

# **Infrastructure sector profile**

## **India scenario**



# Overview

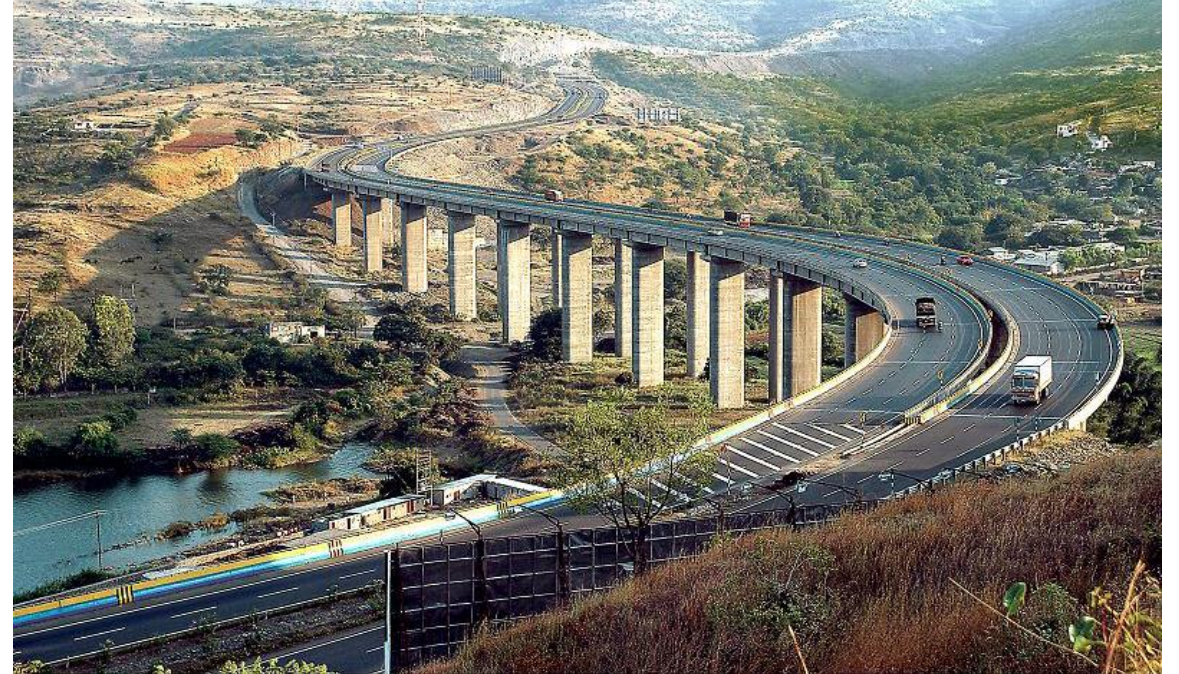
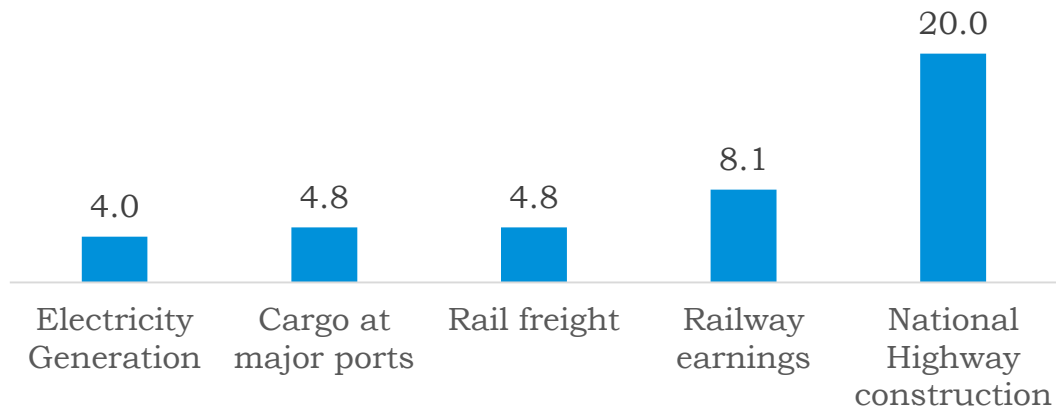
**USD  
777.73  
billion**

India's investment requirement  
in infrastructure sector by 2022

**USD  
37.97  
billion**

FDI inflow into Construction  
Development and Construction  
Activities sectors from Apr 2000  
to Jun 2018

Percentage growth in infrastructure related  
activities in 2017-18



- Initiatives like 'Housing for All' and 'Smart Cities Mission' have provided an impetus to the growth of the infrastructure sector
- 'UDAY Scheme' has helped the power sector in registering strong growth

# Infrastructure-led development – Roads

**2nd largest road network** in the world spanning ~5.5 million kms

**>60%**

Share of road network in total goods transport in the country

**85%**

Share of road network in transport of passenger traffic in the country

## **Bharatmala Pariyojana**

- Aims to optimize the efficiency of road traffic movement across the country by bridging critical infrastructure gaps
- Out of 53,000 kms National Highways identified, Phase-I will cover 24,800 kms and will be implemented over 5 years

**2000  
kms**

Identified area for development of coastal roads to improve the connectivity between ports and remote villages by the government

# Infrastructure-led development – Railways

Indian railways is the most cost-effective and the most preferred form of transport

- Route length – 115,000 km+
- Passenger Trains – 12,617 plying 23 million travelers daily
- Freight Trains – 7,421 plying 3 million tonnes (MT) of freight daily

**182 MT**

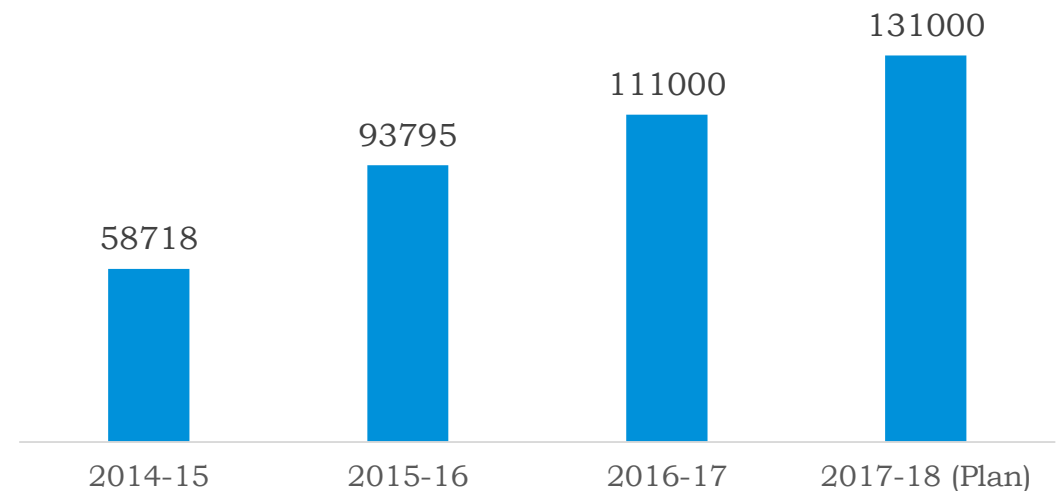
Expected freight traffic via DFC in 2021-22; estimated to grow at a CAGR of 5.4% from 140 MT in 2016-17

**16%**

Growth in 2017-18 in automobile transport through Indian Railways; preferred carrier of automobile sector

## Increase in capital investments in Railways

Capital Investments (INR crore)



**‘National Rail Plan’**, an enabler to integrate the country’s rail network with other modes of transport, is under formulation

# Infrastructure-led development – Airports

~**550 commercial aircrafts** operational in India as of March 2018

**16.52%**

Growth in passenger traffic during 2017-2018 over previous year

**USD 25 billion**

Estimated investment amount in next 10 years in sector

## Regional air connectivity

- Apart from 125 existing Airports in the country, AAI plans to develop over 20 airports in tier II and tier III cities in next 5 years.

**USD 2.32 billion**

Planned investments by AAI in 2018-19 for expanding existing terminals and constructing 15 new ones

## 20 International airports



# Infrastructure-led development – Ports

679.36 million tonnes of cargo handled by major ports in 2017-18

**457**

Number of projects identified to increase the cargo handling capacity to 3500+ MMTPA

Direct Port Delivery and Direct Port Entry facilitated for faster clearance

**30,000**

Number of people to be trained in next 3 years in ports and maritime sector

## Completed projects in Sagarmala initiative across coastal states



# Infrastructure-led development – Power

Total installed capacity of power stations stood at **343.79 GW as on April, 2018**

**4<sup>th</sup>**

Rank in installed wind power capacity in the world

**6<sup>th</sup>**

Rank in installed solar power capacity in the world

**2<sup>nd</sup>**

Rank in the world in “Renewable Energy Country Attractiveness Index 2017”

**175 GW**

Renewable energy generation target of Government of India by 2022

## **National Policy on Biofuels 2018**

- Expected benefits of policy – health benefits, cleaner environment, employment generation, reduced import dependency, boost to infrastructural investment in rural areas and additional income to farmers

# Infrastructure initiatives taking India's growth journey forward

'Sagarmala' and 'Bharatmala' programmes are expected to develop and retrofit India's port and road infrastructure and also promote industrialization along major ports

**USD 1.5  
trillion+**

Investments planned for infrastructure over the next two decades

- Highways (Bharatmala & NHDP) – USD 106.5 billion
- Railways – USD 131.7 billion
- Ports – USD 61.5 billion (Port development) + USD 123 billion (Port-led industrialization)
- Airports – USD 58 billion
- Industrial Corridors – USD 100 billion
- Smart Cities – USD 14.6 billion
- Clean India – USD 29 billion





**Tamil Nadu scenario**

# Overview

The logistics infrastructure of the state is supported by 2,53,510 km\* roads

Road transport accounts for 65% of freight traffic and 85% of passenger traffic

4 Major ports (3 Government & 1 Private), 22 Minor ports

4 International and 3 Domestic Airports

Extensive rail network further augmented by suburban and Metro train facilitates the commuters



\*- National Highways, State Highways, Major District Roads and Other District roads

# Road network

<b>5324 kms</b>	Length of National Highway (NH) network	<ul style="list-style-type: none"> <li>• 100% metaled roads</li> <li>• 99% NHs are 2 lane &amp; 41% of NHs are multilane</li> <li>• 98% SHs are 2 lane and above</li> </ul>
<b>11830 kms</b>	Length of State Highways (SH) network	
<b>11638 kms</b>	Length of Major District Roads (MDR)	<p>Key terminus in the Golden Quadrilateral link of NHA I</p>
<b>34858 kms</b>	Length of Other District Roads (ODR)	

## Lane-wise length details of roads (in Kms)

S. No.	Category	Single Lane	Intermediate Lane	Double Lane	Multi Lane	Total
1	NH	12	26	3061	2225	5324
2	SH	39	291	9416	2084	11830
3	MDR	375	7496	3556	211	11638
4	ODR	29537	4256	994	71	34858

# Robust road network connectivity

Road enhancement work worth USD 1.1 billion taken up every year

USD 120 million allocated for regular road maintenance

MoRT&H has taken up 1670 km Greenfield and Key Corridor projects in TN under Bharatmala Pariyojana

Chennai – Salem through Greenfield alignment; Chittoor – Nagari – Thachur road; Mamallapuram – Puducherry road (ECR); Hosur – Dharmapuri road (Greenfield corridor); Half ring road for Salem city; Sirkali – Mayiladuthurai – Kumbakonam road; Coastal road from Nagapattinam to Tuticorin via Ramanathapuram; Madurai – Natham section or NH-785; Madurai ring road; Usilampatti to Andipatti & Theni to Bodi; Rajapalayam to Sengottai; Vellakoil to Sankagiri; Musiri to Namakkal

Other key projects initiated



- Development of roads (Core Road Network) with the assistance of World Bank @ USD 802.61 million
- Development of 650 km roads with Asian Development Bank assistance @ USD 890 million

# PPP projects in Roads and Highways

## Ongoing PPP projects

**174 kms**

- Length of roads of the ongoing PPP projects
- All roads proposed to be of 4 lanes

## PPP projects under consideration

**275 kms**

Length of core road network identified in Chennai – Kanyakumari Industrial Corridor Influence Zone

**617 kms**

High Density Corridor – Major cross roads connecting National Highways

**295 kms**

Length of roads in the projects envisaged in Vision 2023

## Toll-Operate-Transfer (TOT) proposed roads

**359 kms**

Length of roads identified for TOT mode

# Railways infrastructure

Well-established rail network for 4,181 km, with 690 railway stations helping easy commutation of passenger and cargo traffic

Chennai has a well-established suburban railway network connecting it to the suburbs & neighboring cities

Metro Rail – Phase I – 35.30 km completed and operational

To assimilate various modes of transport at Central Railway Station of Chennai, a financial support of USD 59.48 million provided by Chennai Metropolitan Development Authority



# Ports infrastructure (1/3)

- **Tamil Nadu has 3 major Government ports:**
  - Chennai – Mainly handles container cargo
  - Ennore & V O Chidambaranar – Handle coal, ores & other bulk minerals

## 17.5% of India's cargo traffic handled by 3 Major Government Ports

Ports	2013-14	2014-15	2015-16	2016-17	2017-18*
<b>Chennai</b>	<b>51.10</b> (47.73%)	<b>52.54</b> (45.61%)	<b>50.05</b> (42.02%)	<b>50.21</b> (42.30%)	<b>51.88</b> (43.63%)
<b>V O Chidambaranar</b>	<b>28.64</b> (26.75%)	<b>32.41</b> (28.13%)	<b>36.84</b> (30.93%)	<b>38.46</b> (32.40%)	<b>36.57</b> (30.76%)
<b>Ennore</b>	<b>27.33</b> (25.52%)	<b>30.25</b> (26.26%)	<b>32.20</b> (27.04%)	<b>30.02</b> (25.29%)	<b>30.45</b> (25.61%)
<b>Total cargo handled</b>	<b>107.07</b> (19.28% share in India)	<b>115.20</b> (19.82%)	<b>119.09</b> (19.64%)	<b>118.69</b> (18.33%)	<b>118.9</b> (17.50%)
<b>Total cargo handled by Indian major ports</b>	<b>555.30</b>	<b>581.30</b>	<b>606.37</b>	<b>647.43</b>	<b>679.36</b>

# Ports infrastructure (2/3)

Chennai Port is one of India's Major ports and is the third largest container port in India.

Chennai Port has three docks, 24 berths and draft ranging 12 m to 16.5 m and has become a hub port for containers, automobiles and cargo in the East Coast. It has its own Terminal Shunting Yard and runs its own railway operations inside the harbor

Only state to have dedicated car export terminal connected to port through a rail line from Cheyyur

Kattupali port is the only Major private port in Tamil Nadu

Ports at Cheyyur (Panaiyur), Marakkanam & a combined port facility at Sirkazhi Taluk are under development

## 22 Minor Ports

- Cuddalore
- Nagapattinam
- Rameshwaram
- Pamban
- Coachel
- Vallinokam
- Kanyakumari
- Ennore
- Punnakayal
- Thirukadaiyur
- PY-3 (Oil field)
- Thiruchopuram
- Manappad
- Kudankulam
- Mugaiyur
- Silambimangalam Shipyard
- Parangipettai
- Kaveri
- Vanagiri
- Thirukuvalai
- Udangudi
- Chettinad Tharangampadi



# Ports infrastructure (3 / 3)

## Tamil Nadu Minor Ports Development Policy

- With the objectives of increasing Tamil Nadu's share in trade and commerce and decongesting the major ports to improve their productivity, the state formulated a Minor Ports Development Policy
- Government of Tamil Nadu encourages private participation in construction / development of ports/jetties and improvement of the existing minor ports
- With prior approval of Tamil Nadu Maritime Board, captive ports would be permitted to handle other commercial cargo as well

### Investment opportunities

- Development of captive ports in the state
- Enhancement of existing minor ports with state-of-the-art infrastructure facilities

# Airports infrastructure

## Tamil Nadu statistics for 2017-18 (April-February)

Parameter	Chennai	Coimbatore	Trichy	Madurai	India
Aircraft Movement (nos.)	140,131	19,442	11,711	12,260	2.32 million
Passenger Traffic (nos.)	18,505,152	2,175,212	1,396,958	1,300,964	380 million
Freight handled (Tonnes)	379,002	9,493	5,946	2,177	3.35 million

### Tamil Nadu has 4 International & 3 Domestic airports

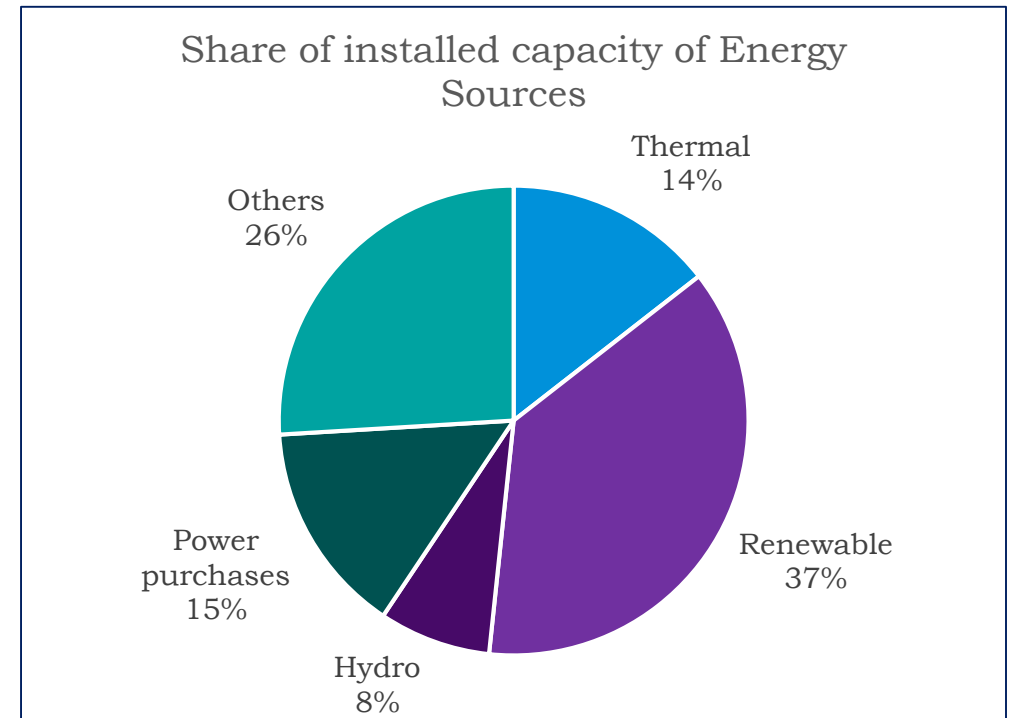
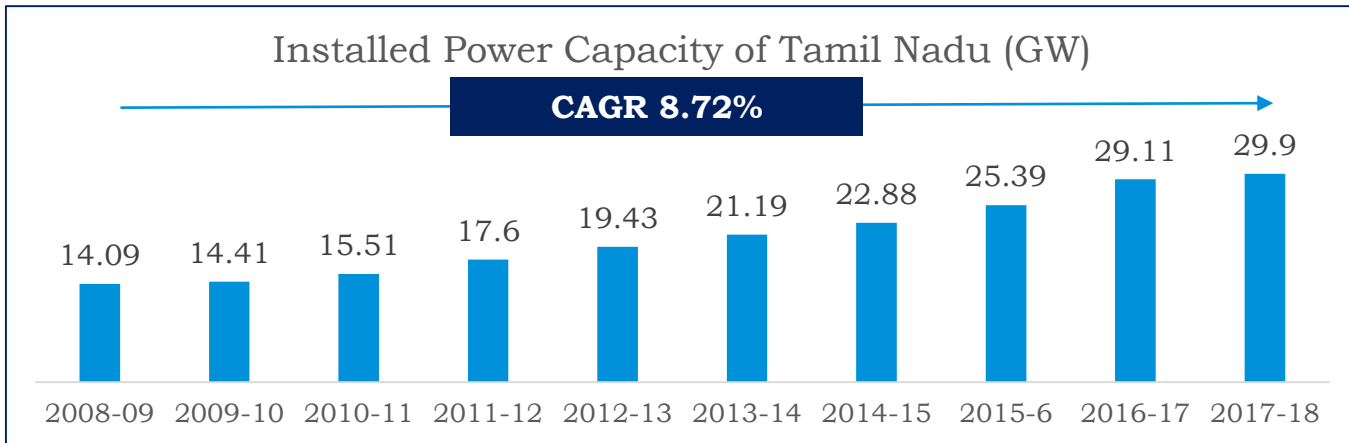
Aircraft movement in the state accounted for 7.9% of India's total aircraft movement

Passenger traffic handled by the state accounted for 6.15% of India's total passenger traffic

Freight handled by the state accounted for 11.81% of India's total freight volume in tonnes

Airports in Salem, Neyveli, Thanjavur and Vellore are to be operationalized under the regional connectivity scheme of UDAN

# Power infrastructure (1 / 3)

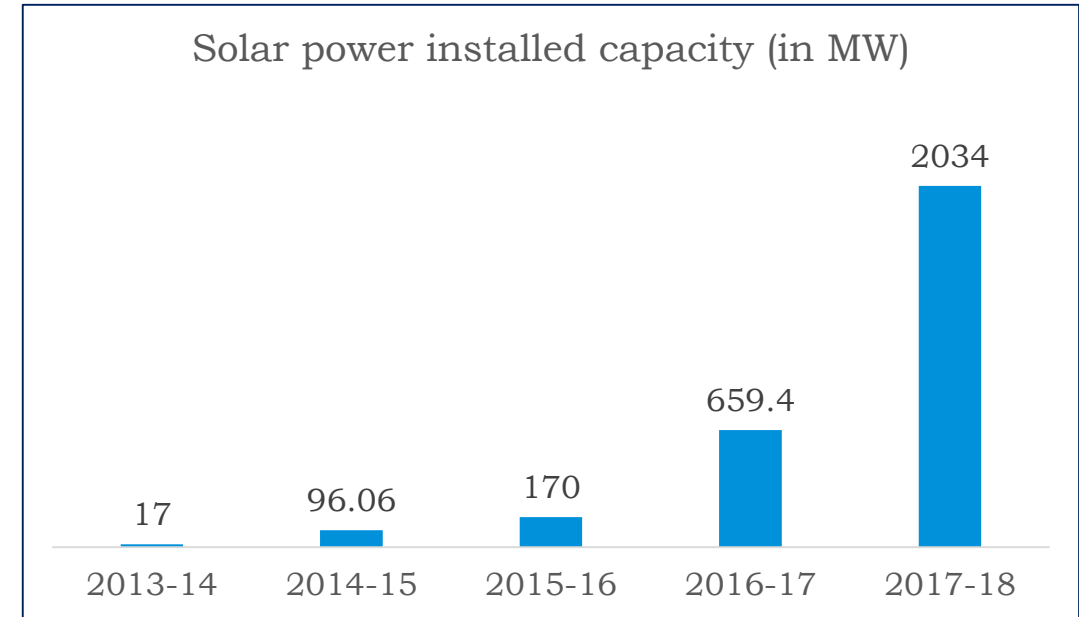
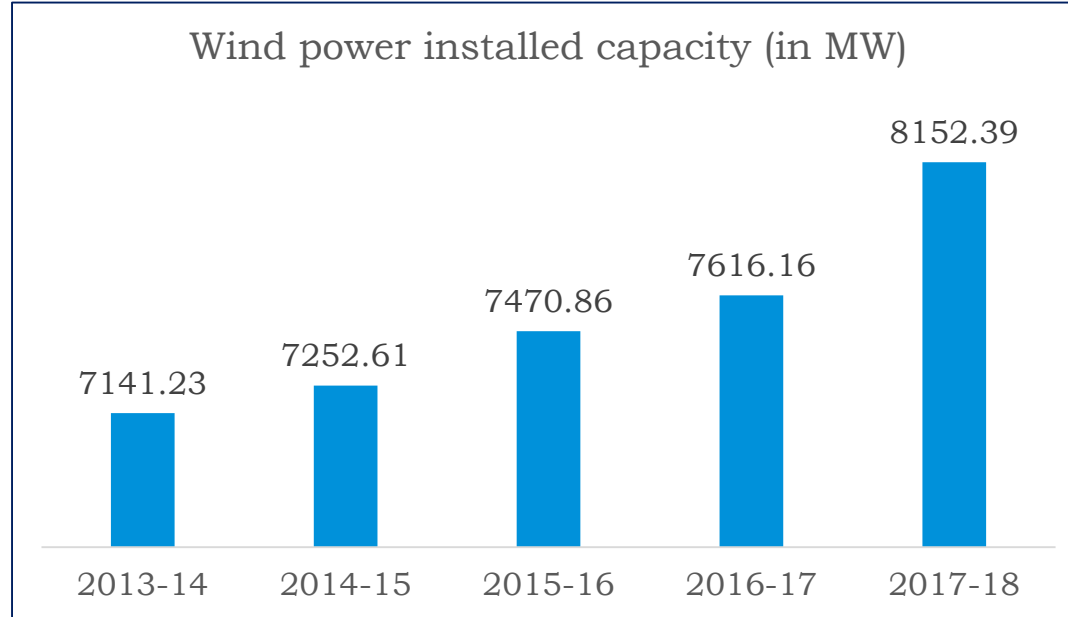


The total installed capacity is forecasted to expand to 55 GW by 2026-27

Implementing the Green Energy Corridor Project at a cost of USD 247.25 billion

# Power infrastructure (2/3)

The wind and solar installed power capacities have been on a rise since last 5 years



- Tamil Nadu is endowed with four prominent passes having high wind potential, due to the tunneling effect during South West monsoon
- Reasonably high solar radiation (5.6-6.0 kWh/sq. m) with around 300 clear sunny days in a year enabling the state to come up with a policy to promote solar energy development

# Power infrastructure (3 / 3)

Tamil Nadu has allocated USD 2.16 billion for energy sector in 2018-19

Aralvaimozhi in Kanyakumari District has the largest wind power capacity in India (1500 MW)

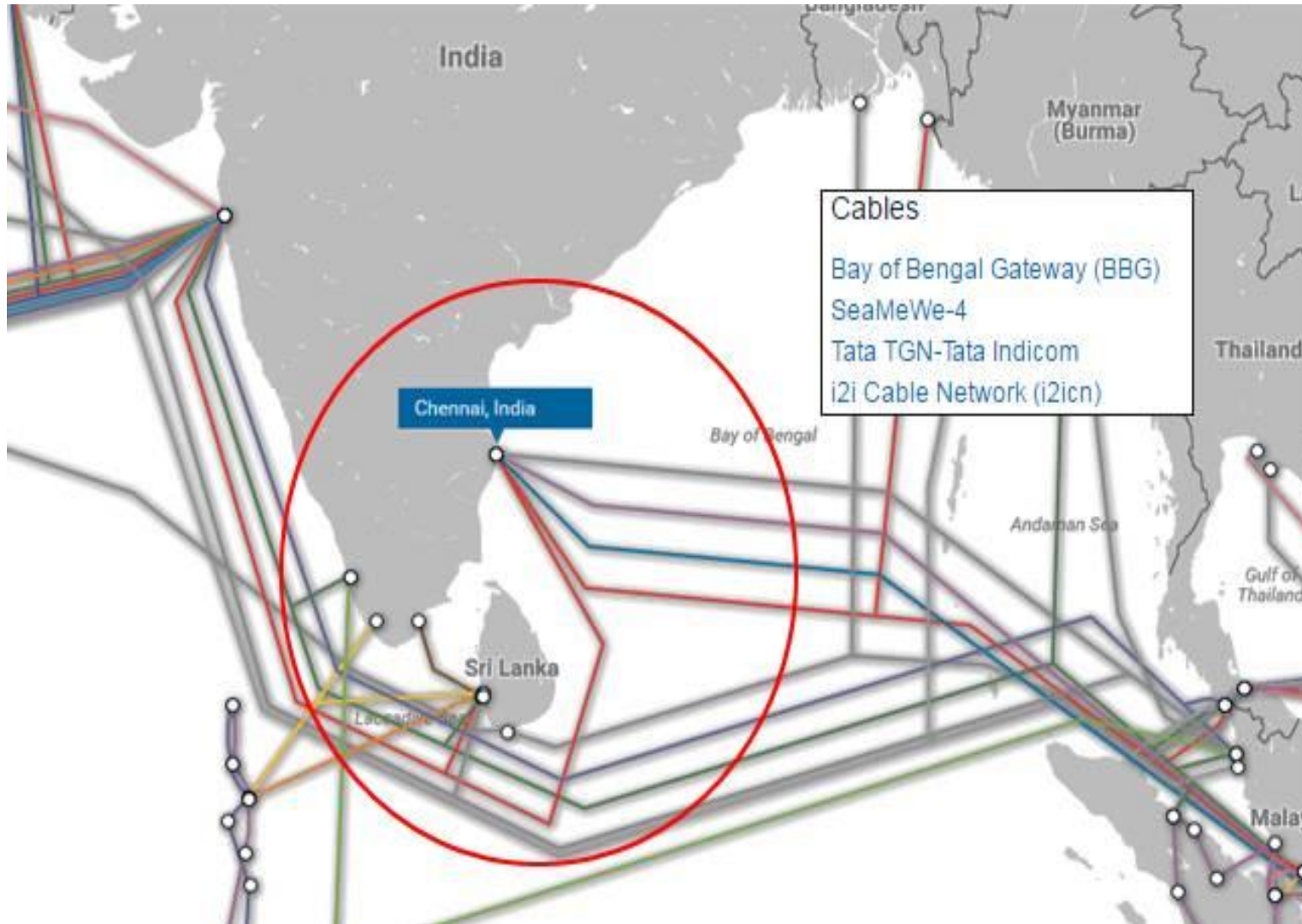
State is implementing the Green Energy Corridor Project with the assistance of KfW at an estimated cost of USD 247.25 billion

The 'Tamil Nadu Transmission System Improvement Project' is being implemented at a cost of USD 771.38 million with the assistance of JICA for upgrading the transmission capacity of the state

Kamuthi solar plant, one of the largest solar power plants in the world, consists of 2.5 million individual solar modules, that can produce 648 MW of electricity

Tamil Nadu is amongst the top 9 markets globally in renewable power generation

# IT & Communications infrastructure



**3 submarine cables of 14.8 Tbps connecting Chennai to International countries**

## **Submarine cable 1:**

**seaMEWe-4 - length 20,000 km -**  
Carriers of Telecom between :  
Singapore, Malaysia, Thailand,  
Bangladesh, Italy, India, Sri Lanka,  
Pakistan, United Arab Emirates,  
Saudi Arabia, Sudan, Egypt,  
Tunisia, Algeria and France

## **Submarine Cable 2:**

**TIC (Tata Indicom Cable)** Length-3,175  
km : Carriers of Telecom between  
India (Chennai) and Singapore.

## **Submarine Cable 3:**

**i2i** : Length-3,200 km : Carriers of  
Telecom between India (Chennai)  
and Singapore

# Industrial infrastructure – Chennai - Kanyakumari Industrial Corridor



**CKIC funded by ADB covers 23 out of 32 districts**

Phase 1 has two nodes covering 10,650 hectares; Land acquisition – 1,478 acre (Madurai), 2540 acre (Virudhunagar), 537 acre (Ramanathapuram) & 1,179 acre (Thoothukudi) is in progress

**Madurai-Virudhunagar-Dindigul-Theni node**

- 8,232 acres to be developed
- Investments to be made: USD 7.91 billion

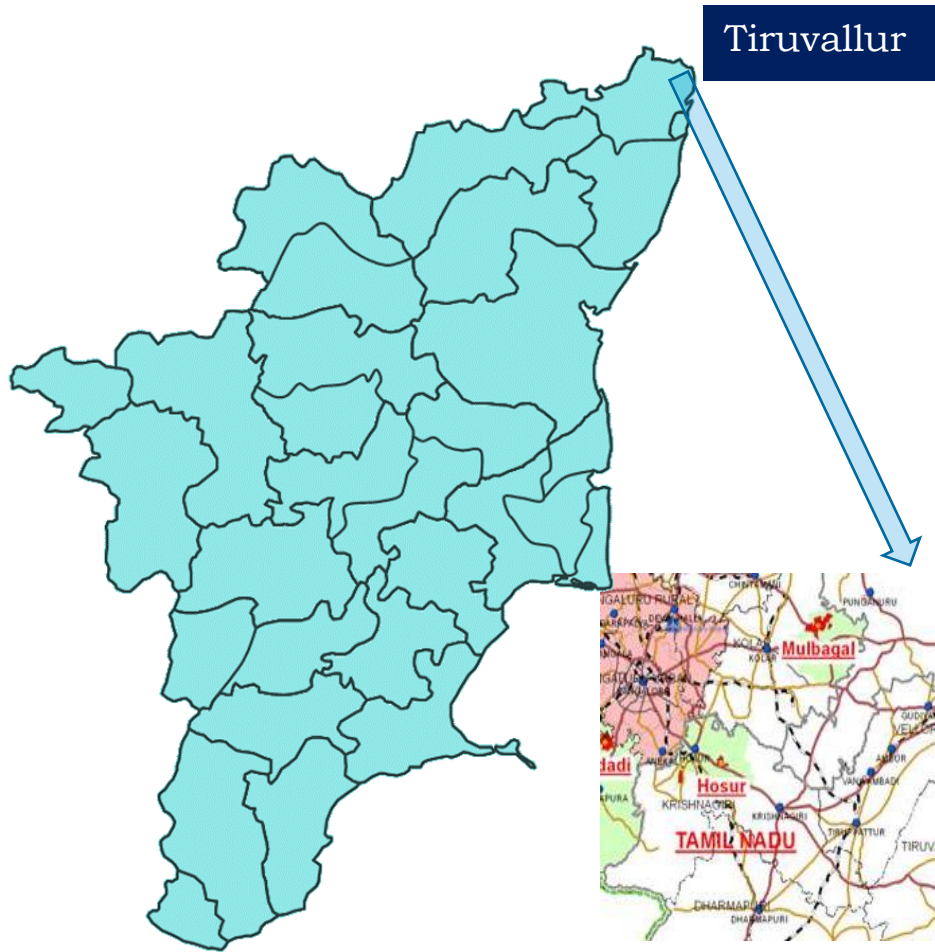
**Tuticorin-Tirunelveli node**

- 11,248 acres to be developed
- Investments to be made: USD 6.22 billion

**Phase 2: Four more nodes are planned**

**Proposed investment in industrial corridors  
~USD 19.5 billion**

# Industrial infrastructure – Chennai Bangalore Industrial Corridor

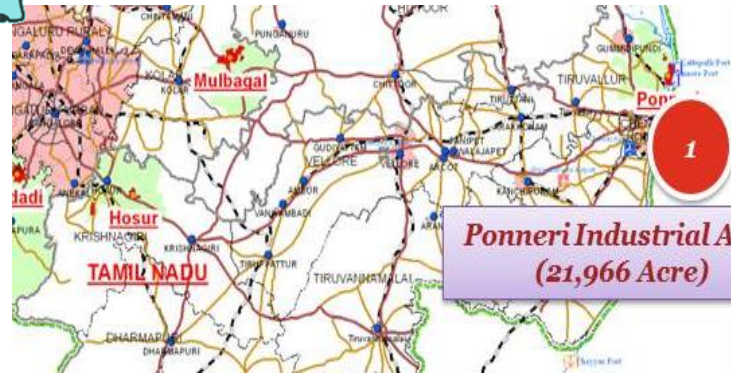


Tiruvallur

1

**CBIC – Ponneri Industrial node lies in Tiruvallur district of Tamil Nadu**

**CBIC – funded by Japan International Cooperation Agency (JICA) has envisaged an investment of USD 5,452 million for Ponneri node**



**Ponneri Industrial Area  
(21,966 Acre)**

**Ponneri Industrial node, a National Investment Manufacturing Zone (NIMZ) is to be developed under 21,996 acres of land with an investment of INR 32,713 crore (USD 5.03 billion) in three phases**



# Industrial land infrastructure overview - SIPCOT

10

Developed Industrial Complexes

- Ranipet
- Hosur
- Manamadurai
- Pudukottai
- Cuddalore
- Gummidipoondi
- Thoothukodi
- Bargur
- Nilakotai
- Cheyyur

8

Developed Industrial Parks

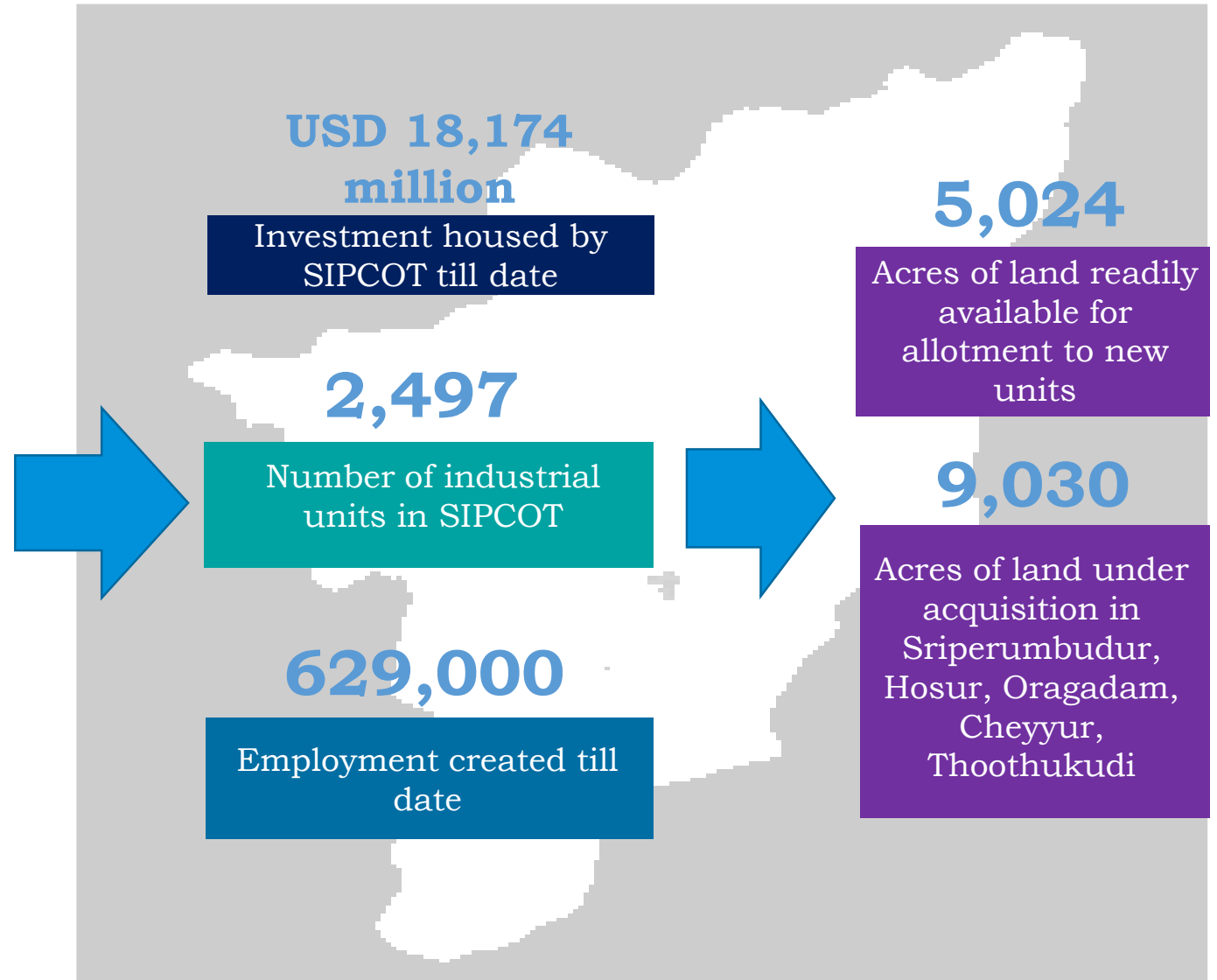
- Irungattukottai
- Sriperumbudur
- Siruseri
- Pillaipakkam
- Thervoykandaigai
- Mappedu
- Vallam Vadagal
- Gurubarapalli

7

No of sector SEZs developed in 31,829 acres of 12 districts

3

Industrial Growth Centers – Perundurai, Oragadam, Gangai Kondan



# Industrial Park infrastructure: TIDCO's upcoming projects (1/2)

## Polymer Industries park in Tiruvallur District

Park to be developed in Ponneri taluk to accommodate 84 plastic manufacturing units at a cost of INR 264 crore (USD 40.62 million)



## Medi Park project in Kancheepuram District

Medical devices and equipment zone, Bioinformatics & R&D zone to be developed in 330 acres of land at INR 170 crore (USD 26.15 million)

## TICEL Bio park III in Coimbatore District

Park to be developed in Anna University campus at an estimated cost of INR 55 Crore (USD 8.46 million)



# Industrial Park infrastructure: TIDCO's upcoming projects (2/2)

## LNG import terminal project in Tiruvallur district

- Import terminal with capacity of 5 MT/year.
- 9 mn cu. m/day to be supplied to industrial establishments

## National Investment Manufacturing Zone

- 5,458 hectares National Investment Manufacturing Zone (NIMZ) in Ramanathapuram is to be established

## Multimodal Logistics Park

358 acre park near Kamarajar and Kattupalli Port is planned

## Aerospace Park

- To be developed in 245 acres in Vallam-Vadagal at an estimated project cost of USD 53.8 Million
- Catering to MRO sector/Avionics
- Expected to attract USD 153.8 million of investment in a period of 5 years

## Special Investment Region (SIR)

- TIDCO along with GMR is establishing SIR along with TIDCO in 2,101 acres in Krishnagiri. Telecom, Automotive & Consumer electronics, IT Hardware, Medical Electronics, LED Lightning, Solar PV, Strategic Electronics, Electronics manufacturing industries are target sectors

# **Specific Investment Opportunities**

# Investment opportunities

Roads	<ul style="list-style-type: none"><li>• Construction of new roads through TOT (Toll-Operate-Transfer) and BOT (Build-Operate-Transfer) modes</li><li>• Maintenance of existing roads</li><li>• Intelligent Transport Systems</li><li>• Highways (Construction and O&amp;M)</li><li>• Restoration or re-construction of existing bridges</li></ul>
Airports	<ul style="list-style-type: none"><li>• Development of greenfield airports</li><li>• Modernization &amp; restructuring of existing airports</li><li>• Development of MRO facility</li></ul>
Ports	<ul style="list-style-type: none"><li>• Development of brownfield ports &amp; greenfield ports</li><li>• Restructuring or redeveloping of existing terminals</li><li>• Establish a world-class Maritime University with state-of-the-art infrastructure for maritime research</li></ul>

# Investment Promotion Facilitators - Key Contacts

**TN Industrial Guidance and Export Promotion Bureau**  
19-A, Rukmani Lakshmiopathy Road,  
Egmore, Chennai-600 008  
Phone: 91-44-2855 3118  
Website: [www.investingintamilnadu.com](http://www.investingintamilnadu.com)

**Tamil Nadu Industrial Development Corporation Limited (TIDCO)**  
19-A, Rukmini Lakshmiopathy Road,  
Egmore, Chennai-600 008  
Phone: 91-44-2855 4421  
E-mail: [cmd.tidco@nic.in](mailto:cmd.tidco@nic.in)  
Website: [www.tidco.com](http://www.tidco.com)

**State Industries Promotion Corporation of Tamil Nadu (SIPCOT)**  
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**Tamil Nadu Small Industries Development Corporation (TANSIDCO)**  
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Chennai - 600 032  
Phone: 91-44-2250 1461, 2250 1422, 2250 0185, E-mail:  
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Website: [www.sidco.tn.nic.in](http://www.sidco.tn.nic.in)

**Thank you**