

GOVERNMENT OF INDIA
MINISTRY OF POWER

RAJYA SABHA
UNSTARRED QUESTION NO.790
ANSWERED ON 10.02.2025

CALORIFIC VALUE OF INDIAN COAL

790 SHRI AJIT KUMAR BHUYAN:

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

- (a) whether loss in calorific value of Indian coal from mine end to central generating plants is much higher than national average T&D loss and is upto 35 per cent;
- (b) if so, the list of plants with loss in calorific value;
- (c) year-wise quantity of coal produced in the country, average calorific value and cost thereof for last five years i.e. from 2020–24; and
- (d) year-wise and central generating station wise quantity of Indian coal received, quality of coal received and charges paid for last five years i.e. from 2020-24?

A N S W E R

THE MINISTER OF STATE IN THE MINISTRY OF POWER

(SHRI SHRIPAD NAIK)

(a) & (b): Coal Controller Organisation (CCO) regularly assesses and declares grades of coal mine. However, due to the inherent heterogeneous nature of Indian coal, the calorific value of coal extracted within the same seam at different points tends to vary.

As per the Fuel Supply Agreement (FSA), once delivery of coal have been effected at delivery point by the coal company, the property / title and risk of coal so delivered shall stand transferred to the power plants. Thus, for billing purpose, the quality of coal is assessed at the loading-end.

In order to ascertain coal quality at loading end, power plant and coal company jointly engage Third-party Sampling Agencies (TPSA).

Coal company initially bills as per the declared grade of coal. However, whenever the grade of coal at loading end, as per TPSA, is found to be lower / higher than the declared grade, coal company issues credit / debit note to power plants.

There are instances of loss in calorific value of coal received at thermal power plant end. The plant wise details in case of NTPC, DVC and NLCIL are given at **Annexure-I**.

(c): The details of quantity of coal produced in the country during the last five years are given at **Annexure-II**. The details of average calorific value for the last five years are given at **Annexure-III**. The details of the cost of production of coal of CIL and SCCL are given at **Annexure-IV**.

(d): The details of the year-wise and central generating station wise quantity of Indian coal received, quality of coal received and charges paid for last five years i.e. from 2020-24 are given at **Annexure-V**.

ANNEXURE-I

ANNEXURE REFERRED IN REPLY TO PARTS (a) & (b) OF UNSTARRED QUESTION
NO. 790 ANSWERED IN THE RAJYA SABHA ON 10.02.2025

Plant wise details of loss of calorific value in case of NTPC, DVC and NLCILNTPC Ltd. (FY 19-20 to 21-22)

FY	FY19-20			FY20-21			FY21-22		
	Avg. Mines end GCV (Kcal/Kg)	Avg. GCV at NTPC Power-House end (Kcal/Kg)	% Loss in GCV w.r.t. Mines end and Unloading end	Avg. Mines end GCV (Kcal/Kg)	Avg. GCV at NTPC Power-House end (Kcal/Kg)	% Loss in GCV w.r.t. Mines end and Unloading end	Avg. Mines end GCV (Kcal/Kg)	Avg. GCV at NTPC Power-House end (Kcal/Kg)	% Loss in GCV w.r.t. Mines end and Unloading end
Barauni	4659	4258	8.6	4675	4431	5.2	4142	4118	0.6
Barh	3875	3894	-0.5	4236	3836	9.4	4726	3981	15.8
Bongaigaon	5367	4767	11.2	5312	4955	6.7	5038	4503	10.6
Dadri - Coal	4536	3953	12.9	4530	3874	14.5	4483	4122	8
DARLIPALLI	3422	3275	4.3	3400	3295	3.1	3296	3233	1.9
Farakka	4509	4048	10.2	4285	3961	7.6	5171	4247	17.9
Gadarwara	5084	4462	12.2	4402	3966	9.9	4319	3794	12.2
Kaanti									
Kahalgaoon	3740	3594	3.9	3665	3518	4	4013	3603	10.2
Khargone	4831	4352	9.9	4513	4168	7.6	4450	3926	11.8
Korba	4108	3752	8.7	4138	4002	3.3	4158	3951	5
Kudgi	4900	4499	8.2	3863	3541	8.3	4136	3731	9.8
Lara	4886	4442	9.1	4340	4120	5.1	3878	3464	10.7
Mouda	4244	3928	7.5	4189	3925	6.3	4062	3499	13.9
North Karanpura									
NPGC Nabinagar	4763	4309	9.5	5178	4366	15.7	4412	4205	4.7
Ramagundam	4354	4129	5.2	4074	4000	1.8	4194	4092	2.4
Rihand	4522	4467	1.2	4415	4302	2.6	4441	4385	1.3
Simhadri	4243	3749	11.6	3898	3493	10.4	3918	3495	10.8
Singrauli	4462	4102	8.1	4553	4272	6.2	4661	4232	9.2
Sipat	4078	4001	1.9	4101	3983	2.9	3816	3742	2
Solapur	4694	4139	11.8	3940	3671	6.8	4149	3797	8.5
Talcher Super	3509	3154	10.1	4002	3609	9.8	3749	3380	9.8
TALCHER-THER	3717	3739	-0.6	3816	3595	5.8			
Tanda	4430	4022	9.2	4073	3780	7.2	4325	4034	6.7
Telangana									
Unchahar	4644	4118	11.3	4093	3822	6.6	4574	4055	11.4
Vindhyachal	4724	3862	18.3	4538	3943	13.1	4507	3990	11.5

NTPC Ltd. (FY 22-23 to 23-24)

FY	FY22-23			FY23-24		
Stations	Avg. Mines end GCV (Kcal/Kg)	Avg. GCV at NTPC Power-House end (Kcal/Kg)	% Loss in GCV w.r.t. Mines end and Unloading end	Avg. Mines end GCV (Kcal/Kg)	Avg. GCV at NTPC Power-House end (Kcal/Kg)	% Loss in GCV w.r.t. Mines end and Unloading end
Barauni	4349	3807	12.5	4662	3746	19.6
Barh	4728	3961	16.2	4965	3966	20.1
Bongaigaon	5252	4449	15.3	5473	4529	17.2
Dadri - Coal	4574	3928	14.1	4706	3648	22.5
DARLIPALLI	3192	3203	-0.3	3295	3261	1
Farakka	5158	4187	18.8	5614	4581	18.4
Gadarwara	4418	3684	16.6	4656	3749	19.5
Kaanti	4687	4041	13.8	4765	3853	19.2
Kahalgaon	4552	3865	15.1	4152	3603	13.2
Khargone	4461	3840	13.9	4792	4033	15.8
Korba	4059	3775	7	4181	3909	6.5
Kudgi	3964	3360	15.2	4210	3426	18.6
Lara	3479	3156	9.3	3367	3527	-4.7
Mouda	3923	3578	8.8	4155	3627	12.7
North Karanpura				4158	3657	12
NPGC Nabinagar	4525	4057	10.4	4676	4069	13
Ramagundam	3871	3688	4.7	3987	3714	6.8
Rihand	4524	4346	3.9	4385	4137	5.7
Simhadri	3685	3172	13.9	3670	3239	11.8
Singrauli	4668	4323	7.4	4592	4325	5.8
Sipat	3862	3780	2.1	3890	3715	4.5
Solapur	4150	3633	12.4	4436	3648	17.8
Talcher Super	3878	3659	5.7	3811	3451	9.4
TALCHER-THER						
Tanda	4253	3912	8	4733	3972	16.1
Telangana				3495	3437	1.7
Unchahar	4617	4030	12.7	4888	3988	18.4
Vindhyachal	4494	4158	7.5	4585	4337	5.4

Damodar Valley Corporation (DVC)

GCV data for FY 2019-20 to FY 2023-24					
Period	Plants	Avg. Mines end GCV (Kcal/Kg)	Avg. GCV at DVC Power-House end (Kcal/Kg)	Difference between Avg. Mines end GCV & AVG Power house end GCV (Kcal/Kg)	% Loss in GCV w.r.t. Mines end and Unloading end
FY 2019-20	BTPS	5060	4303	757	15%
	CTPS	5113	3928	1185	23%
	DSTPS	5320	3827	1493	28%
	KTPS	5235	3983	1252	24%
	MTPS	5229	3653	1576	30%
	RTPS	4926	3851	1075	22%
FY 2020-21	BTPS	5038	4275	763	15%
	CTPS	4952	3988	964	19%
	DSTPS	4998	3685	1313	26%
	KTPS	5071	4120	951	19%
	MTPS	5000	3675	1325	26%
	RTPS	5350	3787	1563	29%
FY 2021-22	BTPS	4920	4212	708	14%
	CTPS	4897	3920	977	20%
	DSTPS	4551	3571	980	22%
	KTPS	4963	3887	1076	22%
	MTPS	4998	3569	1429	29%
	RTPS	5139	3623	1516	30%
FY 2022-23	BTPS	5194	4129	1065	21%
	CTPS	5200	3612	1588	31%
	DSTPS	4386	3564	822	19%
	KTPS	5128	3710	1418	28%
	MTPS	4937	3427	1510	31%
	RTPS	4990	3507	1483	30%
FY 2023-24	BTPS	5081	3996	1085	21%
	CTPS	5037	3544	1493	30%
	DSTPS	5305	3995	1310	25%
	KTPS	5133	3844	1289	25%
	MTPS	5173	3516	1657	32%
	RTPS	5075	3663	1412	28%

BTPS : Bokaro Thermal Power Station, Jharkhand

CTPS : Chandrapura Thermal Power Station, Jharkhand

DSTPS : Durgapur Steel Thermal Power Station, West Bengal

KTPS :Koderma Thermal Power Station, Jharkhand

MTPS : Mejia Thermal Power Station, West Bengal

RTPS : Raghunathpur Thermal Power Station, West Bengal

NLC India Limited (NLCIL)

Financial Year	PLANT	MINE END AVERAGE GCV (KCAL/KG)	DISCHARGE END AT NTPL UNLOADING POINT AVERAGE GCV (KCAL/KG)	DIFFERENCE BETWEEN AVERAGE MINE END AND AVERAGE DISCHARGE END GCV (KCAL/KG)	% LOSS IN GCV WRT MINES END AND UNLOADING END
2019-20	NTPL	4290	4102	188	4.38%
2020-21		4480	4254	226	5.04%
2021-22		3970	3828	142	3.59%
2022-23		3682	3568	114	3.10%
2023-24		3696	3614	82	2.22%

ANNEXURE-II

**ANNEXURE REFERRED IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 790
ANSWERED IN THE RAJYA SABHA ON 10.02.2025**

The details of quantity of coal produced in the country during the last five years

Year	Production (Million Tonnes)
2023-24	997.826
2022-23	893.191
2021-22	778.210
2020-21	716.083
2019-20	730.874

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The details of average calorific value for the last five years

Subsidiary wise FY wise Weighted average GCV of Non Coking Coal		
FY	Subsidiary	Weighted Average GCV (Kcal/Kg)
2019-20	BCCL	5264
	CCL	4326
	ECL	5146
	MCL	3500
	NCL	4724
	NEC	6396
	SECL	4218
	WCL	4276
	CIL	4240
	SCCL	4031
2020-21	BCCL	5245
	CCL	4267
	ECL	5120
	MCL	3470
	NCL	4656
	NEC	6675
	SECL	4204
	WCL	4285
	CIL	4192
	SCCL	4072
2021-22	BCCL	5168
	CCL	4245
	ECL	5547
	MCL	3527
	NCL	4646
	NEC	6653
	SECL	4182
	WCL	4240
	CIL	4180
	SCCL	4113

2022-23	BCCL	5335
	CCL	4255
	ECL	5610
	MCL	3539
	NCL	4692
	NEC	6627
	SECL	4182
	WCL	4233
	CIL	4187
	SCCL	4094
2023-24	BCCL	5015
	CCL	3996
	ECL	5271
	MCL	3613
	NCL	4742
	NEC	6775
	SECL	4196
	WCL	4233
	CIL	4192
	SCCL	4116

ANNEXURE-IV

**ANNEXURE REFERRED IN REPLY TO PART (c) OF UNSTARRED QUESTION NO. 790
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The details of the cost of production of coal of CIL and SCCL

	2023-24	2022-23	2021-22	2020-21	2019-20
Cost of Production of CIL (₹ per Tonne)	1337	1447	1406	1305	1319
Cost of Production of SCCL (₹ per Tonne)	2993	2693	2547	2098	2098

**ANNEXURE REFERRED IN REPLY TO PART (d) OF UNSTARRED QUESTION NO. 790
ANSWERED IN THE RAJYA SABHA ON 10.02.2025**

**The details of the quantity and quality of domestic coal received and charges paid for the same
at power plants of NTPC, Damodar Valley Corporation (DVC) and NTPL**

NTPC Ltd. (FY – 19-20 to 21-22)

Coal Receipt Qty in LMT, Quality of Coal Recvd in Kcal/kg, Charges paid in Cr

Year	FY 19-20			FY 20-21			FY 21-22		
	Coal Receipt Qty	Quality of Coal Recvd	Charges paid	Coal Receipt Qty	Quality of Coal Recvd	Charges paid	Coal Receipt Qty	Quality of Coal Recvd	Charges paid
Singrauli	99.01	4102	2,507.32	95.4	4272	2,116.88	94.78	4232	1,850.09
Rihand	131.33	4467	2,977.99	143.81	4302	2,952.57	140.67	4385	2900.02
Vindhyachal	247.88	3862	4922.86	249.04	3943	5748.73	246.63	3990	4796.95
Ramagundam	105.63	4129	4048.53	101.03	4000	3879.84	107.96	4092	3782.16
Korba	140.76	3752	2407.52	138.15	4002	2597.77	140.35	3951	2567.42
Sipat	139.23	4001	2278.13	152.28	3983	2859.86	139.32	3742	2425.92
Talcher - Kaniha	157.6	3154	3121.19	161.82	3609	3408.17	168.78	3380	2879.04
Talcher - Thermal	30.23	3739	542.7	28.64	3595	514.07			
Farakka	96.59	4048	3645.05	80.52	3961	2729.41	78.21	4247	2,833.86
Kahalgaon	133.1	3594	3222.9	108.87	3518	2,731.17	114.91	3603	3,178.33
Lara	16.66	4442	339.38	41.57	4120	942.29	80.33	3464	1,811.55
Darlipalli	6.99	3275	94.21	35.37	3295	478.29	65.4	3233	772.97
North Karanpura									
Unchahar	56.91	4118	1,775.23	48.85	3822	1,397.43	51.93	4055	1,576.30
Tanda	30.7	4022	429.64	35.56	3780	1,049.38	55.32	4034	1,293.64
Dadri	44.21	3953	1043.87	19.74	3874	601.51	36.02	4122	816.56
Mouda	70.76	3928	1,745.17	39.69	3925	1,289.72	70.55	3499	2271.26
Solapur	7.97	4139	233.28	22.35	3671	487.99	26.03	3797	737.73
Kudgi	24.03	4499	577.19	28.94	3541	786.17	34.67	3731	1,030.39
Simhadri	76.85	3749	1,929.91	59.11	3493	1,485.41	89.76	3495	1,808.35
Barh	54.97	3894	1,108.63	51.1	3836	1,369.18	57.09	3981	1,976.17
Bongaigaon	26.51	4767	785.97	14.27	4955	527.17	24.06	4503	755.6
Gadarwara	8.72	4462	127.57	27.93	3966	701.46	49.44	3794	1,339.71
Barauni	2.7	4258	113.41	9.06	4431	249.12	16.28	4118	424.66
Khargone	9.95	4352	202.94	26.41	4168	383.4	37.47	3926	917.29
KBUNL Kanti*									
NPGCL Nabinagar*									
Telangana									

*Kanti & NPGCL were JVs prior to 2022-23

^Commissioning Coal

NTPC Ltd. (FY –22-23 to 23-24)

Coal Receipt Qty in LMT, Quality of Coal Recvd in Kcal/kg, Charges paid in Cr

Year	FY 22-23			FY 23-24		
	Coal Receipt Qty	Quality of Coal Recvd	Charges paid	Coal Receipt Qty	Quality of Coal Recvd	Charges paid
Singrauli	96.76	4323	2023.5	98.58	4325	2178.34
Rihand	140.85	4346	3170.4	144.61	4137	3256.63
Vindhyachal	238.79	4158	4991.92	223.66	4337	5282.22
Ramagundam	102.69	3688	4917.78	116.48	3714	5644.63
Korba	140.74	3775	2447.11	136.37	3909	2541.7
Sipat	133.22	3780	2423.49	147.79	3715	2676.68
Talcher -Kaniha	156.98	3659	2922.57	163.09	3451	2942.34
Talcher -Thermal						
Farakka	71.22	4187	2,927.41	86.62	4581	3448.75
Kahalgaon	103.75	3865	3,524.33	125.09	3603	3,694.65
Lara	83.02	3156	1,362.36	83.61	3527	1,087.41
Darlipalli	83.79	3203	1,040.80	90.7	3261	1,096.71
North Karanpura				39.35	3657	914
Unchahar	52.54	4030	1,456.49	53.07	3988	1,800.20
Tanda	58.91	3912	1,626.92	63.89	3972	1,719.08
Dadri	55.85	3928	1,439.89	65.72	3648	1,881.72
Mouda	87.83	3578	2,936.30	96.77	3627	3,162.73
Solapur	32.88	3633	990.89	45.18	3648	1,792.66
Kudgi	58.71	3360	1,473.23	71.24	3426	2,387.01
Simhadri	84.99	3172	1,641.89	80.45	3239	1,860.07
Barh	83.67	3961	2,545.34	96.46	3966	2,840.02
Bongaigaon	29.76	4449	1,167.61	32.22	4529	923.38
Gadarwara	50.14	3684	1,305.37	56.9	3749	1,605.65
Barauni	24.09	3807	630.36	23.58	3746	602.56
Khargone	29.39	3840	1,082.39	44.82	4033	1,439.03
KBUNL Kanti*	19.66	4041	352.93	21.4	3853	540.9
NPGCL Nabinagar*	70.91	4057	1,016.33	89.96	4069	2,437.81
Telangana			26.54^	18.79	3437	904.17

*Kanti & NPGCL were JVs prior to 2022-23

^Commissioning Coal

Damodar Valley Corporation (DVC)

FY	2019-20			2020-21			2021-22		
DVC TPPs	Coal Received Qty (MT)	Quality of coal Received GCV (Kcal/Kg)	Charges paid in Cr. (cost of coal)	Coal Received Qty (MT)	Quality of coal Received GCV (Kcal/Kg)	Charges paid in Cr. (cost of coal)	Coal Received Qty (MT)	Quality of coal Received GCV (Kcal/Kg)	Charges paid in Cr. (cost of coal)
Bokaro TPS	1.71	4303	579	1.84	4275	637	1.78	4212	604
Chandrapura TPS	2.08	3928	687	1.83	3988	645	2.32	3920	813
Durgapur Steel TPS	4.12	3827	1607	3.65	3685	1314	4.02	3571	1358
Koderma TPS	4.25	3983	1515	4.46	4120	1533	4.27	3887	1461
Mejia TPS	9.15	3653	3285	8.47	3675	2866	9.74	3569	3391
Raghunathpur TPS	3.46	3851	1252	3.11	3787	1104	3.99	3623	1564

FY	2022-23			2023-24		
DVC TPPs	Coal Received Qty (MT)	Quality of coal Received GCV (Kcal/Kg)	Charges paid in Cr. (cost of coal)	Coal Received Qty (MT)	Quality of coal Received GCV (Kcal/Kg)	Charges paid in Cr. (cost of coal)
Bokaro TPS	2.00	4129	735	2.38	3996	887
Chandrapura TPS	2.13	3612	709	2.56	3544	938
Durgapur Steel TPS	4.19	3564	1406	4.46	3995	1965
Koderma TPS	4.32	3710	1414	4.44	3844	1625
Mejia TPS	10.32	3427	3623	10.77	3516	4276
Raghunathpur TPS	3.44	3507	1414	4.65	3663	1897

NLC India Limited (NLCIL)

FY		2020			2021			2022		
Thermal Power Station	Received from	Coal received (MT)	Quality Coal received GCV (Kcal / Kg)	Charges Paid Rs. Cr.	Coal received (MT)	Quality Coal received GCV (Kcal / Kg)	Charges Paid Rs. Cr.	Coal received (MT)	Quality Coal received GCV (Kcal / Kg)	Charges Paid Rs. Cr.
NLCIL	From ECL-G12	996773	6100 - 6400	300.03	554775	6100-6400	166.69	14500	6100 - 6400	4.36
	From MCL- G4	1685678	3700-4000	151.04	1696635	3700-4000	152.02	1511282	3700-4000	135.41
NUPPL	From MCL G10	Unit-1 COD from 12.12.2024								

FY		2023			2024		
Thermal Power Station	Received from	Coal received (MT)	Quality Coal received GCV (Kcal / Kg)	Charges Paid Rs. Cr.	Coal received (MT)	Quality Coal received GCV (Kcal / Kg)	Charges Paid Rs. Cr.
NLCIL	From ECL-G12	--	--	--	--	--	--
	From MCL-G4	1737603	3700-4000	155.69	730241	3700-4000	65.43
NUPPL	From MCL G10	Unit-1 COD from 12.12.2024			295221	4300-4600	87.29

NTPL- NLC Tamil Nadu Power Limited, Tuticorin, TN.

NUPPL-Neyveli Uttar Pradesh Power Project Limited, Ghatampur, UP.
