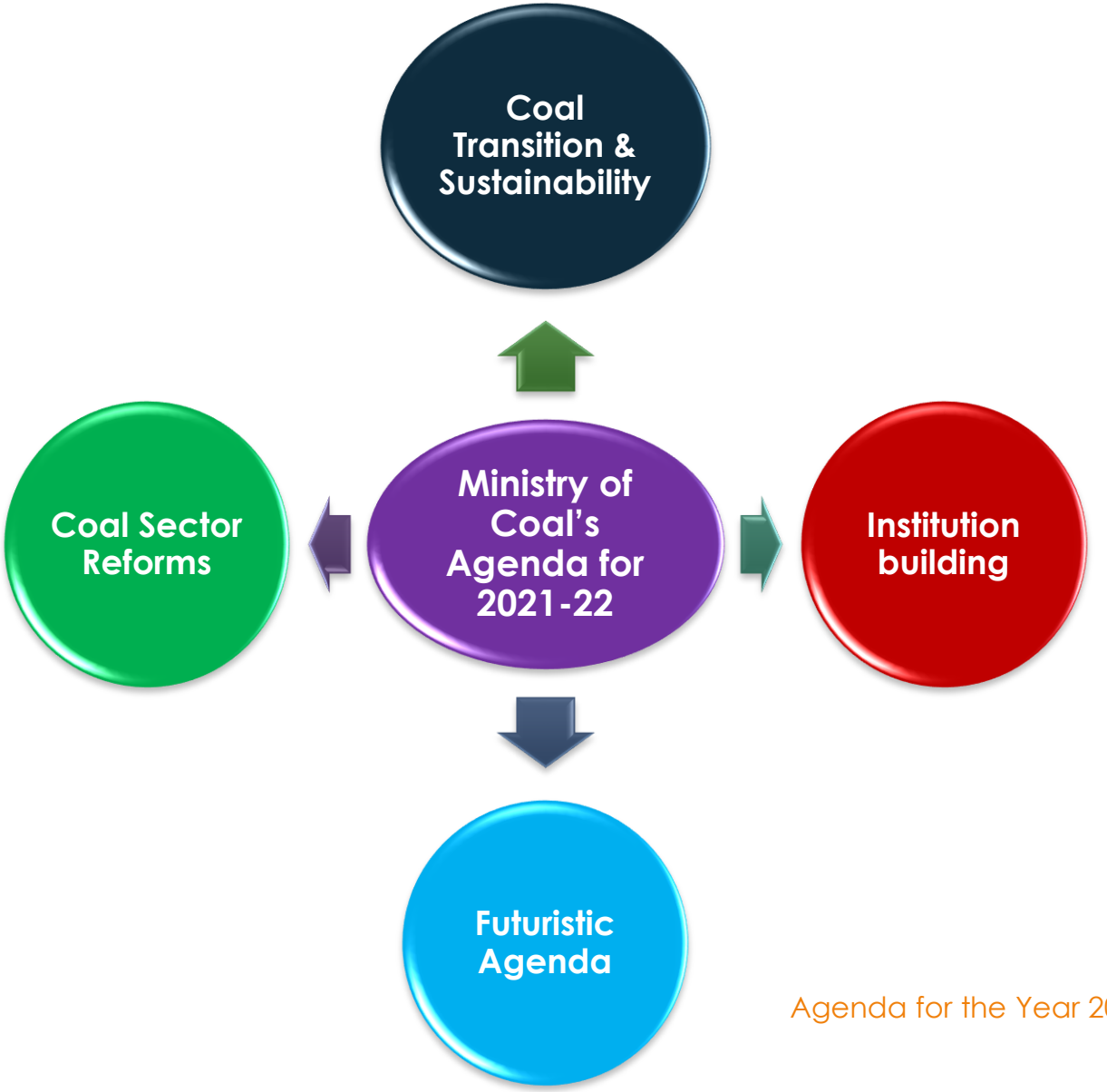
सत्यमेव जयते

Government of India
Ministry of Coal

Ministry of Coal's Agenda for 2021-22

"India has taken a major decision to fully open the coal and mining sectors for competition, capital, participation and technology"- *PM NARENDRA MODI*


Coal Transition & Sustainability
Coal Sector Reforms
Ministry of Coal's Agenda for 2021-22
Institution building
Futuristic Agenda

Agenda at a Glance

I. Coal Sector Reforms

- Projects for FY 21-22
- Jharia Master Plan
- Regulatory reforms (Exploration)
- Coal Beneficiation
- Safety in coal mines
- Coking coal Strategy
- Marketing reforms
- Coal Pricing Reforms
- Reforms in land acquisition
- Solar Power Projects
- Coal Despatch & Stocking
- Coal Export in Neighbouring Countries
- Strategy to boost coal production of mines allocated through auction

II Coal Transition & Sustainability

- Social aspects of coal transition
- Monetization of de-coaled land
- Use of Artificial Intelligence (AI) in data mining/drones
- Sustainability (Net Zero Emissions)

III Institution building

- Reforms in Coal Controller Organisation (CCO), Coal Mines Provident Fund Organisation (CMPFO)
- Upgrading Coal testing lab
- Staffing quality and training issues

IV Futuristic Agenda

- Coal to Chemical : Syn Gas, Hydrogen Gas, Liquid fuels, Chemicals and fertilizers
- CIL - diversify its business and explore prospects in sunrise industries electric charging pods, EVs etc. Acquisition and mergers of similar or new business after due diligence
- Robust media campaign
- Close Monitoring of CSR activities

S.No.	Agenda item	Officer(s) entrusted with responsibility	Page No.
I. Coal Sector Reforms			8-30
1	Projects for FY 21-22	AS(MN)	9-10
2	Jharia Master Plan	Project Advisor/CM(PK)	11-12
3	Regulatory reforms (Exploration)	Project Advisor/CM(PK)	13-15
4	Coal Beneficiation	AS(MN)	16-18
5	Safety in coal mines	Project Advisor/CM(PK)	19-21
6	Coking coal Strategy	AS(MN)	22-23
7	Marketing reforms	JS(CPD)	24
8	Coal Pricing Reforms	JS(Estt.)	24
9	Reforms in land acquisition	AS(C)	24
10	Solar Power Projects	Project Advisor	25-27
11	Coal Despatch & Stocking	JS (CPD)	28
12	Coal Export in Neighbouring Countries	JS(CPD)	28
13	Strategy to boost coal production of mines allocated through auction	AS (MN)	29-30

I Coal Sector Reforms-

1. Projects for FY 21-22- towards 1 BT production by CIL including evacuation projects under FMC(First Mile Connectivity).

FMC Projects:

There are 39 FMC projects taken up and the status of FMC Projects is at Annexure - 1(p.63-73)

Mining Projects:

- There are 54 Mining projects included in Coal Infrastructure Plan prepared in FY 2020-21. Out of these projects, 42 projects are already approved and 12 projects (New or Expansion) are yet to be approved .
- Of these 42 projects, 31 projects are in production, 11 projects are approved but not in production.
- CIL has mentioned in review meeting that most of 12 non-approved projects are not viable and looking to replacement of unviable projects.
- These projects are to be monitored on the following Parameters-
  - Environmental Clearances
  - Forestry Clearances
  - CAPEX expenditure against estimated year-wise

The details of each projects against above parameter are given at Annexure – 2 [p.74-91]

2. Jharia Master Plan

Introduction

Jharia Master Plan was prepared to cover 25.60 Sq. Kms of unstable areas/subsidence and fire affected areas. Accordingly an improvised time line action plan was prepared to liquidate the fires. Estimated capital required for dealing with fires under Master plan is Rs. 2311.50 Crs. By the time of nationalization in 1971-73, surface fire area extent was 17.32 sq km. BCCL adopted the method of digging out fire through excavation by deploying HEMM. National Remote sensing center (NRSC), Hyderabad carries out the survey work periodically. First survey by NRSC was done in year 2014, followed by in year 2017 and current survey work is going on for year 2020. Due to efforts of BCCL, fire affected area and no of fire sites have been decreasing gradually as mentioned below

Year	72-73	2009	2012	2018	2020 (As per Interim Report of NRSC)
Fire Area(Sq Km)	17.32	8.9	2.18	3.26	Fire area to be assessed
No of fire Sites	77	67	32	34	27

Present status of ongoing works:

- **Currently BCCL is taking efforts to douse fire at remaining 27 fire sites. CMPDI along with BCCL has prepared fire dealing proposals for digging out fire at these sites. As per analysis done by CMPDI, fire dealing operations at 15 sites are economically viable while rest 12 sites proposals are economically unviable.**

15 Viable fire patches-

- For economically viable 15 sites, BCCL has awarded the work of digging out fire. At present 9 different fire projects are running. (These 9 projects are covering 11 fire sites.). For balance 4 sites, work has been awarded and expected to start soon.

  (Details are enclosed at Annexure-3 (p.92-100)

12 unviable fire patches-

- For 12 economically unviable sites, project proposals are being formulated by CMPDI. Brief of same is mentioned below:

S. No.	No. of sites covered	No. of corresponding fire projects	Remarks
1	4	One	Placed in BCCL Board, board suggested for some modifications. Modified proposal will be placed in coming BCCL Board.
2	2	There is no livelihood near the periphery of these two Fire sites. It has been decided that at these two sites fire will be doused by blanketing. The process of blanketing has been started and likely to be completed within three months.	
3	1	One	Placed in BCCL Board, board suggested for some modifications. Modified proposal will be placed in coming BCCL Board.
4	1	One	Proposal is being prepared, will be placed before BCCL board in June 21.
5	1	One	Proposal is being prepared, will be placed before BCCL board in June 21
6	3	3 fire sites are near DB Road and MADA Colony & reservoir. BCCL is in continuous talk with district administration for shifting of these. Proposals are under preparation by CMPDIL and will be submitted after getting time line and details about diversion of DB roads and MADA colony including shifting of water reservoir by District administration.	
Total	12		

3. Regulatory reforms in Exploration of Coal deposits: Introduction of technology

Exploration for coal with drilling is conducted in two stages.

- In the first stage, Promotional/Regional Exploration (G-3 category) is undertaken in large areas of 50 to 100 sq.km accompanied with drilling of boreholes 1-2 km. apart to find out the broad availability of coal seams, geological structure, resources etc., confirming the prognosticated occurrences of coal seams and categorizing them into indicated and Inferred resources. The promising areas may be taken up for Promotional Exploration (G-2 category) in 20 - 50 sq.km. blocks with 2-4bhs./sq.km. only, to bring the resources into the G-2 category and thus to reduce the uncertainties to enable mine planning and production.
- The more promising areas are in the second stage, taken up for Detailed Exploration (G-1 category) in 5 to 20 sq.km. blocks with more closely spaced drilling, 250m – 400m apart, to bring the resources into the Proved (Measured) category and thus to reduce the uncertainties to enable mine planning and production. Ministry of Coal, Govt. of India, desires to enhance the exploration in G-2 category for availability of blocks for bidding for PL/ML

2. Present Practice:

Presently Coal exploration is being carried out as per Modified ISP norms 2017, wherein it classifies the coal resources on the basis of increasing confidence of Geological Resources (Inferred, Indicated, and Proved), thickness and depth ranges, and coal rank and quality considerations. As per present ISP norm, "Measured" or Proved Resources is estimated only on the basis of Detailed Exploration (G-1 category) to establish occurrence of coal with highest level of confidence. As per ISP norms the minimum borehole spacing is 400*400 meter (about 6-7 boreholes/sq.km).

2.1 Further, resources of regionally explored area are categorized mainly (majority) as Indicated Resources. Large scale geological mapping on a scale of 1:10,000 is carried out, immediately preceding and/or simultaneous with drilling where boreholes are generally placed around 1000m apart. To understand the stratigraphic set-up of the block, at least one borehole is needed to be drilled up to the base of the coal bearing formation to the extent feasible (e.g. Talcher Formation/ Metamorphics) (G2 stage).

3. Reforms in Coal Sector:

- With a view to fast track exploration of coal, Ministry of Coal has taken actions to introduce geophysical techniques (2D & 3D seismic) coupled with drilling to ensure same level of confidence with lesser bore hole density. Accordingly, CMPDI has identified 15 exploration blocks wherein G2 level of exploration is being carried out. Further, Ministry of Coal has also modified MCR 1960 to allow PL cum ML auction of Coal blocks and accreditation of exploration agencies to take up exploration with need for exploration lease.

4 Proposed reforms:

4.1 Coal and Lignite has now been proposed to be included in Mineral Evidences and Mineral Content Rule and it has now been proposed to auction mining lease on G3 level of exploration wherein one bore hole per sq km will be required coupled with2D/3D seismic to establish the resource.

4.2 As per recent amendment of MCR [Rule-21B], QCI-NABET is to accredit the agency for preparation of GR. However, there is no provision of approval of GR in ISP 2017 and also in MCR. As such authority to approve GR needs to be deliberated again and ISP needs to be revised to bring clarity on subject. In view of the above, it is proposed to constitute a Committee under the provisions of Section 1.5 of the Indian Standard Procedure (ISP) for Coal Resource Estimation, 2017. Composition of the Committee shall be as under:

Sl. No.	Details of officers	Designation in the Committee
1	Project Adviser, MoC	Chairman
2	Director CRD, CMPDI	Member
3	Representative of GSI: Director level	Member
4	HOD Geology, NLCIL	Member
5	GM Exploration, CMPDI	Member Secretary

4.2 Introduction of 2D/3D Seismic Technology for Coal Exploration:

It has been planned by Ministry of Coal to enhance the pace of exploration of coal & lignite by suitably incorporating geophysical surveys in the exploration program under detailed exploration and to take up large demarcated area for surface and sub-surface exploration to know the possible occurrence of feasible resources under regional exploration / promotional exploration using geophysical techniques.

4.2.1 Based on study done by CMPDI, drilling 2-3 bore holes with 2D and 3D seismic survey will be sufficient to establish the coal resources for auction of Mining lease. This will not only save huge government spending on detailed drilling in non CIL blocks but also fast track the exploration program thus reducing the time required for operationalization of coal blocks.

4.2.2 Further, for grant of PL cum ML license, geophysical surveys coupled with 1 bore hole per sq km should be required for allocation of blocks. The exploration program of such blocks can then be decided by a committee that may be constituted by CGPB as mentioned in separate agenda.

4.2.3 CMPDI studies have highlighted many advantages. As per report, introduction of technology will reduce exploration cost per sq.km. by about 20% less than conventional exploration involving drilling and pace of exploration being substantially faster.

(a) The advantages of 2D/3D seismic survey in coal exploration are time & cost effectiveness, borehole optimization, better structure delineation of entire block, data control at every 5m/10m, lay & disposition of coal seams, exact demarcation of fault positions, integration with other geophysical methods i.e. magnetic, resistivity, can fetch further information in case of intrusions as dyke, sills etc.

(b) There are limitations of 2D/3D seismic survey in coal exploration i.e. delineation of thin seams & bands, resource estimation limited to resolvable bed thickness, no quality information, depth of coal seams vs resolution. However, quality information will be supplemented by 1 borehole that are planned along with 2D/3D seismic survey.

5. Ministry of Coal on12.5.2021 has requested Ministry of Mines to amend ISP 2017 so that the reforms taken by Ministry of Coal can be implemented on ground.

6. Timelines: Ministry of Mines will be requested to get the meeting of CGPB-V convened by June 2021 and ISP to be modified by September 2021. This will facilitate introduction of technology at G1 level (detailed drilling) and streamline the process of approval of GR specially in case of PL cum ML auction of coal blocks.

4. Coal Beneficiation

- CIL has planned for enhancement of washing of coal including non-coking Coal in order to improve the coal quality by reducing ash % and improving the grade of Coal. It has been decided to set up 12 washeries which includes 03 non -coking coal washeries in MCL. There are five new Coking Coal washeries proposed to be constructed in CCL [02 in Phase-I and 03 in phase-II]. There are 04 new coking coal washeries in different stage of construction in BCCL. The total feed capacity to proposed new washeries is 60 million tonnes [Total 30 MTPA of 9 coking coal washeries and 30 MTPA of 03 non coking coal washeries], as per the details below-

Sl. No.	Name	Capacity in MTPA	Company	Remarks
1.	Madhuband	5.00	BCCL	Under construction
2.	Bhojudih	2.00	BCCL	
3.	Patherdih	2.5	BCCL	
4.	Moonidih	2.5	BCCL	Retendered
5.	Basantpur-Tapin	4.0	CCL	Phase I
6.	New Kathara Washery	3.0	CCL	Phase I
7.	New Rajrappa	3.0	CCL	Phase II
8.	Karo	5.0*	CCL	Phase II
9.	Topa	3.0*	CCL	Phase II
Above are Coking coal washeries while given below are non-coking				
10.	IB valley	10.00	MCL	
11.	Hingula	10.00	MCL	
12.	Jagannathpur	10.00	MCL	

*Capacity may be revised according to demand and availability of coal

To ensure improvement of quality of the washed coking coal at the delivery end, efforts are required in four stages: -

- Thrust on UG Coal Mining to supply consistent quality of Raw Coking Coal for more consistent operation of washery - The quality of washed coal produced by the old Moonidih Washery is superior than other washeries because U/G provides consistent quality of coal to Moonidih Washery whereas other old washeries are fed primarily with coal from Open Cast Mines with wider variation in quality. BCCL has decided to go for Kapuria U/G Mining Project under MDO Mode integrated with washery even with IRR of 9.7% only.

- Ensure quality of Product during Production -
  - In order to ensure quality of product during production, on-stream ash analysers integrated with process control system need to be installed in the washery.
  - Newly commissioned Dahibari Washery has the system installed in the circuit. Other BOMO Washeries have also been designed incorporating on-stream ash analyzers integrated with process control system.
  - In case of old washeries, on-stream ash analyzers integrated with process control system have been incorporated in the renovation scheme/circuit.

- **Ensure quality of Product at the time of Loading -**
  - **To ensure quality of product at the loading end, minimum human interference is desired. Product of washing needs to be stored in Silos/Bunkers; and should be loaded onto wagons directly through belt conveyors/ rapid loading system.**
  - **Old washeries of BCCL were designed to load washery products from Bunkers only.**
  - **The new washeries have been designed to load products through rapid loading system.**
  - **3rd party sampling agency has been engaged to take sample from the wagons to assess the actual quality of products loaded onto wagons to ensure consumer satisfaction.**

- **Prevent adulteration during transportation/delivery end - Prevention of adulteration during transportation or unloading end is not in BCCL's control. However, it is understood that the SAIL Plants take appropriate measures to minimize human intervention in the process of unloading and subsequent transport to their plant.**

19

5.Safety in coal mines

Government accords the highest importance on the enforcement of Safety measures in the coalmines and one of the main objectives in nationalizing the coal mines was to improve the safety in coal mines. In this regard, Government has constituted a Standing Committee on Safety in Coal Mines under the Chairmanship Minister of Coal with Secretary (Coal), Secretary (Labour),CMDs of coal companies, Director General of Mines Safety (DGMS) and representatives of Trade Unions as members and Joint Secretary In-charge (Safety), Ministry of Coal as Member-Secretary to supervise the enforcement of the safety provisions under Mines Act and Mines Regulation.

2.At the 45th Meeting of the Standing Committee on Safety held on 5.1.2021, it was noted that:

2.1 CIL's Accident Statistics at a glance-

Sl. No.	Parameters	2016	2017	2018	2019	2020
1	No. of fatal accidents	38	34	33	30	29
2	No. of fatalities	61	37	43	34	30
3.	No. of serious injuries	123	108	98	90	80

2.2 All accidents statistical parameters indicating safety status have been reducing consistently over a period of time. There were lowest fatalities (30) in 2020 since inception in 1975. Further, there were lowest serious injuries (80) in 2020 since inception in 1975.

3. In order to further improve mine safety, it has been decided to give special thrust to eliminate accidents due to top most 03 causes of last year. All coal companies have been advised to prepare measurable action points and to allocate adequate resources for execution of the said plan and devise monitoring mechanism. On 27.04.2021 all coal companies have been requested to provide action plan in this regard to his Ministry on priority basis.

4. The proposed Action Plan for giving special thrust to eliminate accidents due to top most 03 causes of the last year is as under-

Sl. No.	Parameters	Due date
1	Identification of major reasons for accidents in 2020	31.5.2021
2	Prepare measurable action points	7.6.2021
3	Allocation of adequate resources for execution of the said plan	15.6.2021
4	Devise monitoring mechanism	20.6.2021
5.	Submit the above information to this Ministry	25.6.2021

5. This Ministry will refer the above information to the High Level Expert Committee on Safety by end of this Month, which will closely monitor the action taken by coal companies in this regard and advise the coal companies for effective implementation.

6. Coking Coal Strategy

A. To finalize a Coking Coal Strategy and launch a Mission to explore, produce and beneficiate more coking coal to meet the demand.

B. In order to reduce the import of Coking Coal for metallurgical use for steel making, **Coking Coal Mission** has been set up at ministry level which is monitored by AS (Coal) for augmenting coking coal production and making available maximum quantity of metallurgical coal for steel making in the country. Two committees under AS (Coal) have been constituted for making suggestions on augmentation and consumption of domestic coking coal by the steel sector under Coking Coal Mission -

1. Inter-Ministerial Committee
2. Technical Advisory Group

The mandate of Inter-Ministerial Committee is as under-

- To suggest National Strategy to enhance Coking Coal and suggest road map to Projectized and explore more coking Coal
- To suggest R&D to beneficiate Coking Coal to reduce ash percentage with upgraded technology
- Methodology to increase the private sector to set up Coking Coal Washeries
- Examine the domestic coking coal and suggest competitive pricing strategy
- To suggest incentive to blast steel sector to redesign blast furnace
- Address Coking coal quality issue and suggest measures to improve coking coal

The mandate of the Technical Advisory Group is as under-

- To explore more exploration possibility in coking coal
- Coking coal possibilities in deep seated and sterilize coking coal
- Possibility of exploring coking coal with implementation of Jharia master plan
- Suggest methods to improve coking coal washing yield percentage
- Suggest methods to improve domestic coking coal blending percentage with import coking coal to use in blast furnace

4. Two meetings of Inter-Ministerial committee under Coking Coal Mission have already been held. The next meeting has been scheduled next month. One meeting of Technical advisory Group has also been held. Report /recommendations of the committee for coking coal mission will be submitted next month

5. In accordance with the final recommendations of the committee and its subsequent acceptance, a Road Map for augmentation and consumption of domestic coking coal by steel sector will be ready. Some suitable drastic action if required will be taken to fulfill the objective of optimum utilization of domestic coking coal production

6. By 2029-30 CIL has plans to set up nine no. of coking Coal washeries thus increasing the washing capacity to 44.63 million tonnes and washed coal production of 17.33 million tonnes in 2029-30 from 1.17million in 2020-21.

7. Two new washeries have been constructed in BCCL namely Dahibari (1.6 MT) and Patherdih (5.0 MT). With the construction of these two new washery and capacity feed, BCCL should be able to increase its washed coking coal production with improved quality.

8. BCCL has entered into agreement with TATA Steel for washing of one million tonne of coking coal which will further improve the figures for washed coal production. TATA Steel may increase the feed from BCCL from 1.0 MT to 1.5 MT.

9. Ministry of coal has a policy to encourage participation of Private party particularly steel sector for setting up washeries in order to meet the demand of coking coal with domestic production. There is thrust for Exploration of Coking Coal Blocks. More coking coal blocks are proposed to be included for Auction for allocation of Blocks to Steel sector to maximize the availability of coking coal.

7. Marketing reforms

Trading platform to be operationalized to ensure reduction in price of delivered coal. **7 Nos. of bids were received and after evaluation by the Consultancy Evaluation Committee, CRISIL Risk and Infrastructure Solutions Limited was declared as the successful bidder. Hon'ble Minister of Coal has approved for the engagement of the consultant for providing strategic and implementation management consulting services to assist the Ministry of Coal in the process of setting up Coal Trade Exchange. Letter of Award has been issued to CRISIL Risk and Infrastructure Solutions Limited.**

8. Coal pricing Reforms- Is envisioned through value addition and partnership with global players after complete decontrol of coal prices w.e.f. 01.01.2000, CIL fixes the basic prices of raw coking coal and non-coking coal produced by CIL and its subsidiaries. CIL has been asked to examine and provide inputs on 'GCV based pricing'. CIL on 25.05.2021 has informed that concept note/details is under preparation and the same has to be deliberated with competent authority before finalization.

9. Reforms in land acquisition:- A relook at models of compensation-annuity/upfront payments based on NPV.

- A presentation was made by AS(Coal) on “alternate model of tenancy land procurement i.e. lease on revenue sharing basis” at Chintan Shivir, Feb 2020. Comments of CIL, SCCL and NLCIL on this alternate model submitted to Hon’ble Minister of Coal.
- Hon’ble Minister advised if this can be made an optional mode of land acquisition and suggested that this topic may also be included as an Agenda Point for deliberation in the upcoming Chintan Shivir’.

10. Solar Power Projects

SOLAR PROJECTS UNDER COAL DIVERSIFICATION:

(A) Coal India Limited

1. Total Installed Solar Project Capacity at CIL and its subsidiaries is 5.312 MW.

2. Solar Power Projects of the capacity of 465.1 MW are in pipeline which includes 10.1 MW Rooftop and 455 MW Ground mounted Projects.

Summary for the Solar Projects in pipeline:

a. Solar Projects: All the Rooftop Projects of 10.1 MW capacity are scheduled to be completed within 2021-22.

b. Ground Mounted Projects:

DPR Prepared for -260 MW (06 Projects)
Tender Floated-95 MW (03 Projects)
Work Order issued –100 MW (01 Project)

3. The roadmap to become Net Zero Energy Company for CIL and subsidiary is as under:

Financial Year	2020-2021	2021-2022	2022-2023	2023-2024	Total
Capacity in MWp	6 (completed)	291	1500	1213	3000

(B) NLCIL

- NLCIL has installed the Renewable Energy Projects of capacity 1421 MW.
- NLCIL proposed to install 1000 MW Solar Power Projects under infrastructure plan.
- NLCIL also proposes to participate through JV with CIL (CLUVPL) in the SECI tender at Koppal Solar Park of capacity 1200 MW. SECI is expected to issue fresh tender with revised configuration and scope.
- CIL has sought permission of DPE through MOC for investment proposals beyond their 30% of net-worth.
- NLCIL proposes to participate in the following tenders:
- SOLAR CPSE Scheme Phase – II issued by IREDA- NLCIL has submitted bid for 510 MW.
- 1785 MW SECI Tender (Rajasthan Projects) Bid submission is due on 21st May 2021. NLCIL will be submitting the bids.
- 1200 MW Hybrid Solar Tender floated by SECI-Bid submission is due on 28.05.2021. NLCIL will be submitting the bids.
- Proposed CAPEX plan for Solar Projects under Formulation

Projects	2021-22	2022-23	2023-24
CIL JV- Solar (NLC Share-50%) (1200 MW)	846	1410	564
510 MW solar under CPSE Scheme	842	1403	561
Rajasthan Solar Projects	334	556	223
Total (Solar)	2022	3369	1348

Note: Subject to feasibility and bagging the tenders.

- In addition to the above, in line with directions from MNRE, NLCIL has proposed to set up Ultra Mega Renewable Power Park (UMREPP) with proposed capacity of 2000 MW by forming a JV company with TANGEDCO and PFCCL. MoU entered on November 2019 and respective JV partners Board approval for formation of JV Company is under consideration. TANGEDCO has floated Tender for purchase of land during February 2021 and the same is under process.

(C) Singareni Collieries Company Limited

- In Singareni Collieries Company Limited, the average annual electrical energy consumption is about 720 million units with recorded maximum demand of 130 to 140 MVA.
- SCCL Board approved in 2019 to install 300 MW solar power plants in vacant lands, overburden dumps, water reservoir at STPP and water reservoir at opencast mine in SCCL command area.
- So far, 152 MW solar power plants are commissioned and remaining will be commissioned by December 2021 in phased manner.
- SCCL is exploring the possibility of setting up another 350 MW Floating Solar PV Projects on the water surface area of I &CAD reservoirs, Lower Manair Dam, Telangana State.

11. Coal dispatch & Stocking

The coal requirement of power houses was projected and shared with CIL. The subsidiary wise distribution was also conveyed to CIL on 12.04.2021. On 27.04.2021, CIL agreed with the demand projections and submitted a plan of coal dispatch for power sector.

12. Coal Export in Neighboring Countries:

A proposed policy on export of coal to the neighboring countries was sent to Ministry of Coal by CIL.

CIL has been suggested that Special Spot e-auction / Spot e-auction windows of CIL may be used to sell coal for the purpose of export. Further, the coal which cannot be utilized / sold in the domestic market should only be exported. CIL can also participate in the tenders floated by the neighboring countries to export coal after meeting the domestic demand. Further, the traders / coal consumers of the neighboring countries can also participate in the Special Spot e-auction / Spot e-auction windows of CIL.

13. Strategy to boost coal production of mines allocated through auction.

To boost coal production of mines allocated through auction following steps are being considered:

a) **Enhancement in scope of PMU: Project Monitoring Unit (PMU) was launched in April' 2020 by Ministry of Coal for hand holding of coal block allottees for obtaining various approvals /clearances for early operationalization of 43 coal mines. KPMG was appointed as PMU and Agreement was executed on 05.06.2020. PMU also interacts with concerned Central & State Governments to facilitate grant of early clearances.**

   To bring this benefit to more no. of blocks and to secure large no. of clearances and to bring more no. of mines under production, all the remaining & recently allocated coal mines (37 mines) would also be brought under scope of PMU by enhancing scope of PMU.

b) **Amnesty scheme on surrender of coal blocks: To expedite production from allocated coal blocks and for ease of doing business, a scheme will be prepared to allow surrender of coal blocks to those allocattees where present allocattee is not in a position to develop the coal block due to technical reasons. This scheme will allow surrender of coal block without imposition of financial penalty or penalty on merit basis after examining the proposal by scrutiny committee. Coal blocks surrendered under this scheme will immediately be offered for auction for commercial mining for early operationalization of coal block.**

c) **Allow sale of excess coal through NLCIL and SCCL:**

To meet its coal production target, CIL is augmenting its coal production year by year and hence it would be difficult for CIL to sell excess coal of other coal mines besides its own coal. Some of the allocattee have also raised the issue of difficulty being faced for sale & dispatch of excess coal from their captive mine through CIL. To resolve this issue, allocattees of captive coal mines will be provided the additional option to sell excess coal through any PSE besides CIL on the same terms and conditions as mentioned in CMDPA/CBDPA.

d) **Allow sale of excess coal production:**

To meet the increased demand for coal in the country, a scheme is being formulated to allow allocatees to sale of coal upto 50% of produced after meeting its captive needs. The incentive to allocatees will spur them to produce more coal and sell in the market.

e) **Rolling auction:**

In order to expedite the process for conducting auction and to carry out more rounds of auction in a year, a mechanism of rolling auctions of coal mines has been planned. Under this mechanism, upon completion of the electronic auction process of a tranche (i.e. approximately 3-4 months from the launch of auction process), the next tranche of auction would be launched for following mines:

- Mines where no bid or only single bid was received in the previous tranche of auction (except for those mines where Ministry of Coal decides to go for second attempt of auction)
- New mines, if any, identified by Ministry of Coal

II Coal Transition & Sustainability

1. Social aspects of coal transition- *on the lines of National Foundation of India- study of coal transition on local communities.*

Sustainable Development Cell (SDC) is in the process of obtaining technical assistance of World Bank (WB) in aspects relating to mine closure with "just transition". One of the assistance areas of collaboration with World Bank is to address the social angle of mine closure with an aim to ensure that no one directly or indirectly dependent on coal mining activities loses his livelihood due to closure of mines and also the social infrastructures maintained by mines remain intact and functioning.

Activities for 2021-22

Sl.	Activity	Tentative timeline	Remarks
1.	Finalization of PPR in consultation of WB and submission of the same to DEA	15th July 2021	Subject to approval of Nodal officer by D EA for which application has already been made.
2.	Approval of DEA	September 2021	Approval process involves consultation with NITI Aayog, MoP and MoEFCC
3.	Start of the process of engagement with WB after completing all formalities	November 2021	Subject to approval of DEA as per estimated timelines
4.	Preparation of technical assistance report covering base line data, which will include social aspects associated with mine closure	December 2022	WB has communicated that this phase of assistance may take time ranging from 12-18 months

2. Monetization of de-coaled land[Re-purposing]

Mine closure success can be arbitrated by land resources status and restoration of ecological functions of region of mine closure. In process of mine closure planning, it is imperative that goals, objectives, and success criteria are clearly established to allow the mine closure to be undertaken in a systematic way, while realizing that these may require some modification later in light of the direction of the restoration succession of ecological functions and generation of business opportunities from the reclaimed land. Reclamation programs aim to repair and restore the disturbed land and return the land to its natural state.

The major steps that can be taken for the restoration of the mined land are as under:

1. Business Opportunities: - In order to get maximum return of monetization of the reclaimed land the installation of business oriented projects and clean energy projects like Solar Plant installation, Wind Turbines, Warehousing, letting out of land on lease basis to Thermal Power Plants, Railways etc. can be initiated. The alternative business model / scenario the eligible youth from local community can be imparted training to improve their skill for employment/ livelihood on new ventures like:-

I. Solar Plant installation, operation and its maintenance
II. Pisciculture
III. Horticulture
IV. Vermi-composting
V. Treatment & supply of mine water for drinking and irrigation
VI. Installation of small-scale water treatment plants as business opportunities

2 Ecological Restoration: Ecological restoration is a process of assisting the recovery of the structural and functional components of an ecosystem which has been destroyed or degraded due to various anthropological activities over a due course of time. This process includes establishment of a 3-tier forests which includes the floral components viz. Grasses, bushes and trees. This further leads to the restoration of various ecological components like food chain, habitat amelioration, degraded land productivity and most importantly act as carbon sink for atmospheric carbon by absorbing major GHG i.e. CO_2.

3 Developing such ecological sites in Ecotourism will help in community development by providing the alternate source of livelihood to local community which is more sustainable with an aim to conserve resources, especially biological diversity, and maintain sustainable use of resources, which can bring ecological experience to tourists, conserve the ecological environment and gain economic benefit.

4. Searching business opportunities for alternative use such as setting up of washeries and other business opportunities.

3. Use of Artificial Intelligence (AI) in data mining/drones

INTRODUCTION

Recognizing AI's potential to transform the economy and the need for India to strategize its approach, NITI Aayog established the National Program on AI in 2018-19 with a view to guiding the research and development in new and emerging technologies.

"*We are going to focus on a total of eight sectors — Coal, Minerals, Defense Production, Air Space Management and Airports, MROs, Power Distribution Companies, Space and Atomic Energy*." **-Nirmala Sitharaman, Finance Minister of India**

Hon'ble Finance Minister Nirmala Sitharaman, recently, listed down a few strategic sectors, which are a part of the Government's initiatives to boost the economy. Coal Mining Sector is one such sector.

NEED OF ARTIFICIAL INTELLIGENCE IN MINING

Volatile commodity prices—which continues to squeeze cash flow and put pressure on profitability;

Changing the nature of work—where changing demographics, the nature of jobs and perceptions of mining as a career choice are heightening the need to re-envision talent management;

Maturity of existing mines—leading to lower ore grades and longer haul distances;

Innovation barriers—where mining companies tend to be risk averse being outdated view and have an inclination to distrust collaboration due to IP and competition concerns.

BENEFITS

Faster decisions with enhanced efficiency: With mine operations requiring ever larger amounts of data processing, the majority of which is still collected manually or by visual inspection, using machine learning to deliver value by instantly collecting data and deriving on-site insightful decision factors has the potential to vastly streamline the workflow while reducing error in some cases by orders of magnitude.

Improved health and safety: AI is critical to improving health and safety conditions for frontline mineworkers, reducing their exposure to dangerous situations, and accelerating the shift in mining to be more "process, rather than people oriented.

Boosting accuracy through error elimination: Quickly deriving patterns from large amounts of data can drive accuracy by increasing the consistency and quality of work that typically is subjected to human error.

Smaller environmental footprint: Helping the mining industry reduce energy demand and decrease its environmental footprint.

AREAS WHERE ARTIFICIAL INTELLIGENCE CAN BE USED IN MINING

Mineral Exploration: Advancements in aerial imaging, along with drones, improve surveying, geological prospecting, and in ascertaining drill target areas. These emerging technologies enable to develop innovative exploration solutions and minimize risks such as involving a human workforce to access dangerous and unstable terrain.

Improve Mine Operations: Improving overall efficiency & economics of mine using AI. With the help of AI, machine learning, and autonomous technologies, the exposure of workers to dangerous underground and surface operations can be minimized. Machines can autonomously monitor the atmosphere, send signals and warnings, locate problematic areas and work continuously even in dangerous situations.

Self-Driving Haulers: Mines are heavy industry that actually makes them ideal place for the early commercial use of self-driving vehicles. Mine equipment and trucks tend to travel relatively slowly. They also operate in well-defined and highly controlled areas.

Autonomous Drills, Loaders, and Trains: Drilling system lets one remote operator control multiple drilling rigs to drill into the ground. Same concept is with automated loading also.

Behavior of Goaf using caving method. Using the data analytics to predict the roof fall in underground mines in advance. Periodic vetting of different type of data such as RMR ratings, size of pillars, movement of strata vertically and horizontally, magnitude and interval of different roof falls can be used to make system of prediction.

Prediction of Fly rocks in OC mines. By studying behavior of rocks in different type of blasting explosives, pattern of blasting, different rock qualities, delays detonators etc. we can develop a system of prediction to minimize fly rocks in opencast mines.

Location finder of Misfired Shots in Underground Mines. Data can be generated by blasting foreman who physically locate the misfire after every shot fired. Various type of data such as pattern of blasting, coal quality, area, location of misfire, RMR, explosives used etc. will be useful for data analytics to make a predictive model.

Haul road simulation/modeling: To find optimum route for better efficiency. As increase in depth of mine length of haul road increases as well as cost of diesel consumption and wear and tear of transport machinery. Therefore, with the help of Artificial intelligence using various type of data such as gradient of road, type of machines, length of lead we can develop a better efficient model to select optimum haul road.

Accumulation of Methane monitoring Sensor based on AI in Underground mines. Use of direct methane concentration values measured by a system of sensors located in the underground mines. Further AI systems can be developed to inspect the worksite ahead of workers by using robots and by collecting data from preinstalled monitoring stations. These stations can trigger alarms, give warning signals, and block the affected area to decrease further expansion of hazard.

HEMM predictive maintenance monitoring. Maintaining & monitoring of HEMM before breakdown occurs. Predictive maintenance focuses on failure events, therefore, it makes sense to start by collecting historical data about the machines' performance and maintenance records to form predictions about future failures. Usage history data is an important indicator of equipment condition.

Mine planning optimization automatic scheduling: Though there is a huge scope in AI utility in Mining space, it will give an idea to think for the dimension correctly. Mining methodology selection/ Equipment Selection as per the type of deposit/Cost-parameters/ geotechnical features/ etc. Most optimum pit selection uses the optimization and dynamic condition with many variable parameters with software/simulation. Gathering the data to work on right direction to increase HEMM utilization % by decreasing annual idle hours

Rescue of Trapped workers in mine. Use of robotics for rescuing trapped miners in underground and hazardous places where rescue teams cannot reach.

Simulator based training platform, where wearable sensors continuously monitor, generating data that is automatically analyzed to spot problematic behavioral trends and recommend highly-focused remedial training in a simulator-based environment. This enables mine managers to proactively respond to latent or emergent gaps in operator capabilities, optimizing training intervention to best match individual worker needs and ultimately raising the standards of operator performance across the entire workforce.

Latest generation of sensors to capture **real-time data to identify potential failure planes** on rock surfaces, using handheld hardware to analyze rock surfaces and providing the data to the user within minutes.

Image recognition used in **identifying the Mineral grades** reduces to negligible, the error rate compared to employees doing the work.

An effective and efficient mine ventilation system is one of the key issues for guaranteeing safe working conditions in underground mining operations. Therefore AI-enhanced **automatic adjustment of ventilation systems** using integrated process control assists with significant energy cost reductions.

Real time **material sizing** data throughout the mining process. Application of AI in enhancing the efficiency of material handling systems in coal and mineral processing and process metallurgy.

However, in Coal India Ltd. ERP is in initial stage of implementation and some of the above activities such as HEMM predictive maintenance, Mine Planning optimization etc. already may be covered under core functions of ERP such as Asset and plant maintenance, production and planning etc.

THE 4TH INDUSTRIAL REVOLUTION: HOW MINING COMPANIES AROUND THE WORLD ARE USING AI, MACHINE LEARNING AND ROBOTS:

Goldspot Discoveries Inc. Is a company that aims to make finding gold more of a science than art by using machine learning. Similarly, Goldcorp and IBM Watson are collaborating to use artificial intelligence to review all the geological info available to find better drilling locations for gold in Canada. These efforts to be more precise when finding areas to mine by using machine learning can help the mining industry be more profitable.

Rio Tinto had already been using autonomous haul trucks that can carry 350 tonnes and operate totally independently since 2008. These trucks have impacted the company's bottom line by reducing fuel use by 13 percent and are safer to operate.

Some companies have begun to use smart sorting machines that can sort the mined material based on whatever criteria a company wants. This work can lead to savings in fuel and energy during processing and reduce grade dilutions.

Rio Tinto's other initiative called data twinning. By creating a virtual model that is fed real-time data from the field, scenarios can be quickly tested, and operations and production can be optimized. This ability to test out decisions before they are implemented in a replica system leads to better outcomes and savings.

Internet of Things technology and sensors, mining equipment can be monitored and maintained before breakdowns occur. Sensors can monitor temperature, speed, and vibration on machines to take action transforming preventative maintenance into predictive maintenance. By assessing real-time data and analytics, mining operations can be safer for all involved. This adoption of this new tech requires reskilling the mine workers, and Rio Tinto is already taking steps by partnering with the Australian government and a vocational training provider to help fill the gap.

INITIATIVES OF CMPDI

Drone Technology: Equipped with LiDAR, Optical and Thermal Sensors. These drones will be used for:

- Volumetric measurement of Overburden Removal
- Monitoring of plantations/afforestation for assessment of their survival and growth.
- Mine closure monitoring
- Thermal mapping of mine fire zones.
- Generation of digital terrain models for mine operational planning.

Status of implementation of Drone Technology:

By CMPDI through its own drones	Though outsourced mode
• Two high end survey-grade drones have been procured from Centre for Aerospace Research (CASR), Chennai.	• CMPDI has taken action to hire services of Drones in subsidiaries of CIL. CMD CMPDI had written letter to all CMDs along with list of prospective application areas with a request to identify mines where these applications could be verified by Drones in August 2020.
• 1st Drone was delivered on 29th December 2020 and the 2nd drone has been delivered on 29th March2021.	• NCL: Suitable Areas identified; work order was issued to CMPDI to go ahead with the tender. Tender work was awarded in March 2021. DGCA has granted conditional exemption to fly Drones on NCL on 7th May 2021. The party is expected to finish the NCL job within 60 days.
• Conditional exemption has been obtained on 5th April 2021 from DGCA	• SECL: Tender will be floated soon. The Tender Document is already approved.
• CASR Chennai has to provide training to the CMPDI identified persons.	• WCL, ECL and CCL: Finalization of scope of work is going on. Tenders will be issued as soon as confirmations are received by the subsidiaries.
• Training deferred due COVID situation.	

Coal India Ltd. FY 21-22 Mine wise Plan for Drones:

Acquisition of Data for Land Reclamation and Mine Closure Monitoring
BCCL – 6 Mines (Block-II, Muraidih-Shatabdi, AKWMC, Amalgamated Sudamdih Patherdih, Gopalichuck, Dobari)
SECL – 4 mines (Rajnagar, Kanchan, Baraud, Chhal)
OBR Survey
BCCL – 6 Mines (East Ramnagar, Phularitand, Phularitand lefout patch B, ROCP, Jeenagora Patch F, Kankanee Patch c, Dhansar- Ena).
SECL – 4 mines (Rajnagar, Kanchan, Baraud, Chhal)

Remote Sensing: CMPDI is using Geospatial Technology and Remote Sensing regularly since 1989.
Satellite data based remote sensing studies for monitoring of Land Reclamations is done regularly since year 2008.
CMPDI also did studies related to mine fire in Damodar valley coalfields regularly based on satellite data from year 2012 to 2017.
CMPDI is leader is LiDAR technology also. Terrestrial LiDAR is being used for volumetric measurement for the first time in the country since year 2008.

CHALLENGES

Poor testing method to generate insight: Difficulty in gathering consistently high-quality data to train models and generate actionable insights.

Industry culture resistant to adopt AI: Leaders lacking a systemized approach to innovation and/or the communication expertise or departments to help embed AI in the corporate DNA.

Limited understanding of deployment of AI-related technology (operations and financial returns): Mining professionals see that while some solutions yield favorable test results, their implementation is complex. Similarly, implementation of AI related products impacts daily production and typically does not yield a return for shareholders immediately.

Lack of current capabilities to support AI: Needing to combine traditional mining skills with advanced technology skills, leaders must consider hiring more ambitious talent from the technology environment, thereby making creativity related processes more flexible and designing more inspiring work environments.

4. Sustainability (Net Zero Emissions)

4.1 Dust suppression Technologies must be explored

In addition to conventional dust suppression measures, following additional measures will be taken by coal/lignite PSUs during 2021-22 for suppression of dust and control of air pollution :

PSU	Dust suppression technologies						
	FMC Projects	Mist Sprayer	Fog Canon (Truck)	Fog Canon (Trolley)	Wheel washing	Mechanical Road sweeper	CAAQMS
	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.
CIL	6	17	44	53	16	33	28
SCCL	2	4	-	9	-	-	11
NLCIL	-	1	-	-	-	2	8
Grand Total	8	22	44	62	16	5	47

4.2 Carbon emissions be reduced by exploring carbon absorption technologies and use of LNG/electric mobility in HEMM and step to increase energy efficiency in mining to be taken up

Use of LNG in diesel driven HEMM to reduce carbon emission

- **MoC had issued a directive to all coal/lignite PSUs to explore the use of LNG in HEMMs and if required take the assistance of IOCL/GAIL.**
- **MCL has selected Bharatpur opencast mine for the use of LNG as a pilot project. Two 100T BEML dumpers are proposed to be retrofitted with LNG kits. Consent of M/s Cummins has been taken. GAIL has been approached for assistance and execution of pilot project.**
- **An MoU is likely to be signed by 31st July after joint visit of the site by CIL, GAIL and BEML . Subsequently activities for establishment of LNG infrastructure and retrofitting of LNG Kit will be taken up by GAIL with technical assistance of BEML. Pilot Project is likely to be completed by December 2021.**
- **Similar initiatives is to be taken in WCL, CCL and ECL.**

Energy efficiency measures

- Coal/lignite PSUs have been implementing several energy efficiency and energy conservation measures. The various planned energy efficiency measures for the year 2021-22 are as under:

PSU	Energy efficiency measures							
	Use of LED lights	Energy efficient AC	Super Fan	E-Vehicle	Efficient water heaters	Energy efficient motors for pumps	Auto-timer in street lights	Capacitor Bank
	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.	Nos.
CIL	62021	863	16156	200	386	171	763	-
SCCL	19800	893	11800	-	-	-	-	13
NLCIL	4200	20	500	-	-	2	10	20
Total	86021	1776	28456	200	386	173	773	33

4.3 Air quality should be monitored in mining areas (in a radius of ~ 5 kms)

- Number of CAAQMSs already in use by CIL, SCCL and NLCIL are 48, 8 and 10 respectively. Targets for installation of CAAQMS and other monitoring mechanisms in a radius of 5 kms from the mining areas for 2021-22 are as under:

Air quality monitoring Mechanism	CIL	SCCL	NLCIL	Total
CAAQMS	28	11	8	47
Online PM 10 analyser	40			40

4.4 Roadmap for attaining net Carbon neutrality be drawn up

- In the year 2013-14, a preliminary study to assess the carbon emission was carried out in Ashok & Piparwar mines of CCL. CMPDI submitted that about 28-30 Kgs of CO_2 equivalent was getting emitted for every ton of coal extracted and dispatched.
- CIL has envisaged to get a study done by CMPDI and draw a roadmap for carbon neutrality in CIL. The study will project the carbon footprint due to coal mining till 2040 and also suggest various measures to offset the carbon emission to achieve carbon neutrality.

Activities in 2021-22

Sl.	Activity	Tentative timeline	Remarks
1.	Approach note for the study	Prepared	
2.	Formats for collection of necessary data from CIL mines	Prepared and circulated	Timeline for submission of data is 15th July 2021
3.	Preparation of draft report	October 2021	Draft report to be circulated for comments of all stakeholders (Time line - 15 days)
4.	Completion of study and submission of final report	November, 2021	

III Institution building

Coal Controllers Organisation, Kolkata

1. Reforms in Coal Controllers Organization (CCO), Coal Mines Provident Fund Organization (CMPFO)

Reforms in Coal Controller's Organization

Coal Controller's Organization(CCO) is a subordinate office under Ministry of Coal and at present functioning from its Headquarter in Kolkata with seven (7) field offices located at Dhanbad, Ranchi, Nagpur, Bilaspur, Sambalpur, Asansol, and Kothagudem performing a variety of statutory as well as secretarial functions related to mining, conservation, development assistance and statistical analysis for effective management of the coal sector.

CCO has been assigned responsibilities of diverse nature that need to be rendered in a time bound and consistent manner but there are a few challenges faced during the execution of these activities. Subsequent paras highlight existing challenges in the ongoing work flow and suggest several reforms that would help in strengthening of Coal Controller's Organization and facilitate in the smooth execution of the tasks allotted to CCO.

1. **<u>Mine Opening and Mine Closure related Activities:</u>**

CCO grants permission for opening and re-opening of coal mines *(under Rule 9 of the Colliery Control Rules, 2004*), provides approval of mining plans and monitors the implementation of approved Mine Closure Plan. Follow up on submission of mine closure plans, signing of Escrow Account under the CMCD Amendment Rules 2011, maintenance of mine-wise accounts and disbursement to the mines takes a lot of time as the process presently is executed manually.

A web-based approach will accelerate the entire process. The Single Window Clearance System (SWCS) launched in Jan 2021 will deal with all the technical matters like opening of mine, claims, and matters related to mine closure activity of the mines etc.

2. Gradation Exercise:

- CCO looks after the quality assurance under Colliery Control Rules, 2004 and annual gradation process of the coal mines. It also addresses issues related to the complaints on quality that are pending between coal companies and consumers. In case of any dispute among the parties, CCO acts as appellate authority to resolve the matter.
- A dedicated quality portal for mine wise annual coal grade declaration may be available on CCO's website. The same shall be auto updated from respective regions along with the certificate pertaining such as GCV, Grade, Ash percentage etc. so that mine wise/seam/siding wise dispatch quality information may be available in public domain.

3. Requirement of Technical Experts:

- CCO used to prepare the status report of mining operations for all public and captive coal mines in regards to their compliance with the parameters and milestones of the approved mining plan till 2015. This is now being handled/controlled by Nominated Authority of MoC. CCO's role has become pivotal and would require deeper involvement as eyes and ears of MoC in monitoring the mines with the recently passed acts by Parliament such as Mineral laws (Amendment) Act 2020, Mines and Minerals Development and Regulation Act, 1957 and amendment of the Coal Mines (Special Provisions) Act 2015 for facilitating commercial mining and monitoring of commercial blocks. Thus, there is an urgent requirement of filling up all the technical/group A posts of CCO. The capacity of OSD must be replaced with Technical Officers of Govt. of India.
- Instead of depending on CIL/SCCL, CCO should be developed as an independent technical organization to regulate and monitor coal sector on its behalf. Although CCO lacks the capability to do this work at present, required technical personnel can be brought on deputation/ absorption basis to put necessary systems and procedures in place as well as to train new recruits of CCO to independently handle the assigned work etc.

4. Washery:

- Currently, CCO provides approval for disposal of washery rejects of captive mines(as per 5.7.3 CM(SP)Act 2015 and CBA Rules 8(ii) 2017) and respective data from washery returns are stored and compiled. has the system for obtaining approval from CCO originates from tender /allotment documents under CM(SP)Act 2015 and CBA Rules 2017, a call needs to be taken in view of the policy changes that have happened after promulgation of aforementioned acts:
- Policy to allow captive mines to sell 50%of coal produced after meeting its own requirement
- MoEFCC Notification S.O.1561(E) dated May 21, 2020
- Launch of auction for commercial mining

5. Statistics:

- The section works as a national repository of all data/information related to coal. In order to fetch the data, a schedule is shared with all the mines/washeries /different bodies on a monthly/ annual basis who fill up the respective schedules and share it back with CCO. The schedules, thus received are scrutinized, arranged, compiled in a revised format and post this they are arranged in the form of the required tables for usage. The major problem that is being faced in the process is non receipt of data in a timely manner. Since, the data is collected from the ground level, continuous correspondence is made over telephone and mails, which takes up most of the time. The data received is also erroneous at times and repeated discussions are then made with the concerned person to check on the data sanity. Hence, the timely daily/monthly/quarterly/annual basis as required directly on a statistics portal specifically developed for this purpose. This will greatly reduce manpower of Statistics personnel who can be more fruitfully engaged in data analytics for better quality data input to the decision makers. However, since the data that is required is complex in nature, arrangement of necessary training and inspection need to be made regularly in case of inconsistent data as well as to ensure quality data.

6. Star Rating:

- Star Rating of all Coal/Lignite Mines of India is being done by CCO. A web based postal has been circulated to all the mine owners whereby they would rate themselves and the entire process is being digitalized for smoother and faster execution of the task. Also, some of the parameters of the Star Rating need to be revised keeping in mind the overall carbon foot print and environmental impact. The intention is to inculcate healthy competition among the mines by providing incentives to mines who keep a track of their carbon footprint and take extra efforts for environmental conservation.
- Also, in order to ensure the implementation of Star Rating Policy of Coal Mines, CCO needs to take up large number of inspections of coal mines annually to validate self-evaluation of various factors related to the different modules as devised. The desired number of inspections is not possible due to man power shortage in the field. Hence, the inspection of these mines may be outsourced as this would ensure unbiased and timely result as the people involved in inspection would be working independently.

7. IT System:

- There is a need for separate IT cell that will manage in house requirement and interact with NIC/Vendor as majority of the functions are being / proposed to be automated. With the growing need of IT services, CCO is required to have a dedicated and advanced IT team to look after all the IT related matters like, e-office, cloud, VPN, minor up gradation/changes in the source code of any module (based on any immediate requirement) etc. CCO is presently having solitary hired manpower in the form of DBA to look after IT aspects.

8. Requirement of Legal Section:

- It is felt that with increase in its responsibilities, CCO will need to deal with legal cases in increasing numbers and hence a separate legal section may be envisaged to monitor, coordinate, brief and interact with the empanelled lawyers while dealing with the cases.

9. Strengthening of Regional Offices:

- There are seven regional offices of CCO; apart from Dhanbad, none of the regional office is having any govt officials. All the offices are run by officials from CIL/SCCL that have been taken on loan basis. The proper co-ordination, scrutinization of claims, verification of grades of seams etc are done by CIL personnel only, on behalf of Govt. officers. Further, Northern Coalfields Limited or the mines of UP/MP in command area of NCL are being managed by Ranchi Office. There is a need to open a new office in northern area for catering the mines located in the Singrauli Basin of NCL command area and lignite mines of Gujarat and Rajasthan.
- Further M/o Coal has assigned the task/activities of approval of mining plan to be carried out at New Delhi by opening of a new office at New Delhi. Hence, a new office may be opened at New Delhi which will cater to aforementioned activities besides dealing with other technical aspects.
- **Summary:**
- CCO will need to reorganize the work and use the modern technology/ automation to the fullest extent. This may include online mechanism for Mine Plan Approval, online training, implementation of E-Office, creation of portal for online approval/sanctions by CCO, portal for collection/compilation/analysis of all the statistical data relating to coal sector etc. Dependance on CIL/SCCL need to minimized for unbiased and transparent work flow in the decision making and overall execution of different mining related tasks. Recruitment of technical experts (Group A officers) should be given utmost priority who can provide guidance and help in transforming and upgrading CCO.

2. Upgrading Coal testing labs

CIL has been directed to undertake action for upgrading all its laboratories to NABL accredited laboratories. CIL has also been directed to take action for implementation of NABL accreditation of Third party Sampling Agencies on appropriate platform.

3. Staffing quality and training issues

Establishment Section on 07.05.2021 has requested CMD, CIL to furnish ATR on comprehensive review of training issues under Institutional Building Agenda for 2021 - 22 i.e. Staffing quality and training issues, with clearly set timelines immediately to this Section and thereafter on monthly basis. The same has to be completed by 31st July 2021.

IV Futuristic Agenda

Agenda for the Year 2021-22

1. Coal to Chemical

Status on Coal to Chemical: Syn Gas, Hydrogen Gas

Coal gasification can be utilized in producing Synthetic Natural Gas (SNG), energy fuel (methanol & ethanol), production of urea for fertilizers and production of Chemicals such as Acetic Acid, Methyl Acetate, Acetic Anhydrite, DME, Ethylene and Propylene. In order to achieve gasification of 100 MT of coal by 2030, Ministry of Coal has formulated a policy wherein, a provision has been made for 20% rebate in revenue share for all future commercial coal block auctions for the coal used for gasification purpose provided the coal quantity used for gasification is at least 10% of total coal production. Further, Steering Committee under the Chairmanship of Member, NITI Aayog has been constituted to oversee the program and taking policy decisions and implementation committee involving all industry stake holders under the chairmanship of Additional Secretary, Ministry of Coal to take up and monitor progress of such projects. Surface Coal Gasification on a large commercial scale is new to India.

Therefore, Coal India Limited (CIL) has taken up several clean coal initiatives through Surface Coal Gasification (SCG) route which are under different stages of execution.

The details of these initiatives are given below:

In Phase-I

CIL has planned to set up two gasification projects on pilot basis the details of these plants are given below:

(A) Coal to Urea Project at Talcher (Odisha) through Talcher Fertilizers Limited (TFL),

A Joint Venture company of CIL, GAIL, Rashtriya Chemicals & Fertilizers (RCF) and The Fertilizer Corporation of India Limited(FCIL). Talcher Fertiliser Limited comes under the administrative control of Department of Chemicals and Fertilisers. Coal Gasification based on high ash coal mixed with pet coke. Investment: Rs. 13277 cr. CIL, RCF and GAIL are equity partners (28%) and project will be financed through loan (72%) from banks. Coal Source: 2.5 MT North of Arkapal block in Odisha allocated to TFL for providing coal and pet coke will be sourced from Talcher refinery. Present Status: Based on the discovered L-1 prices of two LSTK tenders, DFR was prepared by M/s PDIL in July-2019, wherein the Project Cost was estimated as Rs. 13,277.21 crores. This excludes the costs towards investment in Captive Mining Project. The two LSTK works were awarded to M/s Wuhuan, China in Sept-2019. Currently under construction stage - Commissioning expected in FY 2024-25.

(B) Coal to Methanol project at Dankuni Coal Complex:

Status of Pre-Project Activities:

Hydro-geological ground water study and Hydrographic survey work: Collection of Hydrometeorological data is in progress.

Study for EIA: M/s PDIL has awarded the Work to M/s Vardan Environment on 31.12.2021 for conducting EIA study leading to grant of Environment Clearance which is under progress. Status of tendering activities: Tender document for selection of Build-Own-Operator (BOO) Processor for setting up of this plant and its operation for 25 years has been prepared by M/s PDIL and the tender has been floated by M/s PDIL on 25th Sept. 2020. The Pre-Bid meetings held on 5th, 6th & 9th November, 2020. Replies of Pre Bid queries have been uploaded on 10.02.2021 on CPP portal. Bid has been opened on 16.04.2021 and one bidder (M/s Prodair Air Products India Pvt. Ltd.) has submitted their offer. Evaluation is under progress.

In Phase-II (Projects where Feasibility Studies are under progress):

- **Coal-to-Chemicals Plants at CCL, ECL, SECL and WCL to utilize around 6.0 MTPA coal for gasification and subsequent production of downstream chemicals. a. Draft Peer Review of PFRs of CCL, ECL and SECL have been submitted by M/s Deloitte to CIL on 30.04.2021. The Draft Peer Reviews have been sent by CIL on 30.04.2021 to respective subsidiary companies and M/s PDIL with a request to get the Draft Peer Reviews as well as the PFRs finalized by M/s PDIL in consultation with M/s Delloite. M/s PDIL has been requested to expedite finalization of PFRs.**

- **Decision on the approval of PFRs of SECL, CCL and ECL will be made by concerned subsidiaries subject to the receipt of Final PFRs.**

- **For WCL Project, PFR is being revised due to the change in location and the revised PFR will be submitted by May 15, 2021. The end product for WCL Project has been changed to Ammonium Nitrate instead of Methanol.**

2. CIL must diversify its business and must explore prospects in sunrise industries electric charging pods, EVs etc.

CIL has plan to diversify considering the future restriction on carbon emission which is inevitable. CIL has chosen new business area for diversification where carbon emission is minimum. The following business areas for diversification have been considered-

A. Solar Wafer Manufacturing
B. Solar Power Generation
C. Surface Coal Gasification
D. Coal Bed Methane
E. Greenfield Aluminum Project and Integrated Thermal Power plant
F. Brown field Aluminum Project: JV with NALCO

Details of each area are as under-

A. **Solar Wafer Manufacturing:**

- 45000 TPA Polysilicon required for 10 GW Modules
- SPV to be incorporated by CIL
- SPV would seek private partners after reaching critical phase
- Bid may be on lines of UMPP model, where CIL will retain 26% equity stake
- Estimated investment of INR 26000 crore polysilicon wafer
- INR 19422 crore for TPP

B. Solar Power Generation:

- CIL has set a target to establish 3 GW of solar PV projects by FY 24 to become self-reliant in electricity
- 14 rooftop and small solar projects with aggregate capacity of 411 MW and estimated investment of INR 1778 Cr
- MoU executed with EESL on energy efficiency
- 11 solar PV EPC-cum-O&M Contractors empaneled
- Work Order issued by CCL for 20 MW project
- NCL is in the process of executing 50 MW project
- BCCL issued an NIT for 25MW project
- MCL approved DPR for 50 MW project
- 10 MW Rooftop Projects of subsidiaries in various stages of execution
- 1 mega SPV project with 1000 MW capacity @ INR 4000 Cr investment to be set up by CIL & NLCIL

C. Surface Coal Gasification:

- CIL-Dankuni- 1.5 MTPA Surface Coal gasification Project; End Product Methanol- It was tendered and bid opened on 16.04.21 which is under scrutiny. INR 4000 Cr investment expected.
- 4 projects of surface coal gasification with different end product with total estimated investment of INR 26,792 Cr on BOO basis at CCL, ECL, WCL, SECL coal mine pit-heads

D. Coal Bed Methane:

- 33 CBM Blocks already awarded with 1767 BCM estimated resource (MoPNG)
- 3735 MMSCM cumulative production till March 2020
- CBM projects proposed in 3 states, Jharkhand, West Bengal and Chhattisgarh

E. Greenfield Aluminum Project and Integrated Thermal Power plant:

Site specific is underway for locating the proposed greenfield Project of Aluminum with TPP

- **Integrated Mine- 1 MTPA Refinery-0.5 MTPA Smelter**
- **1600 MW TPP**
- **SPV to be promoted by CIL**
- **SPV would be off-loaded after reaching critical phase**
- **Bid may be on UMPP model, where CIL will retain 26% equity stake**

Proposed investment –

- **INR 26200 crore refinery and smelter**
- **INR 12000 crore TPP**

F. Brown field Aluminum Project: JV with NALCO:

- **INR 23,363 Cr investment**
- **3 MT Bauxite mining; 1 MTPA Alumina**
- **0.5 MTPA Aluminum**
- **1600 MW TPP**
- **CIL & NALCO to jointly set up the smelter at estimated investment of INR 12,000 Cr**
- **CIL to set up the TPP at estimated investment of INR 11,363 Cr**

3. Robust media campaign is needed for perception management in coal sector

Draft Media Plan circulated to CIL & subsidiaries discussed in a VC meeting with coal companies on 17th May 2021 by JS(Coordn) along with Shri R.R. Mishra, Senior Advisor, SDC. Plans submitted by subsidiaries & CIL being finalized.

4. Close Monitoring of CSR activities

To be done with focused approach – template was circulated to all subsidiaries:-

CSR Monitoring and Review Proforma for Coal/Lignite Companies -Details pertaining to Coal India Ltd. & its subsidiaries is as below for FY 2021-22 [April]

FY 2021-22, Month: April 2021								Figures Subject to Audit Fig. in Rs. Crores
Name of coal company	Name of the State (in which CSR activities are undertaken)	Net Profit of company of previous year	Allocation of CSR Funds as per companies Act	Actual Allocation of CSR funds	Activity wise Expenditure/ Utilization of CSR Fund	Initiatives taken on fighting COVID Pandemic from CSR funds	Shortfall in meeting targets expenditure of allocated CSR funds and the reasons	Details of success rate in completion of CSR projects along with remarks, if any
1	2	3	4	5	6	7	8	9
ECL	Jharkhand, West Bengal	-1100.00	12.27	16.19	Furnished in Annexure B	Furnished in Annexure C	Not applicable as FY is in progress	Not applicable as FY is in progress
BCCL	Jharkhand	Will be known after completion of audit of accounts	0.00	4.94			Not applicable as FY is in progress	Not applicable as FY is in progress
CCL	Jharkhand	Will be known after completion of audit of accounts	47.67	47.67			Not applicable as FY is in progress	Not applicable as FY is in progress
WCL	Madhya Pradesh, Maharashtra	Will be known after completion of audit of accounts	1.08	10.05			Not applicable as FY is in progress	Not applicable as FY is in progress
SECL	Chattisgarh, Madhya Pradesh	Will be known after completion of audit of accounts	65.00	65.00			Not applicable as FY is in progress	Not applicable as FY is in progress

FY 2021-22, Month: April 2021								Figures Subject to Audit Fig. in Rs. Crores
Name of coal company	Name of the State (in which CSR activities are undertaken)	Net Profit of company of previous year	Allocation of CSR Funds as per companies act	Actual Allocation of CSR funds	Activity wise Expenditure / Utilization of CSR Fund	Initiatives taken on fighting COVID Pandemic from CSR funds	Shortfall in meeting targets expenditure of allocated CSR funds and the reasons	Details of success rate in completion of CSR projects along with remarks, if any
1	2	3	4	5	6	7	8	9
NCL	Madhya Pradesh, Uttar Pradesh	6267.78	132.75	132.75	Furnished in Annexure B	Furnished in Annexure C	Not applicable as FY is in progress	Not applicable as FY is in progress
MCL	Odisha	9081.11	181.62	181.62			Not applicable as FY is in progress	Not applicable as FY is in progress
CMPDIL	Chattisgarh, Jharkhand, Madhya Pradesh, Maharashtra, Odisha, West Bengal (CMPDIL has a RI in each of these states)	Will be known after completion of audit of accounts	5.90	5.90			Not applicable as FY is in progress	Not applicable as FY is in progress
CIL (Incl. NEC)	Whole of India	Will be known after completion of audit of accounts	10.00	105.31			Not applicable as FY is in progress	Not applicable as FY is in progress
TOTAL			456.29	569.43				
Remarks	1. State wise expenditure furnished in Annexure A 2. As per Companies Act. 2013, average of last 3 FY of Profit Before Tax (PBT) is used for calculation of CSR Budget in case of subsidiaries and average of last 3 FY of PBT less Dividend is used in case of CIL.							

Annexure A: State wise CSR Exp. by CIL and Subsidiaries												
FY 2021-22 Month: April 2021	Figures Subject to Audit										Fig. in Rs. Crores	
Company	Assam	Chattisgarh	Jharkhand	Madhya Pradesh	Maharashtra	Odisha	Uttar Pradesh	West Bengal	Himachal Pradesh	Bihar	PAN India/ Depository Basis Works/ Admin. Exp.	TOTAL
ECL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.07
BCCL	0.00	0.00	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
CCL	0.00	0.00	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.98
WCL	0.00	0.00	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
SECL	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.10
NCL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MCL	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.07
CMPDIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CIL (Incl. NEC)	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.00	1.00	0.25	2.00	4.12
TOTAL	0.00	1.10	7.10	0.50	0.00	0.07	0.00	0.07	1.00	0.25	2.00	12.09

Annexure B: Activity wise CSR Exp. by CIL and Subsidiaries													
FY 2021-22 Month: April 2021		Figures Subject to Audit									Fig. in Rs. Crores		
Company	Nutrition, Health and Sanitisation	Education and Livelihood	Empowerment,Welfare and Social Inclusion	Environmental Sustainability	Promtion of Art & Culture and Conservation of National Heritage	Welfare of Armed Forces	Promotion of Sports	Contribution to National Relief Fund	Contribution to Incubators, research institutions	Rural Development	Slum Area Development	Disaster Management and Relief	TOTAL
ECL	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07
BCCL	1.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.25
CCL	4.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.98
WCL	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.50
SECL	1.04	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	1.10
NCL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MCL	0.04	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.07
CMPDIL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CIL (Incl. NEC)	2.90	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.12
TOTAL	10.71	1.22	0.07	0.00	0.02	0.06	0.01	0.00	0.00	0.00	0.00	0.00	12.09

Annexure C - New CSR initiatives in April 2021 (FY 2021-22) to combat COVID – 19		
S. No.	**Company**	**Activity Details**
1	CIL	Financial assistance of Rs. 40.00 lakhs (1st installment, Total project cost: Rs. 98.88 lakhs) for improvement of infrastructure in District Hospital, Simdega, Jharkhand for tackling COVID-19 related challenges
2	CIL	Financial assistance of Rs. 50.00 lakhs (1st installment, Total project cost: Rs. 134.50 lakhs) to Birsa Seva Prakalp for purchase of oxygen concentrators and other equipment for COVID-19 medical aid centers at various places in Bihar and Jharkhand
3	WCL	Financial Assistance of Rs. 25.00 lakhs each to District Administration of Betul and Chhindwara in Madhya Pradesh towards Emergency Response for COVID-19 Pandemic
4	SECL	Financial assistance of Rs. 75.00 lakhs to District Administration of Korba, Chattisgarh to help fight COVID-19
5	CCL	Setting up of COVID containment centre at Ramgarh district, Jharkhand at a cost of Rs. 99.00 lakhs
6	CCL	Setting up ICU at Sadar hospital Latehar, Jharkhand at a cost of Rs. 95.00 lakhs
7	CCL	Setting up COVID Digital Care Centre cum Home Nursing centre at Bokaro district, Jharkhand at a cost of Rs. 99.00 lakhs
8	CCL	Installation of Intensive care medical equipment at Sadar Hospital, Chatra, Jharkhand at a cost of Rs. 95.00 lakhs
9	CCL	Procurement of medicines and medical equipment for COVID Hospital of Giridih, Jharkhand at a cost of Rs. 60.00 lakhs
10	CCL	Procurement of necessary medical equipment for management and Containment of COVID-19 in Palamu District, Jharkhand at a cost of Rs. 50.00 lakhs
11	MCL	Distribution of masks and sanitizer among villagers of peripheral areas in Odisha
12	MCL	Supplying water through water tankers for COVID-19 hospital and residential area at medical college in Talcher, Odisha
13	MCL	Operation of pumps, tarter and valves for residential building and hostel of COVID-19 Hospital at Talcher, Odisha
14	BCCL	Financial assistance of Rs. 1.00 cr. to District Administration, Dhanbad, Jharkhand for COVID-19 relief
15	BCCL	Financial assistance of Rs. 25.00 lakhs to Jharkhand State Disaster Mitigation Fund for procurement of home isolation kits for COVID-19 patients
Remarks: Most of the infrastructure created during FY 20-21 for fighting COVID-19 is serving during FY 21-22 also.		

ANNEXURE -1

Coal Company-wise FMC Projects

SCCL (03 Projects)							
S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender a ward	Date of Commissioning	Remarks
1	SRP OC CHP 3.50 MTPA	283.49		225.30		Commissioned on 13.01.2020	Capacity Utilization is 80%. Less capacity utilization is because of less coal production in 2019-20 due to Covid-19 pandemic.
2	JVR OC CHP 10 MTPA	1301.73		859	Tender awarded	Nov'21	
3	Naini Coal Mine 10 MTPA	800.29			2021-22	2023-24	No progress.

NLCIL (01 Project)							
S. No.	Name of the projects With capacity	Estimated C APEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender award	Date of Commissioning	Remarks
1	Talabira II & III OCP	664.52		44.8	Tender awarded	30.04.2022	20% work completed.

WCL (01 Project)							
S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender award	Date of Commissioning	Remarks
1	Dinesh OCP 8 MTPA	469.87	441	-	Tender Awarded	(O)31.12.2023 (RI) 31.03.2023	WO issued on 11.03.2021. Agreement with c ontractor will be signed by 20.05.2021

ECL (03 Project)							
S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual C APEX (Rs. Cr.)	Date of Tender award	Date of Commissio ning	Remarks
1	Sonepur BAZARI CHP-SILO 12 MTPA	289		277	Tender Awarded	(O)31.10.2020 (RI) 31.12.2020 (RII)30.06.2021	96% work completed
2	Rajmahal CHP-SILO 10 MTPA	252.7		-	Tender Awarded	(O)31.01.2023 (RI)31.03.2023	WO issued on 07.12.2020.
3	JhanjaraExp UG 5 MTPA	465 (including Rail siding)		50.91	Tender awarded	(O)28.02.2023	WO issued on 07.12.2020. Agreement signed on 17.02.2021

CCL (04 Project)

S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender award	Date of Commissioning	Remarks
1	North Urimari CHP-SILO 7.5 MTPA	298.26	280.91	-	Tender awarded	(O)31.03.2022 (RI)24.06.22 (RII)30.11.22 (RIII)18.02.2023	Site handover on 16.03.2021. Agreement signed on 17.03.2021.
2	Magadh CHP-SILO 20 MTPA	600.36	527.12	-	Tender awarded	(O)30.11.2023	LoA/WO issued on 07.01.2021.
3	Amrapali CHP-SIL0 12 MTPA	317.9	299.81	-	Tender awarded	(O)30.11.2023	Site to be handed over on 15.05.2021.
4	Konar OC CHP SILO 5 MTPA	239.78	193.55	-	Tender awarded	(O)12.06.2023	Site to be handed over on 30.06.2021.

NCL (09 Project)

S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender award	Date of Commissioning	Remarks
1	Krishnashila CHP-SILO 4 MTPA	175.95	175.95	144.92	Tender awarded	Commissioned on 21.01.2021	Capacity Utilization not given by NCL
2	Jayant OCP CHP SILO 15 MTPA	724.18	698	261	Tender awarded	(O)07.12.2021 (RI)11.01.2022 (RII)31.01.2022 (RIII)07.12.2021 (RIV)23.03.2022	
3	Block B Rail Connectivity	70.97	48.81	39.86	Tender awarded	(O)01.09.22 (RI)30.11.22 (RII)30.06.2021	Commissioned on 06.06.2021.
4	Block B OCP CHP SILO 4.5 MTPA	167.45	150.22	-	Tender awarded	(O)01.09.22 (RI)30.11.22 (RII)31.12.2022	Agreement signed on 05.01.2021.

NCL (09 Project)							
5	Bina kakri amalgamation 9.5 MTPA	524.39	-	-	(O)30.06.2021	(O)30.04.2023 (RI)30.06.2023	Re-tendered on 20.04.2021
6	Nigahi OCP CHP SILO 10 MTPA	585.15	-	-	(O)30.06.2021	(O)20.10.2021 (RI)28.04.2022 (RII)30.06.2023 (RIII)31.03.2023	Re-tendered on 13.04.2021.
7	Amlohri RLS Siding 5 MTPA	127.65	140.83	-	Tender awarded	(O)20.10.2021 (RI)28.04.22 (RII)31.10.22 (RIII)20.04.22 (RIV)30.09.2022	Site handed over to the contractor.
8	Dudichua OCP CHP SILO 10 MTPA	699.66	646	45	Tender awarded	(O)17.02.22 (RI)28.08.22 (RII)31.10.22	Construction work in progress
9	Dudichua OCP RLS siding 5 MTPA	59.74	62.34		Tender awarded	(O)20.10.2021 (RI)28.04.22 (RII)31.10.21 (RIII)30.06.2022	

SECL (09 Project)							
S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender award	Date of Commissioning	Remarks
1	Kusmunda Ph-I CHP 10 MTPA	89.96	92.2	92.2	Tender awarded	Commissioned	97% capacity utilization
2	Kusmunda Ph-II CHP SILO 40 MTPA	262.75	262.75	240.04	Tender awarded	(O)30.06.2020 (RI) 30.11.2020 (RII)30.06.2021	1 out of 4 SILO commissioned on 18.03.2021.
3	Gevra 5 & 6 OCP CHP SILO 30 MTPA	702.5	615.07		Tender awarded	(O)31.10.2022 (RI) 11.02.2023	Site hand over on 02.05.2021.
4	Gevra OCP RLS siding 20 MTPA	222.19	222.19		Tender awarded	(O)31.03.2022 (RI)31.05.22 (RII)31.03.22 (RIII)02.10.2022	Site handed over on 25.01.2021. Agreement signed on 02.02.2021.

SECL (09 Project)							
5	Dipka OCP RLS siding 25 MTPA	249.01	211.22	13	Tender awarded	(O)30.11.2022 (RI)31.01.2023	Agreement signed on 06.03.2021
6	Kusmunda Ph-III	625.9	544.59	-	Tender awarded	(O)31.01.2023 (RI)12.02.2023	Agreement signed on 10.02.2021
7	Chhal OCP CHP SILO 6 MTPA	159.61	173.46	-	Tender awarded	(O)31..03.2023	Agreement signed on 19.04.2021
8	Baroud CHP-SILO 10 MTPA	217.09	216.53	-	Tender awarded	(O)29.02.2024 (RI)31.12.2022 (RII)31.01.2023 (RIII)30.04.2023	Agreement to be signed on 15.05.2021.
9	Manikpur OCP CHP SILO 5 MTPA	210.48	170.51	-	Tender awarded	(O)30.09.2022 (RI)28.02.2023	Agreement to be signed on 15.05.2021

MCL (09 projects)

S. No.	Name of the projects with capacity	Estimated CAPEX (Rs in crore)	Awarded Value (Rs. Cr.)	Actual CAPEX (Rs. Cr.)	Date of Tender award	Date of Commissioning	Remarks
1	Lingaraj CHP SILO 16 MTPA	391	373	373	Tender awarded	Commissioned in Feb'20	25% capacity utilization
2	Bhubaneshwari Ph-I CHP SILO 10 MTPA	329.35	334.81	238.83	Tender awarded	(O)31.12.2020 (RI)30.03.2021 (RII)31.12.2021	96% construction completed
3	Bhubaneshwari Ph-II CHP SILO 15 MTPA	347.15	247.69	2.47	Tender awarded	(O)01.12.22 (RI)30.11.22 (RII)31.03.2023	WO issued on 20.01.2021
4	Hingula CHP SILO 10 MTPA	175.94	168.95	134	Tender awarded	(O)31.07.2021 (RI)30.06.2021 (RII)31.07.2021 (RIII)31.03.2022	56% construction completed
5	Lakhanpur BelpaharLilari OCP CHP SILO Ph-I 10 MTPA	309	309	10.21	Tender awarded	(O)30.09.22 (RI)31.12.21 (RII)31.07.22 (RIII)31.03.22 (RIV)31.03.2023	Site handed over on 27.10.2020

MCL (09 projects)							
6	Kaniha CHP-RLS 10MTPA	236.77	268.05	-	Tender awarded	(O)30.09.22 (RI)31.10.21 (RII)31.03.22 (RIII)31.05.2023	WO issued on 31.03.2021
7	Lajkua RLS siding 15 MTPA	314.19	285.05	0.61	Tender awarded	(O)28.022022 (RI)31.03.2023	WO issued on 20.01.2021
8	Sardega RLS siding 20 MTPA	404.87	311.69	-	Tender awarded	(O)28.02.2023	WO issued on 20.01.2021
9	Ananta CHP SILO 20 MTPA	528.97	278.48	-	Tender awarded	(O)14.02.2022 (RI)31.03.2022 (RII)31.05.2023	WO issued on 23.03.2021

ANNEXURE 2

EC status (Environment Clearance)

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Grant of EC	EC Status	Commencement of Coal Production
PROJECTS APPROVED AND IN PRODUCTION	1	AMADAND OC	SECL	Approved	Completed	EC Available	In Production
	2	Nakrakonda Kumardih B	ECL	Approved	Completed	EC Available	In Production
	3	Tilaboni	ECL	Approved	Completed	EC Available	In Production
	4	Parasea- Belbaid	ECL	Approved	Completed	EC Available	In Production
	5	Siduli	ECL	Approved	Completed	EC Available	In Production
	6	Jhanjra Exp	ECL	Approved	Completed	EC Available	In Production
	7	Chitra East OCP	ECL	Approved	Completed	EC Available	In Production
	8	Kumardih B	ECL	Approved	Completed	EC Available	In Production
	9	Shyamsunderpur	ECL	Approved	Completed	EC Available	In Production
	10	Mohanpur Exp	ECL	Approved	Completed	EC Available	In Production
	11	NTST OCP	BCCL	Approved	Completed	EC Available	In Production
	12	Moonidih XV seam	BCCL	Approved	Completed	EC Available	In Production
	13	Muraidih UG	BCCL	Approved	Completed	EC Available	In Production
	14	Sasti Expn OC	WCL	Approved	Completed	EC Available	In Production

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Grant of EC	EC Status	Commencement of Coal Production
PROJECTS APPROVED AND IN PRODUCTION	15	AMGAON	SECL	Approved	Completed	EC Available	In Production
	16	BAROUD EXPN OC	SECL	Approved	Completed	EC Available	In Production
	17	CHHAL OC	SECL	Approved	Completed	EC Available	In Production
	18	GEVRA OC	SECL	Approved	Completed	EC Available	In Production
	19	JAGANNATHPUR	SECL	Approved	Completed	EC Available	In Production
	20	JAMPALI OC	SECL	Approved	Completed	EC Available	In Production
	21	JHIRIA WEST OC	SECL	Approved	Completed	EC Available	2022-23
	22	KANCHAN OC	SECL	Approved	Completed	EC Available	In Production
	23	KUSMUNDA OC	SECL	Approved	Completed	EC Available	In Production
	24	MANIKPUR OC	SECL	Approved	Completed	EC Available	In Production
	25	RAMPUR BATURA OC	SECL	Approved	Completed	EC Available	2021-22
	26	SARAIPALI OC	SECL	Approved	Completed	EC Available	In Production
	27	Gopalji-Kaniha	MCL	Approved	Completed	EC Available	In Production
	28	Bhubaneswari Expn	MCL	Approved	Completed	EC Available	In Production
	29	Balram Expn	MCL	Approved	Completed	EC Available	In Production

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Grant of EC	EC Status	Commencement of Coal Production
PROJECTS APPROVED BUT NOT IN PRODUCTION	30	AMBIKA OC	SECL	Approved	Completed	EC Available	2021-22
	31	AMERA	SECL	Approved	Completed	EC Available	2022-23
	32	Talcher West	MCL	Approved	Completed	EC Available	2025-26
	33	Pichri OC	CCL	Approved	Completed	EC Available	2022-23
	34	Sayal D OC	CCL	Approved	Completed	EC Available	2021-22
	35	Hindegir OC	CCL	Approved	31-10-2022	Land Schedule under preparation	2022-23
	36	Tapin South Expansion	CCL	Approved	Completed	EC Available	2022-23
	37	Semaria OC	NCL	Approved	09-03-2022	Baseline data generation is being carried out by CMPDIL for preparation of Draft EIA-EMP.	2022-23
	38	Gauri-Pauni Expn OC	WCL	Approved	01-03-2022	PH documents/EMP under preparation.	2022-23

42	Bonjemehari	ECL	30-06-2021	Completed	EC Available	In Production
39	BINCARA	SECL	Approved	Completed	EC Available	2024-25
40	RAJNAGAR OC	SECL	Approved	Completed	EC Available	2021-22
41	VIJAY WEST	SECL	Approved	18-03-2024	Form-1 will be applied after registration of forest Land and Final DGPS survey.	2022-23
43	Nabakajora Madhabpur	ECL	31-07-2021	Completed	EC Available	Dropped due to technical issue.
44	Sonepur Bazari	ECL	31-08-2021	Completed	EC Available	In Production
45	Kalyaneshwari	BCCL	30-10-2021	Completed	EC Available	Dropped due to technical issue.
46	Argada OC	CCL	Not Approved	28-01-2022	ToR letter issued on 02.10.2020. Baseline data generation in Pre-monsoon 2021.	2023-24
47	Jeevan dhara OC	CCL	01-07-2021	10-08-2022	Land Schedule under preparation	2023-24

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Grant of EC	EC Status	Commencement of Coal Production
PROJECTS NOT YET APPROVED BY THE BOARD	48	Konda Hardola OC	WCL	Not Approved	01-08-2022	Application will be made after approval of PR	Unviable
	49	Gauri Central OC	WCL	Not Approved	13-12-2022	Application will be made after approval of PR	Unviable
	50	Kumbharkhani UG to OC	WCL	Approved	05-10-2022	PR will be put up for approval in upcoming board meeting of WCL. Name changed from Kumbarkhani UG to OC to Amalgamated Kumbharkhani Ghonsa OC	2023-24
	51	Chinchala Pisgaon OC	WCL	Not Approved	17-10-2022	PR under preparation.	Unviable
	52	Pimpalgaon Deep OC	WCL	Not Approved	17-10-2022	PR under preparation.	2023-24
	53	DAMINI OC	SECL	Not Approved	19-06-2023	PR under formulation.	2023-24
	54	Kulda-Garjanbahal Expn	MCL	Not Approved	Completed	EC Available	In Production

FC Status
(Forest Clearance)

PROJECTS APPROVED AND IN PRODUCTION

PROJECTS APPROVED AND IN PRODUCTION

1	AMADAND O C	SECL	Approved	NA	NA	No forest land involved.	In Production
2	Nakrakonda Kumardih B	ECL	Approved	NA	NA	No forest land involved.	In Production
3	Tilaboni	ECL	Approved	15.09.2022	06.04.2023	First Site inspection by DFO, Durgapur done on 03.03.2021. Reply of the EDS dat ed 12.03.2021 raised by DFO, Durgapur h as been uploaded in the PARIVESH portal on 23.04.2021.	In Production
4	Parasea-Belbaid	ECL	Approved	NA	NA	No forest land involved.	In Production
5	Siduli	ECL	Approved	NA	NA	No forest land involved.	In Production
6	Jhanjra Exp	ECL	Approved	Completed	Completed	Completed	In Production
7	Chitra East OCP	ECL	Approved	27.10.2022	18.05.2023	Authenticated land schedule is awaited from circle officer of balance land. 124.2 8 Ha Forest land is acquired.	In Production
8	Kumardih B	ECL	Approved	NA	NA	No forest land involved.	In Production
9	Shyamsunder pur	ECL	Approved	NA	NA	No forest land involved.	In Production
10	Mohanpur Exp	ECL	Approved	NA	NA	No forest land involved.	In Production
11	NTST OCP	BCCL	Approved	Completed	30.11.2021	NPV deposited for 4 Ha forest land formin g part of outside OB dumping site.	In Production
12	Moonidih XV seam	BCCL	Approved	NA	NA	CIMFR has conducted a study and suggested layout of panels in such a way that there is no subsidence on the surface due to exploitation of panels	In Production

PROJECTS APPROVED AND IN PRODUCTION

13	Muraidih UG	BCCL	Approved	NA	NA	Muraidih Colliery: Hard copy under preparation and certificate of unavailability of land records (as per C.S Khatian) from DC Dhanbad awaited.	In Production
14	Sasti Expn OC	WCL	Approved	NA	NA	No forest land involved.	In Production
15	AMGAON	SECL	Approved	Completed	Completed	FC-II granted	In Production
16	BAROUD EXPN OC	SECL	Approved	07-07-2021	26-01-2022	APCCF(LM), Raipur submitted the reply to CG State on 05.03.2021. CG State forwarded proposal to MoEF & CC vide letter dated 08.04.2021.(Stage-II FC)	In Production
17	CHHAL OC	SECL	Approved	25-08-2021	16-03-2022	CG , State forwarded the proposal to MoEF & CC on 09.04.2021. (Stage-I FC)	In Production
18	GEVRA OC	SECL	Approved	04-04-2022	24-10-2022	MoEF & CC raised query on 22.01.2021. Reply submitted to APCCF(LM), Raipur through DFO, Katghora & CCF, Bilaspur on 05.04.2021. (Stage-II FC)	In Production
19	JAGANNATHPUR	SECL	Approved	Completed	Completed	FC-II granted	In Production
20	JAMPALI OC	SECL	Approved	Completed	Completed	FC-II granted	In Production
21	JHIRIA WEST OC	SECL	Approved	27-07-2021	25-01-2022	MoEF &CC sought query on 27.08.2020. Hasdeo Area submitted reply to DFO, Anuppur on 26.11.2020. APCCF(LM), Bhopal sought revision for 330 Ha. CA land vide letter dated 17.12.2020.CA land identified in Shahdol, Scheme under preparation.	In Production
22	KANCHAN OC	SECL	Approved	Completed	30.10.2021	Compliance of Stage-I FC to be submitted to DFO (Stage-II FC)	In Production
23	KUSMUNDA OC	SECL	Approved	04-04-2022	24-10-2022	APCCF(LM) accepted the proposal on 15.02.2021 and sent on line to DFO for processing and to District Collector for FRA .	In Production

24	MANIKPUR OC	SECL	Approved	Completed	30.12.2021	Coal in the balance land of 237.44 Ha is at +300m depth as such mining will be planned and accordingly Possession will be taken in future	In Production
25	RAMPUR BATURA OC	SECL	Approved	26-09-2022	17-04-2023	Additional land quantum not yet finalised for submission of application.	In Production
26	SARAIPALI OC	SECL	Approved	Completed	Completed	FC-II granted	In Production
27	Gopalji-Kaniha	MCL	Approved	Not O btained	31-03-2023	Land Schedule under preparation.	In Production
28	Bhubaneswari Expn	MCL	Approved	25-04-2022	06-04-2023	DGPS of Forest patches: Approval of Estimate under process	In Production
29	Balram Expn	MCL	Approved	16-12-2021	07-07-2022	Form-A Part-1 submitted online on 02.12.2020. Allotment of 387.332 Ha for CA land on 12.01.2021. Gram Sabha For NOC under FRA is under process. Pillar posting completed for CA land. DGPS completed and report under preparation	In Production
PROJECTS APPROVED BUT NOT IN PRODUCTION							
30	AMBIKA OC	SECL	Approved	23-06-2021	22-12-2021	CG, State forwarded the proposal to RO , MoEF & CC, Raipur on 14.06.2021. (Stage-I FC)	2021-22
31	AMERA	SECL	Approved	Completed	Completed	FC-II granted	2021-22
32	Talcher West	MCL	Approved	NA	NA	NA	2025-26
33	Pichri OC	CCL	Approved	Not Obtained	01-08-2023	Forest Application will be made by Sep'21 and diversion will be obtained by Sept'23.	2021-22
34	Sayal D OC	CCL	Approved	Completed	Completed	Site handover is still awaited	2021-22

PROJECTS APPROVED BUT NOT IN PRODUCTION

35	Hindegir OC	CCL	Approved	27-07-2022	15-02-2023	Application to be made after preparation of land schedule. (Stage-I FC)	2022-23
36	Tapin South Expansion	CCL	Approved	15.06.2022	26-04-2023	FC application will be made only after authentication of land schedule.	2022-23
37	Semaria OC	NCL	Approved	30-08-2021	09-05-2022	Pending at DFO, Singrauli level for submission of reply to query raised by NO, MP on 05.02.2021.	2022-23
38	Gauri-Pauni Expn OC	WCL	Approved	NA	NA	No Forest Land involved as per PR.	2022-23
39	BINCARA	SECL	Approved	25-04-2022	06-04-2023	Pending for NOC under FRA	2024-25
40	RAJNAGAR OC	SECL	Approved	Completed	Completed	FC-II granted	2021-22
41	VIJAY WEST	SECL	Approved	Not Obtained	Not Obtained	Application for Forest Land will be submitted after notification of 7(i) of CBA and exact land quantum of forest land finalization.	2022-23

PROJECTS NOT YET APPROVED BY THE BOARD

42	Bonjemehari	ECL	30-06-2021	NA	NA	NA	In Production
43	Nabakajora Madhabpur	ECL	31-07-2021	NA	NA	NA	Dropped due to technical issue.
44	Sonepur Bazari	ECL	31-08-2021	Completed	Completed	FC-II granted	In Production
45	Kalyaneshwari	BCCL	30-10-2021	NA	NA	NA	Dropped due to technical issue.
46	Argada OC	CCL	Not Approved	Not Obtained	01-08-2022	After finalization of land schedule, application will be made	2023-24
47	Jeevan dhara OC	CCL	01-07-2021	12-08-2022	23-06-2023	FC Application to be submitted	2023-24
48	Konda Hardola OC	WCL	Not Approved	NA	NA	NA	Unviable
49	Gauri Central OC	WCL	Not Approved	NA	NA	NA	Unviable
50	Kumbharkhani UG to OC	WCL	Not Approved	NA (Phase-I)	NA (Phase-I)	NA	2023-24
51	Chinchala Pisgaon OC	WCL	Not Approved	NA	NA	NA	Unviable
52	Pimpalgaon Deep OC	WCL	Not Approved	NA	NA	NA	2023-24
53	DAMINI OC	SECL	Not Approved	27-07-2022	15-02-2023	Applied after Notification u/s 7 of CBA Act.	2023-24
54	Kulda-Garjanbahal Expn	MCL	Not Approved	Not Obtained	31-03-2024	PR under finalization. Application will be made after finalization of land schedule	In Production

Production start date and Capex incurred

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Commencement of Coal Production	Cumulative Total Expenditure Since Inception
PROJECTS APPROVED AND IN PRODUCTION	1	AMADAND OC	SECL	Approved	In Production	122.49
	2	Nakrakonda Kumardih B	ECL	Approved	In Production	12.62
	3	Tilaboni	ECL	Approved	In Production	0.61
	4	Parasea- Belbaid	ECL	Approved	In Production	0.03
	5	Siduli	ECL	Approved	In Production	1.89
	6	Jhanjra Exp	ECL	Approved	In Production	26.05
	7	Chitra East OCP	ECL	Approved	In Production	123.23
	8	Kumardih B	ECL	Approved	In Production	74.13
	9	Shyamsunderpur	ECL	Approved	In Production	1.83
	10	Mohanpur Exp	ECL	Approved	In Production	0.69
	11	NTST OCP	BCCL	Approved	In Production	5.87
	12	Moonidih XV seam	BCCL	Approved	In Production	461.54
	13	Muraidih UG	BCCL	Approved	In Production	23.47
	14	Sasti Expn OC	WCL	Approved	In Production	52.55

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Commencement of Coal Production	Cumulative Total Expenditure Since Inception
PROJECTS APPROVED AND IN PRODUCTION	15	AMGAON	SECL	Approved	In Production	142.31
	16	BAROUD EXPN OC	SECL	Approved	In Production	365.28
	17	CHHAL OC	SECL	Approved	In Production	152.8
	18	GEVRA OC	SECL	Approved	In Production	4,538.56
	19	JAGANNATHPUR	SECL	Approved	In Production	197.54
	20	JAMPALI OC	SECL	Approved	In Production	183.02
	21	JHIRIA WEST OC	SECL	Approved	In Production	-
	22	KANCHAN OC	SECL	Approved	In Production	65.19
	23	KUSMUNDA OC	SECL	Approved	In Production	2809.74
	24	MANIKPUR OC	SECL	Approved	In Production	209.86
	25	RAMPUR BATURA OC	SECL	Approved	In Production	220.79
	26	SARAIPALI OC	SECL	Approved	In Production	153.97
	27	Gopalji-Kaniha	MCL	Approved	In Production	920.81
	28	Bhubaneswari Expn	MCL	Approved	In Production	623.35
	29	Balram Expn	MCL	Approved	In Production	629.53

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Commencement of Coal Production	Cumulative Total Expenditure Since Inception
PROJECTS APPROVED BUT NOT IN PRODUCTION	30	AMBIKA OC	SECL	Approved	2021-22	29.0
	31	AMERA	SECL	Approved	2021-22	51.3
	32	Talcher West	MCL	Approved	2025-26	20.40
	33	Pichri OC	CCL	Approved	2021-22	-
	34	Sayal D OC	CCL	Approved	2021-22	-
	35	Hindegir OC	CCL	Approved	2022-23	-
	36	Tapin South Expansion	CCL	Approved	2022-23	17.14
	37	Semaria OC	NCL	Approved	2022-23	-
	38	Gauri-Pauni Expn OC	WCL	Approved	2022-23	48.04
	39	BINCARA	SECL	Approved	2024-25	2.5
	40	RAJNAGAR OC	SECL	Approved	2021-22	100.4
	41	VIJAY WEST	SECL	Approved	2022-23	-

	S. No.	Name of the Project	Subsidiary	Board Approval Status	Commencement of Coal Production	Cumulative Total Expenditure Since Inception
PROJECTS NOT YET APPROVED BY THE BOARD	42	Bonjemehari	ECL	30-06-2021	In Production	-
	43	Nabakajora Madhabpur	ECL	31-07-2021	In Production	-
	44	Sonepur Bazari	ECL	31-08-2021	In Production	177.1
	45	Kalyaneshwari	BCCL	30-10-2021	Subject to approval of PR	-
	46	Argada OC	CCL	Not Approved	2023-24	-
	47	Jeevan dhara OC	CCL	01-07-2021	2023-24	-
	48	Konda Hardola OC	WCL	Not Approved	Un viable	-
	49	Gauri Central OC	WCL	Not Approved	Un viable	-
	50	Kumbharkhani UG to OC	WCL	Not Approved	2023-24	-
	51	Chinchala Pisgaon OC	WCL	Not Approved	2023-24	-
	52	Pimpalgaon Deep OC	WCL	Not Approved	2023-24	-
	53	DAMINI OC	SECL	Not Approved	2023-24	-
	54	Kulda-Garjanbahal Expn	MCL	Not Approved	In Production	1,009.8

ANNEXURE -3

Details of 27 NRSC fire sites										
SL. NO	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Percentage completion	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
15 Economically Viable Patches										
11 NRSC Fire sites covered under 9 running patches										
1	8	Muraidih OCP	Barora	Amalgamated Muraidih Shatabdi OCP	Deptt. Project	0.0022	Project includes some forest land. After diversion of same it will be worked out within 5 years.			
2	9	Satabdi OCP				0.0361				
3	33	Industry	Kusunda	Ena Colliery	Ena DE Hired patch	0.0513	14.36	05.12.2017	7 Yrs 1 Month	Jan-25
4	46	Ena				0.0432				
5	48	N.Tisra	Lodna	NTST OCP	H-HEMM Patch B	0.1802	81.34	01.07.2015	9 Yrs	Jul-24
6	49	S. Tisra	Lodna	NTST OCP	Patch- F of Jeenagora Colliery (a part of NTST expansion Project)	0.3527	62.53	20.05.2015	5Yrs + 2 Yrs 8 Month exten.	Jan-23

Details of 27 NRSC fire sites										
SL. NO	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Percentage completion	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
15 Economically Viable Patches										
11 NRSC Fire sites covered under 9 running patches										
7	76	Alkusa	Kusunda	NGKC	Patch C	0.0294	10.14	Aug.2020	4 Yrs	Aug-24
8	30	Tetulmari	Katras	AKWMC	H-Tetulmari Patch	0.0220	3.45	19.11.2020	6 Yrs	Nov-26
9	6	Benidih OCP	Block -II	Benidih Patch	H -HEMM Benidih	0.0453	52.07	01.12.2019	3 Yrs 6 Month	Jun-23
10	7	Blolck II OCP	Block -II	ABOCP	H-HEMM New Benidih	0.1353	1.89	01.01.2021	6 Yrs	Jan-27
11	41	S. Jharia ROCP	Bastacolla	ROCP	ROCP Hired Patch	0.1118	31.67	08.05.2018	5 Yrs	May-23
Total						1.0095				

SL. NO	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Percentage completion	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
Patch Awarded-4										
12	21	Katras Choitidih	Katras	AGKCC	H-HEMM Patch B	0.1368		LOA issued on 31.07.2020. Work to be started by mid of June-21	5Yrs	Jun-26
13	40	Kujama	Lodna	Kujama	H-HEMM Patch G	0.2404		Work order issued on 13.04.2021. Work to be started by mid of June-21	7 Yrs	Jun-28
14	16	Phularitand	Barora	Amalgamated Muraidih Shatabdi OCP	Barwa Bera Patch	0.0205		LOA issued on 19.03.2021. Work to be started by mid of June-21	2 Yrs	Jun-23
15	69	Kankanee	Sijua	Kankanee	H-HEMM Patch D	0.0525		LOA issued on 19.03.2021. Work to be started by mid of June-21	7 Yrs	Jun-28
Total						0.4502				
						1.4597				

SL. No	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Project Life (Yrs.)	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
Economically Unviable Patches -12										
16	50	S.Tisra	Lodna	Joyrampur	Amalgamated Joyrampur	0.1015	13	Scheme was prepared by CMPDI & placed in the 376th board on 25.03.2021. Board deliberated that the proposal should be re-examined with respect to certain changes. The proposal is being revised by the CMPDI considering the directive of the Board & to be placed in coming Board meeting . After approval of the Board it will be sent to the CIL for funding of the project . The life of the project is 12 Yrs. which Also requires rehabilitation of 6093 Legal Title Holder & 6094 Non-legal title Holder 8047.		
17	51	Bararee		Joyrampur		0.1074				
18	82	Bagdigi		Joyrampur		0.0209				
19	85	Jairampur		Joyrampur		0.1042				

SL. No	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Project Life (Yrs.)	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
Economically Unviable Patches -12										
20	70	Moodidih	Sijua	Moodidih		0.1104	7	Scheme was prepared by CMPDI & placed in the 376th board on 25.03.2021. Board deliberated that the proposal should be re-examined with respect to certain changes. The proposal is being revised by the CMPDI considering the directive of the Board & to be placed in coming Board meeting . After approval of the Board it will be sent to the CIL for funding of the project . The life of the project is 07 Yrs. which also requires rehabilitation of 390 Legal Title Holder & Non- legal title Holder 1216.		
21	35	Sendra Bansjora	Sijua	Sendra Bansjora	Near H-HEMM Patch -X	0.0275	8	Final report discussed in Technical committee meeting held on 16.03.2021. technical committee suggested for provision of Underpass below DC line in place of Over bridge for access to external OB Dump. It will be placed in the next to next BCCL Board.		

SL. No	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Project Life (Yrs.)	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
Economically Unviable Patches -12										
22	34	Kusunda collliery	Kusunda	NGKC	H-HEMM Patch-D	0.7398	13	There is no livelihood near the periphery of this Fire site. It has been decided for blanketing. The process of blanketing has been started and likely to be completed within three months.		
23	68	Gajlitand	Katras	AGKCC	Near H-HEMM Gajlitand-Bhadrichak	0.1215	8	Draft proposal with Option-I & II has been prepared by CMPDI. The proposal shall be placed in the Board in JUNE-21. After approval of the Board it will be sent to the CIL for funding of the project . The life of the project is 08 Yrs.		
24	36	Bastacolla	Bastacolla	---------	---------	0.0810		There is no livelihood near the periphery of this Fire site. It has been decided for blanketing. The process of blanketing has been started and likely to be completed within three months.		

SL. No	As per NRSC Records		Concerned Area	Colliery Name	Patch Name	Affected area	Project Life (Yrs.)	Starting Date	Project period	Balance will be completed by.
	No	Colliery				(Sq Km)				
Economically Unviable Patches -12										
25	77	Kustore	PB	Kustore	-----	0.0463		A letter was written to DC DHANBAD on 23.09.2020 by BCCL Authority Regarding diversion of DB road and shifting of MADA Colony. During meeting held at DC office on 06.10.20 BCCL has submitted Tentative alignment for shifting of DB road & MADA colony and water reservoir. A letter has been written to DC, Dhanbad cum MD JRDA on 23.10.20 requesting, to provide the timeline for shifting of the same, so that BCCL action can be initiated. Draft pre-feasibility reports submitted by RITES & is under study. Proposal under preparation by CMP DIL and will be submitted after Getting timeline and details about di version of DB roads and MADA colony including shifting of water reservoir		
26	43	Ghanoodih	Bastacolla	Ghanoodih	Departmental Project	0.0322				
27	75	E Bhagatdih	Bastacolla	Bastacolla		0.0214				
Total						1.5141				
G. Total						2.5236				

Notes

Notes

Notes

Notes

COMMITTED TO FULFILL ENERGY ASPIRATIONS OF THE NATION

Agenda for the Year 2021-22