**These Papers have been prepared**

**By**

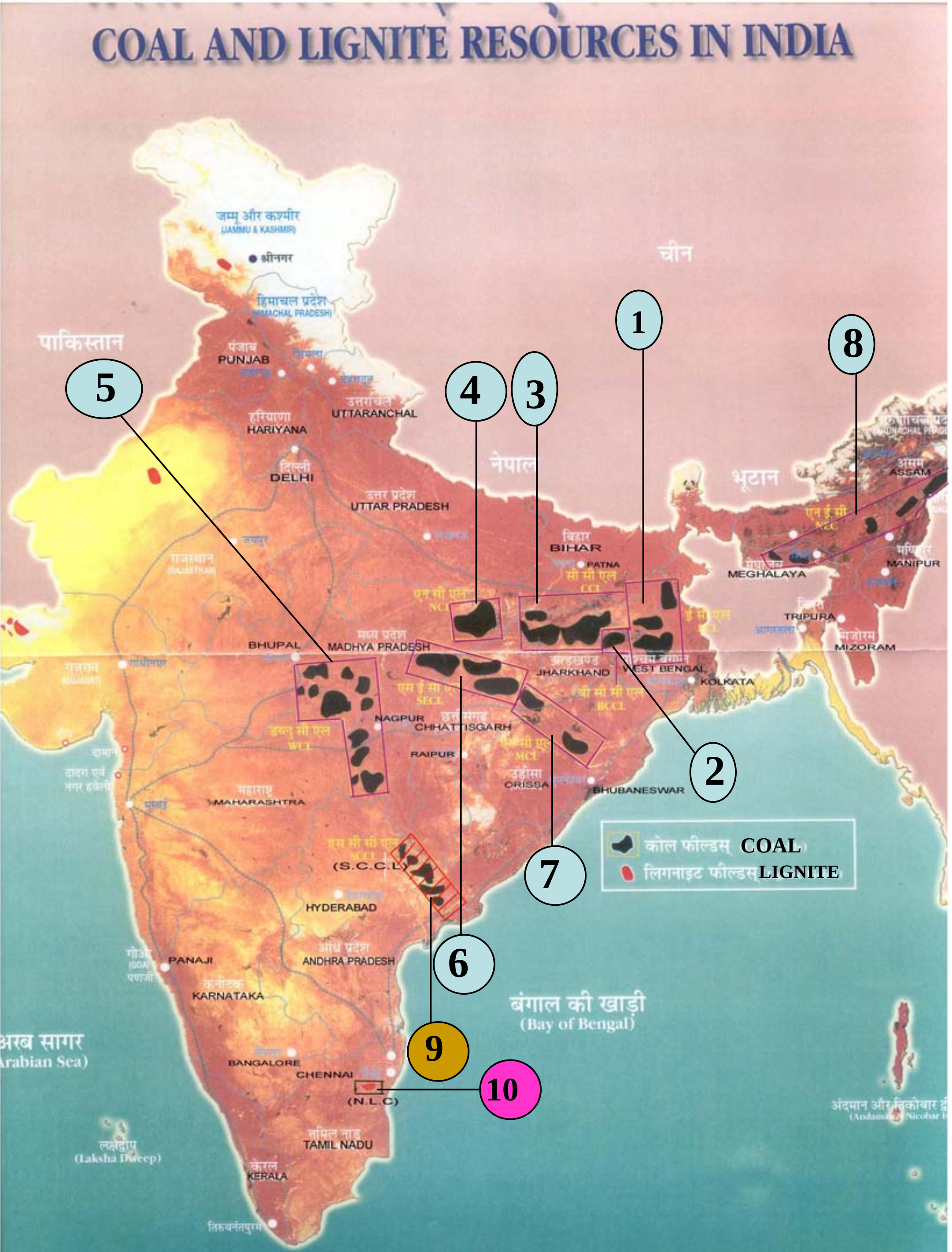
**individual members/experts**

**for**

**discussion in the NAC and do not, in all cases, reflect settled conclusions of the NAC**

# PRESENTATION ON COAL SECTOR

**17th October 2007**




## COAL PRODUCING SUBSIDIARIES OF COAL INDIA LTD. (CIL)

| | |
|---|---|
| **EASTERN COALFIELDS LTD.** | **(1)** |
| **BHARAT COKING COAL LTD.** | **(2)** |
| **CENTRAL COALFIELDS LTD.** | **(3)** |
| **NORTHERN COALFIELDS LTD.** | **(4)** |
| **WESTERN COALFIELDS LTD.** | **(5)** |
| **SOUTH EASTERN COALFIELDS LTD.** | **(6)** |
| **MAHANADI COALFIELDS LTD.** | **(7)** |
| **NORTH EASTERN COALFIELDS.** (A UNIT UNDER CIL (HQ) ) | **(8)** |

## SINGARENI COLLIERIES CO. LTD. (9) (SCCL)

## NEYVELI LIGNITE CORPORATION (10) (NLC)

# India's Coal Resource Position

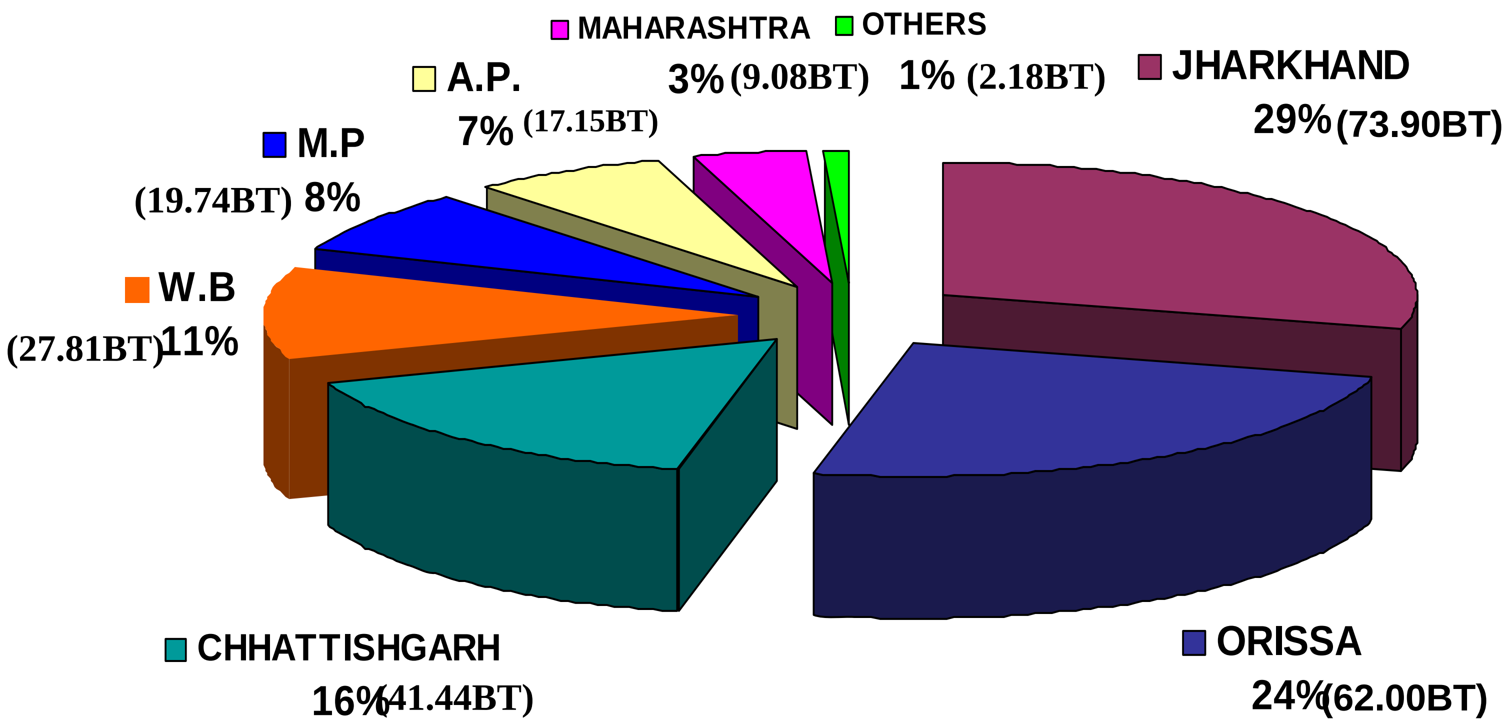
(in billion tonnes)

| Type of coal | Proved | Indicated/ Inferred | Total | %Share |
|---|---|---|---|---|
| **Coking Coal** | 16.870 | 15.405 | 32.275 | 12.65 |
| **Non-Coking Coal** | 81.049 | 141.847 | 222.896 | 87.35 |
| **Total** | **97.919** | **157.252** | **255.171** | 100.00 |
| **%share** | 38.37 | 61.63 | 100.00 | |

# State-wise Coal Reserve in India

# (As on 01.01.2007)

# (Billion Tonnes)




**ABOUT 70% OF RESERVE CONCENTRATED IN 4 STATES ONLY-NAMELY JHARKHAND, ORISSA, CHATTISGARH & WEST BENGAL**

# DEMAND AND SUPPLY OF COAL DURING 2007-08

- **All India coal demand for 2007-08 estimated at 492.50 million tonnes by Planning Commission**
- **This denotes growth of about 18 MT over 2006-07**
- **Total indigenous availability during 2007-08 estimated at 461.89 million tonnes**
- **Gap is to be met through import of coking and non-coking coal**

# Coal demand Projections

| | | (million tonnes) |
|---|---|---|
| **Sector** | **Off take* Terminal year of X Plan (2006-07)** | **Projected demand Terminal year of XI Plan (2011-12)** |
| Steel | 39.51 | 68.50 |
| Power (Utilities) | 307.04 | 483.00 |
| Cement | 18.92 | 31.90 |
| Others | 98.04 | 147.70 |
| **Total** | **463.51**** | **731.10***** |

Note:* figures are Provisional

**includes imports of 45 million tonnes (22 Mt of coking coal and 23 Mt of thermal coal); *** includes projected imports of 51 mt (about 41 Mt of coking coal &10 Mt of thermal coal)

# Coal Production Projections

| | | (million tonnes) |
|---|---|---|
| **Company** | **Terminal year X Plan (2006-07) Actual** | **Terminal Year XI Plan (2011-12) Projected** |
| Coal India Ltd | 360.94 | 520.50 |
| SCCL | 37.71 | 40.80 |
| Others | 32.20 | 118.70 |
| **Total** | **430.85** | **680.00** |
| **Demand** | **463.51** | **731.10** |
| **Gap** | **32.66** | **51.10** |

# DISTRIBUTION OF COAL

- **Presently, consumers are divided into core and non-core sector consumers**

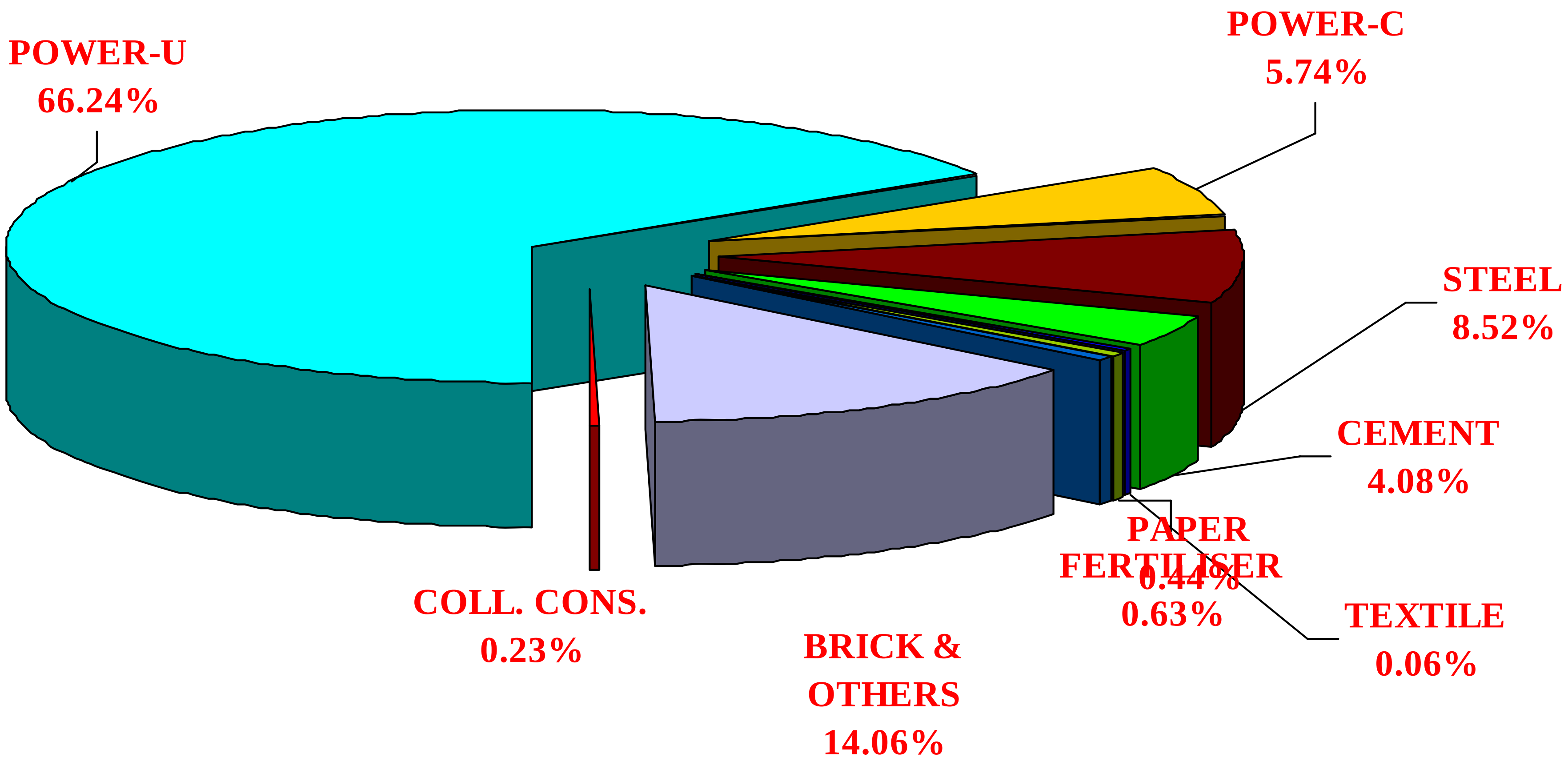
- **Core sector consists of Power including Captive Power Plants, Steel, Cement, Defence, Fertilizer etc.**

- **Standing Linkage Committee exists for Power, Cement and Sponge Iron units**

- **These Committees are inter-Ministerial Committees headed by Additional Secretary, Ministry of Coal**

- **These Committees consider requirement of coal for power, cement and sponge iron units at the planning stage and links the requirement in the long term perspective keeping in view quantity and quality required, time frame, location of consuming plants, transport logistics, development plan for the coal mine etc.**

# CONSUMER PROFILE
# (2006-07 )




<u>OTHERS(Non core):</u> SSF (Special Smokeless Fuel) units, Briquette manufacturing units, Chemical, Glass & Potteries, Leather units, E-Auction/Booking, BRK, etc.

# MODE OF TRANSPORT

- Coal is being transported through Rail, Rail-cum-Sea (coastal movement), Road, Merry-go-round (MGR), Belt and Ropeway systems

- Incremental demand during end of XI Plan (2011-12) in comparison to terminal year of X Plan (2006-07) estimated at 271 million tonnes

- Mode-wise transport of coal & coal products estimated during XI Plan are 49% through Rail, 27% through Road, 19% through MGR, 5% through Belt/Rope.

- Total raw coal estimated to be transported is 680 million tonnes by end of 2011-12

# IMPORT OF COAL

- As per present import policy, coal is under Open General Licence (OGL) and can be freely imported by consumers

- Coking coal is being imported by SAIL and other steel manufacturing units to bridge gap between indigenous availability and requirement

- Import of coking coal which was about 17 Million tonnes (MT) during 2004-05 increased to 22 MT during 2006-07

- Import of non-coking coal which was about 12 Million tonnes during 2004-05 increased to about 23 MT during 2006-07

# New Projects of X Plan envisaged in CIL/SCCL

| | X Plan (2002-07) Actual | |
|---|---|---|
| | **CIL** | **SCCL** |
| No. of Projects envisaged | **97 *** | **41** |
| Ultimate capacity, Million tonnes per year (Mty) | **241.41** | **38.24** |
| Estimated Investment (Rs. Crores) | **18109.52** | **3126.30** |
| Contribution (Mty) in 2006-07 | **73.14** | **5.285** |
| **Note**:- ***** Out of 97 projects only 83 projects could be approved in the X Plan for a capacity of 160 Mty and investment of Rs.10756.42 crores | | |

# New Projects of XI Plan envisaged in CIL/SCCL

| | Terminal year XI Plan (2011-12) Projected | |
|---|---|---|
| | **CIL** | **SCCL** |
| No. of Projects envisaged | **118** | **25** |
| Ultimate capacity (Mty) | **283.43** | **43.35** |
| Estimated Investment (Rs. Crores) | **20129** | **5779.14** |
| Contribution (Mty) | **115.54** | **5.75** |

# STATUS OF
# ALLOCATION OF COAL BLOCKS

# Legal Frame work

- Under Coal Mines (Nationalisation) Act 1973, Coal Mining is exclusively reserved for Public Sector.
- Increasing demand and supply gap of coal , perceived as major bottleneck to economic growth.
- Coal Mines (Nationalisation) Act, 1973 amended to enable allotment of captive blocks to specific priority sectors like Power, Iron & Steel, Cement etc.
- Central and State Govt. companies allowed to do coal mining for commercial purpose anywhere in the country.
- Coal mining in isolated small pockets, not amenable to economic development and not requiring rail transport allowed by subleasing from public sector.

# Status of Coal Block Allocation

- **229 coal blocks with Geological Reserve of about 50 Billion Te (BT) identified.**

- **As on 15 Sept. 2007, 165 coal blocks with Geological Reserve of about 37.65 BT – 95 blocks to PSUs and 70 blocks to private companies.**

- **126 Coal Blocks with Geological reserves of 34 billion tonnes allotted since 2004.**

# Sector wise allotment of coal blocks

| SECTOR | NO. OF COAL BLOCKS | | | GEOLOGICAL RESERVE (BT) |
|---|---|---|---|---|
| | Total | PSU | PRIVATE | |
| Power | 72 | 53 | 12 | 22.75 |
| Iron & Steel | 50 | 03 | 47 | 08.20 |
| Cement | 1 | 0 | 1 | 0.01 |
| Small & Isolated | 2 | 0 | 2 | 0.01 |
| Govt. Commercial | 39 | 39 | 0 | 06.60 |
| TOTAL : | 165 | 95 | 70 | 37.65 |

# Coal production from captive blocks

- **A very ambitious programme of achieving 104 MT by 2011-12 from captive mining blocks envisaged in XI Five year-Plan.**

- **This requires cumulative annual growth rate of around 40%.**

# SAFETY IN COAL MINES

# Fatality Rates In Coal Mines

| Year | **Production (in million tonnes)** | **No. of Fatalities** | **Rate of Fatalities per million tonne** |
|---|---|---|---|
| **1975** | 99.69 | 664 | 6.66 |
| **1985** | 154.30 | 204 | 1.32 |
| **1995** | 273.42 | 219 | 0.82 |
| **2005** | 407.04 | 117 | 0.29 |
| **2006** | 430.85 | 138 | 0.32 |

# Company Wise Fatal Accidents In Coal Mines

| Coal Company | 2005 | | 2006 | | 2007 up to July | |
|---|---|---|---|---|---|---|
| | Fatal Accidents | Fatalities | Fatal Accidents | Fatalities | Fatal Accidents | Fatalities |
| **CIL** | 76 | 97 | 52 | 107 | 51 | 53 |
| **SCCL** | 11 | 11 | 16 | 19 | 7 | 7 |
| **TISCO** | 2 | 2 | 3 | 4 | 1 | 1 |
| **IISCO** | 1 | 1 | 2 | 2 | 0 | 0 |
| **NLC** | 1 | 1 | 5 | 5 | 2 | 2 |
| **Others** | 5 | 5 | 1 | 1 | 1 | 1 |
| **All India** | **96** | **117** | **79** | **138** | **62** | **64** |

# FATAL ACCIDENT RATE

| Country | 2004 | | 2005 | | 2006 | |
|---|---|---|---|---|---|---|
| | Fatalities | Fatality Rate / Mt | Fatalities | Fatality Rate / Mt | Fatalities | Fatality Rate / Mt |
| India | 96 | 0.25 | 117 | 0.29 | 138 | 0.32 |
| China | 6027 | 3.08 | 5986 | 3.58 | NA | NA |
| USA | 28 | 0.03 | 22 | 0.02 | 47 | 0.05 |
| South Africa | 20 | 0.08 | 10 | 0.04 | NA | NA |

# SAFETY MEASURES FOR ACCIDENT PREVENTION

- SAFETY AUDITS are being done by EXTERNAL EXPERTS once at least in 2 yrs & recommendations implemented.

- RISK ASSESSMENT & MANAGEMENT EXCERCISES have been done in 241 mines. Programmed to cover all mines by 2007-08.

- Instrumentation for predicting roof failure has been introduced in some mines& programmed for covering all mines.

- MANRIDING SYSTEMS for reducing time for workmen in travelling to workplace installed in 15 mines & further installation programmed.

- Safety Audit of all CHPs has been done in 2002.

- Computerised continuous Environmental Telemonitoring systems installed in 13 mines & programmed for covering more mines.

# SAFETY MEASURES FOR ACCIDENT PREVENTION

- **Scientific Roof Support Systems based on rock-mass-rating**
- **Reducing exposure to workers to hazardous conditions by adoption of mechanised mining like side discharge loader, load haul dumper, continuous miner and**
- **Implementation of code of practices for Heavy Earth Moving Machinery operators, maintenance staff and others.**
- **Thrust on training and re-training of supervisors and workmen including contractors' workers to increase safety awareness.**
- **Safety monitoring through multi-disciplinary Internal Safety Organization (ISO).**

# Major constraints in Project implementation and Mine operations.

- Land acquisition
- Resettlement and Rehabilitation
- Forestry and Environmental clearances
- Railway evacuation
- Law and Order problems

# MAJOR INITIATIVES / DECISIONS

- Conferment of Mini-Ratna status on Coal India Limited and its five subsidiaries.

- Notification of Coal Gasification and Coal Liquefaction as specified end uses for the purpose of captive coal mining.

- Revision of rates of royalty on coal and lignite w.e.f. 01.08.07.

- Coal India to set up washeries to supply processed coal to non-pit head consumers.

# MAJOR INITIATIVES / DECISIONS

- **118 projects (283 mty capacity, Cost Rs. 20129 crs) identified for taking up in XI plan**

- **Plan under preparation for CIL to increase underground production from current level of 46 mty to 75 mty during 11th Plan. In the past UG production has been declining.**

# MAJOR INITIATIVES / DECISIONS

**Schemes for faster Exploration :**

- **CMPDIL expanding its capacity of exploration from 2 lakh metres/year to 4 lakh metres/year through outsourcing.**

- **Plan under preparation to complete promotional drilling of the balance 5330 sq. km of coal bearing area within 5/6 years as against 10/12 years as per original schedule.**

- **Guidelines framed for captive coal block owners to undertake detailed exploration on their own.**

# Linkages/LOA granted during 2006 and 2007

- 46 power utilities (29 during 2006 and 17 during 2007) granted Letter of Assurance (LOA) involving coal quantity of 152 MTPA
- 18 Independent power producers (IPPs) (6 during 2006 and 12 during 2007) granted Letter of Assurance (LOA) involving coal quantity of 30.56 MTPA
- 17 cement plants/cement captive power plants granted linkage during 2006, involving coal quantity of 2.33 MTPA
- 110 sponge iron units granted linkage during 2006 involving coal quantity of 4.81 MTPA


THANK YOU