

GOVERNMENT OF INDIA  
MINISTRY OF COAL

**LOK SABHA**  
**STARRED QUESTION NO. 110**  
**ANSWERED ON 14.12.2022**

Unlocking Underground Reserves of Coal

**\*110. SHRI ANUMULA REVANTH REDDY:**

Will the Minister of Coal be pleased to state:

- (a) whether the Government needs to focus on unlocking underground reserves of coal, if so, the reasons therefor;
- (b) the details of Open Cast (OC) coal in tonnes mined in last five years, year-wise and State-wise;
- (c) the details of underground coal mines to supplement open cast coal in last five years, year-wise and State-wise; and
- (d) whether around 70% of the country's coal reserves are amenable to UG mining and if so, details thereof?

**ANSWER**

**MINISTER OF PARLIAMENTARY AFFAIRS, COAL AND MINES**  
**(SHRI PRALHAD JOSHI)**

**(a) to (d):** A statement is laid on the Table of the House.

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**Statement referred to in reply to parts (a) to (d) in respect of Lok Sabha Starred Question No. 110 for reply on 14.12.2022 regarding Unlocking Underground Reserves of Coal asked by Shri Anumula Revanth Reddy.**

(a) As of now, country largely depends on opencast mining for domestic coal production and about 95% of domestic coal production has been achieved through opencast mining methods. Later, when coal resources at shallower depth for opencast mining shall deplete, requiring substitution with suitable mining technologies which are socially acceptable, environment friendly and economically feasible. In such circumstances, underground mining is suitable alternative to opencast coal production. The advanced countries prefer underground mining due to lesser financial, social & environmental burden. The importance of underground mines is enhanced considering its social & environmental impact and its wide applicability in deep seated coal resource.

(b) & (c) State-wise coal production from OC and UG mines from 2016-17 to 2021-22 is placed at Annexure.

(d) Mining of coal reserve (resource) by underground or opencast mining depends mainly on its technical and financial feasibility analysis, as available technology, scale of operation & its financial feasibility changes with new technology development, input costs, price and other parameters. At the time nationalization, majority of coal mines were underground mines even if depth of coal seams was up to 100m. After nationalization, depth of opencast mines increased significantly and currently it is generally considered up to 300m. Underground coal mines are working at depth up to 600m.

As per available mining technology, coal resources within depth range of 300 to 600m and higher is considered as amenable to underground mining. The depth-wise estimated coal resources as per the Coal Inventory published by GSI, as on 01.04.2022, is as under:

*(Resources in million tonne)*

Depth Range (m)	Coking			Non-coking			High Sulphur	Grand Total
	Prime	Medium	Semi coking	Superior (G1-G6)	Inferior (G7-G17)	Ungraded		
0-300	3.02	11961.89	466.77	21688.23	156530.68	6718.12	1453.54	198822.25
0-600	4060.49	4645.14	0.00	204.52	5897.48	0.00	0.00	14807.63
300-600	0.00	6509.31	758.14	13786.84	81952.69	12058.87	202.00	115267.85
600-1200	1254.78	4963.25	482.61	3434.04	16990.39	5388.66	0.00	32513.73
<b>0-1200</b>	<b>5318.29</b>	<b>28079.59</b>	<b>1707.52</b>	<b>39113.63</b>	<b>261371.24</b>	<b>24165.65</b>	<b>1655.54</b>	<b>361411.46</b>

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State-wise coal production from OC and UG mines from 2016-17 to 2021-22 –

State wise OC/UG Production (Qty. in MT)																
Sl. no	States	2017-18			2018-19			2019-20			2020-21			2021-22 (Prov.)		
		OC	UG	Total	OC	UG	Total	OC	UG	Total	OC	UG	Total	OC	UG	Total
1	Assam	8	0.00	0.79	0.78	0.00	0.78	0.52	0.00	0.52	0.04	0.00	0.04	0.03	0.00	0.03
2	Chhatisgarh	133.46	9.08	142.55	152.98	8.91	161.89	149.84	7.91	157.75	151.78	6.63	158.41	147.89	6.23	154.12
3	Jammu & kashmir	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.01
4	Jharkhand	120.00	3.30	123.30	131.54	3.12	134.67	128.29	3.48	131.76	121.08	2.35	123.43	127.53	2.58	130.11
5	Maharashtra	39.97	2.25	42.22	47.80	2.02	49.82	52.94	1.81	54.75	46.09	1.34	47.44	55.24	1.29	56.53
6	Meghalaya	1.53	0.00	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Madhya Pradesh	102.48	9.65	112.13	108.91	9.75	118.66	116.58	9.15	125.73	124.69	7.84	132.53	130.43	7.52	137.95
8	Odisha	142.29	1.04	143.33	143.44	0.87	144.31	142.18	0.84	143.02	153.62	0.54	154.15	184.57	0.50	185.07
9	Telangana	53.70	8.31	62.01	55.98	9.18	65.16	57.02	8.69	65.70	48.09	4.52	52.60	60.97	6.26	67.23
10	Uttar Pradesh	18.31	0.00	18.31	20.28	0.00	20.28	18.03	0.00	18.03	17.02	0.00	17.02	18.07	0.00	18.07
11	West Bengal	21.05	8.19	29.24	24.50	8.63	33.14	24.82	8.80	33.61	21.48	8.98	30.46	20.27	8.80	29.07
TOTAL		633.58	41.83	675.41	686.21	42.51	728.72	690.21	40.67	730.87	683.87	32.21	716.08	745.00	33.18	778.19