

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 3969
TO BE ANSWERED ON 12.12.2019

WIND SPEED FOR POWER GENERATION

3969. SHRI Y. DEVENDRAPPA

Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether the Government has taken any measures to locate more places where the range of wind speed is conducive for power generation;

(b) if so, the details thereof;

(c) whether the Government has taken any steps to prescribe number of windmills that can be established on a piece of land to avoid excess windmills being installed on a particular piece of land; and

(d) if so, the details thereof and if not, the reasons therefor?

ANSWER

THE MINISTER OF STATE (I/C) FOR NEW & RENEWABLE ENERGY, POWER and MoS for SKILL DEVELOPMENT AND ENTREPRENEURSHIP

(SHRI R.K. SINGH)

(a) & (b) The Government through National Institute of Wind Energy has estimated gross wind power potential of the country as 302 GW and 695 GW at 100 meter and 120 meter above ground level, respectively. The major regions for the development of new commercial scale wind power projects have been found in the states of Andhra Pradesh, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Tamil Nadu. The state wise wind power potential is given at **Annexure-I**. Further, the National Institute of Wind Energy has installed wind monitoring stations to carry out ground measurements across the country to identify new potential locations including unexplored regions such as Himalayan and North Eastern regions.

(c) & (d) The Government has issued 'Guidelines for Development of Onshore Wind Power Projects' dated 22.10.2016, wherein the following criteria for micrositing of wind turbines have been prescribed:

- i. Developer(s) shall optimise the wind turbine locations within their land using appropriate wind flow modelling and optimisation tools (linear and Non-linear)/techniques subject to site assessment as per IEC 61400-1 standard for turbine safety considering extreme wind, flow inclination, vertical wind shear, and turbulence with added wake effects and corrections for terrain complexity, etc.
- ii. Developer(s) shall maintain a distance of $2 \times D$ (D-Rotor Diameter) distance perpendicular to the predominant wind direction and $3 \times D$ distance in the predominant wind direction from the boundary line of each adjoining land of other developer(s) with appropriate offset.
- iii. Developer(s) shall maintain a wake loss (in terms of energy) of 10% between wind turbines with appropriate offset for wind turbines sited on a foot print basis.
- iv. Developer(s) shall maintain a distance of $HH + 0.5 RD + 5m$ (Hub Height+ Half Rotor Diameter +5 meters) from Public Roads, railway tracks, highways, buildings, public institutions and EHV lines.
- v. Developer(s) shall not site wind turbines within 500 meter of any dwelling for the mitigation of noise.

ANNEXURE-I

Annexure-I referred to in reply to parts (a) & (b) of the Lok Sabha Unstarred Question No. 3969 for 12.12.2019

Statewise wind power potential of the country at 100 meter and 120 meter, above ground level

S. No.	State	Wind Power Potential at 100 mtr agl (GW)	Wind Power Potential at 120 mtr agl (GW)
1	Andhra Pradesh	44.23	74.90
2	Gujarat	84.43	142.56
3	Karnataka	55.86	124.15
4	Madhya Pradesh	10.48	15.40
5	Maharashtra	45.39	98.21
6	Rajasthan	18.77	127.75
7	Tamil Nadu	33.80	68.75
	Other States	9.29	43.78
	Total	302.25	695.50