

## Infrastructure in India

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### Abstract

Good equability of infrastructure is a crucial prerequisite for sustainable growth. It provides basic amenities for improve the quality of lift. Economic development of any country depends on the good quality of infrastructure.

**Keywords:-** Infrastructure, Basic amenities

Infrastructure is a critical input for industrial and overall economic development. It provides basic amenities for improve the quality of life. Economic development of any country depends upon the good quality of infrastructure.

Infrastructure includes all those facilities and services which are needed for supporting and enhancing the production capacity, of any nation. It includes both economic and social infrastructure. Economic infrastructure is also known as physical infrastructure, just as energy, transport, instigation etc. While social infrastructure includes education, health, quality of human resource.

### Energy

Energy is the main source of behind all development. Sources of energy is divided into two main pasts conventional and non conventional conventional sources of energy are in use, since long time, like cool petroleum, natural gas, electricity, traditionally sources of energy still dominate the domestic sector in India. Firewood's contribute as a major source of energy, 64% of rural house holds use this as full. The penetration of other fulls are Sather very low in rural areas with only 5.7% of the households using it for cooking purposes. (Teddy 2003-2004).

There has been marked increase in the use of electrifying accounting for 55.8% of house holds in India.

As the supply of energy lags behind demand, not only are shortages of electricity running a 10 percent deficit at peak hours, but sector financial loses are even larger.

The combined cash loss of state owned distribution firms is moose than & 20 billion per year.

The precipitate consumption of energy in India is 500 kg of oil equivalent the world average is 1,800 kgoe. The electricity sector in India had an installed capacity of 255.012 GW as of end Nov. 2014.

India becomes the world's third largest produces of electricity in the year 2013 with 4.8% global share in electricity generation surpassing Japan & Russia. Electric energy consumption in agriculture is highest in India.

### Power Sector at a Glance

#### Total Installed Capacity

Sector	MW	% age
State Sector	94,153	37.1
Central Sector	68,993	27.3
Private Sector	90,903	35.8
Total	2,54,049	
Fuel	MW	% age
Coal	1,52,971	60.2
Gas	22,608	8.9
Oil	1200	0.5
Hydro (Renewal)	40,799	16.1
Nuclear	4,700	1.9
RES (MNRE)	31,692	12.5
Total	2,54,049	

Source: - Power min.nic.in/India

**Wind energy:** Wind energy is another option. India is producing currently 8 gigi walls (GW) of wind power.

**Petvolem 2 Natural Gas:** The estimated rescues of crude oil in India as on 31.03.2012 stood at 759.59 million tones, Geographical distribution of crude oil indicates that the maximum reserves are in the western off shore (44.46%) followed by Assam (22.71%) where as the maximum reserve

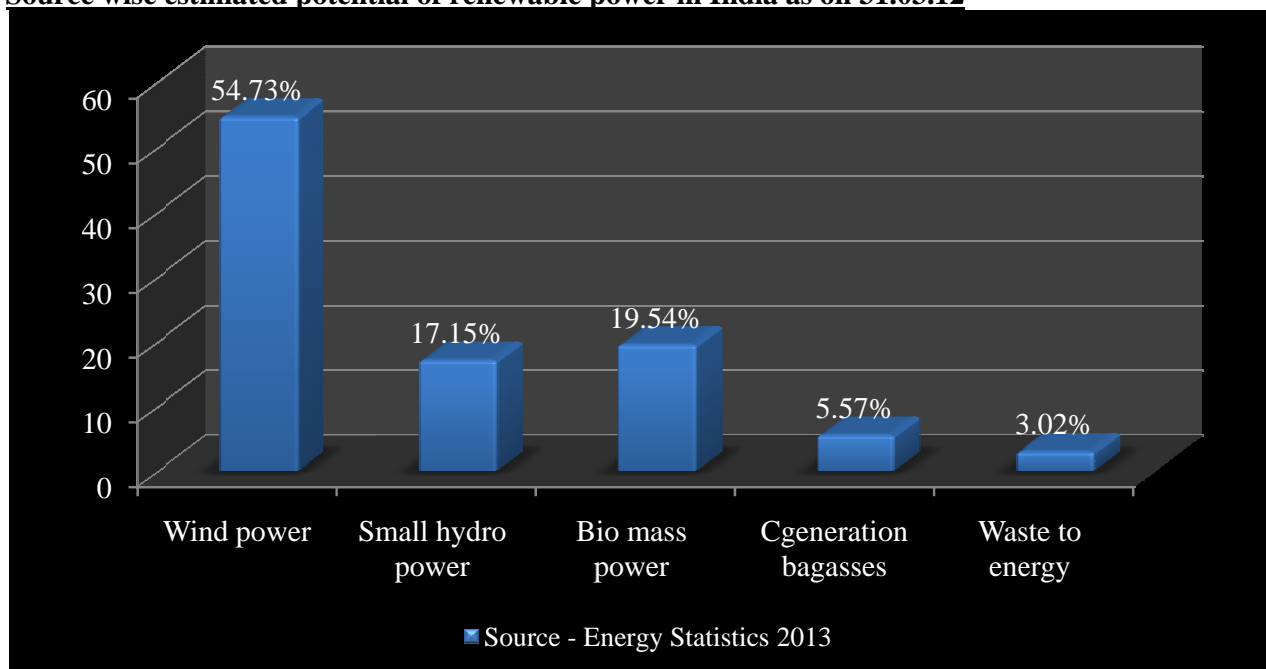
off shore (34.73%) followed by western off shore (31.62%).

**Renewable energy sources:** There is high potential for generation of renewable energy from various sources wind, solar, biomass, small hydro and cogeneration bagasses.

The total potential for renewable power generation in the country as on 31.03.12 is estimated at 89774 MW.

This includes wind power potential of 49130 MW (54.73%) SHP (small hydro power) potential of 15399 MW (17.15%) Biomass power potential of 17,538 MW (19.54%) and 500 MW (5.57%) from bagasses based cogeneration in sugar mills.

**Source wise estimated potential of renewable power in India as on 31.03.12**



Source:- Energy Statistics 2013

**Transports:** The transport system consists of different method of moving commodities and people across different parts of the world. Development of balanced transport system helps in the mobility of goods and people.

**Road Transport:** The development of any country largely depends upon the infrastructure facilities. Road increase the potential for mobility and create accessibility. The ministry of rural development has the responsibility of ensuring that every habitation with more than 500 in hilly and tribal areas is connected with all weather road by 2009. About 65% of freight and 80% passenger traffic is carried by total roads. National highway constitute only about 1.7% of the road network but carry about 40% of total road traffic. Number of vehicles has been growing at an average pace of 10.16% per annum over the last few years.

**Road Connectivity**

India road network of 33 Lakh km is second largest in the world and consists of:-  
Length (in km)

Express way	200
National highways	79,243
State highways	1,31,899
Major district roads	4,67,763
Rural and other roads	26,50,000
<b>Total</b>	<b>33 Lakh km (App)</b>

Source: - Nhai Website

**Rail Transportation:** Rail transportation system in India is owned by central government. Indian railway system is the third largest network in the world. It is one of the world’s largest railway network’s comprising 115,000km (71,000mi) of track over a route of 65,436 km and 7,172 stations.

In 2013-14, TR carried more than 23 million passengers daily. (Roughly half of which were suburban passengers).

As of 31 March 2013, 20,884 km (12,977 mi) (31.9%) of total 65,436 km (40,660 mi) route length was electrified.

**Air Transport:** Air Transport is the fastest mode of transportation, which has reduced distances, Air transportation in India a beginning in 1911,

when air mail operation commenced over a little distance of 10 km between Allahabad and Naini.

Indian formerly Indian Airlines from 1933, was a major Indian airline based in Delhi.

As of 2013, there are 346 civilian airports in India. 253 with paved runways and 93 with unpaved runways.

**Water Ways:** India has an extensive network of inland water ways in the form of rivers, canals, backwaters and creeks. The total navigable length is 14,500 kilometers, out of which about 5,200 km of rivers and 485 km of canals can be used by mechanized craft.

The total cargo moved by inland water ways is just 0.15% of total inland traffic in India.

**Telecommunication:** The Indian telecommunication industry is the fastest growing industry in the world. The Indian telecom sector has witnessed tremendous growth over the past decade. Indian telecom network is the second largest in the world after China. Today the Indian telecommunication sector with an approximate subscriber base of 906.8 million connections (as of financial year 2013).

Teledensity is an important indicator of telecom penetration in the country. Teledensity has decreased from 76.86 percent in Dec 2011 to 73.16 at the end of April 2013.

According to a study of Kearney Internet subscribers in India grew to 164.81 million as of March 2013. Mobile data traffic is expected to grow at 126% CAGR from 2011 to 2016 and account for 75% of wireless operator's traffic and over 30% of revenues by 2016.

Smart phones in 2008 occupied roughly 3.8% of telecom hardware related sales, recorded a slight growth of 8.1% in 2011 and is estimated to

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touching a figure of 25% in 2016.

**Water & Sanitation:** Water is the most important factor for human life. According to N.S.S 69<sup>th</sup> round survey, water supply covered the whole Indian union. The key result of 4,475 villages and 3,522 urban blocks spread over all states and union territories.

About 88.5 percent households in rural India had improved source of drinking water. While the corresponding figure was 95.3 percent in urban areas. Percentage of households who got drinking water facilities within rural India and 76.8 percent in urban India. About 62.3 percent of rural households and 16.7 percent of rural households did not have any bathroom facilities. 59.4 percent and 8.8 percent. Households in rural India and urban respectively had no latrine facilities. Both sanitation and water affect human health. According to Bharat Nirman project 40 liters per capita per day of safe drinking water for human.

About 62.3 percent of rural households and 16.7 percent of urban households did not have any bathroom facility. 65.8 percent of rural households and 82.5 percent of urban households had improved drainage facility in the environment of their dwelling units. In rural India 32.0 percent of households had some garbage disposal arrangements, whereas in urban areas the corresponding figure was 75.8 percent.

**Conclusion:** To conclude, we can say that infrastructure plays a pivotal role in the economic development of any country. To improve the infrastructure conditions in a country government must take some tough decisions we are on the right track and can look into the future with hope.