

1. EXECUTIVE SUMMARY

NLC India Ltd (NLCIL) formerly, Neyveli Lignite Corporation Limited, a Navaratna enterprise of Government of India (GoI) is an existing, profit making, public sector enterprise engaged in mining of lignite and generation of power through lignite based thermal power plants. NLCIL was established by GoI in 1956, following the discovery of lignite deposits in Neyveli, Tamil Nadu. NLCIL comes under administrative control of Ministry of Coal, GoI and serves as an important source of power generation to the states of Tamil Nadu, Andhra Pradesh, Karnataka, Kerala, Telangana, Rajasthan and Union Territory of Puducherry.

NLCIL currently operates four opencast lignite mines with a combined capacity of 30.6 MTPA. The details of the existing operational mines are as shown in the table below:

Location	Mine	Area covered (Sq. km)	Reserve (MT)	Capacity per annum (MT)	Commissioning
Neyveli, Tamil Nadu	I	31.78	365	10.50	May-62
Neyveli, Tamil Nadu	II	42.00	613	15.00	Mar-85
Neyveli, Tamil Nadu	IA	11.60	120	3.00	Mar-03
Barsingsar, Rajasthan	Barsingsar	9.70	53	2.10	Oct-09
TOTAL			1151	30.60	

In FY 2017-18, NLCIL achieved an aggregate lignite production of 25.15 MT.

NLCIL's thermal power station (the units under TPS-I) are South Asia's first lignite fired and India's first pithead based power station. From the lignite extracted from its mines, NLCIL operates five thermal power stations with an aggregate capacity of 3,240 MW in the states of Tamil Nadu and Rajasthan.

Apart from lignite based power plants, NLCIL also operates one coal based thermal power plant of 1,000 MW (2 X 500 MW) capacity through its joint venture with TANGEDCO, NLC Tamil Nadu Power Limited. It has also installed solar and wind based power plants. The details of power plants operated by NLCIL are as shown in the table below:

Power Station	Location of plant	Capacity(MW)	Commissioning
TPS I	Neyveli, Tamil Nadu	600.00	1962-1970
TPS II	Neyveli, Tamil Nadu	1,470.00	1986-1993
TPS I Expansion	Neyveli, Tamil Nadu	420.00	2002-2003
Barsingsar TPS	Bikaner, Rajasthan	250.00	2010-2011
TPS II Expansion (Unit-I &Unit-II)	Neyveli, Tamil Nadu	500.00	2015-2016
NTPL (Unit-I & Unit II)	Tuticorin, TamilNadu	1,000.00	2015-2016
Wind	Tirunelveli, TN	51.00	2016-2017
Solar	Neyveli, TamilNadu	440.00	2017-2019
TOTAL		4,731.00	

NLCIL has lined up a number of projects including expansion/augmentation of its existing mines and power plants, setting up of green-field mines & power plants, acquisition of power assets, acquisition of overseas mine assets, setting up of wind and solar power plants across the country. NLCIL, in the year 2012, appointed ICRA Management Consulting Services Ltd (IMaCS) to develop a corporate plan for NLCIL till the end of 2020, covering the proposed projects envisaged at that point of time.

On account of changed timelines and new capacity envisaged, NLCIL approached SBI Capital Markets Ltd. (SBICAP) to update the Corporate Plan prepared by IMaCS. The report has been prepared by SBICAP on the basis of IMaCS's report, information provided by the company, discussions with company executives and secondary data from market sources considered reliable.

Subsequently, on revisiting the current scenario and other developments, it is proposed to make the following changes in the Corporate Plan.

FOCUS AREA OF IMaCS REPORT

The IMaCS report focused on the strategies that NLCIL should adopt over the next ten-year period, which constituted 3 phases namely Phase I, Phase II and Phase III the focus areas of each of which are indicated as below ;

- The Phase I of the report focused on strategic issues faced by NLCIL in mining, power generation, human resources, project under implementation and finance. The Phase I report also mentioned the relevant practices or strategies in mining and power generation being followed internationally and in India which can be adopted by NLCIL.
- The Phase II of the report detailed about the current IT strategies, human resource policies and R&D practices followed by NLCIL, and suggested the changes required in the existing strategies and new practices that can be implemented by NLCIL.
- The Phase III of the report worked out a business plan for NLCIL, which provided strategic direction, time frame, resource requirements and strategic milestones necessary to be achieved. An implementation plan, which will have timely clearance and approvals, capacity building, project management, strengthening of monitoring and reporting system, etc. has also been suggested.

The report prepared by SBICAP presents an updation of the corporate plan prepared by IMaCS. This report covers new capex envisaged by NLCIL in Thermal, Solar & Wind power projects and development of coal and lignite mines. This report also covers proposed plans for HR & IT based on the discussion with the Company.

PROJECTS UNDER IMPLEMENTATION AND FORMULATION

Mining

The mines proposed in the table below shall be utilized for the proposed lignite based power plants and to improve the efficiency of existing power plants of NLCIL.

S.No.	Mining Project	Capacity (MTPA)	Expected COD
	Lignite Mines		
1	Expansion of Mine IA	4.00	2020-21
2	Barsingsar Expansion	0.40	On Hold
3	Bithnok	2.25	
4	HadlaMine	1.90	
5	Mine - III	11.50	Mar-21
6	Palayamkotai& South of Vellar*	11.50	Mar-22
	Sub - Total I	31.55	
	Coal Mines		
1	Pachwara South (Linked to UP Project 3 x 660)*	11.00	Mar-20
2	Talabira II & III (Linked to NTPL & Odisha Power Projects)*	20.00	Mar-19
	Sub - Total II	31.00	
	Existing Capacity- Total III	30.60	
	Grand Total (I+II+III)	93.15	

* Will be operated through MDO route

NLCIL was initially allocated the coal blocks in Jilga Barpali (Chhattisgarh) and South Pachwara (Jharkhand) to cater to the proposed coal based power plants of NLCIL. However, on account of adverse geo-mining conditions and deep seated underground deposits in Jilga Barpali, NLCIL requested for allocation of an alternative coal block. Towards the same, the Ministry of Coal then allocated Talabhira II and III Coal blocks in Odisha. The company is assessing development of these allocated coal blocks to the extent of 31 MTPA and has issued orders for Mine Developer and Operator (MDO) for the development and operation of Talabira II & III coal blocks and selection of MDO for the Pachwara South coal block is under progress.

Power Generation

Apart from lignite and coal based thermal power plants, NLCIL also firmed up plans to foray in to renewable energy sector through wind and solar based power plants. The following is the list of power projects proposed to be implemented by NLCIL

Power Generation			
Project Name	Capacity (MW)	Expected CoD	Equity Stake (%)
Lignite based Power Plants*			
TPS-I replacement Unit-1	500	Sep-18	100%
TPS-I replacement Unit-2	500	Sep-18	100%
Barsingsar Expn.	250	On Hold	100%
Bithnok TPS	250	On Hold	100%
TPS-II 2 nd Expansion-Phase I	1,320	Mar-22	100%
TPS-II 2 nd Expansion- Phase II	1,320	Mar-24	100%

Power Generation			
Project Name	Capacity (MW)	Expected CoD	Equity Stake (%)
Total Lignite Based Power Plants	4,140		
Coal based Power Plant			
Acquisition of Power Asset - 1200 MW	1,200	2020-21	100%
Acquisition of Power Asset - 600 MW	600	2021-22	100%
Acquisition of Power Asset - 1200 MW	1,200	2021-22	100%
UP Project Unit-1	660	Jun-20	51%
UP Project Unit-2	660	Dec-20	51%
UP Project Unit-3	660	Jun-21	51%
Odisha TPP Unit-1	800	Mar-22	100%
Odisha TPP Unit-2	800	Sep-22	100%
Odisha TPP Unit-3	800	Mar-23	100%
Odisha-TPP-Phase II	800	Mar-24	100%
Odisha-TPP-Phase III	800	Sep-24	100%
Total Coal Based Power Plants	8,980		
Wind Power Plant*			
Wind Project Unit-1	50	Mar -20	100%
Wind Project Unit-2	50	Mar- 20	100%
Wind Project Unit-3	50	Mar- 20	100%
Wind Project Unit-4	50	Mar -20	100%
Total Wind Power Based Plants	200		
Solar Power Plant			
Solar Project-1 (TN)	200	Jun-19	100%
Solar Project-2 (TN)	709	Mar-19	100%
Solar Project-3 (AP, MP, UP)	2,651	Mar-22	100%
Total Solar Power Based Plants	3,560	Mar-22	100%
Total Power Plants Capacity addition	16,880		
Existing Capacity	4,731		
(-) TPS-I	(-) 600		
Total Power Generation by 2025	21,011	After closure of TPS-I	

**All the lignite based and wind power based plants shall be implemented by NLCIL directly without forming any SPV, while the remaining power plants shall be implemented through a JV structure with NLC holding the majority stake*

With the implementation of above projects, the generation capacity of NLCIL would increase from the existing capacity of 4,731 MW to 21,011 MW in FY 2025 (after decommissioning of 600 MW TPS I power plant in FY 2020). NLCIL has sought an exemption from the competitive bidding procedure and has requested for selling power at a rate determined as per CERC principles of tariff fixation as applicable for the remaining power projects of NLCIL.

The year-wise capacity addition is tabulated as under:

Capacity Addition	FY 2017	FY 2018	FY 2019*	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025*
Lignite	-	-	400	-	-	1,320	-	1,320	500
Coal	-	-	-	-	2,520	3,260	1,600	800	800
Wind	48	3	-	200	-	-	-	-	-
Solar	10	230	1,109	651	1,000	1,000	-	-	-
Total	58	233	1,509	851	4,520	5,580	1,600	2,120	1,300

**on account of decommissioning of TPS-I Power Plant*

**on account of Govt. of Rajasthan remarks to Review.*

The year-wise total installed capacity of the Company is tabulated as under:

Installed Capacity	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Thermal-Lignite	3,240	3,240	3,640	3,640	3,640	4,960	4,960	6,280	6,780
Thermal-Coal	1,000	1,000	1,000	1,000	3,520	6,780	8,380	9,180	9,980
Wind	48	51	51	251	251	251	251	251	251
Solar	10	240	1,349	2,000	3,000	4,000	4,000	4,000	4,000
Total	4,298	4,531	6,640	7,391	10,911	16,491	18,091	20,211	21,011

KEY ISSUES FACED BY NLCIL

Mining

- **Limited Lignite reserves in Neyveli:**

As per the Report of the Working group on Coal & Lignite for formulation of XII Plans, lignite reserves in India are estimated at around 65.41 billion tons as on April 1, 2016 of which 80% occur in the southern State of Tamil Nadu. Other states where lignite deposits are located are Rajasthan, Gujarat, Kerala, Jammu and Kashmir and Union Territory of Pondicherry.

The current lignite reserves in Neyveli is 28.31 billion tonnes, which is expected to last for next 30-40 years, limits the capacity expansion in future with lignite as fuel in Neyveli. Therefore, there is a need to look at newer resources /alternate resources for fuel as strategic fit to synergise with its existing resources and also to meet its future envisaged capacity expansion.

- **Land acquisition:**

The expansion plans envisaged by NLCIL necessitates the acquisition of large tracts of land. Land acquisition for new Greenfield projects and also for the expansion projects of NLCIL is becoming difficult with legal petitions for enhanced compensation.

- **Evacuation of water from mines:**

Water management in mines is another critical area due to the proximity of sea and Neyveli being located in an area that receives regular monsoon. During the past, there have been instances where flooding has affected the mine production. However on account of proactive measures taken by NLCIL, like pre monsoon preparation and regular pumping of water, impact on production has been minimized.

Power Generation

- **Replacement of aging units at TPS I:**

Life Extension Programme (LEP) was carried out for all the nine units of TPS-I between 1992 and 1999. The power plant having been in operation for 45 years is nearing its extended life as well. Heat rate has deteriorated significantly resulting in high specific lignite consumption. The TPS I Expansion project is able to operate at a PLF of 80% in the last five years exceeding their targets whereas, TPS I could operate only at 69% PLF in 2014-15 and at 70% PLF in 2015-16 due to its old age.

In order to address the above issue, NLCIL management has decided to phase out all the units under TPS-I gradually between 2018 and 2019. Replacement of these units is imperative with higher capacity turbines thereby ensuring better efficiencies with lesser manpower. A new thermal power station, Neyveli New Thermal Power Station (NNTPS) of 1000 MW (2x500 MW) capacity is under construction to replace TPS I and is expected to be commissioned by Sep-2018.

STRATEGIES TO BE ADOPTED BY NLCIL:

India's economic growth in the last two decades has led to increased demand for power generation and its allied activities. During the same period, many of the Public Sector Undertakings (PSUs) have seen huge growth to cater to this demand by expanding their capacities as well as capabilities. Diversification has become a strategy for these PSUs to de-risk their existing business and to achieve organizational growth both organically and inorganically.

On evaluation of the best practices followed by these PSUs, it is suggested that NLCIL can adopt some of the strategies including vertical integration and horizontal diversification. A special case of global diversification can also be assessed by NLCIL. The three forms are explained in detail along with their applicability to NLCIL.

Vertical Integration:

NLCIL, in all of its operational power projects, is vertically integrated at the back end as it operates the lignite mines, which feed the power plants. The presence in both fuel supply of lignite and generation through lignite-based power plants has enabled NLCIL to achieve self-sufficiency in operations and improved cost efficiency for its lignite based power plants.

NLCIL may also assess to undertake transmission and distribution activities to complete the value chain of power business. NLCIL has also been allocated coal blocks in Talabhira II and III and South Pachwara which shall enable the fuel sufficiency for the coal based thermal power stations in Odisha and Uttar Pradesh respectively.

NLCIL may also explore forming Joint Ventures with power plant equipment manufacturers. The same can help in faster implementation of power projects without any delay.

Horizontal Diversification:

Horizontal diversification ideally represents moving in to a new industry or new product segment. However, here, as NLCIL is focussed on power sector, it can be a representative of different modes/ fuels like coal-based power, lignite based power, wind farms, solar etc. In recent years, NLCIL has made a start in setting up wind farms and solar plants.

NLCIL has formed joint ventures with TANGEDCO and UPRVUNL for setting up coal based thermal power plants in Tamil Nadu and Uttar Pradesh respectively. NLCIL has successfully commissioned its first coal based thermal power plant in TamilNadu, which was implemented as a Joint Venture with TANGEDCO. NLCIL may expand, by acquiring industrial units/government undertaking in the power sector that have potential for profits after evaluating the synergies and risks pertaining to the particular industrial unit/undertaking.

NLCIL could also look to provide Consultancy services on mine planning, power plant operations and maintenance, residual life assessment, etc. to state run utilities to start with.

BUSINESS PLAN

Capacity Augmentation

NLCIL has a healthy project pipeline to attain additional capacities which is in line with the said objective. The investment in capacity expansion would also help in utilizing the idle cash reserves of the company and enable the growth of the company on account of improved revenue potential. NLCIL can also balance the growth of the power projects through establishment of captive mines both coal and lignite for these power projects by utilizing the experience and capability acquired in the mining sector. The company by establishing captive mines for its proposed power plants shall also be able to maintain cost effectiveness.

Diversified Fuel Mix

As lignite reserves are limited for further exploitation at Neyveli, it becomes increasingly necessary to diversify the fuel mix to achieve a balanced portfolio on long term power generation capacities. To achieve the same NLCIL plans to implement coal based power projects and has already commissioned coal based thermal power plant at Tuticorin through a joint venture with TANGEDCO (with the first unit commissioned in June 2015 and second unit in August 2015). Further there are power plants proposed to come up in Odisha and Uttar Pradesh which will be utilizing captive coal blocks allocated by GoI for the specific projects. Hence, by 2025, coal would be an important fuel forming bulk of the future power generation activities of NLCIL. Further NLCIL also has wind and solar power projects proposed to be set up that would provide a more diversified generation mix for NLCIL as a whole.

Geographical Expansion

The operations of NLCIL are majorly concentrated in Tamil Nadu. The need for expansion of operations across geographies is important on account of;

- proximity to fuel to ensure consistent production
- Ability to cater to the varying demand situation across different regions.
- Diversify the risk in terms of the power off-takers

NLCIL has already established operations in Rajasthan where it has now access to lignite mines and has also set up lignite based plants making use of the raw material availability. Further planned projects, once online would enable NLCIL to cater to the demand-supply deficit in the northern parts of India along with the western and southern parts of India. The company has already signed PPAs/MoUs with power purchasers to that effect. The company is also in the process of signing MoUs for projects in Odisha, where discussions are already on. The proposed geographical expansion activity would also aid in mitigating project portfolio risks.

Focus on Coal based TPS & Renewable Power

NLCIL's major focus in the near future is proposed to be on coal based power generation and hence NLCIL will be actively considering the core opportunities along with renewable power (wind and solar) opportunities in addition to the plans to set up lignite based power stations. Considering the potential for renewable energy, NLCIL's Board has given in principle approval for installation of Solar Power Projects to the tune of 3,400 MW, subject to techno-commercial viability, in various states.

Capital Expenditure:

The total capital expenditure over the period from FY 2016-17 to FY 2024-25 has been projected to be approximately Rs 1,28,983Crore based on the schedule provided by NLCIL and the same is proposed to be funded by debt of Rs 90,324Crore, internal accruals of Rs 23,176Crore, fresh equity of Rs 3,500 Crore and equity of Rs 11,982Crore from new JV partners. The capex plan from FY 2017 to FY 2025 and means of finance is as shown in the table below.

RsCrore

Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	Total
Rupee loan	8,433	12,269	20,009	16,017	13,446	8,664	5,839	4,362	1,285	90,324
Internal Accruals	2,804	3,698	1,668	4,892	4,228	2,624	1,666	1,312	284	23,176
Funds raised from Equity Markets	-	-	3,500	-	-	-	-	-	-	3,500
Equity from JV Partners	880	1,648	3,199	1,972	1,535	1,089	836	557	267	11,982
Total Capex	12,117	17,615	28,375	22,881	19,209	12,378	8,341	6,232	1,836	1,28,983

The fresh infusion of equity by NLCIL and JV partners has been arrived at by considering the internal accruals (post debt service) that the company is able to generate from its proposed capacity additions and its existing operations. The same is subject to the actual implementation of the proposed plans of the company and the cash generation from the existing and additional projects. Any deviation from the above may necessitate NLCIL to have a relook at the same with regard to funding mix.

Business Plan Projections:

The business plan projections for the years from FY 2017 till FY 2025 as per the discussions with the company are as below:

Key Financial Projections

RsCrore

Particulars	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Profit & Loss Statement									
Revenue	12,053	15,939	19,570	26,141	32,037	36,382	45,481	48,993	58,531
Total Expenditure	7,808	10,435	12,726	14,231	16,858	18,928	22,532	24,253	28,375
Operating Profit (EBITDA)	4,245	5,503	6,844	11,910	15,180	17,454	22,949	24,740	30,156
Other Income	241	192	101	52	35	116	327	671	1,182
PBT	2,313	2,807	2,922	6,377	7,651	7,746	12,055	13,108	17,984
PAT	1,490	1,815	1,888	4,149	4,967	5,009	7,815	8,481	11,657
Dividend & DDT	923	954	997	1,498	1,794	1,808	2,822	3,062	4,209
Balance Sheet									
Liabilities									
Net Worth	17,419	19,927	27,517	32,140	36,849	41,138	46,967	52,943	60,658
Non-Current Liabilities	18,793	30,085	48,380	63,301	75,367	81,827	85,333	87,139	85,968
Current Liabilities	4,627	5,681	6,888	8,381	9,506	10,472	12,107	13,229	15,227
Total Liabilities	40,840	55,694	82,785	1,03,822	1,21,721	1,33,437	1,44,407	1,53,312	1,61,854
Assets									
Net Fixed Assets	23,005	26,829	45,103	56,287	78,669	95,372	1,00,914	1,11,190	1,15,675
CWIP	6,584	18,919	27,055	36,105	29,491	20,787	18,576	8,993	279
Other Non-Current Assets	1,905	1,905	1,905	1,905	1,905	1,905	1,905	1,905	1,905
Current Assets	9,345	8,040	8,722	9,525	11,656	15,372	23,012	31,223	43,995
Total Assets	40,840	55,694	82,785	1,03,822	1,21,721	1,33,437	1,44,407	1,53,312	1,61,854
Cash Flow Statement									
Cash Flow from Operations	4,942	3,091	3,655	6,155	8,400	9,451	12,546	14,661	18,821
Cash Flow from Investments	(12,117)	(17,615)	(28,375)	(22,881)	(19,209)	(12,378)	(8,341)	(6,232)	(1,836)
Cash Flow from Financing	7,965	12,095	24,113	15,724	11,236	5,205	553	(1,727)	(6,671)
Net Increase/Decrease	790	(2,429)	(607)	(1,002)	427	2,278	4,758	6,701	10,314
Cash Opening Balance	3,620	4,410	1,981	1,373	371	798	3,076	7,834	14,535
Cash Closing Balance	4,410	1,981	1,373	371	798	3,076	7,834	14,535	24,849

Particulars	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Financial Ratios									
EBITDA Margin	35%	35%	35%	46%	47%	48%	50%	50%	52%
TOL / TNW	1.34	1.79	2.01	2.23	2.30	2.24	2.07	1.90	1.67
ROE (%)	9%	9%	7%	13%	13%	12%	17%	16%	19%
Long Term Debt Equity Ratio	0.89	1.34	1.63	1.84	1.91	1.85	1.67	1.49	1.25
Debt Service Coverage Ratio	1.52	1.49	1.26	1.77	1.71	1.55	1.65	1.65	1.77
Interest Coverage Ratio	4.33	3.84	3.33	4.05	3.68	3.21	3.70	3.66	4.14

SWOT ANALYSIS

Strengths

- NLCIL, a 'Navratna' company operates the largest open cast mine in Asia at Neyveli and has a track record of over 50 years in successful lignite mining.
- NLCIL has been operating lignite based power plants for the past 40 years making use of the lignite mined from its mining operations as fuel thereby improving efficiency of the power plants.
- NLCIL has a strong network of interconnected mines and power plants wherein the excess lignite earmarked for one power plant can be transferred to boost the efficiency of other power plants thereby functioning as a well-integrated mine and power utility.
- NLCIL has implemented its first coal based power plant in a joint venture with Tamil Nadu state power utility (with the first unit commissioned in June 2015 and second unit in August 2015), in Tuticorin and has hence already started the process of diversifying its resource base.
- NLCIL has also formed JV with Uttar Pradesh RajyaVidyutUtpadhan Nigam Limited (UPRVUNL) for setting up NUPPL and is also in final stages of acquiring Power project of DVC.
- NLCIL has implemented its first renewable energy based power plant (a 10 MW Solar power plant at Neyveli and a 43.5 MW Wind Power plant are commissioned so far).
- NLCIL currently has an external credit rating of AAA+ and is able to raise the funds at the lowest possible rates allowed for the Banks to fund the corporates.
- NLCIL has accumulated huge cash reserves through successful operations and the same has enabled NLCIL to invest in upcoming projects on its own.

Weakness

- NLCIL on account of its long history has been operating some aged power plants which are relatively inefficient and are hence in need of up gradation.

The thermal power plant (TPS II) is nearing its residual life (30 years) of the plant. Due to aging, maintenance requirements have increased. NLCIL plans to decommission TPS-I (600 MW) which is more than 40 years old and replace it with Neyveli New Thermal Power Station (1000 MW).

- Stripping ratio is continuously on the rise due to ageing of NLCIL's lignite mines which increase cost of mining.

NLCIL is assessing development of new mine areas located in Neyveli which could have a lower stripping ratio and is looking at gradually phasing out the mines which become uneconomical over a period of time.

- The proposed power plants of NLCIL had undergone a delay in terms of implementation.

The delays are mainly attributable to delayed supplies of Specialized Mining Equipment (SME) and delayed supply and erection of main plant package of thermal projects. Since NLCIL is planning a pipeline of new and large projects across the country, it is necessary to take steps to ensure timely supplies and erection and commission in the future to avoid cost and time overruns with the incorporation of suitable clauses in the supplier's contract.

Opportunities

- The company has already acquired lignite mines in Rajasthan and plans to set up lignite based power plants in addition to the existing one at Barsingsar to operate efficiently utilizing the lignite mined.
- The company has proposed plans to set up two 1980 MW coal based power plants (in Odisha Phase I &II and Ghatampur) and has been allocated coal blocks by GoI for these projects. NLCIL can leverage their mining experience to ensure effective development of these coal mines and the same will enable NLCIL to acquire operational expertise with regards to coal based power plants. NLCIL plans to acquire coal mines in India to enhance the raw material reserves and enable diversification of fuel resources.
- NLCIL has opportunity to utilize its expertise in energy to provide energy consultancy services to industry players such as state utilities who may need to improve the efficiency of their projects to save costs.
- NLCIL is already in the process of implementing renewable energy based power projects in wind and solar sector which will further diversify its generation base.
- Thrust by Government of India for development of power through Renewable energy and acquisition of Power Assets

Threats

- Given the massive capacity addition plans in the renewable sector, CEA, in its draft national electricity plan estimates no requirement for new coal plants in 2017-22.

Considering the potential for renewable energy, NLCIL's Board has given in principle approval for installation of Solar Power Projects to the tune of 3,400 MW, subject to techno-commercial viability, in various states. NLCIL has already set up a 10 MW Solar and 43.5 MW Wind power plants. NLCIL shall adopt cleaner and more efficient technologies for setting up of the proposed thermal plants.

- NLCIL has limited opportunity to grow its lignite reserves.

Lignite reserves in India are estimated at around 43 billion tons, of which 79.5 percent occur in the southern State of Tamil Nadu. Other states where lignite

deposits are located are Rajasthan, Gujarat, Kerala, Jammu and Kashmir and Union Territory of Pondicherry. Out of the 43 billion tons of lignite, only about 5.18 billion tons are regarded as mineable, leaving a large chunk of around 38 billion tons of un-mineable lignite reserves. NLCIL need to diversify its portfolio to other source of power generation and NLCIL has already taken steps towards the same as enumerated earlier.

- The lignite generated from the mines currently operated from NLCIL's mines at their current operating efficiency may not be sufficient to meet the increased lignite requirement on account of capacity addition of lignite based plants and sales to Independent Power Producer TAQA and external parties.

NLCIL has to improve the efficiency of the mines and also synchronize the commissioning of the proposed new plants with the commissioning of proposed new mines/augmentation plans of existing mines. NLCIL has already taken steps in this regard and has improved the mine availability of its existing mines to 86.96% which is the highest in its history.

- The increasing cost (both social and economic) of land acquisition may delay the proposed projects of NLCIL and also impact the operating cost of power projects.

Land acquisition for expansion is becoming difficult with legal petitions for enhanced compensation. As of now, there are over 6800 Land Acquisition Original Petition (LAOP) cases against NLCIL.

- NLCIL being located in an area in close proximity to the sea have faced instances where flooding has impacted the mine production.

NLCIL has implemented proactive measures like pre monsoon preparation and regular pumping of water which has minimized the impact on production.

- Increased competition from IPPs has resulted in highly competitive tariff rates being quoted.

NLCIL will have to ensure operational efficiency so that it can compete with IPPs in tariff based bidding process and NLCIL has taken steps towards the same by implementing coal based power projects. NLCIL has also requested for exemption from competitive bidding route in specific cases and the same is under review.

RISK ANALYSIS

Risk	Mitigation
Project Implementation Risk	
Land availability Risk	<p>The proposed expansion plans of NLCIL involve implementing large scale solar projects and ultra-mega power plants which involve considerable land acquisition requirement and the associated R&R activities. The company as informed by them is proposing the following mitigation plan.</p> <ul style="list-style-type: none"> • Constant follow-up actions are taken up with the District Administration for the Projects concerned. • Persuading and convincing the land owners to hand over lands voluntarily in strategic locations. <p>Land acquisition for NLCIL has been carried out through the GOTN LA Act 10/99. As informed by NLCIL, Govt. Of Tamilnadu is taking necessary action to resume land acquisition for Industrial purposes by exempting it from New Central LA Act 2013 and the details are still awaited.</p> <p>In the case of solar projects the company proposed to bid for Projects in states wherein land has been identified by the Government at the time of bidding.</p> <p>Risk: Medium</p>
Equity funding risk	<p>The proposed corporate plan envisages a considerable capital expenditure outlay within a shorter time span of 4 to 5 years. NLCIL inspite of consistently generating surplus cash accruals in the past and having projected to do the same in the future shall face a shortfall when it comes to funding these Projects from its internal accruals.</p> <p>The company proposes to implement the Projects outside Neyveli and Rajasthan by forming Joint Venture vehicles with NLCIL retaining the majority stake. The JV partner in most cases shall be state and central utilities. NLCIL has already successfully carried out such JV route in the case of NTPL which owns and operates the 1000 MW coal based power plant in Tuticorin. NLCIL has also entered into a JV (51:49) with UPRVUNL for implementing the 1980 MW thermal power project at Ghatampur UP and has entered into a JV (74:26) with DVC for operating the 1200 MW Thermal power project at Raghunathpur, West Bengal. The company proposes to develop the solar projects of 3990 MW capacity and the thermal power Project in Odisha and further projects proposed to be acquired in the next two years on a JV route with NLCIL holding 51% stake. NLCIL is already in talks with central and state players in some of these cases towards the same.</p> <p>In addition to same, NLCIL plans to assess efficient means of financing including raising funds from the equity markets to meet the proposed growth plans in the future.</p> <p>Risk: Medium</p>

Debt funding risk	<p>NLCIL currently has an external credit rating of AAA+ and is able to raise the funds at the lowest possible rates allowed for the Banks to fund the corporates. The leverage levels such as D: E ratios are around 0.8 which is considerably low for a company in infrastructure sector.</p> <p>The implementation of the projects as proposed under the Corporate Plan shall involve raising huge debt amounts in a short span of time which shall considerably impact the leverage levels of the company and consequently impact the external credit rating and the pricing at which the debt amounts are raised.</p> <p>NLCIL, as already mentioned, shall implement the Projects under the JV routes and shall assess possible ways to start operations of the power plants in the shortest possible time frame from the date of capital investment. NLCIL shall call for competitive bids from lenders to fund these projects thereby realizing the most competitive rates for funding these projects. NLCIL is already in the process of carrying out such bids for the debt requirement of NUPPL Project which resulted in the most competitive bids quoted, much lesser than the interest rates considered at the time of appraisal of this project.</p> <p>Risk: Medium</p>
Time Overrun and Cost Overrun Risk	<p>NLCIL in some of the past cases with regards to implementation of Projects such as TPS-II Expansion and the coal based thermal power project of NTPL has been impacted by the delay in commissioning leading to time overrun and cost overrun. The same in the case of proposed new projects could considerably impact the projected revenues over the years.</p> <p>NLCIL has taken considerable effort to reduce the delays and has attributed the delays in previous projects on account of the EPC Contractors and equipment suppliers and also on account of new technology. NLCIL also in the past has entered into such contracts with strict Liquidated damages clauses which has reduced the quantum of cost overrun in such projects.</p> <p>NLCIL shall utilize the experience gained in the past with regards to implementation of these projects and shall efficiently allocate resources to ensure that the projects are implemented within the time frame and within the costs budgeted.</p> <p>Risk: Medium</p>
Operational Risk	
Safety risks - Mines	<p>The safety considerations of the operational mines and power plants are of utmost importance for the efficient operations of these units. NLCIL as a company has been following the below mentioned concepts towards ensuring the safe operations of the units.</p> <ul style="list-style-type: none"> • Self-regulation. • Regular inspection & corrective action. • Following safe code of practices

	<ul style="list-style-type: none"> • Effective supervision. • Structured training of personnel. • Safety propaganda through handouts, posters, banners, boards and displays. <p>Risk: Medium</p>
Generation Risk	<p>The existing operational units of TPS-I are considerably old and hence the PLFs of these plants are lower. They also have a high station heat rate which results in inefficient consumption of lignite, pre-empting the utilization of lignite by newer and more efficient plants recently commissioned by NLCIL.</p> <p>The company has informed that Remnant Life Assessment Studies are conducted in TPS I and replacement of critical components are carried out during MOH. The TPS I Power Plant is likely to be kept in operation till commissioning of New Neyveli Thermal Power Plant NNTPP which is expected to be commissioned in FY 2018.</p> <p>Further the proposed thermal power plants under the Corporate Plan have been assumed to operate at 85% PLF. In the event, the same is not achieved; the revenue potential of the company shall be impacted.</p> <p>The company has indicated that new thermal power plants shall be set up only after proper due diligence and taking into consideration all necessary external factors including industry risk before starting works on implementation of thermal power projects.</p> <p>Risk: Medium</p>
Fuel Supply Risk	<p>The existing lignite based power plants of NLCIL are pit head based stations and have lignite mines with enough production capacity to meet the requirements of these power plants. The coal based thermal power plant in NTPL has entered into long term supply arrangement towards meeting 70% of the coal requirement. The company has been importing coal on a short term basis which meets the balance requirement.</p> <p>The proposed lignite based power plants in Neyveli and Barsingsar are also proposed to be developed as pit head based power plants and the development of mines shall be synchronized with the COD of these lignite based power plants.</p> <p>The company has been allotted the South Pachwara coal block and the Talabira II and III coal blocks for the development of thermal power plants in UP and Odisha respectively. The company proposes to develop and operate the same through a Mine Developer and Operator (MDO) and is in the process of assessing bids for selecting such MDO partner. As informed by NLCIL, it shall ensure that the power projects acquired and proposed to be acquired through a JV route shall have a pre-existing fuel supply arrangement and in cases of shortage in the same shall utilize the surplus coal from these allocated coal blocks.</p> <p>Risk: Medium</p>

Power Off-take Risk	<p>NLCIL sells the power generated from its existing power plants to the state utilities in TamilNadu and Rajasthan. The proposed 1980 MW thermal power project in Ghatampur, UP has also entered into fixed off-take with state utilities for purchase of 75% of the power generated from this unit. The tariffs in these cases as agreed to in the PPA are based on CERC principles of tariff determination and shall hence ensure recovery of costs plus an assured RoE for the equity invested.</p> <p>The remaining proposed thermal power projects which are still in conceptualization stage have not entered into a fixed offtake arrangement so far and have to enter into competitive bidding to sell the power generated from these units. The power industry is getting more competitive YoY on account of shrinking power demand supply deficit for the country as a whole and the tariffs under these competitive bidding could be much lower than the tariffs realized under CERC tariff principles and could impact the profitability of the company.</p> <p>The company has indicated that they have sought an exemption from the competitive bidding procedure from the concerned Government agencies towards the same and is hopeful of achieving a positive resolution. The company shall ensure that the new power projects proposed to be acquired have an already existing long term power off-take arrangement.</p> <p>Risk: Medium</p>
Payment Risk	<p>NLCIL has successfully in the past realized revenues from the state utilities including TANGEDCO. NLCIL shall be able to leverage their existing relationships with these utilities to efficiently realize these revenues.</p> <p>The new power projects outside Neyveli are in the form of JV with central and state utilities with considerable expertise in operating similar power plants and who shall bring their expertise in realizing revenues from state utilities. The offtake agreements shall have considerable payment security mechanisms such as revolving LC towards three months payments and other payment guarantees which shall mitigate the risk of delayed payment considerably.</p> <p>As NLCIL proposes to enter into offtake arrangement with only state utilities, the risk of default is minimal.</p> <p>Risk: Medium</p>
Regulatory Risk	<p>The tariff for the power supplied from Central Generating Stations (CGS) is determined in accordance with the Tariff Regulations notified by Central Electricity Regulatory Commission (CERC), generally once in 5 years specifying the Terms and Conditions and norms of operation for tariff determination. CERC has notified the Tariff Regulations dt: 21.02.2014, for determining tariff for the period from 01.04.2014 to 31.03.2019. The current regulations have placed restriction on additional capitalization of assets and currently CERC has rejected the capitalization</p>

	<p>of cost of the TG Rotor replaced in TPS I Expansion Unit I. NLCIL has appealed to the appellate tribunal against the same.</p> <p>NLCIL shall also strive to operate the proposed new power plants at the CERC determined operational norms to ensure that the RoE of 15.5% is realized to the maximum extent possible.</p> <p>The recent CEA Direction to close down less efficient power stations of capacity up to 100 MW shall impact the revenue potential of some of the units of TPS-I.</p> <p>The company has initiated a note for approval, to request TANGEDCO to give letter on the requirement of power from TPS I. NLCIL is already in the process of decommissioning the TPS-I units and in the worst possible scenario shall draft a closure plan, in most beneficial manner to both the company, the environment and other concerned stakeholders.</p> <p>Risk: Medium</p>
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APPLICABILITY OF DIPAM GUIDELINES

Department of Investment & Public Asset Management (DIPAM) vide its office memorandum "Guidelines on Capital Restructuring of CPSEs" dated May 27, 2016, provides guidelines for effective management of GOIs investments in CPSEs. The circular adopts a comprehensive approach for efficient management of GOIs investments in CPSEs by addressing inter-related issues, such as capital restructuring, dividend, bonus shares etc. These guidelines shall apply to all corporate bodies where GoI and/or Government controlled one or more body corporate having controlling interest.

Payment of Dividend

Every CPSE would pay a minimum annual dividend of 30% of PAT or 5% of Net worth, whichever is higher subject to the maximum dividend permitted under the extant legal provisions. Nonetheless, CPSEs are expected to pay the maximum dividend permissible under the act under which a CPSE has been set up, unless lower dividend proposed to be paid is justified after the analyses of the following aspects on a case to case basis at the level of Administrative Ministry / Department with the approval of Financial Advisors

- Net worth of the CPSE and its capacity to borrow;
- Long term borrowings;
- CAPEX / Business Expansion needs;
- Retention of Profit for further leveraging in line with the CAPEX needs; and
- Cash and Bank balance

The total capital expenditure proposed from FY 2017 to FY 2025 is Rs 1,28,983Crore. An amount of Rs 23,176Crore is proposed to be met out of internal accruals. Dividend payout has been worked out as per DIPAM guidelines i.e. maximum of 30% of PAT or 5% of Net worth in the Corporate Plan – 2025. However, NLCIL board at its board meeting held after the

closure of the financial year may take a final decision in this regard after considering capex / business expansion needs.

Buyback of Shares

Every CPSE shall look into and analyse / deliberate in first board meeting after the closure of the financial year the following parameters for the purpose of buyback:

- Cash and Bank balance
- Capital Expenditure and business expansion as committed with reference to CAPEX incurred in the last 3 years
- Net worth
- Long term Borrowings and further capacity to borrow on the basis of its Net worth
- Any other financial commitments in the near future
- Business / other receivables and contingent liabilities, if any
- Market price / Book value of Share

Since, there is a felt need for deployment of internal accruals for Capex/ Business Expansion needs, buyback of shares have not been assumed in the Corporate Plan – 2025. However, NLCIL board after deliberations in the board meeting held after the closure of financial year may take a final decision in this regard.

Issue of Bonus Shares

Every CPSE shall look into and analyse / deliberate in their board meeting / finance committee, the issue of bonus shares when their defined reserves & surplus are equal to or more than 5 times of its paid up equity share capital. In case, if it is decided not to issue bonus shares , the nominee 'official director' shall ensure that the board analyses the justification for the decision , and reasons for the same be recorded specifically. However, every CPSE shall issue bonus shares if their defined reserves & surplus is equal to or more than 10 times of its paid up equity share capital.

The defined reserves & surplus of NLCIL is less than 10 times of its paid up equity share capital as on March 31, 2016. However, NLCIL board after deliberations in the board meeting may take a final decision in this regard.

CONCLUSION

SBICAP on studying the corporate plan report prepared by IMaCS, and the market information available, analyzed the business environment and suggested the areas NLCIL needs to focus till 2025.

Based on this business plan, SBICAP prepared the financial projections for the company as a whole till FY 2025. From the above analysis, it can be assessed that the portfolio of power generation would undergo a shift from majorly lignite based to a mix of lignite, coal and renewable power by FY 2025. This change has brought in a fresh set of requirement as already mentioned elsewhere with regards to development of coal based assets to cater to the new thermal coal based projects.

The production capacity of lignite mines owned by NLCIL is projected to increase from 30.60 MTPA in FY 2016 to 93.15 MTPA in FY 2022 and the power generation capacity is projected to increase from 4571 MW as on March 31, 2018 to 210,11 MW in

FY 2025 on account of the proposed addition of projects till FY 2025. Apart from the above, the company has to develop their IT strategies and HR strategies to support the aggressive expansion plans as envisaged by the company. The company is expected to diversify its portfolio geographically from lignite based plants in Tamil Nadu to multi-state based and multi fuel based. NLCIL is also projected to add renewable capacities in the form of new projects in wind (200 MW) and solar (3760 MW) sector and acquire a 3000 MW thermal power assets part of the capacity addition exercise. The above expansion plans need careful planning in terms of arranging the financial resources to successfully implement them as envisaged.

Based on the study with regards to corporate plan of NLCIL, the following is recommended;

- NLCIL to undertake and complete the coal and lignite based power projects as envisaged within the targeted time frame to maximize the revenue potential.
- NLCIL to undertake wind and solar power projects as envisaged to diversify their revenue base as also add renewable capacities to its portfolio. NLCIL could also exploit the land available after closure of the mines to put up the solar capacities, wherever it is possible.
- NLCIL to undertake development of the allocated coal mines & Palayamkottai and south of vellar lignite mines through selection of competent MDO partner and synchronize production with the coal based power plants to enable cost efficiency.
- NLCIL to get exemption from signing PPAs under the competitive bidding route and ensure that the proposed power plants, which doesn't have a fixed off-take agreement shall sell power to utilities at tariff determined based on CERC principles of tariff fixation.
- NLCIL to synchronize the development of lignite mines in Rajasthan and Neyveli in line with the development of power plants in Rajasthan and Neyveli respectively to enable optimum utilization.
- NLCIL to improve the efficiency/availability of its mines in Neyveli from its existing efficiency/availability to comfortably meet the lignite requirement of its existing power plants, new proposed power plants, lignite sales to Independent Power Producers and External sales targets.
- NLCIL to streamline their IT and HR strategies to enable them successfully carry out the proposed expansion plans of the company.

Considering the Projected performance of the company under the assumptions explained and subject to the weakness and threats enumerated in the report, NLCIL as a company is projected to show considerable revenue growth from its existing level. This along with its improved mining and project execution capabilities, NLCIL can establish itself as one of the premier integrated power generating companies in the country. However, in order to achieve the above, NLCIL has to plan its financial resources and fund the envisaged projects with optimum debt/equity ratio.