Developmental Projects Business

Developmental Projects business segment comprises:

(a) Infrastructure projects executed through its joint venture company L&T Infrastructure Development Limited and its subsidiaries and associates (L&T IDPL Group)

(b) the Hyderabad Metro Rail project, executed through its subsidiary L&T Metro Rail Hyderabad Limited

(c) Power development projects executed through its subsidiary L&T Power Development Limited and its subsidiaries (L&T PDL Group) and

(d) Kattupalli port held for sale under its subsidiary Marine Infrastructure Developer Private Limited.

The operations of the Developmental Projects business segment primarily involves development, operation and maintenance of basic infrastructure projects in the Public Private Partnership (PPP) format; toll collection including annuity based road projects, power development and power transmission, and providing related advisory services. Significant cash generating assets have been created under the current business model, which are being explored for monetization on a continuous basis in order to maximize value creation for the benefit of stakeholders.

L&T Infrastructure Development Projects Limited (L&T IDPL)

Overview

L&T Infrastructure Development Projects Limited (L&T IDPL) is one of India's biggest Developers of Public-Private-Partnership (PPP) infrastructure projects. Since its inception in 1995, L&T IDPL has executed and financed landmark infrastructure projects across Transport and Energy, including Highways, Ports, Airports, Transmission lines, Hydel Energy and Urban Infrastructure, including Water. L&T IDPL currently operates 16 completed infrastructure projects in transport and energy across 8 Indian states, with a mix of toll and annuity assets. As of March 2018, L&T IDPL's portfolio had an estimated total project cost of ₹ 17718 crore.

Canada Pension Plan Investment Board (CPPIB), the largest pension fund in Canada, invested ₹ 2000 crore as share capital in L&T IDPL in 2014-15. This is the first direct private investment by a Canadian pension fund into an Indian Infrastructure Development company.

Over two decades of extensive experience in working with Governments, multi-lateral agencies, international and domestic financial institutions and corporate entities has helped L&T IDPL to develop proven competencies in project financing and execution,

Rajpura Supercritical Thermal Power Plant

across viability assessment, financial closure, project management, operations & maintenance and portfolio management of infrastructure assets in various sectors.

In addition to its project portfolio, L&T IDPL has installed Wind Energy Generators (WEGs) with a capacity of 8.7 MW in Tamil Nadu in March 2010. The energy generated is utilized for captive consumption. The WEGs are eligible for 16,128 Carbon Emission Reduction (CER) certificates per year until 2022 as a result of the carbon reduction by these wind generators.

Business Environment

During 2017-18, the business environment has been quite vibrant. L&T IDPL focused on excellence in O&M (operation and maintenance) of its existing 16 assets while there was constant evaluation of emerging opportunities in the PPP space. This evaluation was carried out for both new construction projects as also existing Government owned infrastructure assets that have been completed and are being offered for O&M. Notable developments in both sets of opportunities and the business environment are as follows:

Roads: Construction of highways reached 9,829 km during FY 2017-18, with an all-time high of 27 km per day. This represents a 20% growth over the previous year. Expenditure of ₹ 1,16,324 crore was incurred on construction of national highways during 2017-18. The PPP space witnessed a revival of sorts with the following key developments:

1. Launch & listing of the first Infrastructure Investment Trust (InvIT) in May 2017 (six toll-road assets comprising 3,645 lane km) triggering other developers to explore this opportunity to monetize mature road assets and bring down debt exposure.

2. Road developers, who until recently focused on projects that required them to invest heavily and bear major risks over long periods, have shifted to focus to an asset-light model like Hybrid Annuity Model (HAM), introduced in order to re-balance the risk sharing. Of the total length awarded by NHAI in fiscal year 2018, awarded 150 road projects of 7,400 km worth ₹ 1,22,000 crore. Of the total length awarded, 3,396 km (~46%) was awarded on Hybrid Annuity model at a cost of ₹ 76,500 crore and 209 km (~3%) on Toll mode at a cost of ₹ 2,500 crore. Commercial banks have selectively financed these HAM projects based on the standing of the developer/ sponsor. There is growing competition in the HAM model with most contractor-developers now bidding for projects.

3. Successful bid-out by NHAI of the first Toll-Operate-Transfer (TOT) bundle comprising of 9 NH projects realizing about ₹ 96.81 billion for operational road projects aggregating to a length of about 700 km.

4. Implementation of GST and E-way Bill; the unified tax regime has obviated the need for interstate check posts which has resulted in reducing the travel time of long-haul trucks and other cargo vehicles by over one-fifth and improved the turnaround time of the fleet. Improved traffic numbers coupled with positive WPI growth has led to a double-digit growth in revenues for most road developers.

Hyderabad Metro Rail project

5. Introduction of FASTags (electronic toll collection) by NHAI has led to decongestion at toll plazas and prevention of toll revenue leakage. L&T IDPL toll plazas witnessed a substantial increase in electronic tolling from 7% in Dec 2016 to 24% in June 2018.

6. As per the Economic Survey 2017-18, the road sector alone has NPAs of ₹ 36,596 crore. Rising NPAs, higher risk provisioning assigned to road sector and dwindling profits in the road sector have made banks reduce exposure to the infrastructure sector.

7. Commitment by several large pension funds and long term infra-focussed funds to the Indian infrastructure space along with NIIF of the Union Government is expected to boost the secondary market for TOT projects.

Transmission Lines: Around 23,119 circuit kms of transmission lines and 86,193 MVA of transformation capacity was added during FY 2017-2018. REC TPCL (REC Transmission Projects Company Limited, a 100% subsidiary of Rural Electrification Corporation) the Bid Process Coordinator (BPC) for Transmission Lines on the TBCB (Tariff Based Competitive Bidding) route has awarded two bids during FY 2017-2018.

A large number of Intrastate Transmission Line bids are expected in the coming years.

During the first quarter of FY 2018, an InvIT was successfully launched and listed in the Transmission Line sector (two power transmission projects with a total circuit length of approximately 1,936 ckms, and 6,000 MVA of transformation capacity).

Significant Developments in the current year

During 2017-18, L&T IDPL completed two of its highway projects, L&T Deccan Tollway and L&T Sambalpur Rourkela Tollways, both of which achieved commercial operations and commenced toll collection. These two highways are generating revenues of about. ₹ 60 Lakhs per day.

Overall, gross toll revenue of ₹ 1892.94 crore grew by 19% over the last fiscal, despite muted WPI growth of 3%

Electronic toll collections through FASTag saw a large jump. Further to the push of less-cash drive of Government of India, L&T IDPL FASTag collections went up by 87% (June 2017 to June 2018).

The transmission line business had gross collection of ₹ 202.26 crore as annuity payments.

In May 2018, L&T IDPL became the first infrastructure sponsor to successfully launch a private placed InvIT (infrastructure investment trust) with an initial portfolio of five road assets. This InvIT raised ₹ 3700 crore, with 55% of the funds coming from international investors from Canada and Germany. InvIT has enabled L&T IDPL to monetize five of its assets, repaying bank loans and providing growth capital; It also provides L&T IDPL a platform for operating assets, both existing and future.

Vadodara-Bharuch Toll plaza, Gujarat

Outlook:

In the coming year, L&T IDPL would constantly evaluate new opportunities with worthwhile returns, with a special focus on highways and transmission lines, while other sectors could be taken up on a project-wise basis. L&T IDPL would also focus on operational excellence for its existing asset portfolio. To ensure this, L&T IDPL is undergoing Project LEAP, a Business Excellence Initiative.

L&T IDPL looks forward to more PPP infrastructure projects in both project construction and asset monetization. We also hope for quicker dispute resolution processes, wherein several of our claims and court cases may see final determination. L&T IDPL would also engage with all stakeholders to ensure accounting policies and other enabling environment is conducive to its business.

L&T IDPL would also evaluate operational assets from the secondary market and shall seek to acquire such assets (primarily covering Highways & Transmission Lines) which meet the investment benchmarks. L&T IDPL would also seek to re-enter projects in Bulk/Industrial Water and Railways.

L&T Metro Rail (Hyderabad) Limited

Overview

L&T Metro Rail (Hyderabad) Limited (L&TMRHL) was incorporated on 24th August, 2010 as a special purpose vehicle to undertake the business to construct, operate and maintain the Metro Rail System in Hyderabad under the PPP (Public Private Partnership) model on Design, Build, Finance, Operate and Transfer (DBFOT) basis. The Company entered into a Concession Agreement with the erstwhile Government of Andhra Pradesh on 4th September, 2010. The agreement also provides for development and subsequent monetization of Transit Oriented Development.

The Metro Rail system includes construction of three elevated corridors from Miyapur to L. B. Nagar, Jubilee Bus Station to Falaknuma and from Nagole to Shilparamam, covering a total distance of 71.16 km. The concession period of the project is for 35 years including the initial construction period of 5 years. The Concession period is extendable for a further period of 25 years subject to fulfilment of certain conditions by the Company as set out in the Concession Agreement.

The estimated project cost is ₹ 16,375 crore which includes the cost of rail system and 6 million TOD which is to be funded by a term loan of ₹ 11,478 crore, equity share capital of ₹ 3,439 crore and Viability Gap Fund from Government of ₹ 1,458 crores. The company has tied up its entire debt and achieved financial closure on 1st March 2011. The Government of Telangana has declared the appointed date as 5th July, 2012 upon fulfilment of the condition precedents (CP) from both the parties i.e. L&T Metro Rail (Hyderabad) Limited and the State Government.

The Company is executing the project, covering a total distance of 71.16 km in 3 different corridors. This entire distance is further sub-divided into 6 stages for ease of implementation. The project cost

Visakhapatnam industrial water supply project, Andra Pradesh

incurred during the year 2017-18 is ₹ 2,241 crore and cumulative up to 31.03.2018 is ₹ 14,723 crore. The Hon'ble Prime Minister inaugurated a 30 km stretch of the Metro Rail System on 28th November, 2017 connecting Miyapur to Ameerpet in Corridor 1 and Ameerpet to Nagole in Corridor 3.

The overall physical progress of the project as on 31.03.2018 is 81%. Construction works in Stage 4 and 5 are nearly complete. The Company is aiming for the commencement of commercial services from Ameerpet to LB Nagar and Ameerpet to Hitec city before December 2018. Stage 6/1 is slated for completion during first quarter of next financial year.

As per the Concession Agreement (CA), the scheduled Commercial Operation (COD) date for the entire project length of 71.16 km was 5th July, 2017. However, due to delays in getting RoW and confirming alignment changes, the construction of the project has got delayed. The lenders have accorded sanction of extension of time for COD up to two years i.e., up to 5th July, 2019 with a corresponding increase in the loan period. As per the revised schedule, the loan repayment will start from 30th September, 2020. The corresponding cost implications are being assessed for claiming compensation.

TOD Projects commenced commercial operations at Punjagutta (0.48 million sq. ft. office space during Nov. '17 and mall space during Feb. '18) and at Hitec city (0.21 million sq. ft. mall space during Feb18). Two other malls at Errum Manzil (0.35 million sq. ft.) and Musarambagh (0.24 million sq. ft.) are nearing completion. Strategies to develop the Raidurg site, which is a large parcel of land, at a prime location and has a potential of 3.20 million sq. ft. of mall space and office buildings, are underway.

Viability Grant of Funding (VGF) is being released by the Central Government from time to time as per eligibility and the total VGF drawn stood at ₹ 1204 crore as on 31st March, 2018.

Business Environment

About 10 million transport trips are performed every day in Hyderabad city and the major share is taken by bus transport (50%). The city roads are congested, with only 8% road area and a very low average speed (about 8 kmph). The Company is poised to provide safe and punctual travel and has been working on various value-added initiatives including last mile connectivity, digital ticketing and a Mobile app to minimize commuters' pain points, ensuring higher ridership on the metro system.

Non-fare revenue generation through cross-selling of products to commuters is being increasingly explored. This will be further strengthened by Metro expansion, which will result in higher ridership. The Government of Telangana has plans to implement Phase II of the Metro project, covering 85 km (including the Airport link). This will enhance the average ridership on the Metro system significantly due to the network effect.

The Company has been granted rights for Real Estate development with strategically located land parcels

Kudgi Power Transmission Line project, Karnataka

interspersed at prime city locations, adjoining metro Stations and metro corridors. Developments would encompass Grade-A commercial developments for IT/ITES Office, Healthcare, Retail and Hospitality. Advertisement space offers good revenue potential through unlocking various innovative products and services.

Significant Initiatives

The Company has tied-up with a solar power developer for generating captive solar power of about 10 MW at a very competitive price, which will generate about 10% of energy requirement of Metro trains. The Company has also received concessional rate of ₹ 4.95/- per Unit (cheapest in the country) for electricity.

The Company is exploring various non-fare revenue generating options through optimization of resources developed in-house for the past 5 years, namely:

- Leasing out space for erecting mobile towers.
- Skywalks connecting the malls & metros leading to increase in footfall and increased ridership
- Tie up with cab operators
- Leasing out Optical Fibre
- Training our upcoming metro staff with the existing infrastructure
- Consultancy services for other metros.

The Company has developed models to obviate TOD related threats, while leveraging the various advantages of the offering like metro-rail connect, strategic locational offering, etc., and has also obtained automatic step-in-rights by the Government for specific retailers by which, the risk in the event of termination is mitigated. The Company has also re-negotiated contracts with various project contractors to minimize the claims, on account of extension of time.

Outlook:

The Company is planning to open another two stages of Metro (Stage 4 & Stage 5) in FY 2018-19, thus taking the total metro operations to 56 km, with an expected overall ridership of approx. 6.15 lakhs per day. Measures like fare integration with other transport modes and collaborations with various feeder services for first and last mile connectivity are being taken to strengthen fare revenue. The Company is also exploring other Non-Fare Revenue initiatives like consultancy services with in-house competency on Metro system, Wi-Fi, Radio, etc., that will add extra revenue to the Company.

Buoyed by the success of Phase 1 Malls, the Company intends to start with a 0.5 million sq. mall at Raidurg along with 0.15 million sq. mall at Rasoolpura. Discussions with customers to kick start a few other developments of the portfolio are underway. Measures are being taken to upfront the cash inflows on advertisement services by entering into longer tenure contracts.

L&T Power Development Group

Overview

L&T Power Development Limited, a wholly-owned subsidiary of L&T, is engaged in developing, operating and maintaining power generation assets.

The portfolio comprises projects in thermal and hydel power generation projects aggregating to 2270 MW.

Hydel Power Projects

Hydel projects with an aggregate capacity of 870 MW are in various stages of execution.

A brief status is depicted below:

Name of Project	Capacity (MW)	State	Name of Subsidiary	Current Status
Singoli-Bhatwari Hydro Electric Project	99	Uttarakhand	L&T Uttaranchal Hydropower Limited	Advanced stage of construction, Dry-commissioning of Unit-1 expected by Mar'19
Tagurshit Hydro Electric Project	74	Arunachal Pradesh	L&T Arunachal Hydropower Limited	Evaluation of viability/exit
Sach-Khas Hydro Electric Project	267	Himachal Pradesh	L&T Himachal Hydropower Limited	
Reoli-Dugli Hydro Electric Project	430			
Total	**870**			

Thermal Power Projects – Nabha Power Limited (NPL)

NPL owns and operates a 2X700 MW supercritical thermal power plant at Rajpura, Punjab. Under the Power Purchase Agreement (PPA) with Punjab State Power Corporation Limited (PSPCL), which is for a period of twenty-five years, the entire power generated from this plant is sold to PSPCL. The plant is built on super critical technology of Mitsubishi, Japan. It is the first 'made in India' supercritical power plant to be commissioned and operational in the country.

The plant sources its fuel from South Eastern Coalfields Ltd. (subsidiary of Coal India Limited) under a 20-year Fuel Supply Agreement (FSA). The Company also secured approvals to arrange coal from alternative sources to make up for any shortage in supply of coal under the FSA. The State Government has allocated the perennial source of water for the plant from the Bhakra-Nangal distributary. The plant is operated by an in-house team of experienced operations and maintenance professionals.

The power plant has been running successfully for over four years with an availability of 85% during FY18. NPL has been the most reliable source of power for the state of Punjab and has supported its requirements with uninterrupted supply during peak season.

NPL also happens to be the lowest cost power producer within Punjab with benchmark-setting operational efficiency.

Business Environment

India's Electricity Generation grew at 6% in FY 18 and there was addition of 5.44 GW of Thermal Energy Capacity Additions in the same period. The Power Demand in Punjab was 4671 MW (Q4 2018), registering a 10% increase over the demand in the corresponding period last year.

During the year, the power sector was grappling with a severe coal shortage. NPL had a lower Plant Availability Factor (PAF) due to a forced shutdown in October '17 on account of coal shortages. However, the plant imported coal to augment coal supplies and ensured a PAF of 85%.

Third Party Sampling and testing through CIMFR (Central Institute of Mining and Fuel Research) has been operating quite well to mitigate the grade slippage issues in linkage coal.

Significant Milestones and Initiatives

- Favourable judgement from the Supreme Court for recovery of coal washing and transportation cost
- 85% availability achieved
- Best-ever Station Heat Rate of 2300 kcal/kwh achieved
- Lowest ever Auxiliary Consumption of 5.08% achieved
- Demineralised Water Cycle at all-time low of 0.4%
- 200 KW Roof top solar panel commissioned, CO2 emission reduction 220 Tons p.a.
- Reliability Centred Maintenance approach implemented
- Performance linked allocation made for improvement in coal quality
- Reduction in interest cost through reduction in borrowing and lower interest rate achieved through innovative financing instruments
- Awards received:
  - Excellent Energy Efficiency Unit, CII, Hyderabad
  - Top Plant Award, Power Magazine, USA
  - Best Thermal Generation Unit, IPPAI
  - Gold Award in Environment, Health & Safety, Grow Care India
  - Best IPP award, Asian Power Magazine
  - Best Employer Brand Award, EBI
- CSR initiatives in the area of development of village infrastructure, education, skill building, gender equality, health and environment were implemented during the year

The Company is committed to generate reliable and environment- friendly power under safe working conditions. Emphasis is laid on continual improvement of processes and practices to achieve improved environmental, health and safety performance. Training on HSE for employees and stake holders is undertaken on a regular basis to foster a culture of health and safety.

Outlook

The major focus areas for NPL during FY19 would be maximising plant availability, improving operational efficiency, enhancing fuel quality, resolving the regulatory issues, collection of disputed receivables, cost reduction initiatives and Health, Safety and Environment compliances. With issues relating to coal allocation under Fuel Supply Agreement coupled with logistic constraints, fuel availability continues to be challenging in FY 19 too. Procuring higher quantities of imported coal, encouraging PSPCL for diversion of coal lying in other Power Plants to NPL and pursuing increase in coal allocation would ensure Fuel Security.

Increasing global warming and need for long-term sustainable energy security have renewed the focus on the traditionally most clean hydro-power. Accordingly, the Government is considering policy initiatives for the revival of the hydro-power sector. The Company expects that approval and timely implementation of these initiatives by the Government in the near future may positively impact the hydro-power development in the country.

Marine Infrastructure Developer Private Limited : Kattupalli Port

Kattupalli Port at Chennai, a container port with a capacity to handle 1.2 million TEUs per annum has a container terminal with two container berths, and has been accorded SEZ co-developer status. During the year 2015-16, the Company (L&T) entered into an agreement with Adani Group (a port operator) to demerge the port business and divest the stake in the resulting company. In the current year 2018-19, the Company has divested its ownership and has completed the transfer of the port ownership in entirety.