

Wind Profile of Telangana



Telangana State Profile

Telangana became the 29th state of India on 2nd June 2014. Its geographical spread of 1,14,840 Sq Km consists of the ten north-western districts of Andhra Pradesh with Hyderabad as its capital. The city of Hyderabad will continue to serve as the joint capital for Andhra Pradesh and the successor state of Telangana for a period of ten years. Telangana is centrally located in Deccan Plateau where lots of undulations, hillocks, rivers, rivulets, streams etc are found. Telangana lies between 16° 30' and 18° 20'N, of northern latitudes and 77° 30' and 79° 30'E, of the eastern longitudes.

Telangana, India elevation is 256 meters height, that is equal to 840 feet. It is a semi-arid zone and has a predominantly hot and dry climate. The areas covered by the Deccan Plateau are characterized by hot summers with relatively mild winters. Summer starts in March, and reaches peak in May with average high temperatures of 42°C range. The monsoons enter into the State in June and lasts until September with about 700 mm of precipitation. A dry, mild winter starts in late November and lasts until early February with little humidity and average temperatures in the range of 22–23°C. The State is also prone to hailstorms in the month of April and May, occasionally. The average rainfall of the State is about 905 mm and about 80% of annual rainfall is received from the south-west monsoons alone during (June to September). The State has two major perennial rivers viz. Godavari and Krishna with several other rivers of lesser significance.

The per capita power consumption in Telangana State has shot up by 59.3 per cent to 1,727 units as against 1,084 units during 2013-14. Telangana has emerged No. 1 in power front with 13.62% growth in power consumption. Telangana is offering round the clock, 24 hour free power supply to the agriculture sector and various other consumer categories, including industries.

In undivided Telangana and Andhra Pradesh New and Renewable Energy Development Corporation of A.P. Ltd (NREDCAP), the Nodal Agency in A.P. has taken up wind mapping and wind monitoring projects with the support of MNRE, Govt. of India, Delhi and C-WET, Chennai to identify windy sites. Telangana is one of the States in the country having windy sites suitable for setting up of wind power projects.

The Per Capita Power Consumption in Telangana: 1,727 Units

Total Consumption in 2016-17: 53,017 million units

Total Consumption in 2017-18: 60,237 million units.

Telangana has the first place in the country in power consumption and per capita power consumption and recorded 13.62% annual growth rate in power consumption, for the year 2017-18.

Wind Power Installable Potential as per Wind Atlas 2015 by NIWE

Wind Potential @100m Hub Height	Rank I	Rank II	Rank III	Total
Type of Land \Rightarrow	Waste Land	Cultivable Land	Forest Land	
Potential in MW	887	3348	9	4244

Rank I	Waste Land	NRSC Level –II Classification Values	12, 13, 15, 19
Rank II	Cultivable Land	NRSC Level –II Classification Values	2, 3, 4, 5, 6, 10, 18
Rank III	Forest Land	NRSC Level –II Classification Values	7, 8, 9

Wind Monitoring Stations Established in the State as on 31.03.2017: 19

Number of Stations having $WPD \geq 200 \text{ W/m}^2$: 2

The highest $WPD \geq$ of 236 W/m^2 is at Chinnakolumulapalli.

Wind Power Installed capacity as on 30th June 2019 : 128.10MW

Installed Capacity (n MW) of Power Utilities in Telangana Including Allocated Shares In Joint & Central Sector Utilities

Sl. No.	Category	Installations
1	Coal	8228.80
2	Lignite	149.27
3	Gas	831.82
4	Diesel	0.00
5	Nuclear	148.73
6	Hydro	2479.93
7	Renewable Energy Sources	3994.37
	Grand Total	15832.92

Installed Capacity of Grid Interactive Renewable Power as on 30.06.2019

Sl. No.	Energy Source	Capacity in MW
1	Small Hydro Power	90.87
2	Wind Power	128.10
3	Bio Power	
	BM Power/Bagasse Cogen. (Grid Interactive)	158.10
	BM Cogen. (Non-Bagasse/Captive Power)	1.00
	Waste to Energy	18.50
	Bio Power Total	177.60
4	Solar power	
	Ground Mounted	3530.29
	Roof Top	90.46
	Solar Total	3620.75
	Total Capacity	4017.32

Wind Speed Potential in Various Districts of State of Telangana

(Data Source: NIWE, Chennai)				Expected CUF (%) as per CERC Norms
Sl No	District	Mast Height	WPD at Mast Height	
1	Nalgonda	100	268.65	24%
2	Rangareddy	100	239.11	24%
3	Nizamabad	100	233.26	24%
4	Medak	80	230.60	24%
5	Warangal	100	208.39	22%

Normatives Parameter Adopted for Determination of Tariff

Telangana Electricity Regulatory Commission Wind Order Dated 6th October, 2018

Tariff Component	
Capital Cost - Rs. Crs/MW	5.75
CUF	27.50%
O&M expenses/ MW	Rs. 6.00 Lakhs
Escalation on O&M	5.72%
Debt-Equity Ratio	70:30
Useful Life	25 Years
Return on Equity (pre-tax)	17.60%
Loan Tenure	13 Years
Interest on Loan	10.25%
Depreciation	5.28% for first 13 years; with remaining depreciation spread equally over the balance years of the useful life
Working Capital Components	1-month O&M and 2 months receivables and maintenance spares @ 15% of O&M expenses
Interest on Working Capital	11.25%
Discount Factor	9.29%
Levelling Tariff (Rs./Unit)	3.61

State Energy Agencies and Addresses

Telangana State Electricity Regulatory Commission,

#11-4-660, 5th Floor, Singareni Bhawan, Red Hills, Hyderabad – 500004
EPABX Nos. 040- 2331112 5, 26, 27, 28. Fax: 040-233 97489.

Telangana State Load Dispatch Centre

Room No: 611, A Block, TSTRANSCO, Vidyut Soudha, Khairatabad, Hyderabad- 500 082.
Email : cesldctelangana@gmail.com Ph. : 040-23317645

Telangana State Renewable Energy Development Corporation Ltd., - (TSREDCO)

(A State Government Company)

Registered Office Cum Corporate Office: D.No. 6-2-910, Visvesvaraya Bhavan,
The Institution of Engineers Building, Khairatabad, Hyderabad - 500 004 Telangana, India

Southern Regional Load Dispatch Centre

29, Race Course Cross Road, Bangalore-560009,
FAX: 080-22259219,22252612, TEL.:080-22254525, 22351146, 22352850
Telephone: 040 - 2320 1502, 2320 1503FAX: 040 - 2320 150

Telangana State Power Generation Corporation Limited

Address: 6-3-643, Vidyuth Soudha, Khairatabad, Hyderabad, Telangana 500082,

Telangana State Power Generation Corporation Limited

Kalyan Nagar, GTS colony, Hyderabad, Telangana 500045, Telangana, India.
Phone: 040 2349 9106,

Transmission Corporation of Telangana Limited

Vidyut Soudha : Hyderabad-500 082 : Telangana State, India

Phone No.040-23396000 Fax : 040-23320565

Southern Power Distribution Company of Telangana Ltd.

(A Govt. of Telangana Undertaking),

(Formerly Central Power Distribution Company of A.P. Ltd.)

Corporate Office : # 6-1-50, Mint Compound, Hyderabad-500 063, (Telangana, India)

Email: customerservice@tssouthernpower.com

Northern Power Distribution Company Of Telangana Limited

(A Govt. of Telangana Undertaking)

Corporate Office: H.No: 2-5-31/2, , Vidyut Bhavan, Nakkalgutta, Hanamkonda,

Warangal-506001, Telangana

Fax No : 0870 - 2453387



RPO Compliance Report of Telangana State for FY 2017-18 -1

Total Energy Consumed, (MU)	Solar RPO Obligation, (%)	Solar RPO Obligation, (MU)	Non Solar RPO Obligation, (%)	Non Solar RPO Obligation, (Mu)	Total Obligation, (%)	Total Obligation, (MU)	Actual Compliance Of Solar RPO, (%)
1	2	3	4	5	6	7	8
60267	4.75	2862.7	9.5	5725.4	14.25	8588	6.66

RPO Compliance Report for FY 2017-18 -Continued

Actual Compliance Of Solar RPO, (MU)	Actual Compliance Of Non Solar RPO (%)	Actual Compliance Of Non Solar RPO, (MU)	Total Compliance, (%)	Total Compliance (MU)	Category
9	10	11	12	13	14
4013.8	1.03	618.5	7.69	4632.3	53.96%

