GOVERNMENT OF INDIA MINISTRY OF NEW AND RENEWABLE ENERGY

LOK SABHA

UNSTARRED QUESTION NO. 2429

TO BE ANSWERED ON 05.03.2020

R&D IN THE FIELD OF RENEWABLE ENERGY

2429. SHRI G.M. SIDDESHWAR

Will the Minister of New & Renewable Energy be pleased to state:

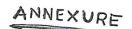
- (a) the status of the country in terms of Research and Development (R&D) in the field of renewable energy globally;
- (b) whether the Government has signed any agreement with the national and international institution/countries for promoting research;
- (c) and if so, the details thereof during the last three years and current year;
- (d) the details of potential development in the said sector; and
- (e) the manner in which Indian R&D can be compared with other countries of the world?

ANSWER

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

(SHRI R.K. SINGH)

- (a) The research & development in the field of renewable energy in the country is being carried out at various research institutes/ universities/ laboratories and industries. The research projects for technology development and demonstration in various areas of new and renewable energy such as solar thermal systems, solar photovoltaic systems, biogas systems, waste to energy systems, wind energy systems, hybrid systems, storage systems, hydrogen and fuels cells, geothermal, etc. are taken up with the ultimate aim of increasing share of renewables in the energy mix of the country.
- (b) & (c) The details of the Agreements/ MoUs signed during last three years and which, inter alia, relate to research are given in ANNEXURE.
- (d) The research in areas of renewable energy like solar manufacturing, thermal storage systems, solar reflector materials, hydrogen storage materials, energy storage, wind turbine components & sub systems, RE forecasting etc. is being carried out with the overall objective of improving efficiency, reducing prices and developing new technologies
- (e) The research in renewable energy is also being carried out in various Indian research institutions /Universities/laboratories/ industries in cutting edge technologies such as pervoskites solar cell, hydrogen fuel cells, organic solar cells, a-Si solar cells RE forecasting. Thus it can be said that research in the country is not lagging when compared to other countries in the world.



MEMORANDUM OF UNDERSTANDINGS (MoUs)/AGREEMENTS

SIGNED WITH FOREIGN COUNTRIES/INSTITUTES/ORGANISATIONs IN LAST THREE YEARS

SI no	Country	Ministry/department	Year of signing and
			location
1.	Bahrain	MoU between Ministry of New and R enewable Energy of the Republic of I ndia and the Ministry of Electricity and Water Authority of the Kingdom of Bahrain	Signed on 15th July 2018 At Manama
2.	Denmark	MoU between NIWE and Denmark Tech nical University	mber, 2018 At New Delhi
3.	Denmark	Cooperation Agreement between Ministry of New and Renewable Energy of the R epublic of India and Ministry for Energy, Utilities and Climate of the Kingdom of Denmark on Strategic Sector Cooperation in the field of Renewable Energy with a focus on Offshore Wind Energy	Signed on 6 th March 2019 At New Delhi
4.	Fiji	MoU between MoU between Ministry of New and Renewable Energy and the Ministry of Infrastructure and Transport, Fiji	Signed On 24 th May,
5.	France	MoU between National Institute of So lar Energy (NISE) and Commissariat a I'Energie Atomique et aux Energies Alternatives (CEA), the National Solar Energy Institute (INES), France	Signed on 10 th March , 2018 At New Del hi
6.	France	MoU between the Solar Energy Corporati on of India Limited Government of the R epublic of India and The Agence Francai se De Development, French Public entity governed by French Law.	Signed On 3 rd Octob
7.	France	MoU between the Solar Energy Corporati on of India Limited (SECI), a Central Pu blic Sector Undertaking of Government of the Republic of India; Commissariat á Í Énergie Atomique Et Aux Energies Alter natives (CEA), French state-owned resear ch entity and Blue Storage SAS, a French Company	Signed On 3 rd Octob er 2018, at France
8.	France	Memorandum of Agreement(MoA) between NISE and CEA	Signed On 22 nd Aug ust, 2019, at Paris

9.	Germany	Implementation Agreement between National Institute of Solar Energy (NI SE) MNRE and Physikalisch-Technis che Bundesanstalt Bundesallee (PTB) Germany	
10.	Germany	Implementation Agreement between MNRE and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ)	Signed on 20 th Septe mber, 2017 At New Delhi
11.	Germany	Implementation Agreement between MNRE and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ)	Signed on 28 th Augu st, 2017 At New Del hi
12.	Germany	Implementation Agreement between MNRE and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ)	
13.	Germany	Implementation Agreement between MNRE and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ)	ā
14.	Germany	Implementation Agreement between MNRE and Deutsche Gesellschaft Fur Internationale Zusammenarbeit (GIZ)	
15.	Greece	MoU between Ministry of New and R enewable Energy and the Ministry of Environment and Energy of Hellenic Republic	ember, 2017, At Ne w Delhi
16.	Guyana	MoU signed between Ministry of New and Renewable Energy and Ministry of Public Infrastructure of Guyana	
17.	Guinea	MoU between Ministry of New and Reno wable Energy and of the Ministry of Ene gy of the Republic of Guinea	
18.	Italy	MoU signed between Ministry of New and Renewable Energy and the Ministry of Environment of the Italian Republic	ber, 2017,
19.	Могоссо	MoU between Ministry of New and Fenewable Energy and Ministry of Energy, Mines and Sustainable Development of the Kingdom of Morocco	Signed on 10th April,

20.	Portugal	MoU between Ministry of New and R enewable Energy and The Ministry of Economy of the Portuguese Republic on Renewable Energy	Signed On 6 th Januar
21.	Peru	MoU between Ministry of New and R enewable Energy and the Ministry of Energy and Mining of the Republic of Peru	Signed on 11th May,
22.	Spain	MoU between Ministry of New and R enewable Energy and Ministry of Energy, Tourism and Digital Agenda of the Kingdom of Spain	Signed On 30 th May,
23.	Saudi Arabia	MoU between Ministry of New and R enewable Energy and Ministry of Energy of the Kingdom of Saudi Arabia on cooperation in the field of Renewable Energy	Signed On 29th Octob
24.	Tajikistan	MoU between the Ministry of New and R enewable Energy of the Government of the Republic of India and the Ministry of Energy and Water Resources of the Government of the Republic of Tajikistan	Signed on 19th Octob

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