

**GOVERNMENT OF INDIA
MINISTRY OF COAL
RAJYA SABHA
UNSTARRED QUESTION NO. 204
ANSWERED ON 02.02.2026**

GLOBAL PARTNERSHIPS FOR IMPROVEMENTS IN COAL SECTOR

204. SMT. SANGEETA YADAV:

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

- (a) whether Government has engaged with foreign governments or industry representatives to explore international partnerships in coal mining, clean coal technologies and logistics;
- (b) if so, the details thereof;
- (c) the reforms undertaken to modernise India's coal legislation, services and sectoral governance;
- (d) whether technological or operational improvements have been considered to strengthen coal sector activities and if so, the details thereof; and
- (e) the steps taken to strengthen digitalization, green coal initiatives and innovation across the coal industry?

ANSWER

**MINISTER OF COAL AND MINES
(SHRI G. KISHAN REDDY)**

(a) & (b): Central Mine Planning and Design Institute Limited (CMPDI) and Eastern Coalfields Limited (ECL) have collaborated with M/s Ergo Exergy Technologies Inc, Canada for a Research and Development (R&D) pilot project on Underground Coal Gasification (UCG) at Kasta (West) Block of ECL to establish UCG technology in Indian geo-mining conditions.

(c): Ministry of Coal (MoC) has undertaken, *inter alia*, the following reform measures recently:

- I. Mine Plan and Mine Closure Plan Guidelines, 2025 prescribe the measures to reduce emission intensity, environmental protection, repurposing, community engagement, just transition and skill development, etc.
- II. Revised SHAKTI Policy, 2025 supports the Power Sector by providing for greater flexibility, wider eligibility, better accessibility to coal, generation of more power, cheaper tariffs, optimum utilization of generating stations, seamless thermal capacity addition and reduce the dependence for coal on global markets.

III. CoalSETU Window is a new window under the Non-Regulated Sector linkage auction policy of 2016, which enables any domestic buyer requiring coal to obtain coal linkages for a long term for utilization of coal for any industrial use and export and removes the restriction of a particular specified end-use in the erstwhile linkage auctions.

(d): Several technological and operational improvements have been introduced across its mines to enhance productivity, efficiency, and safety such as continuous mining machinery, adoption of drone-mounted LiDAR (Light Detection and Ranging) based volumetric analysis, RFID boom barriers, fuel management system, use of blast free technology, fleet management system and geo-fencing technology using GPS technology for tracking equipment deployed in mine, mechanization of underground coal mining and loading system under 'First Mile Connectivity' projects.

(e): Government has launched four Surface Coal Gasification (SCG) projects to utilize coal in a cleaner manner. Syngas (a product of gasification which is primarily a mixture of carbon monoxide and hydrogen) produced through SCG can be further processed into Synthetic Natural Gas (SNG), Methanol, DME (dimethyl ether), Ethanol, Ammonia, Ammonium Nitrate, and Urea.

Integrated Command and Control Centres (ICCC) equipped with Artificial Intelligence (AI) based CCTV Video Analytics for real-time anomaly detection to enhance industrial surveillance, improved security and incident management have been installed in mines. Digital Logistic Management System (DLMS), a comprehensive solution to meet the logistic and security needs associated with the coal dispatch operation has been implemented. 3D Terrestrial Laser Scanning (TLS) with Global Navigation Satellite System (GNSS) Receivers are in use for volume measurement.
