GOVERNMENT OF INDIA
MINISTRY OF COAL

LOK SABHA
UNSTARRED QUESTION NO 2214
TO BE ANSWERED ON 12.03.2025

Research to Develop Clean Coal Technologies

2214. Shri P C Mohan:

Will the Minister of Coal be pleased to state:

(a) whether the Government plans to collaborate with research institutions and technology firms in Bengaluru to develop clean coal technologies including coal gasification and carbon capture solutions;
(b) if so, the details of ongoing or proposed initiatives in this regard;
(c) whether the Government is considering setting up a dedicated National Clean Coal Technology Research Centre in Bengaluru to leverage its innovation ecosystem; and
(d) if so, the details thereof and if not, the reasons therefor?

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

(a): Yes Sir.

(b): Details of ongoing or proposed initiatives of the Government to collaborate with research institutions and technology firms in Bengaluru to develop clean coal technologies including coal gasification and carbon capture solutions, are as under:

1. The Singareni Collieries Company Ltd.(SCCL) partnered with Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore for a pilot project for conversion of 500kg / day Co2 to methanol.
2. Department of Science & Technology (DST) had launched Clean Coal Research & Development programme in the year 2017. The main focus of the programme was on research and development to demonstrate clean coal technologies; advanced coal cutting technology; bio-methanation of coal mill and coal washery rejects; microbial recovery of biogenic methane; coal gasification, carbon capture & pollution control; methane drainage prior to mining; calorific enhancement of coal through microwave treatment.
3. To leverage the innovative ecosystem, DST has funded multi-institutional collaborative projects and Principal Investigator (PI) centric project at Bangalore.

(c): Yes, Sir.

(d): In 2018, DST had established a multi-institutional collaborative National Clean Coal Centre at the Indian Institute of Science (IISC), Bangalore, namely, National Centre for Clean Coal Research and Development (NCCCRD). It is a national level consortium on clean coal R&D, led by the Indian Institute of Science (IISc)-Bangalore, consortium partners include IIT Kharagpur, IIT Madras, IIT Guwahati, IIT Bombay and IIT Hyderabad. The objective of the consortium project is to address several critical R&D challenges towards the development of clean coal

technologies, in tandem with developing supercritical power plants technologies, both at the system level as well as in materials development. The pathway identified for lowering the carbon footprint of coal based thermal power plants is by shifting towards high efficiency advanced ultra-supercritical (AUSC) steam power plants as well as supercritical carbon dioxide (s-CO2) based Brayton cycle power plants.

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