1	2	3
23.	Rajasthan (BDTC, CTAE Udaipur)	2975
24.	Sikkim (SREDA), Gangtok	800
25.	Tamil Nadu (Directorate of Rural Development and PR) Chennai	3050
26.	Telangana	19800
27.	Tripura (TREDA)	1750
28.	Uttar Pradesh, RDD Lucknow, UP	8950
29.	Uttarakhand-UREDA, Dehradun and Rural Dev	4110
30.	West Bengal (WBREDA) Kolkata	12000
31.	KVIC, Mumbai*	48460
	TOTAL	462000

*KVIC annual targets distributed in the States.

Potential of solar energy in Karnataka

2307. SHRI BASAWARAJ PATIL: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) the potential area for solar energy in Karnataka, district-wise;

(b) the support by the Central and State Governments for best utilization of natural resources; and

(c) the schemes adopted by the State Government to best utilize the solar energy in those districts?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) Karnataka is blessed with good solar radiation resource. As such solar energy could be generated in all districts of Karnataka. The district-wise, taluk-wise solar radiation data is furnished in Annexure. The Karnataka Renewable Energy Development Limited (KREDL) is nodal agency for development of Renewable Energy (RE) generation in Karnataka. Total solar potential of Karnataka is 25 GW as assessed by National Institute of Solar Energy (NISE).

(b) The support by the Central and State Governments for best utilization of solar resources is as follows:

Support by Central Government:

1. Excise and custom duty exemptions for equipment to develop solar projects.

2. 10 year income tax holiday to solar power developers.
3. Solar parks to be set up to jump start solar power projects by providing readily available land and power evacuation and transmission infrastructure to solar power developers for setting up solar power plants.
4. Central Financial Assistance for grid connected solar photovoltaic roof-top plants for households and decentralized off-grid solar photovoltaic applications.
5. Roof-top Solar PV systems are made eligible for home loans.
6. Assistance in form of Viability Gap Funding (VGF) and bundling of solar power with low cost thermal power.
7. Award of Priority Sector status to Renewable Energy Sector for lending upto certain limit.
8. Issuance of tax free green bonds of ₹ 5,000 crore.
9. Waiver of wheeling charges on Inter-State Transmission System (ISTS).

Support by Karnataka State Government:

1. Reimbursement of stamp duty and registration fee as per industrial policy of Government of Karnataka is available for solar projects.
2. Solar inverters and solar panels are exempt from Value Added Tax (VAT).
3. Deemed conversion of lands for Non-Agricultural (NA) use for the lands purchased under section 109 of land reforms act.
4. No wheeling, banking and cross subsidy charges (intra State)
5. Net metering with tariff at ₹ 7.20/kWh with subsidy and ₹ 9.56/kWh without subsidy for net export of energy with respect to rooftop solar project.

(c) Allotment and development of solar projects is governed by solar policy 2014-21 of Government of Karnataka. There is no provision in solar policy for district-wise allotments of projects.

Projects are allotted under following segments:

A. Utility scale solar projects
   (a) Projects under land owning farmers category with aggregate capacity of 300MW. Applications received through online and projects allotted on first come first serve basis after evaluation and PPA also signed.
   (b) Projects to be allotted through competitive bidding process. Bidding was conducted in four phases and projects of 700 MW capacity were allotted.
   (c) Projects are also allotted under Renewable Energy Certificate (REC) mechanism.

(d) The projects allotted under captive generation.

(e) Projects under independent power producers.

(f) Projects under bundled power.

B. Grid connected solar rooftop projects and off-grid projects.

(a) Solar policy proposes achieving minimum target of 1600 MW capacity utility scale projects and 400 MW capacity projects on rooftop.

Statement

Taluk level solar radiation values in the State of Karnataka

District	Taluka	Annual average Global Horizontal lrradiance (GHI) (kWh/m^2)	Annual average Direct Normal lrradiance (DNI) (kWh/m^2)
1	2	3	4
Bagalkot	Bagalkot	5.83	5.31
	Jamkhandi	5.88	5.39
	Mudhol	5.88	5.40
	Badami	5.91	5.52
	Bilgi	5.90	5.46
	Hungund	5.83	5.38
Bangalore Rural	Doddaballapur	5.88	5.43
	Devanahalli	5.90	5.45
	Hoskote	5.87	5.39
	Nelamangala	5.94	5.55
Bangalore Urban	Anekal	5.92	5.48
Belgaum	Athani	5.78	5.24
	Bailhongal	5.79	5.44
	Belgaum	5.70	5.35
	Chikodi	5.86	5.45
	Gokak	5.85	5.42
	Hukeri	5.85	5.46
	Khanaour	5.73	5.44
	Raybag	5.87	5.46

1	2	3	4
	Ramdurg	5.89	5.51
	Saundatti	5.84	5.44
Uttar Kannada	Karwar	5.76	5.55
	Sirsi	5.71	5.39
	Joida	5.69	5.50
	Bhatkal	5.70	5.35
	Kumta	5.67	5.36
	Ankola	5.69	5.41
	Haliyal	5.78	5.44
	Honnavar	5.75	5.49
	Mundgod	5.79	5.41
	Siddapura	5.67	5.42
	Yellaoura	5.73	5.42
Udupi	Udupi	5.72	5.35
	Karkala	5.52	4.95
	Kundaoura	5.45	4.93
Yadgir	Shahour	5.90	5.42
	Shoraour	5.95	5.48
	Yadgir	5.89	5.41
Bellary	Bellary	5.92	5.41
	Hospet	5.95	5.52
	Kampli	5.88	5.34
	Hoovina Hadagali	5.89	5.46
	Kudligi	5.88	5.41
	Sanduru	5.76	5.19
	Siraguppa	5.92	5.40
	Hagari Bommanahalli	5.90	5.41
Bidar	Bidar	5.73	5.22
	Basavakalvan	5.77	5.21

1	2	3	4
	Bhalki	5.71	5.16
	Humnabad	5.76	5.26
	Aurad	5.74	5.22
Bijapur	Bilapur	5.86	5.38
	Indi	5.87	5.36
	Muddebihal	5.92	5.44
	Sindagi	5.88	5.38
	Basavana Bagevadi	5.82	5.26
Chamrajanagar	Chamarajanagar	5.88	5.51
	Gundluoet	5.86	5.46
	Kollegal	5.92	5.52
	Yelandur	5.86	5.45
Chikkaballapur	Chikkaballaour	5.89	5.48
	Chintamani	5.92	5.55
	Gauribidanur	5.88	5.43
	Sidlaghatta	5.89	5.46
	Bagepalli	5.95	5.61
	Gudibanda	5.96	5.64
Chikmagalur	Chikmagalur	5.55	5.14
	Kadur	5.87	5.48
	Koppa	5.51	5.06
	Mudiger	5.51	5.06
	Narasimharaiaoura	5.68	5.26
	Shringeri	5.51	5.06
	Terikere	5.86	5.46
Chitradurga	Chitradurga	5.89	5.45
	Challakere	6.02	5.68
	Hirivur	5.90	5.45
	Holalkere	5.86	5.41
	Hosadurga	5.91	5.50
	Molakalmuru	5.93	5.56

1	2	3	4
Dakshina Kannada	Mangalore	5.77	5.33
	Puttur	5.61	5.18
	Bantwal	5.62	5.13
	Belthangady	5.57	5.09
	Sullia	5.60	5.14
Davangere	Davangere	5.90	5.51
	Harihar	5.88	5.47
	Channagiri	5.85	5.44
	Harpanahalli	5.90	5.49
	Honnali	5.86	5.43
	Jagalur	5.89	5.44
Dharwad	Dharwad	5.81	5.43
	HubIi	5.83	5.47
	Kalghatgi	5.81	5.44
	Kundgol	5.82	5.38
	Navalgund	5.83	5.40
Gadag	Gadag-Betageri	5.90	5.51
	Nargund	5.84	5.42
	Mundargi	5.90	5.45
	Ron	5.85	5.42
	Shirahatti	5.85	5.40
Gulbarga	Gulbarga	5.79	5.28
	Aland	5.78	5.24
	Sedam	5.76	5.20
	Afzalpur	5.80	5.25
	Chincholi	5.69	5.10
	Chitapur	5.79	5.23
	Jevargi	5.82	5.28
Hassan	Hassan	5.80	5.38
	Arsikere	5.83	5.42
	Channarayapattana	5.81	5.33

1	2	3	4
	Holenarasipura	5.87	5.41
	Sakleshpur	5.54	5.14
	Alur	5.67	5.24
	Arkalgud	5.76	5.31
	Belur	5.74	5.39
Haveri	Haveri	5.86	5.45
	Ranebennuru	5.89	5.48
	Byadgi	5.89	5.51
	Hangal	5.85	5.49
	Savanur	5.87	5.47
	Hirekerur	5.85	5.50
	Shiggaon	5.84	5.44
Kodagu	Madikeri	5.41	4.87
	Somwarpet	5.51	5.05
	Virajpet	5.52	5.01
Kolar	Kolar	5.91	5.50
	Bangarapet	5.87	5.38
	Malur	5.89	5.41
	Mulbagal	5.92	5.54
	Srinivaspur	5.86	5.43
Koppal	Koppal	5.88	5.36
	Gangavathi	5.95	5.45
	Kushtagi	5.95	5.49
	Yelbarga	5.89	5.42
Mandya	Mandya	5.97	5.54
	Maddur	5.97	5.55
	Malavalli	5.97	5.59
	Srirangalpatna	5.98	5.55
	Krishnarajpet	5.86	5.36
	Nagamangala	5.92	5.48

1	2	3	4
	Pandavapura	5.93	5.48
Mysore	Mysore	5.94	5.48
	Hunsur	5.81	5.33
	Krishnarajanagar	5.91	5.48
	Nanjangud	5.96	5.54
	Heggadadevana kote	5.83	5.37
	Piriyapatna	5.76	5.27
	Tirumakudalu Narasipura	5.98	5.59
Ramanagara	Ramanagara	5.90	5.40
	Magadi	5.87	5.39
	Kanakaoura	5.88	5.40
	Channapatna	5.90	5.40
Raichur	Raichur	5.92	5.43
	Manvi	5.94	5.47
	Sindhanur	5.92	5.39
	Devadurga	5.92	5.42
	Lingsur	5.91	5.38
Shimoga	Shimoga	5.84	5.44
	Sagara	5.70	5.29
	Bhadravathi	5.77	5.36
	Hosanagara	5.85	5.44
	Shikarinura	5.81	5.42
	Soraba	5.77	5.41
	Thirthahalli	5.61	5.12
Tumkur	Tumkur	5.86	5.43
	Chikkanava kana Halli	5.85	5.40
	Kunigal	5.87	5.41
	Madhugiri	5.96	5.49
	Sira	5.97	5.60

1	2	3	4
	Tiotur	5.86	5.40
	Gubbi	5.87	5.42
	Koratagere	5.94	5.55
	Pavagada	5.99	5.60
	Turuvekere	5.91	5.48

Tapping of wind energy

2308. SHRIMATI JAYA BACHCHAN: Will the Minister of NEW AND RENEWABLE ENERGY be pleased to state:

(a) whether Government has taken any initiatives to tap wind energy as source of power generation;

(b) if so, the details of such initiatives and if not, the reasons therefor;

(c) the details of the present status of Wind Power Generation; and

(d) the details of targets, achievements and budget spent on these schemes during the last five years?

THE MINISTER OF STATE OF THE MINISTRY OF NEW AND RENEWABLE ENERGY (SHRI PIYUSH GOYAL): (a) Yes, Sir.

(b) The Government is promoting wind power projects through private sector investment by providing fiscal and promotional incentives such as Accelerated Depreciation benefit, concessional custom duty on certain components of wind electric generators, excise duty exemption to manufacturers. 10 years tax holiday on income generated from wind power projects is also available. A Generation Based Incentive (GBI) is available for the projects not availing Accelerated Depreciation benefit, under which ₹ 0.50/unit generated is provided with a ceiling of ₹ 1.00 crore per MW. Loans for installing wind power projects are available from Indian Renewable Energy Development Agency (IREDA) and other Financial Institutions. Technical support including wind resource assessment and identification of potential sites is provided by the National Institute of Wind Energy (NIWE, erstwhile C-WET), Chennai. States with wind potential also provide preferential tariffs.

(c) A total of 23,763 MW of wind power has been established in the country, the State-wise break-up is given in the Statement-I (*See* below).

(d) The details of targets, achievements and budget spent during the last 5 years is given in the Statement-II.