant has been set up at CSIR-IIP for validation of lab scale and bench scale results.
