

GOVERNMENT OF INDIA  
MINISTRY OF COAL

**RAJYA SABHA**  
**UNSTARRED QUESTION NO. 1006**  
ANSWERED ON 09.02.2026

COMMERCIAL COAL MINE AUCTIONS

1006. SHRI AYODHYA RAMI REDDY ALLA:

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

- (a) the manner in which adoption of Underground Coal Gasification (UCG) in India's coal sector influence the country's greenhouse gas emissions trajectory, and the implications this will have for India's climate change mitigation commitments;
- (b) potential geochemical and hydrogeological risks associated with UCG and the manner in which country's regulatory framework be adapted to mitigate these risks and ensure environmental sustainability; and
- (c) the manner in which introduction of UCG in the coal mine auctions impact the economic viability of country's coal reserves and the implications for the country's energy security and transition to renewable energy sources?

**ANSWER**

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

(a) and (b): In India, adoption of Underground Coal Gasification (UCG) is at an early stage, but holds potential to lower the carbon emission of coal use, in alignment with the country's climate change mitigation commitment. Coal India Limited (CIL) is undertaking an R&D pilot project on UCG technology in Indian geo-mining conditions at Kasta (West) Coal Block. Central Mine Planning & Design Institute (CMPDI) & Eastern Coalfields Limited (ECL) are the Principal Implementing Agencies, while M/s Ergo Exergy Technologies Inc., Canada, is the sub-Implementing Agency for this project.

The successful completion of this R&D pilot project, along with post-shutdown monitoring, is likely to provide valuable insights into the geochemical and hydrological risks associated with UCG operations.

(c): India holds about 401 billion tonnes of coal reserves, with over 43% at depth beyond 300 meters. These resources are difficult to mine by conventional methods of mining, making Underground Coal Gasification (UCG) an alternative option. This technology expands the usage of coal and enhances the economic viability of reserves. It strengthens energy security by reducing dependence on imported fuels and ensuring a steady domestic supply. Syngas produced from UCG can be used for power generation as well as for production of various chemicals and petro-chemicals. It also has the potential to integrate with carbon capture, lowering emissions and aligning with climate goals.

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