

## INDIAN COAL RESOURCE AS ON 01-04-2007

Coal resources of India are being continuously unveiled through systematic exploration. Geological Survey of India (GSI) is carrying out the task of updating the National Inventory for coal since 1972 following the ISP norms, which was first formulated in 1956 and modified later. Year-wise updating of the inventory is being done since 1988 by meaningful compilation of sub-surface data accrued from regional as well as detailed exploration carried out by GSI, Central Mine Planning and Design Institute, Singareni Collieries Company Limited, Mineral Exploration Corporation Limited and different State Government Agencies. Accordingly, the inventory was finalised as on 01.01.2007 and the total geological coal resource of the country was estimated to be 2,55,172.40 million tonnes. In pursuance of the decision of the 44th Sub-Committee meeting on Energy Minerals (Gr. III of CGPB), henceforth, the National Inventory of Coal will be updated financial year-wise from 2008 onwards and will be published on 1st of May of each year (taking into account the database updated upto 31st of March). For the convenience of future reference the inventory has been thus updated once again on 01.05.2007 taking into account the data gathered during January-March 2007. ***This is worth mentioning that this inventory deals with only the net geological resources assessed, so far, and does not take into account the mined out reserve.*** The present updated geological coal resource of the country is **2,57,381.55** million tonne as on 01-04-2007 for coal seams of 0.9m and above in thickness and up to 1200m depth from surface (Table-I).

A total increment of **4,079.89** million tonne of resource over that on 01-01-2006 is the outcome of augmentation of **1761.19** million tonne by GSI, **1457.43** m.t. by MECL, **719.13** million tonne by CMPDI, **119.67** million tonne by SCCL and **22.47** million tonne by DGM, Maharashtra.

The major share of **2,56,439.31** million tonne is from the Gondwana coalfields and the rest **942.24** million tonne comes from Tertiary coalfields. The details of state-wise, coalfield-wise, depth-wise and type-wise categorized resources are presented in the accompanying tables.

Categorisation of coal resource into '*Proved*', '*Indicated*' and '*Inferred*' is based on the degree of confidence level of exploratory data. The updated '*Proved*' resource of the country is **99,060.39** m.t., while that of '*Indicated*' and '*Inferred*' categories are **1,20,177.39** m.t. and **38,143.77** m.t. respectively (Table-I) within 1200m depths. An increment of **3,194.03** m.t. of '*Proved*' resource, which is the outcome of detailed exploration taken up by CMPDI and SCCL, signifies that this quantum has been brought into higher confidence level through detailed exploration. Overall increase of '*Indicated*' resource of **408.07** m.t. and **477.79** m.t. in inferred resource over the earlier assessed figures is the net outcome of additional resources assessed through regional (including promotional) exploration and recategorisation. Bulk of increase of additional resource is from Talcher, Singrauli, Raniganj, Godavari, Nand-Bander, North Karanpura, West Bokaro, Wardha, Ramgarh and Rangit Valley coalfields.

State-wise distribution of Indian coal (Table-II) shows that Jharkhand tops

the list with **74.4** billion tonne followed successively by Orissa (**63.2** b.t.), Chhattisgarh (**41.6** b.t.), West Bengal (**28.3** b.t.), Madhya Pradesh (20.3 b.t.), Andhra Pradesh (17.7 b.t.) and others. A glimpse at the coalfield-wise distribution of Indian coal resource suggests that nearly 50% of total resources of the country are shared by five coalfields - Talcher (40.9 b.t.), Raniganj (25.5 b.t.), Ib-River (22.4 b.t.), Jharia (19.4 b.t.) and Mand-Raigarh (19.1 b.t.) in descending order. Substantial resources are also contained in Godavari (17.7 b.t.), North Karanpura (15.8 b.t.), Rajmahal (14.1 b.t.), Singrauli (13.4 b.t.) and Korba (10.1 b.t.) coalfields.

The depth-wise break-up of the total resource indicates that the Indian coalfields (excluding Jharia) hold **1,56,580.47** million tonne up to 300m depth from surface and **67,606.04** m.t. between 300m and 600m depth levels (Table-II). Jharia coalfield, in addition, contains **14,212.42** m.t. up to 600m depth. The total coal resource between 600m and 1200m depth levels stands at **18,982.62** m.t. At shallower level, i.e., upto 300m depth, Orissa (**44.6** b.t.) holds maximum quantity of coal, followed closely by Jharkhand (**37** b.t.) excluding Jharia and then by Chhattisgarh (**32.2** b.t.), West Bengal (**12.4** b.t.) and others (Table-II).

The type-wise break up of Gondwana coal reveals that coking and non-coking coal of the country are **32,354.38** m.t. and **2,24,084.93** m.t. respectively while the Tertiary coal, which is mainly of High Sulphur type is **942.24** m.t. Out of total coking coal resource Prime, Medium and Semi-coking coal types are **5,313.06**, **25,334.19** and **1,707.13** million tonne respectively. Jharkhand (**28.9** b.t.) is practically the lone contributor of coking coal with minor resources from Madhya Pradesh (**2.2** b.t.), West Bengal (**1.02** b.t.) and Chhattisgarh (**0.17** b.t.). Among the coalfields of Jharkhand, Jharia (11.5 b.t.) contributes lion's share of about 36 % followed by East Bokaro (6.9 b.t.), West Bokaro (4.7 b.t.), North Karanpura (3.7 b.t.) and others.

Gondwana coal is characterised by dominance of non-coking coal, which is at present **2,24,084.93** million tonne. Of these, **81,644.18** million tonne belong to 'Proved' while **1,06,767.66** m.t. and **35,673.09** m.t. belong to 'Indicated' and 'Inferred' categories respectively (Table-III). State-wise distribution of non-coking coal reveals that Orissa (**63.2** b.t.) ranks first, followed by Jharkhand (**45.4** b.t.), Chhattisgarh (**41.3** b.t.), West Bengal (**27.3** b.t.) and others. 'Proved' and 'Indicated' categories of coal are classified into grades A to G, while the 'Inferred' resources are ungraded. Out of graded ones, the superior quality coal (belonging to Grades A, B and C) amounts to **32,589.80** million tonne. The resource of inferior quality (Grades D, E, F & G) coal is **1,558,22.04** million tonne (Table-III).

A summary of the grade-wise resources of non-coking coal of the country follows:

<b>Grade</b>	<b>Ash + Moisture (%)</b>	<b>Resources (m.t.)</b>
A	< 20	2,459.51
B	20 - 24	8,841.33

C	24 - 29	21,288.96
D	29 - 34	33,677.94
E-F-G	34 - 55	1,22,144.10
Ungraded	-	35,673.09
<b>Total</b>		<b>2,24,084.93</b>

The details of the grade-wise resources of non-coking coal from the different coalfields of our country have been presented in Table-IV.

Depth and category wise summarised resources of coking and non-coking coal are given in Table-V.