

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 2818
TO BE ANSWERED ON 05.12.2019
RENEWABLE ENERGY PROJECTS

2818. SHRI A.K.P. CHINRAJ
SHRI SHRIRANG APPA BARNE

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

- (a) whether it is true that most of renewable energy projects in the country are being implemented by the private sector developers selected through a transparent bidding process and if so, the details thereof;
- (b) whether the developers are encouraged to deploy most advanced technologies to tap maximum energy and if so, the details thereof;
- (c) the details of funds allocated by the Government in the form of Central Financial Assistance for the implementation of various renewable energy programmes/ schemes during the last three years;
- (d) whether the Government has conducted any study on various new and renewable energy projects launched with the foreign assistance during the last three years and the current year and if so, the details thereof; and
- (e) the other steps taken by the Government to tap maximum energy?

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) Yes Sir. Most of renewable energy projects in the country are being implemented by the private sector developers selected through transparent bidding process. The Government has issued standard bidding guidelines to enable the distribution licensees to procure power at competitive rates in cost effective manner. In order to be competitive, developers are encouraged to deploy most advanced technologies in these projects to tap maximum energy.

(c) The details of funds allocated and released in the form of central financial assistance for the implementation of various renewable energy programmes / schemes during last three years are given in **Annexure-I**.

(d) Studies conducted by National Institute of Wind Energy (NIWE) with foreign assistance during last three years and current year are given in **Annexure-II**.

(e) The steps taken by the Government to increase deployment of renewable energy in the country, inter alia, include :-

- Announcement of a target of installing 175 GW of renewable energy capacity by the year, 2022;
- Permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route.
- Waiver of Inter State Transmission System (ISTS) charges and losses for inter-state sale of solar and wind power for projects to be commissioned up to December, 2022.
- Notification of standard bidding guidelines to enable distribution licensee to procure solar and wind power at competitive rates in cost effective manner.
- Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2022.
- Implementation of Green Energy Corridor project to facilitate grid integration of large scale renewable energy capacity addition.
- Launching of New Schemes, such as, PM-KUSUM, solar rooftop phase II, 12000 MW CPSU scheme Phase II.

Annexure referred to in reply to part (c) of Lok Sabha Un-starred Question No. 2818 for 5/12/2019

regarding 'Renewable Energy Projects'

Details of funds allocated and released in the form of Central Financial Assistance for the implementation of various renewable energy programmes / schemes during last three years

Year 2016-17										
(in crores)										
Sl. No.	Detail of Minor Head	Head of Account	BE		RE		NER	RE +NER		Total 2016-17
			Plan	Non-Plan	Plan	Non-Plan		Plan	Non-Plan	
1	101-Grid Interactive and Distributed Renewable Power	01-Grid Interactive Renewable Power								
		Wind Power	365.00		488.95			488.95		488.95
		Hydro Power-OAE	0.50		0.50			0.50		0.50
		Hydro power-GIA	4.40		4.40			4.40		4.40
		Hydro power-subsidy	80.00		80.00		26.67	106.67		107.01
		Hydro power-GCCA	0.10		0.10			0.10		0.10
		Bio Power	30.00		17.00			17.00		16.29
		Solar Power	90.00		35.00			35.00		22.15
		Solar Power-GCCA	2048.00		1969.50		15.52	1985.02		1970.17
		Green Energy Corridors	0.00		0.00			0.00		0.00
		Green Energy-GCCA	500.00		200.00			200.00		200.00
		Advertising and publicity	4.00		13.10			13.10		11.38
		GIA	1.00		2.00			2.00		1.32
		DREA-GIA	2.00		2.00			2.00		1.96
		Energy Storage-OAE	0.10		0.10			0.10		0.00
		Energy Storage- GIA	2.90		0.00		0.00	0.00		0.00
		Energy Storage-GCCA	13.00		0.00			0.00		0.00
		Externally Aided Projects-OAE	1.15		1.15			1.15		0.00
		professional Services	0.50		0.50			0.50		0.00
		Externally Aided Projects-GIA	37.30		37.30			37.30		0.00
		Othor Charges	0.05		0.05			0.05		0.00
			3180.00	0.00	2851.65	0.00	42.19	2893.84	0.00	2824.23
		02-Off-Grid/Distributed and Decentralized Renewable Power								
		Wind Power-GIA	0.10		0.10			0.10		0.00
		Wind Power-Subsidy	5.00		4.00			4.00		2.38
		Wind Power-GCCA	0.10		0.10			0.10		0.00
		Hydro Power-GIA	9.00		9.00			9.00		8.99
		Hydro power-GCCA	1.00		1.00			1.00		1.00
		Bio Power-GIA	0.50		0.50			0.50		0.36
		Bio Power-GCCA	29.50		25.50			25.50		14.32
		Solar Power-OAE	1.00		1.00			1.00		0.14
		professional Services	1.00		1.00			1.00		1.01
		Solar power-GIA	9.00		9.00			9.00		8.37
		Solar power-Subs	15.00		10.00			10.00		8.79
		Solar Power-GCCA	267.00		267.00		112.78	379.78		367.03
		RVE-GIA	1.00		1.00			1.00		1.00
		RVE-GCCA	6.00		6.00			6.00		9.18
		Biogas Programme-OAE	0.50		0.50			0.50		0.08
		Professional Services	0.50		0.50			0.50		0.09
		Biogas Programme-GIA	11.75		16.75		0.00	16.75		15.98
		Biogas Programme-GCCA	42.25		47.25		6.03	53.28		48.37
		Othor Including cookstoves-GIA	6.00		6.00			6.00		0.00
		Subsidy	2.00		1.50			1.50		0.55
		OREA-GIA	0.10		0.00			0.00		0.00
		OREA-OAE	14.70		4.80			4.80		4.25

		Externally Aided Projects-OAE	0.85		0.85			0.85		0.85
		Professional Services	2.00		2.00			2.00		1.95
		GIA	3.00		3.00			3.00		3.00
		Othor Charges	0.15		0.15			0.15		0.15
		Energy Storage -GIA	2.00		0.00			0.00		0.00
			431.00	0.00	418.50	0.00	118.81	537.31	0.00	497.84
		Total-Grid Interactive and Distributed Renewable Power	3611.00	0.00	3270.15	0.00	161.00	3431.15	0.00	3322.07
2		Nort Eastern Areas (Major Head)								
		Hydro Power - Subsidy	27.00		27.00		-26.67	0.33		0.00
		Solar Power-GCCA	212.00		212.00		-15.52	196.48		0.00
			239.00	0.00	239.00	0.00	-42.19	196.81	0.00	0.00
		Solar Power - GCCA	200.00		134.20		-	21.42		0.00
						112.78				
		Wind Power -GIA	0.30		0.30			0.30		0.00
		Wind Power-GCCA	1.50		1.50			1.50		0.00
		Remote Village Electrification(RVE)-GIA	1.00		1.00			1.00		0.00
		RVE -GCCA	19.00		19.00			19.00		0.00
		Biogas Programme-GIA	1.00		1.00		-0.28	0.72		0.00
		Biogas Programme -GCCA	26.00		14.00		-8.55	5.45		0.00
		Othor including cookstoves-GIA	3.00		3.00			3.00		0.00
		Othor Rrenewable Energy Application-GIA	5.20		0.00			0.00		0.00
			257.00	0.00	174.00	0.00	-	52.39	0.00	0.00
							121.61			
			496.00	0.00	413.00	0.00	-	249.20	0.00	0.00
							163.80			
3		GIA to State Government (Major Head)								
		Biogas Programme - GIA	5.00		0.00			0.00		0.00
		Biogas Programme-GCCA	35.00		0.00			0.00		0.00
		Biogas Programme - GIA	1.50		0.00			0.00		0.00
		Biogas Programme - GCCA	3.50		0.00			0.00		0.00
			45.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
4	104- Research,Design and Development in RE	04-Research development and international corporation (Sub-Head)								
		Bio-Energy-OAE	0.20		0.20			0.20		0.00
		Bio Energy- GIA	2.30		2.30			2.30		1.60
		Bio Energy- GCCA	5.50		4.50			4.50		2.66
		Solar Energy-GIA	54.00		35.00			35.00		27.25
		Solar Energy-GCCA	36.00		25.00			25.00		22.21
		Small Hydro Power-GIA	2.00		2.00			2.00		1.70
		Small Hydro Power-GCCA	1.00		1.00			1.00		1.00
		New Technologies-OAE	0.10		0.10			0.10		0.04
		GIA	10.00		2.90			2.90		1.83
		New Technologies-GIA	0.00		0.00			0.00		0.00
		New Technologies GCCA	9.90		12.25			12.25		1.76
		Wind Energy-GIA	1.20		0.70			0.70		0.23
		Wind Energy-GCCA	1.80		1.30			1.30		0.53
		International Relations-OAE	1.00		1.00			1.00		0.01
		International Relations-GIA	219.00		129.00			129.00		121.68
		International Relations-Contributions		1.60		1.60			1.60	0.00
		HRD and Training-OAE	0.20		0.20			0.20		0.16
		HRD and Training-GIA	35.00		39.20			39.20		39.20
		HRD and Training-Scholarship/stipend	10.00		3.50			3.50		2.78
		HRD and Training-GCCA	4.80		0.60			0.60		0.60

		<i>Deduct Recovery</i>								0.00
		<i>Net Plan</i>	5000.00	1.60	4307.00	16.60	0.00	4307.00	16.60	3881.93
7	Secretariat (NON-PLAN)	Eco Services (NON-PLAN)	0.00	34.19	0.00	36.53		0.00	36.53	34.43
		Grand Total	5000.00	35.79	4307.00	53.13	0.00	4307.00	53.13	3916.36

Year 2017-18										
Sl. No.	Detail of Minor Head	Head of Account	BE	RE	Reappropriation	RE+NER	Total 2017-18			
			Plan							
1	101-Grid Interactive and Distributed Renewable Power	01-Grid Interactive Renewable Power								
		Wind Power	400.00	750.00	0.00	750.00	750.00			
		Hydro Power-OAE	0.50	0.22		0.22	0.22			
		Hydro power-GIA	5.00	2.00		2.00	2.04			
		Hydro power-subsidy	75.00	62.78	28.99	91.77	102.78			
		Bio Power	33.00	21.50		21.50	13.29			
		Solar Power	98.00	6.00		6.00	5.31			
		Solar Power-GCCA	2161.00	950.10	20.02	970.12	970.02			
		Green Energy-GCCA	500.00	500.00		500.00	499.98			
		Externally Aided Projects-OAE	1.15	0.10		0.10	0.10			
		professional Services	0.50	0.10		0.10	0.10			
		Externally Aided Projects-GIA	37.30	0.20		0.20	0.20			
		Othor Charges	0.05	0.10		0.10	0.05			
		interest payments bonds	280.00	128.00		128.00	126.45			
			3591.50	2421.10	49.01	2470.11	2470.54			
		02-Off-Grid/Distributed and Decentralized Renewable Power								
		Wind Power-GIA	0.25	0.15		0.15	0.14			
		Wind Power-Subsidy	5.50	4.25		4.25	4.25			
		Wind Power-GCCA	0.25	0.00		0.00	0.00			
		Hydro Power-GIA	11.90	6.00		6.00	6.39			
		Hydro power-GCCA	1.10	0.00		0.00	0.00			
		Bio Power-GIA	0.50	0.50		0.50	0.27			
		Bio Power-GCCA	42.50	19.50		19.50	12.95			
		Solar Power-OAE	1.00	1.00		1.00	0.63			
		professional Services	1.00	1.00		1.00	0.95			
		Solar power-GIA	8.00	2.00		2.00	1.99			
		Solar power-Subs	15.00	12.00		12.00	11.77			
		Solar Power-GCCA	407.00	614.00	84.79	698.79	710.22			
		Biogas Programme-GIA	11.00	11.00		11.00	8.46			
		Biogas Programme-GCCA	35.00	38.50	3.41	41.91	46.66			
		OREA-GIA	0.20	0.20		0.20	0.00			
		OREA-OAE	13.50	4.30		4.30	3.78			
		GIA-SUBSIDY	0.50	0.50		0.50	0.00			
		Externally Aided Projects-OAE	0.85	0.85		0.85	0.85			
		Professional Services	2.00	2.00		2.00	1.97			
		GIA	3.00	3.00		3.00	3.00			
		Othor Charges	0.15	0.15		0.15	0.15			
			560.20	720.90	88.20	809.10	814.43			
		Total-Grid Interactive and Distributed Renewable Power	4151.70	3142.00	137.21	3279.21	3284.97			
2		Nort Eastern Areas (Major Head)								
		Hydro Power - Subsidy	29.00	40.00	-28.99	11.01	0.00			
		Solar Power-GCCA	360.00	134.00	-20.02	113.98	0.00			
			389.00	174.00	-49.01	124.99	0.00			
		Solar Power - GCCA	100.00	190.00	-84.79	105.21	0.00			
		Wind Power -GIA	0.60	0.10		0.10	0.00			
		Wind Power-GCCA	1.40	0.40		0.40	0.00			
		Biogas Programme-GIA	4.00	2.00		2.00	0.00			
		Biogas Programme -GCCA	30.00	27.50	-3.41	24.09	0.00			
			136.00	220.00	-88.20	131.80	0.00			

			525.00	394.00	-137.21	256.79	0.00
		05 Autonomous Bodies					
		National Institute of Wind Energy-GIA	9.00	7.00		7.00	7.00
		National Institute of Wind Energy-GCCA	16.00	16.00		16.00	16.00
		National Institute of Bio Energy-GIA	5.00	0.50		0.50	0.50
		National Institute of Bio Energy-GCCA	2.00	0.50		0.50	0.50
		National Institute of Bio Energy -GIA-Salary	1.00	1.00		1.00	0.00
		National Institute of Solar Energy -GIA	6.00	6.00		6.00	6.00
		National Institute of Solar Energy -GCCA	10.50	10.50		10.50	5.82
		National Institute of Solar Energy -GIA-salaries	3.50	3.50		3.50	2.82
		R&D ACTIVITIES-OAE	0.55	0.55		0.55	0.05
		R&D ACTIVITIES-GIA	78.90	35.45		35.45	29.79
		GCCA	64.55	45.00		45.00	43.08
			197.00	126.00	0.00	126.00	111.56
		SUPPORTING PROGRAMMES (SUB HEAD)-OAE	0.10	0.00		0.00	0.00
		Professional services	13.00	0.00		0.00	0.00
		GIA	1.90	0.00		0.00	0.00
		e-governance supply &materials	0.09	0.09		0.09	0.06
		GIA	0.01	0.01		0.01	0.00
		Information education advertising & publicity	13.00	13.00		13.00	13.00
		GIA	7.00	2.00		2.00	0.67
		International Relations-OAE	2.00	0.50		0.50	0.12
		Int.Relations-GIA	73.00	19.50		19.50	15.37
		Contributions	1.60	1.60		1.60	1.13
		HRD&Training-OAE	0.20	0.20		0.20	0.19
		GIA	55.00	55.00		55.00	40.12
		Scholarship	10.00	10.00		10.00	3.12
		GCCA	4.80	4.80		4.80	0.00
		New & Innovative Projects-GIA	12.00	3.00		3.00	0.00
			2.90	1.90		1.90	0.00
			196.60	111.60	0.00	111.60	73.78
			393.60	237.60	0.00	237.60	185.34
5		789 Special component Plan for Scheduled Castes					
		Solar Power - GIA	3.00	1.00		1.00	0.03
		Solar Power - GCCA	135.00	135.00		135.00	134.92
		Biogas Programme -GIA	10.00	3.00		3.00	1.54
		Biogas Programme-GCCA	36.00	4.00		4.00	3.05
			184.00	143.00	0.00	143.00	139.54
		796 Tribal Area Sub Plan (Minor Head) Off-Grid/Distributed and Decentralized Renewable power(Sub Head					
		Solar power-GIA	2.00	1.00		1.00	0.09
		Solar Power-GCCA	28.00	28.00		28.00	28.00
		Biogas Programme-GCCA	8.00	8.00		8.00	7.99
		GRID Interactive Renewable power(hydro power)-subsidy	12.00	9.00		9.00	8.98
		Solar power-GIA	2.00	1.00		1.00	0.00
		Solar power-GCCA	40.00	26.00		26.00	26.00
			92.00	73.00	0.00	73.00	71.06
			276.00	216.00	0.00	216.00	210.60
6	190- Investment	Solar Energy Corporation	50.00	50.00		50.00	50.00

	in Public Sector and Other Undertakings	of India - Investments					
		Office Building	40.00	1.00		1.00	1.00
			90.00	51.00	0.00	51.00	51.00
		GRAND TOTAL (PLAN)	5436.30	4040.60	0.00	4040.60	3731.91
		<i>Deduct Recovery</i>					
		Net Plan	5436.30	4040.60	0.00	4040.60	3731.91
7	Secretariat (NON-PLAN)	Eco Services (NON-PLAN)	36.54	39.40	0.00	39.40	36.82
		GRAND TOTAL	5472.84	4080.00	0.00	4080.00	3768.73

Year 2018-19							
Sl. No.	Detail of Minor Head	Head of Account	BE	RE	RE-APPROPRIATION	Total (RE + re-appro)	Total 2018-19
			Plan				
1	101-Grid Interactive and Distributed Renewable Power	01-Grid Interactive Renewable Power					
		Wind Power-subsidy	750.00	950.00		950.00	950.00
		Hydro Power-OAE	0.50	0.30		0.30	0.29
		Hydro power-GIA	4.50	2.50		2.50	0.03
		Hydro power-subsidy	52.00	62.90	14.53	77.43	76.43
		Bio Power	25.00	8.50		8.50	6.83
		Solar Power	25.24	7.24		7.24	7.24
		Solar Power-GCCA	1784.00	1834.00		1834.00	1834.51
		Green Energy-GCCA	600.00	500.00		500.00	500.00
		Energy Storage-OAE	0.01	0.00		0.00	
		Externally Aided Projects-OAE	0.75	0.75		0.75	0.00
		professional Services	0.40	0.40		0.40	0.00
		Externally Aided Projects-GIA	6.00	6.00		6.00	0.00
		Othor Charges	0.10	0.10		0.10	0.00
		interest payments bonds-GIA	128.00	124.45		124.45	124.38
			3376.50	3497.14	14.53	3511.67	3499.71
		02-Off-Grid/Distributed and Decentralized Renewable Power					
		Wind Power-GIA	0.21	0.25		0.25	0.25
		Wind Power-Subsidy	5.00	2.23		2.23	1.34
		Wind Power-GCCA	0.22	0.00		0.00	0.00
		Hydro Power-GIA	1.00	0.30		0.30	0.30
		Hydro Power-subsidy	10.00	2.00		2.00	0.62
		Hydro power-GCCA	0.50	0.50		0.50	0.00
		Bio Power-GIA	1.00	1.00		1.00	0.10
		Bio Power-GCCA	22.00	38.50		38.50	3.24
		Solar Power-OAE	1.00	1.00		1.00	0.00
		professional Services	1.00	1.00		1.00	0.37
		Solar power-GIA	4.00	4.00		4.00	2.53
		Solar power-Subs	8.00	8.00		8.00	7.06
		Solar Power-GCCA	370.00	370.00	67.93	437.93	433.47
		Biogas Programme-GIA	11.00	6.00	1.65	7.65	6.07
		Biogas Programme-GCCA	38.00	30.00	1.12	31.12	25.93
		OREA-GIA	0.20	0.20		0.20	0.00
		OREA-OAE	10.50	2.50		2.50	0.11
		GIA-SUBSIDY	0.30	0.00		0.00	0.00
		Energy Storage-GCCA	0.01	0.00		0.00	0.00
		Energy Storage-OAE	0.01	0.00		0.00	0.00
			483.95	467.48	70.70	538.18	481.39
		Total-Grid Interactive and Distributed Renewable Power	3860.45	3964.62	85.23	4049.85	3981.10
2		Nort Eastern Areas (Major					

		Head)					
		Hydro Power - Subsidy	90.00	90.00	-14.53	75.47	0.00
		Solar Power-GCCA	172.50	252.50		252.50	0.00
			262.50	342.50		327.97	0.00
		Solar Power - GCCA	220.00	140.00	-67.93	72.07	0.00
		Wind Power -GIA	0.60	0.60		0.60	0.00
		Wind Power-GCCA	1.40	1.40		1.40	0.00
		Wind Power-GIA	0.01	0.01		0.01	
		Biogas Programme-GIA	5.00	5.00	-1.65	3.35	0.00
		Biogas Programme -GCCA	15.00	15.00	-1.12	13.88	0.00
		OIK-GIA	0.01	0.01		0.01	
		OREA-GIA	0.01	0.01		0.01	
			242.03	162.03	-85.23	91.33	0.00
			504.53	504.53	-85.23	419.30	0.00
		05 Autonomous Bodies					
		Energy Storage-OAE	0.01	0.00		0.00	0.00
		New & Innovative Projects-GIA	0.01	0.00		0.00	0.00
		National Institute of Wind Energy-GIA	5.00	0.00		0.00	0.00
		National Institute of Wind Energy-GCCA	15.00	0.00		0.00	0.00
		National Institute of Bio Energy-GIA	1.00	1.00		1.00	0.00
		National Institute of Bio Energy-GCCA	1.00	1.00		1.00	0.00
		National Institute of Bio Energy -GIA-Salary	1.00	1.00		1.00	1.00
		National Institute of Solar Energy -GIA	5.00	5.00		5.00	5.00
		National Institute of Solar Energy -GCCA	9.50	9.50		9.50	9.50
		National Institute of Solar Energy -GIA-salaries	3.50	3.50		3.50	3.50
		R&D ACTIVITIES-OAE	0.55	0.25		0.25	0.01
		R&D ACTIVITIES-GIA	48.90	29.45	-0.85	28.60	12.93
		GCCA	44.55	13.30		13.30	12.50
			135.02	64.00	-0.85	63.15	44.44
		SUPPORTING PROGRAMMES (SUB HEAD)-OAE	0.10	0.03		0.03	0.00
		Professional services	0.10	0.10		0.10	0.07
		GIA	0.10	0.02		0.02	0.00
		e-governance supply &materials	0.09	0.25		0.25	0.11
		GIA	0.01	0.00		0.00	0.00
		Information education advertising & publicity	13.00	9.00		9.00	3.78
		GIA	2.00	1.00		1.00	0.08
		Int.Relations-GIA	55.00	25.00		25.00	22.87
		Contributions	1.60	1.60		1.60	1.20
		HRD&Training-OAE	0.20	0.20		0.20	0.08
		GIA	49.00	56.80		56.80	56.14
		Scholarship	6.00	1.50		1.50	1.16
		GCCA	4.80	1.50		1.50	0.00
		New & Innovative Projects-GIA	0.10	0.01		0.01	0.00
			0.10	0.01		0.01	0.00
			132.20	97.02		97.02	85.49
			267.22	161.02	-0.85	160.17	129.93
5		789 Special component Plan for Scheduled Castes					
		Solar Power - GIA	2.00	2.00		2.00	0.14
		Solar Power - GCCA	175.00	203.00		203.00	115.55
		Biogas Programme -GIA	17.00	5.00		5.00	1.64
		Biogas Programme-GCCA	23.00	7.00		7.00	4.67
			217.00	217.00		217.00	122.00
		796 Tribal Area Sub Plan (Minor Head) Off-Grid/Distributed and Decentralized Renewable power(Sub Head					

		Solar power-GIA	2.00	2.00		2.00	1.75
		Solar Power-GCCA	65.50	81.50		81.50	60.02
		Biogas Programme-GCCA	26.00	10.00		10.00	4.40
		GRID Interactive Renewable power(hydro power)-subsidy	60.00	60.00		60.00	60.00
		Solar power-GIA	1.50	1.50		1.50	0.00
		Solar power-GCCA	62.00	62.00		62.00	62.01
			217.00	217.00	0.00	217.00	188.18
			434.00	434.00	0.00	434.00	310.18
6	190- Investment in Public Sector and Other Undertakings	Solar Energy Corporation of India - Investments					0.00
		Office Building	40.40	40.40		40.40	17.39
			40.40	40.40	0.00	40.40	17.39
		GRAND TOTAL (PLAN)	5106.6	5104.6	-0.9	5103.7	4438.6
		<i>Deduct Recovery</i>					
		<i>Net Plan</i>	5106.6	5104.6	-0.9	5103.7	4438.6
7	Secretariat (NON- PLAN)	Eco Services (NON-PLAN)	40.03	42.06	0.85	42.91	37.60
		GRAND TOTAL	5146.63	5146.63	0.00	5146.63	4476.20

Annexure-II

**Annexure referred to in reply to part (d) of Lok Sabha Un-starred Question No. 2818 for 5/12/2019
regarding 'Renewable Energy Projects'**

Details of studies carried out through foreign assistance by National Institute of Wind Energy(NIWE)

1. NIWE has conducted offshore wind resource assessment at Gulf of Khambhat off Gujarat Coast as knowledge partner of the FOWIND Consortium led by Global Wind Energy Council (GWEC) funded by European Union. The LiDAR equipment was supplied by C-STEP (consortium partner) and the monopile structure was funded by Govt. of India. The project was commissioned during November 2017 and one year measurements have been completed and second year measurements are underway. This will facilitate the offshore wind energy development in the country.
2. Collaboration project under Indo German Energy Programme- Green Energy Corridors project was under taken by NIWE for developing indigenous solar power forecasting models since April, 2017. This project was undertaken with technical assistance from GIZ, Germany with technical partners consisting of Overspeed GmbH, University of Oldenburg, Suntrace GmbH and M/s SGS weather and environmental systems, New Delhi. Under this project, an indigenous solar power forecasting model for India is developed and the models are in the process of validation. NIWE has set up Centre of Excellence for Variable Generation Forecasting and these models are under validation and expected to set up operational solar power forecasting system soon.