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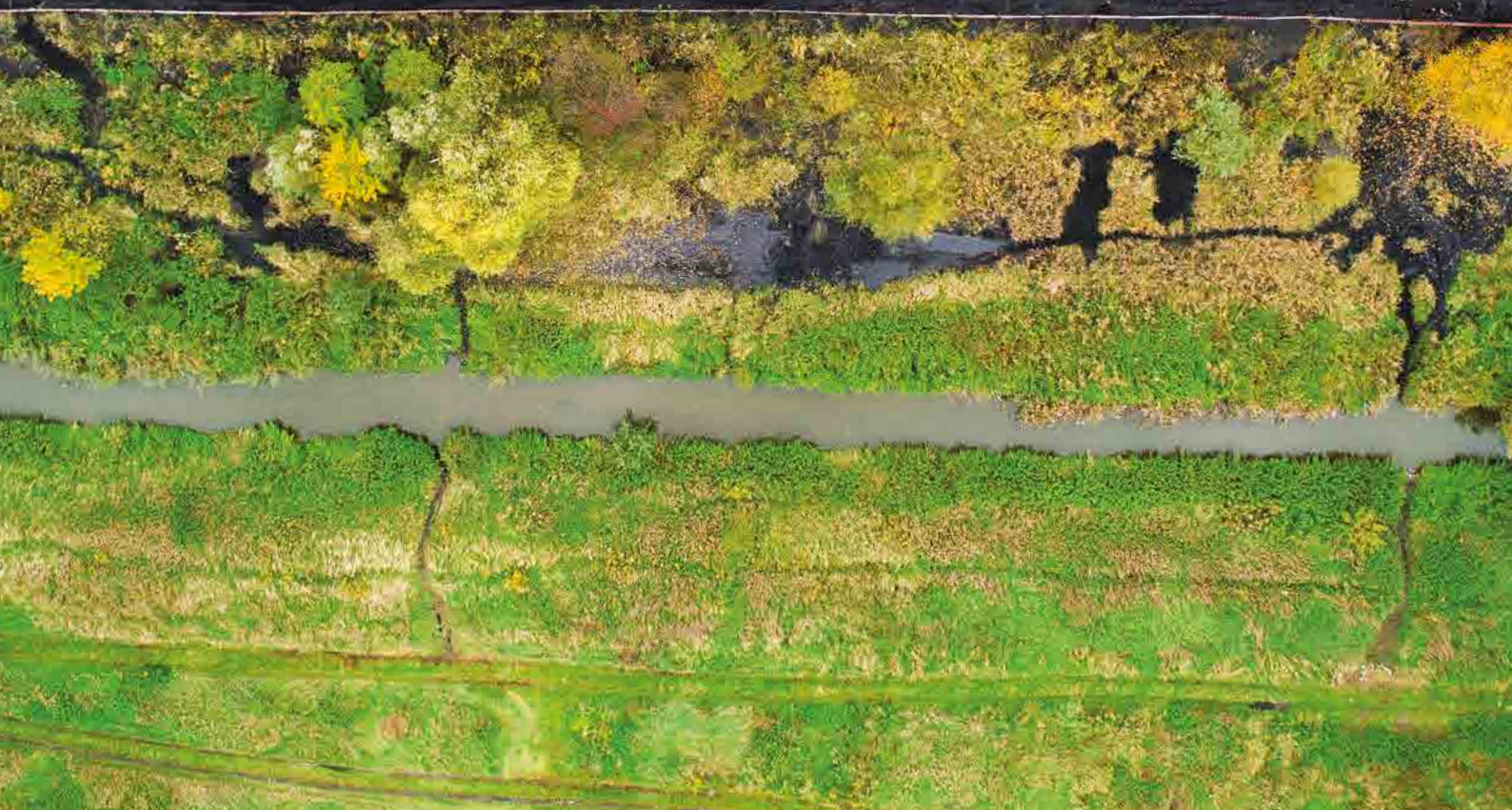
REFORM OF LAND LAWS TO ENABLE LAND REPURPOSING FOR JUST TRANSITION



REFORM OF LAND LAWS TO ENABLE LAND REPURPOSING FOR JUST TRANSITION

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List of Abbreviations

APIICL	Andhra Pradesh from the Andhra Pradesh Industrial Infrastructure Corporation Ltd.
BCCL	Bharat Coking Coal Limited
CBA Act	Coal Bearing Areas (Acquisition and Development) Act, 1957
CCL	Central Coalfields Limited
CCO	Coal Controllers Organisation
CIL	Coal India Limited
CMLDA	Coal Mine Land Development Authority
CMNA	Coal Mine (Nationalisation) Act, 1973
DGMS	Directorate General of Mines Safety
DVC	Damodar Valley Corporation
ECL	Eastern Coalfields Limited
FC Act	Forest Conservation Act, 1980
LA Act	Land Acquisition Act, 1894
LARR Act	Land Acquisition Rehabilitation and Resettlement Act, 2013/ The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013
Mahagenco	Maharashtra Power Generation Company
MCL	Mahanadi Coalfields Limited
MIDC	Maharashtra Industrial Development Corporation
MIS	Management Information System
MMDR Act	Mines and Minerals (Development and Regulation) Amendment Act, 2015
MoC	Ministry of Coal
MoEF&CC	Ministry of Environment, Forest and Climate Change
MSME	Micro, Small and Medium Enterprises
OC	Opencast
PSU	Public Sector Undertaking
SECL	South-Eastern Coalfields Limited
SPV	Special Purpose Vehicle
TPP	Thermal Power Plants
UG	Underground

Summary for Stakeholders

Land repurposing is a crucial opportunity for economic diversification and sustainable development in regions heavily dependent on fossil fuel industries such as coal mining and coal-based thermal power plants (TPPs). As India transitions towards a net-zero economy by 2070, the gradual phase-down of coal mining and coal-based power generation will have significant socio-economic implications for the affected regions. To ensure a just transition of these regions, it is essential to explore opportunities for repurposing the vast tracts of land available with coal mines and TPPs across the country in the coming decades. The repurposing of land is a vital opportunity to invest in economic diversification measures in the regions and boost green job opportunities.

However, there are regulatory hurdles and limitations for repurposing the land available with the coal mines and TPPs by the concerned state government(s) and also the industry to maximise its economic potential. These challenges can be addressed by instituting necessary reforms in the land-related laws that determines the land rights, land use and the prospects of repurposing a land parcel once the original use ceases.

This report delves into the regulatory landscape governing land use and repurposing, analysing relevant laws, and the scope for reforms to maximize the potential of land repurposing in support of a just energy transition.

A. Key Observations

Over 4.4 lakh hectares of land available with operational coal mines and power plants constitutes a key opportunity for land repurposing and economic development in the coal-dependent regions.

The total land available with operational coal mines and TPPs in India is about 4.4 lakh hectares (0.44 million hectares). Of this over 78% is available with coal mines. Besides, vast land is already available with at least 297 abandoned and discontinued mines. This land can be potentially available for repurposing when these energy assets are closed at the end of their life or due to techno-economic reasons.

Table 1: Land available with operational mines and power plants

Category of Land	Land (ha)
Total Land under operational coal mines	3,45,160.7
Total Land under TPPs	94,727.6
Grand Total	**4,39,888.3**

Source: iFOREST analysis

More than 50% of the land available with coal mines and TPPs in India are concentrated in key coal states of Eastern India.

The states of Eastern India have the most significant share of land due to the presence of large number of mines, and also significant number of TPPs. More than two lakh hectares of land are available with coal mines and TPPs in Jharkhand, Odisha, Chhattisgarh, and West Bengal, which is more than 50% of India's total.

Over one lakh hectare of the opencast mining land is just concentrated in four states of Eastern India, the most primed land for repurposing.

Considering the land available with opencast mines, which is the most primed land for repurposing in the coming decades following their scientific reclamation, the potential is heavily concentrated in the states of Jharkhand, Chhattisgarh, Odisha and West Bengal. Out of this, Jharkhand has the maximum land potential considering legacy mining activities in the state. Many of these mines are also exhausting their resources and nearing the end of their operational life in the state.

Table 2: Land available under operational coal mines and TPPs in Eastern India

State name	Land available with operational coal mines (ha)		Total land under coal mines (ha)	Total land under TPPs (ha)	Total land under coal mines and TPPs (ha)
	Opencast mines (including mixed mines)	Underground mines			
Jharkhand	41,449	9,942	51,391	3,242	54,633
Odisha	26,727	3,323	30,050	4,472	34,522
Chhattisgarh	25,639	23,604	49,243	10,694	59,937
West Bengal	20,028	35,768	55,796	8,335	64,131
Total in four states	**1,13,843**	**72,637**	**1,86,480**	**26,743**	**2,13,223**
India total	**2,34,300**	**87,256**	**3,45,160**	**94,728**	**4,39,888**

Source: iFOREST analysis

The laws governing coal mine and TPP land in their current scope are not designed to support repurposing at the end of their operational lives.

There are three types of land which companies operating the coal mines and TPPs acquire or purchase for the purpose of mining or setting up TPPs. These include government land, tenancy/ private land, and forest land. The type of land and its acquisition determine the scope of repurposing.

The land acquisition for coal mining and TPPs is done under various laws in India, including the Coal Bearing Areas Act (CBA Act, 1957), the the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (LARR Act, 2013), and the Forest Conservation Act (FC Act, 1980). The Acts and the subsequent Rules developed under them and guidelines notified do not have any explicit provisions that allow land repurposing as per the need of the local economy and the community. The clauses are primarily related to the acquisition of the land for such purposes. Except for forest land, there is also no provision of returning land to concerned government authorities or other entities, once the purpose id over.

There is a lack of synergy in coal mining-related laws and guidelines considering surrender and transfer of land to State Government.

There is also a lack of synergy between the provisions of the principle law and the guidelines issued thereafter, regarding the scope of surrendering the coal mining land once the original purpose for which the land has been acquired is over. For example, the principal Act governing coal mining land—CBA Act— remains ambiguous about what happens to the land once mines are closed and do not provide any direction on the transfer or reuse of land. On the contrary, the coal mine closure guidelines mention that the land shall be surrendered to the State Government concerned following a laid down procedure as in vogue at that point of time.

However, in effect since no such procedure has been laid down till date, and due to the lack of synergy in provisions of the CBA Act and the mine closure guidelines, the ambiguity persist with respect to surrendering land to concerned State Government(s) once mines are closed.

B. Recommendations

The following set of policy and regulatory reforms needs to be considered to maximise the potential of repurposing the land available with coal mines and TPPs in the coming years and support a just energy transition.

Amendments in the CBA Act to enable return/surrender of land to the State Government once mines are closed aligning with the mine closure guidelines.

The CBA Act, 1957 is 'purpose-specific' law and needs to be amended to include provisions for 'surrendering' the land to the concerned State Governments after the mines are closed.

A new section can be inserted after Section 12 specifying that once the 'purpose' ceases to exist, the land must be returned to the concerned State Government. The revisions in the Act must be synergized with the coal mine closure guidelines.

Amendments in the LARR Act to allow land repurposing for public purpose.

The LARR Act, 2013, has provisions for the transfer of land when the land is not being used for the purpose assigned (Section 101). The Act needs to be amended to incorporate the provision for the return of land at the 'end of project life' or 'end of original purpose'.

A sub-section under Section 101 needs to be included stipulating that 'if an entity fails to commence repurposing activities or secure repurposing approval within three years of project closure, the land must be returned to the Land Bank of the appropriate Government by way of reversion in the manner as prescribed by the appropriate Government'.

Further, under Section 99, it should be specified that the change of purpose and reuse of the land shall align with the public purpose and the spirit of the public good, in accordance with the objective for which the land is acquired under the law.

Amendment of the FC Act for seamless repurposing of forestland.

The FC Act, 1980 needs to be amended with the objective of enabling reutilization of the forestland that has already been diverted for mining purposes or construction of the TPP by easing the re-permitting process.

The Central Government can develop necessary guidelines under Section 4 of the FC Act to allow the 'transfer' of land classified as 'forest land' to the new agency that will be engaged in repurposing, if the repurposing project does not pose any new or additional environmental burden as compared to the purpose for which the forest land was diverted initially.

Revisions of the coal mine closure guidelines to maximise the scope of land repurposing for ensuring economic continuity of coal-dependent areas.

Along with the land-related Acts, the coal mine closure guidelines must also be suitably revised to maximize the repurposing potential with the key objective of ensuring economic continuity of coal mining regions once mines are closed, alongside addressing issues of environmental sustainability.

The guidelines should specify that progressive and final mine closure plan should be developed to ensure positive social, economic, and environmental outcomes for the local community and the area to support the sustainable development of the region post-closure.

The guidelines should also clearly outline the procedure for surrendering the coal mining land to the concerned State Government once mines are closed and a closure certificate has been obtained from the Coal Controllers Organisation.

Developing guidelines for transfer of land available with discontinued and abandoned mines.

A separate guideline needs to be developed for repurposing land under abandoned/discontinued mines in coordination and consultation between the coal companies and the concerned State Government(s). In addition, the central government may develop a management information system (MIS) of all the land available with abandoned/discontinued mines, which records the land readily available for repurposing and ensures transparency and public accountability at the same time.

Establishing a Coal Mine Land Development Authority to facilitate land redevelopment and repurposing.

Along with reforming laws, establishing a dedicated authority(ies)/body(ies) and associated institutional mechanisms will be necessary to manage land transfer and repurposing aspects.

Especially considering the vast amount of land available with discontinued/abandoned mines and mines that are going to close in the coming years at the end-of-life, a dedicated authority called the Coal Mine Land Development Authority (CMLDA), may be established at the earliest possible time to deal with repurposing of the coal mining land once the land is returned to the concerned

State Government. The State Government may entrust the Authority in writing to repurpose and redevelop such coal mining land within a prescribed timeframe.

Some of the key responsibilities of the CMLDA shall be (but not limited to) to:

- Identify potential sites for economic/commercial utilization in consultation with the State Government (in the future, the Office of the Just Transition should be established at the state level for planning, coordination, monitoring, and implementation of just transition measures).
- Carry out necessary market surveys to assess the land potential.
- Prepare a 10-year plan of the prospective developmental projects that can be undertaken in the repurposed land in coordination and consultation with the concerned state departments and agencies.
- Manage the bidding and allotment process of the land parcel.
- Monitor the implementation of the repurposing activities.
- Develop and maintain a website to provide all information related to land redevelopment and repurposing in the public domain.

Besides, a dedicated authority, in the form of a Special Purpose Vehicle (SPV) may be constituted for facilitating land transfer (particularly government land) to the State Government once the mines and TPPs are closed. The SPV may be chaired by the Secretary (or the appropriate State Government official) of the Land Department of the respective State Governments.

SECTION 1

INTRODUCTION

India's commitment to achieving a net zero economy by 2070 and the focus to progressively reduce the share of fossil fuels in the energy mix will significantly reduce fossil fuel production and consumption in the next three decades.

Two key sectors that will experience a phase-down in the coming years are coal mining and coal-based power. However, the phase-down will have socio-economic implications for the regions where these mines and power plants are located. At the same time, it will also have implications for government revenue, jobs, and social welfare investments. Therefore, a key aspect of the fossil fuel transition will be to mitigate the negative impacts of transition and ensure the impacted regions' economic continuity and social vitality. This requires developing necessary policies and plans for a just transition of these regions.

A key component of just transition planning and investments is the economic diversification of fossil fuel-dependent regions and the creation of alternative employment opportunities, including green jobs. At the same time, it is also important to ensure affordable clean energy access. These necessitate the development of green industries (including micro, small, and medium enterprises) and green energy in the fossil fuel-dependent regions.

Repurposing the land available with coal mines and TPPs is a crucial opportunity to support economic diversification and boost green job prospects in coal regions.

A prerequisite for developing green industries and green energy infrastructure is the availability of land. However, the land being a critical resource, avoiding the conversion of virgin land to develop such industrial and energy infrastructure is desirable. Minimising land diversion is also necessary for reducing land degradation and desertification problems.

To ensure economic diversification in fossil fuel-dependent regions, including the development of green energy and green industries, while minimizing land diversion, a key opportunity lies in repurposing land that is available with coal mines and coal-based thermal power plants (TPPs). A significant amount of land is available with the coal mines and TPPs in various states and districts of India that can be repurposed following the scientific closure of these assets. This will also enhance opportunities of green jobs for the local community.

However, there are regulatory hurdles and limitations for repurposing the land available with the coal mines and power plants by the concerned state government and the industry. The laws governing land issues are mired in a complex web of legal ambiguities. Some of the biggest challenges include the complexity of the land under use (government, tenancy, forest) and the acquisition process, which differs in central and state legislation. The complexity is further increased by state-wise acquisition status and the departments dealing with this land and their return.

This report systematically examines the crucial issue of land repurposing, which is essential for economic diversification, ensuring green growth and boosting job opportunities. The evaluation looks explicitly at the issue of repurposing in the context of the existing regulations to evaluate the scope and limitations of the current regulatory framework in this regard. The analysis is based on a comprehensive review of the following aspects:

i. Type of land under coal mines and TPPs and ownership;
ii. Laws governing coal mine and TPP land in terms of acquisition and subsequent ownership and aspects of transfer or reuse once the purpose for which the land has been acquired has ceased;

iii. Laws governing post-closure land use and provisions of repurposing for gainful economic use.

iv. Institutional mechanisms associated with the laws mentioned above.

Besides regulatory evaluation, consultations were undertaken with officials of the coal mining and coal-based power sector and legal experts.

Based on the evaluation and expert observations, the report outlines a set of reforms necessary in the existing laws and institutional mechanisms to maximise the potential of repurposing the land available with coal mines and TPPs in the coming years and support a just energy transition.

Regulatory and institutional reforms will be necessary to maximise the scope of land repurposing.

SECTION 2

LAND REPURPOSING POTENTIAL

2.1 Overview

There is a vast amount of land available with coal mines and TPPs in various states across India. This land can be potentially available for repurposing when these energy assets are closed at the end of their life or due to other techno-economic reasons. Considering the constraint of land in various states and districts of India, and the challenges of acquiring land and potential issues of community alienation, repurposing of the land available of coal mines and TPPs will be a strategic policy and planning intervention. It will create opportunities of green investments in these regions, while minimising the diversion of virgin land.

The land that can potentially be available in the coming years has been estimated, considering the existing land with operational mines and TPPs. Besides, vast land is already available with abandoned and discontinued mines.

About 3.5 lakh hectares of land is currently available with operational mines. 68% of this is with the opencast and mixed mines.

2.2 Coal mine land

India has 430 operational coal mines (including lignite mines), out of which 228 are open cast (OC), 168 are underground (UG), and 34 are mixed operations.[1] The total land available with these mines is about 0.34 million hectares (ha). Over 69% of this is with the OC and mixed mines (usually a cluster with both UG and OC operations), and the remaining 31% is with UG mines.

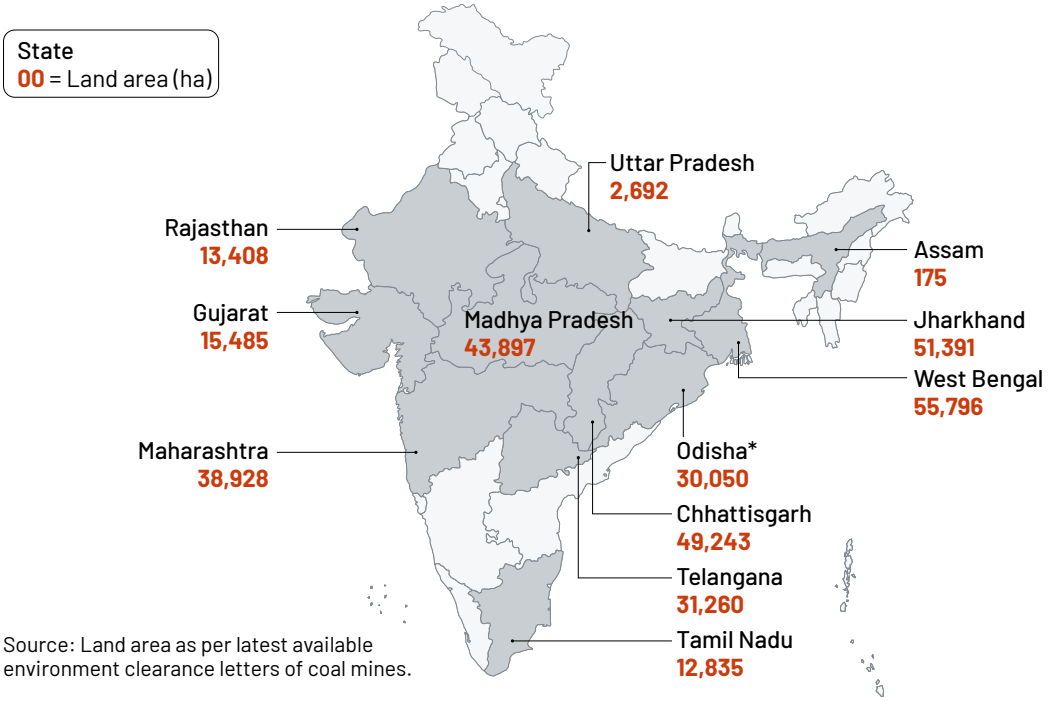
Table 2.1: Land under operational coal mine lease

Type of mine	No. of mines	Lease area (ha)	Proportion of land (%)
OC mines	228	2,15,705.3	62
UG mines	168	1,10,859.3	32
Mixed mines	34	18,596.2	5
Total	**430**	**3,45,160.7**	**100**

Source: iFOREST analysis, Land area as per latest available environment clearance letters of coal mines

The largest share of leased land area is spread across eastern and central India's key coal mining belt. In fact, 41% of the land under OC mines is in just three states of Eastern India- Jharkhand, Odisha, and Chhattisgarh.

Map 2.1: State-wise distribution of land under operational mines



Source: Land area as per latest available environment clearance letters of coal mines.

Table 2.2: State-wise availability of land under operational OC, UG and mixed mines

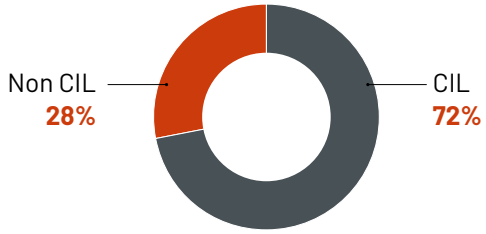
State	Total		OC		UG		Mixed	
	Land (ha)	Proportion (%)	Land (ha)	Proportion (%)	Land (ha)	Proportion (%)	Mixed mines	Proportion (%)
Assam	175	0	175	0	0	0	0	0
Chhattisgarh	49,243	14	21,256	10	23,604	27	4,383	24
Gujarat	15,485	4	15,485	7		0	0	0
Jharkhand	51,391	15	37,408	17	9,942	11	4,042	22
Madhya Pradesh	43,897	13	22,938	11	19,730	23	1,229	7
Maharashtra	38,928	11	28,950	13	9,247	11	731	4
Odisha*	30,050	9	26727	12	3323	4	0	0
Rajasthan	13,408	4	13,408	6	0	0	0	0
Tamil Nadu	12,835	4	12,835	6	0	0	0	0
Telangana	31,260	9	22,014	10	9,246	11	0	0
Uttar Pradesh	2,692	1	2,692	1	0	0	0	0
West Bengal	55,796	16	11,817	5	35,768	41	8,211	44
Total	**3,45,160**	**100**	**2,15,705**	**100**	**87,256**	**100**	**18,596**	**100**

*Total land in Odisha includes the proposed expansion of mines in the state.
Source: iFOREST analysis, Land area as per latest available environment clearance letters of coal mines

41% of the land under opencast mines, which is the most primed land for repurposing, is in just three states of Eastern India- Jharkhand, Odisha, and Chhattisgarh.

Concerning company-wise share of land, CIL and the subsidiaries have 71% of the total leased land. However, apart from the mine lease area, a significant amount of land is available with the coal mining companies, particularly the CIL and its subsidiaries. For example, while there are about 0.23 million hectares of leased land area under the central PSU, overall, the total land acquired by CIL and its subsidiaries is about 0.27 million hectares (as per the Ministry of Coal year-end review of 2023).[2]

Figure 2.1: Land availability under various mining entities



Source: Land as per latest available environment clearance letters of coal mines

The potential land available for repurposing once mines are closed depends on the type of mine and the rights acquired for mining.

The coal companies primarily acquire land for two kinds of mines – OC and UG. For OC mines, the acquisition of the surface right is imperative. However, the lease area may sometimes differ from the total land acquired for the mine. This is mainly because companies often acquire land for the expansion of the project or for the allied infrastructure.

On the other hand, only mining rights are granted for UG mines. Surface rights and acquisition of the surface area are usually done under three circumstances. First, if land subsidence is likely in the case of certain mines, which is assessed by the Directorate General of Mines Safety (DGMS). Second, if the UG mine is converted into an OC. Third, if the company needs surface land for the development of infrastructure. In several UG mine areas, colonies, washeries, or sidings are operational on the surface area over the UG mines.

About 90,000 hectares of land is available with operational coal-based utility-scale TPPs.

Therefore, the land under OC and mixed mines is critical for repurposing as it involves surface land acquisition and use. For UG mines, land for repurposing will only be available where surface rights have been given to the company.

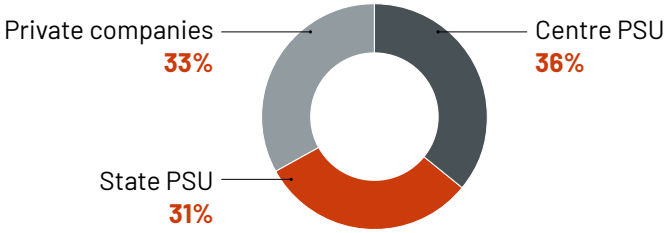
Considering this, the land that can certainly be available from the closure of the mines (as per current operational status) is about 0.24 million hectares. Considering the transition of end-of-life mines, about 30% of this land (about 75,386 hectares) can be available just by 2030.

2.3 Thermal power land

India currently has about 207 GW (206825.5) of coal-based thermal power capacity, combining central, state, and private players. Out of the total capacity, the private sector has a share of 35%, with the central and the state companies having a share of 32% and 33%, respectively.[3]

An estimated 0.094 million hectares of land is available under the currently operational TPPs. Of this, the maximum share of land is available with Central Government PSUs, including NTPC Limited. The state-owned PSUs and private companies also have a significant share of the land.

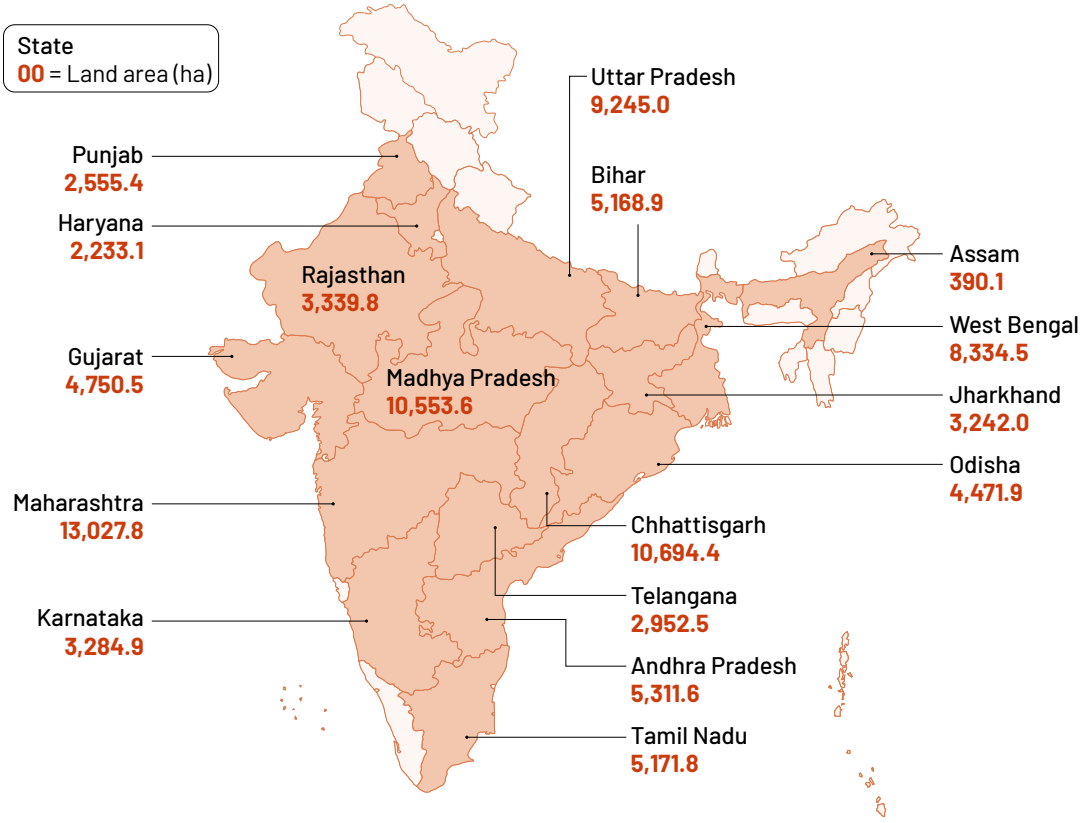
Figure 2.2: Share of land under various TPP entities (%)



Source: For Central PSUs, data as obtained from the National Thermal Power Corporation (NTPC); for state PSUs and private operators, a thumb rule of 1.3 acres per MW of installed capacity has been used based on an average of iFOREST's studies of four districts

Concerning state-wise land availability with utility-scale power plants, the largest share is available in Maharashtra, followed by other major coal power states, such as Chhattisgarh, Madhya Pradesh, and Uttar Pradesh. Collectively, these states have a share of over 48% of the available land.

Map 2.2: State-wise distribution of land under operational TPPs



Source: As provided by NTPC for NTPC-operated TPPs; As per environment clearance letters and official websites of TPP companies; for plants for which data was not available, the estimation was done taking into consideration the thumb rule for land calculation, i.e., 1.3 acres (0.52 hectare) per MW. based on the land details of NTPC TPPs.

Maharashtra has about 14% of the land available with operational utility-scale TPPs, the highest in India.

2.4 Land repurposing potential in the coal belt of Eastern India

The states of Eastern India, including Jharkhand, Chhattisgarh, West Bengal, and Odisha remain crucial for just transition planning and investments, considering the large concentration of coal mines and TPPs in these states. While states like Maharashtra also have a large number of mines and India's largest coal-based power fleet, from a regional perspective, the Eastern Indian states emerge as a transition cluster, requiring just transition opportunities to be evaluated from a regional perspective, besides state-specific measures.

A crucial aspect of regional intervention will be investments for economic diversification of the coal regions, including for green industries, and scaling up of green energy development infrastructure. These industries can create new job opportunities and stimulate economic growth in the region.

To support such green investments, repurposing the coal mining and TPP land, presents a significant opportunity. Overall, more than 0.2 million hectares of land are available under coal mines and TPPs in Jharkhand, Odisha, Chhattisgarh, and West Bengal. This is approximately half of India's total land available with coal mines and TPPs.

The most significant opportunity is with the repurposing of coal mining land in the coming years. Out of the total land available with mines and TPPs, about 88% is available with coal mines. Besides, a vast amount of land is available with abandoned and discontinued mines, particularly in the old coal regions of Jharkhand and West Bengal, covering mines in Jharia, Karanpura, and Raniganj coalfields, among others. For example, as per the Ministry of Coal's responses in the Rajya Sabha (2022), there are at least 297 abandoned/discontinued coal mines in India, out of which 212 mines are of the five PSUs operating in the states of Jharkhand, West Bengal, Odisha and Chhattisgarh (and Madhya Pradesh).[4] Therefore, besides repurposing the operational mining land post-scientific closure in the coming years, an immediate opportunity is to repurpose the abandoned and discontinued mining land.

Table 2.3: Land available under operational coal mines and TPPs in Eastern India

State name	Total land under coal mines (ha)	Total land under TPPs (ha)	Total land under coal mines and TPPs (ha)
Jharkhand	51,391	3,242	54,633
Odisha	30,050	4,472	34,522
Chhattisgarh	49,243	10,694	59,937
West Bengal	55,796	8,335	64,131
Total in four states	**1,86,480**	**26,743**	**2,13,223**
India total	**3,45,160**	**94,728**	**4,39,888**

Source: Land area as per latest available environment clearance letters of coal mines and TPP companies and from NTPC for NTPC-operated TPPs; official websites of TPP companies; for plants for which data was not available, the estimation was done taking into consideration the thumb rule for land calculation, i.e., 1.3 acres (0.52 hectare) per MW.

There are at least 297 abandoned/ discontinued coal mines that have vast amounts of land that can be readily repurposed for supporting economic development in coal regions.

Table 2.4: Abandoned and discontinued mines in Eastern India

Company name	No. of abandoned/ discontinued mines	Location (as per the command area of the company in states)
Bharat Coking Coal Limited (BCCL)	39	Jharkhand
Eastern Coalfields Limited (ECL)	84	West Bengal, Jharkhand
Central Coalfields Limited (CCL)	21	Jharkhand
South-Eastern Coalfields Limited (SECL)	66	Chhattisgarh, Madhya Pradesh
Mahanadi Coalfields Limited (MCL)	2	Odisha
Total	**212**	

Source: Ministry of Coal, 2022, Parliamentary response in Rajya Sabha; Information as obtained through RTI from coal PSUs, 2023

From an economic perspective, these lands constitute a valuable asset for such investments as they already have the advantage of having the necessary infrastructure in the area, given their operation over the years. From an environmental and social perspective, repurposing of this land will minimize the diversion of additional virgin land or forest areas and minimize the challenges of displacement and rehabilitation of the local communities.

Overall, the assessment of land under coal mines and TPPs shows that a vast amount of land can be available from a planned transition of these assets in the coming years. Considering just the operational OC mines and the TPPs, about 0.3 hectares of land can be available for such purposes. Besides, at least 297 abandoned mines have vast amounts of land that can be readily repurposed.

SECTION 3

REGULATORY EVALUATION

3.1 Overview

Land repurposing involves transforming the use or function of a land parcel from its current purpose to a new one. To effectively facilitate this process, it is crucial to have appropriate regulatory provisions to maximise the potential for repurposing. These regulatory provisions can serve several important purposes. These include allowing change of 'purpose' or 'use' of the land once the current activity ceases, allowing the maximum utilisation of the land for such changed purpose, and allowing land transfer to concerned entities of the government to align land repurposing with the economic and developmental policies of the state particularly to support socio-economic continuity of the fossil fuel regions, among others.

Overall, the potential of repurposing the land available with coal mines and TPPs can be maximised by the engagement of the government (concerned state government) and the industry. State government engagement is necessary considering the jurisdiction of states under the Constitution of India concerning matters of land, industrial development, etc. The engagement of industries is important, considering the ownership status of the coal mining and TPP land and their engagement with the government to maximise the land's repurposing potential to ensure public good and local economic development.

The regulatory evaluation for land repurposing involves understanding the types of land under coal mines and TPPs (land classification), considering the land types, analysing the most relevant laws to understand their scope for allowing repurposing and any limitations that exist.

Land governance in India is a state subject, as the Seventh Schedule of the Constitution of India, which delineates the power between the Central and the state governments, specifies land in the state list.

LAND GOVERNANCE IN INDIA

The governance of land in India falls mainly under the state governments. The Seventh Schedule of the Constitution of India, which delineates the power between the Central and the state governments, specifies land in the state list.[5] The Seventh Schedule states that "land, that is to say, rights in or over land, land tenures including the relation of landlord and tenant, and the collection of rents; transfer and alienation of agricultural land; land improvement and agricultural loans; colonization" are under the purview of the state governments.[6] Additionally, "land revenue, including the assessment and collection of revenue, the maintenance of land records, survey for revenue purposes and records of rights, and alienation of revenues" also falls under the purview of the state. However, the acquisition and requisition of property, estate duty, taxes on the capital value of the assets, and duties in respect of succession to property, excluding agricultural land, are part of the concurrent list.[7]

This gives both the Centre and the States rights over the same land, regulating different aspects of its use and purpose and hence creates complexity in vesting of rights vis-à-vis land repurposing of coal mines and TPP land.

The availability of land for repurposing for economic use, once mines and TPPs are closed, assumes more importance considering that several coal and TPP districts are also Schedule V areas, thereby having constitutional restrictions on "alienation of tribal lands to non-tribals".[8] In such a scenario, the existing land under coal mines and TPPs also presents an opportunity to build a new economy while minimizing the need for new land acquisition.

3. 2 Land-related laws pertaining to coal mines and TPPs and scope of repurposing

There are three types of land which companies operating the coal mines and TPPs acquire or purchase for the purpose of mining or power generation. These include government land, tenancy/ private land, and forest land.

Government land: This type of land includes any waste land belonging to the government, whether cultivable or not, recorded as house-site, *anabadi* (not fit for agriculture), small forest, *nazul* land granted to the government under The Hindu Succession Act 1956, common land (wherein the state government has vested rights to the panchayats or grazing or usufruct rights to the local community).[9] The sub-categories of land that fall under government land may vary from state to state in terms of nomenclature or categorisation. The state government is the custodian of all such land (except *kaiser-e-hind*)[10], and any acquisition or lease of such land is done through the state government. In case small forests are involved, the forest department is involved in the grant of "right to use".

Tenancy/private land: This type of land includes agricultural land or any land privately owned by an institution/body/individual. Such land needs to be directly acquired from the owner through purchase.

The land laws governing coal mining and TPP land are primarily oriented around land acquisition and are not designed for repurposing.

Forest land: This type of land involves "forest area", which is signified as an area recorded as forest in the government records. This is often referred to as the "recorded forest area".[11] The recorded forest area can be further categorised into three sub-categories:

- **Reserved forest:** An area notified under the provisions of the India Forest Act or the State Forest Acts having a full degree of protection. In reserved forests, all activities are prohibited unless permitted).[12]
- **Protected forest:** An area notified under the provisions of the India Forest Act or the State Forest Acts with limited protection. In Protected Forests, all activities are permitted unless prohibited.[13]
- **Unclassed forest:** An area recorded as forest but not included in the reserved or protected forest category. The ownership status of such forests varies from state to state.[14]

These categories of land further determine the laws that are applicable to them for repurposing, including change of use and the scope of land transfer.

Considering the land categories mentioned above, this section analyses the laws governing land available with coal mines and TPPs and the scope and applicability of the laws for allowing repurposing.

3.2.1 Regulatory evaluation of coal mining land

The laws guiding coal mining land with implications for repurposing can be broadly classified into two categories:

i. Laws related to land acquisition and rights over acquired land; and,

ii. Guidelines for closure of coal mines and reuse of the mining land.

The following section outlines the scope of these laws and guidelines and evaluates their suitability (and limitation therein) for allowing repurposing of the land under the existing provisions.

a. Governing laws and associated mechanisms

Laws related to land acquisition and rights over acquired land: The governance of coal mining land and applicable laws is closely related to the categories of land that are acquired for coal mining and related activities, as well as various other purposes by the coal companies.

An analysis of the land types available with coal mines shows that it can be broadly categorized into two types: non-forest land and forest land. The non-forest land includes government and tenancy land, and the forest land involves recorded forest areas.

Evaluation of land available with various OC mines (considering that these mines have secured surface rights) shows that about 79% of the land falls under the non-forest land category, while the remaining 21% is classified as forest land (over 45,600 hectares).[15] The latter has been diverted for non-forest purposes and is supposed to be returned to the forest department after the mine is closed.

Considering the types of land available with coal companies, there are primarily three laws that are most significant for governing coal mining land and determining the scope of repurposing. These include:

- The Coal Bearing Areas (Acquisition and Development) Act (CBA Act), 1957
- The Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 or in short, the Land Acquisition Rehabilitation and Resettlement Act (LARR Act, 2013), which was the erstwhile Land Acquisition Act (LA Act) of 1894
- The Forest Conservation Act (FC Act), 1980

A brief outline of the laws and their applicability is outlined below.

The CBA Act, 1957: The CBA Act was promulgated for the "economic interest" of India and "greater public control over the coal mining industry and its development."[16] Under this law, land for coal mining can be acquired only by public sector undertakings (PSUs). It is a powerful and overarching law that enables the acquisition of land, including government and tenancy land, for coal mining only.[17] For coal mine areas involving forest land, forest clearance for the diversion of forest land has to be obtained under the FC Act.

Considering that coal mines in India are largely operated by the subsidiaries of the central government PSU, CIL, the CBA Act remains the most significant law for governing coal mining land. The law outlines a detailed process of acquiring land for the purpose of coal mining and specifies the rights of the concerned entity over such land. *(See box: Process of land acquisition under CBA Act and vesting of rights).*

The CBA Act remains the most significant law governing coal mining land, detailing the land acquisition process but remaining ambiguous on returning of land once the purpose is over.

PROCESS OF LAND ACQUISITION UNDER THE CBA ACT AND VESTING OF RIGHTS

The Coal Bearing Area Act (CBA Act), 1957 remains the most important law concerning rights over coal mining land, and it also determines the scope of its transferability once mines are closed for other uses. The law allows for the acquisition of land for coal mining once the Central Government is satisfied that coal is obtainable from the concerned area after due prospecting.

Section 7(1) of the CBA Act states that *"If the Central Government is satisfied that coal is obtainable in the whole or any part of the land notified under sub-section (1) of section 4, it may, within a period of two years from the date of the said notification or within such further period not exceeding one year in the aggregate as the Central Government may specify in this behalf, by notification in the Official Gazette, give notice of its intention to acquire the whole or any part of the land or of any rights in or over such land, as the case may be."*

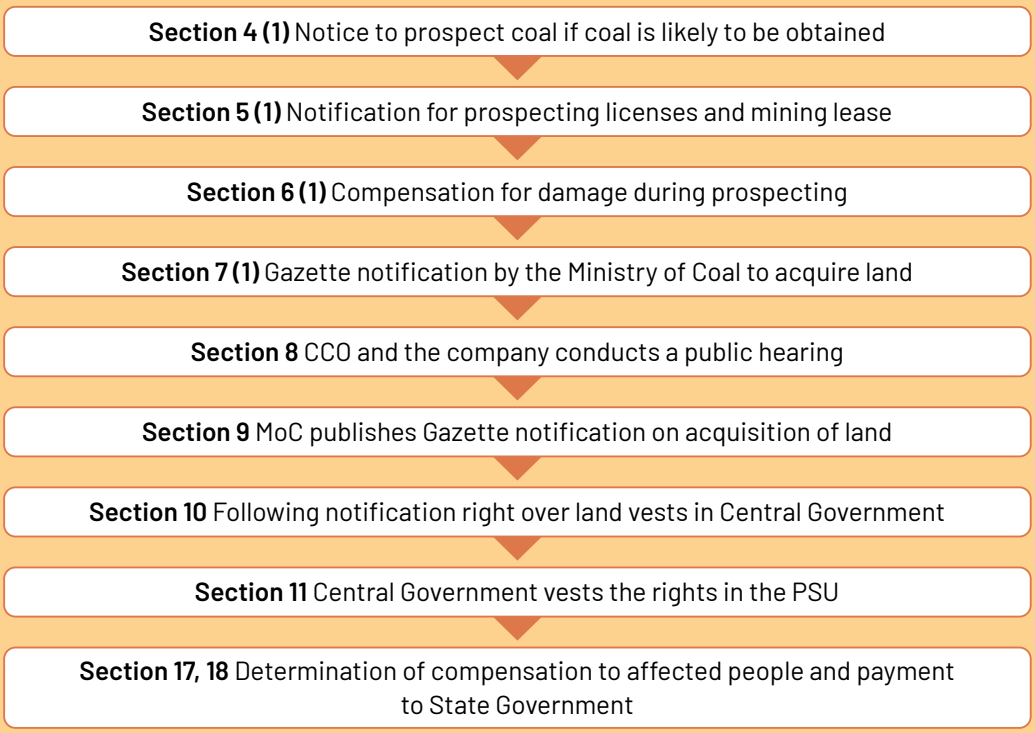
In case the land involves land owned by the state government, prior consultation with the state government is carried out before a declaration is made through the official gazette. If the central government wants to acquire the rights, the nature and extent of those rights are declared to the state governments.

The law further states that once the official gazette is published, *"the land or the rights in and over the land, as the case may be, shall vest absolutely in the Central Government [free from all encumbrances]." (Section 10(1)).*

Box continued

Section 11 (1) of the Act states that the Central government can subsequently vest the rights over the land to the PSU. It states that *"The Central Government may, if it is satisfied that a Government company is willing to comply, or has complied, with such terms and conditions as the Central Government may think fit to impose, direct, by order in writing, that the land or the rights in or over the land, as the case may be, shall, instead of vesting in the Central Government under section 10 or continuing to so vert, vest in the Government company either on the date of publication of the declaration or on such other date as may be specified in the direction."*

Figure 3.1: Process of land acquisition under The CBA Act



The LA Act 1894 and the LARR Act, 2013, are the key laws for acquiring private land for projects which are deemed to be of public purpose such as setting up TPPs.

The LA Act, 1894 and LARR Act, 2013: The LA Act was introduced in 1894 to acquire private land for "public purposes"[18] by the state governments on its behalf, or for companies, public or private.[19] It was replaced by the LARR Act in 2013. The Act provides overarching legal mandates for acquiring land by public and private entities for projects/activities which are deemed to be of "public purpose".[20]

The amendment introduced enhanced compensation to land owners, introduced rehabilitation and resettlement of the displaced people, mandated social impact assessment and consent of 80% of land owners in case of private projects and 70% for public-private partnerships.[21]

Besides the CBA Act, coal companies, including non-CIL central PSUs and state PSU, and private companies acquire land for coal mining under the LA Act or the LARR Act.

For example, the Singareni Collieries Company Limited (SCCL), under the ownership of the Department of Energy, Government of Telangana, has been acquiring land for coal mining under the LA Act/LARR Act that is privately owned. The company acquires land under the CBA Act only for its operations in other states, such as the upcoming projects in Odisha.[22] Other Central Government PSUs (such as NTPC Limited, Steel Authority of India Limited, etc.) and State Government PSUs (largely coal-based power producers) also acquire land under the LA Act/LARR Act besides the CBA Act. For private companies, only the LA Act/LARR Act are evoked for acquiring land for mining.

Besides coal mining, the LA Act/LARR Act is used to acquire land and develop various infrastructures supported by coal companies. These include colonies, employee facilities, etc.

The FC Act, 1980: The forest land is entirely governed through the FC Act, 1890, which deems such land legally and irrevocably owned by the forest department and only allows for diversion and "right to use".

The FC Act and the Rules and guidelines developed under it (Forest Conservation Rules, 2003 and Guidelines and Clarifications, 2019) state that *"Any diversion of forest land for non-forest purpose is only a "right to use" granted to the User Agency without any change in ownership and legal status of the forest land. As such, the diverted forest land cannot be mortgaged or reassigned or subleased by the User Agency."*[23]

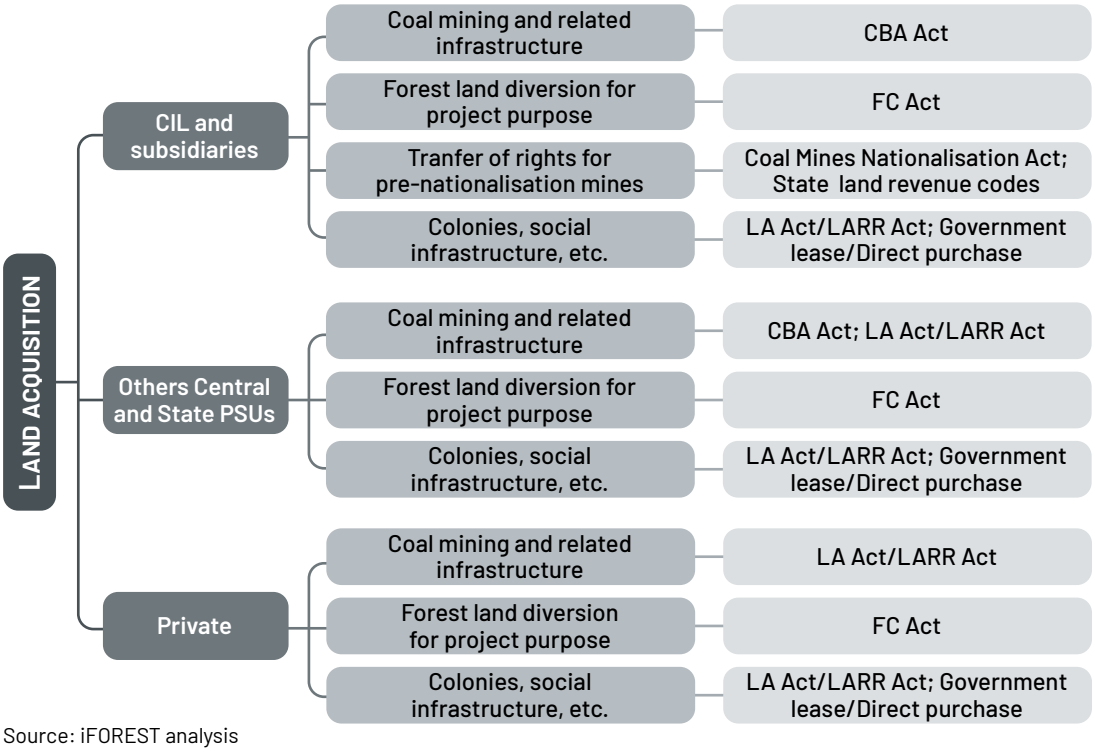
The FC Act applies wherever the forest land is part of the identified plot of land. Under the FC Act, the user agency obtains a forest clearance to use the land for non-forestry purposes. The land needs to be returned to the concerned agency once the mines are closed and after afforestation activities have been undertaken.

Other laws: In addition to the above laws, there are a few other laws and mechanisms of land acquisition by coal mining companies. These include:

- **The Coal Mine (Nationalisation) Act, 1973:** The law applies to mines existing before the nationalization of coal in 1973. It was enacted for the acquisition and transfer of the right, title, and interest of the owners in respect of the coal mines to the Central Government.[24]
- **State land revenue codes:** This is particularly applicable for mines located in Chhattisgarh and Madhya Pradesh (which were part of the erstwhile unified Madhya Pradesh), where the land was vested with the coal companies under the state laws, and for mines in Jharkhand, where rights were vested with the coal PSUs directly by the Bihar government.[25]
- **Direct purchase:** In exceptional cases, a direct purchase of land is made from the private landowner. The proportion of directly purchased land is small and is usually for developing facilities for employees.[26]
- **Lease from the government:** In exceptional cases, some proportion of the land is also leased from the state government, usually for developing facilities for employees. As per feedback from coal PSUs and state government officials, such land is usually leased for a specified duration.[27]

Forestland diverted for coal mining or TPP is only for the "right to use" and is not an acquisition.

Figure 3.2: Laws pertaining to land acquisition by coal companies for various purposes



Source: iFOREST analysis

Guidelines for coal mine closure: Besides the laws related to land acquisition and transfer, the guidelines for coal mine closure as developed by the Ministry of Coal also remain relevant for governing coal mining land. The closure guidelines for coal mines were first promulgated in August 2009 by the Ministry of Coal (MoC). Over the past years, the guidelines have been revised three times (2013, 2019, and 2020) to improve mine planning, mine management, and closure measures.[28]

The guidelines primarily focus on two specific aspects: progressive and final mine closure to ensure scientific mine management over the lifetime of mines and securing the costs of closure through an escrow account holding the mine owner as the ultimate entity responsible for the closure of mines.[29] The guidelines further mention that once the mining activity is over, the land must be surrendered to the State Government after the mine owner has undertaken due reclamation and rehabilitation activities and a final closure certificate has been obtained from the Coal Controllers Organisation.[30]

With respect to the reuse of coal mining land (post-closure), the guidelines primarily focus on "afforestation work in the mined-out area"[31] and "restoration of land back to its original form as far as practicable or further improved condition".[32]

Besides the coal mine closure guidelines, additional guidelines have also been issued to deal with the closure, reclamation, and repurposing of discontinued mining land. In April 2022, the Union Cabinet chaired by the Prime Minister of India approved a set of policy guidelines developed by the Ministry of Coal allowing the development of certain energy infrastructure and social infrastructure in land acquired under the CBA Act.[33]

Coal mine closure guidelines primarily focus on afforestation work in the mined-out area which undermines the scope of land repurposing for economic use.

The guidelines aim to repurpose the land lying idle with the coal PSUs. This includes land where coal mining is not economically viable or the areas that have been de-coaled and reclaimed. The PSU, which is currently holding the land, can lease it to other central PSUs, state government agencies/PSUs, and other private entities for certain activities for a defined period. The Board of the PSU has been designated as the 'competent authority' to approve all land lease proposals.[34]

Table 3.1: Repurposing of idle mining land available with coal PSUs

Activity type	Lease period
Setting up coal washeries	Maximum 30 years
Setting up conveyor systems	Maximum 30 years
Setting up coal handling plants	Maximum 30 years
Constructing railway sidings	Maximum 30 years
Setting up project offices	Maximum 30 years
Setting up thermal power projects	Maximum 35 years
Setting up renewable projects	Maximum 35 years
Setting up coal gasification and coal to chemical plants	Maximum 35 years
Coalbed methane	Maximum 30 years, or as may be allowed by the government to the coalbed methane concession holder
Rehabilitation and resettlement of project-affected families due to the acquisition of land under the CBA or other land acquisition law	Maximum 99 years
Setting up development-related infrastructure- hospitals	Maximum 99 years
Compensatory afforestation projects	Maximum 99 years
Right of Way- railway lines and highways	Maximum 99 years
Other energy-related infrastructure	Period not specified

Source: Ministry of Coal. Office Memorandum dated April 22, 2022.

b. Overall observations on laws governing coal mining land and implications for repurposing

The review of the various laws and guidelines governing coal mining land brings out the following key observations:

i. The CBA Act remains the primary law for acquiring land for coal mining for commercial purposes and the development of associated infrastructure. CIL and its subsidiaries have acquired the land for coal mining and are vested with the right over the land under the Act.[35] Therefore, the Act also remains the most significant one with respect to the repurposing of coal mining land, particularly for areas currently under mining activities, including voids.

ii. Besides the CBA Act, the LARR Act also remains significant for repurposing of coal mining land, as coal companies, such as SCCL, and various central and state PSUs have acquired land for coal mining under the law. Further, the law remains important for transferring and repurposing land on which various social infrastructures supported by the coal companies are located.

iii. Compliance with the provisions of the FC Act will be necessary to repurpose land that is categorized as forestland within the mine lease area.

Therefore, it is pertinent to examine the scope of the above-mentioned laws to support the repurposing of coal mining land, including the limitations.

The scope of repurposing the coal mining land under the existing laws is analysed considering the following aspects:

i. Do the laws and guidelines specify mechanisms for the return/transfer of land to the State Government or the concerned agency/authority once mines are closed, for repurposing and reuse of the land and other assets, and

ii. Whether the laws and guidelines provide clear direction for repurposing the land by any concerned entity once mines are closed.

The GoI issued guidelines in 2022 to reuse abandoned mine land for development energy infrastructure, which is a starting point signifying the need for land repurposing.

Scope under the CBA Act and associated guidelines: The CBA Act remains the most important law for guiding repurposing activities once mines are closed. However, the Act (as amended till December 1976) remains ambiguous about what happens to the coal mining land once mines are closed and do not provide any direction on the transfer or reuse of land.

The ambiguity under the Act arises from two factors: the duration of the mine-lease period and the ownership status of the land once mines are closed.

For example, Section 11 of the Act outlines the 'Power of Central Government to direct vesting of land or rights in a Government company'. Section 11(2) specifies that *"Where the rights under any mining lease acquired under this Act vest in a Government company under sub-section (1), the Government company shall, on and from the date of such vesting, be deemed to have become the lessee of the State Government as if a mining lease under the Mineral Concession Rules had been granted by the State Government to the Government company, the period thereof being the entire period for which such a lease could have been granted by the State Government under those rules; and all the rights and liabilities of the Central Government in relation to the lease or the land covered by it shall, on and from the date of such vesting, be deemed to have become the rights and liabilities of the Government company".*

The reading of Section 11(2) has led to the interpretation that coal mining leases are granted to PSUs in 'perpetuity' for the lifetime of the mine.

Concerning surrendering or transfer of the land post-mining, Section 12 of the CBA Act specifies that *"The competent authority may, by notice in writing, require any person in possession of any land acquired under this Act to surrender or deliver possession of the land within such period as may be specified in the notice, and if a person refuses or fails to comply with any such notice, the competent authority may enter upon and take possession of the land"*. While the provision mentions surrendering the mining land or delivering possession, no clear guidelines have been developed on how the land should be surrendered and to whom. In the An inter-minis- terial committee appointed by the NITI

Aayog repurposing from Coal in their report in 2022 also noted the CEC as a po- tential resource for contribution towards 25 An inter-minis- terial committee appointed by the NITI Aayog repurposing from Coal in their report in 2022 also noted the CEC as a po- tential resource for contribution towards absence of it, after mining is over, the land has been staying with the coal companies, and no land has been 'surrendered' or handed over to the government so far.[36]

For reuse of the land post closure that has been acquired under the CBA Act, while the guidelines issued by the Ministry of Coal in April 2022 provide directions on repurposing of the land that is lying idle with the coal PSUs, but the scope of such repurposing is limited and primarily focussed on developing energy infrastructure. The guidelines preclude the scope of other economic investments, such as the development of green industries, including micro, small and medium enterprises (MSME), that are vital for maintaining economic continuity and creation of jobs in the coal regions once these mines are closed.

The guidelines also do not provide any direction on the land transfer to the concerned State Government that can help enhance repurposing potential. The guidelines state that *"...it has been decided that lands acquired under the CBA Act may be considered for granting on lease by the land-owning Public-Sector Undertakings (PSUs)/coal companies to other CPSUs, state governments (including its PSUs) and private entities for development of coal infrastructure and other development activities without the change in ownership."*[37] Therefore, it underscores that the ownership of the land remains with the PSUs.

There are no explicit provisions under the CBA Act and the LARR Act for return of the coal mining land to the state government following closure.

Scope under the LARR Act: While the LARR Act has provisions for reuse of land for another purpose and change of ownership, these provisions are for immediate redressal of concerns and do not account for the end of project life.

Section 99 of the Act states, *"No change from the purpose or related purposes for which the land is originally sought to be acquired shall be allowed."* In case the land is rendered unusable for the purpose for which it is acquired due to any unforeseen circumstances, the state governments may use the land for other "public purposes".[38] Besides, Section 100 of the Act also specifies that no change of ownership without specific permission from the appropriate government shall be allowed.[39]

Overall, there is no explicit provision under the LARR Act for return of the coal mining land to the state government following closure. While there are provisions related to the change of ownership and purpose, but as noted, they do not account for the end-of-project scenario, and hence, no obligations for repurposing of land have been made. The provisions for change of ownership and purpose are for case-specific considerations, and no overarching mechanism for such change is defined.

Scope under the FC Act: The FC Act becomes crucial to ensure that forest land is returned to the forest department after the purpose for which it has been diverted is over. The ownership and status (forest) do not change for such land. The user agency is only granted a "right to use" for non-forest purposes.

The Act further clarifies that the validity of clearance granted for such use "shall be coterminous with the life of the mine as per the approved mine plan subject to a maximum of 30 years as provided in the MMDR Act, 1957 as amended up to Mines and Minerals (Development and Regulation) Amendment Act, 2015."[40] If an extension is required, or further new land needs to be acquired, permission needs to be obtained following the due process from the Ministry of Environment, Forest and Climate Change.[41]

In all cases, the FC Act requires the forest land to be returned to the concerned agencies of the State Government/Union Territories on the expiry of the mining lease.[42] This limits the scope of repurposing of such land post-closure. Once forest land is returned to the forest authorities, a fresh set of clearance will be required for undertaking any repurposing activity in such land. This can create potential deterrence for repurposing. It is also desirable to repurpose the forest land that has already been diverted for mining and related activities instead of diverting new forestland for economic purposes.

Coal mine closure guidelines: The Coal Mine Closure Guidelines clearly state that the mine owner must surrender the land to the State Government after due reclamation and rehabilitation activities have been undertaken and a final closure certificate is obtained. However, there is no clear procedure that has been laid down for such action. The 2013 guidelines mentioned that the land *"shall be surrendered to the State Govt. concerned following a laid down procedure as in vogue at that point of time."*[43] However, no such procedure has been outlined to date.

The provision for returning the land to the State Government, as mentioned in the guidelines, also remains 'prescriptive' in nature, as the CBA Act, which is the principal law governing acquisition (and therefore return) of the coal mining land, does not include any such provision. The same challenge exists for land acquired under the LARR Act (and erstwhile LA Act).

A fundamental problem of the guidelines is also the emphasis on "afforestation" or "bringing back the land as close to its original form", which grossly undermines the scope of repurposing.

For example, the assessment of post-closure land use for 30 OC shows that plantation is the predominant post-mining land use practice (58.5%). This is followed by land area to be left undisturbed (14%) and as voids/water bodies (13%). The rest of the land is earmarked for public use (4.9%), having a built-up area (4.5%) and dip side slope (3.7%).

This means that about 60-70% of the land post-closure will be rendered unusable for repurposing for green energy or green industries once mines are closed.

A closer scrutiny of post-closure land use plans also shows that the land under plantation is mostly over the excavated land area. This implies that if the coal mining land has to be repurposed in future, the plantation will need to be cleared. This will not only make the whole objective of plantation redundant but will also require a new set of permits to be obtained from the forest departments as tree-felling will be involved.

The coal mine closure guidelines clearly state that the mine owner must surrender the land to the State Government after a final closure certificate is obtained.

Table 3.2: Assessment of post-closure land use

Name of the mine	Total lease area (ha)	Plantation (%)	Void/water body (%)	Dipside slope (%)	Undisturbed area (%)	Public use (%)	Forest land (%)	Built-up area (%)	Safety zone (%)	Embankment (%)	Green zone (%)	Cultivable land (%)	Grassland (%)
Balram	2,558.10	51.8	25.7	1.6	20.8	0	0	0	0	0	0	0	0
Garjan bahal	653.83	52.9	15.4	0	12.1	6.1	13.6	0	0	0	0	0	0
Kulda	694.605	58.9	2.5	13.4	0	0	0	25.2	0	0	0	0	0
Basundhara	437.1	51.8	11	0	9	0.9	19.6	4.4	2.4	0.9	0	0	0
Siarmal	2580.45	37.5	21.3	0	9.3	32	0	0	0	0	0	0	0
Hingula	1,869.90	70.8	3.4	6.8	8	0	0	11	0	0	0	0	0
Bharatpur	1556.94	80	3	12.5	1.4	3	0	0	0	0	0	0	0
Lingaraj	1493.2	50.5	0.6	11.2	30.5	0	0	7.3	0	0	0	0	0
Jagannath	553.9	49.4	41.1	0	5.9	0	0	0	0	0	0	0	3.6
Ajanta	1663.38	50	1.9	13.9	18	0	0	16.2	0	0	0	0	0
Bhubaneswari	808.294	72.4	3.8	6.9	0	0	0	16.8	0	0	0	0	0
Kaniha	2196	57.8	1.4	10.6	15.5	0	0	14.7	0	0	0	0	0
Samaleshwari	1384.767	65.7	5.3	15.3	7.3	0	0	6.4	0	0	0	0	0
Lajkura	778.24	72.1	2.2	7.1	9.3	0	0	9.3	0	0	0	0	0
Lakhanpur	2689	62.9	1.1	6	18.3	0	0	11.7	0	0	0	0	0
Belpahar	1503.683	53.2	10.5	0	36.3	0	0	0	0	0	0	0	0
Lilari	201	29.1	3.9	6.6	54.1	0	0	6.4	0	0	0	0	0
Gevra	4184.486	54.5	15.8	0	0	29.7	0	0	0	0	0	0	0
Manikpur	1018.925	37.5	31.5	0	22.1	8.8	0	0	0	0	0	0	0
Chhal	1342.86	80	6	0	0	0	0	7	0	0	0	7	0

Table 3.2 continued

Name of the mine	Total lease area (ha)	Plantation (%)	Void/water body (%)	Dipside slope (%)	Undisturbed area (%)	Public use (%)	Forest land (%)	Built-up area (%)	Safety zone (%)	Embankment (%)	Green zone (%)	Cultivable land (%)	Grassland (%)
Dipka	1999.293	89	11	0	0	0	0	0	0	0	0	0	0
Baroud	1096.4	89.8	10.2	0	0	0	0	0	0	0	0	0	0
Gouri Deep	1098.66	79	16	0	0	5	0	0	0	0	0	0	0
Pauni	1257.52	19	21	0	58	1	0	0	0	0	0	0	0
Sasti	955.7	67	16	0	0	17	0	0	0	0	0	0	0
Bhatadi Expn.- I	836.93	31	13	0	51	4	0	0	0	0	0	0	0
Mungoli	1001.37	58	22	0	6	14	0	0	0	0	0	0	0
Niljai	1934.57	62	27	0	4	7	0	0	0	0	0	0	0
Penganga	748.985	59	25	0	4	12	0	0	0	0	0	0	0
Ukni Deep	1266.29	61	12	0	20	7	0	0	0	0	0	0	0

Source: iFOREST analysis based on post-closure land use plans of the respective mines

Over 90% of the land available with power plant owners is freehold land which puts the onus of repurposing on the entity.

3.2.2 Regulatory evaluation of TPP land

The laws guiding TPP land with implications for repurposing are primarily those related to the acquisition of land for setting up such facilities and the rights over the acquired land. The following section outlines the scope of these laws and evaluates their suitability (and limitation therein) for allowing repurposing of such land.

a. Governing laws and associated mechanisms

The governance of TPP land and applicable laws is closely related to the categories of land acquired by companies and the setting up of TPPs and other infrastructure. Like coal mining, land under TPPs can also be categorized into government, tenancy, and forest land.

For the power plants, most of the land is primarily under the ownership of the company and is a freehold land. For example, an assessment of the land type under the possession of various companies shows that most of the land is freehold. For example, nearly 70% of the total land of NTPC is freehold land. For state PSUs, over 90% of the land is freehold.[44] As per feedback from the state PSUs, most of the leasehold land indicated in the books is for solar projects.

Table 3.3: Land ownership type under power producers

Sector	Company	Freehold land (in Rs. billion)	Leasehold land (in Rs. Billion)
Central	NTPC Limited	65.11	29.34
State	Mahagenco	16.56	0.79
	UPRVUNL	1.24	0.2\\\6
	RRVUNL	1.42	0.13
Private	Reliance Power	40.01	15.45
	Tata Power	12.53	8.29
	Adani Power	10.17	7.53
	NLC Limited	7.58	-
	Torrent Power	5.14	1.52
	JSW Energy	4.68	0
	JP Power	1.14	0.10

Source: Annual reports of respective companies, 2022-23

FREEHOLD AND LEASEHOLD LAND

Land ownership is decided through the grant of a land title. The use and access to land and the responsibilities associated with it, whether by ownership or tenancy, are usually defined through land tenure. In India, there are two types of land tenure – freehold and leasehold.[45] Most of the land in use broadly falls under these two categories, which define their ownership and obligations.

Freehold property has a clear owner and is free from any other claims. The title to such a property is clear, and its sale does not require consent from the state. It can be inherited, and there are no restrictions on the sale or transfer of such property (in accordance with the land policies). On the other hand, a leasehold land property typically is one where the property has been taken on lease from the state. The person using such a property has no ownership over it, and they cannot sell or transfer it to someone else. Usually, such leases are for a duration of 99 years.[46] If the land needs to be transferred to another person or entity, a mutation of the title deed is carried out. After the mutation, the ownership of the land lies with the person/entity to whom the land/property has been mutated.[47]

Considering the types of land with the power producers, two laws remain pertinent and governing TPP land and determining the scope of repurposing. These include:

- The LARR Act, 2013, and erstwhile the LA Act, 1894
- FC Act, 1980

The LA Act, 1894 and LARR Act, 2013: The LARR Act (and the erstwhile LA Act) pertains to the acquisition of tenancy/private land, largely focusing on the fairness of acquisition. As mentioned earlier, the Act provides overarching legal mandates for acquiring land by public and private entities for projects/activities which are deemed to be of "public purpose".[48]

Land acquisition under the LARR Act is purpose-linked.[49] The Act also allows for the acquisition of land by private companies for public purposes. Since power production has been notified as a "public purpose" as per the Ministry of Finance[50], private land acquisition for TPPs can be facilitated through the LA Act/LARR Act. The acquired land is transferred to the company by the concerned State Government for use for the stipulated purpose, which in this case is power production.

There are cases where special laws have been made, such as the case of the central PSU Damodar Valley Corporation (DVC), whose operations are governed by the Damodar Valley Corporation Act of 1948. The provisions of the LA Act (and now the LARR Act) are deemed to apply to the company, as per the law.[51]

There are cases where special laws have been made, such as the case of the central PSU Damodar Valley Corporation, whose operations are governed by the Damodar Valley Corporation Act, 1948.

FC Act, 1980: As for coal mining, if the construction of a TPP and related infrastructure involves the diversion of forest land, a forest clearance needs to be obtained for such diversion.

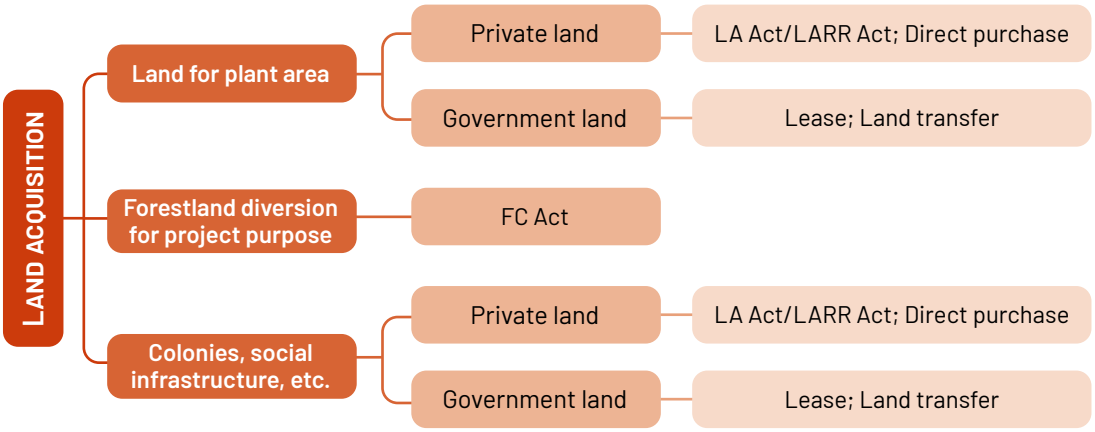
In addition to the above two laws, there are additional mechanisms through which land is acquired by the power producers, which also have implications for determining repurposing and returning liabilities once the purpose for which the land is acquired is over. These include the following:

- **Lease from the government:** Leasing government land is common for the TPP companies across ownership. The terms and conditions for the lease may differ according to the different state rules, the kind of company (Central PSU, state PSU or private company), and sometimes even on a case-to-case basis.[52] The land is usually leased to the power company by the State Government for a specific duration and use. For example, the Odisha Government has leased about 5 acres of land to NTPC Limited for the Darpalli TPP in Sundargarh district. The land has been leased at a premium of Rs. 20 lakh per acre of land, along with an annual rent of 1% of the total premium, incidental charges of 10% on the market value of the land and cost of trees. The levy is for a lease period of 35 years.[53]

In some cases, the State Government also transfers the land title to the state PSU. For example, the Government of Maharashtra has transferred such title to the Maharashtra Power Generation Company (Mahagenco). Where the state government transfers the ownership to the state PSUs, the land is recorded as freehold land by the companies.[54]

- **Lease/transfer through state industrial bodies:** Land for TPPs is also transferred or leased by the companies through the state industrial development corporation land banks. For instance, in Maharashtra, TPP land for private operators has been provided by the Maharashtra Industrial Development Corporation (MIDC). Similarly, NTPC has procured land in Andhra Pradesh from the Andhra Pradesh Industrial Infrastructure Corporation Ltd. (APIICL).[55]
- **Direct purchase:** In exceptional cases, a direct purchase of land is made from the owner for privately owned land. However, such purchases are typically small-scale.

Figure 3.3: Laws on land acquisition by power companies for various purposes



Source: iFOREST analysis

Unlike coal mining, there are no guidelines for TPPs to return or repurpose land at the end of its life.

b. Overall observations on laws governing TPP land and implications for repurposing

The two key laws governing the TPP land suffer from the same limitations concerning repurposing as for coal mining land. For private land acquired by the power companies under the LARR Act (earlier LA Act) or through direct purchase, there is no specification requiring the land to be returned to concerned government departments or agencies or repurposed.

There is no guideline for the TPPs that specifies the transfer of land at the end of the life of such assets or their use. In the absence of it, the land is left at the will of the entity who has acquired the land. The company may choose to diversify and utilise the land or leave it unutilised.

For forest land, as per the provisions of the FC Act (and the Rules and the Guidelines developed under it), it is implied that the land needs to be returned to the concerned agencies (forest department) once the plants are closed. For power plants, too, the forest clearance obtained by the company only provides them the "right to use" without any change in ownership and legal status of the forest land. However, unlike for coal mines, the Act does not specify that the land is to be returned—no precise mechanism is specified for the same. This has left vagueness in terms of returning the land once the plants are closed.

Overall, a review of the CBA Act, the LARR Act, the FC Act, and subsequent Rules and guidelines makes it clear that there exists a lack of clarity for returning/transferring the mining and TPP land to the state government post-closure. There is also a lack of synergy between the provisions of the principle law and the guidelines issued thereafter, such as the CBA Act and the coal mine closure guidelines. These collectively undermine the scope of land repurposing. Therefore, a reform in various land-related laws will be required to ensure synergy between the coal mine closure guidelines and these laws.

SECTION 4

REFORM AGENDA

4.1 Objective of land reform

India will need public and private investments in the coming decades to implement a just transition. Two important components of the investments will be for economic diversification (including green industry development) and green energy development in the fossil fuel-dependent regions. For this, the land available to the energy industries, particularly coal mines and TPPs, remains an important asset.

To maximise the potential of repurposing the land available with coal mines, it is essential to have enabling laws and policy frameworks in place. However, the existing laws governing land issues (such as acquisition and subsequent scope of transfer and reuse) related to coal mines and TPPs are not designed to support repurposing these crucial assets and maximise the scope of investments once the mines and power plants are closed. The laws in their current form are focused on acquiring various types of land for the "specific purpose" (coal mining or power production) and notifying the land for the concerned entities. This has further allowed a concentrated pattern of land ownership that remains primarily with the companies operating the mines or the TPPs.

Therefore, there is a need to institute reforms in the existing laws and guidelines to allow repurposing of coal mining and TPP land once the original purpose for which such land was acquired and notified ceases to exist.

The objective of the regulatory reform should be to maximise land repurposing potential through interventions from the state government and industries and ensure economic continuity and an inclusive social transition of the fossil fuel-fuel dependent regions alongside environmental sustainability.

The CBA Act, 1957 is a 'purpose-specific' law and needs to be amended to include provisions for 'surrendering' the land to the concerned State Governments after the purpose of mining is over and mines are closed.

4.2 Reforms in land laws for just transition

A comprehensive set of reforms in the land laws and associated institutional mechanisms will be required to support just transition measures. The following are some of the key reform measures that will need to be undertaken.

i. Amendment of the land-related laws to enable surrender/return of land to the respective state governments- Since land is a state subject under the Constitution of India, reforms are necessary to allow de-notification of land and its transfer (or defined reuse in case of non-transfer) to the State Governments once the purpose for which it has been acquired ceases. This will require amendments in the CBA Act, 1957, the LARR Act, 2013, and the FC Act, 1980.

a. **Amendments in the CBA Act:** The CBA Act, 1957 is 'purpose-specific' and needs to be amended to include provisions for 'surrendering' the land to the concerned State Governments after the mines are closed.

   A new section can be inserted after Section 12 specifying that once the 'purpose' ceases to exist, the land must be returned to the concerned state Government.

   The revisions in the Act must be synergized with the coal mine closure guidelines, which specified that the mine owner is required to obtain a final mine closure certificate from the

Coal Controller after undertaking reclamation and rehabilitation work, and all final mine closure activities, "for surrendering the reclaimed land to the state government."[56]

b. **Amendments in the LARR Act:** The LARR Act, 2013, has provisions for the transfer of land when the land is not being used for the purpose assigned. Section 101 of the Act stipulates that *"When any land acquired under this Act remains unutilised for a period of five years from the date of taking over the possession, the same shall be returned to the original owner or owners or their legal heirs, as the case may be, or to the Land Bank of the appropriate Government by reversion in the manner as may be prescribed by the appropriate Government"*

The Act needs to be amended to incorporate the provision for the return of land at the 'end of project life' or 'end of original purpose'. The amendments suggested are as follows:

A sub-section (101A) could be inserted after Section 101 stipulating that if *an entity fails to commence repurposing activities or secure repurposing approval within three years of project closure, the land must be returned to the Land Bank of the appropriate Government by way of reversion in the manner as prescribed by the appropriate Government.*

However, to allow repurposing by the current entity and by the State Government or other entities in future, amendments will also be necessary in Section 99 of the LARR Act.

Section 99 stipulates that *"No change from the purpose or related purposes for which the land is originally sought to be acquired shall be allowed:*
Provided that if the land acquired is rendered unusable for the purpose for which it was acquired due to a fundamental change because of any unforeseen circumstances, then the appropriate Government may use such land for any other public purpose".

The LARR Act,2013 needs to be amended to incorporate the provision for the return of land at the 'end of project life' or 'end of original purpose'.

An amendment could be inserted in Section 99 stipulating *"Provided that the original purpose for which the land has been acquired and subsequently notified has been fulfilled and change of purpose and reuse of the land shall be aligned with the public purpose and the spirit of the public good."*

c. **Amendment of the FC Act:** The FC Act, 1980 needs to be amended with the objective of enabling reutilization of the forestland that has already been diverted for mining purposes or construction of the TPP by easing the re-permitting process. An especially significant area of pit-head TPPs is often constructed on diverted forest land.

According to the MoEF&CC database, about 11,435 ha of forestland has been diverted for TPPs since the enactment of the Forest (Conservation) Act 1980.[57] All such land will be reverted to the forest department after the decommissioning of the plant. According to the 'Handbook of Guidelines for Effective and Transplant Implementation of the Provisions of Forest (Conservation) Act, 1980', any forest land diverted for non-forest use requires prior approval of the central government and can be used only for the purpose for which it has been diverted. In the case of TPP, the following are the key conditions for diversion:

- The forest land shall not be used for any purpose other than that specified in the project proposal.
- The forest land proposed to be diverted shall under no circumstances be transferred to any other agencies, department or person without prior approval of the government of India.
- The period of diversion (lease period) shall be co-terminus with the period of lease to be granted in favour of the user agency or the project life, whichever is less. The period of diversion is generally 30 years, after which the land has to be returned to the forest department.[58]

No specific conditions related to dismantling and remediation are mentioned in the approval letter. Repurposing the power plant site is possible, but new permission has to be obtained from the central government. In cases where the change in land use becomes necessary by the same 'user agency', i.e., the original lessee, the state government can request the central government for prior approval, providing details of the primary approval granted and the new intended purpose.[59] However, if the re-diversion becomes necessary for another purpose by another user agency, a fresh proposal for prior approval needs to be submitted to the central

government. While permitting re-diversion, the central government may modify original conditions or impose additional requirements.

To this effect, the Central Government can develop necessary guidelines under Section 4 of the FC Act to allow the 'transfer' of land classified as 'forest land' to the new agency that will be engaged in repurposing if the repurposing project does not pose any new or additional environmental burden as compared to the purpose for which the forest land was diverted initially.

ii. Revisions of the coal mine closure guidelines: Along with the land-related Acts, the coal mine closure guidelines must also be suitably revised to maximise the repurposing potential. The following aspects need to be considered for revision of the guidelines:

a) The mine closure guidelines must be revised to remove the focus on afforestation or bringing the land back to pre-mining conditions. The guidelines should specify that progressive and final mine closure planning should be undertaken to ensure positive social, economic, and environmental outcomes for the local community and the area to support the sustainable development of the region post-closure.

b) The guidelines should clearly outline the procedure for surrendering the coal mining land to the concerned State Government once mines are closed and a closure certificate has been obtained from the CCO.

iii. Developing guidelines for transfer and repurposing of land available with discontinued and abandoned mines: Considering that there are a large number of coal mines that have been abandoned/discontinued (at least 297), a separate guideline needs to be developed for repurposing such land in coordination and consultation between the coal PSUs and the concerned State Government. The purpose of such repurposing should be to support economic activities that can generate green jobs for the local community.

In addition, the central government may develop a management information system (MIS) of all the land available with abandoned/discontinued mines, which records the land readily available for repurposing and ensures transparency and public accountability at the same time.

This is essential considering that land is a State subject under the Constitution of India (Seventh Schedule). Besides, industries and policies related to it are also under the state's jurisdiction, which has implications for repurposing.

A guideline needs to be developed for repurposing abandoned/ discontinued mines to allow economic activities in such land that benefits the local community.

4.3 Establishing authorities and institutional mechanisms

Along with reforming laws, establishing a dedicated authority(ies)/body(ies) and associated institutional mechanisms will be necessary to manage land transfer and repurposing aspects.

i. Constituting a Special Purpose Vehicle (SPV) to facilitate land transfer: A dedicated authority, in the form of an SPV, may be constituted for facilitating land transfer (particularly government land) to the State Government once the mines and TPPs are closed.

The SPV may be chaired by the Secretary (or the appropriate State Government official) of the Land Department of the respective State Governments. The authority can be entrusted with the following key responsibilities (but not limited to):

I. Coordination with industries to ensure smooth transfer of land.

II. Evaluate any further ameliorative measures that may be required on the parcel for its repurposing/redevelopment.

III. Coordination with district-level officials to ensure monitoring, verification, and documentation for de-notification and transfer of land back to the state.

ii. Coal Mine Land Development Authority: Considering the vast amount of land available with discontinued/abandoned mines and mines that are going to close in the coming years at the end-of-life, a dedicated authority called the Coal Mine Land Development Authority (CMLDA), may be established to deal with repurposing of the coal mining land once the land is returned to the concerned State Government. The Authority be a statutory body and shall have perpetual succession.

The State Government may entrust the Authority in writing to repurpose and redevelop such coal mining land within a prescribed timeframe.

The CMLDA shall have the following key responsibilities (but not limited to):

a. Identify potential sites for economic/commercial utilization in consultation with the State Government (in the future, the Office of the Just Transition should be established at the state level for planning, coordination, monitoring, and implementation of just transition measures).

A Coal Mine Land Development Authority can be established to deal with repurposing of the coal mining land once the land is returned to the concerned State Government.

b. Carry out necessary market surveys to assess the potential and work out the best mode of commercial development from the perspective of sustainable economic development, employment generation and revenue returns.

c. Prepare a 10-year plan of the prospective developmental projects that can be undertaken in the repurposed land in coordination and consultation with the concerned departments and agencies of the state government.

d. Manage the bidding and allotment process of the land parcel. The decisions to accept or reject an offer should be documented in writing along with reasons and shall be submitted to the Office of the Chief Secretary of the State.

e. Monitor the implementation of the repurposing activities, including preparation of yearly project progress reports and a comprehensive five-yearly report based on the 10-year plan. The five-yearly report should also clearly indicate how the repurposing activity contributes to local economic development and employment generation.

f. Develop and maintain a website to provide information in the public domain, including information such as:

    a. Amount of land available for repurposing in the next ten years.

    b. Plots identified for repurposing, including geospatial maps.

    c. The 10-year plan.

    d. Decisions on land allocation for repurposing and related documents.

    e. List of repurposing activities and project reports.

    f. Yearly progress reports and five-year reports.

    g. Any other decision may be taken with respect to land repurposing from time to time.

Overall, the purpose of the reforms to be undertaken in the coming years should be to ensure land transfer and repurposing with the overall objective of maintaining economic continuity and social vitality of the transition regions, along with ensuring environmentally responsible development.

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Notes

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