

GOVERNMENT OF INDIA
MINISTRY OF NEW AND RENEWABLE ENERGY
LOK SABHA
UNSTARRED QUESTION NO. 1957
ANSWERED ON 28.07.2022

SHARE OF RENEWABLE ENERGY IN ENERGY MIX

1957. SHRI PARVESH SAHIB SINGH VERMA

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

- (a) whether the Government is taking any steps to increase the share of renewable energy in energy mix of the country and if so, the details thereof;
- (b) the steps taken/being taken to encourage innovation and production of green hydrogen in the country in recent times; and
- (c) the list of programmes/ schemes/ international collaborations/ treaties in place till date with regard to renewable energy in the country?

ANSWER

THE MINISTER OF NEW & RENEWABLE ENERGY AND POWER

(SHRI R.K. SINGH)

(a) The Government has taken several steps to increase the share of renewable energy in energy mix of the country. These include:-

- Permitting Foreign Direct Investment (FDI) up to 100 percent under the automatic route,
- Waiver of Inter State Transmission System (ISTS) charges for inter-state sale of solar and wind power for projects to be commissioned by 30th June 2025,
- Laying of new transmission lines and creating new sub-station capacity for evacuation of renewable power,
- Declaration of trajectory for Renewable Purchase Obligation (RPO) up to the year 2029-30,
- Setting up of RE parks to provide land and transmission to RE developers on a plug and play basis,
- Schemes such as Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM), Solar Rooftop Phase II, 12000 MW CPSU Scheme Phase II, etc,
- Notification of standards for deployment of solar photovoltaic system/devices,
- Setting up of Project Development Cell for attracting and facilitating investments,
- Standard Bidding Guidelines for tariff based competitive bidding for procurement of Power from Grid Connected Solar PV and Wind Projects.
- Government has issued orders that power shall be dispatched against Letter of Credit (LC) or advance payment to ensure timely payment by distribution licensees to RE generators.

(b) In the Independence Day speech on August 15, 2021, Hon'ble Prime Minister announced the launch of National Hydrogen Mission.

Ministry of New and Renewable Energy has developed a draft National Green Hydrogen Mission document which comprises a framework inter-alia for scaling up Green Hydrogen production and Research & Development.

(c) The details of major renewable energy schemes/ programmes being implemented by the Ministry to promote renewable energy in the country are given in **Annexure I**.

The details of active Memorandums of Understanding (MoUs)/ agreements/ Joint Declarations of Intent (JDIs) with regard to renewable energy is given in **Annexure II**.

Annexure I referred to in reply to part (c) of Lok Sabha Unstarred Question No. 1957 for 28/07/2022 regarding 'Share of Renewable Energy in Energy Mix'

Details of the major Renewable Energy Schemes / Programmes

- Scheme for Development of solar parks and Ultra-mega Solar Power Projects with a target of setting up 40,000 MW capacity. Under the scheme, infrastructure such as land, roads, transmission system (internal and external), pooling stations, water feasibility is developed with all statutory clearances/ approvals. Thus the solar project developers have plug and play benefit.
- Central Public Sector Undertaking (CPSU) Scheme Phase-II (Government Producer Scheme) for setting up 12,000 MW grid-connected Solar Photovoltaic (PV) Power Projects by Government Producers with Viability Gap Funding (VGF) support, for self-use or use by Government/ Government entities, either directly or through Distribution Companies (DISCOMS).
- Production Linked Incentive scheme 'National Programme on High Efficiency Solar PV Modules' for achieving manufacturing capacity of Giga Watt (GW) scale in High Efficiency Solar PV modules.
- PM-KUSUM Scheme to promote small Grid Connected Solar Energy Power Plants, stand-alone solar powered agricultural pumps and solarisation of existing grid connected agricultural pumps. The scheme is not only beneficial to the farmers but also States and DISCOMs. States will save on subsidy being provided for electricity to agriculture consumers and DISCOMs will get cheaper solar power at tail end saving transmission and distribution losses.
- Rooftop Solar Programme Phase II for grid connected solar rooftop power plants. Under this Programme, subsidy is provided for residential sector and performance linked incentives to DISCOMs for achieving capacity addition in rooftop solar above baseline.
- Green Energy Corridors (GEC): to create intra-state transmission system for renewable energy projects. Central Financial Assistance (CFA) is provided to set up transmission infrastructure for evacuation of Power from Renewable Energy projects in total ten States (considering both the phases of GEC).

Annexure II referred to in reply to part (c) of Lok Sabha Unstarred Question No. 1957 for 28/07/2022 regarding ‘Share of Renewable Energy in Energy Mix’

Details of active Memorandums of Understanding (MoUs)/ agreements/ Joint Declarations of Intent (JDIs) with regard to renewable energy

S. No.	Country	Organizations involved	Date of Signing/ Place of Signing
1.	Australia	MoU between Ministry of New and Renewable Energy, and The Department of Resources, Energy and Tourism, Government of Australia	5 th February, 2010, At New Delhi
2.	Bahrain	MoU between Ministry of New and Renewable Energy of the Republic of India and the Ministry of Electricity and Water Authority of the Kingdom of Bahrain	15 th July, 2018 At Manama
3.	Bangladesh	MoU between Ministry of New and Renewable Energy and Power Division, Ministry of Power, Energy and Mineral Resources, Government of People’s Republic of Bangladesh	6 th September, 2011, At Dhaka
4.	Belarus	MoU between Ministry of New and Renewable Energy and The State Committee on Science and Technology of the Republic of Belarus	14 th Nov., 2012 At New Delhi
5.	India, Brazil, South Africa (IBSA)	MoU between Government of India, Government of Brazil and Government of South Africa	17 th October, 2007, At Pretoria
6.	India, Brazil, South Africa (IBSA)	MoU between Government of India, Government of Brazil and Government of South Africa	15 th April, 2010, At Brasilia
7.	Canada	Agreement between Ministry of New and Renewable Energy and The University of Saskatchewan, Canada	28 th March, 2008, At New Delhi
8.	Chile	MoU between Ministry of New and Renewable Energy and The National Energy Commission of the Republic of Chile.	17 th March, 2009, At New Delhi
9.	Denmark	MoU between Ministry of New and Renewable Energy and The Ministry of Climate and Energy, Government of Kingdom of Denmark.	6 th February, 2008, At New Delhi
10.	Denmark	Agreement between Government of the Republic of India and Government of the Kingdom of Denmark	6 th February, 2008, At New Delhi
11.	Denmark	MoU between National Institute of Wind Energy and Denmark Technical University	17 th Dec., 2018 At New Delhi
12.	Dominican Republic	MoU between Ministry of New and Renewable Energy and The Ministry of Energy and Mines Government of the Dominican Republic	17 th February, 2015, At Santo Domingo, Dominican
13.	Egypt	MoU between Ministry of New and Renewable Energy and Ministry of Electricity and Energy of the Arab Republic of Egypt	20 th January, 2011, At Cairo
14.	Fiji	MoU between Ministry of New and Renewable Energy and the Ministry of Infrastructure and Transport, Fiji	24 th May, 2017, At Suva
15.	France	MoU between the Ministry for the Ecological Transition of the French Republic and The Ministry of New and Renewable Energy of the Republic of India on Renewable Energy Cooperation	28 th January, 2021 At New Delhi
16.	France	National Institute of Solar Energy (NISE) and Commissariat à l’Energie Atomique et aux Energies Alternatives (CEA), the National Solar Energy Institute (INES), France	10 th March, 2018 At New Delhi

17	France	Memorandum of Agreement(MoA) between National Institute of Solar Energy and Commissariat a l'Energie Atomique et aux Energies Alternatives, (CEA)	22 nd August, 2019 At Paris,
18	Finland	MoU between Ministry of New and Renewable Energy and the Ministry of Economic Affairs and Employment of the Republic of Finland	24 th April, 2022
19	Germany	MoU between Solar Energy Centre, Ministry of New and Renewable Energy and Fraunhofer-Gesellschaft zur Forderung der angewandten Forschung e.v. Deutschland, Fraunhofer Institut fur Solare Energiesysteme (ISE), Germany	11 th April, 2013 At Berlin, Germany
20	Germany	MoU between Ministry of New and Renewable Energy and The Federal Ministry of Economic Cooperation & Development of Federal Republic of Germany	05 th October, 2015 At New Delhi
21	Germany	Joint Declaration of Intent on Indo-German Green Hydrogen Task Force	2 nd May, 2022
22	Germany	JDI on Indo-German Development Cooperation regarding Renewable Energy Partnership	2 nd May, 2022
23	Greece	MoU between Ministry of New and Renewable Energy and the Ministry of Environment and Energy of Hellenic Republic	27 th November, 2017 At New Delhi
24	Guinea	MoU between Ministry of New and Renewable Energy and of the Ministry of Energy of the Republic of Guinea	02 nd August, 2019 At Guinea
25	Guyana	MoU signed between Ministry of New and Renewable Energy and Ministry of Public Infrastructure of Guyana	30 th January, 2018 At New Delhi
26	Iceland	MoU between Ministry of New and Renewable Energy and Ministry of Industry of the Republic of Iceland	09 th October, 2007 At New Delhi
27	Indonesia	MoU between Ministry of New and Renewable Energy and Ministry of Energy and Mineral Resources of the Republic of Indonesia	02 nd November, 2015 At Jakarta
28	Iran	MoU between Ministry of New and Renewable Energy and Ministry of Power of the Islamic Republic of Iran	09 th July, 2010 At New Delhi
29	Italy	MoU signed between Ministry of New and Renewable Energy and the Ministry of Environment of the Italian Republic	30 th October, 2017 At New Delhi
30	IRENA-MNRE	Strategic Partnership Agreement between the Ministry of New and Renewable Energy (MNRE), Government of India and International Renewable Energy Agency (IRENA)	14 th January, 2022 At New Delhi/ Abu Dhabi
31	Mexico	MoU between Ministry of New and Renewable Energy and Secretariat of Energy of the United Mexican States	17 th April, 2008 At Mexico
32	Morocco	MoU between Ministry of New and Renewable Energy and Ministry of Energy, Mines and Sustainable Development of the Kingdom of Morocco	10 th April, 2018 At New Delhi
33	Peru	Agreement between Ministry of New and Renewable Energy and the Ministry of Energy and Mining of the Republic of Peru	11 th May, 2018 At Lima
34	Portugal	MoU between Ministry of New and Renewable Energy and The Ministry of Economy of the Portuguese Republic on Renewable Energy	06 th January, 2017 At New Delhi
35	Russia	MoU between Solar Energy Cooperation of India and Russian Energy Agency, Regarding construction of Solar power Plants in Republic of India.	24 th December, 2015 At Moscow
36	Rawanda	MoU between Ministry of New and Renewable Energy And Ministry of Infrastructure, Government of the Republic of Rwanda	15 th February, 2012 At Kigali

37	Saudi Arabia	MoU between Ministry of New and Renewable Energy and Ministry of Energy of the Kingdom of Saudi Arabia on cooperation in the field of Renewable Energy	29 th October, 2019 At Riyadh
38	Scotland	MoU between Ministry of New and Renewable Energy and The Government of Scotland	14 th October, 2009 At New Delhi
39	Seychelles	MoU between Ministry of New and Renewable Energy and The Government of the Republic of Seychelles	11 th March, 2015 At Victoria
40	Spain	MoU between Ministry of New and Renewable Energy and Ministry of Energy, Tourism and Digital Agenda of the Kingdom of Spain	30 th May, 2017 At Madrid
41	Sweden	MoU between Ministry of New and Renewable Energy and Ministry of Enterprise, Energy and Communications of Sweden	19 th April, 2010 At New Delhi
42	Tajikistan	MoU between the Ministry of New and Renewable 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	08 th October, 2018 At Dushanbe
43	Thailand	MoU between Ministry of New and Renewable Energy and The Ministry of Energy Government of Kingdom of Thailand.	26 th June, 2007 At New Delhi
44	UAE	MoU between Ministry of New and Renewable Energy and Ministry of foreign affairs, DECC of the UAE	18 th January, 2014 At Abu Dhabi
45	United Kingdom	MoU between Government of India and Government of United Kingdom of Great Britain and Northern Ireland	11 th November, 2015 At London
46	Uruguay	MoU between MNRE and the Government of Uruguay	25 th February, 2011 At New Delhi
47	USA	MoU between Govt. of India (Ministry of New and Renewable Energy), and the Government of the United States of America on Cooperation in New and Renewable Energy to Facilitate Clean Energy Access	27 th Sept. 2013 At Washington 29 th Jan. 2014 At New Delhi
48	USA	MoU between Govt. of India (Ministry of New and Renewable Energy) and Government of the United States of America on Cooperation to Establish the PACESETTER Fund	30 th June, 2015 At New Delhi
49	USA	MoA between the National Institute of Wind Energy (NIWE) under the MNRE, Govt. of India and the University of Massachusetts, (UMA), Amherst, Massachusetts, USA	22 nd Sept. 2021 India/USA Online
50	Uzbekistan	MoU between India-Uzbekistan {National Institute of Solar Energy (NISE), MNRE and International Solar Energy Institute (ISEI), Uzbekistan	10 th December, 2020 India/USA Online