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INFRA NOW

A Quarterly Newsletter by Punj Lloyd Institute of Infrastructure Management, ISB



Leadership in Infrastructure Management Team with the Inaugural Batch 2016-17

Inaugural Issue of the Newsletter

INFRA NOW is a quarterly newsletter launched by the Punj Lloyd Institute of Infrastructure Management, Indian School of Business, Mohali Campus. This newsletter will provide a platform for discussion among all key stakeholders. This newsletter will contain four sections: Industry Interface – interviews/viewpoints of government agencies, policy makers, practitioners, think tanks, academia and student community; Opinion article by Punj Lloyd Institute; Update of activities at the Institute; and Projects Now – Snapshots of key Infrastructure Projects Launched/Announced.

Highlight

**Launch of
Leadership in
Infrastructure
Management
Programme**

Industry Interface- Interview with Mr. Arun Maira

The central ministry's role, and its expertise, has to change from being an allocator of money to being a stimulator of the system

The present government must learn from the experiences of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). Solutions for urban infrastructure management in India have to be developed locally and implemented at the city level. The cycle of 'learning-by-doing' must be encouraged at all levels of the government. Also, participation of the people in the construct of the city is critical. Farhan Ahmed, Senior Analyst spoke to Arun Maira on various issues related to urban infrastructure development in India. Excerpts...

Q. What are your views of the present government's approach towards urban infrastructure development in India? What are the lessons that the government may learn from the JNNURM?

The JNNURM was the first major programme to comprehensively address issues of urban development in India. A lot of work was done under the JNNURM, and from that one can learn what works and what doesn't work. It, therefore, provided an opportunity to learn by doing. By doing so, it helped in understanding the essentials of urbanization. However, the JNNURM was a very top down effort on management, to manage cities and towns through one central scheme. This approach to getting things done is standard practice when things are to be done on a large scale at many locations; the natural tendency is to create a strong central programme. For instance, the pulse polio vaccination programme. But such programmes require standard processes and set procedures. This approach can work when what has to be implemented can be standardized and done in the same way everywhere. For pulse polio, the same medicine had to be given in the same dose and in the same way everywhere. But good urban management requires multi-faceted change in a complex system. The physical infrastructure and the social infrastructure have to be improved. Governance has to improve. The ability of the cities to attract and manage funds has to improve. All of these have to improve together. This is how the cities can become self sustainable. Each city/town has different conditions and characteristics. So, a uniform solution may not be applicable to all. Whereas, one central scheme tends to standardize the process to make it easy deliver everywhere.

This paradigm of management is the wrong paradigm for the situation in which the solutions have to devised locally and implemented locally which is the case with cities.

Also, the JNNURM was focused too much on the big metros. This meant attending to cities which are already big. The phenomena of urbanization is such that small towns get bigger, and places which weren't urban before become urban. Leaving out smaller cities meant that the mess kept getting bigger while one is focused on solving problems of the past. And Instead of addressing root causes and preventing further problems of urbanization , one keeps solving problems created in the past. In the architecture of the new urban programmes announced by the Ministry of Urban Development (MoUD), both these issues are taken care of.

A very important improvement in the renewed approach to urban improvement, learning from JNNURM, is those cities will be considered that learn to get their act together--cities that make a 'whole system' plan. This where the challenge lies. Most cities don't know how to make a plan. Cities must be assisted to make a city plan.



Mr. Arun Maira,
Former Member,
Planning Commission

If we don't take care of this, two things will happen. People at the centre who are charged with evaluating the city plan will unfortunately leave out some cities that are trying their best to formulate the plan but couldn't do so due to limited capacity/resources. Second, they may award the scheme to a city based on a good looking plan which in reality may be the handiwork of a consultant with minimal/no local participation. Clearly, there is a need to ensure that cities have the essential capacity to build good plans. This thought is also shared by Mr Venkaiah Naidu, union minister, MoUD.

Q. What are some of the steps that the government can take to ensure a robust and targeted delivery of the objectives of the four mission programmes?

The concept of PDCA- plan, do, check, act – will have to be adopted. The overall system improves once it adopts the learning cycle. This is how one gets to know what works and what doesn't. We need three levels of learning cycles for urban infrastructure development.

One at the city level. The city must make a plan, implement the plan, check and evaluate the progress, and then act upon the insights i.e. build in the learnings into the next stages. We often forget about the 'check' part when we do not build a system attuned to seeking feedbacks, and then reflecting upon what went wrong or right. Feedback and learning from feedback has to be brought into the system. Present approaches are mostly top-down planning and monitoring with little learning built into the process of implementing.

The second level of learning is at the state level. The state governments have to provide assistance to the cities. The state must get into PDCA about its own actions to help cities improve, to design remedial steps needed to help cities improve themselves.

Third, at the central level, the same learning cycle has to be adopted. All three levels must be in a learning mode. There are well developed processes for planning, tools for doing, and techniques for seeking feedback. These have to be imbibed at all three levels. The MoUD's expertise has to change from being an allocator of money and judge of designs on paper to being a stimulator of a learning system.

Q. What are the institutional barriers towards effective development of urban infrastructure in India and how can they be overcome?

The very first challenge is a conceptual barrier. One must understand the nature of work and build skills around it. One must realize that one has to be a catalyst in the system and not dictate the system. This change in orientation is most important at the top level. If the top level becomes a good role model, the state and city urban managers will understand and follow.

The second challenge is that people don't like to give up their power. The whole set of people around powerful people, who pander to these power groups, make it difficult to let go of power. Managing the land lobby and builders lobby in the cities is going to be a huge challenge. It is a tough ask, one that will require strong political will and astute managerial skill.



“The concept of PDCA- plan, do, check, act – will have to be adopted. The overall system improves once it adopts the learning cycle. This is how one gets to know what works and what doesn't. We need three levels of learning cycles for urban infrastructure development”

Q. What needs to be done to ensure greater private sector participation in urban infrastructure in India?

The private sector must make the money on the money it invests for business to sustain and expand. In India, private players have been invited to participate in PPP projects and private players have enthusiastically participated. However, the projects have failed. This is because we have oversimplified PPP by leaving out the ‘People’ who must be the ultimate beneficiaries of public projects. The projects get stuck for numerous reasons, mostly caused by contentions amongst stakeholders and poor coordination. This means the money gets stuck. Government must work in partnership with the private sector. But people’s needs must be considered properly and built into the project. Therefore we need to add a fourth P – ‘People’ into the PPP and make it PPPP. The people quotient has to be at the centre of PPPP initiatives at the city level. Mr Naidu has often expressed similar thoughts. In the current contract design for smart cities programme, it seems like the empowered SPV will go back to being the old PPP paradigm leaving out the People, the fourth P. Elected mayors must have an equal say in the governance of the city. The SPV cannot be merely a government department in partnership with the private sector.

PPP initiatives which don’t involve a good public consultation process may not be able to solve the complex problems of Indian cities. In a city environment we need to consult and keep people informed about what is being done. The city is about its people. So, the participation of the people in the construct of the city is critical. The planning must be done by the people, with the people, for the people. So, in the PPP for cities particularly, we must have the fourth P.

Q. What are the three big challenges of infrastructure in urban India? What steps must be taken to meet these challenges?

The three big challenges of urban India are in public services – public transport, sanitation and solid waste management, and water supply. To manage these, the land use and monetization of land is crucial. This is because land in the city is a very important source for providing resources for the provision of public services. Provision of these services requires money. Management of land assets is extremely important to raise resources required to make smart cities/livable cities. Clearly, we need better methods of land management. For instance, we get tempted by people offering to set up infrastructure on a negative grant basis. The developer is hoping to cash in on land resources. With the land already allocated to the private player, the city has lost an asset to monetize and raise resources out of that land in the future. As far as possible cities should not give away their public land and remain its owner so that they can derive future incomes from it.

Also, the responsibility of providing public services must remain with a government agency, particularly services to the poorer population, for their basic needs. For example, provision of water. Government may employ the private sector for parts of the water system management, but it cannot be exempted from its responsibility to ensure provision of water to poorer people. The same holds for sanitation, and solid waste management. In such services, government may have to participate fairly hands-on. In other services for basic needs, such as housing and transport, the private sector may have much larger roles in their provisioning, but government must ensure that the needs of the poorest sections are always met.

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Opinion: The Path Ahead for Electric Mobility in India

In India, transport sector is the second largest contributor to energy related greenhouse gas emissions. Further, with an 11% Compound Annual Growth Rate (CAGR) of vehicles, the country is expected to see a surge in vehicle population over the coming years. This in turn will lead to huge demand for transport fuel, a large proportion of which is imported. Increasing reliance on import of oil to meet the fuel demand leads to increased pressure on import bill. This jeopardizes India's energy security. Moreover, increase in car fleet over the years is also responsible for degrading urban air quality. These related issues concerning mitigation of GHG (Green house gases) emissions, ensuring energy security and securing better air quality present a formidable challenge for India's future transport systems and electric mobility offers a very potent solution to this challenge.



Debarshi Gupta,
Analyst- ISB

Government of India through its National Electric Mobility Mission Plan (NEMMP) 2020 has announced a target of 6-7 million electric vehicles on road every year by 2020. The Mission describes strategies for achieving the target and to that end outlines several initiatives that need to be taken along the value chain of electric vehicles. It also provides with cost estimates of adopting the initiatives for achieving the plan target and funding recommendations have also been discussed as part of it. This plan document has been prepared as a basis for future policies, regulations and schemes for electric mobility in the country. In its bid to implement the Mission, the Ministry of Heavy Industries and Public Enterprises has launched a Scheme titled "Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles (FAME)" which proposes financial incentives along the value chain of electric vehicles. The FAME Scheme focuses on four key areas namely technology development, demand creation, charging infrastructure and pilot projects. Government of India has allocated funds amounting to Rs. 795 Crores (approx. 125 million USD) for this purpose which is to be spent over a two year period from 2015 to 2017. However, this amount may seem to be inadequate when compared with some of the European countries and in cognizance of the high magnitude of resource requirement for introducing electric mobility in India. For example, in this Scheme, consumers receive incentive solely for purchase of the vehicles which is not the case in other countries across the globe. Many such incentives come through tax rebate provided to the consumers. It may come in the form of exemption from vehicle registration tax for the electric vehicles or a reduction in income tax for the owners. Many countries have adopted a multi-prong incentive approach by combining the fiscal incentive with various policy measures to ensure higher benefits to a consumer for using an electric vehicle. This approach can be adopted in India as well. At present the vehicle manufacturers do not get any benefit from the policies in India. They can be provided with incentives such as production tax credit, accelerated depreciation benefits, and direct subsidies.

One of the main requirements for faster adoption of electric mobility is to create a robust charging infrastructure across the country. It is often argued that development of infrastructure is not viable for private entities as a result of low rate of adoption of electric vehicles by the consumers. It may seem prudent therefore to have government intervention in this area with greater financial and fiscal support for the creation of charging infrastructure. For private overnight charging, wherever possible the building bye laws should be amended to include the provision of private charging in the buildings. It is advisable to prepare charging infrastructure strategies for major cities in the country.

Irrespective of the policies adopted, in order to get a sustained response from the consumers as well as the manufacturers the measures should create sustained opportunities for different stakeholders. Past experience has shown that discontinuation of the subsidy scheme Alternate Fuel for Surface Transportation Program offered by the Ministry of New and Renewable Energy MNRE after two years since its roll out reduced the annual production of electric vehicles drastically. A similar fate for FAME may create confusion and cause lack of confidence among the manufacturers of electric vehicles as well as consumers. However, introduction of FAME has created enthusiasm among the stakeholders. But the dilemmas faced by the consumers and the challenges faced by the manufacturers needs to be addressed from one platform.

Data Snapshot: Country Level Policy Incentives for Electric Vehicles

Country	Fiscal incentive	Financial incentive	Other policies
United States of America	Tax credit of \$2,500 to \$7,500 for purchase of electric vehicles depending on the capacity of the battery ¹	-	Conversion kit worth maximum \$4,000 to retrofit conventionally powered vehicles with electric vehicle capability ¹
United Kingdom	Exempted from 1) Vehicle excise duty ¹ 2) Fuel benefit charge ¹	<ul style="list-style-type: none"> • 35% of the cost of a plug-in car up to \$ 8,731.86³ • 20% of the cost of a van up to \$ 11,642.48³ 	Approximately \$ 11.64 million is allocated for installation of more than 9700 charging points through the end of March 2013 ¹
Germany	Exemption of electric vehicles from motor vehicle tax ⁴	-	<ul style="list-style-type: none"> • Special parking places for electric vehicles⁴ • Relaxation or suspension of restricted entry access of the delivery vehicles⁴ • Authorized use of bus lanes by the electric vehicles⁴
France	<ul style="list-style-type: none"> • Exemption of electric vehicles from company car tax⁷ 	<ul style="list-style-type: none"> • Premium of \$7,111 for vehicles emitting 20g/km or less (cannot exceed 27% of purchasing price)⁷ • Premium of \$ 4,515 for vehicles emitting between 20g/km and 60g/km (cannot exceed 20% of the purchase price)⁷ 	-
Austria	<ul style="list-style-type: none"> • An increase of gasoline tax by \$0.04/L¹ • An increase of diesel tax by \$0.06/L¹ • Purchase of electric vehicle is exempted from NoVA tax which can increase the price by up to 16%¹ • A tax reduction of \$335.15300 for vehicles emitting less than 120g CO₂/km¹ • For emissions over 150g CO₂/km, tax is increased by \$27.9/g CO₂¹ • For emissions over 170g CO₂/km, tax is increased by \$55.86/g CO₂¹ • For emissions over 210g CO₂/km, tax is increased by \$83.79/g CO₂¹ 	-	-
China	-	<ul style="list-style-type: none"> • \$ 5323 to \$ 9,126 bonus for battery electric vehicle depending on the battery range of the vehicle⁶ • 35,000 RMB bonus for plug-in hybrid electric vehicles whose battery range is no less than 50 km⁶ 	<ul style="list-style-type: none"> • Development plan for fuel efficient and new energy vehicles 2011-2020 focuses on development of full electric vehicles and the government intends to invest 15.21 billion \$ for development of whole industry chain of new energy vehicle² • 10 cities and 1,000 vehicles program²
The Netherlands	<ul style="list-style-type: none"> • EVs are exempted from yearly road tax¹ • Registration tax reduction for hybrid vehicles depending on the energy efficiency label of the car¹ • For car leases, normal tariff of 20% of new car value that is added to the annual income tax is reduced to 0% for zero emission vehicles, and is reduced to 14% for low CO₂emission vehicles¹ 	-	-
India			A budgetary allocation of \$ 6.54 crore over a period of two years for technology development, demand creation, charging infrastructure and pilot projects ⁵

Please refer to the back page for sources . N.B.: Exchange rate as on February 12, 2016 is considered for currency conversion.

- Fiscal incentive: Tax exemption and subsidies have been considered for fiscal incentives
- Financial incentive: Incentives other than tax and subsidies has been considered as the financial Incentive

Update from the Institute

WORKSHOPS AND CONFERENCES

Smart City Planning Lab

The Punj Lloyd Institute of Infrastructure Management organized a two day Smart Cities Planning Lab for the three nominated cities of Punjab for Smart Cities Scheme– Amritsar, Ludhiana and Jalandhar. Participants included Mayors and Municipal Commissioners, Chief Executive Officer and key officials of Punjab Municipal Infrastructure Development Company, other municipal officials and consultants. The lab entailed: activity-based learning for participants; demonstration of SWOT analysis and Vision and Strategy development for a city; and helping city leadership develop a Vision and Strategy for their city. In all, there were 28 participants. Ludhiana has been selected as a Smart City by the Government of India (GoI).



Climate Change and Sustainability

The Punj Lloyd Institute, on November 23, 2015, organized a one day conference on Climate Change and Sustainability at ISB, Mohali Campus in collaboration with the British Deputy High Commission. The event was organized to bring together legislators, civil society and agriculturists to discuss increasing Punjab's resilience to climate change impacts and ensure an environmentally sustainable growth pathway.



Enabling Environment of Electric Mobility in India

A one day workshop was organized on Creation of National Enabling Environment for Electric Mobility in India and Integrating Electric Mobility in Urban Mobility System on December 7, 2015 at ISB, Mohali campus. The Punj Lloyd Institute raised key issues relating to electric mobility in the country.



EDUCATION

Leadership programme in Infrastructure Management

(January 2016 – December 2016)

Infrastructure sector in countries, which are at the level of economic development as India, inarguably provides a broad base for economic growth. Conversely, lack of quality infrastructure creation and service delivery is a key constraint to India's economic growth. In this context, India needs to inject massive capital into infrastructure development.

This will require competent leadership, where skills that encompass a wide range of disciplines will be needed. For example, good leadership capability will mean a good understanding of economics, finance, law, human relations, public relations, environment, social issues, etc. and will, thereby go well beyond the technical knowledge of engineering aspects. This, in turn, will require a huge effort for building capacity in infrastructure planning, project identification, project preparation, project appraisal and project management. Focus will have to be both on mid-career practitioners as well as building a pool of competence for the years to come. Similar needs would also be felt in other countries in the region as well as in Africa and the Middle East.

While the technical skills relating to engineering disciplines are generally available, the gaps are felt and acknowledged by many in the areas of leadership and management. The Punj Lloyd Institute of Infrastructure Management and the Center for Executive Education have come together to address this 'capacity' gap in the Infrastructure sector by offering a year-long program called the "Leadership Program in Infrastructure Management" (LIM).

The Program, conceived against the backdrop of scarcity of systematically trained and developed leadership capital in the area of infrastructure in India and other emerging markets, caters to mid-career professionals and provides a structured approach of developing infrastructure leaders using an interdisciplinary environment of learning. The program uses blended approach of delivery- a good mix of classroom delivery and delivery using online platform.

The first cohort of LIM, represented by both the public sector and private sector, is unique on depth and richness of experience, sectoral exposure, previous academic training, and understanding of core issues in infrastructure sector in general. The program will run through four terms. The inauguration and orientation of the program was held in ISB Hyderabad campus on February 6 and February 7, 2016.



Dr. Pramod K Yadav,
Associate Director, Punj
Lloyd Institute, ISB

“The infrastructure industry in India will need leaders who understand the multi-disciplinary challenges of the sector. Professionals need to be equipped with the necessary skills and competencies relating to multiple disciplines. LIM program is designed to cater to this need, and is suited for professionals aspiring to move up into a leadership position in the infrastructure space.”

For more info on course, visit: www.isb.edu/pliim/education/lim

RESEARCH

Smart Cities Index

Given the rapid growth rate of urbanization in India, GoI has launched various urban missions with the aim of rejuvenating the infrastructure of our cities. In view of large scale investment likely to flow into the cities both from public and private sector, ISB through its Punj Lloyd Institute is developing a “Smart Cities Index” which will be a tool to rank and annually monitor the performance of cities across India in terms of their quality of life, state of economy and environmental sustainability. The Index will be of great use to cities for comparing their performance relative to other cities in India across various aspects and parameters and draw out measurable action plans to improve upon them under time-bound targets. The project is being funded by Shakti Sustainable Energy Foundation. Presently, it is in the final stages of the data collection process and the Index is expected to be launched in March, 2016.

Data Book

The Punj Lloyd Institute released the first edition of the Data Book – Top 10 Populous Cities of India at the ISB National Conclave on December 3, 2015 in New Delhi. The Data Book highlights the state of urban infrastructure, services, and governance in top 10 populous cities of India, and raises the debate related to urban challenges and opportunities in the context of India’s social, environmental and economic transitions. State of these cities are depicted on eleven components – level of urbanization, urban migration, urban employment, urban poverty, urban transport, solid waste management, water supply and sanitation, urban housing, urban environment, urban safety and urban governance. These components have been selected to understand better the gap between the planned/vision documents of key cities in Indian and those that have been achieved on ground. The Data Book provides an easy route to understand context in which an unprecedented impetus on developing smart cities has been laid on by the government of India.

Projects Now

INFRASTRUCTURE PROJECTS ANNOUNCED AND LAUNCHED DURING JANUARY 2016

Energy

Power Grid Corporation of India Approves Seven Investment Proposals worth Rs.25 billion

Power Grid Corporation of India approves seven electricity transmission projects costing Rs.25 billion. The seven projects are: a) Rs.14.6 billion proposal for System Strengthening-XXIV in Southern Region. The project includes setting up of a 765/400KV substation and Lilo of Kurnool-Thiruvalam 765KV D/c at Cuddapah. b) Investment proposal worth Rs.3 billion for transmission system for 750 mw Ultra Mega Solar Park in Rewa district, Madhya Pradesh. c) Transmission system strengthening associated with Mundra UMPP (Part-A) at an estimated cost of Rs.2.billion. d) Rs.2 billion investment proposal for transmission system associated with Darlipalli TPS. e) Connectivity for Kundankulam Unit 3 and 4 with Interstate Transmission System in Tamil Nadu at an estimated cost of Rs. 1.6 billion. f) Transmission System for Ultra Mega Solar Park in Anantpur district, Andhra Pradesh - Part B (Phase-II) at an estimated cost of Rs.991 million. g) Investment proposal worth Rs.574 million to set up 400kV bays for Northern Region System Strengthening Scheme - XXIX (NRSS-XXIX).

Kakatiya Thermal Power Plant Commissioned by TSGENCO

Telangana State Power Generation Corpn Limited (TSGENCO) has commissioned a 600 MW unit at Kakatiya thermal power plant at Chelpur in Warangal district. The project cost Rs.36 billion. Order for main plant and equipment was placed on Bharat Heavy Electricals Ltd (Bhel) in 2008 with a contract period of 42 months and orders for balance of plant was placed on Techpro with a contract period of 30 months. Commissioning of the project has witnessed a time overrun of 45 months.

Electrification of Muzaffarnagar-Tapri line Announced

The Ministry of Railways has sanctioned Rs.3.76 billion for doubling and electrification of 51.53 km Muzaffarnagar-Tapri single line section of Delhi-Meerut-Saharanpur section in Uttar Pradesh. The project involves doubling of the 51.53-km line, parallel to the existing alignment, along with construction of six additional loop lines, nine high-level platforms, six foot over bridges, 31 minor bridges, two major bridge, cover over platforms and other allied passenger amenities at six stations.

Sterlite Grid Receives LoI for Power Evacuation Infrastructure in Odisha

Odisha Generation Phase-II Transmission Limited has awarded Letter of Intent to Sterlite Grid to commission power evacuation infrastructure in Odisha. The contract is valued at Rs.12.5 billion. Sterlite Grid will build, own, operate and maintain approx 300 km of 765 kV double circuit system strengthening line from Jharsugda to Raipur and about 50 km of 400 kV Double Circuit line between OPGC Power Project and Jharsugda.

Lanco Commissions Kondapalli Phase III Project

Lanco Kondapalli Power Limited has commissioned the expansion capacity of 371 MW (Phase III). This combined cycle gas-based power project is located at Kondapalli industrial development area near Vijayawada in Andhra Pradesh. The Rs.37 billion project has been commissioned in three phases. In Phase I, 368 MW was commissioned while in Phase II, 366 MW was made operational. Phase 3 has two units of 371 MW each, comprising two gas turbines (GT) of 241 MW each and two steam turbines (ST) of 130 MW each. Of this, GT1 and ST1 were operationalised in August 2015.

12 New Projects Announced in Non-Conventional Energy Segment

17 new power projects worth Rs.96 billion were announced in January 2016. Of these, 12 were from the non-conventional energy segment. Three were wind power projects entailing an investment of Rs.74 billion and nine projects were from solar power segment. Four projects were announced in the electricity distribution segment. The details of the projects are: a)

Singapore-based Sembcorp Green Infra Limited will set up a 1,000 mw wind energy plant in western Madhya Pradesh. b) Suzlon Energy Limited bagged a contract to set up 197.40 mw wind power project in Anantapur district of Andhra Pradesh. c) Neyveli Lignite Corporation Limited plans to establish two blocks of 65 MW AC solar power projects at Barsingsar in Rajasthan on turnkey basis. d) Airport Authority of India is in process of setting up 100 MW solar power project at the under-construction Ajmer airport at Kishangarh in Rajasthan. e) PTC India has awarded a 30 mw wind power project to Gamesa India. The project, coming up at Jaora in Madhya Pradesh, is to be commissioned by March 2016.

Suzlon Secures 2 Wind Power Contracts

Suzlon Energy has secured two contracts for 100.8 MW capacity wind power projects. Hindustan Petroleum Corporation Limited (HPCL) has awarded a contract for 24 units of S97-120 m hybrid towers with rated capacity of 2.1 MW each. Commissioning of the project is scheduled for March 2017. The second 50.4 MW order is from National Aluminium Company Limited (Nalco). A total of 24 units of S97-90 m tubular tower with rated capacity of 2.1 MW each will be installed. The project is capable of providing power to nearly 27,000 households and reducing 0.10 million tonnes of CO2 emission per annum.

MoEFCC Nod for 3 Hydro Projects in December 2015

Environmental clearance (EC) was granted to three hydro power plants by the Ministry of Environment, Forests and Climate Change in December 2015. All the 3 projects are proposed in Arunachal Pradesh with a generation of 571 MW of power. Expert Appraisal Committee in July 2014 had recommended grant of EC to the proposals. The details of the projects are as follows: a) Heo Hydro Power Private Limited will invest Rs.20 billion to build 240(3 X 80) MW hydro project on river Yarjep. b) Siyota Hydro Power Private Limited proposes to set up a 186 (3 X 62) mw hydro power plant on the Yarjep river. c) Pauk Hydro Power Private Limited plans to set up three hydro power units of 48.33 MW each.

EAC Nod for HPCL's Vizag Refinery Expansion

Expansion of Hindustan Petroleum Corpn Ltd (HPCL) refinery has been recommended by the Expert Appraisal Committee under MoEF&CC at Visakhapatnam in Andhra Pradesh.

The proposal is to enhance the capacity of its Visakh Refinery in Malkapuram village of Visakhapatnam from current 8.33 million tonnes per annum (mtpa) to 15 mtpa. Investment in the brownfield expansion is estimated to be around Rs.184 billion.

Road and Highways

Delhi-Meerut Expressway Project Launched

The Prime Minister laid the foundation stone for the construction of 74 Km long Delhi-Dasna-Meerut 14 lane Expressway and upgradation of 22 Km long Dasna-Hapur section of National Highway 24 (NH-24) at Sector-62 in Noida. The alignment of Delhi-Meerut Expressway (DME) will start from Nizammudin Bridge from Delhi and will continue on existing NH-24 upto Dasna. A new alignment of DME from Dasna to Meerut (approx 37 km) and 6-laning of connector (9 km) is also proposed to be taken up. To execute the project, the National Highways Authority of India (NHAI), in August 2015, invited fresh bids on hybrid annuity model (HAM) under public-private partnership (PPP) mode in three packages: a) the project to construct 8.36 km from Nizamuddin Bridge to UP Border has been awarded to Welspun Enterprises at a bid project cost of Rs.8.41 billion. The company will operate the project for 15 years. 40% of the project cost will be borne by NHAI, and the balance 60% will be arranged by Welspun Enterprises. b) the project to widen 19.28 km from UP Border to Dasna is in tendering stages. This stretch will require an investment of Rs 12.69 billion. c) The 22.23 km stretch from Dasna to Hapur is expected to cost Rs 9.4 billion. Reportedly, the project has been awarded to a joint venture of Apco Infratech and Chetak Enterprises.

Punj Lloyd Secures 4 Highway Contracts

Punj Lloyd secured contracts worth Rs.15.55 billion for four highway projects in Bihar, Chhattisgarh, Odisha and Punjab. These four projects run a total of 190 km. The highway projects fall under the National Highways Development Project (NHDP) Phase-IV and will be executed on engineering, procurement and construction (EPC) basis. The project include: a) four laning of the 60 km Simaria-Khagaria on NH-31 in Bihar is estimated to cost Rs Rs.8 billion. b) four laning of the 48.58 km Raipur-Simga on NH-30 in Chhattisgarh costing Rs.5 billion. c) two/four laning of Telebani-Sambalpur on NH-6 in Odisha valued at Rs.4 billion (50 km). d) four laning of Tallewal-Barnala on NH-71 in Punjab (30 km).

4 lane Goharganj-Bhopal section in Madhya Pradesh awarded to MBL Infra

A consortium led by MBL Infrastructures (MBL) secured the contract for rehabilitation and upgradation of Goharganj to Bhopal Section of National Highway 12 in Madhya Pradesh. The contract is valued at Rs.6 billion. The project falls under National Highways Development Project (NHDP) Phase III. It will be executed on engineering, procurement and construction (EPC) basis in 24 months.

Zojila Pass Project in J&K Awarded to IRB Infrastructure

IRB Infrastructure has bagged the construction contract for Southeast Asia's longest tunnel at Zojila pass in Jammu & Kashmir. The tunnel length spans 14.08 km and costs Rs.100 billion. The scope of work includes building a tunnel spanning a length of 14.08 km and approach road of 10.8 km with three vertical ventilation shafts, snow gallery of 700 meters and avalanche protection measures. Contract will be executed on design, build, finance, operate and transfer (DBFOT) Annuity basis. The concession period is for 22 years and construction period is for 7 years. IRB Infra will receive semi-annual annuity of Rs.9.81 billion.

Rs. 410 billion worth Road Projects Announced in Telangana

Road projects worth Rs. 410 billion have been announced by the Union Minister Nitin Gadkari for Telangana, including two Express Highways from the state capital Hyderabad to Bengaluru in Karnataka and Vijayawada in Andhra Pradesh. The government will soon prepare the detailed project reports (DPR) for two Express Highways connecting Hyderabad with Bengaluru and Vijayawada. The Telangana portion of cost of construction for the two Express Highways would be Rs. 160 million covering 190 km for Vijayawada and 210 km for Bengaluru Express Highways. The Union Road Transport and Highways Minister also laid the foundation stone of 4- lane of Yadgir and Warangal section of NH-202 (new NH-163) of length 99 km costing Rs. 14.2 billion.

Cabinet Committee on Economic Affairs Approves Road Projects in Uttarakhand and Uttar Pradesh

Cabinet Committee on Economic Affairs (CCEA) has approved four laning of 99 km Nagina-Kashipur stretch on NH-74 in Uttarakhand and Uttar Pradesh. The cost of the project is estimated to be around Rs.25 billion including cost of land acquisition, resettlement and rehabilitation and other pre-construction activities.

7 Road Projects Launched in Jharkhand

Union Transport Minister Nitin Gadkari laid the foundation stone for seven highway projects in Jharkhand, costing Rs.47 billion. Once commissioned, the projects will add a total road length of 436 km. The road projects are : a) Six laning of Bihar/Jharkhand Border (Chordaha)-BarwaAdda (NH-2) Project. b) Four laning of Mahulia-Baharagora-JH/WB Border (NH-33 & NH-6) Project. c) Four-Laning of Barhi-Hazaribagh (NH-33) Highway Project. d) Two/Four Laning of Chas-Bokaro-Gola-Ramgarh (NH-23) Road Project. e) Two Laning of Choupa More-Hansdiha (NH-133) Highway Project. f) two Laning of Giridih-Deoghar-Sima (NH-114A) Project. g) Two Laning of Deoghar-Madhupur SH Project.

Cabinet Clears 222 km Road Projects in Bihar and Jharkhand

The Cabinet Committee on Economic Affairs (CCEA) approved six lane Aurangabad-Bihar/Jharkhand Border-BarwaAdda section on National Highway-2 in Bihar and Jharkhand. The total length of the road will be approximately 222 km. The project was announced by the NHAI in 2011 under the National Highways Development Project (NHDP) Phase-V.

Urban Infrastructure

MoUD announces 20 Smart Cities

The Ministry of Urban Development announced the list of 20 smart cities out of the 98 shortlisted for the ‘Smart Cities Mission’. Bhubaneshwar tops the list, followed by Pune and Jaipur. These 20 cities will be the first one to receive funds, thus kick-starting the process of developing them into the ‘smart cities’.

List 20 smart cities

States	Cities
Odisha	Bhubaneshwar
Maharashtra	Pune and Sholapur
Rajasthan	Jaipur and Udaipur
Gujarat	Surat and Ahmedabad
Kerala	Kochi
Madhya Pradesh	Jabalpur, Indore and Bhopal
Andhra Pradesh	Visakhapatnam and Kakinada
Karnataka	Devangere and Belagavi
NCT of Delhi	New Delhi Municipal Corporation
Tamil Nadu	Coimbatore and Chennai
Assam	Guwahati
Punjab	Ludhiana

Two Drinking Water Projects in Karnataka Awarded to IVRCL Limited

The Irrigation and Water division of IVRCL Ltd has secured orders worth Rs.3.5 billion in Karnataka. The first project to provide drinking water to 83 tanks of Magadi Taluk of Ramanagara district and Hutridurga hobli in Kunigal taluk of Tumkur district was awarded by the Cauvery Neeravari Nigama, and has contract value of Rs.3.25 billion. The second contract of Rs.263 million was awarded by the Karnataka Urban Water Supply and Drainage Board for remodelling of Water Supply Distribution system and allied works in Bannur town in district Belgaum under Urban infrastructure Development Scheme for Small & Medium Towns scheme (Package No WU-BANNUR-I).

Investment Proposals and/ MoUs Signed

9 Infra Projects get NCRPB Support in Uttar Pradesh and Haryana

The National Capital Region Planning Board (NCRPB) decided to support nine transport infrastructure projects in Uttar Pradesh and Haryana to improve traffic flow besides reducing pollution. There are nine projects in total costing Rs. 78.9 billion. NCRPB has decided to extend a loan of Rs. 31.1 billion. Two infrastructure projects in Uttar Pradesh will cost Rs. 66.8 billion for which NCRPB will provide a loan of Rs. 22.9 billion. Haryana has proposed projects seven projects at a total cost of Rs. 12.2 billion and will get a loan of Rs. 8.3 billion.

Karnataka Government Approves 6 Investment Proposal of Rs.234 billion

Karnataka State High Level Clearance Committee headed by Chief Minister Siddaramaiah has cleared investment proposals worth Rs.234 billion. Of the six proposals cleared, three are new and three are expansion projects. The three new proposals are: a) Minera Steel Private Limited proposes to invest Rs. 18.9 billion to set up a 0.5 million tonner annum (mtpa) steel plant at Yerabanahalli village in Sandur taluk of district Bellary. b) Wadi Cement Company Private Limited plans to invest Rs.13.5 billion to build a 2.5 mtpa clinker and portland cement unit at Konchur, Chittapur Taluk, Gulbarga. c) Karnataka Solar Power Development Corporation Ltd will invest Rs.148 billion for a 2,000 MW solar park. The three expansion projects are: a) Udupi Power Corporation will expand the power generation capacity of its plant at Yelluru in Udupi district from present 1,200 MW to 2,800 MW at a cost of Rs.45.7 billion. b) Kirloskar Toyota Textile Machinery plans to invest Rs.1.5 billion to expand its manufacturing unit at Jigani village in Anekal

taluk, Bangalore Urban district. c) Tata Power Company Limited has announced a Rs.6 billion expansion plan for its electronic and telecommunication devices plant at Vemagal in Kolar district.

Chhattisgarh Government to Invest Rs. 500 billion on Developing Infrastructure

The Chhattisgarh Government has decided to invest Rs. 500 billion on developing rail corridor and telecommunication facilities in the state over the next three years. The state will spend the amount on development and expansion of key services like power, road, rail corridor, telecommunication and others. A master plan focusing villages, poor and farmers along with the overall development of the entire state has been chalked out and 2016 will be a base year for this plan.

Queensland Coal Exploration Proprietary Limited Signs an MoU with Andhra Pradesh

Australia based Queensland Coal Exploration Proprietary Ltd has signed a Memorandum of Understanding (MoU) with the state government of Andhra Pradesh to set up a thermal power project at Machilipatnam in Krishna district, Andhra Pradesh. Queensland Coal had proposed the 5,280 mw (8X660) thermal power project in January 2015. The company had in-principally identified a plot of 2,000 acres of land between Machilipatnam and Kruthivenu in Krishna district, Andhra Pradesh. Site inspection of the plot has already been done.

Japanese firm Pedico to Design Mumbai's First Underground Tunnel

The Brihanmumbai Municipal Corporation (BMC) has appointed Japanese consultancy firm Pedico to study geo-technical aspects and design Mumbai's first underground tunnel. The 14.66 km Goregaon Mulund link road will be built at a cost of Rs.13 billion. Commissioning of the three phase project is scheduled in 2019. In phase I, construction of the road over bridge (RoB) in Nahur will be taken up. BMC plans to float tender for RoB in April 2016. Widening and removal of encroachments on the 150 metre A K Vaidya Marg will be taken up in May 2016 under Phase II. BMC expects to commence construction work on the tunnel (Phase III) by end of 2016.

DPR for Dankuni-Sonnagar High Speed Freight Corridor Project finalised

Dedicated Freight Corridor Corporation of India (DFCCIL) has reported that the DPR for Dankuni-Gomoh (Phase 1) and Gomoh-Sonnagar (Phase 2) has been finalised. The DPR for the 538 km railway corridor was prepared by Rites Limited. A feasibility report and a traffic study report for Dankuni-Gomoh (Phase 1) has been sent to the Railway Board for approval. Legal consultant has been hired to prepare the Concession Agreement document for the project. DFCCIL also reported that the land acquisition process for the project is in progress.

About the Punj Lloyd Institute of Infrastructure Management

The Punj Lloyd Institute of Infrastructure Management is established within the Indian School of Business as a specialist Institute to Support the Infrastructure Industry. Its objective is to create top quality management capacity; to undertake research that would find solutions to the problems industry faces and to become a one-stop source for data and information on the industry. The Institute seeks to be the 'Go To' place for knowledge and solutions within the infrastructure industry.

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Source (Table: Country level Policy Incentive...)

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