

GOVERNMENT OF INDIA  
MINISTRY OF STEEL

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 2229**  
**TO BE ANSWERED ON 09/08/2024**

**ADOPTION OF GREEN STEEL TECHNOLOGIES**

2229. Dr. Medha Vishram Kulkarni:

Will the Minister of Steel be pleased to state:

- (a) the steps taken by Government to encourage the adoption of 'green steel' technologies in the country's steel manufacturing sector, including initiatives to reduce greenhouse gas emissions and enhance the sustainability of steel production processes; and
- (b) the measures being implemented to promote the use of recycled steel in the country's steel production; and
- (c) the manner in which Government plans to encourage steelmakers to increase the proportion of recycled steel in their production processes?

**ANSWER**

THE MINISTER OF STATE IN THE (SHRI BHUPATHIRAJU SRINIVASA VARMA)  
MINISTRY OF STEEL

(a) The steps taken by Government to encourage the adoption of 'green steel' technologies by the country's steel manufacturing sector, including initiatives to reduce greenhouse gas emissions and enhance sustainability of steel production processes are as under:-

(i) 14 Task Forces were constituted with the engagement of industry, academia, think tanks, S&T bodies, different Ministries and other stakeholders to discuss, deliberate and recommend upon different levers of decarbonisation of the steel sector. These Task Forces gave in-depth recommendations on technologies including Energy Efficiency, Renewable Energy, Green Hydrogen, Material Efficiency, Process Transition from coal based DRI to Natural Gas based DRI, Carbon Capture, Utilisation and Storage (CCUS) and the use of Biochar in steel industry.

(ii) Ministry of New and Renewable Energy (MNRE) has announced the National Green Hydrogen Mission for green hydrogen production and usage. The steel sector is also a stakeholder in the Mission to promote the utilisation of Green Hydrogen in iron and steel making.

(iii) National Solar Mission launched by Ministry of New and Renewable Energy in January 2010 promotes the production and use of solar energy which contributes in

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reducing emissions in steel industry by increasing the uptake of renewable energy.

(iv) Perform, Achieve and Trade (PAT) scheme, under the National Mission for Enhanced Energy Efficiency, incentivizes steel industry to reduce energy consumption.

(v) The steel sector has adopted several Best Available Technologies (BAT) available globally in modernization and expansions projects.

(vi) Japan's New Energy and Industrial Technology Development Organization (NEDO) Model Projects for Energy Efficiency Improvement have been implemented in steel plants. The following four Model Projects have been implemented to reduce the impact on environment:

- a. Blast Furnace Hot Stoves Waste Gas Recovery System at Tata Steel Limited.
- b. Coke Dry Quenching (CDQ) at Tata Steel Limited.
- c. Sinter Cooler Waste Heat Recovery System at Rashtriya Ispat Nigam Limited.
- d. Energy Monitoring and Management System in Steel Authority of India Ltd.

(vii) The Carbon Credit Trading Scheme (CCTS) has been notified by the Central Government on 28th June 2023, which provides an overall framework for the functioning of the Indian Carbon Market and includes detailed roles and responsibilities of stakeholders towards operationalization of the scheme. The objective of CCTS is to reduce or avoid greenhouse gas emissions from various sectors of Indian economy by pricing the emissions through a carbon credit certificate trading mechanism. CCTS is intended to incentivize the emissions reduced by steel companies.

(b)&(c):The following measures and initiatives have been taken by Government to promote the use of recycled steel in steel production and to encourage steelmakers to increase the production of recycled steel in their production processes:-

(i) Steel Scrap Recycling Policy, 2019 envisages enhancing the availability of domestically generated scrap to promote circular economy and green transition of the steel sector. It provides a framework to facilitate and promote establishment of metal scrapping centers in India for scientific processing and recycling of ferrous scrap generated from various sources and a variety of products. The policy provides standard guidelines for setting up dismantling centre and scrap processing centre, roles of aggregators and responsibilities of the Government, manufacture and owner. The policy, inter-alia, also provides framework for scrapping of ELVs (End-of Life vehicle).

(ii) Motor Vehicles (Registration and Functions of Vehicles Scrapping Facility) Rules, 2021 have been notified under the framework of the Motor Vehicles Act, 1988 and Central Motor Vehicle Rules, 1989 under Vehicle Scrapping Policy. It envisages increasing availability of scrap in the steel sector.