

GOVERNMENT OF INDIA
MINISTRY OF COAL

LOK SABHA
UNSTARRED QUESTION NO. 4235
ANSWERED ON 18.03.2026

BIO-COAL PRODUCTION

4235. SHRI DARSHAN SINGH CHOUDHARY:

Will the Minister of COAL be pleased to state

(a) whether any special policy, scheme or mission has been implemented by the Government to promote bio-coal/biomass-based fuel and other domestic coal production in the country;

(b) if so, the concrete steps taken by the Government thereunder for the production, technology, capacity enhancement and private/cooperative participation in bio-coal, bio- briquettes, pellets, etc.;

(c) whether these efforts have resulted in a reduction in dependence on coal imports, enhanced energy security and improved environmental impacts and if so, the details of quantitative data thereof; and

(d) whether any special initiative has been taken by the Government to ensure additional income for farmers by encouraging bio-coal production using agricultural residues, stubble and forest-based biomass?

ANSWER

MINISTER OF STATE FOR COAL AND MINES

(SHRI SATISH CHANDRA DUBEY)

(a)&(b): The Government has undertaken several initiatives to promote domestic coal production as well as research and development relating to bio-coal/ biomass-based fuels.

Under the *Mission Coking Coal* launched by the Ministry of Coal, the Coal India Limited (CIL) has undertaken measures to enhance domestic coking coal production and beneficiation capacity. CIL currently operates 10 coking coal washeries with an operable capacity of 18.35 million tonnes per year (MTY) and it produced 2.4 MT of washed coking coal in FY 2024–25.

As regards bio-coal/ biomass-based fuels, the Indian Council of Agricultural Research (ICAR) has undertaken research on the production of bio-coal (biochar) from agricultural wastes and biomass residues such as rice husk, rice straw, maize cobs, coconut shells, crop residues and farmyard manure through pyrolysis technologies. ICAR institutes, including the ICAR–Central Institute of Agricultural Engineering, Bhopal, have developed biomass pyrolysis units and machinery for converting crop residues into biochar, thereby enabling value addition to agricultural waste. Biochar produced from such biomass typically contains high organic carbon

(about 67–89%), alkaline pH (around 8–9) and plant nutrients, and can be used both as a fuel substitute and as a soil amendment.

Further, the National Mission for Sustainable Agriculture (NMSA) has been launched by the Department of Agriculture and Farmers Welfare to promote sustainable agricultural practices and better utilisation of agricultural residues. The Mission includes *Per Drop More Crop*, *Rainfed Area Development*, *Soil Health & Fertility programmes*, as well as initiatives such as the *Mission for Integrated Development of Horticulture* and the *National Bamboo Mission* to support climate-resilient agriculture and biomass generation.

(c): Most of the coal demand in the country is met through indigenous coal production, primarily by government coal companies and supplemented by other domestic producers.

Coal imports are permitted under the Open General Licence (OGL). In 2024-25, total coal imports in the country were 243.63 MT, which represents a reduction of about 8% compared with 264.53 MT imported in 2023-24. Under Mission Coking Coal, domestic coking coal production has recorded a Compound Annual Growth Rate (CAGR) of about 8.6%, increasing from 46.60 MT in FY 2021-22 to 59.67 MT in FY 2024-25. Supply of washed coking coal by CIL to the steel sector has also increased from 1.7 MT in FY 2021-22 to 2.4 MT in FY 2024-25, contributing to higher domestic coking coal utilisation.

Further, for opening new coal mines and expansion of existing projects, CIL obtains statutory environmental clearances based on Environmental Impact Assessment (EIA) and implements approved Environmental Management Plans (EMP) to mitigate environmental impacts.

(d): The Government is promoting utilisation of agricultural residues and biomass for value-added products such as bio-coal/ biochar, which can provide additional income opportunities to farmers. ICAR research programmes have demonstrated that converting crop residues and other biomass into biochar through pyrolysis technology can improve soil health, increase soil organic carbon, enhance nutrient availability and water retention, and reduce CO₂ emissions by about 50–59% compared with conventional manure application. Field trials with crops such as carrots and potatoes have shown significant yield improvements under biochar-based soil management practices. ICAR institutes are also conducting training and capacity-building programmes for farmers and extension personnel on biochar production and utilisation, thereby encouraging recycling of agricultural residues and promoting sustainable farming systems while creating opportunities for additional farm income.
