



WESTERN COALFIELDS LIMITED

(A Miniratna Cat – 1 Government of India Undertaking)

(A Subsidiary of Coal India Limited)

An Overview 2010-11

**Registered Office:
Coal Estate, Civil Lines,
Nagpur - 440 001 (M.S.)**



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Coal - the Black Diamond

Coal is the primary source of energy. Coal accounts for over 50% of India's commercial energy consumption and about 78% of domestic coal production is dedicated to power generation. The inventory of Coal in India are estimated to be around 285.86 Billion Tonnes (as on 1st April, 2011), which constitute about 0.8% of the Global Coal reserves, whereas it's production contribution is around 7%. India today is one of the major coal producers in the World and ranks at 3rd position after China and USA.

Coal deposits in India are mainly occurring in lower Gondwana formation of permian period and eocene/ oligocene formation of tertiary period. About 99.5% of Indian coal belongs to Gondwana formation.

Major part of these reserves is bituminous coal, occurring in basins, lying east of 78°E Longitude and above 20°N Latitude, along prominent present day rivers. Coal deposits of tertiary period are best developed in North Eastern Region while Lignite deposits in Southern & Western part of the country.

The first published reference of Coal Mining in India dates back to 1774. However, by the beginning of the 20th Century, the national coal production reached to a level of around 6 Million Tonnes.

The industry got significant boost during the two great wars. With the advent of Independence, the need for larger and efficient coal production was stressed. This led to formation of National Coal Development Corporation Limited in 1956, which in turn stepped up production in States like Maharashtra, Madhya Pradesh and Orissa, where at that point of time, the mining conditions were not as favourable as in Bengal - Bihar belt.

Due to large scale development programme of Iron & Steel Industry during the Fourth & Fifth Five Year Plan periods, the question of conservation & scientific development of coal resources in the country, including coking coal, assumed greater importance.



Birth of Coal India Limited

The nationalization of the Coal Industry in India took place in two phases. The Coking Coal Mines were nationalized in May 1972, and the Non-coking Coal Mines in May 1973.

With this, all the mines in the country, except captive mines of two private companies, were placed under Public Sector. 1st November, 1975 represented a turning point for the nationalized coal industry, when a comprehensive re-organization scheme was launched. Coal India Limited was born as a holding company with Rs.750 Crores as its Authorized Capital, and Five Subsidiary Companies including Central Mine Planning & Design Institute under it.

The process of amalgamation of mines into bigger units started. The 925 taken-over Mines, together with 44 NCDC Mines were re-organized into 374 Mines.

The national coal production which stood at a level of 77.87 Million Tonnes during 1973-74, reached a level of 533.1 Million Tonnes by 2010-11.

Today, Coal India has eight Subsidiary Companies including CMPDI, and is one of the largest Corporate Employers of the world, employing about 3.83 Lakh people. CIL produced 431.32 Million Tonnes of coal during the year 2010-11.

Presently, about 90.72% of CIL's production comes from Opencast Mines.



WCL

An Introduction

Western Coalfields Limited (WCL) is one of the Eight Subsidiary Companies of Coal India Limited, contributing about 8.19% of the national coal production.

The company came into existence on 1st November, 1975, after re-organization of the Nationalized Coal Industry. At that juncture, the operations of WCL were spread over in the States of Maharashtra, Madhya Pradesh and Orissa, organized into 2 Divisions and 12 operational Areas.

By the year 1985-86, the number of mines in WCL had increased to 130 and the total production to 48.89 Million Tonnes from the then WCL.

Keeping in view the tremendous growth programme, the Company was bifurcated, with effect from January 1986, into South Eastern Coalfields Limited and the present Western Coalfields Limited (WCL).

The present WCL has mining operation spread over in the States of Maharashtra (in Nagpur, Chandrapur & Yeotmal Districts) and in Madhya Pradesh (in Betul and Chhindwara Districts).

WCL AT A GLANCE

Number of working mines: 01.04.2011

Opencast	:	38
Underground	:	43
Mixed (OC+UG)	:	02
Total	:	83

Coal Production (Million Tonnes)	Actual 2010-11	Actual 2009-10
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Opencast	34.95	36.12
Underground	08.70	09.62
Total	43.65	45.74

O.B.R. (Mil.Cu.M.)	115.82	133.97
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Productivity (Tonnes/Manshift)	Actual 2010-11	Actual 2009-10
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Opencast	4.13	4.12
Underground	1.09	1.12
Overall	2.65	2.64

Off-take (Mill.Tes)	42.56	45.51
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Average Wagon Loading (BOXES/DAY)	Actual 2010-11	Actual 2009-10
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Stock (as on 31 st)MT	3.95	2.86
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Manpower (as on)	1.4.2011	1.4.2010
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Executives	2409	2196
Monthly Rated	12058	12702
Daily Rated	39812	41051
Piece Rated	4182	4494
Badli/Casuals and Company Trainee	582	427
Total	59043	60870

Manpower Reduction	1827	1622
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FINANCIAL PERFORMANCE

The **turnover** of the company during the year **2010-11** was **Rs.7073.44 crores** against budgeted Rs.6765.74 crores. The **net profit** for the year is **Rs.1067.97 crores** against budget of Rs.386.12 crores.

The total **sales realization** during **2010-11** was **Rs.7314 crores**. The total **outstanding dues** with customers have **decreased** from Rs.263.31 crores as on 01.04.2010 to **Rs.147.37 crores** as on **01.04.2011**.

The company has **paid Rs.504.74 crores** by way of **corporate taxes** to Central Government during the year **2010-11**. Besides, the company contributed to the **State/ Central exchequer** around **Rs.1036.26 crores** by way of **royalty** and **S.Tax & other levies** during the year **2010-11**.

The year-wise profit earned by WCL is given below:

(Rupees in Crores)

Year	Profit
2001-02	310.20
2002-03	472.53
2003-04	743.60
2004-05	935.30
2005-06	1446.96
2006-07	1054.44
2007-08	930.22
2008-09	516.12
2009-10	931.03
2010-11	1067.97
BUDGET (AAP) 2011-12	438.23



Coal Reserves

The Command Area of WCL has coal inventory of 13,547 Million Tonnes of coal, against All India coal inventory of 2,85,862* Million Tonnes (as on 01.04.2011). The distribution is delineated below:

(Million Tonnes)

State	Cok-ing	Non-Coking	Total
Maharashtra	-	10533	10533
Madhya Pradesh	666	2348	3014
TOTAL WCL	666	12881	13547
ALL INDIA	33474	252388	285862
			*
WCL reserves as % of All India	1.99	5.10	4.74

* (1) As per GSI, in seams more than 0.9 M thick and upto a depth of 1200 M.

(2) This includes 1493 million tonnes of Tertiary coal.

With 4.74% of coal inventory WCL contributes about 10.12% towards CIL coal production and about 8.19% towards national coal production.

Mining Operations

The mining operations of WCL are organized into 10 Areas, 7 located in the State of Maharashtra and 3 in Madhya Pradesh.

WCL has 83 operating mines as on 01.04.2011.

The distribution of mines in the Areas is as follows :

Sl. No.	State/Area	UG	OC	Mi-xed	Total
MAHARASHTRA STATE:					
1	Chandrapur	7	4	-	11
2	Ballarpur	2	5	-	7
3	Majri	1	6	-	7
4	Wani	-	6	-	6
5	Wani North	2	5	-	7
6	Nagpur	9	3	-	12
7	Umrer	1	2	-	3
Sub Total		22	31	-	53
MADHYA PRADESH STATE:					
1	Pathakhera	8	-	-	8
2	Pench	8	6	-	14
3	Kanhan	5	1	2	8
Sub Total		21	7	2	30
TOTAL WCL		43	38	2	83



DETAILS OF COALFIELDS UNDER WCL COMMAND AREA

Coalfields	Approx. Area Sq.Kms.	Proved Reserves* (M.T.)	No.of Seams	Thickness in Metres	Depth in Metres	Quality/ Grade
Wardha Valley	700	3426.98	One Comp.	15 - 24	40-350	C-F
Pench-Kanhan	400	1405.24 (107.83)	3 in West. 5 in East.	2 - 5 0.2-4	15-450 15-450	B-F/ Med.Ckg. B-F
Pathakhera	12	290.80	Three	0.4-4.5	40-300	B-F
Kamptee	90	1276.14	Five	0.5-10	30-300	B-F
Umrer	6	308.41	Three	3-19	25-150	B-F
Makardhokda	16		Five	1.5-5.5	45-200	C-D
Nand	5	468.08	Five	0.3-5.7	35-200	B-F
Bander	35		Eight	0.1-3	30-250	B-D
Bokhara	3.5	10.00	Four	0.9 - 4.5	17 - 315	B-E
Mohpani	4	7.83	Three	0.3 - 8.56	20 - 300	C-E
Total		7193.48	6.30% of all India			

NB : FIGS.IN BRACKETS INDICATE MEDIUM/SEMI COKING RESERVES

- * : - As assessed by GSI as on 01.04.2011
 - Reserves extracted since 1950 has not been taken into account in the proved reserves given above



Location

WCL is strategically located in the centre of India. Because of this strategic location, the Company is a major source of coal supplies to the industries located in Western India - in the State of Maharashtra, Goa, Madhya Pradesh, Gujarat and also to Southern India - Andhra Pradesh, Tamil Nadu, Karnataka and Kerala. A large number of Power Houses located in Maharashtra, Madhya Pradesh, Gujarat and Karnataka States are major consumers of its coal alongwith CPP, Cement, Steel, Chemical, Paper and Sponge Iron. Coal is also available through e-Auction.

Coal Production Trend

There has been a phenomenal growth in coal production of the Company from a level of 6.53 Million Tonnes in 1973-74 to 43.65 Million Tonnes in 2010-11.

Figs. in Million Tonnes)

Year	OC	UG	Total
1973-74	0.75	5.78	6.53
1979-80	1.84	7.76	9.60
1991-92	15.75	8.99	24.74
1996-97	21.36	9.86	31.22
2001-02	27.52	9.49	37.01
2002-03	28.43	9.39	37.82
2003-04	30.02	9.51	39.53
2004-05	31.76	9.65	41.41
2005-06	33.16	10.04	43.20
2006-07	33.30	9.91	43.21
2007-08	33.53	9.98	43.51
2008-09	34.59	10.11	44.70
2009-10	36.12	9.62	45.74
2010-11	34.95	8.70	43.65
PROG-RAMME: 2011-12	36.20	9.30	45.50



COALFIELD-WISE COAL PRODUCTION

(Figs. In Million Tonnes)

Coalfields/ States	73-74	86-87	91-92	96-97	03-04	04-05	05-06	06-07	07-08	08-09	09-10	10-11	11-11 Target
Wardha Valley	1.23	8.70	14.54	19.23	25.47	26.70	28.03	27.70	27.79	28.90	29.32	30.00	30.70
Nagpur Cfs	1.27	3.60	4.34	5.63	7.44	7.83	8.09	8.51	8.61	8.76	9.30	6.93	7.65
Maharashtra	2.50	12.30	18.88	24.86	32.91	34.53	36.12	36.21	36.40	37.66	38.62	36.93	38.35
Pench- Kanhan	3.40	4.23	3.55	3.72	3.66	3.88	3.81	3.69	3.88	3.78	3.86	3.59	4.15
Pathakhera	0.63	2.81	2.31	2.65	2.96	3.00	3.27	3.31	3.23	3.26	3.26	3.13	3.00
Madhya Pradesh	4.03	7.04	5.86	6.37	6.62	6.88	7.08	7.00	7.11	7.04	7.12	6.72	7.15
WCL	6.53	19.34	24.74	31.23	39.53	41.41	43.20	43.21	43.51	44.70	45.74	43.65	45.50



Productivity:

The overall man productivity of the Company has increased from a level of 0.70 Tonnes to 2.65 Tonnes during the period 1973-74 to 2010-11. The trend is indicated below :

(Figures in Tonnes)

Year	OC	UG	Overall
1973-74	2.15	0.64	0.70
1979-80	3.48	0.65	0.74
1991-92	3.44	0.63	1.31
1996-97	4.06	0.71	1.63
2001-02	4.18	0.85	2.09
2002-03	4.03	0.91	2.19
2003-04	4.12	0.95	2.29
2004-05	4.21	1.00	2.41
2005-06	4.03	1.05	2.43
2006-07	4.07	1.09	2.50
2007-08	4.06	1.11	2.52
2008-09	3.99	1.14	2.55
2009-10	4.12	1.12	2.64
2010-11	4.13	1.09	2.65
PROG- RAMME: 2011-12	3.99	1.05	2.54

Technology Upgradation :

There has been concerted effort for introduction of new technology and technology upgradation not only in the sphere of exploration and exploitation but also in other spheres like Safety and Conservation, beneficiation etc.

The major areas for technology upgradation are –

- Underground Mining;
- Opencast Mining;
- Coal Handling Plant
- Mining Electronics.

UNDERGROUND MINING :

Bord & Pillar Mechanisation:

Side Discharge Loaders (SDLs) and Load Haul Dumpers (LHDs) have been introduced in the Underground Mines wherever conditions permitted to eliminate basket loading.

Continuous Miner is working at Tandsi UG Mine of Kanhan Area. It produced 0.124 Million Tonnes of coal during 2010-11. Continuous Miner is also working at Kumberkhani UG mine of Wani North Area. It produced 0.083 Million Tonnes of coal during 2010-11.

Introduction of Mass Production

Technology:

In order to open large and high capacity underground mines with Mass Production Technology, 3(Three) blocks have been identified, namely,

- Murpar Expn.
- Borda Block
- Nand Block

Bid document under modification on the lines of tender document floated by BCCL for similar nature of work.



Application of Man Riding System in Underground mines:

It has been decided to introduce Man Riding System in some of the underground mines of Company where the workings are very deep and far from the surface. The system will reduce travelling time & fatigue of workers and result in increased efficiency. Presently, Man Riding System is working in Tandsi UG mine and Maori UG mine of Kanhan Area. Further, it is proposed to introduce Man Riding System in 2 (two) phases. In first phase, it will be deployed in the following 5 (Five) Mines which is under installation:

1. Saoner UG Mine No.-I
2. Tawa UG
3. Sarni UG
4. Shobhapur UG
5. Kumberkhani UG

In the second phase, Man Riding System will be deployed in the following 2 (Two) mines:

1. Ballarpur 3&4 Pits –
Supply order issued
2. Saoner UG Mine No.II –
Approved by WCL Board
Tendering to be done shortly

As on 31.03.2011, there are 72 SDLs, 117 LHDs and 2 Continuous Miners in operation in both development and depillaring districts in underground mines.

On an average each SDL produced 2313 tonnes of coal per month.

Each LHD produced 3914 tonnes of coal per month on an average during 2010-11.

OPENCAST MINING:

All Opencast mines of WCL are fully mechanized. The population of HEMM as on 31.03.2011 is given below:

Equipments	Population of HEMM as on 31 st March	
	2010	2011
Dragline	4	4
Shovel	153	152
Dumper	643	574
Dozer	164	173
Drill	111	106
Total	1075	1009

Manpower:

WCL has made concerted progress in rationalizing its manpower. Despite increase in production from a level of 24.74 Million Tonnes to 43.65 Million Tonnes during the period 1991-92 to 2010-11, WCL is able to gradually reduce its overall manpower and increase production and productivity. The yearwise manpower is given below:

As on 31st March	Manpower
1992	85742
1997	84805
2002	75005
2003	72501
2004	70515
2005	68938
2006	67378
2007	65599
2008	64160
2009	62492
2010	60870
2011	59043



Coal Despatches: (Coal & Coal Products)

Location of the Mines of Western Coalfields Limited is very strategic so far as the needs of the industrial sectors of Western, Central and Southern India are concerned. There has been a continuous growth in supply to consumers from a level of 6.18 Million Tonnes in 1973-74 to a level of 42.54 Million Tonnes in 2010-11.

The Sector-wise despatches from WCL are given below :

(Figures in Million Tonnes)

Sector	Actual			Prog. 11-12
	73-74	09-10	10-11	
Power	3.40	34.465	31.02	34.45
Cement	0.43	1.840	1.90	1.60
Steel	0.08	0.245	0.19	0.27
Railway	0.12	-	-	-
Others	2.15	8.954	9.43	9.08
TOTAL	6.18	45.34	42.54	45.40

Mode-wise despatches from WCL are furnished below :

(Figures in Million Tonnes)

Mode	Actual			Prog. 11-12
	73-74	09-10	10-11	
Rail	4.68	21.077	17.91	20.64
Road	1.50	19.193	20.15	19.86
MGR	-	1.170	0.81	1.10
Other	-	4.064	3.67	3.80
TOTAL	6.18	45.504	42.54	45.40



Consumer Satisfaction:

The Company has taken the following steps towards consumer satisfaction:

- ❖ Rationalizing movement of coal based on need/ requirements of Industries
- ❖ Selective mining eliminating thick shale/ stone bands separately.
- ❖ Rationalized grading based on seam section-wise quality.
- ❖ Dispatching 100% sized coal. There are 59 major and minor CHPs in WCL at present.
- ❖ Picking of shales/ stones at all stages i.e. at the mine stock, siding stock, at CHP belts and from wagon tops.
- ❖ Posting of Quality Control Nodal Officers/ Inspectors in all the Areas for monitoring coal quality and keeping strict vigil on the dispatches.
- ❖ Regular check samples analyzed for assessment of coal quality dispatches and for necessary rectification of shortcomings, if any.
- ❖ Complaints redressal system introduced. The complaints are recorded and attended promptly. Corrective remedial measures are taken wherever found necessary.
- ❖ Assessment of coal quality so dispatched through joint sampling.
- ❖ Allowing the consumer representatives to have supervision at the loading ends.
- ❖ Installing weighbridges with computerized print out arrangements. There are 24 rail weighbridges and 94 road weigh bridges.
- ❖ Regular meeting with major association of consumers, Western Region Linkage Committee, etc.



Safety:

Safety of men and machines has been given the highest priority in WCL.

Monthly Safety Committee Meetings at the Mines and Tripartite safety committee meetings at Area and Headquarter levels are held regularly to review the safety performance. Safety drives on different subjects are held in all mines periodically. Annual Safety fortnight is also organized once every year.

Steel roof bolting and roof stitching are being done in a big way and thrust is also given to replace timber supports by steel supports wherever possible. Hydraulic roof drilling and Universal Drilling Machines (UDMs) have been introduced in some mines and the same will be provided in all mines of WCL in a phased manner. WCL has taken up in-house determination of Rock Mass Rating (RMR) and all underground mines draw their roof support plan as per the RMR value of the mine/ seam.

In order to arrest accidents due to miscellaneous causes, which occur mostly due to negligence and lack of awareness amongst workmen, the following additional steps have been taken :

- (a) Periodical Safety awareness drives in all mines
- (b) Issue of safety circulars from time to time

- (c) Safety talks at the pit top in the beginning of shifts
- (d) Periodical workshops/ seminars
- (e) Circulation of implementation of "Code of Safe Practice" for all mining operations
- (f) Regular inspection of mines
- (g) Safety audit & risk assessment

As a result of these measures, WCL has been able to achieve significant reduction in accident rates. The Fatality Rate has been reduced from 3.71 per MT output in 1973 to 0.32 per MT output by 2010. The Serious Injury Rate has also reduced from a level of 48.74 per MT output to 1.05 per MT during 2010.

Year	Rate Per M.Tonne Output	
	Fatality	Serious Injuries
1973	3.71	48.74
2010	0.32	1.05

Similarly, rate per three lakh manshifts for fatality has reduced from 0.81 to 0.26 and the serious injury rate from 12.41 to 0.84 during 1973 to 2010 respectively.

Year	Rate Per Three Lakh Manshift	
	Fatality	Serious Injuries
1973	0.81	12.41
2009	0.26	0.84



PROJECT OVERVIEW

Western Coalfields Limited has made consistent progress since nationalization. Production has increased from 6.53 million tonnes in 1973-74 to 43.65 million tonnes in 2010-11 registering tremendous growth.

Due to adverse geo-mining conditions and high stripping ratio of coal deposits, the life of OC mines are quite short and of smaller capacities. There is no mega project. Most of the OC Mines are of less than 1.50 MTY capacity. Only one projects, namely Penganga OC is having a capacity of 3.00 Mty.

With a view to above, identifying new projects and opening of the same is continuous process to maintain the steady growth of WCL.

In WCL a total number of 154 projects have been sanctioned since nationalization, including projects approved on cost plus basis, with ultimate aggregate production capacity of 87.37 MTs/year and aggregate sanctioned capital of Rs. 5394.735 crores. Out of 154 projects, 75 projects, with a sanctioned capacity of 37.73 million tonnes & Sanctioned Capital Rs.2427.74 crores are completed operating projects while 21 projects, with a production capacity of 11.73 million tonnes & Sanctioned capital Rs.419.90 crores have been closed due to exhaustion of coal reserves & geo-mining constraints.

Out of the 33 ongoing projects/ schemes production started in 16 projects and rest are in construction stage.



ENVIRONMENT MANAGEMENT

OBJECTIVES

WCL as a corporate citizen realizes its responsibility not only for meeting the increasing demand of coal for generation of electricity but also for the protection and improvement of environment in and around its mining areas leading to sustainable development.

The Environment protection and improvement aspects are integrated at mine planning and design stage and practiced throughout operational life of the mines till successful closure.

ENVIRONMENTAL CONTROL AND IMPROVEMENT MEASURES UNDER TAKEN IN THE PROJECTS OF WCL

A) AIR QUALITY MANAGEMENT

In Coalfields, the air pollution is caused mainly due to dust.

The dust is controlled at source by installation of fixed sprinklers at CHPs, coal stock yards, weighbridges and along transportation roads. In all the major CHPs, fixed sprinklers have been provided at the transfer points and bunkers.

The mist type water spraying system installed along the conveyor belts in coal handling plants has proved to be effective in water conservation and reduction of dust due to sheet formation besides increasing the longevity of structures. The sides of CHPs are also covered by side cladding by GI Sheets. In addition, effective dust suppression has been achieved through water sprinkling by mobile water tankers. Further effective plantation in the mine lease area also arrest the propagation and dispersion of dust significantly.

The quality of ambient air in and around the mine is monitored every fortnight as per Environment (Protection) Amendment Rule, September, 2000.

B) WATER QUALITY MANAGEMENT

In opencast mines, the strata seepage water gets accumulated in the sump at the bottom/ floor of the seam having sufficient capacity, which is then pumped out on surface for safe operation of the mine. This initial sumpage in the mine pit provides for the first stage settlement of suspended particles. The pumped out water is thereafter fed into surface sedimentation pond/ settling tank which provides for the second stage settlement of suspended particles. The quality of water is monitored every fortnight as per Environment (Protection) Amendment Rule, September, 2000.

In underground coal mines, the strata seepage water gets accumulated in the dip side working having sufficient area providing significant time for settlement of suspended particles as first stage settlement. The supernatant water from the main sump is then pumped out on surface and fed into surface



sedimentation pond/ settling tank which provides for the second stage settlement of suspended particles. The quality of water is monitored every fortnight as per Environment (Protection) Amendment Rule, September, 2000.

The effluent from workshops in opencast mines is treated in Workshop Effluent Treatment Plants (WETPs) and Domestic Effluent Treatment Plants (DETPs) have been constructed for treatment of domestic effluent. The quality of effluent water is also monitored every fortnight as per Environment (Protection) Amendment Rule, September, 2000.

C) NOISE QUALITY MANAGEMENT

The noise level in and around the mine is controlled by adopting effective noise attenuation measures at source itself. This is done by proper designing and reducing the vibration amplitude. Shock absorbing pads are also fixed in the foundations of vibrating equipment/ machines. Further, the workmen exposed to high noise levels are provided with protective equipments viz. ear plugs/ ear muffs.

The quality of ambient noise in and around the mine is monitored every fortnight as per Environment (Protection) Amendment Rule, September, 2000.

D) LAND RECLAMATION

In opencast mines, external overburden dumps are taken up for plantation after the same become dead/ in active. Backfilling of decoaled void is taken up based on the geo – mining condition and potentiality of future deepening. In addition, the vacant places on plain land within the mine area are also taken up for plantation.

Objective of the land reclamation monitoring is to assess the area of backfilled, plantation, OB dumps, social forestry, active mining area, settlements and water bodies, distribution of wasteland, agricultural land and forest land in the leasehold area of the project. This is an important step taken up for assessing the progressive status of degraded land reclamation and for taking up remedial measures, if any, required for environmental protection.

Ten (10) Opencast projects of WCL producing more than 5 million cubic m. (Coal + OB together) have been taken up for land reclamation monitoring based on the *RESOURCESAT-1* satellite data using ERDAS Imaging digital image processing s/w on GIS platform **regularly on annual basis** to assess the progressive status of land reclamation in the said opencast mines. The report of this study has also been uploaded in the website of WCL in public domain.



STATUTORY COMPLIANCES

A) ENVIRONMENTAL CLEARANCE

Prior Environmental Clearance from Ministry of Environment & Forests (MOEF), Government of India is mandatory before opening any new project. Similarly for existing mines prior environmental clearance is also mandatory before expansion either of the production capacity and/or land area. Till 2010-11, a total of 128 Environmental Clearances have been obtained for WCL mines/projects covering both the new as well as expansion mines/ projects.

B) ENVIRONMENTAL MONITORING

Environmental Monitoring on fortnightly basis w.r.t. ambient air, water and noise quality for all the working mines/projects is carried out as per the Environment (Protection) Amendment Rules, 2000 (Extra-ordinary Notification in the Gazette of India on 25th September, 2000 – Standard for Coal Mines) through Central Mine Planning & Design Institute Limited (CMPDIL).

The Environmental Monitoring reports on quarterly basis are submitted to respective State Pollution Control Boards as well as to the Ministry of Environment & Forests (MOEF). The monitoring results as received from CMPDI on quarterly basis are up – loaded on the Company's web- site.

C) IMPLEMENTATION OF EMPs APPROVED BY MOEF

Compliance Report on implementation of MOEF stipulations as per the Environmental Clearance of the respective mine in the form of Six – monthly report is submitted to MOEF, IA Division, New – Delhi and Regional Office, Bhopal.

D) ENVIRONMENTAL STATEMENT

The statutory Environmental Statements for all the operating mines for the year 2009-10 have been prepared and submitted to respective State Pollution Control Board in the month of September, 2010.

PLANTATION IN WCL

The plantation in WCL is one of the major activities undertaken for control of air and noise pollution and with the objective of reclamation of degraded land. Plantation/ Afforestation works and its maintenance are done in WCL by expert forest agencies namely, Forest Development Corporation of Maharashtra Limited (FDCM) and Madhya Pradesh Rajya Van Vikas Nigam Limited (MPRVVN). The plantation is of the mixed varieties instead of mono culture. The various varieties of tree saplings with due emphasis on bio-diversity and to preserve the native species are planted. The plantation in WCL includes timber yielding varieties of trees with a long life such as Teak, Shivan, Shisoo, Shrius etc. Medicinal plants like Neem, Awla, Kher, Arjun etc. Fruit yielding varieties like Jamun, Bher, Amrut, Mango etc. So far, 176.62 lakh trees have been planted in WCL in its area of operation since Nationalization upto 2010-11.



TECHNICAL & R&D STUDIES

Environment related technical and R&D studies are taken up in WCL on regular basis not only to find out the ways for improving the environment but also to meet the future environmental challenges.

A list of some of the important and completed as well as on-going studies is given below:

- ✓ Assessment of assimilated capacity and source apportionment analysis of air pollutants in ambient air in Wardha Valley Coalfields through KITS Ramtek – Completed.
- ✓ Study of quantum of particulate due to coal mines and allied activities and its effect on plants through NEERI, Nagpur – Completed.
- ✓ Pilot health survey in selected five villages of Chandrapur district adjoining WCL coal mines through GOVT Medical College Nagpur and Bhartiya Adim Jati Sevak Sangh, Nagpur – Completed.
- ✓ Study of fly ash as underground stowing material at Durgapur Rayatwari Colliery in collaboration with Fly Ash Utilization Programme, Govt. of India, CMFRI Dhanbad and MAHAGENCO – Completed.
- ✓ Development of technology for conservation of backfilled areas in Ballarpur OC for agriculture through Institute of Science, Nagpur – Completed.
- ✓ Technical study for old and active dumps of OC mines through IIT, Kharagpur – Completed.
- ✓ Effect of coal dust exposure on the residents in the vicinity of working mines of Chandrapur, Ballarpur, Wani and Majri Areas through District Health Officer, Zilla Parishad Chandrapur – Completed.
- ✓ Development of suitable biological waste water treatment technology through constructed wet land for treatment of acidic mine discharge at Maori Mine of Kanhan Area through CMPDIL (HQ), Ranchi – Continuing.



ENVIRONMENTAL AWARENESS (2010-11)

ENVIRONMENT WEEK

Environment Week was observed at all the Projects, Areas and at WCL(HQ), Nagpur during June 1 to 7, 2010.

THE WORLD ENVIRONMENT DAY

The World Environment Day was observed on 5th June, 2010 at HQ, Area levels and Project levels.

A brief of activities undertaken during the week – long celebration were as follows:

- i) Pledge on Environment Protection as per “UN-Slogan” taken by all employees both at Corporate (HQ) and at all areas.
- ii) Organizing various competitions among wards of employees viz. Drawing, Slogan, Prasna Manch (Quiz on Environment) etc.
- iii) Organising talk on Environment by Outside Experts
- iv) Plantation & distribution of plants
- v) Awareness on environment through Rallies

ENVIRONMENTAL AWARDS

WCL is recipient of the following coveted awards for its constructive work in environment protection in mining areas:

Environment Awards received by WCL

Awards	Year	Instituted/ Presented by
Vanashree	1992	Maharashtra Government
Jawaharlal Nehru Memorial	1994	International Greenland and Society
Indira Priyadarshini Vrikshamitra	1994	National Wasteland Development Board, MoEF
World Env. Congress	1997	Int. Association of Educators for World Peace
Social Forestry	1998	Government of Maharashtra
India 2000 Millenium	1999	Int. Association of Educators for World Peace
Jawaharlal Nehru Memorial Award	2001	International, Greenland Society
Indira Gandhi Memorial (National Award)	2004	International Greenland Society
Greentech Environment Excellence Award	2006	Presented by his excellency The Governor of Goa
National Energy Conservation Award	2010	Ministry of Power, Govt. of India



PERFORMANCE AT A GLANCE 2010-11 (APRIL - MARCH)

Sl. No.	Items		2010-11		2009-10
			Target	Actual	Actual
1.0	Overall Production	(MT)	46.50	43.65	45.74
1.1	Underground Production	(MT)	10.15	8.70	9.62
1.2	Opencast Production	(MT)	36.35	34.95	36.12
2.1	Washed Coal Production	(LT)	2.10	1.91	2.46
2.2	Washed Coal Despatch	(LT)	2.10	1.93	2.45
3.0	O.B.Removal	(MM3)	126.00	115.82	133.97
4.0	Overall Productivity	(TES)	2.62	2.65	2.64
4.1	U.G. Productivity	(TES)	1.12	1.09	1.12
4.2	O.C. Productivity	(TES)	4.22	4.13	4.12
5.0	Off-take	(MT)	46.50	42.56	45.51
6.0	Wagon Loading	(BOXES /DAY)	916	765	907



HIGHLIGHTS OF PERFORMANCE IN BRIEF 2010-11

01. COAL PRODUCTION:

WCL has produced 43.654 Million Tonnes during 2010-11 against the target of 46.500 Million Tonnes and 45.735 Million Tonnes produced during 2009-10. It records :

- An achievement of 93.9% of the target.
- A growth of (-) 4.6% over previous year.

02. OPENCAST PRODUCTION:

WCL produced 34.950 Million Tonnes during 2010-11 against the target of 36.350 Million Tonnes and 36.114 Million Tonnes during the year 2009-10. It records :

- An achievement of 96.1% of the target.
- A growth of (-) 3.2% over previous year.

03. UNDERGROUND PRODUCTION

WCL produced 8.704 Million Tonnes during 2010-11 against the target of 10.150 Million Tonnes and 9.621 Million Tonnes produced during 2009-10.

- An achievement of 85.8% of the target.
- A growth of (-) 9.5% over previous year.

04. WASHED COAL PRODUCTION:

Washed coal production during the year 2010-11 was 1.91 Lakh Tonnes against the target of 2.10 Lakh Tonnes and 2.46 Lakh Tonnes achieved during 2009-10.

05. WASHED COAL SUPPLY TO STEEL PLANT:

Washed coal supply to Steel Plant during the year 2010-11 was 1.93 Lakh Tonnes against the target of 2.10 Lakh Tonnes and 2.45 Lakh Tonnes achieved during 2009-10.



06. OVERBURDEN REMOVAL:

Overburden Removed was 115.824 Million Cubic Metres during 2010-11 against the target of 126.000 M.Cu.M. and 133.965 M.Cu.M. removed during the year 2009-10. It records:

- An achievement of 91.9% of the target.
- A growth of (-) 13.5% over previous year.

07. OFF-TAKE:

Off-take was 42.560 Million Tonnes during 2010-11 against the target of 46.500 Million Tonnes and 45.509 Million Tonnes during the year 2009-10. It records :

- An achievement of 91.5% of the target.
- A growth of (-) 6.5% over previous year.

8. WAGON LOADING:

Wagon loading by the Company during 2010-11 was 765 Boxes per day against the target of 916 boxes per day and previous year's actual of 907 boxes per day.

09. OVERALL PRODUCTIVITY:

Overall productivity during the year 2010-11 as 2.65 Tonnes against the target of 2.62 Tonnes and 2.64 Tonnes achieved during 2009-10. It records :

- An achievement of 101.1% of the target.
- A growth of 0.4% over previous year.

10. UG PRODUCTIVITY:

The Company has achieved UG productivity of 1.09 tonne during 2010-11 against the target of 1.12 tonne and 1.12 tonne achieved during 2009-10. It records :

- An achievement of 97.3% of the target.

11 OC PRODUCTIVITY:

The Company has achieved OC productivity of 4.13 tonnes during 2010-11 against the target of 4.22 tonnes and 4.12 tonnes achieved during 2009-10. It records :

- A growth of 0.2% over previous year.



PROGRAMME FOR 2011-12 AT A GLANCE

SL. NO.	ITEMS	UNIT	TARGET 2011-12	ACTUAL 2010-11
1.0	Overall Production	(MT)	45.50	43.65
1.1	Underground Production	(MT)	9.30	8.70
1.2	Opencast Production	(MT)	36.20	34.95
2.1	Washed Coal Production	(LT)	2.71	1.91
2.2	Washed Coal Despatch	(LT)	2.71	1.93
3.0	Overburden Removal	(M.CU.M)	127.0	115.82
4.0	Overall Productivity	(TONNE)	2.54	2.65
4.1	U.G. Productivity	(TONNE)	1.05	1.09
4.2	O.C. Productivity	(TONNE)	3.99	4.13
5.0	Off-take	(MT)	45.50	42.56
6.0	Wagon Loading	(BOXES/DAY)	878	765



PLANNING PREPAREDNESS

Nearly all UG Projects and some of the OC Projects, are economically non-viable at notified price of coal, even with Partial Hiring of Equipment.

In order to open new mines, which are financially unviable following alternatives are being explored :

- To Plan mines by total/partial hiring of equipment ensuring minimum 12 % IRR at 85 % capacity utilisation as per Govt. of India guidelines.
- To deepen existing opencast mines, maintaining departmental equipment and off loading extra OB due to deepening by outsourcing equipment.
- To enter into Coal Supply Agreement with the consumers who are agreeable to pay the price yielding 12 % IRR from linked project as per ministry's guideline for cost plus project.

To maintain and augment production from UG mines two options were adopted:

- Introduction of mass production technology through Global Bid.
- Augmentation of UG production in existing mines

REPORT FORMULATION:

During the year 2010-11, following 10 Geological Reports were formulated:

S. No	Name of Geological Reports
1	Nirguda OC
2	Bhatadih OC
3	Nakoda UG to OC
4	Yekona-II Extn. OC
5	Visapur OC
6	Gondegaon Ghatrohan OC
7	Rawanwara East UG
8	Ballarpur UG
9	Mungoli OC
10	Murpar UG Expn

During the year following 9 Mining Project Reports were formulated/ re-casted:

Sl. No.	Name of Project	Capacity (MTY)	Capital (Rs.Crs.)
1	Tawa-III UG	0.48	105.69
2	Wanoja OC (Yekona-I Extn.)	0.50	140.34
3	Amal.Gondegaon Ghatrohan OC	2.00	73.88
4	New Majri Sec.I A & IIA Extn.OC	1.00	50.39
5	Shivani Oc (Yekona-II Extn.)	1.25	201.25
6	Gandhigram UG	1.20	289.75
7	Chinchala Chikalgaon Amalg.OC	3.00	501.34
8	Motaghat OC	1.25	131.01
9	Niljai Expn. Deep OC	3.00	414.02

21 mining projects mostly to make up the short fall in production from existing mines and completed projects, with marginal growth have been planned & approved during Xth Plan period, with a capacity of 15.14 million tones & capital outlay of 922.96 crores contribution from these Xth Plan projects during the year 2010-11 is 10.46 million tonnes.



33 Projects have been identified for XI Plan with a capacity of 44.95 Mty. and anticipated capital of Rs.6578.01 crores, to sustain the existing production level of Company.

	No. of Project	Capacity (Mty.)	Capital (Rs.Crs.)
Total XI th Plan Project	33	44.95	6578.01
Projects already approved	6	8.29	553.23
Projects approved subject to Cost Plus Agreement	11	10.76	1424.41
Projects accorded first stage approval	5	9.00	1400.70

XI PLAN PROJECTS APPROVED DURING 2010-11

The following 5 Project Reports of XI Plan, have been approved during 2010-11:

Sl. No.	Name of Project	Capacity (Mty.)	Capital (Rs. Crs.)
1	Kamptee Deep OC	1.50	174.19
2	Ukni Deep OC	2.00	319.97
3	Pauni-III OC	1.25	360.80
4	Motaghat OC	1.25	131.19
5	Niljai Expn. Deep	3.00	414.02

Note: Approved subject to Cost Plus Agreement/ 1st stage approval to facilitate application for Environmental clearance.

Out of 33 Projects, PRs for 29 no. of project Reports have been formulated & out of 29 projects, 6 projects have been approved by WCL Board, while 15

projects have been approved subject to finalisation of Cost Plus Agreement with prospective consumer, 1 projects accorded 1st stage approval to facilitate application for Environmental Clearance.

Remaining 7 Projects, for which PRs have been formulated, the status report is as under:

- PR of 1 project, namely Wanoja OC (Yekona-I Extn.) to be processed for competent approval.
- PR of 2 projects, namely Shivani OC (Yekona-II Extn. and Bhatadih – II Extn. OC – meeting of technical sub committee to be held.
- PR of 4 projects, namely Gandhigram UG, Padmapur Deep OC, Chikalgaon/ Chinchala OC and New Majri Sec.IA & IIA Extn. are under recast.

Longwall/ Mas production Technology:

1. Continuous miner technology has already been introduced in Tandsi UG as well as Kumbarkhani UG
2. Three coal blocks namely Murpar Expn., Borda & Borda Extn. Block and Nand UG, have been identified for Development as High Capacity UG mines.
3. Global bid documents are under modification.



PROJECTS/ SCHEMES APPROVAL AND COMPLETION:

Approval of Project Reports:

The following 9 Projects Reports/ Schemes have been approved during 2010-11:

Sl. No	Name of Project	Capacity (Mty.)	Capital (Rs.Crs.)
1	Amalgamated Gondegaon Ghatrohana OC	2.00	73.88
2	Kamptee Deep OC	1.50	174.19
3	Ukni Deep OC	2.00	319.97
4	Sakhari Irawati (Pauni-III OC)	1.25	360.80
5	Motaghat OC	1.25	131.19
6	Tawa-II Expn. Ug	0.75	89.00
7	Tawa-III UG	0.48	105.69
8	Niljai Expn. Deep OC	3.00	414.02
9	Scheme for Ukni OC	2.80	2.50
	Total	15.03	1671.24

Completion of Projects:

During 2010-11, the Completion Report of Kolgaon OC has been approved by WCL Board. Ghughus Extn. OC Scheme has achieved the norms required for completion in 2010-11. Completion Report is under preparation.

Sl. No.	Name of Project	Capacity (Mty.)	Capital (Rs. Crs.)
1	Ghughus Extn. OC Scheme	1.50	10.1456

Coal Supply Agreement (CSA) on negotiated price to yield requisite IRR % for approval of Project:

Total 27 Projects have been approved till 2010-11 on cost plus basis. Out of 27 projects, Coal Supply Agreements for 7 projects have already been signed and 6 projects, namely, Sharda UG, Harradol UG, Dhankasa UG, Dhuptala (Sasti, UG to OC), New Majri UG to OC and Dinesh OC, have been offered to MAHAGENCO and MPPGCL on cost plus basis for which in principal consent has already been received.

Negotiations are in progress with MAHAGENCO for finalising the CSA for three project, namely Dinesh OC, New Majri UG to OC and Dhuptala OC. The Model Coal Supply Agreement on Cost Plus Basis is under finalisation at CIL.

Details of remaining 14 projects, which are placed/ being placed on the Website of WCL as per the guidelines of MOC are as follows:

Sl. No.	Name of Projects	Capacity (Mty.)	Sanctioned Capital (Rs. Crs.)
1	Chincholi OC	0.30	24.64
2	Bhakra UG	0.27	55.27
3	Maori UG (CCT)	0.90	67.50
4	Urdhan OC (RCE)	0.50	54.42
5	Saoner UG Mine -1 Expn. (CMT)	0.75	68.17
6	Jamunia UG (CM Tech.)	0.72	127.52
7	Bellora-Naigaon Deep OC	1.00	114.41
8	Extension of Nanda-2 UG Mine in Dhau North Block	0.36	41.70
9	Sakhari Irawati Pauni-III OC	1.25	360.80
10	Ukni Deep OC	2.00	319.97
11	Motaghat OC	1.25	131.01
12	Tawa-II Expn. UG	0.75	89.19
13	Tawa-III UG	0.48	105.69
14	Niljai Expn. Deep OC	3.00	414.11



STATUS OF WASHERY CONSTRUCTION IN WCL

**Target for First Phase : 1 Number
Total Capacity : 5 MTY**

Name of the washery	5 MTY - Wardha Coal Washery Kolarpimpri in Wani North Area, WCL
Identification of coal linkage	<p>Following mines have been identified as the probable linked mines to this Washery:</p> <p>Wani North Area:</p> <ol style="list-style-type: none"> 1. Kolarpimpri Extn. OC 2. Pimpalgaon OC/ Borda UG 3. Ukni Deep OC <p>Wani Area:</p> <ol style="list-style-type: none"> 1. Mugoli & Mungoli Deep OC 2. Nirguda Deep OC 3. Niljai & Niljai Deep OC 4. Bellora-Naigaon Deep OC
Land acquisition and site select6ion	<p>A piece of 27 Hect Land has been identified. Land has been acquired U/s 9 (1) of CBA Act vide SO No.3822 dated 23.9.06 and vested in the name of Company U/s 11 vide S.O. 2525 dated 8.9.2007 of Kolarpimpri Deep Extension Block of Wani North Area and the land compensation bill has been sanctioned by MOC vide Sanction No.43020/8/2008-PRIW-I dated 28.01.2009 and received on 06.02.2009 in respect of payment of compensation for acquisition of land. WCL Board accorded administrative approval for providing 134 Nos. of employment/ monetary compensation in lieu of employment as per CIL's R&R Policy 2008. Accordingly action is being taken for physical possession of land.</p>
(a) Sample collection	Coal sample had been collected by a Team of CMPDIL, Ranchi during

	<p>16.12.2008 to 19.12.2008 from the linked mines of Wani and Wani North Area.</p> <p>(b) Transfer of sample to CP Lab and Coal Testing.</p>
TEFR/ Conceptual report preparation and submission by CMPDIL	<p>Approval of 510 ED conveyed to CMPDIL for Washability Test, preparation of Conceptual Report with bid document.</p> <p>The conceptual report was put up to the Technical Sub-Committee to Board on 18.7.09. The points raised by TSC had been updated and the Conceptual Report was again put up to TSC on 21.12.09. After detailed deliberation TSC asked CMPDI to comply on the points suggested and recast the report. Accordingly, the revised/ recasted conceptual report has been presented by CMPDIL, Ranchi before TSC on 22.12.10 wherein TSC deliberated on it on 20.1.11 & 9.2.11 and the same is in the process of review for its acceptance and putting it up to WCL Board for its approval.</p>
Approval of TEFR/ Conceptual Report	The re-casted conceptual report shall be placed to the Board for approval.
Submission of soil investigation report	Soil testing report has been submitted to CMPDIL, Ranchi.
Customization of biddocument & submission by CMPDIL	The RFP bid document is under finalization at CMPDIL, Ranchi.
Flotation of tender	The action has been taken by CIL for Common Centralised Request For Qualification (RFQ) by floating tender for remaining 11 Washeries of all the Subsidiaries including this Washery and shortlisting of bidders has been done.



WELFARE ACTIVITIES

WELFARE BOARD:

A Welfare Board was set up in Western Coalfields Limited in 1987, the first of its kind in Coal Industry. The Welfare Board consists of 5 (Five) representatives of Management and 5 (Five) Workers representatives, one each from the Central Trade Unions viz. INTUC, BMS, AITUC, CITU & HMS. Director (Personnel), WCL is Chairman and General Manager (Welfare) is Secretary of Welfare Board.

WELFARE AMENITIES:

1. HOUSING:

Period	Houses available	Permanent manpower entitled for housing	%age satisfaction
At the time of Nationalisation	4390 (Standard) 9120 (Non-Std)	39794	11.3
As on 1.4.2009	42315(Std) 10086(NS)	62492	67.71
As on 1.4.2010	42415(Std) 10086(NS)	60870	69.68
As on 1.4.2011	42515(Std) 10086(NS)	59043	

Std - Standard : NS - Non-standard

2. WATER SUPPLY:

Period	Total Population Coverage	Generation capacity MGD
At the time of Nationalization	45695	1.50
As on 1.4.2009	322795	18.68
As on 1.4.2010	323295	18.68
As on 1.4.2011	323795	18.68

3. EDUCATIONAL FACILITIES

Sl. No.	Particulars	At the time of Nationalization	As on 01.04.2011
1	Primary Schools	30	23
2	Middle Schools	18	20
3	Secnd. Schools	15	26
4	Other Schools	-	27
5	Central Schools	-	4+1DAV
6	School Buses	5	112 (Big +Mini)



4. MEDICAL FACILITIES:

	At the time of Nationalisation	As on 1.4.2011
Hospital Beds	4	11
Dispensaries	159	710
Ambulances	19	54
Doctors	9	111
Nursing Staff /other employee	18	179
Bed Ratio	120	602
	1:250	1:85

5. BANKING FACILITIES:

As on 01.04.2011

No.of Bank Branches : 113 Branches

No.of employees : 100 %

Paid through bank

6. CO-OPERATIVES/ SOCIETIES:

As on 01.04.2011

Co-operative Stores : 24

Co-operative Societies : 45

8. RECREATIONAL FACILITIES:

As on 01.04.2011

No.of Play Grounds : 31

No.of Stadiums : 13

No.of Children Parks : 48

No.of Clubs for employees : 30

No.of Community Halls : 38

No.of Libraries : 16

No.of Gymnasiums : 21

Swimming Pools : 01
