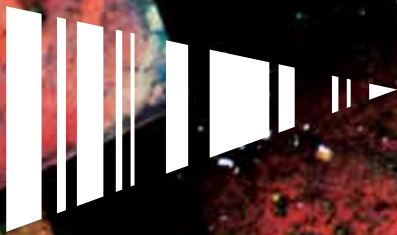


Engineering Procurement & Construction (EPC)

Making India brick by brick



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Foreword

EPC World

Dear readers,

It is with great pleasure that I present the second EY-EPC TL at the 5th EPC World Awards. While writing the foreword I recall the first time we released the EY report at the 4th EPC World Awards. It stated that the EPC market was in a fragmented state and needed to undergo a high level of transformation, if future sustainability was to be assured.

It also pointed out that though evidently there was an increase in EPC activity, the sector was facing headwinds from several directions. The intensively researched EY report contended that all the bottlenecks faced by the EPC industry could be swept away by more nuanced policies emerging from New Delhi and state capitals of the country.

I had asserted in my foreword last year that India will build infrastructure across the board and both domestic and foreign investors will participate in this significant endeavor. All this is pleasantly coming true with a stable BJP government in place and its pre-dominant focus on infrastructure development, braving the headwinds – surely and steadily.

Mark Zuckerberg's words spell the current Indian government's drive and direction, "There is a huge need and a huge opportunity to get everyone in the world connected, to give everyone a voice and to help transform society for the future. The scale of the technology and infrastructure that must be built is unprecedented, and we believe this is the most important problem we can focus on".

India's US\$1.9 trillion economy is looking at rebounding to 6.3% growth by the end of this fiscal from last year's 4.7% and is poised to overtake China's growth rate by 2016. The "Make in India" campaign intends to give a big boost to the manufacturing sector. The Government has already moved to amend land, labour and foreign investment laws facilitating to make it easier for companies to do business.

The current Government in India has not scrapped significant projects of the last government and is taking action for their rapid implementation.

The former UN Secretary-General Kofi Annan noted that "good governance is perhaps the single most important factor in eradicating poverty and promoting development".

Perceived as more reform-oriented and business friendly, the Government is perfecting the antidote to ward off red tape, to avoid derailment of aspired growth plans. The overall new, albeit cautious, sense of excitement in industry and business is pointing toward India looking as a much more attractive investment destination.

American, Chinese, Japanese, German and UK companies have evinced great interest in partnering Indian infrastructure projects that are all set to restore the nation to a high-growth path. The Government headed by Narendra Modi, has a business focus, which is evident from the business-friendly agenda of the Government.

Thomas Jefferson asserted, "The whole art of government consists in the art of being honest. Only aim to do your duty, and mankind will give you credit where you fail."

The 100 smart cities, industrial and dedicated freight corridors, improved road and rail connectivity, increasing share of manufacturing from 15% to 25% of GDP, sourcing the estimated INR40-60 trillion in the next two decades that urban municipalities may need to catch up on the backlog in infrastructure and service delivery and to meet future needs will call for aggressive reforms in the next few months and in the coming budget.

A strong infrastructural backbone is essential to sustain economic growth. The Government's focus on infrastructure development is evident from the Prime Minister's remark in Brisbane, "We must focus on generation-next infrastructure".

This EY report is insightful and comprehensive and will serve as a guide for policy makers and the captains of the EPC sector in charting their course of action.



Tejasvi Sharma
Managing Director
EPC World

Dear readers,

Infrastructure development has been fuelling India's economic growth over the past decade or so. Increasing population, rapid industrialisation and urbanisation as well as global trade are driving the demand for consistent investment in infrastructure development. Recognizing these requirements, the Government plans to invest INR56.3 trillion in infrastructure during the Twelfth Five Year Plan (2012-17) and approximately 50% of the investments are to be contributed by the private sector. Considering this major potential opportunity in the infrastructure segment, the EPC sector is likely to be benefited.

The EPC market in India has evolved over the last few years with increased project size and complexity, increasing private clients and entry of several foreign players. The concept of EPC has been evolving over the last few years and has emerged as a preferred form of contracting by clients along with PPP models. Even when projects are awarded on PPP basis, there is an EPC opportunity for market players. This has been further strengthened by the fact that the highway sector, after several years of operating in the PPP mode, is considering to award more projects on the EPC model. Specialised EPC sectors such as marine, tunneling, hydro, industrial and oil and gas continue to prefer awarding projects in the EPC mode.

However, the construction industry as a whole and the infrastructure sector, in particular, are currently on a crossroad in the country as interest from the private sector has declined significantly in the last couple of years due to the economic slowdown and a legacy of unresolved challenges. Issues impacting projects – right from planning to operation stage – have made several of them unviable. Significant cost overruns, regulatory bottlenecks and aggressive bidding positions taken by a few market players are some of the key concerns affecting the EPC sector. Moreover, with increasing working capital requirements and the resultant increase in leverage, the construction players are left with limited opportunity to raise further capital to fuel growth in the current scenario. Private equity funds too are cautious with their new investments, since there is limited opportunity of exit due to unfavorable capital markets. Therefore, the sector is reeling under significant liquidity constraints. Though it was easy to overlook these challenges during the period of high-economic growth, these issues and challenges were brought to the fore with India's GDP growth slipping to 4.5% in FY14.

However, the new Government has set the ball rolling once again with several announcements to reform the sector and boost investor sentiments. It has laid down its agenda to resurrect infrastructure development. Bids are being invited again for

stalled projects and new infrastructure projects have been announced including smart cities, high speed rail corridors, greenfield airports, greenfield major ports, port-based SEZs, and housing for all by 2022. The Union Budget 2014-15 has also emphasised on removing the bottlenecks in the infrastructure sector. The initiatives such as setting up of institution to provide support to mainstreaming PPPs, Infrastructure Investment Trusts, Make in India programme and permitting banks to raise long-term funds for lending to the infrastructure sector with minimum regulatory constraints for the sector.

However, the experience in building infrastructure projects so far has cast a shadow on the expectations of meeting the Twelfth Plan investment targets. Given the significant requirement, several changes need to be made on regulatory and operational fronts. An Integrated and holistic infrastructure development plan and access to long-term funds are long overdue. The Government should provide for speedy regulatory clearances and robust dispute resolution mechanism, besides looking beyond the L1 bidding mechanism to dis-incentivise private sector bid aggressively. Moreover, there is a need to introduce robust contract renegotiation and rebalancing framework to manage project risk over long-term concession, without deteriorating lenders' confidence in the sector.

Given the size of the infrastructure market, there are ample opportunities for EPC players. They can expand their business by diversifying operations, strategic tie-ups and moving up the value chain. The re-emerging euphoria in the infrastructure sector will get the EPC sector back on the growth trajectory.

This report discusses the potential opportunity, recent trends witnessed by the sector, challenges for re-enforcing sustainability and possible ways to overcome challenges. We hope you find it a good read.



Sushi Shyamal
Partner, Transaction Advisory Services,
Ernst & Young LLP



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Abbreviations

| | |
|--------|---|
| AERA | Airports Economic Regulatory Authority |
| BoP | Balance of Plant |
| BOT | Build-Operate-Transfer |
| CCEA | Cabinet Committee on Economic Affairs |
| CRR | Cash Reserve Ratio |
| CBM | Coal Bed Methane |
| CAG | Comptroller and Auditor General |
| CDR | Corporate Debt Restructuring |
| DFC | Dedicated Freight Corridor |
| DMIC | Delhi Mumbai Industrial Corridor |
| DPR | Detailed Project Report |
| DDT | Dividend Distribution Tax |
| EAC | Economic Advisory Council |
| EPC | Engineering, procurement and construction |
| EIA | Environment Impact Assessment |
| ECB | External Commercial Borrowing |
| FIPB | Foreign Investment Promotion Board |
| FSA | Fuel Supply Agreement |
| GIFT | Gujarat International Finance Tec-City |
| HPEC | High Powered Expert Committee |
| HSR | High Speed Rail |
| IDF | Infrastructure Debt Fund |
| InvITs | Infrastructure Investment Trusts |
| IGCC | Integrated Gasification Combined Cycle |
| IRR | Internal Rate of Return |
| IWT | Inland Water Transport |
| JICA | Japan International Cooperation Agency |
| JNNURM | Jawaharlal Nehru National Urban Renewal Mission |
| MRO | Maintenance, repair and overhaul |

| | |
|----------|--|
| MRTS | Mass Rapid Transport System |
| MAT | Minimum Alternate Tax |
| MoEF | Ministry of Environment and Forests |
| MNRE | Ministry of New and Renewable Energy |
| MoP | Ministry of Power |
| MoUD | Ministry of Urban Development |
| MCA | Model Concession Agreement |
| NHAI | National Highway Authority of India |
| NHDP | National Highway Development Project |
| NIMZ | National Investment and Manufacturing Zone |
| NELP | New Exploration Licensing Policy |
| NBFC | Non-banking Financial Company |
| NPA | Non-performing asset |
| OIDB | Oil Industry Development Board |
| PSL | Priority Sector Lending |
| PPP | Public Private Partnership |
| QIP | Qualified Institutional Placement |
| REITs | Real Estate Investment Trusts |
| SEBI | Securities and Exchange Board of India |
| SARDP-NE | Special Accelerated Road Development Project-Northeast |
| SEZ | Special Economic Zone |
| SPV | Special Purpose Vehicle |
| SLR | Statutory Liquidity Ratio |
| T&D | Transmission and distribution |
| TEU | Twenty-foot equivalent |
| UMPP | Ultra Mega Power Plant |
| UMSP | Ultra Mega Solar Project |
| VGF | Viable Gap Funding |



1.

Introduction

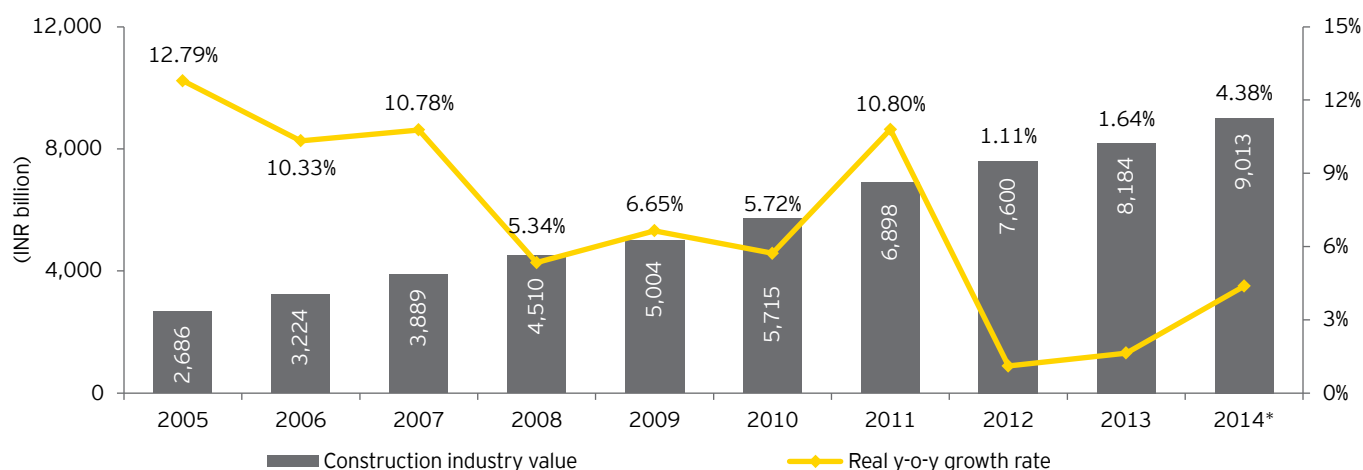


Indian construction sector

The construction sector in India is the country's second-largest economic segment after agriculture. It employs more than 40 million people and contributed nearly 8.1% to the national GDP in 2012-13. It is expected to have contributed 7.8% in 2013-14¹.

According to industry estimates, the Indian construction industry was worth INR8,184 billion in FY13, which is estimated to be INR9,013 billion in FY14². Prior to the global economic crisis in 2008, the industry grew at more than 10% during 2005-07. After 2008, the growth moderated, with the industry registering an average real growth rate of 4.8% during 2008-2014. However, the industry is now expected to recover with the formation of a stable government at the center and its thrust on infrastructure development to revive economic growth.

Growth of India's construction industry



* Estimated

Source: Business Monitor International

Infrastructure projects are major demand drivers in the Indian construction industry accounting for an estimated 49% of industry value followed by real estate and housing (42%) and industrial projects (5%)³.

The construction industry is highly fragmented and working capital intensive, particularly in the case of projects of long gestation periods. Although the project risk for contractors is low, due to a relatively small investments commitment in projects, institutions have been cautious about lending to small contractors until recently. This is due to the high risk associated in delay of payment by the client. Consequently, several companies had to meet their working capital requirements by borrowing funds at high interest rates.

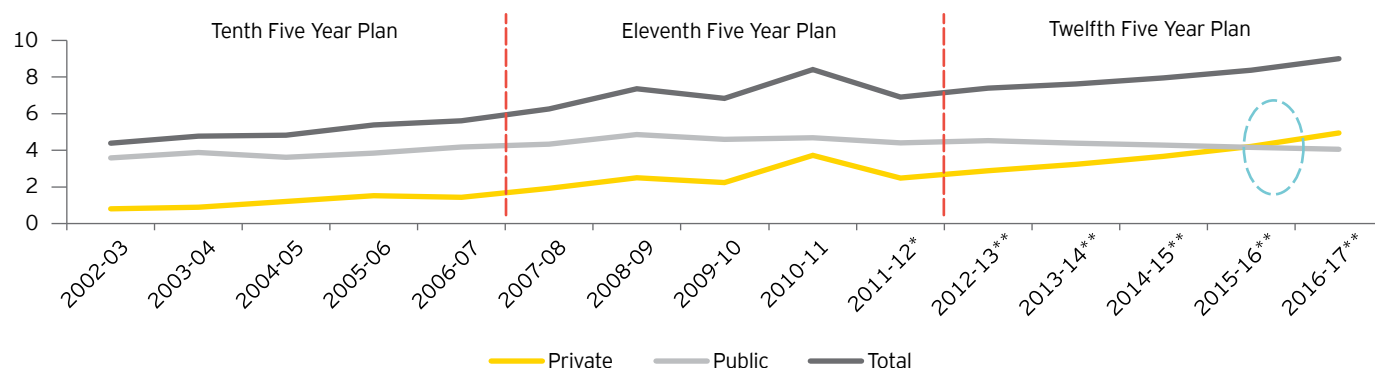
Demand for construction has been sluggish in 2013, with industry growth estimated at 1.6% over the previous year⁴. Bottlenecks in new infrastructure projects and deferment of investments and new projects in the industrial sector due to slowdown in the manufacturing sector have contributed significantly to this lack of growth. Developers have faced cash-stress due to subdued capital markets, which made it difficult to raise equity for projects. Moreover, banks have also reached their sectoral lending limits restricting fresh lending to the sector. Major construction players are experiencing liquidity crunch because of extended recovery timeframes from their customers and tightening of funding norms being employed by institutional financiers. Furthermore, increasing labour costs and commodity prices as well as aggressive tendering have put pressure on companies' margins over the last one to two years.

Economic growth driven by considerable investment in infrastructure sector in the past decade

India's economic growth has primarily been driven by considerable investment in infrastructure development after liberalisation. These investments have increased sharply to INR23.8 trillion in the Eleventh Five Year Plan from INR9.1 trillion during the Tenth Five Year Plan. These investments are spread across infrastructure sectors such as roads and highways, telecom, airports, ports, power, oil and gas and railways and have helped the Indian economy attain an improved growth trajectory in the last ten years prior to 2012. They are further estimated to increase to INR56.3 trillion in the Twelfth Plan.

The share of infrastructure as a percentage of GDP increased from 5% in the Tenth Five Year Plan to around 7.2% in the Eleventh Five Year Plan on the back of a favourable policy support⁵. Over the past decade, public sector investment as a percentage of GDP has remained consistent and the increase in total share can be attributed to an increasing share of private sector investment as percentage of GDP.

Investment in infrastructure as a percentage of GDP



* Revised estimates, ** Projected investment

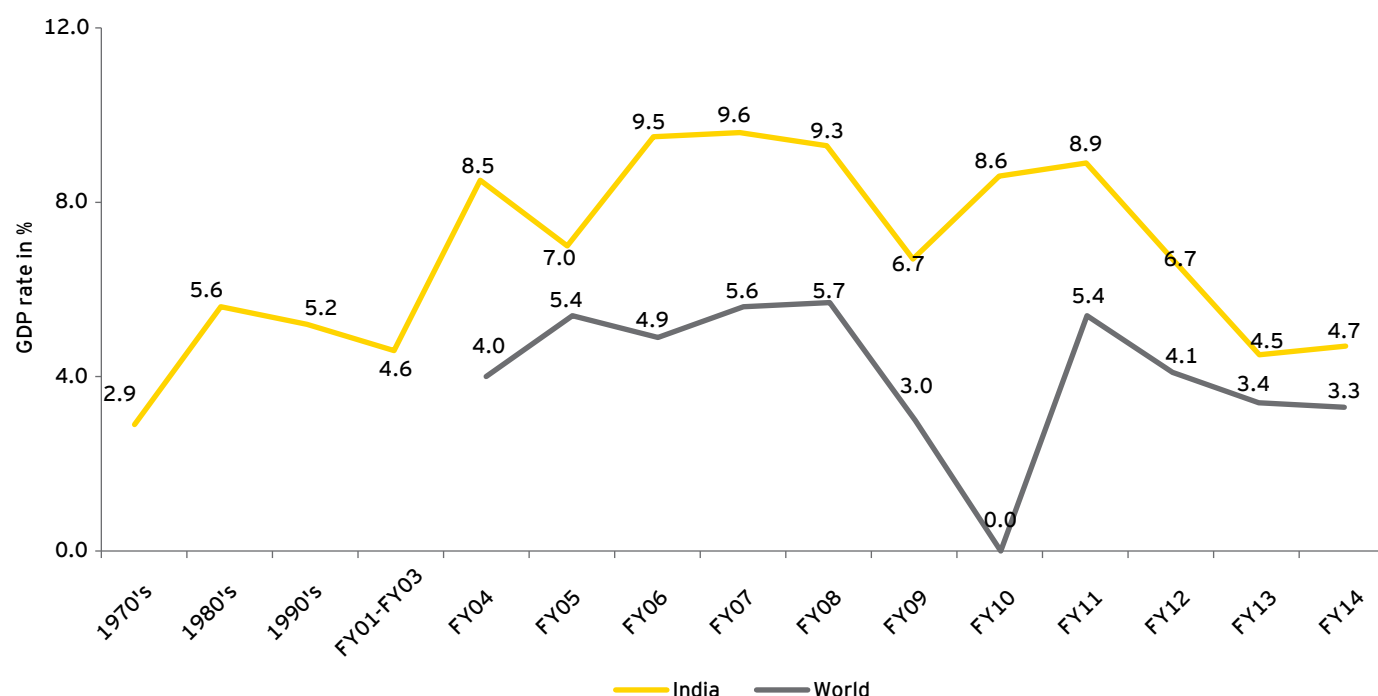
Source: Table 3.16-Investment during the Eleventh Plan as Percentage of GDP and Table 3.17- Projected Investment in Infrastructure-Twelfth Plan, Volume -1, Twelfth Five Year Plan (2012-2017), Planning Commission

Sectors such as roads, airport, power and ports have become very attractive for both domestic and foreign investors. This is due to relatively low entry barriers in these markets, a strong project pipeline and a considerable opportunity size. On the other hand, sectors such as railways and buildings are relatively low on the attractiveness scale. The railways are awaiting unbundling, while buildings are waiting for the recovery of the real estate sector. As a result, the market as a whole has become a mixed bag of opportunities in which different types of players are participating.

Economic slowdown adversely impacted the construction sector in the last two years

The last two years have been difficult for the Indian economy when it reported less than 5% growth due to factors such as sustained slowdown in the global economy, Euro crisis, domestic structural constraints, rupee depreciation and inflationary pressures. As a result, India's GDP grew by only 4.5% and 4.7% in FY13 and FY14, respectively.

GDP growth rate: India vs. World



Source: Centre for Monitoring Indian Economy (CMIE) and IMF

This period was marked by subdued investments in the construction sector, which was adversely affected by factors such as significant cost overruns and regulatory bottlenecks. Moreover, the sector bore the brunt with increasing working capital requirements and the resultant increase in leverage as well as the players' inability to raise additional capital due to sluggish capital markets. As a result of this, on-going projects were stalled and new projects could not attract bidders.

The sector is poised for growth with the formation of a new Government

The formation of the new Government at the Centre in the first-half of 2014 holds considerable promises for the revival of the investment cycle and economic growth in the country. The new Government has laid down its agenda to resurrect infrastructure development and the need to fast-track stalled projects. This is expected to expedite the process of clearing and implementing projects by formulating clear guidelines and simplifying procedures.

Considering the new Government's emphasis on infrastructure development, the total construction opportunity, both infrastructure and industrial, is expected to grow substantially, going forward. This growth in construction opportunity will be driven by infrastructure investment in the following areas:

- | | |
|---|---|
| ▶ National highways, state highways and expressways | ▶ Piped-gas distribution networks |
| ▶ High-speed rail corridors | ▶ Greenfield major ports |
| ▶ Dedicated freight corridors and freight terminals | ▶ Mass Rapid Transport System |
| ▶ Greenfield airports | ▶ Water supply and waste treatment systems |
| ▶ Ultra Mega Power Plants | ▶ Initiative to provide housing for all by 2022 |
| ▶ High-voltage transmission lines | |

The new Government has also introduced few initiatives such as incentives for the establishment of Real Estate Investment Trusts and Infrastructure Investment Trusts to bring infrastructure financing back on track. These instruments will be granted a tax-pass through status to avoid double taxation and encourage investment.

With opportunity come challenges

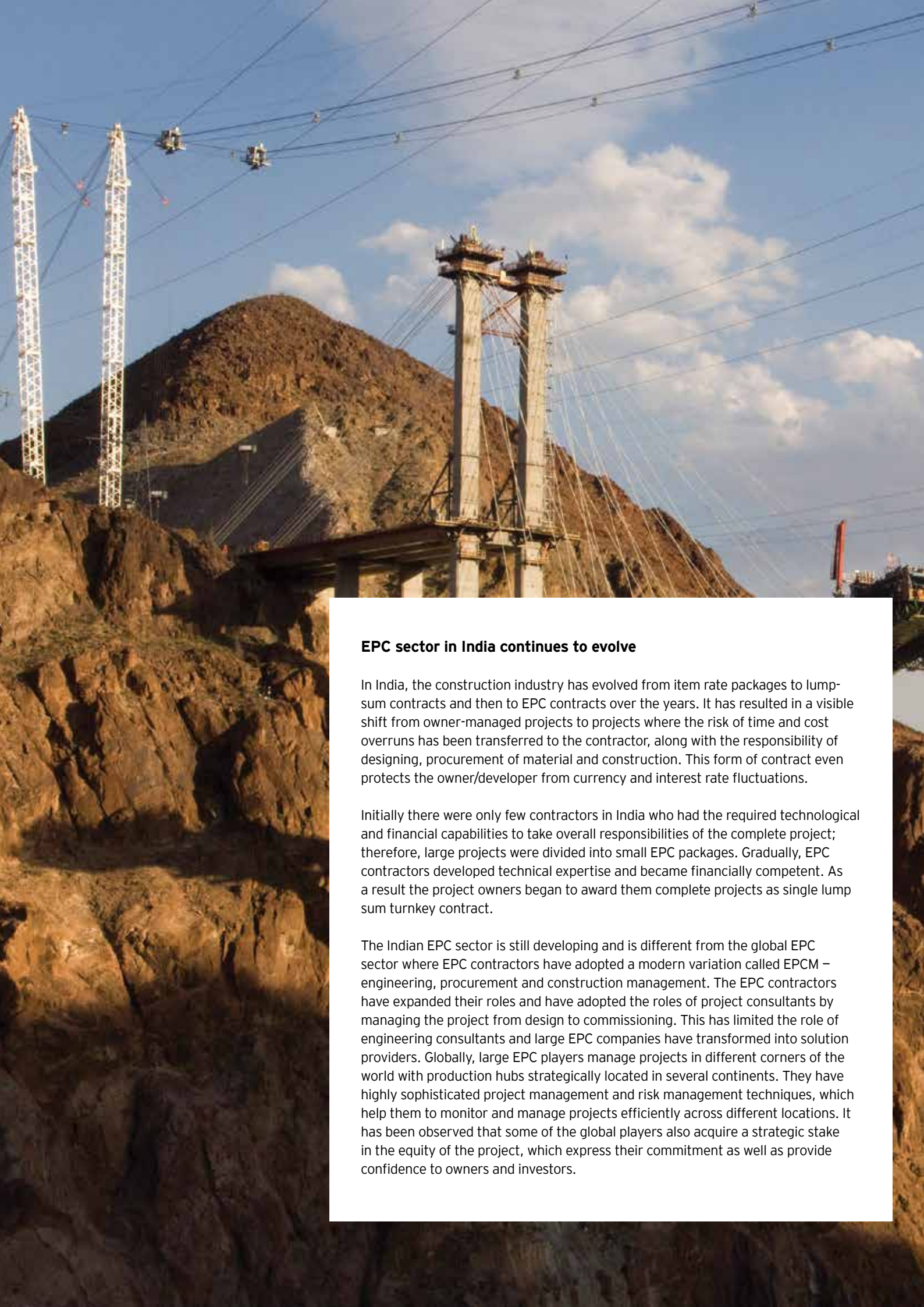
Even with several opportunities and expectation of enhanced support from the new Government, the construction sector continues to be troubled by various challenges. The increasing backlog of infrastructure projects, mounting losses due to delays and cost overruns has dampened the mood. Achieving financial closure for new projects has become a challenge, especially for many who had to go for debt restructuring for their current portfolio. Factors such as delays in land acquisition and environmental clearances, capacity constraints, weak project management, dependency on human labour, poor governance and wide spread corruption have further eroded investors' interest.

Timely measures can go a long way in sustaining the long-term growth of the sector

There is a need to realise that a large project pipeline alone is not sufficient, the sector needs a helping hand to continue on its growth trajectory. Considering that the fundamentals of the sector's growth are in place, timely and innovative initiation and implementation of policy measures can go a long way in facilitating its journey. The new Government has announced its agenda to revive the growth of the sector. It plans to adopt a multi-pronged strategy to simplify procedures, expedite ongoing projects and develop new ones.

The Government has started putting efforts towards integrated and holistic development of infrastructure. Consolidating the roads and highways as well as ports and shipping under one ministry is a step taken in this direction. Similarly, coal and power sectors – inter-linked through fuel supply and generation linkages – will be overseen by a single ministry.

It has also introduced new initiatives to bring infrastructure financing back on track. The Union Budget 2014-15 suggested banks to raise long-term funds for lending to the infrastructure sector with minimum regulatory pre-emption such as CRR, SLR and Priority Sector Lending (PSL). A finance corporation with a corpus of INR1,000 billion has been proposed to be set-up, in collaboration with Japanese investors, to fund projects in the road sector⁶. The Government has also indicated its intentions to amend the recently enacted new land acquisition law to facilitate the process of land acquisition and make it less costly for developers. Implementation of these measures will help it attract and retain investors' interest by providing them with a level playing field.



EPC sector in India continues to evolve

In India, the construction industry has evolved from item rate packages to lump-sum contracts and then to EPC contracts over the years. It has resulted in a visible shift from owner-managed projects to projects where the risk of time and cost overruns has been transferred to the contractor, along with the responsibility of designing, procurement of material and construction. This form of contract even protects the owner/developer from currency and interest rate fluctuations.

Initially there were only few contractors in India who had the required technological and financial capabilities to take overall responsibilities of the complete project; therefore, large projects were divided into small EPC packages. Gradually, EPC contractors developed technical expertise and became financially competent. As a result the project owners began to award them complete projects as single lump sum turnkey contract.

The Indian EPC sector is still developing and is different from the global EPC sector where EPC contractors have adopted a modern variation called EPCM – engineering, procurement and construction management. The EPC contractors have expanded their roles and have adopted the roles of project consultants by managing the project from design to commissioning. This has limited the role of engineering consultants and large EPC companies have transformed into solution providers. Globally, large EPC players manage projects in different corners of the world with production hubs strategically located in several continents. They have highly sophisticated project management and risk management techniques, which help them to monitor and manage projects efficiently across different locations. It has been observed that some of the global players also acquire a strategic stake in the equity of the project, which express their commitment as well as provide confidence to owners and investors.

EPC players in India

Currently, the Indian EPC sector, with its rising prominence and changing dynamics, has more than 150 participants and a multitude of stakeholders. Players have carved out a niche for themselves and have developed their reputation, based on their sector focus. Some have also diversified their operations in other sectors, thereby segregating the entire EPC space, based on operational segments.

| Segment | Major domestic players | Major foreign players | Insight |
|---|---|--|---|
| Infrastructure / General Contracting | Larsen & Toubro Limited, Hindustan Construction Co. Ltd., Gammon India, IVRCL, Simplex Infrastructure Ltd., Gayatri Projects Ltd., Patel Engineering Ltd., Era Infra Engineering Ltd., Sadbhav Engineering Limited, Nagarjuna Construction Company Ltd. | Isolux Corsan, ITD Cementation India Limited, IJM (India) Infrastructure Limited, Leighton, ACS Construction Group Ltd., Vinci Construction, CEC | Increasing opportunities in the infrastructure sector have attracted many new domestic as well as new entrants to this space |
| Building construction – Residential and Commercial Segments | Larsen & Toubro Limited, Shapoorji Pallonji & Co. Ltd., Ahluwalia Contracts (India) Ltd., B L Kashyap & Sons Ltd, B. G. Shirke Construction Technology Private Limited, B. E. Billimoria & Co. Ltd., BSEL Infrastructure Realty Limited, Consolidated Construction Consortium Ltd., Mackintosh Burn Ltd., Man Infraconstruction Limited, Supreme Infrastructure India Ltd., Unity Infraprojects Ltd., Vascon Engineers Ltd. | Arabian Construction Company, Leighton, Samsung Engineering | Space is unorganised in nature and is dominated primarily by local contractors |
| Oil & Gas EPC | Larsen & Toubro Ltd., Punj Lloyd Ltd., Petron Engineering Construction Limited, Essar Projects (India) Limited, McNally Bharat Engineering Co. Ltd., Leighton, Engineers India Limited, Fabtech Projects & Engineers Ltd., Jaihind Projects Ltd. | Aker Solutions, Leighton Welspun Contractors Pvt. Ltd., Bechtel Bechtel Corporation, Linde Engineering India Pvt. Ltd., Tecnimont ICB, Samsung Engineering, Uhde India Limited | Significant competition from foreign participants, especially for offshore contracts; business model focused on project management rather than direct execution |

| Segment | Major domestic players | Major foreign players | Insight |
|---|---|---|---|
| Power EPC General Power EPC and Power Transmission | General Power EPC BHEL, Larsen & Toubro Ltd., Tata Projects Ltd., BGR Energy Systems Ltd., Gammon India, Gayatri Projects Ltd., McNally Bharat Engineering Co. Ltd., Shriram EPC Ltd., Tecpro Systems Ltd., Cethar Ltd. Power Transmission EMC Ltd., Jyoti Structures Ltd., GET Power Pvt. Ltd., KEC International Ltd., Kalpataru Power Transmission Limited, JMC Projects (India) Ltd., Techno Electric & Engineering Company Ltd., Unitech Transmission | Doosan Power Systems, Dongfang Electric Corporation, Harbin Power Engineering Co. Ltd., KEPCO, ThyssenKrupp Industries India, Alstom T&D India, Alstom Projects India Limited, Mitsubishi Heavy Industries, Ansaldo STS, Babcock & Wilcox | Market segmented into niche areas; few players with presence across both BTG and BoP. Dominated by equipment manufacturers who have forayed into EPC as forward integration. Global players entered the market in JV with Indian players to enhance their equipment business. |
| Specialised EPC Marine, Industrial, Railways, Tunneling, Mining etc. | Shriram EPC Ltd., Coastal Projects Ltd., Navayuga Engineering Company Ltd., Hindustan Construction Co. Ltd., Patel Engineering Ltd., Afcons Infrastructure Ltd., Simplex Infrastructures Ltd., , McNally Bharat Engineering Co. Ltd., Petron Engineering Construction Ltd., Kalindee Rail Nirman (Engineers) Limited, AMR Construction Ltd. | Uhde India Ltd., Toyo Engineering India Ltd., Continental Engineering Corporation, Marti India Private Ltd., AG Group, Samsung Engineering, ITD Cementation India Ltd. | Comprises niche players in segments such as hydel tunnelling, marine construction, or industrial construction |

The Indian EPC sector is marked by the presence of both Indian and international players.

International expansion by Indian EPC companies

Over the years, Indian EPC players have developed their in-house design, engineering and construction capabilities to bid and execute large and complex EPC projects. Moreover, EPC players have secured overseas EPC contracts to mitigate the risk of subdued domestic market and increased competition in the past few years. A majority of these players have expanded into the markets of Middle East and Africa besides South East Asia and South Asia.

In the Middle East, the Indian companies are primarily working in roads and highways, metro rail systems, desalination plants and oil and gas (upstream and downstream projects). In African countries, these companies execute projects in power (generation and transmission), mining and related infrastructure, railways and residential construction. International expansion of major Indian players has been mentioned below:

| EPC player | Geography of expansion | Focus areas |
|---|--|--|
| Larsen & Toubro Ltd. ⁷ | The UAE, Saudi Arabia, Kuwait, Oman, Qatar, Singapore, Malaysia, Indonesia, Kenya, Mozambique, Algeria, Russia, Bahrain, Sri Lanka, Bangladesh, Jordan, Thailand | Engineering and construction projects in power transmission and distribution, metro rail, expressways and highways, railway infrastructure (civil and track, electrical and mechanical, signalling and telecom packages) as well as residential construction |
| Engineers India Ltd. ⁸ | The UK, the UAE, Saudi Arabia, Malaysia, China, Italy | Oil and Gas, petrochemicals, solar power, water and waste management, fertilizer plants |
| Gammon India Ltd. ⁹ | The US, Canada, Malaysia, Oman, Bangladesh, Bhutan, Nepal, Libya, Iraq, the UAE, Nigeria and Sri Lanka | Water supply, power plants, highways, desalination plant, bridge and jetty construction |
| IVRCL ¹⁰ | Nepal, Sri Lanka, the Middle East, the UAE, Kenya and Africa | Hydroelectric power plant, residential project, water reservoirs, canals and non-residential buildings |
| AFCONS Infrastructure Ltd. ¹¹ | Mauritius, Oman, Indonesia, Kuwait, Qatar, Madagascar, Jordan, Liberia, Yemen, the UAE, Bahrain | Industrial EPC, chemical plants, cement plants, mining projects, highway construction |
| Tata Projects Ltd. ¹² | South Africa, Mauritius, Kenya, Qatar, the UAE | Third-party inspection services for power T&D projects, power transmission lines, oil and gas terminals |
| Ramky Infrastructure ¹³ | Singapore, the UAE and Gabonese Republic | Infrastructure development, waste management, environment and property development |
| Shapoorji Pallonji & Co. Ltd. ¹⁴ | The UAE, Kuwait, Ghana, Qatar, Saudi Arabia, Algeria, Gambia, Nigeria, Sri Lanka and Kenya | Contracting services for residential, commercial, industrial, hospitality, health care, and mixed use buildings |
| Punj Lloyd ¹⁵ | Indonesia, Malaysia, Qatar, Kazakhstan, Oman, Turkey, Singapore | Offshore platforms, gas field development, oil and gas pipelines, storage tanks and terminals |
| Essar Projects Ltd. ¹⁶ | Singapore, the UAE, Zimbabwe, the US, Papua New Guinea | Marine facilities and storage terminals, industrial plants, pipelines, steel plant, roads, water and hydroelectric power and airport projects |

Overseas expansion has not only given Indian EPC players an opportunity to diversify their business but also to compete at a global level and develop critical capabilities in design, engineering, supply chain management, project management, risk identification and mitigation. India's EPC players, with rising capabilities and diverse experience, are gearing up for significant opportunities, originating from significant investment outlay of the Twelfth Plan. Moreover, the new government's increased focus on infrastructure development augurs well for the growth of the EPC sector.

Global players' EPC strategy in India

| Region | Sector Focus | EPC Strategy |
|--|---|--|
| Europe | <ul style="list-style-type: none"> ▶ Highways ▶ Oil and gas ▶ Thermal power ▶ Power transmission ▶ Ports ▶ Airports ▶ Buildings | <ul style="list-style-type: none"> ▶ Focused on civil contracting for highways and dredging ▶ Focused on design and project management in Oil and gas EPC ▶ Undertakes entire construction work including civil work for thermal power and solar power projects ▶ Strong presence in supply of power transmission and distribution equipment ▶ Expressed interest in participation in construction of greenfield airports |
| China/ Taiwan/ Hong Kong/ Singapore/ Malaysia | <ul style="list-style-type: none"> ▶ Railways ▶ Thermal power ▶ Solar power ▶ Power transmission ▶ MRTS ▶ Waste water management ▶ Real Estate | <ul style="list-style-type: none"> ▶ Undertakes entire construction activity and O&M services for thermal power projects ▶ Key supplier of power equipment including BTG, solar modules and transmission equipment ▶ Focused on construction of metro station, tunnelling works and supply of metro coaches ▶ Considering to partner with Indian companies for development of high speed rail projects ▶ Waste water management – complete services from design, engineering, construction and installation of facilities |
| Middle East | <ul style="list-style-type: none"> ▶ Buildings ▶ Power | <ul style="list-style-type: none"> ▶ Executing building contracts in partnership with Indian players ▶ Undertake entire construction work including civil, mechanical, electrical etc. for thermal power projects |
| Japan | <ul style="list-style-type: none"> ▶ Railways/high-speed rail ▶ MRTS ▶ Thermal power ▶ Solar power ▶ Power transmission | <ul style="list-style-type: none"> ▶ Undertakes entire construction works and O&M services for thermal power projects ▶ Operating through owned subsidiaries or formed a JV with Indian companies for supply of BTG and T&D related equipment ▶ Railways – Engaged in electrification works, civil works, track works, signalling supply of railways and metro coaches ▶ Considering to participate in development of high-speed rail projects |

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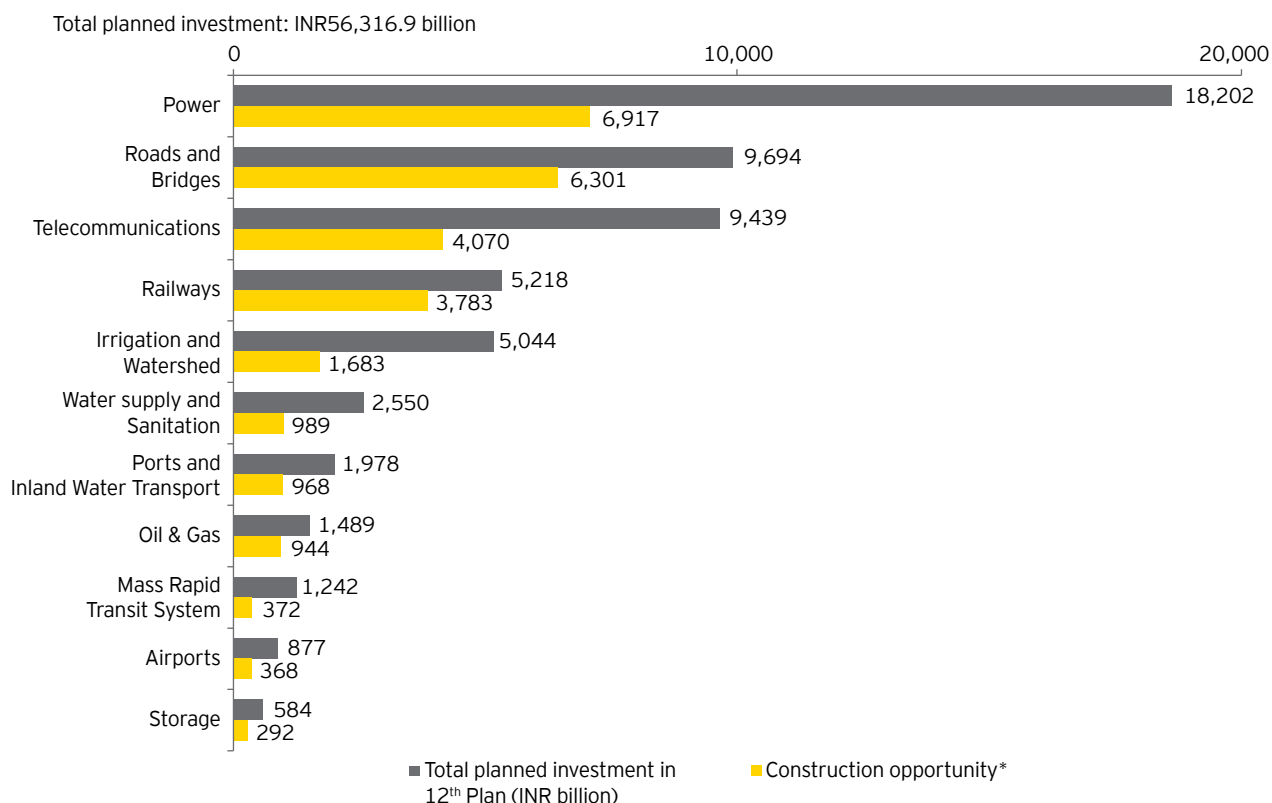
Opportunities for EPC business in India



2.1 Opportunity in the Twelfth Five Year Plan (Twelfth Plan)

The Twelfth Plan envisions investment of approximately INR56.3 trillion in Indian infrastructure between 2012 and 2017. This, in turn, is expected to offer significant opportunities for EPC players across various sectors¹⁷. During the period, the construction opportunity in the infrastructure sector is estimated to be around INR26.7 trillion. Significant investments in infrastructure projects, along with the revival in the real estate sector and growth in industrial capital expenditure are likely to boost the construction industry and act as a catalyst for growth of EPC companies in India¹⁸.

Planned investments and construction opportunity in infrastructure in the Twelfth Plan



* Construction opportunity comes from weighing total investment with construction intensity in each sector. For construction intensity in each sector, please see annexure
Source: Twelfth Five Year Plan document, Planning Commission; EY analysis

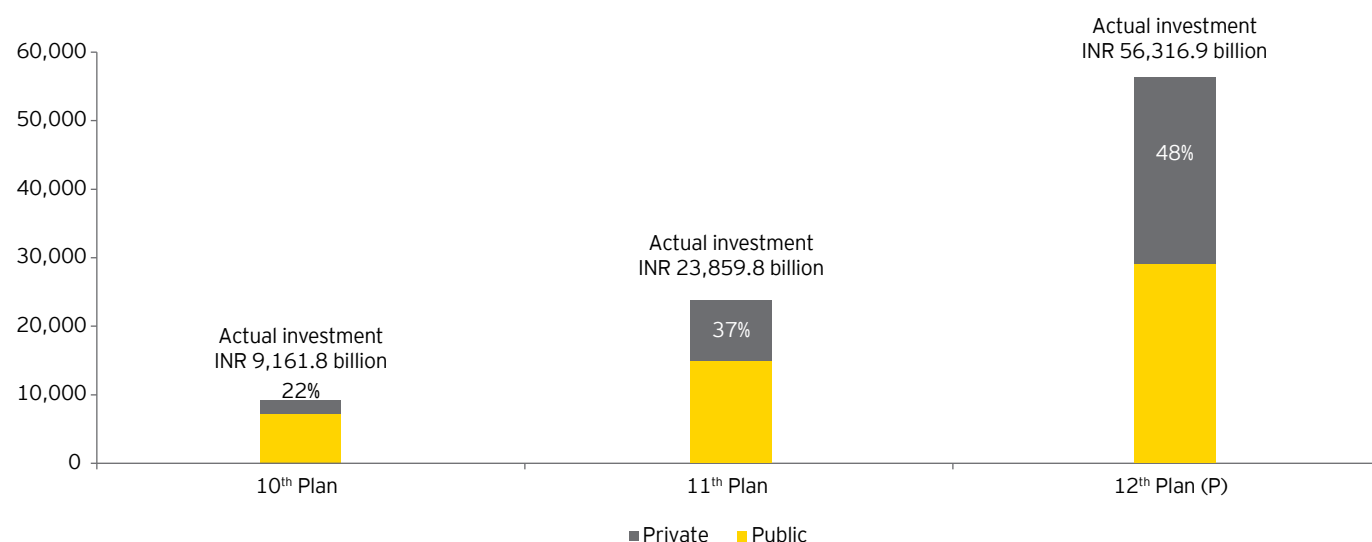
Construction opportunity in the Twelfth Plan

The construction intensity, which varies significantly across infrastructure sectors, impacts the opportunity for EPC players more directly than the investment planned. While construction-intensive sectors such as roads, railways and MRTS together account for 28% of infrastructure investments, they contribute nearly 42% to the total EPC opportunity. On the other hand, the telecom sector, which has the third-largest investment in infrastructure, accounts for only 3.5% of the total EPC opportunity¹⁹.

Twelfth Plan focuses on private investment

Going forward, the Planning Commission has projected that investment in infrastructure will more than double at INR56.3 trillion during the Twelfth Plan from the Eleventh Plan. The private sector is expected to contribute nearly half of the total investment.

Investment in infrastructure, % private of total investment



Source: Twelfth Five Year Plan and Eleventh Five Year Plan, Planning Commission

The Government has been driving policy reforms to enable this, making way for ample opportunities for EPC players. It has recognised infrastructure as one of the core sectors to revive the economic growth. The Government is taking initiatives to remove the hurdles in the way of ongoing projects along with inviting re-bids for some of them. In addition it is envisaging new projects across sectors to modernise the infrastructure of the country. In order to ease the liquidity crunch, the Government is promoting low-cost, long-term funding mechanism besides allowing for more External Commercial Borrowing (ECB)²⁰.

It has recently relaxed the process of obtaining environmental clearances for rail projects in border areas, which is expected to fast-track the construction of railway lines in these regions²¹. Recently, the Government has diluted the Environment Impact Assessment (EIA) notification of 2006 to exempt many categories of buildings and construction projects (with built-up area of more than or equal to 20,000 sq. m. but less than 150,000 sq. m.) from seeking environmental clearances²². Furthermore, it plans to set-up regulators in the road and coal sectors to handle disputes efficiently and reduce the time and cost overruns and quickly ramp-up capacities in these sectors.

2.2 Key infrastructure sectors: investment scenario

Roads and highways

The highways sector has reported significant growth in the past decade driven by large-scale private participation under the Government's flagship National Highway Development Project (NHDP). The road network supports approximately 65% of freight and 80% of the passenger traffic in the country.

Road network in India

| Type of road | Total length (in million km) |
|--------------------------------|------------------------------|
| National highways/ expressways | 0.09 |
| State highways | 0.14 |
| Total road length | 4.86 |

Source: Energy, Infrastructure and Communications, Chapter 11, Economic Survey 2013-14

Emergence of EPC projects in the last two years

Various developments since the beginning of FY13 began to hinder the otherwise smooth operations in the sector. The lower-than-expected growth of the economy and traffic, high interest rates, the inability of developers to raise funds in sluggish capital markets, significant delays in securing regulatory approvals and new land acquisition rules all have added to the woes of the sector. In such a scenario, it began to witness investors' apathy and the Government could only award 1,116 km (11 projects), compared to its target of 7,464 km through the BOT route in FY13²³. Moreover, the total projects awarded in 2013-14 remained at around the same level of 1,436 km²⁴. Similarly, during April-July 2014, out of the 10 projects put up for bidding by NHAI, eight failed to attract any bidder. Therefore, NHAI was able to award only around 190 km during the same period.

The current Government has approved more than INR400 billion worth of road projects to be implemented in the next two-three years²⁵. The EPC model is expected to be the preferred mode of project execution in the near term. Consequently, the Government plans to award around 2,300 km of highway projects with a total project cost of more than INR150 billion through the EPC route in 2014-15²⁶. In fact, in October 2014, the NHAI floated tenders for 14 road projects worth INR290 billion and majority of these projects will be awarded on an EPC basis²⁷. It has revived another 34 road projects worth INR260 billion, which will now be executed through the EPC mode instead of the original plan of PPP mode of execution²⁸.

EPC route has become the preferred mode of award for state road projects as well. A total of seven key projects, covering more than 164 km and worth INR27 billion were awarded during 2013-14. One of the biggest EPC projects – the INR12.9 billion AIIMS-Digha elevated corridor project in Bihar – was awarded to Gammon India Limited in September 2013 by the Bihar State Road Development Corporation.

Around 50,000 km of rural roads have been approved for upgrades under the Pradhan Mantri Gram Sadak Yojna II across the country. This represent an EPC opportunity worth INR470 billion. Similarly, projects covering 6,295 km of road length will be awarded under the Special Accelerated Road Development Project-Northeast (SARDP-NE). In addition, a road length of 1,120 km will be upgraded under the National Highways Interconnectivity Project²⁹.

New government's multipronged approach creates plethora of opportunities for EPC players

The new Government has laid-down its agenda to resuscitate the infrastructure development given the growing need to revive economic growth and fast-track stalled projects. Consequently, the Government has reviewed more than 250 road projects worth around INR600 billion, which are stuck, mainly due to reasons such as land acquisition and environment and forest clearance issues³⁰. It is looking to accelerate the process of regulatory clearances and plans to achieve a target of building 30 km of highway a day in the next two years³¹. Keeping the target in mind, it has streamlined execution of stalled highway projects worth INR1,500

billion some of which will undergo re-bidding. It also contemplates preparing Detailed Project Reports (DPRs) for another INR2,000 billion road projects, obtaining environment and forest clearances itself and acquiring the land before bidding them out. These initiatives are expected to revive the interest of private players to bid for projects and speed-up their execution³².

In the wake of paucity of funds in the domestic market, the Government has decided to put all public-private partnerships (PPPs) in the road sector on hold for two to three years, which put the focus on new highway construction through the EPC route³³. In order to increase the flow of funds to the sector, the Government envisages setting up a finance corporation with a corpus of INR1,000 billion, in collaboration with Japanese investors³⁴. It has also increased allocations to the road sector under the Union Budget 2014-15 to INR380 billion, which is 13% higher than the revised estimates for 2013-14.

It intends to accelerate work on the freight and industrial corridors and to revive the Sagarmala project (rail and road connectivity to ports in coastal regions) signifies a growing opportunity pie for EPC players³⁵. Moreover, a new committee has been formed according to directions of the Cabinet Committee on Economic Affairs (CCEA), which plans to make suitable changes in the Model Concession Agreement (MCA) for road projects. Currently, the committee is reviewing norms on exit and substitution, change of mode from build-operate-transfer (BoT) to EPC and dispute resolution mechanism in the existing MCA³⁶.

Railways

The Railways sector, with high construction intensity of around 78%, offer EPC opportunities worth INR4.1 trillion during the Twelfth plan period³⁷. However, only a few key projects were completed in 2013. These include the 26 km Udampur-Katra new line and the 21 km Harmuti-Naharlagun new line, providing rail connectivity to Katra in Jammu & Kashmir and Itanagar in Arunachal Pradesh. Meghalaya got its first rail connectivity with the completion of Dubhnoi-Mendipathar new line in August 2014. The 19.75 Kms line was completed at a cost of INR2.5 billion³⁸.

Rail network in India

- ▶ Network length: 64,600 km
- ▶ Third largest in the world by length
- ▶ Largest passenger carrier in the world
- ▶ Fourth-largest freight carrier in the world

Source: Indian Railways

Investment phasing and funding sources for railways till 2032 (INR billion)

| | Budgetary support | Internal sources | Borrowing | PPP | Total |
|--------------------------|-------------------|------------------|-----------|-------|--------|
| Twelfth FYP (2012-17) | 1,940 | 1,050 | 1,200 | 1,000 | 5,190 |
| Thirteenth FYP (2017-22) | 4,050 | 1,510 | 1,600 | 2,030 | 9,190 |
| Fourteenth FYP (2022-27) | 4,790 | 3,550 | 2,330 | 1,370 | 12,040 |
| Fifteenth FYP (2027-32) | 1,070 | 7,120 | 0 | 710 | 8,900 |

Source: Indian Infrastructure, January 2014; National Transport Development Policy Committee (NTDPC Report)

Dedicated Freight Corridor (DFC)³⁹

The project, which aims to address capacity constraints on high density networks and reduce the unit cost of transport, is being implemented by Dedicated Freight Corridor Corporation of India Limited. The project comprises two corridors in Phase I – the eastern corridor and the western corridor. The total completion cost is estimated at US\$16 billion, which will be funded at a debt-equity ratio of 2:1. The western DFC will be completely funded by the Japan International Cooperation Agency (JICA) while the eastern DFC will be funded by the World Bank, the Central Government and PPP.

As of December 2013, more than 94% of the land acquisition has been completed. All environmental and wildlife clearances have also been received. Civil contracts have been awarded for more than 1,100 km length and work is in progress. Tenders for civil works for around 1,250 km and system contracts (electrification, signaling and telecom) have been invited. Mechanised maintenance contracts have also been planned. With regard to funding, a total loan of US\$10.93 billion (US\$2.73 billion from the World Bank and US\$8.2 billion from JICA) has been committed and loan agreements of US\$9.18 billion have been signed.

The DFC offers multiple business opportunities in construction, development of economic zones around freight corridors, high capacity rolling stock for the DFC and the setting up of multi-modal logistics parks. It will also provide opportunities in civil and track works of 1,250 route km (double line), electrification works of 2,250 route km (double line) and signaling and telecom works over 2,250 route km (double line) by the end of FY15.

Going forward, four more corridors are planned to be undertaken in the future – 2,000 km east-west corridor (Kolkata-Mumbai), 2,173 km north-south corridor (Delhi-Chennai), 1,100 km east coast corridor (Kharagpur-Vijayawada) and 890 km southern corridor (Chennai-Goa).

Traditionally, railway projects, including construction and doubling of new lines, electrification of tracks, signalling, construction of stations and other ancillary units were executed on EPC basis. The new Government plans to increase private participation in railways by awarding more projects through PPP route. This is expected to attract funds and lead to increased generation of EPC business.

Creation of fixed assets during the Twelfth Plan (2012-2017)

| Type of line | Physical target (km) |
|--|--------------------------------------|
| New line | 4,000 |
| Eastern and Western Dedicated Freight Corridor | 3,338 (double line except 400 km) |
| Gauge conversion | 5,500 |
| Doubling | 7,653 |
| Railway electrification | 6,500 |

Source: Volume II, Economic Sectors, Twelfth Five Year Plan (2012-2017), Planning Commission

Modernisation of Indian Railways presents immense opportunities for EPC players

Keeping in view that growth plans cannot be achieved without creating adequate capacity and modernizing the existing infrastructure, Indian Railways has set capacity augmentation targets in the Report of the expert group for modernisation of Indian Railways. The key recommendations of the report, which was released in 2012 are:⁴⁰

- ▶ Modernisation 19,000 km of existing tracks by building strong and robust tracks capable of carrying heavy freight trains at 25 tonne axle load and achieving increased speeds of 75/100 kmph. The tracks on A & B routes should be fit for passenger speeds of 160/200 kmph.
- ▶ Strengthening of 11,250 bridges to sustain improved loads at increased speeds
- ▶ Implementation of Automatic Block Signalling on A and B routes with Train Management System
- ▶ Modernisation of 100 major stations
- ▶ Development of 34 multi-modal logistics park to provide integrated transport infrastructure facilities
- ▶ Construction of North-South, East-West, East-Coast and Southern DFCs (6,200 Kms) in the next 10 years in addition to Eastern (Ludhiana-Dankuni) and Western (Mumbai-Delhi) Dedicated Freight Corridors (DFCs)

The Twelfth Plan, in combination with the Indian Railways modernisation plan, exhibit large-scale opportunities in the EPC sector.

The new Government is pushing for long-awaited policy reforms

The railways sector has long been waiting for much-needed reforms. In the absence of private participation, it could not keep pace with the ever-increasing requirements of a fast-growing economy such as India. In addition, there is a pressing need for the development of new generation infrastructure to cater to the needs of increased speed, improved safety and convenient mode of transportation. Following are the key initiatives taken by the new Government in this direction:

- ▶ The new Government looks to set up an independent Rail Tariff Authority to advise it on fixing of passenger and freight fares of railways. The authority will rationalise the tariff and freight rates and is expected to bring down cross subsidisation between different segments. It is expected to help in generating internal resources for railways, which would be utilised to enhance capacity⁴¹.
- ▶ It has increased passenger fares by 14.2% and freight rates by 6.5% before the Railway Budget FY14⁴².
- ▶ It is stressing on capacity augmentation and development of next generation infrastructure to meet future growth requirements. It plans to launch a Diamond Quadrilateral project to set up a network of high-speed trains; freight corridors with specialised agri-rail networks for perishable agricultural products and new railway lines in coastal and mountainous regions.
- ▶ It has allowed 100% FDI in high-speed train systems, railway electrification, signaling systems, freight terminals, passenger terminals and infrastructure in industrial parks such as railway line and sidings⁴³.
- ▶ On the regulatory front, the Government has set up a committee under Bibek Debroy in September 2014 to restructure the Railway Board to separate the functions of policy formulation and implementation⁴⁴. The committee, who is expected to submit its report within a year, will recommend steps to mobilise resources for major projects and help set up a Rail Tariff Authority.

- ▶ The Government aims to complete 34 ongoing railway projects in the northeast over the next five to six years with an additional investment of INR350 billion. These projects are important from the point of view of defence and will provide connectivity to remote-regions⁴⁵.

Moreover, the new Government is also looking to decentralise the authority from the Railway Board to the zones, incentivizing General Managers for timely completion of projects and leveraging large tracts of railway land to raise funds to support the completion of various projects. It is expected that the zones will be accorded the power to clear tenders to expedite the project selection and approval process⁴⁶.

Development of high-speed rail corridors (HSRC) one of the top priorities of the Government

High-speed rail projects are the need of the hour driven by growing demand for speedy mode of travel between major cities and business hubs. The recent boom in the aviation sector and its sustained growth; rising disposable incomes and the willingness of passengers to pay premium for reduced transit times between cities have driven the idea of such rail projects. Considering this, the Ministry of Railway launched the High Speed Rail Corporation of India Ltd., a subsidiary of Rail Vikas Nigam Ltd. (RVNL) in October 2013 to develop High Speed Rail (HSR) corridors in India to run passenger trains at speeds up to 350 km per hour. Six such corridors (Delhi-Chandigarh-Amritsar, Pune-Mumbai-Ahmedabad, Hyderabad-Dornakal-Vijayawada-Chennai, Howrah-Haldia, Chennai-Bangalore-Coimbatore-Ernakulam and Delhi-Agra-Lucknow-Varanasi-Patna) have been identified for technical studies on setting up of HSRCs⁴⁷. The Railway Budget 2014-15 allocated INR1 billion to High Speed Rail Corporation of India Limited for starting high speed rail projects.

The new Government has also short-listed nine corridors to run semi-high speed trains with a speed of 160-200 km per hour. The identified corridors are Delhi-Agra, Delhi-Chandigarh, Delhi-Kanpur, Nagpur-Bilaspur, Mysore-Bengaluru-Chennai, Mumbai-Goa, Mumbai-Ahmedabad, Chennai-Hyderabad and Nagpur-Secunderabad⁴⁸.

Enabling better freight movement

Furthermore, three critical coal connectivity lines that had been stuck due to land acquisition and environmental clearance issues, are expected to be taken up on a fast-track basis. These include the 44 km Tori-Shivpur and the 53 km Shivpur-Kathautia railway lines in Jharkhand, the 53 km Jharsuguda-Barpalli-Sardega line in Odisha and the 180 km Bhupdevpur-Korichapan-Dharamjaigarh line in Chhattisgarh. In September 2013, railways formed a new entity – the Railway Energy Management Company (REMC) – to manage its renewable energy projects. In addition REMC is looking to set-up windmill plants and solar power plants, providing EPC opportunities in the renewable energy space⁴⁹.

Industrial corridors⁵⁰

The Government has envisaged few industrial corridors between major cities and growth centres, which will fuel future economic growth in the country by generating jobs, creating new industrial townships, smart cities and manufacturing zones. Subsequently, it has announced setting-up a National Industrial Corridor Authority with an initial corpus of INR1 billion in the Union Budget 2014-15. The proposed industrial corridors represent substantial opportunities for EPC players:

- ▶ The proposed Visakhapatnam-Chennai corridor will pass through the seven coastal districts of Andhra Pradesh – Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore before culminating in Chennai.
- ▶ The Visakhapatnam-Chennai corridor envisages development of five industrial zones at Visakhapatnam, Kakinada, Machilipatnam, Anantapur and Erpedu-Srikalahasti. The project also includes development of Kakinada port in East Godavari district besides providing road and rail connectivity for freight movement to and from existing ports at Visakhapatnam, Nellore and Krishnapatnam.
- ▶ The proposed 1,000-km long Mumbai-Bengaluru Industrial corridor has identified setting up two new industrial towns as early-bird projects. The Government's plans to generate around 12% of the country's GDP along the corridor between two commercial towns, would drive setting-up of many new cities, industrial towns and urban areas in future.
- ▶ The Mumbai-Bengaluru corridor passes through Tumkur, where a national investment and manufacturing zone (NIMZ) has been planned. The Tumkur NIMZ would be an integrated industrial township spread over 5,000 hectares.
- ▶ The proposed Chennai-Bengaluru corridor, which will cover an area of 560 km spread across Karnataka, Andhra Pradesh and Tamil Nadu will also see large-scale industrialisation besides creation of new cities and towns along the corridor. Three new smart cities including Ponneri in Tamil Nadu, Krishnapatnam in Andhra Pradesh and Tumkur in Karnataka will be set-up in the proposed corridor.

Airports

The airports sector has been reporting sustained growth due to factors including de-regularisation of the aviation sector leading to participation of private sector airlines, sustained efforts to increase capacity at metro and non-metro airports, the launch of low-cost carriers (LCCs) and the increase in tourism and business travelers.

Airport infrastructure in India

| Type of airport | No. |
|--|-----|
| Total airports/ airstrips | 464 |
| Domestic and international airports managed by AAI | 125 |
| Civil enclaves/ defence airfields managed by AAI | 26 |

Source: Airport Authority of India

Development of world-class international airports and their airport cities marked major milestones in the last decade

During the last decade, the private sector played a key role in the development of airports in the metro cities of the country including Delhi, Mumbai, Hyderabad and Bengaluru. Ease of revenue generation in these projects is one of the key reasons that make the airport sector conducive to PPP:

- ▶ It is relatively easy to collect user-charges given the profile of airport users. This makes it conducive to award these projects on PPP mode.
- ▶ It also provides an opportunity to earn significant non-aeronautical revenue through retail and real estate rights (shops, hotels, malls, convention center, F&B outlets), which generate an additional revenue stream for the project.

In addition to these, the concept of an aerotropolis or airport city – a township built around an airport – is also gaining ground in India. These have been planned at Hyderabad, Bengaluru and Cochin international airports by private developers. In September 2013, an aerotropolis at Durgapur Airport (a joint venture between four Indian companies and Singapore-based Changi Airports International) was inaugurated in West Bengal.

In 2013-14, the biggest developments were the commissioning of Terminal 1A of Bengaluru airport and Terminal 2 at Mumbai airport. The opening of these two terminals together added a capacity of more than 19 million passengers per annum to Indian airports. While existing greenfield airports continue to perform well, there has been little progress on planned greenfield airports, which have received in-principle approvals. Of the 21 greenfield airports, construction work has been completed on only two (Durgapur and Shirdi). However, neither has commenced commercial operations⁵¹.

Recent policy initiatives have brought some timely relief

The Government took two major policy initiatives in 2012 to improve the overall sentiment in the sector. Firstly, it has allowed FDI of up to 49% in domestic airlines by foreign airlines (so far foreign airlines were not allowed to directly invest in Indian carriers for security reasons, although 49% FDI by non-airline players was allowed). This is expected to facilitate equity infusion in the cash-starved domestic carriers, which can be used further to expand their fleet and operations. This will also help in generating improved revenues at airports with increased aircraft movement and passenger throughput. Following the easing of FDI policy, Malaysia's AirAsia has entered the Indian market in a joint venture with the Tata Group. Likewise, UAE-based Etihad Airways has acquired a 24% stake in India's Jet Airways for US\$379 million. Secondly, the Government allowed the direct import of aviation turbine fuel (ATF) by Indian carriers, which will result in significant cost savings for them.

Furthermore, in 2013, the Ministry of Civil Aviation (MoCA) allowed airlines to unbundle services and in turn, allowing them to charge extra for blocking seats in advance and check-in baggage. The Government also plans to set-up Civil Aviation Authority (CAA), which will replace the Directorate General of Civil Aviation (DGCA). The CAA will finance its functions through fees collected from airline operators and will act as the regulatory body for civil aviation in the country. The CAA bill is currently under discussion with the cabinet.

The RBI has included maintenance, repair and overhaul (MRO) operations in the airport in the infrastructure category. This will facilitate ECB for the segment and is likely to boost development of these projects. The Airports Economic Regulatory Authority (AERA) has released its guidelines for public consultation in July 2014. Once these guidelines are finalised, they will provide an increased impetus to PPP projects in the airports sector.

Upcoming opportunities in the sector

A study by aviation consultancy Centre for Asia Pacific Aviation (CAPA) has estimated an investment requirement of approximately US\$40 billion in 50 greenfield airports by 2025 to address the under-penetration and capacity challenges at major airports in India⁵². The Government has proposed to build 17 new airports during the Twelfth Plan period, as well as 100 airports in small cities⁵³. The Government plans to develop these new airports as no-frills airports with low cost of operation. The move is driven by an urge to provide basic infrastructure in far-flung areas to act as a catalyst for future growth rather than having "world-class" airports. It is also planning to develop 24 airports as domestic air cargo terminals to establish a national logistics network for rapid movement of cargo goods⁵⁴.

Some of the key upcoming airports projects in the country include a greenfield airport at Navi Mumbai (at an estimated cost of INR32 billion to INR40 billion) and an international airport at Kushinagar in Uttar Pradesh (worth INR3.5 billion)⁵⁵. Other greenfield airports slated for development include Pune, Kannur, Sriperumbudur, Bellary and Raigarh⁵⁶. India's first private international greenfield airport is being developed at Aranmula in Kerala at a cost of INR20 billion⁵⁷. Similarly, the Government of Goa has invited applications from global companies seeking Request for Qualification (RfQ) for the development of a greenfield international airport at Mopa on PPP basis⁵⁸.

Ports

Ports in India account for 90% of India's overseas trade by volume and 70% by value⁵⁹. The report of the National Transport Development Policy Committee, published in December 2013, estimated an increase in capacity and traffic at Indian ports to 1,662 million tonnes (MT) and 1,278 MT, respectively. With regard to long-term projections, capacity and traffic at Indian ports is estimated at 3,989 MT and 3,068 MT, respectively in 2031-32⁶⁰.

Maritime infrastructure in India

| Description | No. | Regulatory authority | Governing law |
|-------------|-----|----------------------|---|
| Major ports | 13 | Union government | Major Port Trusts Act of 1963, except for Ennore Port, which is administered by the provisions of the Companies Act, 1956 |
| Minor ports | 186 | State governments | Ports Act, 1908, 'Concurrent List' in the Constitution of India |

Source: "Maritime agenda: 2010 - 2020," Ministry of Shipping, Government of India

Investment targets and plans promise huge EPC potential

To meet traffic targets, an investment requirement of INR3,220 billion has been estimated for the development of the sector. In addition, investment for the development of inland water transport (IWT) is projected at INR638 billion over the same period. An investment of such proportion presents large-scale EPC opportunities in berth, jetty and quay construction; dredging requirements; port infrastructure including installation of heavy-duty handling equipment; support infrastructure including railway sidings, road connectivity and storage space⁶¹.

Favourable regulations framed to encourage private investments

The Government undertook some major reform-oriented initiatives in FY13 and FY14, which helped the sector in achieving improved investment and capacity enhancement. These include:

- ▶ New policy guidelines for land management at Major Ports, 2014, which aim to help major ports leverage their land resources for commercial advantage
- ▶ New Tariff Guidelines for future projects have been established under Major Ports, 2013 (the tariffs for new port projects will be determined by market forces, which could be a key factor in attracting private investment).
- ▶ New guidelines for security clearances are set up, under which those granted for port projects will be valid for a period of three years (this is expected to expedite execution of projects at major ports).
- ▶ Capital dredging has been included in infrastructure sector lending to ease availability of funds for such projects (dredging helps to enhance the capacity of a berth/terminal).
- ▶ Streamlining of environment-related approval to reduce the gestation period (under this initiative, port trusts will be able to submit all environmental clearances to operators that win bids rather than the latter acquiring these).
- ▶ The recently announced policy initiatives such as online submission of applications for environmental clearances, availability of 24x7 customs clearance facilities at 14 more ports are expected to play a major role in increasing the pace of project implementation.

Considerable activity on the project front in FY14

Driven by policy initiatives and improvement in the global economy and trade, investment in the port sector revived in FY14. This has helped the Government achieve its target of awarding 30 port projects in FY14. This entails a total investment of INR210 billion, more than three times the total cost of projects awarded in FY13⁶². The major projects awarded include two container terminals at

the Jawaharlal Nehru Port Trust (JNPT) to Singapore's PSA International Pte Ltd. and Dubai's DP World, which will add 5.6 million twenty-foot equivalents (TEU) container-handling capacity at a total cost of INR86 billion⁶³. Tuticorin port started cargo handling operations at its Dakshin Bharat Gateway Terminal with a capacity of 600,000 twenty-foot equivalent units (TEUs). Visakhapatnam Port Trust commenced work for the development of 6.39 MT west quay north berth project in June 2014⁶⁴.

Emergence of new growth areas

- ▶ **IWT and coastal shipping:** The new Government has emphasised on the development of these segments. It plans to develop an Inland Water Transport Grid, covering around 4,500 km., on the lines of National Highways grid⁶⁵. In a key announcement, the Union Budget 2014-15 allocated INR42 billion for the Jal Vikas Marg project for the development of National Waterway-1 between Allahabad and Haldia.
- ▶ **Port-based special economic zones:** The Government has formulated plans for the development of new port-based special economic zones (SEZs). Kandla port and JNPT have been identified as part of this plan. The work on the JNPT SEZ has started in August 2014 and the Kandla SEZ has also received in-principle approval.
- ▶ **Port connectivity projects:** The Government has proposed to award 16 new port projects this year with a focus on port connectivity. It has also allocated INR116.3 billion for the development of Outer Harbour Project in Tuticorin Port for Phase 1⁶⁶.
- ▶ **Corporatisation of ports:** The Government is also likely to push corporatisation of ports and move towards free market pricing of tariffs at major ports. The process for appointment of a world class consultant to come out with draft regulations has been initiated⁶⁷.
- ▶ **Multiple land use:** Commercial utilisation of land under the new land policy guidelines for major ports, 2014 opens up new EPC opportunities⁶⁸. Furthermore, the Government has planned the development of a port, based on the "landlord model" at Vizhinjam. Under this model, port estate development rights have been granted to the developer selected through the global bidding process. The model allows commercial use of 30% of land available with the port in order to cross-subsidise the project and reduce the requirement for VGF. This forms a part of the new port Model Concession Agreement (not yet approved) for minor ports. Going forward, the Mahanadi Deep River Port in Odisha, the Dugarajpatanam Port in Andhra Pradesh and the Sagar Island Port in West Bengal are expected to be developed through the PPP route, based on the landlord model⁶⁹.

Mass Rapid Transit System (MRTS)

Primarily funded by government sources through the EPC route, investment in MRTS is estimated to exceed INR1.0 trillion in the Twelfth Plan, with the private sector contributing more than 40%.

Considerable activity on the project front in FY14

In June 2014, line 1 of the Mumbai metro started operations. In the same month, the 3.2 km stretch of Delhi Metro Phase-III became operational. Trial runs are being conducted in Jaipur, Chennai and Hyderabad metro projects while network expansions of the Bengaluru and Gurgaon metro projects have also been sanctioned. India's first monorail system also started operations in Mumbai⁷⁰. Furthermore, the foundation stone of Nagpur metro project was recently laid by the Prime Minister in August 2014.

Urban public transport gaining ground in many cities

The Ministry of Urban Development (MoUD) has estimated a total expenditure of approximately INR2.0 trillion to develop urban public transport by 2031⁷¹. MRTS projects, such as metro rail are usually deployed in cities with population of more than 1 million. The number of such million-plus cities in India is expected to increase from 53 in 2011 to 85 in 2021⁷². In order to cater to the

growing need of fast, safe and convenient transport, many such cities have planned metro and monorail projects by 2020 such as Ahmedabad, Bengaluru, Hyderabad, Chandigarh, Chennai, Delhi, Jaipur, Kochi, Kolkata, Lucknow, Mumbai and Patna⁷³.

The MoUD is working on the standardisation of metro rail projects in the country, and has formed six sub-committees looking after different aspects of the metro. Although the MRTS projects are primarily EPC contracts, the GoI has also begun to consider the PPP model. However, PPP projects have been hit by relatively more roadblocks and delays. India's first PPP-based rapid metro rail started its operations in Gurgaon in November 2013 after a delay of around 10 months⁷⁴.

The new Government's plan to establish 100 new smart cities bodes well for the segment as all these cities will have one or the other form of the MRTS for efficient transportation and traffic management. The Union Cabinet has recently approved the phase-I of Ahmedabad metro rail project worth INR107.7 billion, which covers a 35.9 km route⁷⁵.

Power

EPC in the power sector is broadly divided in two parts – power generation and transmission and distribution (T&D). Power generation is further divided into boiler, turbine, generator (BTG) and balance of plant (BoP). A majority of Indian BTG manufacturers have forayed into the EPC segment as a forward integration of their capabilities. Most Indian BoP players have evolved from general civil contractors, leveraging their competence in civil works. Foreign players, especially Chinese and Korean, have adopted the JV route to bid for super critical boilers in the Indian power EPC market⁷⁶.

Sector has achieved significant capacity and reduced deficit

Robust economic growth and enhanced industrial activity has significantly increased the demand for power in the country. During 2011-14, India has increased its installed generation capacity by a CAGR of 12% to 253 GW, with the share of the private sector rising from 23% to 36%⁷⁷. However, with the current power deficit at around 4%, the Government has planned to further augment generation capacity⁷⁸.

Taking actions to tackle issues in thermal power generation

Coal shortages and the Supreme Court's recent verdict of de-allocating 214 coal blocks allotted since 1993 have raised challenges for existing and upcoming projects⁷⁹. In order to alleviate the situation following the cancellation of coal blocks, the Government has just released the draft-guidelines on e-auction of 74 of the de-allocated coal blocks. The e-auction process will commence on 11 February 2015 and reallocation of the blocks will be completed by 15 March 2015 according to the Supreme Court guidelines⁸⁰.

Furthermore, the Government has been pushing reforms in the sector for the last 2–3 years. In the wake of the coal shortage, the Cabinet Committee on Economic Affairs (CCEA) had directed Coal India Limited (CIL) to sign 172 fuel supply agreements (FSAs) with power providers for a capacity of 78 GW, most of which were executed as of 1 October 2014⁸¹.

Regulations in the sector have improved in the last few years

One of the biggest initiatives recently announced is the integration of the power and coal ministries, which would align the goals of various energy ministries and facilitate coordination between them. The Ministry of Environment and Forests (MoEF) has removed various provisions needed for acquiring clearances for power projects, to streamline the process. The Government has also decided to expedite the implementation of critical rail connectivity projects for coal movement in Jharkhand, Odisha and Chhattisgarh, which could potentially yield up to 200 million tons per annum (MTPA) of coal distribution by 2021-22.

Meanwhile, the government has increased its focus on hydroelectric energy

The Government has also been increasing its focus on hydroelectric and renewable sources of energy, which account for approximately 30% of the country's power source⁸². Approximately 14.4 GW of hydroelectric capacity is under construction; most of it is coming up in the North and North-East regions, which have been facing relatively high power deficit than others. Key upcoming projects include the 2.0 GW Subansiri project in Arunachal Pradesh and the 1.2 GW Teesta-III project in Sikkim⁸³.

Private investments in T&D to increase

In the T&D segment, the southern grid was synchronised with the national power grid in FY14, with the commissioning of the 765-kV single-circuit 208-circuit km (ckm) Raichur-Solapur transmission line, thereby achieving the one nation-one grid-one frequency system⁸⁴.

- ▶ The Ministry of Power (MoP) has further approved nine new T&D projects with an aggregate cost of more than INR125 billion for the construction of high capacity lines carrying up to 2.1 GW each and construction of new 765-kV and 400-kV substations; this is expected to give a major push to the private sector⁸⁵. The projects include 125-km Gadarwara power plant –Jabalpur line, 300-km Warora-Parli line, 1,150-km Raipur-Rajnandgaon line and 223-km Vindhyachal - IV & V STPP, Sasan UMPP and Chhattisgarh IPPs-Gwalior line.
- ▶ State governments have also come up with T&D projects, including 170-km Suratgarh TPS-Bikaner line and 169-km Bikaner-Sikar line in Rajasthan.
- ▶ In November 2014, the Government has planned to auction eight T&D projects worth INR530 billion, which includes a 2,500-km long high capacity evacuation link between Chhattisgarh-Tamil Nadu worth INR268.2 billion, a INR85.7 billion Maharashtra-Telangana-Andhra Pradesh link, a INR70.3 billion transmission system strengthening scheme beyond Vemagiri in Tamil Nadu and a INR44.4 billion Rajasthan-Punjab link.⁸⁶
- ▶ The Ministry of Finance approved the INR2.0 billion project to strengthen Delhi's T&D network.⁸⁷
- ▶ The Board of Directors of the Power Grid Corporation of India Limited (PGCIL) approved two T&D projects worth INR10.5 billion, which includes sub-station works associated with system strengthening in the southern region for import of power from the eastern region.⁸⁸
- ▶ In October 2014, the Government approved a comprehensive scheme of INR47.5 billion to strengthen T&D system in Arunachal Pradesh and Sikkim. The scheme has been prepared by Central Electricity Authority (CEA) in consultation with PGCIL to lay high capacity transmission lines and augmenting the existing capacity.⁸⁹
- ▶ Other EPC opportunities would also arise from performance improvement projects such as measures announced to reduce Aggregate, Technical and Commercial (AT&C) losses to below 15% level.⁹⁰

Renewable energy

India's renewable power generation capacity has more than doubled during the past eight years. The share of renewable energy in the total installed capacity has increased from 7.8% in FY08 to 12.6% in FY14. The installed renewable energy capacity touched 31.7 GW in August 2014. The Ministry of New and Renewable Energy (MNRE) has proposed to tap the country's renewable energy potential to develop power generation capacity of 100 GW by 2019 from 31.7 GW currently⁹¹.

The Government is incentivizing initiatives in the solar sector at all stages of development

Solar energy is an important yet underutilised resource in India, with a potential of 5,000 trillion kWh of energy per year. The Government's flagship solar power program, Jawaharlal Nehru National Solar Mission (JNNSM) has set a target of having 20 GW of solar grid capacity by 2022⁹². Moreover, the Government has increased the target of phase-II, batch-II bidding to 3,000 MW from the original 1,500 MW. The bidding for 3,000 MW will take place in three tranches of 1,000 MW each for a single destination state at one time⁹³.

Furthermore, the MNRE has introduced the "Solar Cities" programme with a roadmap to guide cities in tapping the city's solar energy potential and simultaneously reducing the demand for conventional energy by 10%. Out of the 60 cities identified, 46 cities have been granted sanctions by the end of June 2014, which includes financial assistance of up to INR5 million for each city, depending on its population and initiatives undertaken by the local administration. In addition, a number of initiatives taken by the Government are expected to further drive EPC sector's growth in this segment:

- ▶ The Indian Renewable Energy Development Agency (IREDA) is expected to disburse more than INR75.0 billion during FY15-17 for solar-related projects. In FY14, IREDA disbursed approximately 2.7 billion, which accounted for 11% of its total lending to renewable projects. It plans to increase this proportion to more than 60% in the next three years.⁹⁴
- ▶ The FY15 budget has allocated funds to the tune of INR5.0 billion to set up mega solar power projects in Rajasthan, Gujarat, Tamil Nadu and Jammu & Kashmir and INR4.0 billion for solar power-driven agricultural pump sets and water pumping stations.⁹⁵ In Andhra Pradesh, the Government of India has planned to provide a grant of INR5.0 billion towards development of 2,500 MW solar parks.⁹⁶
- ▶ The capacity addition of solar power in the year 2015 is expected to be 1,800 MW, more than double the capacity addition in 2014.⁹⁷
- ▶ NTPC plans to develop 3,000 MW of solar power in India, which includes 1,000 MW in Andhra Pradesh and 750 MW in Madhya Pradesh and the rest in Telangana, Rajasthan and Odisha.⁹⁸ Similarly, NHPC plans to develop a 50 MW solar power project at a cost of INR4.0 billion in Uttar Pradesh.⁹⁹
- ▶ The Madhya Pradesh Government plans to invite bids for the INR40.0 billion ultra-mega solar power project (UMSPP) by March 2015, expected to be operational by 2017.¹⁰⁰
- ▶ The Government has agreed to provide INR13.5 billion from the National Green Energy Fund towards construction of evacuation lines for solar and wind power projects in Andhra Pradesh.¹⁰¹
- ▶ In October 2014, the Government of Rajasthan launched a new "Solar Energy Policy-2014" to pave the way for establishment of 25,000 MW solar power generation capacity in the state. The policy focuses on establishing solar parks in the state sector, private sector and through PPP. A provision of INR1.0 billion has been made in the state budget of FY15 to promote power supply to remote villages through local solar grid, standalone solar system and smart grid system.¹⁰²
- ▶ The IREDA has signed a Memorandum of Understanding (MOU) with the US Exim Bank to cooperate on clean energy investment. Under the agreement, the US Exim Bank will provide medium and long-term loans totaling US\$1 billion to finance US technologies, products and services utilised during commercial development activities within the clean energy sector by IREDA¹⁰³.

Wind sector is also poised to grow with similar incentives to promote projects

Given its vast coastline, India is well-suited for the development of offshore wind energy projects. In line with this, the Government has entered a partnership with the Global Wind Energy Council (GWEC) in January 2014 to launch a four-year project to develop a roadmap for offshore wind development in the country, with a focus on Gujarat and Tamil Nadu¹⁰⁴.

Additionally, the Government has extended the scheme to continue generation-based incentive (GBI) for grid interactive wind power project for the Twelfth Plan period. Under the scheme, a GBI will be provided to wind electricity producers at the rate of INR0.5 per unit of electricity fed into the grid for a period of at least four years and a maximum of 10 years with a cap of INR10 million per MW. The total disbursement in a year will not exceed one-fourth of the maximum limit of the incentive, which is INR2.5 million per MW during the first four years¹⁰⁵. Likewise, the Government restored the accelerated depreciation scheme for the wind energy sector in 2014 that allows for increased deductions toward depreciation in the early life time of an asset¹⁰⁶.

Government is also actively promoting external funding

Government has also taken steps to incentivise solar power generation to promote funding to the sector. It has secured a credit of €200 million from the European Investment Bank (EIB) and €100 million from Agence Francaise de Developpement (AFD) to finance renewable energy projects¹⁰⁷. The Government has also approved 100% FDI investment allowed in renewable energy generation projects.

Oil and gas

The oil and gas industry consists of three segments – upstream, midstream and downstream. The upstream segment primarily comprises companies engaged in exploration and production activities, while the midstream segment comprises companies operating in storage and transportation space, and the downstream segment comprises companies engaged in refining and marketing of petroleum products. India's oil and gas industry continues to grow steadily, boosted by enhanced investments, increased production and an increase in private participation.

Government initiatives expected to aid recovery from declining crude oil production

Like the power sector, the oil and gas sector is facing a supply deficit. The crude oil and natural gas production accounts for approximately one-fourth and one-third, respectively, of the demand¹⁰⁸. The production shortfall in crude oil has led to a rise in imports, which accounted for 83% of the crude oil supply in FY14, as compared to 80% in FY09¹⁰⁹. However, the Government has made significant efforts to boost activity in the sector:

- ▶ **New natural gas pricing mechanism:** The Government introduced a new natural gas pricing policy, which included increase in natural gas prices by 33%. This is a positive step towards transition to market-based pricing. This is expected to attract more private investment in the upstream segment, which is required to develop the country's gas resources.¹¹⁰
- ▶ **Increasing focus on downstream segment:** Several oil and gas companies have announced plans to increase downstream capacity, in order to tap the increasing demand for petroleum products. Reliance Industries Ltd. (RIL) plans to expand its petrochemical manufacturing capacity by developing an integrated gasification combined cycle (IGCC) project, and 1.5 MTPA refinery off-gas cracker in Jamnagar, to utilise refinery off-gas from the IGCC unit and produce petrochemical compounds¹¹¹. Bharat Petroleum Corporation Limited (BPCL) has planned to more than double its refining capacity in Bina, Madhya Pradesh to 15 MTPA and triple its refining capacity in Numaligarh, Assam to 9 MTPA¹¹². Indian Oil Corporation Limited (IOCL) has announced to increase its refining capacity in Mathura, Uttar Pradesh from 0.8 MTPA to 1.1 MTPA, and is developing a greenfield 15-MTPA refinery project in Paradip, Odisha¹¹³. Hindustan Petroleum Corporation Limited (HPCL) plans to double its capacity in Vizag, Andhra Pradesh to 15 MTPA¹¹⁴. Through these policies, the Government not only aims to meet its growing domestic demand for

fuel, but also to strengthen its position as an exporter of petroleum products. Moreover it plans to double its gas pipeline network to 30,000 km on PPP basis, which is expected to provide opportunities for the EPC segment.¹¹⁵

- ▶ **Building strategic crude oil reserves:** The Indian Strategic Petroleum Reserves Limited (ISPRL), an SPV of Oil Industry Development Board (OIDB), has planned to set up "strategic" crude oil reserves with storage capacity of 5.33 million metric tonnes (MMT) at 3 locations – Visakhapatnam, Andhra Pradesh (1.33 MMT), Mangalore, Karnataka (1.5 MMT) and Padur, Kerala (2.5 MMT) by 2015, in order to improve the country's energy security. The project is expected to cost INR114 billion (development cost – 21%, crude oil cost – 79%) along with an annual operation and maintenance cost of INR0.9 billion¹¹⁶. Going forward, the government plans to increase this storage capacity to 18 MMT by 2020, which may include reserves in Gujarat and Odisha.¹¹⁷
- ▶ **Approval of the shale gas policy:** The Cabinet Committee on Economic Affairs (CCEA) has approved the shale gas policy. According to the policy, initially, the two largest state-owned oil and gas corporations will be permitted to explore for and produce shale oil and gas from inland blocks allotted to them before the 1999 New Exploration Licensing Policy (NELP). Subsequently, shale oil and gas blocks will be offered to private sector companies through an auction¹¹⁸. The Ministry of Petroleum and Natural Gas (MoPNG) has also identified 46 new hydrocarbon exploration blocks in the tenth round of NELP (NELP-X), which will be auctioned to oil and gas companies¹¹⁹. The Government is expected to come up with a new natural gas pricing formula by the end of 2014, incorporating both the interest of investors and public¹²⁰.

Emerging opportunities to lead the focus going forward

Coal Bed Methane (CBM): In the unconventional gas segment, the Government has increased its focus on exploration of CBM. It has awarded 33 CBM blocks under four bidding rounds, 30 through international competitive bidding (ICB), 2 on nomination basis and 1 through the Foreign Investment Promotion Board (FIPB). Out of these, eight blocks are under development phase¹²¹. Furthermore, 10 CBM blocks have been identified for offer under the proposed Uniform Licensing Policy (ULP)¹²². The MoPNG has also allowed CIL to evaluate its existing mines for presence of CBM wells to maximise production, which will then sell the CBM back to MoPNG.

Liquefied Natural Gas: On the LNG front, the 5-MTPA Kochi LNG terminal for re-gasification was commissioned, taking the country's total re-gasification capacity to 22 MTPA across Dahej, Hazira, Dabhol and Kochi. By FY17, it is expected that this capacity will increase to 32.5 MTPA¹²³. In addition, other LNG terminals are being developed at Mundra, Gangavaram, Ennore, Kakinada, Pipavav and Mangalore, which are expected to add another 33 MTPA by 2019.

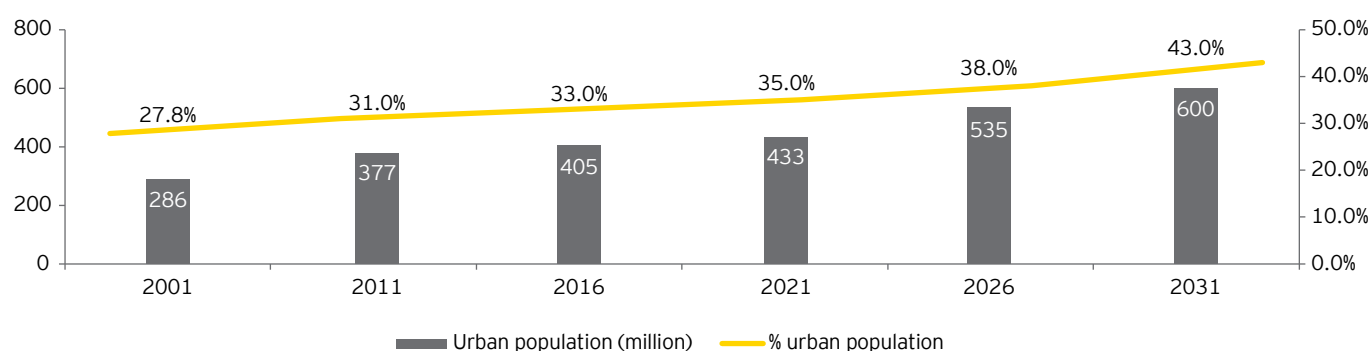
Real Estate

As a sector Real Estate is the second-largest employer and has one of the highest multiplier effects when it comes to contribution to the GDP. It contributed close to 6.3% to the GDP in 2013 and this share is likely to go up to 13% by 2025 and in absolute terms the real estate sector is expected to attain a market size of US\$180 billion by 2025¹²⁴.

Buildings

India's demographic composition has changed rapidly. Factors including swift economic growth and migration of the rural population to urban areas are leading to a growth in urbanisation levels never seen before. Increased urbanisation is expected to lead to emergence of more megacities and increased population clusters. The top 20-30 cities are projected to attract a significant portion of the rural population, who migrate in search of job opportunities. By 2031, 43% of India's population is expected to stay in urban areas.¹²⁵

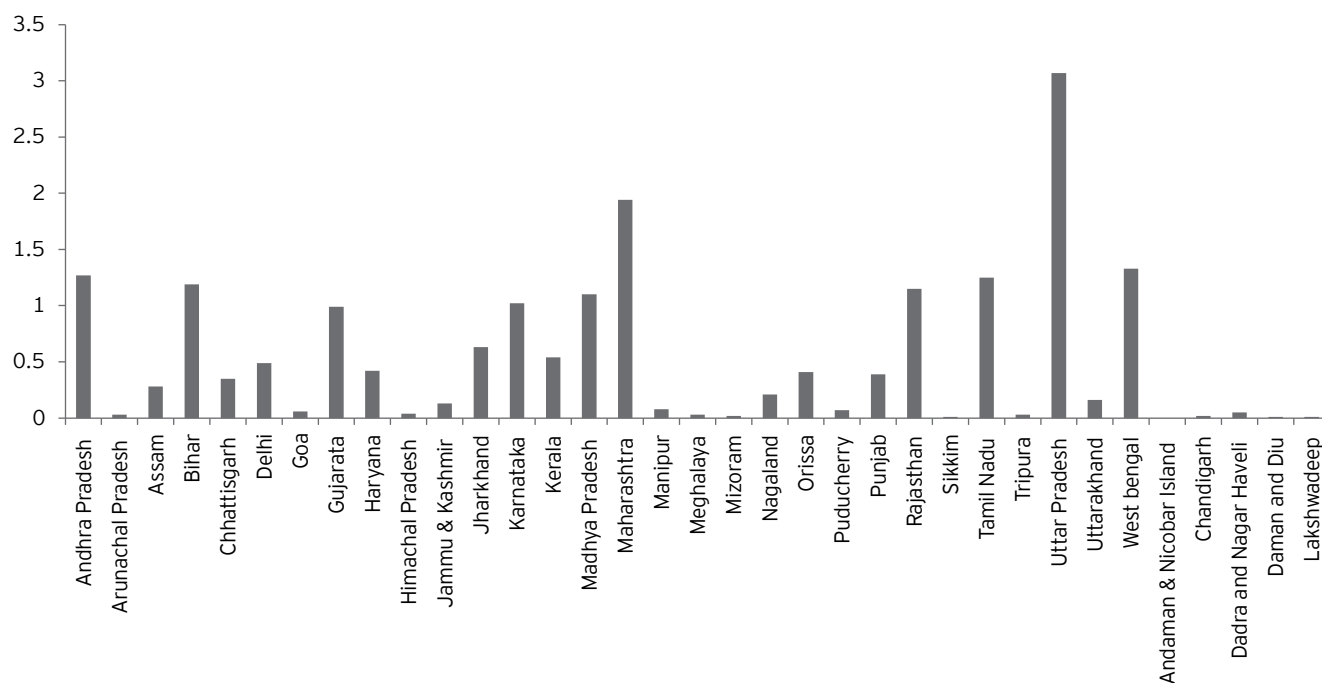
Growth in urban population in India (2001-2013)



Source: National Institute of Urban Affairs

The residential segment accounts for a majority of the Real Estate market and the estimated share stands at around 80%. Housing shortage for urban India stood approximately at 18.8 million units and that for rural India stood at 43.6 million units, wherein 90% of the shortage was for EWS and LIG segments (Source: NHB Presentation 2013).

Distribution of housing shortage across major states (in million units)



Source: MOSPI.nic.in

EY analysis for EPC Potential of Housing Shortage

| | |
|---------------------------------|-------------|
| Units Shortage (Pent up) | 1,80,00,000 |
| Carpet area (Per unit) | 400 |
| Loading on Carpet Area | 30% |
| Built up Area | 520 |
| Construction Cost (Rs sq. ft) | 1200 |
| Total Project Cost (Rs cr) | 11,23,200 |
| Civil Work as a % of Total cost | 80% |
| Cost of Civil Work (Rs cr) | 8,98,560 |
| Cost of Civil Work (US\$ bn) | 1,498 |

The EPC potential for just the pent up demand for urban housing shortage stands at almost US\$1.5 trillion at current prices.

Opportunities in bridging the housing demand-supply gap

Urban areas are already facing severe housing shortage and infrastructure constraints. The total housing shortage for the Twelfth Plan (2012-17) in the urban area has been estimated at 18.8 million units and for rural areas at 43.7 million units. Considering the massive housing shortage in the country, the new Government has strongly emphasised on affordable housing in India. It has recently announced its vision of "Housing for all by 2022". There have been several measures proposed in the Union Budget 2014-15 and by the RBI in support of affordable housing¹²⁶:

Special boost to Affordable Housing

1. Announcements by RBI

In six metropolitan centers, loans of up to INR5 million (for houses costing up to INR6.5 million) and in other cities of INR4 million (for houses with value up to INR5 million) will be eligible for priority sector lending. The RBI has also exempted long-term bonds raised for funding affordable housing from mandatory regulatory norms such as CRR and SLR. These measures will result in eased interest rates, reduced costs of funds and better liquidity.

2. Other initiatives

- 2a. External Commercial Borrowing (ECB) has been allowed for low-cost affordable housing projects
- 2b. A 1% subsidy is being provided on loans worth up to INR1.5 million on the purchase of houses costing less than INR2.5 million
- 2c. Investment-linked deduction of capital expenditure in affordable housing has been increased to 150%

Other measures taken by the Government to support housing in the country

FDI norms for housing were relaxed through a reduction in built up area to 20,000 sq. m. from 50,000 sq. m. and minimum capitalisation requirements to US\$5 million from US\$10 million. Investors are permitted to exit on completion of the project or after three years from the date of final investment, subject to development of trunk infrastructure¹²⁷.

The Government of India has announced the setting up of 100 smart cities and has pledged a contribution of US\$1.2 billion as seed capital for the project. However, the investment in each smart city is estimated to be more than US\$10 billion and therefore, presents another opportunity for real estate development and the ancillary construction sector in India.

REITs law expected to drive maximum investor activity

The Securities and Exchange Board of India (SEBI) has approved the setting up of REITs in India in August 2014. In the recent union budget, REITs had been proposed to be given pass-through status for the purposes of taxation, and this has been accepted by the SEBI¹²⁸. REITs are likely to have a direct implication on the funding of real estate projects and the developer will get an alternate funding avenue.

To sum it up, the opportunity lies in the fact that the construction stock requirement for residential, commercial and industrial buildings will increase due to rapid increase in urban population and migration of people to upper tier cities. The commercial space will grow in future due to economic growth and favourable demographics of a large earning population. The industrial growth will be boosted by the construction of industry-centred cities on industrial corridors, including seven new cities along the Delhi Mumbai Industrial Corridor (DMIC) as well as the cities planned on the Chennai- Bengaluru and Bengaluru-Mumbai industrial corridors.

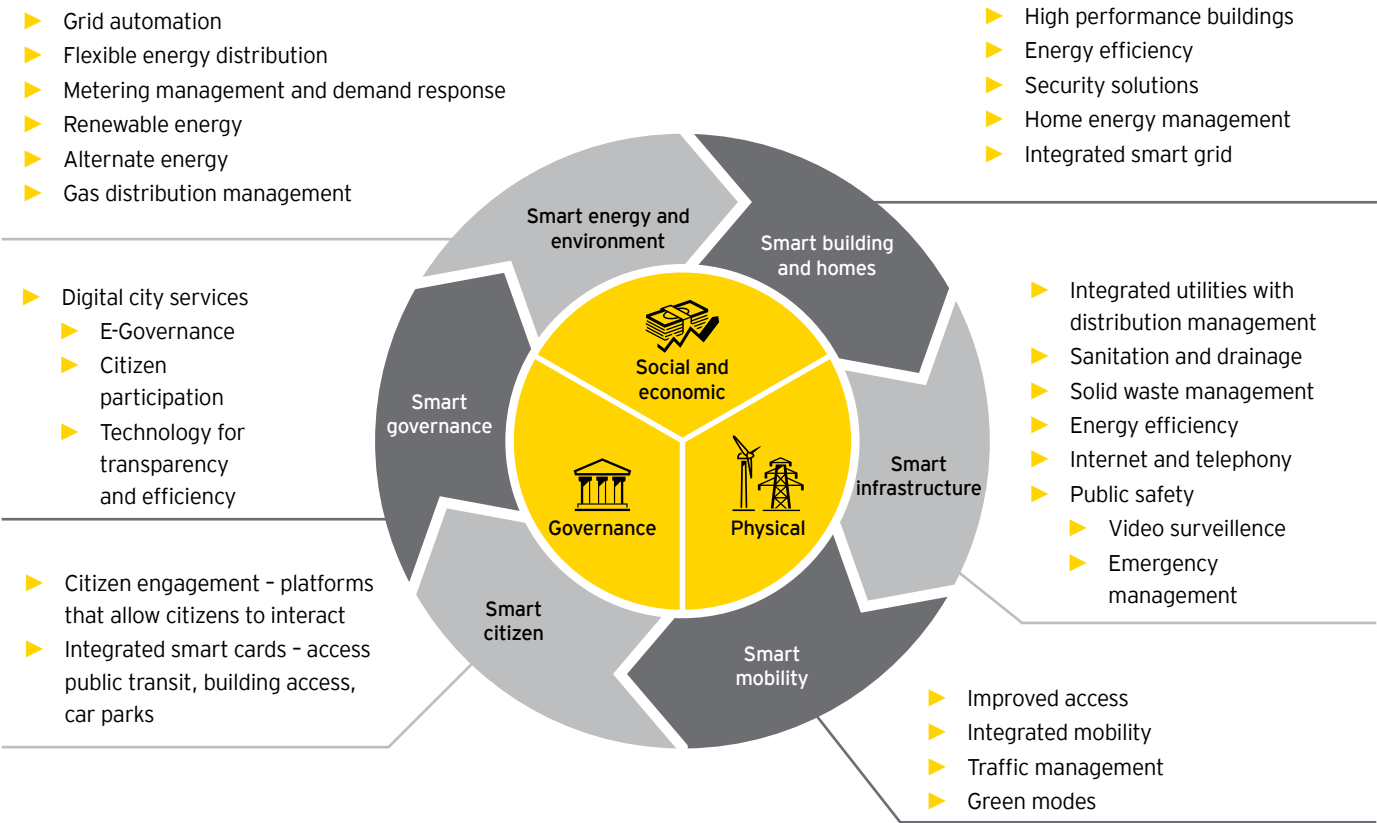


Real estate for smart cities

Concept of smart cities: What is a smart city?

“Smart cities use information and communication technologies (ICT) and data to be more intelligent and efficient in the use of resources resulting in cost and energy savings, improved service delivery and quality of life and reduced environmental footprint - all supporting innovation and low carbon economy.

A city can only be efficient if all the components that go into making it function contribute individually to its overall performance with the aim of increasing its efficiency.



Water utilities

The water supply situation in India faces several issues that indicate the urgent need for a complete systemic overhaul through policy reforms and up-grading projects¹²⁹. The increase in urban population will increase the demand for water and wastewater infrastructure.

| Challenges facing the water supply | Indicators |
|------------------------------------|--|
| Inadequate coverage | 64% of the urban population is covered by individual connections and standposts |
| Intermittent supply | National average duration of water supply ranges from 1 hour to 6 hours; per capita water supply in cities ranging from 37 litres per capita day (LPCD) to 298 LPCD for a limited duration |
| Poor service quality | Water leakages are 70%; non-revenue water (NRW) accounts for 50% of water production |

Given the present scenario, the Centre would have to work with the state government departments to improve the capacity, distribution network systems and operational technology to ensure the limitations are addressed in a timely manner. This presents a considerable opportunity for EPC players in the sector.

The Centre's activity on the regulations front has increased funding in the sector

In 2013, the Centre formulated the Draft National Water Framework Bill 2013, proposing a transparent approach to develop and manage river basins and groundwater. Several water supply and wastewater projects are being funded by the Central Government through budgetary resources. In addition, the Jawaharlal Nehru Urban Renewal Mission has approved 384 projects in the sector with an additional central assistance (ACA) of INR211.4 billion.¹³⁰ Although the second phase of the JNNURM has been scrapped by the new government, the planned smart cities' project would entail several new opportunities in this segment.

| Sub-sector | Projects approved | Projects completed | % projects completed | Approved cost (INR billion) | Total ACA (INR billion) |
|------------------------------|-------------------|--------------------|----------------------|-----------------------------|-------------------------|
| Drainage/ storm water drains | 76 | 29 | 38% | 83.7 | 34.2 |
| Water supply | 186 | 71 | 38% | 224.9 | 110.2 |
| Sewerage | 122 | 35 | 29% | 157.6 | 75.5 |
| Total | 384 | 135 | 35% | 466.2 | 220.0 |

Source: JNNURM Website

The scope for private sector participation is poised to grow in quantum and breadth of services. In addition to the conventional operations and maintenance, the private sector is now involved in asset rehabilitation, professional and technical consultancy on metering, billing, reduction of non-revenue water (NRW) and recycling. EPC will continue to be the dominant mode of development and maintenance works in the sector.

Large-scale investments are planned in the sector

The High Powered Expert Committee (HPEC) for estimating investment requirements for urban infrastructure services has estimated a requirement of INR309 trillion for the 20-year period from 2012 to 2031. Water supply, sewerage and storm water drains account for 24% (INR75 trillion) of the total investment requirement.

Capital expenditure estimates by sector (2012-2031)

| Segment | Investment in INR trillion(2009-10 prices) | % share |
|--------------------------------|--|---------|
| Water Supply | 32 | 10.4% |
| Sewerage | 24 | 7.8% |
| Storm Water Drains | 19 | 6.1% |
| Solid Waste Management | 5 | 1.6% |
| Urban Roads | 172 | 55.7% |
| Urban Transport | 45 | 14.6% |
| Traffic Support Infrastructure | 10 | 3.2% |
| Street Lighting | 2 | 0.6% |
| Total | 309 | |

Source: 'Report on Indian urban infrastructure and services,' March 2011, The High Powered Expert Committee (HPEC) for estimating the investment requirements for urban infrastructure services

3.

Sector trends



3.1 Emergence of new sectors

Railways (Model Concession Agreement)

Indian Railways (IR) had a mixed experience with limited number of PPP projects that it has allowed so far. The development of port connectivity projects, private freight terminals and logistics parks on PPP basis have yielded good returns for the sector. Private container train operators have also witnessed a fair amount of success. However, leasing of railway land on a PPP basis has not taken off well so far. In the absence of a standard framework to govern PPP projects, the sector has faced several issues, which have affected their development.

It has been observed that the lack of such a framework in railways led to adoption of various approaches towards fixation of concession period, lease rent and liability of railways at the time of transfer of assets at the end of concession period by the private player.

Considering the urgent need to augment network capacity and paucity of internal funds with railways, the Government has recently allowed 100% FDI in almost all segments except operations. Given its plans to attract private investment across the spectrum of projects and quantum of money involved, IR is now planning to come out with a Model Concession Agreement (MCA) to execute projects under PPP mode. The MCA is expected to provide a structure to address issues related to financing, allocation of risks, rewards and obligations between the partners. It is also likely to set the terms for incentives and targets for the private player¹³¹.

The proposed MCA is expected to streamline the process of project selection, approval and award for the private participation. It would also provide a framework to clearly demarcate the liabilities of stakeholders involved, thereby reducing the occurrences of disputes leading to project delays and time and cost overruns. Furthermore, since the IR has opened many new segments such as high-speed rail corridors, suburban rail corridors and freight lines connecting ports and mines for the private participation for the first time, the MCA is expected to lay-down the approach towards project development.

Smart cities

The Government has been working on attending the housing shortage due to rapidly increasing urbanisation and the accompanying infrastructure demand. It recently announced its vision of “Housing for all by 2022”, the year in which India will celebrate 75 years of its independence¹³². One of the most prominent features on the new Government’s agenda is the mega project of developing 100 smart cities with modern amenities over 20 years across the country.

The project encompasses urban infrastructure and technology integration on a city-wide scale

The INR70.6-billion “Smart City” project will essentially entail modernisation of existing infrastructure, integration of technology in infrastructure management, and development of civic amenities to provide contemporary systems of integrated transport, continuous water supply, and solid waste management and so on.

The list includes not only large existing cities, where most of the development would be through brownfield projects, but also greenfield projects where new factories, power plants and airports will be built from scratch. The Gujarat government has already embarked on a greenfield project Gujarat International Finance Tec-City (GIFT) for a target population of around 0.5-1.0 million.

Multi-source financing

Many countries have shown interest to participate in and provide funding to the smart city project. This includes Japan, which is keen on developing Varanasi as a smart city; Singapore, which has selected Hyderabad for the project; and France, which has expressed interest in Nagpur.¹³³ Private sector giants such as the Russian Sistema JSFC have also approached the Government with a proposal to develop smart cities on the lines of projects they have already implemented.¹³⁴ In its financial architecture for smart cities, the Ministry of Urban Development (MoUD) has proposed the Central Government to establish a fund in consultation with other ministries to solicit funds from various sources¹³⁵:

- ▶ Central Government allocation,
- ▶ Multi-lateral and bi-lateral agencies
- ▶ Bonds subscribed by national and state level land development agencies
- ▶ Pooled Municipal Debt Obligation (PMDO) facility
- ▶ Real Estate Investment Trusts (REITS)
- ▶ Infrastructure debt funds (IDFs)
- ▶ Tax-free municipal bonds

Looking to private investments, the project is also expected to be executed under the PPP model wherever feasible, and the Government will contribute in the form of viable gap funding (VGF) for the project.¹³⁶

Smart City project process-flow

Stage 1: Submission of proposal

- ▶ The first stage would be submission of an Integrated "Smart City Development Plan" for identified smart cities.
- ▶ This would be based on the "Smart City Reference Framework" for sanction of an initial amount for preparation of professional and comprehensive project reports.

Stage 2: Approval

The next stage will require the development of project reports to be appraised

- ▶ Project Management Units (PMU) and
- ▶ Empowered committee

Stage 3: Evaluation and monitoring

- ▶ During evaluation and monitoring, the PMU would submit quarterly reports to Central and state governments.

There would be an advisory committee at Central and state levels with "mission directors" at both levels to provide support during the drafting and monitoring stages.¹

Renewable energy

The focus of RE developers in India has shifted from a tax-break driven investment to a long-term profit driven and efficient power generation driven development. The Government has set a challenging target of achieving 100 GW of solar power generation capacity by 2022. As a follow-up of the "Make-in-India" initiative launched by the Government in September 2014, the MNRE has decided to hold an annual investor summit "RE-invest" in 2015, which is expected to lay the path to attract global investments in the sector, in order to achieve the requisite US\$35 billion investments every year.¹³⁷ Many Canadian companies have expressed their interest to participate in the commercial RE power generation.¹³⁸

Several financing schemes have been rolled out

The improvement in financing is also poised to drive increase in private sector participation. PTC India Financial Services (PIFS) has signed an agreement with Power Finance Corporation (PFC) to provide a single window to borrowers developing RE projects under consortium financing to achieve speedy financial closure and avoid duplication of work.¹³⁹

Offshore and onshore wind energy to lead to RE generation

The total onshore wind potential in India is estimated to be around 65 GW given its 7,517-km coastline. In order to identify sites for wind power generation, wind resource assessment is being conducted at approximately 500 places in Orissa, Bihar, Jharkhand, Himachal Pradesh, Goa and the North-East. The cost of assessment is shared by the Centre (40%), states (30%) and the private entity conducting the assessment for setting up windmills (30%).¹⁴⁰ The Government is also exploring offshore wind power opportunities. MNRE has recently signed MoUs with a consortium of PSUs including National Institute of Wind Energy, NTPC, Power Grid Corporation, Indian Renewable Energy Development Agency, Power Finance Corporation, Power Trading Corporation and Gujarat Power Corporation. Through these MoUs, MNRE targets to set up the first 100 MW offshore wind power project along the Gujarat coast.¹⁴¹

From community rooftops to mega solar parks: solar power to be tapped at all levels

The Government is pushing for policy reforms to encourage solar power in all the four segments – ultra mega solar projects (UMSPs), utility scale projects, large rooftops and small rooftops. The MNRE has drafted a plan for construction of UMSPs and solar parks, aiming an addition of 20 GW of solar power capacity in by 2019. These include Gujarat's 500-MW Charanka Solar Park and Rajasthan's Bhadla Solar Park. These parks will be provided with basic facilities such as land, road connectivity and transmission facilities to connect pooling stations by state governments. The sector is allocated INR10 billion for the current fiscal FY15.¹⁴² The MNRE is also seeking a loan of €1 billion (INR77.5 billion) from German bank KfW in order to promote rooftop solar systems worth 1,600 MW across the country, which will provide considerable opportunities for small and mid-scale EPC players in both B2B and B2C segments in the solar equipment design, manufacturing and installation industry.¹⁴³

Special Economic Zones

Special Economic Zones (SEZs) have helped support and drive the economy by providing an integrated and tax-saving infrastructure for manufacturing and services sectors. Between February 2006 and September 2014, while investments in SEZs rose from INR40 billion to INR3 trillion, employment increased from 0.14 million people to 1.28 million.¹⁴⁴ The potential of contribution of SEZs to increase in the economy is still huge.

Number of measures to boost manufacturing hubs' development expected in FY15

SEZ Act: In order to revive these manufacturing and service hubs, the new government has started the process of drafting policy reforms to SEZs, which are expected to come out in a few months. This includes consideration of exempting such units from the cumbersome Land Acquisition Act, and for the long run, re-examining the removal of tax sops for both SEZ units as well as for SEZ developers. Currently, more than 21,000 hectares of land is lying vacant in notified SEZ processing areas as investors find these zones unattractive, especially after the imposition of minimum alternate tax (MAT) on SEZ developers and units and dividend distribution tax (DDT) on developers in the FY12 Budget. The Export Promotion Council has suggested reducing the MAT and DDT rate to 7.5% for SEZs from the current 20% to revive private investments in SEZs.¹⁴⁵

Foreign Trade Policy: The new Foreign Trade Policy (2014-19), expected to be announced soon, will focus on increasing manufacturing and services exports besides improving standards and branding of products, reviving the demand for SEZs and NIMZs. In FY15, the Government targets goods exports of US\$340 billion (up 8.1% y-o-y) and services exports of US\$160 billion (5.6% y-o-y).¹⁴⁶

3.2 Entry of global players

Despite political challenges, lengthy approvals and clearance processes, issues in definition of project scope, default in payments etc., Indian EPC market still has been on the radar of global EPC contractors. While the Indian market has its own set of challenges, the global EPC players have been keen to establish operations in India.

Several international EPC contractors have entered India to tap the market. Players such as Samsung of Korea, Leighton of Australia, Bechtel of the US and UEM of Malaysia have already established their presence in India through some landmark projects. Each class of players has adopted different methods to enter and establish themselves in India. While some players entered the Indian markets for pure play EPC/contracting business, many have targeted the Indian market to expand their equipment business as a part of the entire gamut of EPC services.



Entry strategies for global players

► Acquisition or investment in existing Indian companies

Few global construction giants from France, Germany and the Middle East have entered the market through majority or controlled buy-outs of existing India companies. Acquisitions have been perceived to be successful in global markets and hence, have been replicated in the Indian market as well. Acquisition of NAPC by a France-based group is a classic example in the Indian EPC sector¹⁴⁷. Moreover, the market witnessed a strategic acquisition of a minority stake by a Middle East-based Group in IL&FS Engineering¹⁴⁸.

► Formation of joint ventures

Project-specific joint ventures have been formed by Middle East companies, particularly in the building construction segment in India. For example, the “World One” project in Mumbai, is being constructed by Simplex Infra in JV with a Middle-East-based construction giant¹⁴⁹.

► Global companies setting up own subsidiaries

Furthermore, there are a large number of global companies that have set up their own subsidiaries in India and are bidding directly for projects in India. Few such players are Samsung (Korea), Leighton (Australia), Bechtel Corporation (US), Uhde (Germany), Tecnimonte (Italy), Marti Group (Switzerland). One interesting precedent is Leighton India that has not only grown and established business but also divested a strategic stake to Welspun Group¹⁵⁰. This was an entry strategy by a large Indian business group through association with a foreign entity having a pedigree presence in the country.

Equipment suppliers entering the Indian EPC Market

With the long-term demand outlook of power generation and distribution, large foreign EPC companies, particularly the Chinese and Japanese players, have entered the market providing full scale EPC services with equipment being the primary domain.

With the slowdown in capacity addition in China, the Chinese players are expanding their presence in the overseas markets including India. They have an edge over its Indian competitors on the grounds of timely delivery schedule and competitive pricing. Furthermore, they bundle their equipment's with easy and low cost financing from Chinese lenders. Some of the large financing transactions to fund the import of Chinese BTG equipment include Reliance power raising US\$1.1 billion from Bank of China, China Development Bank, The Export Import Bank of China and Standard Chartered Bank¹⁵¹, Lanco Infratech raising US\$2 billion etc. from consortium of Chinese banks led by China Development Bank¹⁵². Many large Japanese players have also entered the Indian market to garner a pie of the large Indian power equipment market.

Entry strategies:

► Setting up its own subsidiaries

Large prominent names such as Dongfang Electric Corporation (China), Shanghai Electric Corporation (China), Harbin Power Electric Corporation (China), Doosan Group (Korea), Alstom (France), Siemens (Germany) etc., have set up their operations in India.

► Formation of joint ventures

There are a large number of foreign companies who have formed joint ventures with Indian companies particularly in the BTG segment. Few examples are L&T-Mitsubishi (Japan), BGR-Hitachi (Japan), Thermax-Babcock Wilcox (US), GB Engineering-Ansaldo (Italy), JSW Energy -Toshiba (Japan).

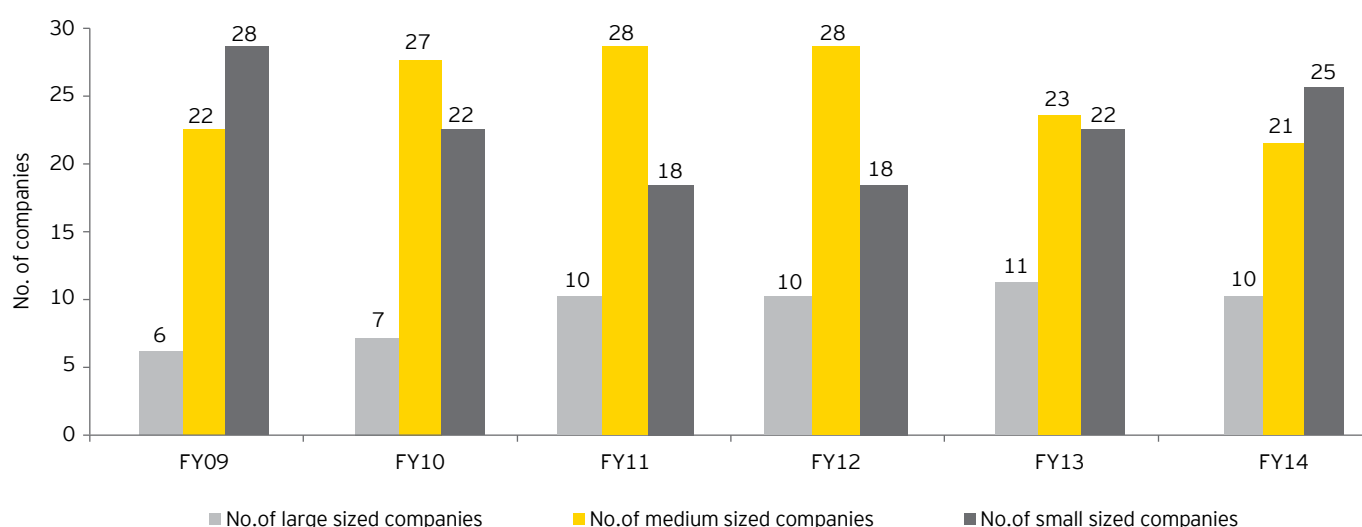
3.3 Evolution of market landscape

For the purpose of our analysis, we have considered a sample of listed EPC companies, according to the categorisation mentioned below:

- ▶ **Large-sized companies:** FY14 revenue of more than INR40.0 billion
- ▶ **Mid-sized companies:** FY14 revenue between INR10.0 billion and INR40.0 billion.
- ▶ **Small-sized companies:** FY14 revenue less than INR10.0 billion.

| Category | Total revenue FY14 (INR billion) | No. of companies | % share in total revenue |
|------------------------|-------------------------------------|------------------|--------------------------|
| Large-sized companies | 1,487 | 10 | 70.2% |
| Medium-sized companies | 492 | 21 | 23.2% |
| Small-sized companies | 140 | 25 | 6.6% |
| Total | 2,119 | 56 | 100% |

Market evolution



Note: The above graph reflects the shift in the revenue profile of companies over years (considered for the purpose of our analysis)

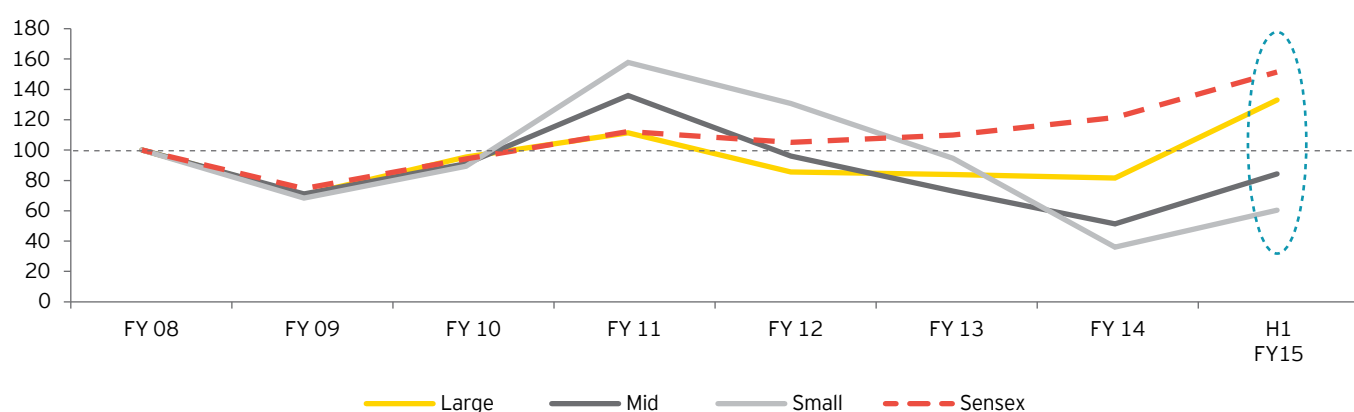
Market size and profitability

| Particulars | FY 09 | FY 10 | FY 11 | FY 12 | FY 13 | FY 14 |
|------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Revenue (INR billion) | | | | | | |
| Large-sized companies | 842 | 924 | 1,057 | 1,256 | 1,355 | 1,487 |
| Mid-sized companies | 258 | 335 | 413 | 483 | 486 | 492 |
| Small-sized companies | 134 | 186 | 218 | 215 | 199 | 140 |
| Total | 1,234 | 1,445 | 1,688 | 1,954 | 2,040 | 2,119 |
| PAT (INR billion) | | | | | | |
| Large-sized companies | 39 | 44 | 50 | 47 | 37 | 28 |
| Mid-sized companies | 11 | 16 | 20 | 17 | 12 | -6 |
| Small-sized companies | 7 | 12 | 11 | 1 | -4 | -24 |
| Total | 57 | 72 | 81 | 65 | 45 | -2 |

Source: Company annual reports and Capitaline

Total revenues have grown at a CAGR of 11.4% during FY09-FY14; however, most of the growth primarily being contributed by large and mid-sized companies. While the revenues have increased consistently, the total PAT has actually decreased to negative. This indicates that revenues have multiplied at the cost of ultimate profitability. The dip in profitability is primarily driven by the negative PAT posted by many mid- and small-sized companies. The declining PAT is primarily attributable to unsustainable level of debt on the books, emanating from working capital issues and losses from the order book.

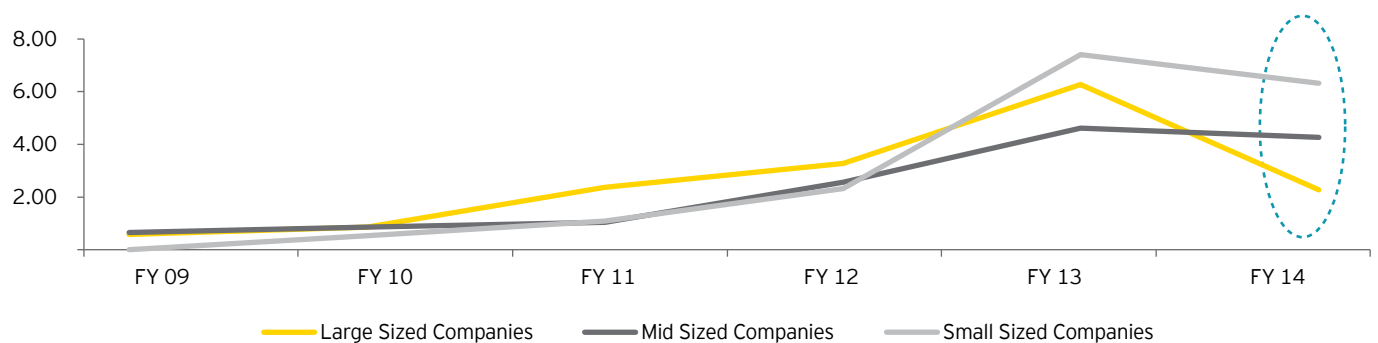
Market capitalization performance



Source: Company annual reports & Capitaline

During FY08-FY12, most EPC stocks, particularly the large- and mid-sized ones, moved in tandem with the SENSEX. However, after FY12, the correlation reversed, and EPC stocks have been witnessing a negative trend since then. The stocks have actually touched all-time lows during FY13-14. After election results and the formation of stable government at the Centre, the scenario changed drastically for infrastructure companies. With the new government providing a significant thrust to infrastructure companies, there has been a strong re-rating seen across all EPC companies. While the Sensex has increased by approximately 25% during first half of FY15, the EPC stocks have gone up by an average of 60%.

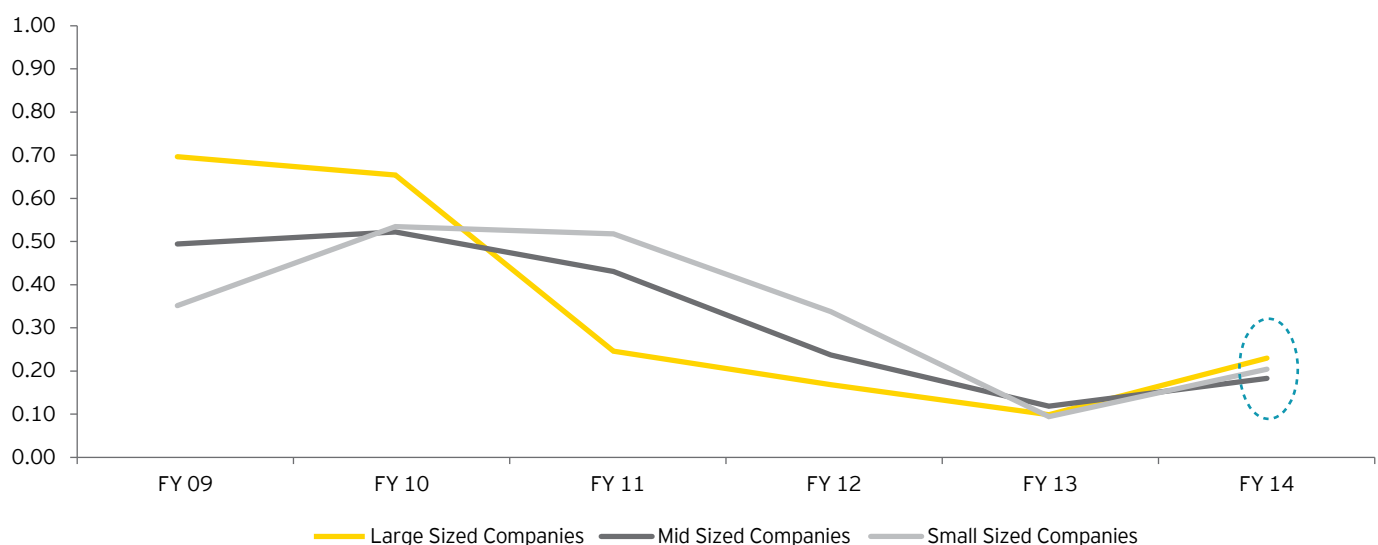
Debt/market capitalization¹⁵³



For example, FY09 numbers are calculated as total debt as on 31 March 2009/average market cap during FY10.

The graph, highlighting the ratio of total debt/market capitalisation, indicates the deteriorating financial health of companies. Debt pressures have been increasing, adversely impacting companies' profitability. It is remarkable to note that the debt component, which was just a fraction of the market capitalisation during FY09, had peaked to 6-7x times in FY13. With an increase in market cap during first half of FY15, the trend has, however, reversed with decline in ratio to 2-4x.

Market capitalization/revenue¹⁵⁴



The trend, as indicated in the graph above, indicates the extent to which the trading market cap of companies is reflecting their revenues. The ratio has been consistently declining from FY09-FY13. However, with the bounce back in stock prices, the ratio has seen a sharp reversal in FY14.

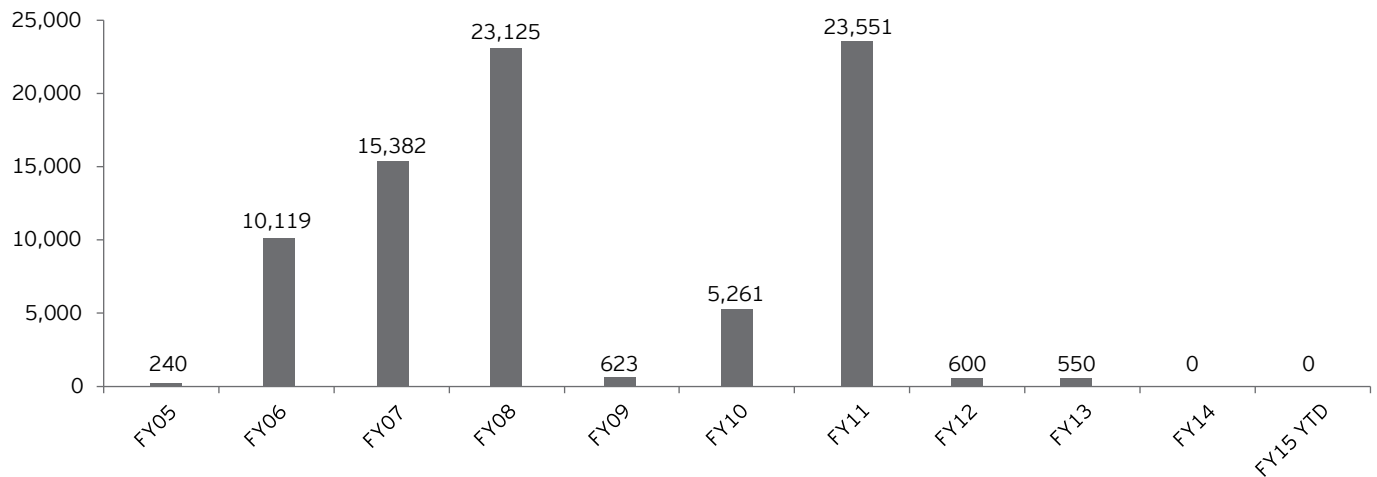
3.4 Improvement in liquidity: raising funds from the capital markets

Sector's fund-raising from capital markets peaked in FY11

Historically, EPC companies have accessed capital markets to finance their expansion plans and meet their long-term funding needs, particularly when markets were flourishing. As the construction sector grew rapidly during FY05-08, it attracted funds through IPOs, Qualified Institutional Placements (QIPs) and Institutional Placement Programs (IPPs). On the course of short-term recovery following the 2008-09 global recession, EPC companies gradually resumed accessing capital markets to raise funds for new projects and meet their working capital requirements.

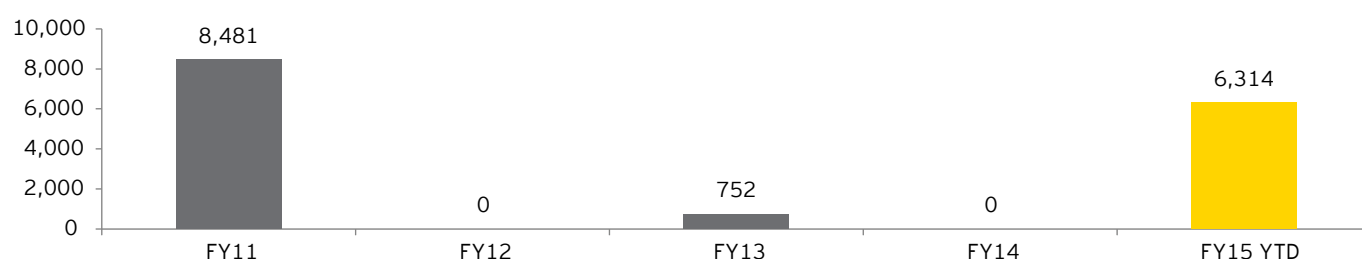
The sector reported improved fund-raising activity in FY11 with funds to the tune of INR32 billion flowing into the sector through IPOs and QIPs. Some of the major EPC players including Ashoka Buildcon Limited (ABL) and Ramky Infrastructure Limited (RIL) were successfully listed on the stock exchange during the fiscal year. Many EPC companies including Pratibha Industries Limited (PIL), Kalpataru Power Transmission Limited (KPTL) and C&C Constructions Limited (C&C) also completed QIP issues successfully.

Proceeds from IPOs by EPC firms (INR million, FY05 - FY15 YTD)



Note: Data excludes SMEs, pure-play PPP, real estate and asset holding companies
Source: Dealogic; EY research

Value of QIPs issued by EPC firms, INR million, FY11- FY15 YTD



Source: BSE India; EY research

In addition, many infrastructure and real estate developers raised equity through primary markets. These include BOT-highway developers (IL&FS Transportation Networks Limited issued IPO in 2010, Jaypee Infratech Limited - 2010), power generation-asset owners (Orient Green Power Company Limited - 2010, Adani Power Limited - 2009), oil and gas producers (Oil India Limited - 2009) and residential real estate developers (Prestige Estates Projects Limited - 2010 and Oberoi Realty Limited - 2010).

Slowdown hindered capital raising from primary market

The period of FY12-14 reported a slowdown in construction activity, primarily attributed to issues in infrastructure sector and liquidity crunch in the market. The investor appetite was reduced due to the subdued secondary market, resulting in stock prices reaching all-time lows. (Refer to section 3.2 of this report).

In such a scenario, many unlisted companies could not access the primary market to provide an exit to private equity investors or raise monies for further expansion. The investors were also adversely impacted as they planned to exit the investment through the primary route.

Revival of investor sentiment and thus capital markets

The formation of the new stable Government in May 2014 and its emphasis on infrastructure development has improved investor sentiments. Moreover, several announcements related to mega projects made by the new Government, including smart cities, housing for all and high speed rail corridors, have been decisive in developing a positive outlook for the EPC sector. Since May 2014, stocks of most construction companies have performed well, which is expected to lead to an improvement in primary markets as well (Refer to section 3.2). Generally, the IPO markets bounce back approximately six months after a pickup in secondary markets, which have recently improved because of the formation of the new Government and its recent initiatives.¹⁵⁵

Meanwhile, four QIP issues by EPC firms have cumulatively raised INR6.3 billion, since July 2014. The proceeds from these QIPs and Institutional Placement Programmes (IPPs) are being utilised towards reducing high debt levels.¹⁵⁶

QIPs issued by EPC companies, in INR million, FY11-15 YTD

| Issuer name | Date | Value (INR million) | Offer price (INR) |
|--------------------------------------|-------------|---------------------|-------------------|
| Sadbhav Engineering Limited | 21 Oct 2014 | 2,500.0 | 216.0 |
| Jyoti Structures Limited | 26 Sep 2014 | 1,002.1 | 42.9 |
| ITD Cementation India Limited | 1 Sep 2014 | 1,440.0 | 360.0 |
| J Kumar Infraprojects Limited | 18 Jul 2014 | 1,371.7 | 310.0 |
| Gayatri Projects Limited | 17 Dec 2012 | 752.2 | 120.2 |
| Pratibha Industries Limited | 13 Oct 2010 | 1,000.0 | 82.0 |
| Diamond Power Infrastructure Limited | 26 Jul 2010 | 1,140.0 | 203.8 |
| Kalpataru Power Transmission Limited | 3 May 2010 | 4,503.2 | 1,074.2 |
| Marg Limited | 28 Apr 2010 | 1,069.3 | 189.9 |
| C&C Constructions Limited | 13 Apr 2010 | 768.7 | 243.8 |

Source: BSE India; EY research

QIPs issued by infrastructure developers, in INR million, FY11-15 YTD

| Issuer name | Date | Value (INR million) | Offer price (INR) |
|--|-------------|---------------------|-------------------|
| Gammon Infrastructure Projects Limited | 4 Sep 2014 | 2,588.9 | 12.7 |
| GMR Infrastructure Limited | 8 Jul 2014 | 14,767.7 | 31.5 |
| Jaiprakash Associates Limited | 7 Jul 2014 | 14,993.8 | 70.3 |
| Jaiprakash Associates Limited | 4 Feb 2013 | 5,329.0 | 83.0 |
| GMR Infrastructure Limited | 19 Apr 2010 | 14,000.0 | 62.2 |

Source: BSE India; EY research

Promising outlook for the investment scenario

With an expectation for the primary market to recover by the end of this fiscal year, some EPC companies, including PNC Infratech Limited, Soma Enterprise Limited and Pennar Engineered Building Systems are planning to raise funds through IPOs. The Government has also announced divestment of various railway subsidiaries, including specialised construction entity IRCON International Limited, through the IPO route. The revival of institutional investor sentiment, backed by a strong secondary market, is expected to lead to significant fund raising from IPOs in coming years.¹⁵⁷ The sector has been in dire need of capital and a turnaround in the overall sentiment will help improve liquidity.¹⁵⁸

Apart from IPOs, many EPC companies (including Hindustan Construction Company Limited, Ashoka Buildcon Limited and SPML Infra Limited) have planned QIPs. Infrastructure developers such as IL&FS Transportation Networks Limited and GVK Power and Infrastructure Limited have also planned to issue QIPs in the coming months.¹⁵⁹ The fund raised by these firms will be utilised for capacity expansion and growth after repaying debt. This would enable EPC companies to execute more projects.

EPC companies' asset-holding subsidiaries plan to go for IPOs

Going forward, it is expected that the asset-holding subsidiaries formed by EPC companies (with the aim of keeping the balance sheet debt-light) will issue IPOs to raise capital. These include Gayatri Infra Ventures Limited, a subsidiary of Gayatri Projects Limited; Madhucon Infra, a subsidiary of Madhucon Projects Limited; Sadbhav Infrastructure Project Limited (SIPL), a subsidiary of Sadbhav Engineering Limited and Lavasa Corporation Limited, a subsidiary of HCCL. These public issues are planned not only with an aim to reduce debt, but also to provide an exit to private equity investors.¹⁶⁰

Sale of assets aimed to reduce debt burden

EPC companies and infrastructure developers are increasingly looking to divest their assets and de-leverage their balance sheet. In the last couple of years, developers have been crippled by problems of significant time and cost overruns due to delayed government approvals, land acquisition hassles and paucity of funds driven by high borrowing costs. Driven by these factors and the intention to pursue new opportunities of investment, infrastructure companies are selling their assets.

Deals already consummated

- ▶ Lanco Infratech raised INR 60 billion by selling its 1,200 MW Udupi thermal power plant to Adani Power. The deal proceeds will be used to pare some portion of its outstanding debt of INR470 billion¹⁶¹.
- ▶ SEW Infrastructure sold a majority stake in its road project on the National Highway 3 in the borders of Madhya Pradesh and Maharashtra to Uniquet Infra Ventures Private Ltd. The proceeds of the stake sale will be utilised by the company to improve its liquidity position¹⁶².
- ▶ GMR Infrastructure sold a 74% stake in GMR Jadcherla Expressways to Macquarie SBI Infrastructure Investments and SBI Macquarie Infrastructure Trust for INR2.06 billion, in line with the company's asset light and asset right strategy¹⁶³.
- ▶ L&T and Tata Steel sold their entire stake in Dhamra port to Adani Ports in a deal worth INR55 billion. Both companies plan to reduce their outstanding debt with the deal proceed¹⁶⁴.
- ▶ Valecha Engineering sold its three build, operate and transfer basis road assets located in Madhya Pradesh and Gujarat to New Generation Infrastructure, Inc., a subsidiary of New Generation Holdings, Inc. for an aggregate consideration of INR3.1 billion¹⁶⁵.
- ▶ NCC Infrastructure Holdings Ltd. and Gayatri Energy Ventures Pvt. Ltd. who jointly own the 1,320 MW coal-fired power plant at Krishnapatnam in Andhra Pradesh, sold their 45% equity stake in the plant to Sembcorp Utilities Pte Ltd. in a deal worth INR8.5 billion¹⁶⁶.

3.5 Recent Government actions

Rescheduling of premium in NHAI projects

In March 2014, a committee was formed, which was headed by the Chairman of the Prime Minister's Economic Advisory Council (EAC). This committee suggested a mechanism to reschedule the payment of premium by highway developers. Under the mechanism, only those highway projects, where the toll collected is inadequate to meet project expenses such as servicing of debt, operations and maintenance along with the premium payment, will be eligible for premium rescheduling.

Since the announcement of this move in May 2014, the NHAI has permitted 9 of the 39 stalled projects to defer the payment of premiums, leading to a total premium deferment of INR59.6 billion for FY14. The concerned developers can capitalise the unpaid premium amount over the concession period. They will have to pay this shortfall in premium with a 10.75% interest at a later date¹⁶⁷.

| Road project | Developer | Premium postponed in FY14 (INR million) |
|--------------------------------------|--------------------------------|--|
| Godhra-Gujarat/Madhya Pradesh border | BSCPL Infrastructure Ltd. | 82 |
| Beawar-Pali-Pindwara | L&T | 1,704 |
| Rohtak-Panipat | Sadbhav Engineering | 472 |
| Hyderabad-Yadgiri | Sadbhav Engineering | 129 |
| Samkhiyali-Gandhidham | L&T | 243 |
| Ahmedabad-Vadodara | IRB Infrastructure | 2,367 |
| Tumkur-Chitradurga | IRB Infrastructure | 814 |
| Indore-Dewas | Gayatri-DLF Infra Holdings Ltd | 293 |
| Hosur-Krishnagiri | Reliance Infra | 407 |

Source: "NHAI reschedules premium payment for nine stalled projects," India Transport Portal, 19 June 2014, via Factiva, Copyright © 2014. Digital Bizzline Ltd.

According to the terms of restructuring, road developers availing the restructuring package will not be allowed to pay dividend to their parent company till they clear all dues to NHAI. The Government will permit the developer to pay 25% of what they actually owe NHAI during the initial three years. Subsequently, the amount will be raised to 50% and the developer will also have to pay the remaining amount over the following years and the amount carried forward will attract an interest rate of 10.75%¹⁶⁸.

5:25 scheme to refinance infrastructure loans

In the last few years, several large infrastructure projects have been stalled, mainly because of issues related to land acquisition, environmental clearances and the lack of fuel for power plants. Banks that lent money to these projects have had to classify them as bad loans or restructure them. As of 31 March 2014, infrastructure loans worth INR572.3 billion were under corporate debt restructuring (CDR). This accounts for around 20% of all loans to all the sectors.

In 2013-14, projects with investments of more than INR6 trillion were dropped or stalled. In the meantime, gross NPAs (non-performing assets or bad loans) in the banking system rose to 3.9% of gross advances as of 31 March 2014, as compared to 3.3% in FY13. Recent industry estimates projected gross NPAs in the banking system at 4% at the end of FY15¹⁶⁹.

Considering the stress on developers and the repercussions for banks and by and large on the economy, the Government proposed a 5:25 scheme to refinance infrastructure loans in the Union Budget 2014-15. The scheme is intended to address the challenge of mismatch in time horizons that the banks face when lending to infrastructure projects. Banks rarely lend beyond 10 to 12 years, whereas infrastructure projects have a tenor of 25 years. The 5:25 scheme allows banks to lend money to an infrastructure company for 25 years, with an option of rewriting the terms of the loan or transferring it to another bank or financial institution after five years. It is structured this way to allow the tenure of the loan to match the life cycle of the underlying asset.

The effective implementation of 5:25 scheme is expected to provide a breather to both developers as well as lenders whose financials have been stretched in the last few years. The scheme has twin benefits, on one hand, it will ensure the flow of funds to existing projects, which have been stuck due to various reasons, while on the other hand, banks can renegotiate the terms of loan to ensure that the loan is paid back by the borrower. Existing lenders can also exit the project by transferring the loan to another lender willing to take such exposure.

Settling of arbitration claims by NHAI

A dispute settlement committee set up by the National Highways Authority of India (NHAI) in December 2012 has resolved 124 arbitration claims on the authority at just 10% of the original claim value, saving both litigation costs and time for NHAI as well as private developers. Out of the total disputes of more than INR200 billion, the committee succeeded in deciding pending claims and financial disputes worth INR94 billion for only INR9.1 billion. This is particularly significant because many of these disputes were going on for more than a decade before various arbitration tribunals¹⁷⁰.

Encouraged by the success of the committee, the NHAI now plans to set-up a body on similar lines – Society for Affordable Resolution of Disputes – to resolve PPP disputes arising in the future, under Societies Registration Act, 1860. This society is expected to institutionalise the arbitration process between the NHAI and national highway developers. It will ensure that disputes with highway developers do not linger on indefinitely and also to regulate the fee charged by arbitrators in such cases¹⁷¹.

The society will function under a governing council comprising four members each from the NHAI and the National Highways Builders Federation. In addition to placing comprehensive guidelines for conducting arbitration proceedings at a reasonable cost, it will aim to promptly resolve disputes between the NHAI and highway developers through various ways including engagement of experts in the field.

The current arbitration process leads to undue delays in dispute resolution putting hefty burden both on the NHAI as well as highway developers. There is also no limit on the fee that can be charged by arbitrators. Once the institutionalised arbitration process is implemented, disputes arising in future projects will be directed through the society for arbitration.

Infrastructure Investment Trusts

The Union Budget 2014-15 has proposed to establish Infrastructure Investment Trusts (InvITs)¹⁷² in India. InvITs are expected to increase the availability of funds for infrastructure projects by raising long-term capital at competitive rates. The objective is to unlock funds from completed projects by allowing the promoters of such projects to sell their stake to the trust, which in-turn, can raise funds from unit holders.

The Securities and Exchange Board of India (SEBI) issued draft regulations for InvITs on 17 July 2014, which were kept open for public comments until 24 July 2014. The final regulations were issued on 26 September 2014. The listing of both publicly offered and privately placed InvITs has been made mandatory¹⁷³. The proposed broad framework of trusts has been discussed below^{174, 175}:

- ▶ There can be a maximum of three sponsors.
- ▶ The trust can raise funds only through a public issue of units with a minimum 25% public float and at least 20 investors.
- ▶ Public offer should be open for a minimum of 30 days. If the offer fails to meet 75% subscription, the trust will have to refund the money
- ▶ The value of assets held by an InvIT should be more than INR5 billion.
- ▶ The initial offer size of the InvIT has to be at least INR2.5 billion.
- ▶ The structure allows to invest in projects either directly or through SPVs (at least 50% holding at SPV level).
- ▶ An investor should subscribe to a minimum INR1 million in an offer by a listed InvIT and the minimum trading lot has to be INR0.5 million
- ▶ Trusts need to invest 80% or more of the assets in completed and revenue generating infrastructure projects.
- ▶ A publicly offered InvIT may invest the remaining 20% in under-construction infrastructure projects and other permissible investments
- ▶ An InvIT that proposes to invest more than 10% of its assets in under-construction infrastructure projects can raise funds only through private placement from qualified institutional buyers with a minimum investment and trading lot of INR10 million and from at least five investors, where single holding cannot be more than 25%.
- ▶ Trusts will have the right to retain maximum oversubscription up to 25%.
- ▶ Trusts need to distribute at least 90% of net distributable cash flows.
- ▶ Minimum lock-in period for sponsors is 3 years from the date of listing.

Tax treatment for InvITs¹⁷⁶

- ▶ Dividend distribution tax will apply on dividend income received by business trusts at the level of SPVs.
- ▶ Such dividend income, thereafter, will be exempt from tax in the hands of the business trust as well as unit holders and will not be subject to any tax withholding.
- ▶ Interest received by the trust will be completely exempted from tax.
- ▶ The trust will withhold tax on the interest component of the distributed income payable to the unit holders at the rate of 5% for non-resident unit holders and 10% for resident unit holders.
- ▶ The trust will be taxed on any capital gains it makes on the disposal of any assets at the applicable rate.
- ▶ The transfer of units of the listed trust will be similar to that of listed shares. Long-term capital gains on transfer of units will be exempt while short-term capital gains will be taxable at the rate of 15%, provided securities transaction tax is paid on the transfer of such units.

Moreover, the Government has recently allowed InvITs to become partners in limited liability partnership (LLP). The move is expected to increase investment opportunities for InvITs as LLP will be favored as a mode of investment due to reduced compliance and tax exemptions on DDT and minimum alternate tax¹⁷⁷.

3.6 External funding

Institutions such as World Bank, International Finance Corporation and Asian Development Bank provide funds to finance infrastructure projects and create strong institutional capacity of efficient project planning and execution. These institutes have provided funding through a multitude of instruments and under different structures, determined on a project-to-project basis.

World Bank's recent funding support to India

- ▶ IFC has invested US\$20.4 million as equity infusion into Power Grid Corporation of India Limited for funding the latter's capacity expansion projects¹⁷⁸.
- ▶ International Development Association has approved US\$107 million for a road project in Mizoram to connect the state to Myanmar and Bangladesh¹⁷⁹.
- ▶ The World Bank has signed a US\$500 million loan agreement with the Government of India for the National Highways Interconnectivity Improvement Project. The loan, from the International Bank for Reconstruction and Development, has maturity term of 18 years¹⁸⁰.
- ▶ The World Bank has planned to invest US\$775 million to develop clean energy projects in India. As part of this plan, it has already approved loans amounting to US\$300 million to two projects, one in Himachal Pradesh and another in Rajasthan¹⁸¹.
- ▶ The World Bank approved a soft loan of INR10.5 billion for Phase-II of the Gujarat State Highway Development Plan (GSHDP), which involves up grading of 1,576 km of roads¹⁸².
- ▶ In September 2014, IFC raised INR6.9 billion (US\$100 million) as the first instalment of its US\$2.5 billion onshore bond program spread over the next five years, to raise infrastructure finance for India¹⁸³.

ADB's recent funding support to India

- ▶ ADB has sanctioned a loan of INR2.8 billion for the Mangalore City Corporation. This includes INR1.6 billion allocated for the 24x7 water supply project and remaining INR1.2 billion for repairs and maintenance of the old network of sewer lines.
- ▶ ADB has agreed to extend a loan of US\$176 million for the Jaipur Metro Phase I (B) project. The financing will also aid in carrying out the studies for the planned 23 km-long north-south Line 2¹⁸⁴.
- ▶ ADB has sanctioned a multi-tranche loan facility amounting to US\$300 million to augment power infrastructure in Assam. The loan is a part of a broader 10-year, US\$3.5 billion state investment programme of ADB¹⁸⁵.
- ▶ In line with the ADB's plan of holding an Indian portfolio of 200 MW solar PV power projects and 100 MW of wind power projects by March 2016, it has infused US\$50 million of equity into Welspun Renewable Energy Limited¹⁸⁶.
- ▶ ADB also raised INR3 billion (US\$50 million) in its maiden issuance of offshore Indian rupee-linked bonds in August 2014. The issuance is the first bond issued under ADB's US\$500-million offshore rupee-linked bond programme. The bond-proceeds will be used to fund projects related to infrastructure and the financial sector¹⁸⁷.

Moreover, these two international multilateral funding agencies have assisted India Infrastructure Finance Company Ltd. (IIFCL) in its takeout financing and credit enhancement schemes, primarily catering to infrastructure projects. During 2013-14, IIFCL mobilised INR16 billion mainly from the World Bank and the ADB. The IIFCL also signed an agreement with the ADB for a line of credit of US\$700 million.

Investment by Sovereign Wealth Funds and pension funds

The mandate global pension funds and Sovereign Wealth Funds (SWFs) have is typically to invest over a very long-term horizon. The infrastructure sector provides a perfect platform to pension funds and SWFs for long-term investment horizon. With the formation of a stable Government at the centre, the pension funds and SWFs have started actively investing in Indian markets. According to the data published by NSDL, the share of long-term funds such as SWFs and pension funds in total foreign institutional investor (FII) inflows into Indian equities increased to 17% in September 2014 from 11% in September 2013. The recent regulatory changes announced by the Securities and Exchange Board of India (SEBI), with respect to foreign investors have encouraged SWFs and pension funds.

Some of the key investments made by pension funds are:

- ▶ CPP Investment Board Singaporean Holdings 1 (CPPIBSH), a wholly-owned subsidiary of Canada Pension Plan Investment Board (CPPIB) has agreed to invest INR20 billion in L&T's subsidiary Infrastructure Development Projects Limited (L&T IDPL). This is the first direct private investment by a Canadian pension fund in an Indian infrastructure development company¹⁸⁸.
- ▶ The world's second-largest pension fund APG Asset Management entered a partnership with Piramal Enterprises Limited (PEL) to invest up to US\$1 billion in India's roads, ports, airports, power plants, telecom towers, education and health care sector. Both PEL and APG will initially bring in US\$375 million each and over the next 3 years plan to ramp up their investment to US\$1 billion¹⁸⁹.
- ▶ CPPIB and Piramal Enterprises formed a strategic alliance to set up a US\$500 million real estate finance company in India. Both entities have made an initial commitment of US\$250 million each for the venture¹⁹⁰.
- ▶ Some of the key investments made by SWFs are:
- ▶ GIC, Temasek and Oman's State General Reserve Fund have committed US\$200 million investments in a real estate fund run by India's biggest mortgage lender, Housing Development Finance Corporation¹⁹¹.
- ▶ Oman SWF-SBI JV plans to raise US\$250 million to back ventures under "Make in India" campaign¹⁹².
- ▶ Uniquet Infra Ventures, backed by Malaysian SWF Khazanah Nasional Berhad, acquired a majority stake in Khalghat road from Sew Infrastructure Limited and Navayuga Engineering Company Limited¹⁹³.
- ▶ Singapore SWF invests US\$150 million in a renewable energy producer Greenko Group Plc¹⁹⁴.

4.

Key challenges



4.1 Challenges faced by construction projects in India

The infrastructure sector continues to be plagued by various challenges despite significant number of opportunities and the renewed euphoria backed by increased support from the new Government. With the sector reporting increased private sector participation, these challenges are affecting the execution of projects across different segments. In the last decade, private sector has been effective in developing infrastructure in India; however, infrastructure projects face multiple challenges right from planning to operational stages. Coordination between public and private parties is imperative for the success of infrastructure development, which needs to be enforced.

| Regulatory challenges | Project development and implementation challenges | Financing challenges |
|--|--|---|
| <ul style="list-style-type: none"> ▶ Delay in environment clearances ▶ Delay in land acquisition ▶ Ineffective dispute resolution mechanism | <ul style="list-style-type: none"> ▶ Inappropriate project selection due to lack of adequate data ▶ Faulty project planning ▶ Deviation in scope of work with respect to the scope defined in DPR | <ul style="list-style-type: none"> ▶ Availability of long-term financing ▶ Precarious financial position of developers limiting capacity to borrow funds ▶ Aggressive bidding rendering the project unviable |

These challenges have resulted in significant shortfall in awards and completion of projects, compared to targets laid down. Many projects could not find bidders due to viability related concerns, lack of liquidity and past precedents generating negative sentiments. In addition, many awarded projects are stalled because of delays in clearances. Although the Government has taken several initiatives in the last 15 years to remove barriers in the sector, much remains to be done to realise the benefits. It needs to take a stock of the challenges mentioned below and take remedial action.



Regulatory challenges leading to time and cost overruns

India's infrastructure sector lacks an integrated framework and holistic approach for the selection and execution of projects. Several highways and port projects have been delayed in recent years due to lack of environmental and forest clearances. Furthermore, power projects suffered due to shortage of fuel and low pace of resolutions in that regard. While the concerned Ministry states that the delays are primarily due to non-compliance with environmental procedures and circulars issued, private developers' think the terms of compliance are complex and time-consuming.

According to the ministry estimates 189 projects involving a total investment of INR1,800 billion are stuck due to problems in land acquisition, delays in forest and environment clearances, non-transfer of defence land and hurdles in rail over-bridges. Recently, these lingering issues forced the Government to terminate 34 PPP projects in the roads sector worth more than INR385 billion, which will now be implemented through the EPC route pursuant to preparation of the Detailed Project Report (DPR) with revised costs¹⁹⁵.

Similarly, the Navi Mumbai Airport project reported delays due to hurdles in land acquisition. After obtaining all clearances from the Centre, the project was stalled due to rehabilitation of 10 villages occupying 291 hectares needed for the project. Although the City and Industrial Development Corporation (CIDCO) has been able to persuade all but three villages, it has to bear a significant increase in project costs (from INR4.77 billion in 1998 to INR14.57 billion currently) as a result of these prolonged delays¹⁹⁶.

Furthermore, due to the lack of a robust resolution system, several dispute cases, pertaining primarily to change in scope of work, are pending across all infrastructure sub-sectors, resulting in time and cost overruns. For instance, in the roads segment alone, approximately INR265.5 billion is pending in disputes between the NHAI and developers/concessionaires¹⁹⁷. Among those, disputes involving INR227.7 billion are pending for arbitration while another INR37.8 billion was stuck in court cases¹⁹⁸.

Moreover, the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, which came into effect in January 2014 would prove to be a major roadblock, especially for road and port projects. Under the Act, land owners should get up to four times the market value in rural areas and twice that in urban areas as compensation for their land, which will lead to significantly high costs and delays. Moreover, certain conditions in relief and rehabilitation (R&R) package such as reservation of 20% of the developed land for landowners as part of their rehabilitation entitlement can make the projects unviable. Additionally, a subsistence allowance for 12 months and an annuity for 20 years are difficult to implement and can affect the project's internal rate of return (IRR) therefore, making the project unprofitable in the long run. Though the National Highways Act is currently out of the purview of the Bill the Government is expected to bring it in its folds by 2015¹⁹⁹.

Challenges in the project planning and implementation stages

Inappropriate project selection leads to demand-risk for project: Challenges and issues arise at the selection stage itself. Some of these projects are often economically unviable and result in a significant demand-related risk for developers in terms of their return on investments.

Faulty project planning requires substantial rework in scope and design: A successful project banks on robust techno-economic feasibility studies. Consultancy services, including preparation of DPRs, account for just 1%-2% of the overall cost of a project in India; however, it plays a very critical role in the success of the project. A meticulous and accurate DPR helps in avoiding delays due to multiple changes in the scope and design of the underlying project. However, many government agencies do not have the capacity to evaluate the credentials of technical consultants. Their selection is usually based on an L1 bidding mechanism and leads to a compromise on quality.

Inaccurate demand projection reduces project viability: Since long-term historic data is not available, it is difficult to accurately perform trend analysis due to which most traffic studies are not robust. Moreover, since concession periods are long and economic conditions ever-changing, forecasting has become difficult and prone to errors.

Furthermore, traffic is dependent upon multiple factors such as commercial developments, political uncertainty, which is difficult to estimate or quantify. One such incident was the ban on iron ore exports in Karnataka, which affected the revenues of New Mangalore Port and South Western Railway. According to industry estimate, the ban affected revenues of railways by INR21 billion²⁰⁰.

Moreover, the time given to consultants to prepare project studies is not properly planned and is low to begin with. This results in several iterations and changes in the output of consultants.

Unviable bidding

The next set of complications arises at the bidding stage. In the past few years, with rising PPP opportunities, many contractors became developers, leading to increase in competition in the sector. The L1 bidding mechanism thus, led to aggressive bidding, resulting in challenges during financial close and implementation of projects. Furthermore, due to lack of experience and project management skills of these contractor-turned-developers, projects mostly face time and cost overruns.

The Government is now planning to put some of the highway projects out of the total stalled highway projects worth INR1,800 billion for re-bidding. It is also contemplating preparing Detailed Project Reports (DPRs) for another INR2,000 billion road projects, obtaining environment and forest clearances itself and acquiring the land before bidding them out. These initiatives are expected to revive the interest of private players to bid for projects and speed-up their execution²⁰¹.

In India, negotiation with developers is not permitted in the PPP procurement process. Moreover, standardised model concession agreements are used in most sectors, which leave limited scope for innovation or changes in contract. With the increase in the complexity and scale of PPP projects, using standard documents for all projects limits the cooperation between government and private players.

Apart from the issues affecting various segments uniformly, there are also a few sector-specific issues. For instance, in the airport segment, the Airports Economic Regulatory Authority of India (AERA) decides the model under which private airport operators can charge landing, parking and user development fees, which lacks flexibility and limits the ability of operators to pass on actual costs to airlines and passengers.

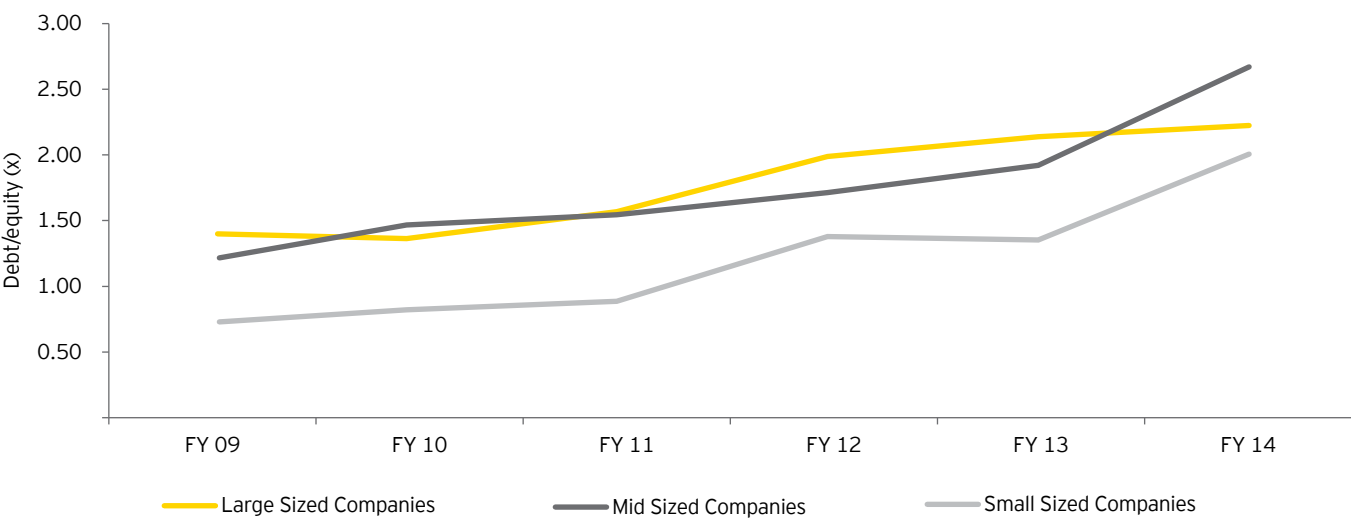
Challenges relating to financing

The slowdown in the Indian economy has been continuing since last two years, with domestic structural constraints, dampened global cyclical conditions and dented business confidence. Furthermore, the asset-liability mismatch limits the capacity of banks to lend funds to infrastructure projects, and most banks have reached their exposure limits. This has resulted in a virtual freeze on bank loans for infrastructure projects. In 2012, 45 road projects could not achieve financial closure even after the completion of mandatory 300-day deadline. Many of these projects were allowed a grace period of extra 120 days to achieve the financial closure by the NHA²⁰².

Due to aggressive bidding, developers offered high premium payments to the Government for several projects, which the lenders found unviable to finance. In the last two years, the speed of execution and margins have deteriorated in the sector. Increase in base interest rates, coupled with deterioration of credit profile of highway projects have resulted in a substantial increase in borrowing costs for these projects. The credit worthiness of developers has also gone down due to their highly leveraged balance sheets and stressed profitability.

4.2 Debt to equity equation has reversed: how will debt be serviced?

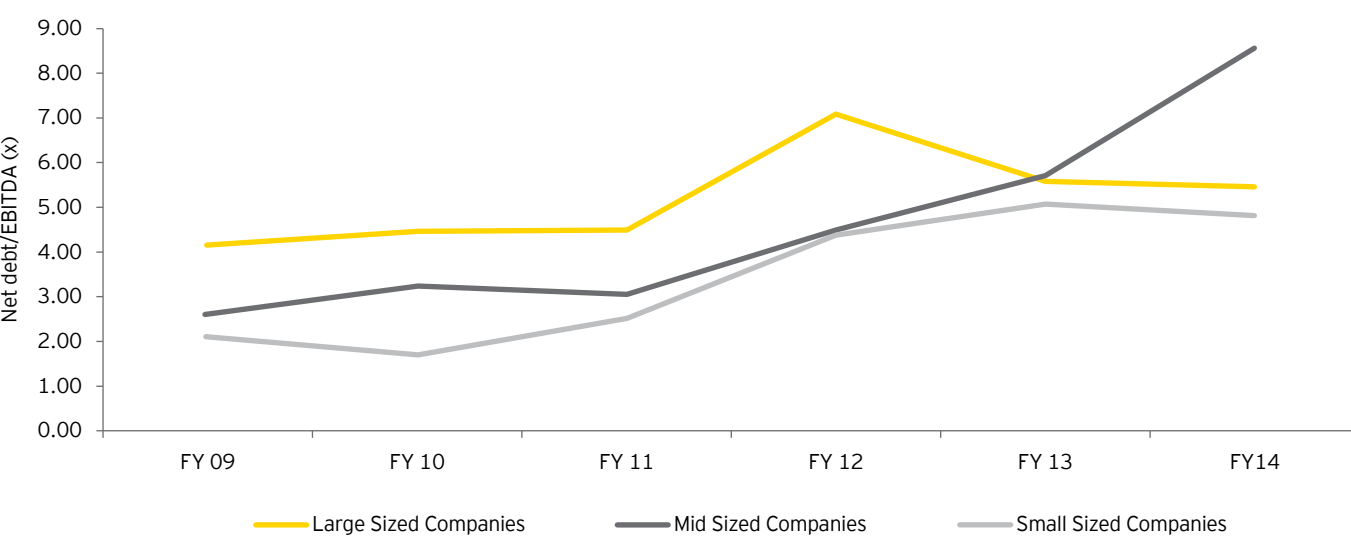
Total debt to book equity ratio



Source: Company annual reports & Capitaline
Note: Reflects median number for the purpose of analysis and comparison

The above analysis clearly indicates the burgeoning debt pressures on the books of the company. When compared with FY09, the FY14 debt-to-equity ratio has increased significantly. The increase in debt for large-sized companies can be attributed due to its exposure to the BOT business.

Net debt/EBITDA

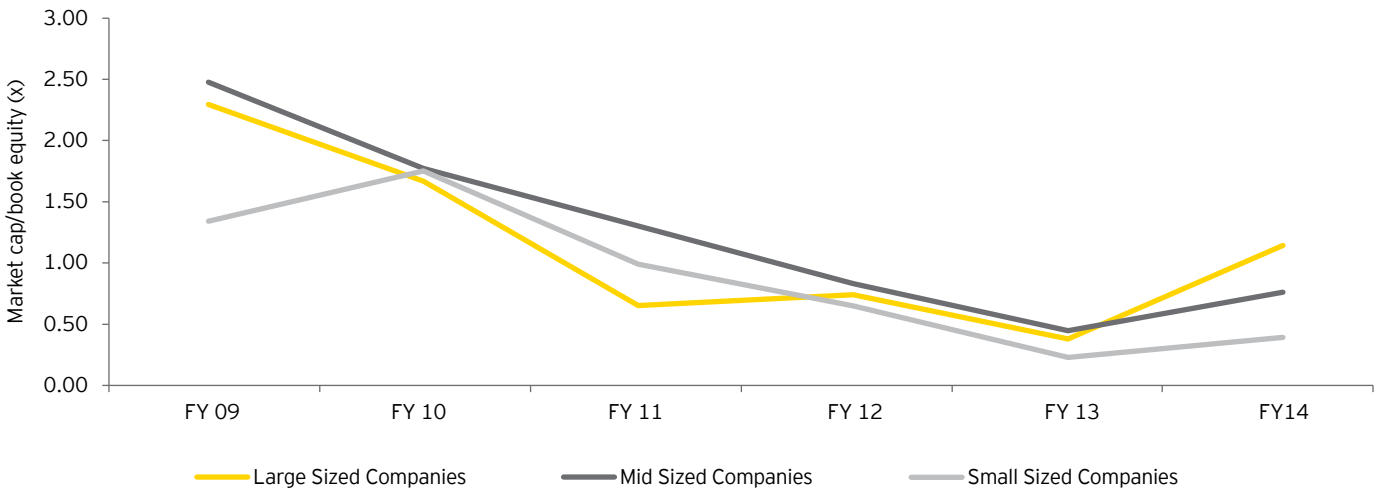


Source: Company Annual Reports & Capitaline
Note: Reflects median number for the purpose of analysis and comparison

The above graph of net debt/EBITDA indicates the adequacy of EBITDA, which is the operating cash flow available for servicing debt. If we observe the above trend, the multiple has been increasing consistently, highlighting the increase in debt without any corresponding increase in profitability or operational cash flow. This clearly reflects issues that the sector is currently facing.

The increasing interest rates have also posed a challenge for EPC players. The interest coverage ratio of many medium and small-sized infrastructure construction players has declined to less than 1x, which indicates that they will find it difficult to meet interest costs and service debt. Many companies have begun to offload assets (especially non-core assets), despite the fact that asset valuations are not high. This is done purely to restructure the capital and reduce the debt-burden off the balance sheets²⁰³.

Market capitalization to book equity



Source: Company Annual Reports & Capitaline

The above calculation is based on Average Market Cap/ Book Equity ratio.

For example, FY09 numbers are calculated as Average Market Cap during FY10/Total Book Equity as on 31 March 2009.

The above analysis indicates that there has been a clear deterioration in the valuation ascribed by the market. There has been a small increase in the ratio during FY14; however, the ratio is still way below its peak level. For example, during FY09-FY11, the stocks were trading at a premium to their book equity. In particular, large-sized companies commanded a significant premium. Many of these stocks are now trading not even at book value of equity but at a rather significant discount to the book value.

Financial snapshot of EPC companies*

| Particulars | FY09 | FY10 | FY11 | FY12 | FY13 | FY14 |
|-----------------------------|-------|-------|-------|-------|-------|-------|
| Large Cap Companies | | | | | | |
| EBIDTA % | 9.4% | 10.9% | 9.2% | 7.5% | 7.0% | 7.4% |
| PAT % | 3.4% | 3.3% | 3.1% | 1.1% | 0.8% | 0.6% |
| Interest/Revenue | 4.2% | 4.0% | 4.4% | 6.1% | 6.8% | 6.0% |
| Working Capital/Revenue | 25.5% | 30.8% | 27.5% | 32.4% | 35.8% | 41.3% |
| Medium Cap Companies | | | | | | |
| EBIDTA % | 10.9% | 12.4% | 12.1% | 12.5% | 14.2% | 11.4% |
| PAT % | 5.3% | 5.3% | 4.2% | 3.5% | 1.5% | 0.3% |
| Interest/Revenue | 4.5% | 4.3% | 5.2% | 5.8% | 7.9% | 7.8% |
| Working Capital/Revenue | 31.9% | 40.3% | 36.4% | 39.0% | 45.7% | 41.7% |
| Small Cap Companies | | | | | | |
| EBIDTA % | 9.9% | 11.0% | 9.9% | 9.2% | 10.8% | 8.8% |
| PAT % | 4.6% | 5.9% | 4.1% | 0.2% | 0.0% | -2.8% |
| Interest/Revenue | 16.8% | 14.7% | 10.0% | 27.8% | 23.7% | 17.3% |
| Working Capital/Revenue | 31.0% | 35.4% | 35.4% | 48.0% | 51.7% | 77.9% |

*Figures given here are median

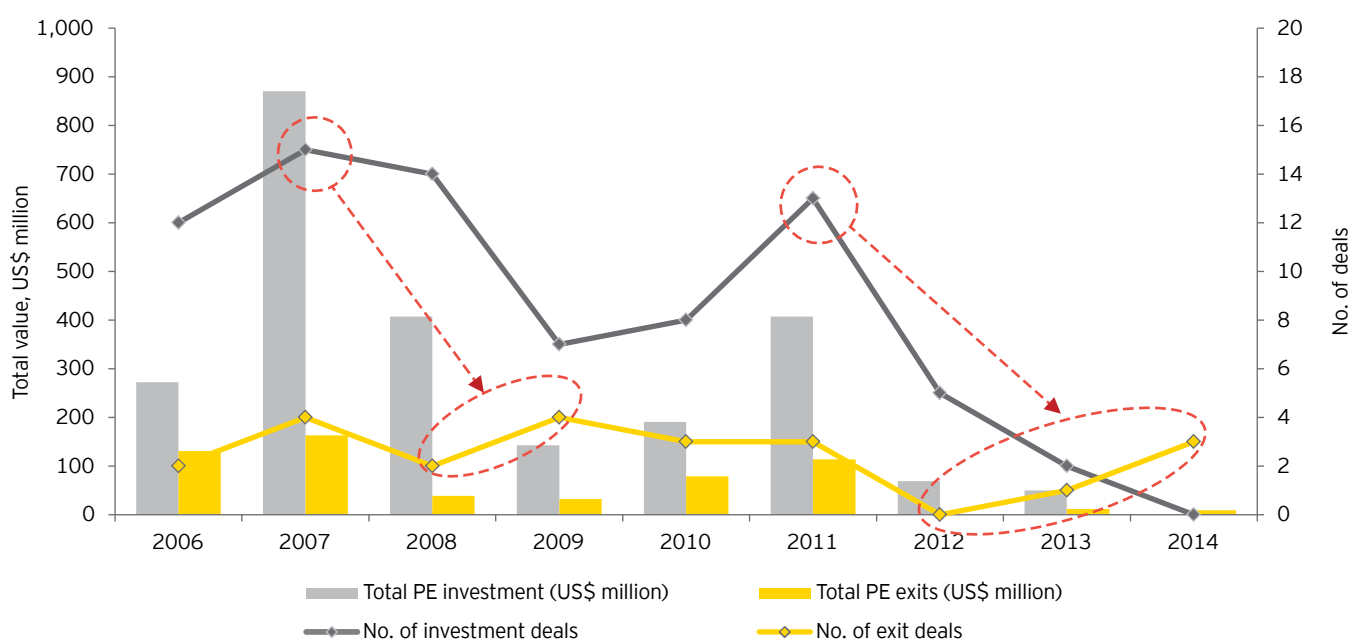
4.3 How will PE investors exit?

Investment deals peaked in 2011; exits have been struggling post 2011

Most mid-sized unlisted companies have private equity (PE) investors who had invested capital during 2006-2011 and are hence, due for exit. The sector did report a few successful exits – historically in large companies, such as Gammon India Limited, Punj Lloyd Limited and Shriram EPC Limited. However, due to adverse capital market situation, the trend did not continue further. PE investors have not been able to exit their investments. Subdued economy and deteriorating financial position of EPC companies have restricted them from exiting at a favourable valuation. Major PE investments, which happened in 2007-08 are yet to get a complete exit. After 2011, the industry witnessed a decline in the number of exits. Stock markets crashed after 2010, and so did the valuations.

Although the companies were keen to provide an exit option to such investors, capital markets have not been conducive for IPOs during the last two years. With the capital market looking up, there is now an oversupply of PE investors waiting to find favourable valuations through IPOs, which has left existing PE investors struggling to exit.

PE investments and exits, 2006-2014



Source: EY Research and analysis

Investors have resorted to partly exit from their investments

A peak in PE investments has generally been followed by more PE exit deals. However, the average size of an exit deal has declined from US\$66 million in 2006 to US\$3 million in 2014. Many PE firms, which were stuck with these investments, are willing to take a marginal haircut. Consequently, most recent PE exits have been low-return part-exits. This again indicates that many investors will not be able to completely exit for a long time now.

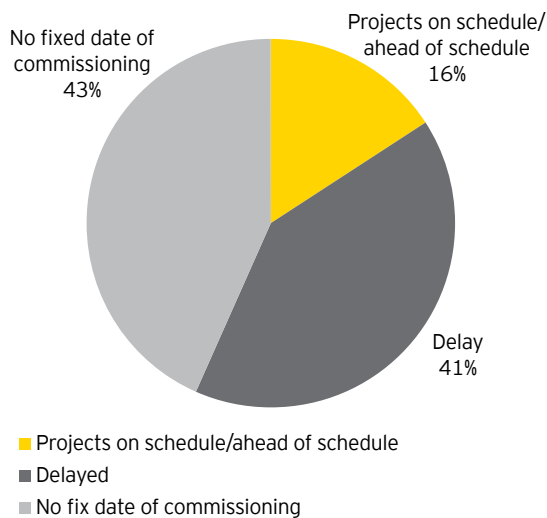
4.4 Increasing time and cost overruns

A large number of construction projects in India have been delayed due to regulatory approvals, environmental clearance and difficulties relating to land acquisition. Moreover, there are challenges in the project planning and tendering phase that affect feasibility of projects thereby delaying their execution. The construction phase is plagued with time and cost over-runs and disputes; lack of efficient project management skills makes the entire process a herculean task.

Time and again, severity of time and cost overruns are established by the statistics. As of July 2014, out of a total of 720 ongoing central sector infrastructure projects in India (INR1.5 billion and above), 294 were delayed. While, the total original cost of implementation of these 720 projects was INR9,311 billion, their anticipated completion cost is likely to be INR11,034 billion.

Status of infrastructure projects²⁰⁴

Project implementation - current status



With inflationary pressures dogging the Indian economy, such delays in project completions lead to an effective cost escalation. The 294 delayed projects have an incremental cost of INR1.72 trillion, or an 18.5% cost escalation. The highway sector has reported the maximum number of delayed projects, predominantly due to land acquisition and right-of-way issues. Other key sectors plagued by cost overruns are power and railways.

Extent of time and cost overrun in projects²⁰⁵

| Sector | Total no. of projects under monitoring | Projects with time overruns | | Projects with cost overruns | | | |
|--------------------|--|------------------------------------|-----------------------------------|------------------------------------|------------------------------------|--------------------------------|---------------|
| | | No. of projects with time overruns | Range of time overrun (in months) | No. of projects with cost overruns | Latest approved cost (INR billion) | Anticipated cost (INR billion) | Cost overruns |
| Railways | 288 | 36 | 3-246 | 133 | 732.9 | 1,704.2 | 132.5% |
| Roads and highways | 136 | 83 | 2-120 | 8 | 29.9 | 46.5 | 55.5% |
| Civil Aviation | 8 | 3 | 7-71 | 2 | 26.6 | 29.6 | 11.3% |
| Shipping and Ports | 19 | 1 | 5-51 | 6 | 46.1 | 59.4 | 28.7% |
| Power | 102 | 60 | 0-113 | 6 | 186.8 | 223.8 | 19.8% |

Some key issues and their impact of delay in time and cost overruns:

| Issue | Impact on time | Impact on cost |
|---|--|---|
| Ambiguity in design and engineering specifications | Delay in arrival of detailed drawings by consultant | - |
| Land acquisition challenges | Delay in project completion | Exposes project to inflationary cost escalations |
| Delay in procurement and delivery of critical equipment | Impacts several activities, depending on the need for equipment in the critical path | Overall increase in project cost due to idle time of several resources |
| Shortage of construction materials | Delay in dependent activities impacting subsequent activities as well | Overall increase in project cost due to idle time of several resources |
| Change of scope | Impacts overall project time line and resource utilisation | Impacts cost and working capital cycles due to the extra work |
| Lack of coordination between various participants (vendors, sub-contractors, etc) | Idle time of several resources | Extra cost incurred due to reduced productivity and increased idleness |
| Delay in regulatory clearance | Derail projects indefinitely | Exposes project to inflationary cost escalations – especially fixed costs of equipment and labour |
| Inefficient project budgeting and lack of contingency funds | - | Cost of project significantly deviates from budget |
| Rise in the cost of raw materials | - | Impacts margins as cost escalation clause may only cover some of the costs |
| Delay in payments by the owner | - | Contractor may have to raise funds through additional equity or debt to fund working capital |

5.

Overcoming challenges



Dearth of infrastructure capacity during a funding crisis points to a pressing need for reforms. Remedial measures taken at the right time can be a boon to the industry. Risks and rewards can be shared to generate a sound outcome. Across the world, countries continue to face significant economic challenges. The need for them to balance their deficit-reduction measures with investments, which can unlock growth, is imperative, and India is no exception.

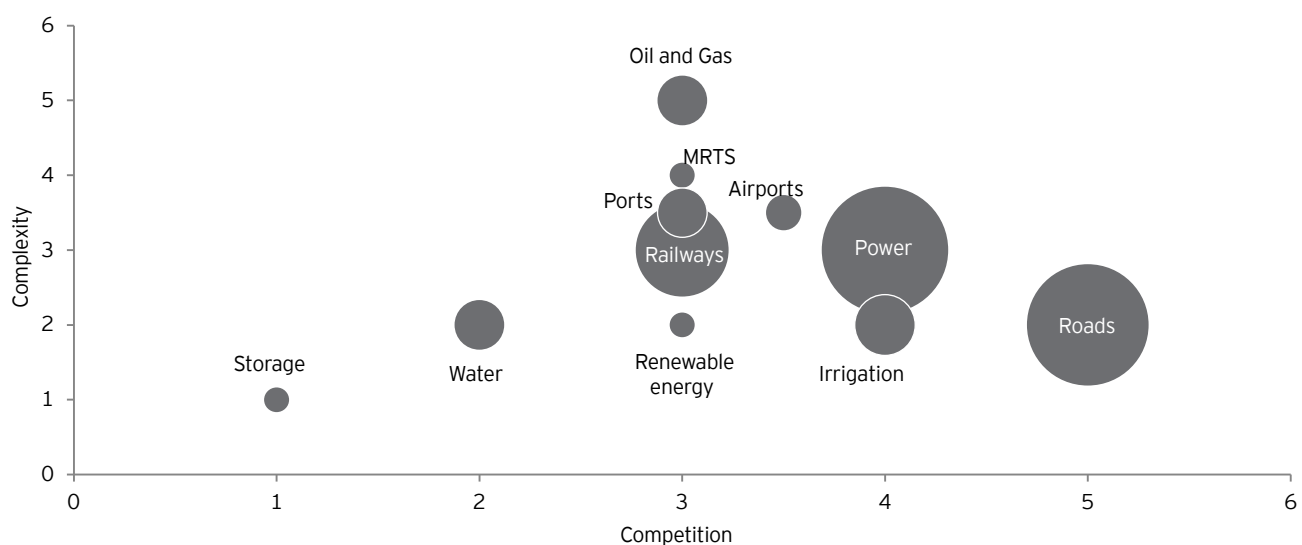
Emergence of new sectors will aid in sector diversification of EPC players

EPC players and infrastructure developers have expressed keen interest in core sub-sectors such as roads and highways, railways, power and buildings in the past. The Government's focus on infrastructure development to spur economic growth and its efforts to increase the private participation has provided EPC players an experience of project planning and execution across these core sectors of the industry.

However, the growing needs of an emerging economy such as India, calls for continuous investment in infrastructure to sustain the long-term growth. Keeping this in mind, the new Government has also laid down its agenda to build new-age infrastructure, which is likely to open-up new areas of growth for EPC players. These include:

- ▶ Opening up the railways sector for private investment (DFC, suburban rail corridors, high-speed rail corridors, port connectivity projects)
- ▶ Smart city project with their own set of urban infrastructure
- ▶ Increased focus on renewable energy primarily solar and wind
- ▶ SEZs along the industrial corridors
- ▶ High voltage power transmission lines
- ▶ Water supply and waste treatment systems for cities

Sector reference: size, complexity and competition



Source: EY Analysis
The size of the bubble indicates the market opportunity

Along with opportunities, diversification comes with its own set of risks. EPC players should pursue them considering the synergy with their existing business and expertise. Every sector has its own issues, investments, profit margins and gestation periods. However, a clear strategy and effective implementation will help mitigate risks associated with a particular sector.

Highlights

There is considerable competition in the civil infrastructure space, particularly highways leading to reluctance among the players to participate. Hence, players should continue to consider diversification into new sectors such as transmission etc. EPC players should focus on diversifying into new emerging sectors including railways, smart cities, port-based SEZ and renewable energy.

Government should continue its focus on infrastructure development

During the Twelfth Plan, the Government has set up a target of INR56.3 trillion investment for infrastructure development. The proposed investment, which is double the investment made in the Eleventh Five Year Plan, will form 10% of the GDP. This is a substantial investment, which holds the potential of completely transforming the infrastructure landscape of the country.

Traditionally, the Government remained solely responsible for the financing, implementation, operations and maintenance of infrastructure projects. However, to avoid cost and time overruns and benefit from innovative project structuring and implementation strategies, it has started encouraging private sector participation in the development of infrastructure. Therefore, in the Twelfth Plan, the Government set up the target of meeting around 48% of the infrastructure spending by the private sector, as compared to 36% contribution that was estimated in the Eleventh Five Year Plan.

Given the enormity of the task in hand, the Government has taken certain steps in the right direction by including take-out financing scheme, an Infrastructure Development Fund and infrastructure bonds. It has also liberalised the ECB policy to enable the flow of foreign funds to the sector. However, solely arranging for finances will not help India achieve its infrastructure investment targets. Policy reforms that make the business environment investor friendly, ensure project delivery and enhance capacity to sustain development require equal importance.

Few measures taken by the Government in recent years, which will continue to boost the EPC industry include²⁰⁶

- ▶ Restructuring the tariff framework for ports, and seeking international cooperation from other countries for technical support in renewable energy to meet power generation targets
- ▶ Allowing 100% private sector stake in the development of 17 airports in 11 states
- ▶ Entering MoUs between state governments and private players to setting up natural gas infrastructure
- ▶ Allowing FDI of up to 100% under the automatic route in townships, housing, built-up infrastructure and construction development projects.

Recent development in the road sector in which the Government decided to award more projects through the EPC route in the next two-three years has helped improving the EPC sector outlook. Moreover, measures such as opening the railways sector completely for FDI except the operations; announcement of 17 greenfield airports and 24 domestic air cargo terminals; thrust on IWT and coastal shipping along with two greenfield major ports and metro rail projects in many cities, augurs well for the EPC sector. Although these key measures and initiatives taken by the Government in the recent past is quite promising for the EPC market, it should consider taking some more measures looking at the headwinds faced by the sector:

- ▶ Allow more tax benefits for EPC players to encourage their participation in infrastructure building
- ▶ Permit debt restructuring by bankers to the ailing EPC players to ease their finance and keep the projects going
- ▶ Review the new land acquisition law and make it simpler for private players
- ▶ Build robust dispute resolution system

Stringent diligence during the bidding process will attract serious players and help maintain a long-term sustainable market

The Government needs to look beyond the L1 mechanism and evaluate bids realistically. Benchmarking projects will be helpful. For instance, in Australia, the public sector comparator (PSC) is a hypothetical value calculated as the net current cost of a project if the Government retains ownership and responsibility for construction. This has put in place a financial benchmark for quantitative assessment, against which tenders can be evaluated. In the Indian context, this can help the Government evaluate aggressive bids rather than grant L1 awards at arbitrary rates, which are not sustainable.

Meticulously prepared scope and accurate cost estimation will strengthen project

The planning process of infrastructure projects needs to be initiated at the selection stage of the project itself. Projects should be selected on the basis of their socio-economic impact and economic viability. Adequate time and resources need to be allocated for the due diligence process. Evaluation of project's techno-economic viability and inherent risks, along with preparation of accurate traffic-related studies is imperative before its implementation. In addition, a clear and transparent framework needs to be put in place to evaluate and validate studies conducted. This would empower government agencies while awarding and approving infrastructure projects and provide them requisite autonomy along with responsibility.

Merger and acquisitions: consolidation is on the horizon

Several pure-play developers, who did not have a construction presence, are now seeking to secure their profitability in the construction business in addition to their own segment. They have been exploring possibilities to develop the necessary expertise either organically or inorganically. The sector has witnessed plethora of private equity transaction, particularly during 2006-2013 when around 76 deals got consummated. However, as explained in the last chapter, the PE exits have not created a successful history as yet.

Either the investor exits are held up with dipping stocks or investors chose not to exit at the time of IPO with a view to register improved returns in future. However, the markets did not turn up well in their favor. Now when the markets have revived, the challenge will be the limited investor appetite contrasting to multiple companies available for listing/investments. Furthermore, the real financial position of companies has also deteriorated as highlighted in the previous chapter.

On this deadlock situation created due to deteriorating balance sheets, the sector is bound to witness "consolidation" and emergence of foreign companies targeting Indian EPC companies as inbound transaction opportunities. Acquisitions will be on the radar to enable private equity players, who have invested in the sector, to exit and relieve the cash stress situation. Due to issues on cash availability, not many promoters have the ability to offer buy-back option to PE investors. On the contrary, promoters holding minority stakes due to multiple rounds of dilution may also consider exiting business, particularly in situations where succession planning is not yet very clear.

The current scenario offers an opportunity to cash-rich industrial groups, both domestic and international, who will be keen on majority/complete buyouts to achieve scale of existing operations or enter the sector. The recent euphoria in the infrastructure sector is expected to drive the EPC opportunity and hence, the target players are ready to take the plunge. This may also enable transforming the current "fragmented" state of the industry into an "organised" one.

Availability of long-term funding sources will ease the cash-crunch

The Government needs to leverage new avenues of long-term financing to channel funds to the sector. To achieve this, it needs to develop a corporate bond market. These bonds can be listed on stock exchanges. Commercial banks and Non-Banking Financial Companies (NBFCs) should also play a key role in the bond market.

The participation of long-term institutional investors, including pension funds and insurance companies, should also be encouraged. Such cash-rich investors require diversified assets to match long-term liabilities, but only can invest in assets with credit ratings of AA or above (and A+ with special approval). However, Special Purpose Vehicles (SPVs) undertaking infrastructure projects are unable to secure such high ratings. The Government, therefore, needs to provide security or guarantees to help them improve their ratings and attract these funds. Contracts need to be flexible and have easy exit norms in order to stimulate an increased flow of foreign and private equity. This will enable developers to re-arrange their portfolios and invest in additional projects.

There is also an urgent need to introduce innovative modes of financing. Since most infrastructure projects have a long gestation period, it is important for the Government to establish a dedicated funding institute (such as the Power Finance Corporation and Indian Railways Finance Corporation Ltd.), which caters to infrastructure segments, including roads, ports and airports, to provide tailor-made financing solutions to players in these sectors. In line with this, the Government is setting up a finance corporation with a corpus of INR1,000 billion, in partnership with Japanese investors, to fund projects in the road sector.

It is high time to realise that the construction sector as a whole needs a helping hand to continue on its growth trajectory. Considering that the fundamentals of the sector's growth are in place, timely and innovative initiation and implementation of policy measures can go a long way in facilitating its journey. The new Government has announced its agenda to revive the growth of the sector. It plans to adopt a multipronged strategy to simplify procedures, expedite ongoing projects and develop new ones. It is also likely to amend the recently enacted new land acquisition law to facilitate the process of land acquisition and make it less costly for developers. Implementing these measures will help it attract and retain investors' interest by providing them with a level playing field.



6.

Supplemental



Know your tax

A clear and efficient taxation regime is a must to attract foreign investments in the country. Although the GoI has been trying to provide clarity, the issues seem far from being settled. Taxability of EPC contracts in India has always had several tax issues.

In India, taxation of EPC contracts revolves around the nature of activities of each contract. Generally, the EPC contract is bifurcated into supply, construction, engineering services, installation /supervisory services and commissioning services. In case of overseas EPC contractor, the contract is broken down into – offshore portion (i.e., offshore supply and offshore services) and onshore portion (i.e., onshore supply and onshore services).

Direct-tax controversies under EPC contract are in the like of taxability of offshore supply, payments for engineering designs, consortiums v. Association of Persons (AOP), permanent establishment and withholding tax obligations etc.

Direct taxes

Taxing offshore supply (relevant in case of foreign EPC contractor)

In EPC contracts, the key component will be procurement of equipment/machinery to be installed in the project. Pre-dominantly, it is the foreign party of the consortium, who will be responsible for such procurement from outside India (with exception of few major Indian players such as BHEL, L&T etc.). Moreover, the offshore supply comprises a major component of the total contract value. In an idealistic scenario, parties would want offshore supply not to be taxed in India since the same carry an increased margin as compared to other components of an EPC contract. Usually, supply of such equipment will not be taxable in India provided all the components of sale of such equipment will take place outside India and the contract for supply is on a principal-to-principal basis.

However, even with availability of judicial precedence favouring the non-taxability of offshore supply, the issue of its taxability has been a matter of litigation for several companies. Accordingly, many foreign companies are applying to the Authority of Advance Ruling for certainty and clarity on tax implication on offshore supply.

Offshore services and Royalty

The taxability of offshore services has been a debate due to judicial pronouncement denying the position adopted by the Indian Revenue Authorities (IRA) to tax such income in India. With an amendment in the domestic law, the GoI has intended to clarify that offshore services will be taxable in India.

As regards the provision of engineering designs and drawings, there has been ambiguity with regard to whether the same should be regarded as service and taxable as royalty. Furthermore, by way of a recent amendment, the withholding tax rate on payments for royalty and fees for technical services has been increased to 25%.

After saying that, one would need to evaluate the taxability of such services in light of the treaty protection available in the relevant Double Taxation Avoidance Agreement (DTAA).

Permanent Establishment

Another dimension of the provision of services under the EPC contract will be providing supervisory and monitoring services during the installation and erection phase. This will definitely require presence of experienced and skilled employees of the foreign party in India. This could often result in continuous taxable presence in India, i.e., a permanent establishment. A constitution of PE for a foreign party in India will then open a host of tax issues such as attribution of income to such PE, compliance requirements etc. Hence, it will be advisable to carefully evaluate the need for a presence in India keeping in mind the availability of any treaty protection.

Taxing a consortium

Typically, foreign companies bid for EPC contracts in India by forming joint venture or consortium with other foreign or Indian companies. A lead member of the consortium is chosen who normally drives the awarded contract. However, the members to the consortium may or may not be jointly and severally liable. This being the commercial understanding, inter se the consortium parties, the challenge comes while interpreting the EPC contract between consortium and the project owner.

More often than not, the EPC contract contains ambiguous terms with regard to scope of work, responsibility and fees toward each party of the consortium. Furthermore, the project owners would like to make all the members of the consortium jointly and severally liable for the performance under the EPC contract.

In view of the same, the taxability of the EPC contract has been a subject matter of litigation. Numerous rulings have set out various principles to determine the taxability of the consortium. However, after the Vodafone case, the Indian Revenue Authorities (IRA) have been insisting on adopting a “look at” approach for the EPC contract rather than a “look-through” approach. It suggests that the consortium contract should be read as a whole and construe all the clauses set forth in the context of the object and purpose sought to be achieved by the contract.

In absence of clear demarcation of responsibilities under the EPC contract, the consortium results in taxing the same as an AOP, rather than taxing the members independently, for their restricted scope. As a consequence, the income of the independent member, even from an offshore portion, which otherwise should not be chargeable to tax, could be subjected to tax in India.

Therefore, depending upon the commercial feasibility, the consortium members will have to strike a balance between segregating the scope to be undertaken by each member vis-à-vis the comfort required by the project owner vis-à-vis joint and several liabilities.

Indirect taxes

The EPC sector is subject to multiple indirect taxes, both at Central and state levels. The cumulative impact of all such levies comprises a substantial percentage of the total contract value and hence, it is important for companies executing EPC contract to structure their contracts in a tax-efficient manner in advance. A gist of key Indirect taxes applicable to the EPC industry is as under:

| Tax/duty | Governing authority | Nature of levy |
|-------------------------|---------------------|--|
| Customs Duty | Central Government | Duty on import of goods into India (general effective rate 28.85%) |
| Excise Duty | Central Government | Duty on manufacture of goods in India (general effective rate 12.36%) |
| Service Tax | Central Government | Tax on provision of services (general effective rate 12.36%) |
| Central Sales Tax (CST) | Central Government | Tax on sale of goods between two states at concessional rate of 2% (subject to specified conditions) |
| Value Added Tax (VAT) | State Government | Tax on sale of goods within the same Indian state (rates specific to state and commodity): typically VAT rates vary from 5% to 15% |

| Tax/duty | Governing authority | Nature of levy |
|----------------------------------|--|---|
| Entry tax /Octroi/Local body tax | State Government / Local municipal authorities | Levy on entry of specified goods into a particular state or local area (rates vary from state to state) |

Typical indirect tax implications in respect of various components of the EPC contract are outlined below:

Offshore equipment supply

Import or procurement of equipment from outside India attracts levy of customs duty, the rate of which depends on tariff classification. The contractor can explore "Project Import Scheme" where goods approved for import in connection with specified projects eligible for concessional BCD rate of 5%, due to which effective customs duty rate comes down to 22.85% as compared to, say, standard customs duty rate of 28.85%, resulting in a benefit of 6%. It is actually more beneficial, since CENVAT credit of BCD is not available. Furthermore, import of goods and subsequent sale in India attracts VAT/CST. Importers may explore possibility of effecting high sea sales or sales in course of import to mitigate VAT/CST exposure.

Offshore service

Provision of offshore services may attract levy of service tax in India under reverse charge mechanism as import of services where liability to pay service tax is of the recipient of service. Generally, EPC contractors providing construction or works contract services should be eligible to avail CENVAT credit of capital goods and input services used by them. However, the eligibility of project owners to claim credit of Service tax levied on EPC contracts needs to be evaluated on a case-to-case basis since there are some restrictions based on the nature of activity or services undertaken by the EPC contractor.

Onshore equipment supply

Procurement of equipment/goods in India from manufacturers could attract levy of Excise duty. Typically, credit of excise duty could be passed on by EPC contractors to the project owner if the goods are directly delivered by the manufacturer to buyer's site and appropriate documentation is prepared/ issued. Furthermore, supply of locally procured equipment to a customer will attract VAT/ CST. EPC contractors are likely to explore the option of executing an "in transit sale" (only in case of inter-state purchases) to mitigate VAT/ CST costs.

CST paid on purchases will not be available as input credit and accordingly, this is a cost to project owners.

Most states' VAT legislations provide multiple options for discharge of VAT on works contracts (i.e., a lump sum contract involving supply of both goods and services) by EPC contractors such as general scheme, ad hoc deduction scheme and composition scheme; contractors should select the most appropriate option after undertaking an analysis of VAT costs under different options.

According to requirements of respective State VAT legislations, the project owners may deduct VAT at source (WCT TDS) from payments made toward works contracts.

Onshore services

Service tax will be levied on provision of specified services within India. EPC contractor providing construction or works contract service should typically be eligible to avail CENVAT credit of capital goods and input services, which could reduce the indirect tax costs of the project. With effect from 1 September 2014, CENVAT credits on input and input services should be availed within six months from the date of invoice/ challan.

The negative list-based taxation regime effective from 1 July 2012 provides for Service tax exemption to specified works contracts such as construction of ports, airports, dams, tunnels, railways including monorail or metro and such exemption also extends to sub-contractors for such projects. Furthermore, the valuation rules and composition schemes for works contracts have been amended, according to which contractors have an option to pay Service tax at 4.94% or 8.65%, depending on the nature of works contract, though pure services will continue to attract service tax at 12.36%. The revised valuation rules have also created ambiguities on aspects such as treatment of free issue material by project owners.

Scoping of EPC contracts: some tax considerations

EPC contractors may enter a single consolidated contract for a lump sum price or may split this between civil works, supply and services components.

A single consolidated EPC contract for supply of goods and services could lead to various direct and indirect tax inefficiencies and risks such as:

- ▶ Lack of clear segregation of price between goods and services could lead to double taxation.
- ▶ Where the contractor opts for discharging tax on value of contract, such as composition schemes under VAT and Service tax, the entire contract may be considered as one works contract and will attract tax on full contract value (including offshore and onshore equipment).
- ▶ WCT TDS provisions may become applicable on full contract value, which could lead to cash flow inefficiencies for EPC contractors.

The contractors may not be permitted to apply for certain specified schemes such as composition scheme under VAT and Service tax only on part of the contract, unlike a split contract, in the absence of specific price for that portion of the contract.

Accordingly, it is necessary to identify appropriate nature of a contract, i.e., whether it is a split or consolidated contract to evaluate the direct and indirect tax implications thereon, and appropriately structure the same in order to address current as well as possible future tax risks.

Conclusion

Estimating the tax cost for EPC contract, therefore, involves understanding and analyses of complex tax laws of India and has to be appropriately planned well in advance to avoid unexpected results in the form of adverse tax assessments. The prolonged litigation process and uncertainty of taxation is likely to increase the implementation cost of infrastructure projects, which could act as a deterrent to foreign EPC contractors. However, to increase foreign participation, a degree of certainty in tax laws and efficiency in its implementation is absolutely essential.



7.

Conclusion



The construction industry is the country's second-largest economic segment employing more than 40 million people. The infrastructure sector, accounting for almost 50% of the construction industry is the mainstay of India's economic growth, which has primarily been driven by considerable investment in infrastructure development over the last decade or so. These investments have increased sharply to INR23.8 trillion in Eleventh Five Year Plan from INR9.1 trillion during the Tenth Five Year Plan. They are further projected to increase to INR56.3 trillion in the Twelfth Five Year Plan. Driven by the policy impetus and increased investment, sectors such as roads, airports, power and ports have performed well. Sectors such as railways and buildings are waiting to improve following favourable announcements by the new Government.

Despite a large project pipeline and policy support, the last two years have been difficult for the construction sector due to the less than 5% economic growth, domestic structural constraints and inflationary pressures. Growth in revenues is not getting translated into bottom line, due to significant cost overruns, regulatory bottlenecks and aggressive bidding decisions taken by various market players. Moreover, with increasing working capital requirements and the resultant increase in leverage, the construction players are left with limited opportunity to raise further capital to fuel growth in the current scenario. Private equity funds too are cautious about their new investments as there is limited opportunity of exit due to unfavorable capital markets, which are currently in the revival mode though. Therefore, the sector is reeling under significant liquidity constraints, which are expected to improve as a result of the developments witnessed recently.

The Government, on its part, has been continuously attempting to simplify the approval processes, standardizing repetitive tasks (such as model agreements) to eliminate redundancies in efforts and expedite execution, easing out credit generation for the infrastructure sector and setting up agencies to expedite growth through a planned release of projects. Rescheduling of premium in highway projects, 5:25 scheme to refinance infrastructure loans and formation of dispute settlement committee are major steps in the right direction. The new Government has laid down its agenda to resurrect infrastructure development. Stalled projects are being put up for re-bid and new infrastructure projects have been announced, including smart cities, high speed rail corridors, greenfield airports, greenfield major ports, port-based SEZs, housing for all by 2022 etc. It has also introduced the establishment of Real Estate Investment Trusts (REITs) and Infrastructure Investment Trusts (InvITs) to bring infrastructure financing back on track. These initiatives are expected to significantly boost the total construction opportunity.

There is a need to realise that a large project pipeline alone is not sufficient, the sector needs a helping hand to continue on its growth trajectory. Integrated and holistic development of infrastructure, speedy regulatory clearances, improvement in bidding process, balanced risk allocation and rapid dispute resolution mechanism are few measures, which are long overdue. Stringent diligence during the bidding process will attract serious players and help maintain a long-term sustainable market. Precise project scoping and cost estimation will make the project robust. Furthermore, emergence of new sectors such as railways, smart cities, port-based SEZ and renewable energy provides EPC players an opportunity to diversify and de-risk their business. Allowing pension and insurance funds to invest in infrastructure projects, creating sector-specific funding institutions and increasing the efficacy of the existing sources of funds will provide a timely relief to the cash-starved sector.

EPC players on their part should target new projects as long-term commitments, giving due consideration to risks that can span the life cycle of a project. They can expand their business by diversifying operations, strategic tie-ups and moving up the value chain by transforming themselves from mere asset-creators to solution-providers. Given the plethora of opportunities and growing complexity of new-age infrastructure projects, it is high time that players develop sound capabilities in design, engineering, execution and project management. They also need to develop the mindset of being a partner to the Government in its nation-building exercise.

Given the size of the infrastructure market, there are ample opportunities for EPC players. Considering that fundamentals of the sector's growth have begun to correct, timely and innovative initiation and implementation of policy measures can go a long way in facilitating its journey. It is imperative to ensure that there are no challenges or hurdles to EPC project implementation across the country. It is to be remembered that risk and reward are two sides of the same coin. Excessive chasing of either of them will force the whole system go for a toss.

Annexure

Construction opportunity in the Twelfth Plan

| Sector | Total planned investment in Twelfth Plan (INR billion) | Construction intensity ²⁰⁷ | Construction opportunity (INR billion) |
|--|--|---------------------------------------|--|
| Roads and bridges | 9,694.1 | 65% | 6,301.1 |
| Railways | 5,218.0 | 78% | 4,070.0 |
| Mass Rapid Transit System (MRTS) | 1,241.6 | 78% | 968.4 |
| Ports and Inland Water Transport (IWT) | 1,977.8 | 50% | 988.9 |
| Airports | 877.1 | 42% | 368.4 |
| Water supply and sanitation | 2,549.5 | 66% | 1,682.7 |
| Irrigation and watershed | 5,043.7 | 75% | 3,782.8 |
| Power | 18,202.4 | 38% | 6,916.9 |
| Telecommunications* | 9,439.0 | 10% | 943.9 |
| Storage* | 584.4 | 50% | 292.2 |
| Oil & Gas | 1,489.3 | 25% | 372.3 |
| Total | 56,316.9 | | 26,687.7 |

Source: Twelfth Five Year Plan document, Planning Commission, EY analysis, Engineering, Procurement and Construction (EPC): Braving the headwinds, EY, 2013;

* Construction intensity is assumed with comparison to buildings as per data available in the Planning Commission's report. In the case of telecom, construction intensity of 10% has been assumed.

List of large-sized, mid-sized and small-sized (by revenue) listed companies

| Large-sized players | Mid-sized players | Small-sized players |
|---|--|--|
| Larsen & Toubro Limited | Ramky Infrastructure Limited | Hindustan Dorr-Oliver Limited |
| Punj Lloyd Limited | Era Infra Engineering Limited | Ahluwalia Contracts (India) Limited |
| Hindustan Construction Company Limited | Patel Engineering Limited | C&C Constructions Company Limited |
| Gammon India Limited | Jyoti Structures Limited | Consolidated Construction Consortium Limited |
| KEC International Limited | Mc Nally Bharat Engineering Company Limited | Shriram EPC Limited |
| NCC Limited | JMC Projects (India) Limited | A2Z Maintenance & Engineering Services Limited |
| Kalpataru Power Transmission Limited | Engineers India Limited | ARSS Infrastructure Projects Limited |
| Simplex Infrastructure Limited | Unity Infraprojects Limited | KNR Constructions Limited |
| IVRCL Limited | Supreme Infrastructure India Limited | Valecha Engineering Limited |
| National Building Constructions Corporation Limited | IL&FS Engineering & Construction Company Limited | Vascon Engineering Limited |
| | BGR Energy Systems Limited | Techno Electric & Engineering Company Limited |
| | Sadbhav Engineering Limited | Tantia Construction Limited |
| | Gayatri Projects Limited | Jaihind Projects Limited |
| | Ashoka Buildcon Limited | UB Engineering Limited |
| | Pratibha Industries Limited | Petron Engineering Construction Limited |
| | ITD Cementation India Limited | Simplex Projects Limited |
| | B L Kashyap & Sons Limited | Man Infra Construction Limited |
| | MBL Infrastructures Limited | Welspun Projects Limited |
| | Madhucon Projects Limited | PBA Infrastructure Limited |
| | J Kumar Infraprojects Limited | Kalindee Rail Nirman (Engineers) Limited |
| | SPML Infra Limited | Tarmat Limited |
| | | Coromandel Engineering Company Limited |
| | | Atlanta Limited |
| | | Marg Limited |
| | | Tecpro System Limited |
| | | Many more... |

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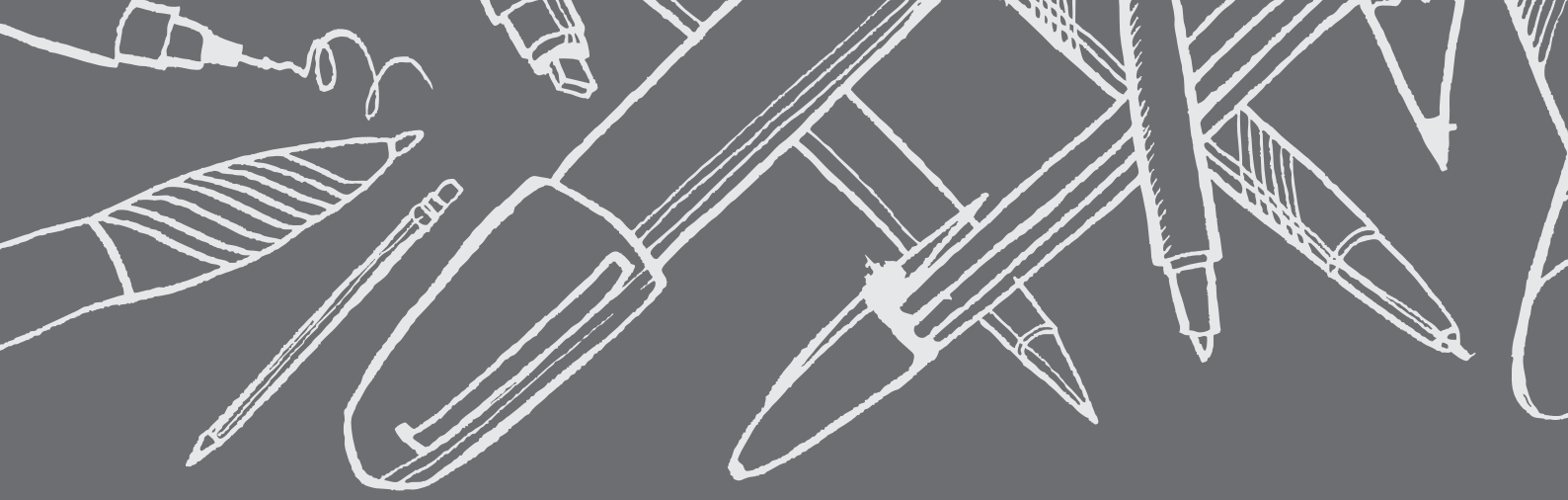
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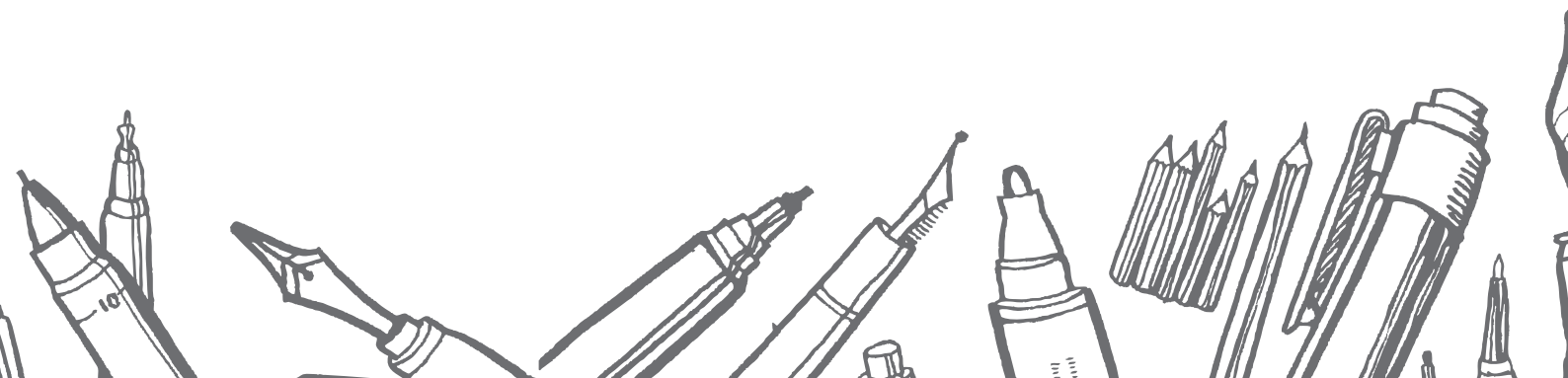
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