ACCELERATING CLEAN ENERGY INNOVATION IN INDIA

ROLE OF THE MINISTRY OF NEW & RENEWABLE ENERGY

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JOINT SECRETARY, MNRE
mnre.nic.in
VISION OF THE MNRE

* To promote research, design, development, manufacture and deployment of new and renewable energy systems/devices for transportation, portable and stationary applications in rural, urban, industrial and commercial sectors

* Technology Mapping and Benchmarking

* To facilitate to lay down standards, specifications and performance parameters at par with international levels and facilitate industry in attaining the same
INSTITUTIONS UNDER THE MINISTRY

• NATIONAL INSTITUTE OF SOLAR ENERGY (NISE), GURGAON, HARYANA

• NATIONAL INSTITUTE OF WIND ENERGY (NIWE), CHENNAI

• NATIONAL INSTITUTE OF RENEWABLE ENERGY, KAPURTHALA

• INDIAN RENEWABLE ENERGY DEVELOPMENT AGENCY (IREDA)

• SOLAR ENERGY CORPORATION OF INDIA (SECI)
RESEARCH & DEVELOPMENT

NATIONAL INSTITUTE OF SOLAR ENERGY AND IIT BOMBAY-
Identified major climatic zones- arid, humid, composite- within the country and assessed the degradation levels for each kind of solar PV technology

IIT BOMBAY-
Efficiency of over 12% in perovskites

BANARAS HINDU UNIVERSITY-
Development of solid state materials such as metal hydrides hydrogen storage for various thermal, mechanical & transport applications

IIT DELHI AND MAHINDRA & MAHINDRA-
Development & demonstration of hydrogen fuelled three wheelers

IISc BANGALORE-
Development of biomass gasifiers for decentralised power generation & hydrogen production
PILOTING & DEMONSTRATION

PROPOSED LIGNOCELLULOSIC ETHANOL VGF BIDDING SCHEME

Viability Gap Funding for projects of 150 million L per annum production capacity

Global bidding at three different plant sizes depending on how commercially ready the technology is (Commercial Plant, Demonstration Plant, Pilot Plant)

Supporting Policy Framework

ENERGY STORAGE BIDDING SCHEME

Shelf of projects prepared by inviting an Expression of Interest

Bidding for energy storage component agnostic to technology

ENTREPRENEURSHIP DEVELOPMENT THROUGH CIIE

The Centre for Innovation, Incubation & Entrepreneurship (CIIE) at IIM Ahmedabad has supported over 20 new business ideas which have been converted into functioning companies in the field of renewable energy
DEPLOYMENT ASSISTANCE

VIABILITY GAP FUNDING
In Solar PV, water heaters, etc, market self sufficiency has been achieved to the level of subsidies being reduced or stopped

GENERATION BASED INCENTIVE
In wind power, the generation based incentive has ensured better technology and performance leading to higher production

CONCESSIONAL LOANS
In solar rooftops, soft loans through multilateral lending institutions are set to prime the market in a high capex retail environment

CONSOLIDATED TENDERS FOR LOWER PRICES AND QUICK DEPLOYMENT
Solar Energy Corporation of India has tendered 4500 MW solar PV to date and will tender 5000 MW solar PV, rooftop, and wind this year
POLICY & REGULATIONS

FEED IN TARIFFS
Where the technology is commercialised but still needs some support, feed in tariffs ensure derisking of the projects

RENEWABLE PURCHASE OBLIGATIONS
The purchase obligations have recently been revised upwards in consonance with 175 GW target

SOLAR WIND HYBRID POLICY
Draft policy based on superposition of wind and solar data which shows a huge potential for developing both in the same regions and often at the same location, optimising land use, transmission, and grid stability
TESTING, STANDARDS, FACILITATION

NATIONAL INSTITUTE OF SOLAR ENERGY
State of the art testing facilities and research activities including assistance to industry

NATIONAL INSTITUTE OF WIND ENERGY
Solar & Wind potential assessment through ground equipment & satellite data, forecasting, quality assessment, industry consultation

NATIONAL INSTITUTE OF BIO ENERGY
Testing facilities for cookstoves and other biomass based technologies and an extensive R&D programme
THANK YOU