

2025 Marks Highest-Ever Renewable Energy Expansion in India's Energy Transition Journey

India Adds Record 44.5 GW Renewable Energy Capacity in 2025 (till November 2025), Nearly Doubling Annual Additions

Solar Installed Capacity Touches 132.85 GW as India Adds Nearly 35 GW ; Wind Reaches 54 GW after 5.82 GW Increase

प्रविष्टि तिथि: 29 DEC 2025 4:46PM by PIB Delhi

OVERVIEW - RENEWABLE ENERGY INSTALLED CAPACITY

- In line with the Hon'ble Prime Minister's vision outlined at COP-26, Government is working to reach 500 GW Non-fossil energy capacity by 2030.
- India achieved the milestone of 50% of its cumulative electric power installed capacity from non-fossil fuel sources in June 2025, five years ahead of the 2030 target set under its Nationally Determined Contribution (NDC) to the Paris Agreement.
- India crossed 250 GW milestone of non-fossil power installed capacity in August, 2025. The total non-fossil power installed capacity has reached 262.74 GW in November, 2025 which is 51.5% of the total installed electricity capacity in the country (509.64 GW).
- Highest-ever renewable energy capacity addition has been made during 2025. The total renewable energy capacity added during the year (till November) is 44.51 GW which is nearly double as compared to the 24.72 GW during the same period last year. The total renewable energy installed capacity has reached 253.96 GW in November, 2025 which is an increase of over 23% as compared to the 205.52 GW in November 2024.
- Solar is the major contributor in this progress. Solar capacity addition is 34.98 GW compared to the 20.85 GW during the same period last year. Solar energy installed capacity crossed 100 GW mark in January, 2025. The solar energy installed capacity has reached 132.85 GW in November, 2025 which is an increase of over 41% as compared to the 94.17 GW in November 2024.
- Wind capacity also registered a substantial growth with capacity addition of 5.82 GW compared to 3.2 GW during the same period last year. Wind energy installed capacity crossed 50 GW mark in March, 2025. The wind energy installed capacity has reached 53.99 GW in November, 2025 which is an increase of over 12.5% as compared to the 47.96 GW in November 2024.
- On 29 July 2025, India reached its highest-ever renewable energy share in electricity generation – that day, renewables met 51.5% of the country's total electricity demand of 203 GW. (*Reference MoP PIB Release dated 29.10.2025*).
- As per IRENA RE Statistics 2025 (with data as on December, 2024), globally, India stands 3rd in Solar Power installed capacity, 4th in Wind Power capacity and 4th in total Renewable Energy capacity,

- Details of cumulative Renewable Energy installed capacity in the country as on 30.11.2025 and in pipeline:

Cumulative non-fossil installed capacity and in pipeline (in GW) (as on 30.11.2025)				
Sector	Installed Capacity (GW)	Under Implementation (GW)	Tendered (GW)	Total Installed/ Pipeline (GW)
Solar Power (a)	132.85	69.12	35.46	237.43
Wind Power (b)	53.99	30.11	1.80	85.90
Bio Energy (c)	11.61	---	---	11.61
Small Hydro (d)	5.16	0.44	---	5.60
Hybrid/ Round the Clock (RTC)/ FDRE (e)	---	59.24	11.48	70.72
Sub-Total (f = a+b+c+d+e)	203.61	158.91	48.74	411.26
Large Hydro (g)	50.35	25.33	---	75.68
Total RE (f+g)	253.96	184.24	48.74	486.94
Nuclear Power (h)	8.78	6.60	7.00	22.38
Total Non-Fossil Fuel (f+g+h)	262.74	190.84	55.74	509.32

- Details of country's total Electricity Installed Capacity (with thermal, renewables and non-fossil share) as on 30.11.2025:

All India Electricity Installed Capacity (as of 30.11.2025)		
Sector	Capacity (in GW)	Percentage
Thermal (a)	246.90 GW	(48.45%)
Nuclear (b)	8.78 GW	(1.72%)
RE (including large Hydro) (c)	253.96 GW	(49.83%)

Sub-Total (Non-Fossil Fuel) (b+c)	262.74 GW	(51.55%)
Total (a+b+c)	509.64 GW	(100%)

MAJOR ACTIVITIES/ACHIEVEMENTS OF THE MINISTRY DURING THE YEAR

PM-SURYA GHAR: MUFT BIJLI YOJANA:

- The Government of India launched PM Surya Ghar: Muft Bijli Yojana (PMSG: MBY) in February, 2024, aiming to achieve rooftop solar (RTS) installations in one crore households in the residential sector, across the country, by FY 2026-27 with an outlay of Rs 75,021 crore. PMSG: MBY is a demand driven scheme for installation of rooftop solar (RTS) systems, wherein all residential consumers in the country having grid connected electricity connection of the local DISCOM can avail the benefits of the scheme by applying on the National Portal of the scheme.
- The scheme has witnessed impressive progress. From 01.01.2025 to 22.12.2025, nearly 14.43 lakh RTS systems have been installed across the country benefitting over 18.14 lakh households under the scheme.

PRADHAN MANTRI KISAN URJA SURAKSHA EVAM UTTHAAN MAHABHIYAAN (PM-KUSUM):

- During the calendar year 2025, concerted efforts were undertaken to expedite implementation, enhance awareness, and strengthen capacity building. As a result, the scheme recorded significant progress on both physical and financial fronts.
- As on 30.11.2025, cumulatively, under PM-KUSUM Scheme:
 - 667.31 MW of solar power capacity has been installed under Component-A.
 - Over 9.42 lakh standalone solar agricultural pumps have been installed under Component-B.
 - Over 10.99 lakh grid-connected agricultural pumps have been solarized under Component-C.
- Key highlights during 2025 include:
 - Component A has seen the installed capacity of around 270.33 MW in this year, which is 107% of the previous year.
 - In Component B and Component-C, over 13.13 lakh agriculture pumps have been installed/ solarized in this year, which is around 3 times of the installation/ solarization of previous year.
 - Cumulatively, a total of 10,203 MW solar capacity has been installed under the scheme, out of which 6515 MW i.e. around 64% have been installed during year 2025.
 - During Seva Parv from 17th September, 2025 to 02nd October, 2025, implementation of scheme was taken on a mission mode and more than 2 lakh pumps were installed/ solarized during that duration.
 - During 2025, the financial expenditure for PM-KUSUM is ₹2706 crores so far, which is around 38% of total fund released under the Scheme so far since its launch.

NATIONAL GREEN HYDROGEN MISSION:

- Incentives have been awarded for a capacity of 4,50,000 tons-per-annum (TPA) of Green Hydrogen production. Fund allocated for this is about ₹2,239 Crore.
- Prices have been discovered by SECI for the production and supply of 7,24,000 tons-per-annum (TPA) of Green Ammonia to fertilizer units. Funds allocated for this is about ₹ 1,534 Crore. These are some of the lowest prices in the world with Weighted Average Price of Rs. 53.27 per kilogram.

- Projects have been awarded for the production and supply of 20,000 MTPA of Green Hydrogen to IOCL, BPCL and HPCL Refineries.
- Four pilot projects have been awarded for the use hydrogen in steel sector with a fund sanction of about ₹106 Crore.
- A pilot project has been awarded in transport sector to deploy a hydrogen fueled vehicle and a hydrogen refueling station with a fund sanction of about ₹17 Crore.
- A project has been awarded to develop bunkering and refueling facility at V. O. Chidambaranar Port Authority, Tuticorin. Fund sanctioned for this pilot project is Rs. 35 Crore.
- Twenty-three projects have been awarded for Research and Development (R&D) under the Mission. Funds sanctioned for these projects is about ₹115 Crore.
- Five projects have been awarded for developing testing facilities across Green Hydrogen value chain with fund sanction of about ₹114 Crore.
- Four projects have been awarded to be developed as Hydrogen Valley Innovation Clusters (HVICs). Funds sanctioned for these projects is about ₹170 Crore.
- The Green Hydrogen Certification Scheme of India (GHCI) has been launched in April 2025.
- 128 standards (Cumulative from the start of the Mission) have been published / adopted across the entire Green Hydrogen value chain.
- For skill development in the sector, 43 Qualification Packs have been approved by National Council for Vocational Education and Training (NCVET). 6,541 trainees have been certified. This is cumulative from the start of the Mission.
- National Institute of Solar Energy (NISE), Gurugram signed a MoU with Toyota Kirloskar Motors for a pilot project on the use of hydrogen in mobility sector.
- A Workshop on National Green Hydrogen Mission with critical focus on the role of Micro, Small and Medium Enterprises (MSMEs) in India's Green Hydrogen ecosystem was organized on 29th April, 2025 at New Delhi. The workshop was to facilitate dialogue, identify opportunities, and accelerate MSME participation in this emerging sector.
- The Ministry organized the inaugural Green Hydrogen R&D Conference 2025 on 11th and 12th September in New Delhi. The conference brought together a diverse group of participants, including leading experts from research and development organizations, representatives from startups and industry stakeholders. During the course of conference, Union Minister of New & Renewable Energy officially launched the Call for Proposals aimed at supporting start-ups focused on hydrogen innovation. On the sidelines of the conference, a startup expo featuring 25 DPIIT-registered startups showcasing cutting-edge innovations in Green Hydrogen was also organised.
- The 3rd International Conference on Green Hydrogen (ICGH 2025) was organized in Bharat Mandapam, New Delhi, in November 2025.
- India participated in the European Hydrogen Week held at Brussels, Belgium in September – October 2025 and in the World Hydrogen Summit held at Rotterdam, Netherlands in May 2025.

SOLAR ENERGY

- Solar energy capacity of 34.98 GW has been added during the year (till November) as compared to the 20.85 GW during the same period last year. Solar energy installed capacity crossed 100 GW mark in January, 2025. The solar energy installed capacity has reached 132.85 GW in November, 2025 which is an increase of over 41% as compared to the 94.17 GW in November 2024.
- **Commissioning of Solar capacity under Solar Park scheme:** A cumulative capacity of around 3,084 MW of solar projects have been commissioned in various Solar Parks during 2025 (upto 30.11.2025) under the Scheme for Development of Solar Parks and Ultra-Mega Solar Power Projects.

- **Commissioning of Solar Power Projects under CPSU Scheme Phase-II:** As of 30.11.2025, government entities commissioned around 2.87 GW of solar power projects during 2025 under the CPSU Scheme Phase-II.
- **Reduction of GST from 12% to 5%:** W.e.f. 22.09.2025, GST has been reduced from 12% to 5%, inter-alia, on following solar energy devices & parts for their manufacture:
 - Solar power-based devices;
 - Solar power generator;
 - Solar lantern / solar lamp;
 - Photo voltaic cells, whether or not assembled in modules or made up into panels;
- The Ministry, in January 2025, notified the Solar Systems, Devices and components Goods Order, 2025, which revises and supersedes the existing Solar Photovoltaics Systems, Devices and Components Goods (Requirements for compulsory Registration) Order, 2017. This order covers Solar PV modules, Inverters to be used in Solar PV applications and storage Batteries.
- Renewable Energy Equipment Import Monitoring System (REEIMS) portal was introduced, mandated through DGFT Notification No. 40/2025-56 dated 10.10.2025 which came into effect from 01.11.2025. REEIMS portal will ensure monitoring of specific items/components imported for manufacturing of solar Photovoltaic modules and wind operated electricity generators. This will strengthen this ministry to have credible data for formulating policy relating to local manufacturing and supply-chain transparency.

SOLAR PV MANUFACTURING

- **Expanding Solar Module Manufacturing Capacity:** India has made significant progress in boosting solar module manufacturing capacity. Indigenous solar module manufacturing capacity under the Approved List of Models and Manufacturers (ALMM) for Solar Modules has reached around 144 GW per annum, with about 81 GW added in calendar year 2025 alone, reflecting an impressive ~99% year-on-year increase from around 41 GW added in 2024.
- **Issuance of ALMM for Solar Cells:** On 31.07.2025, MNRE has issued the ALMM List-II (for Solar Cells). Currently, around 24 GW of solar cell manufacturing capacity has been enlisted under the ALMM List-II.
- **Capacity Addition under PLI Scheme for High Efficiency Solar PV Modules:** The PLI Scheme for High-Efficiency Solar PV Modules is helping in developing and enhancing solar manufacturing across various stages. Beneficiaries under PLI Scheme installed around 11 GW of solar PV module manufacturing and around 5 GW of solar PV cell manufacturing capacities during 2025 under the scheme.

WIND ENERGY:

- Wind capacity of 5.82 GW was added during the year (till November) compared to 3.2 GW during the same period last year. Wind energy installed capacity crossed 50 GW mark in March, 2025. The wind energy installed capacity has reached 53.99 GW in November, 2025 which is an increase of over 12.5% as compared to the 47.96 GW in November 2024.
- The Revised Guidelines for installation of prototype wind turbine models was issued on 12th June 2025 in order to facilitate the installation of limited number of prototype wind turbines so as to promote testing and certification process of wind turbine in the country.
- Amendment to Procedure for inclusion/updating Wind Turbine Model in the Revised List of Models and Manufacturers of Wind Turbines (RLMM) was issued on 31st July 2025. The amendment renames RLMM as Approved List of Models and Manufacturers (ALMM (Wind)) and mandates usage of listed components such as Blade, Tower, Generator, Gearbox and Special Bearings (Main,

Pitch and Yaw Bearing) along with mandatory relocation of data centres within India and prohibition of real-time data transfer outside India.

- The Standard Operating Procedure (SOP) for ALMM-Wind and ALMM-Wind Turbine Components (WTC) was issued on 29th October 2025, with an objective to provide detailed end-to-end process for application, verification, factory inspection and model enlistment in ALMM-Wind and ALMM-WTC lists.

GEO THERMAL ENERGY

- The Ministry after due consultation with relevant ministries & agencies including with Ministry of Petroleum & Natural Gas, DG Hydrocarbons, ONGC, Oil India Ltd., notified National Policy on Geothermal Energy (2025) on 15th September, 2025 to accelerate clean energy transition, supporting India's Net Zero 2070 Commitment. This policy aims to harness untapped potential through Research, Innovation, Technology, Ecosystem Development, Capacity Development and Partnerships.

RESEARCH AND DEVELOPMENT (R&D)

- In the area of perovskite solar cells, an MNRE-sponsored project at IIT Bombay has developed a cell with the world's second-highest efficiency of 26% and achieved a power conversion efficiency of 30.2% for a four-terminal perovskite-silicon tandem solar cell.
- Further, CSIR-NPL has established India's first National Primary Standard Facility for Solar Cell Calibration, achieving a world-leading uncertainty of 0.35% (highest accuracy), thereby enhancing precision and self-reliance in solar metrology.

BIONERGY

- During 2025 (till November), 59 Compressed Biogas (CBG) plants with a total capacity of 684.33 TPD, 8 Biomass Pellet/Briquette plants with a total capacity of 21.5 TPH, 4 Biogas plants with a total capacity of 56040 m³/day, and 12 Bio power plants with total capacity of 89.86 MW, have been commissioned.
- The Ministry conducted 9 Capacity Building and Awareness workshops on "Organic Biomethanation and its application for banks, financial institutions, biogas/compressed biogas (CBG) plant developers and other relevant stakeholders" in collaboration with UNIDO and TERI.
- Celebrated National Biofuel Day on 10th August in collaboration with Indian Federation of Green energy.
- Organised Workshop on "Unlocking alternative markets for bagasse utilization" in collaboration with India Sugar & Bioenergy Manufacturers Association on 23rd June, 2025.

NEW SOLAR POWER SCHEME UNDER PM JANMAN & DA JGUA

- MNRE is implementing the New Solar Power Scheme [for Tribal and Particularly Vulnerable Tribal Group (PVTG) Habitations/Villages] under Pradhan Mantri Janjati Adivasi Nyaya Maha Abhiyan (PM JANMAN) and Dharti Aabha Janjatiya Gram Utkarsh Abhiyan (DA JGUA). Under the scheme, off-grid systems (Solar Home Lighting Systems/Solar Mini Grids) are provided to tribal and PVTG households, multi-purpose centres and public institutions in Tribal and PVTG areas where grid-connected electrification is not techno-economically feasible.

Under the scheme, a total of 4919 Households have been electrified in 2025 (as on 30.11.2025).

INTERNATIONAL COOPERATION

- A series of Joint Working Group, Task Force and other bilateral/multilateral meetings were convened with partners including Japan, the United Kingdom, Tajikistan, Egypt, Norway, Portugal,

Australia, Germany, Sri Lanka and Denmark to identify and formulate joint activities in area renewable energy collaboration.

- Through Memorandums of Understanding and Joint Declarations of Intent with Brazil, Japan, Bhutan, and Jordan, the Ministry furthered bilateral cooperation in the areas of clean hydrogen/clean ammonia, and renewable energy. By actively participating in the 8th International Solar Alliance (ISA) Assembly in New Delhi, which saw high-level participation from 137 nations and 36 organizations, launching important ISA knowledge products, operationalizing the One Sun One World One Grid (OSOWOG) roadmap, the Global SIDS Initiative Declaration, and launching new initiatives like the ISA Global Capability Center, Academy, and SUNRISE Community of Practice, India strengthened its multilateral engagement.

OTHER KEY EVENTS HELD:

- The Ministry organized National Workshop on Mobilizing Finance for Renewable Energy in Mumbai on 24th February, 2025. The workshop marked a significant step toward ensuring that financial constraints do not hinder India's renewable energy ambitions, reaffirming the government's commitment to a clean, sustainable, and financially inclusive energy future.
- The Ministry, in partnership with State departments and institutions, organized Seva Parv from 17th September to 2nd October 2025. The campaign aimed to spread awareness about clean energy and self-reliance, with a special focus on flagship programmes such as PM-KUSUM and PM-Surya Ghar: Muft Bijli Yojana. Apart from various other activities, Awareness and Capacity Building Workshops for these Schemes were carried out in 15 States. A Stakeholder consultation with all the States was under the chairmanship of Union Minister of New & Renewable Energy for effective implementation of these Schemes. A Report on "Solar Photovoltaic Potential Assessment (Ground Mounted)" was released. A Course on "Solar Cell and Module Manufacturing" in National Institute of Solar Energy (NISE) was launched.
- A Stakeholders consultation on PM KUSUM 2.0 was held on 11th September, 2025. It was attended by State Implementing Agencies (SIAs) of PM KUSUM and focused on discussions on scheme's design for its next phase, PM KUSUM 2.0. The consultation concluded with a consensus on the need for a technically robust, financially viable, and farmer-centric framework for PM-KUSUM 2.0.
- A National Workshop on "Subnational Climate Leadership in Accelerating India's Clean Energy Transition" was organized on 6-7 October 2025 at Lucknow, by the Association of Renewable Energy Agencies of States (AREAS) established under the aegis of MNRE hosted in partnership with Natural Resources Defense Council (NRDC), Self-Employed Women's Association (SEWA) and Uttar Pradesh New & Renewable Energy Development Agency (UPNEDA). State government representatives from over 25 States attended the workshop along with clean energy technology developers and civil society institutions.
- The Ministry hosted a Conference on "Energy Storage – Driving the Clean Energy Transition" on World Energy Storage Day in New Delhi on 22 September 2025. The conference highlighted the vital role of energy storage in renewable integration, grid stability, and decarbonisation, and emphasized the need for supportive policies, market mechanisms, domestic manufacturing, and safety standards. With participation from over 200 policymakers, industry leaders, researchers, and investors, the event concluded with a consensus on accelerating deployment through coordinated action and a national energy storage roadmap.
- The Ministry organized a Regional Workshop on Renewable Energy for the North East Zone in Guwahati on 31st October, 2025 to accelerate the renewable energy transition in the region. Union Minister for New & Renewable Energy inaugurated the workshop. In his address, he emphasized the North East's vast potential in solar, small hydro, and biomass energy and urged States to expedite the implementation of schemes such as PM-Surya Ghar: Muft Bijli Yojana and PM-KUSUM. Energy Ministers of North Eastern States, and other senior officials attended the

workshop. The workshop featured discussions on Green Hydrogen, decentralized renewable energy, and financing models to strengthen regional collaboration.

- A regional workshop on Renewable Energy and Regional Review meeting on Renewable Energy were held under the chairmanship of Union Minister of New & Renewable Energy at Mumbai, Jaipur and Visakhapatnam.
- A tableau of the Ministry of New and Renewable Energy participated in the Republic Day Parade at Kartavya Path, New Delhi. The Vibrant display offered a glimpse into India's evolving energy landscape, highlighting its groundbreaking strides in renewable energy while celebrating the nation's deep cultural heritage. Eight hundred special guests, comprising beneficiaries of PM Surya Ghar: Muft Bijli Yojana, PM-KUSUM and RE technicians invited by the Ministry, were among the first to witness the unique portrayal of India's path to a sustainable and self-reliant future.

Navin Sreejith

(रिलीज़ आईडी: 2209478) आगंतुक पटल : 6359

इस विज्ञप्ति को इन भाषाओं में पढ़ें: Odia , Urdu , हिन्दी , Tamil , Kannada