

GOVERNMENT OF INDIA  
MINISTRY OF STEEL

**RAJYA SABHA**  
**UNSTARRED QUESTION NO.1113**  
FOR ANSWER ON 10/02/2021

**PROMOTION OF RESEARCH AND DEVELOPMENT IN IRON AND  
STEEL SECTOR**

1113. SHRI PARIMAL NATHWANI:

Will the Minister of **Steel** be pleased to state:

- (a) the funds sanctioned under the scheme 'Promotion of Research and Development in Iron and Steel Sector' during the last two years;
- (b) the energy efficient and environment friendly technologies adopted as a part of technological up-gradation/ modernisation/expansion of projects;
- (c) whether any new methods have been found out to better treat the waste from the steel sector in an environment friendly manner; and
- (d) if so, the details thereof?

**ANSWER**

THE MINISTER OF STEEL

(SHRI DHARMENDRA PRADHAN)

- (a) The funds sanctioned for the scheme "Promotion of Research & Development in Iron & Steel Sector" for the last two years are given below:-

<b>Financial Year</b>	<b>Fund Sanctioned (in Rs crore)</b>
2018-19	15.00
2019-20	15.00

- (b) The energy efficient and environment friendly technologies adopted by steel industry as part of technological up-gradation/ modernisation/ expansion programme/ projects include the following:-

- Coke Dry Quenching (CDQ) - Power generation from the waste heat from CDQ.
- Sinter Plant Heat Recovery (Power generation from Sinter Cooler Waste Heat).
- Bell Less Top Equipment (BLT) in Blast Furnace.
- Top Pressure Recovery Turbine (TRT) in Blast Furnace.
- Pulverized Coal Injection (PCI) system in Blast Furnace.
- Hot stove waste heat recovery in Blast Furnace.
- Dry type Gas Cleaning Plant (GCP) in Blast Furnace.
- Cast House/ Stock House Dedusting system.

- Converter Gas Recovery in BOF.
- Energy Monitoring & Management System.
- Secondary Fume Extraction System in Steel Melting Shop.
- Regenerative Burners in Re-heating Furnaces of Rolling Mills.
- Hot charging process of continuously cast products at higher temperature directly to Rolling Mills.
- Direct Rolling Process eliminating the need for Re-heating furnaces.
- Energy efficient technology for Hot Strip Mill: Flexible Thin Slab casting & Rolling.
- Near Net Shape casting: Bloom cum Beam Blank caster, Bloom cum Round caster etc.
- Adoption of Variable Voltage Variable Frequency (VVVF) Drives for high capacity electric motors.

(c)&(d): The wastes generated are recycled back within the steel plants. Solid wastes such as Blast Furnace slag is granulated within the steel plant and sold to cement industry. Gaseous wastes generated from the processes are further used in downstream processes in the plant such as in the reheating furnaces and power generation. Further, Research & Development projects have also been undertaken for utilization of steel slag in road making, construction, agriculture etc.

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