

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 742
TO BE ANSWERED ON 06.02.2020

POTENTIAL OF RENEWABLE ENERGY IN RURAL AREAS

742.SHRI DEVUSINH JESINGHBHAI CHAUHAN

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

- (a) whether there is huge potential of new and renewable energy sources utility in the rural areas of the country;
- (b) if so, the details thereof;
- (c) whether the Government has formulated any plan/ programme to bring rural and backward areas of the country under new and renewable energy programme;
- (d) if so, the details along with the status thereof;
- (e) whether the Government proposes to formulate any specific plan for the State of Gujarat; and
- (f) if so, the details thereof?

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 details of estimated renewable energy potential identified for various renewable energy sources in the country including rural areas are given in **Annexure I**.

(c) & (d) All the renewable energy programmes of the Ministry of New and Renewable Energy (MNRE) are being implemented in the country including in rural and backward areas. The details of major schemes/programmes being implemented by MNRE are given in **Annexure-II**.

The state-wise details of the renewable energy projects implemented in the country including rural and backward areas under Grid Interactive and Off-Grid/ Distributed and Decentralized Renewable RE programme are given in the **Annexure-III and IV** respectively.

(e)&(f) The Government of Gujarat is planned to take the Renewable Energy capacity upto 40% in the State by the year 2022. To achieve this, the Government of Gujarat is implementing Solar Power Policy 2015, Wind Power Policy 2016 and Waste to Energy Policy 2016 in the State.

The state Govt. is considering to set up large RE Parks for both Wind and Solar power projects. Also MNRE alongwith Government of Gujarat is considering solarisation of Sun-Temple town of Modhera in Mehsana District.

Annexure-I referred to in reply to parts (a & b) of Lok Sabha Unstarred Question No. 742 for 6/2/2020 regarding 'Potential of Renewable Energy in Rural Areas'**“Source and State-wise details of estimated potential of Renewable Energy in MW”**

Sl. No.	STATES / Uts	Wind Power	Small Hydro Power	Bio-Energy			Solar	Total
				Biomass Power	Bagasse Cogeneration	Waste To Energy		
		(MW) @ 100m	(MW)	(MW)	(MW)	(MW)	(MW)	(MW)
1	Andhra Pradesh	44229	409.32	578	300	123	38440	84079
2	Arunachal Pradesh		2064.92	8			8650	10723
3	Assam		201.99	212		8	13760	14182
4	Bihar		526.98	619	300	73	11200	12719
5	Chhatisgarh	77	1098.20	236		24	18270	19705
6	Goa	1	4.70	26			880	911
7	Gujarat	84431	201.97	1221	350	112	35770	122086
8	Haryana		107.40	1333	350	24	4560	6374
9	Himachal Pradesh		3460.34	142		2	33840	37444
10	Jammu & Kashmir		1707.45	43			111050	112800
11	Jharkhand		227.96	90		10	18180	18508
12	Karnataka	55857	3726.49	1131	450		24700	85864
13	Kerala	1700	647.15	1044		36	6110	9538
14	Madhya Pradesh	10484	820.44	1364		78	61660	74406
15	Maharashtra	45394	786.46	1887	1250	287	64320	113925
16	Manipur		99.95	13		2	10630	10745
17	Meghalaya		230.05	11		2	5860	6103
18	Mizoram		168.90	1		2	9090	9261
19	Nagaland		182.18	10			7290	7482
20	Orissa	3093	286.22	246		22	25780	29428
21	Punjab		578.28	3172	300	45	2810	6905
22	Rajasthan	18770	51.67	1039		62	142310	162233
23	Sikkim		266.64	2			4940	5209
24	Tamil Nadu	33800	604.46	1070	450	151	17670	53745
25	Telangana	4244	102.25				20410	24756
26	Tripura		46.86	3		2	2080	2131
27	Uttar Pradesh		460.75	1617	1250	176	22830	26333
28	Uttarakhand		1664.31	24		5	16800	18493
29	West Bengal	2	392.06	396		148	6260	7198
30	Andaman & Nicobar	8	7.27				0	15
31	Chandigarh					6	0	6
32	Dadar & Nagar Haveli						0	0
33	Daman & Diu						0	0
34	Delhi					131	2050	2181
35	Lakshwadeep	8					0	8
36	Pondicherry	153				3	0	156
37	Others					1022	790	1812
	Total	302251	21133.62	17536	5000	2554	748990	1097465

Annexure-II referred to in reply to parts (c & d) of Lok Sabha UNstarred Question No. 742 for 6/2/2020 regarding 'Potential of Renewable Energy in Rural Areas'

Details of the Renewable Energy Schemes / Programmes

1. Grid Interactive Power:

- **Wind Power:** Grid Interactive Wind Power projects.
- **Bio-power:** Biomass power/ Cogeneration and waste to energy programme.
- **Small Hydro Power:** Small hydro power plants up to 25 MW capacity.
- **Solar Power:** Grid-interactive –Solar power generation plants, Solar Roof Top programme, CPSU scheme Ph II.
- **Green Energy Corridors:** transmission Infrastructure for evacuation of Power from Renewable Energy Sources.

2. Off-Grid/ Distributed and Decentralized Renewable Power:

- **Solar Power** -To promote the solar devices such as Solar Lighting Systems, Solar Power Packs and Concentrated Solar Technology systems, **PM- KUSUM** which encourage farmers to generate solar power, Atal Jyoti Yojna (AJAY).
- **Biogas Programme:** setting up of Family Type biogas plants for cooking/ lighting/ manure/ small scale power generation
- **Solar Thermal Systems:** deployment of decentralized solar thermal systems/ devices (mainly solar cookers / driers for cooking, drying farm produce) under National Solar Mission.

**Annexure-III referred to in reply to parts (c & d) of Lok Sabha Unstarred Question No. 742 for
6/2/2020 regarding 'Potential of Renewable Energy in Rural Areas'
Source-wise and State-wise installed capacity of Grid Interactive Renewable Power including
Rural Areas of the country (As on 31.12.2019).**

S. No.	States/Uts	Small Hydro Power	Wind Power	Bio Power	Solar Power	Total
						(MW)
1	Andhra Pradesh	162.11	4092.45	500.34	3559.02	8313.92
2	Arunachal Pradesh	131.105			5.61	136.72
3	Assam	34.11			41.23	75.34
4	Bihar	70.70		121.20	149.35	341.25
5	Chhatisgarh	76.00		230.50	231.35	537.85
6	Goa	0.05			4.78	4.83
7	Gujarat	62.35	7359.22	77.30	2763.55	10262.42
8	Haryana	73.50		205.66	249.27	528.43
9	Himachal Pradesh	906.51		7.20	32.57	946.28
10	Jammu & Kashmir	180.48			19.30	199.78
11	Jharkhand	4.05		4.30	38.40	46.75
12	Karnataka	1280.73	4753.40	1882.80	7274.93	15191.86
13	Kerala	222.02	62.50	0.72	141.75	426.99
14	Madhya Pradesh	95.91	2519.890	120.75	2237.49	4974.04
15	Maharashtra	379.575	5000.33	2528.69	1663.42	9572.02
16	Manipur	5.45			4.58	10.03
17	Meghalaya	32.53		13.80	0.12	46.45
18	Mizoram	36.47			1.52	37.99
19	Nagaland	30.67			1.00	31.67
20	Odisha	64.625		59.22	397.84	521.69
21	Punjab	173.55		327.85	947.10	1448.50
22	Rajasthan	23.85	4299.72	121.30	4844.21	9289.08
23	Sikkim	52.11			0.07	52.18
24	Tamil Nadu	123.05	9285.27	1003.95	3788.36	14200.63
25	Telangana	90.87	128.10	177.60	3620.75	4017.32
26	Tripura	16.01			9.41	25.42
27	Uttar Pradesh	25.10		2115.51	1045.10	3185.71
28	Uttarakhand	214.320		130.50	315.49	660.31
29	West Bengal	98.50		319.92	109.41	527.83
30	Andaman & Nicobar	5.25			12.19	17.44
31	Chandigarh				36.99	36.99
32	Dadar & Nagar Haveli				5.46	5.46
33	Daman & Diu				16.56	16.56
34	Delhi			52.00	156.12	208.12
35	Lakshwadeep				0.75	0.75
36	Pondicherry				5.51	5.51
37	Others		4.30			4.30
	Total (MW)	4671.557	37505.18	10001.11	33730.56	85908.41

Annexure-IV

Annexure-IV referred to in reply to parts (c & d) of Lok Sabha Unstarred Question No. 742 for 6/2/2020 regarding 'Potential of Renewable Energy in Rural Areas'

State-wise progress under Off-Grid/ Distributed and Decentralized Renewable Power including Rural Areas of the country (As on 31.12.2019).

S. No.	STATES / UT	Waste to Energy	Street Lighting System	Home Lighting System	Solar Lanterns	Solar Photovoltaic (SPV) Systems	PP	Pumps
		(MW)					(kWp)	(Nos)
1	Andhra Pradesh	25.205	8992	22972	77803	109767	3816	34045
2	Arunachal Pradesh		5008	35065	18551	58624	963	22
3	Assam		9554	46879	642996	699429	1605	45
4	Bihar	1	34468	12303	1725478	1772249	6770	2813
5	Chhatisgarh	0.33	2042	42232	3311	47585	31250	61970
6	Goa		707	393	1093	2193	33	15
7	Gujarat	19.245	3267	9253	31603	44123	13577	11522
8	Haryana	4.885	34625	56727	93853	185205	2321	1293
9	Himachal Pradesh	1	78000	22592	33909	134501	1906	6
10	Jammu & Kashmir		14156	144316	51224	209696	8130	39
11	Jharkhand		12286	9450	790515	812251	3770	4670
12	Karnataka	13.622	2694	52638	7781	63113	7754	7420
13	Kerala	0.23	1735	41912	54367	98014	15825	818
14	Madhya Pradesh	2.501	11496	7920	529101	548517	3654	17813
15	Maharashtra	31.042	10420	3497	239297	253214	3858	9337
16	Manipur		11205	24583	9058	44846	1581	40
17	Meghalaya		5800	14874	40750	61424	2004	19
18	Mizoram		5325	12060	10512	27897	2956	37
19	Nagaland		6235	1045	6766	14046	1506	3
20	Orissa		17111	5274	99843	122228	568	9551
21	Punjab	7.455	42758	8626	17495	68879	2066	4413
22	Rajasthan	3.833	7114	187968	225851	420933	30349	48175
23	Sikkim		504	15059	23300	38863	850	0
24	Tamil Nadu	16.568	39419	296505	16818	352742	12753	5459
25	Telangana	4.092	1958	0	0	1958	7450	424
26	Tripura		1199	32723	64282	98204	867	151
27	Uttar Pradesh	50.235	264179	235909	2284425	2784513	10638	20546
28	Uttarakhand	8.72	25168	91595	163386	280149	3145	26
29	West Bengal	1.167	8726	145332	17662	171720	1730	653
30	Andaman & Nicobar		390	468	6296	7154	167	5
31	Chandigarh		898	275	1675	2848	730	12
32	Dadar & Nagar Haveli		0	0	0	0	0	0
33	Daman & Diu		0	0	0	0	0	0
34	Delhi		301	0	4807	5108	1269	90
35	Lakshwadeep		2465	600	5289	8354	2190	0
36	Puducherry		417	25	1637	2079	121	21
37	Others*		9150	140273	125797	275220	23885	4621
	Total	191.13	679772	1721343	7426531	9827646	212054	246074