GOVERNMENT OF INDIA
MINISTRY OF COAL

RAJYA SABHA
UNSTARRED QUESTION NO 1793
TO BE ANSWERED ON 17.03.2025

Shortage of coal and energy security

1793. Shri Ayodhya Rami Reddy Alla:

Will the Minister of Coal be pleased to state:

(a) the paradigm shifts in coal mining technologies and logistics that the Ministry can adopt to address the burgeoning coal demand, while concurrently reducing environmental degradation and enhancing energy security; and

(b) the manner in which the Ministry can balance the competing interests of increasing coal production, reducing greenhouse gas emissions, and promoting sustainable mining practices, while ensuring that country's energy requirements are met without compromising environmental sustainability?

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

(a): The focus of the Government is on increasing the domestic production of coal. Most of the requirement of coal in the country is met through domestic production and supply. For reducing environmental degradation and enhancing energy security, Government has introduced modern mining technologies and launched Integrated Coal Logistics Plan. The main objectives of Coal Logistics Policy and Plan are as under:

i. **Availability**: To ensure the availability of adequate coal loading and evacuation infrastructure at a nearby location through Conveyors, Rail, Road, Port or Waterways connectivity.

ii. **Optimization**: To optimize the total logistics cost, loading and transportation, through rationalization of the transport network with existing and any other proposed mode of transportation.

iii. **Integration**: To promote an interconnected multimodal network of transport infrastructure & greener transportation initiatives for efficient movement of coal covering the entire country.

iv. **Modernization**: To promote greater adoption of information communication technology, upgraded infrastructure, use of artificial intelligence, drones, sensors and innovation to improve efficiency and address the evolving needs of the sector.

v. **Efficient**: To strive for faster and efficient loading and transportation system in order to reduce the turn-around time leading to increase in the time and cost efficiency of the system.

vi. **Inclusivity**: To promote inclusivity by addressing the needs of all stakeholders from logistics supply and user side.

The Coal Logistics Plan proposes a strategic shift towards a railway-based system in First Mile Connectivity Projects with an objective of reduction in share of road transportation, increase in share of rail-based coal transportation, reduction in logistics cost with network optimization and, reduction in CO2 emissions.

(b): The following steps are being taken for promoting sustainable mining practices, while ensuring that country's energy requirements are met:

- **Greening Initiatives**— Bio-Reclamation/Plantation: The Coal/Lignite PSUs have been constantly making efforts to minimize the footprints of coal mining through sustained reclamation and afforestation of areas in and around their operating mines.
- **Energy Efficiency Measures:** Coal/Lignite PSUs have been taking various energy conservation and efficiency measures over the years to reduce carbon intensity such as replacement of conventional lights with LED lights, installation of energy-efficient air conditioners, super fans, deployment of EVs and installation of efficient water heaters, energy-efficient motors for pumps, auto timers in street lights etc.
- **Efficient utilization of mine water:** Mine water after the application of appropriate treatment methods is utilized for various purposes such as - community supply for domestic and irrigation purposes; industrial use for dust suppression, plantation, firefighting, machinery washing, sprinkling in UG workings, creation of recreational areas, fish farming, and groundwater recharge etc. Coal/Lignite PSUs have also entered into an MoU with respective State Governments for community water supply.
- **Gainful Utilization of Overburden:** Extracting sand from Over Burden (OB) for construction and stowing material supports sustainable development by providing affordable sand and reducing the land required for OB dumps. As of March 2024, Coal/Lignite PSUs have commissioned 4 OB processing plants and 5 OB to M-Sand Plants. This initiative not only helps reduce environmental pollution, improve the riverine ecosystem, enhance water flow, and boost groundwater recharge but also provides a cheaper alternative for construction sand.
- **Green Credit Programme:** Coal PSUs are also participating in extensive plantation under Green Credit Program launched by MoEF&CC.
- **First Mile Connectivity (FMC) projects**: The Coal PSUs have taken steps to upgrade the mechanized coal transportation and loading system under 'First Mile Connectivity' projects. Commissioning of FMC projects in coal mining areas reduces consumption of diesel significantly and therefore reduces carbon emissions.
- **Deployment of Blast free technology in coal mining:** Coal companies are deploying modern equipment having environment friendly features, like Surface Miner, Continuous Miner in coal mining, which eliminates the drilling, blasting and crushing operations in coal and hence, in turn, obviates pollution caused due to these operations. Rippers are also being deployed for blast-less removal of overburden in some mines.
- **Renewable Energy and clean coal initiatives:** Coal PSUs have also started commissioning Renewable Energy power projects. Additionally, they are venturing into various clean coal technologies like Coal gasification, Coal Bed methane (CBM) etc.

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