

**JUNE 2025
EDITION**



GOVERNMENT POLICY REPORT



01 SUSTAINABILITY

India is Set to Study the Sustainability of Human Life in Space under the BioE3 Biotechnology Policy

India is set to launch its inaugural biological experiments on the International Space Station (ISS) to explore the viability of sustaining human life in space. This groundbreaking initiative falls under the **BioE3 policy—Biotechnology for Economy, Environment, and Employment—introduced to promote sustainable innovation and future-oriented biotechnology research.**



Source: <https://www.theweek.in/news/sci-tech/2025/02/04/carving-a-niche-in-biotechnology-with-bioe3-policy.html>

The experiments stem from a **collaborative effort involving the Indian Space Research Organisation (ISRO), the Department of Biotechnology (DBT), and the U.S. National Aeronautics and Space Administration (NASA).** They will be part of the upcoming **AXIOM-4 mission**, scheduled for launch on June 8, 2025, from NASA's Kennedy Space Centre, Florida.

STRATEGIC IMPLICATIONS OF ISS

SPACE BIOTECH LEADERSHIP

- Advanced R&D hub
- Microgravity research
- Sustainable tech
- Space medicine

BIOTECH ASPIRATIONS

- Knowledge economy
- Innovation pipeline
- Tech sovereignty
- Global competitiveness

INTERNATIONAL PARTNERSHIPS

- NASA
- AXIOM Space
- ESA collaborations
- Industry partnerships

The first experiment will study the effect of microgravity and cosmic radiation on the growth of edible microalgae, which are being explored as a viable food source for long-duration space missions. These algae are rich in proteins and can potentially produce oxygen, making them ideal for supporting life in space. Researchers will compare growth parameters and biological changes—such as transcriptomes, proteomes, and metabolomes—of algae cultivated in space versus Earth-based controls.

The second experiment centres on studying how cyanobacteria such as **Spirulina** and **Synechococcus** respond to microgravity conditions, with a specific focus on their growth in urea- and nitrate-enriched media. **Spirulina**, often referred to as a “superfood,” has high protein and vitamin content and shows promise in recycling carbon and nitrogen from human waste, making it an ideal candidate for closed-loop life support systems.



Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2128904>

The experiments are being conducted in partnership with various researchers from the **International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi**, under the joint research initiative between **ISRO** and the **Department of Biotechnology (DBT)**. It will empower India's bioeconomy further along with ensuring the exploration of sustainable, independent, and resilient human presence in space.

KEY OBJECTIVE



Source: <https://www.newindianexpress.com/explainers/2025/May/31/the-axiom-4-mission-indias-return-tohuman-spaceflight>

An Indian astronaut, **Group Captain Shubhanshu Shukla**, will participate in the **AXIOM-4 mission**, marking a historic step in India's space journey. The outcomes of these space biotechnology experiments are expected to contribute significantly to sustainable human life support systems in space and reinforce India's growing role in global space exploration and innovation. It will set the **national biotech innovation roadmap**

and serve as a future framework developed by India to advance biotechnology solutions in the context of human survival in extraterrestrial environments.

02 CLIMATE CHANGE

DPIIT Signed MoU with GEAPP to Accelerate and Unlock Climate-tech Entrepreneurship Potential in India

The **DPIIT (Department for Promotion of Industry and Internal Trade)**, under the **Ministry of Commerce and Industry, GoI** has signed a **MoU** with the **GEAPP (Global Energy Alliance for People and Planet)**. This partnership is set to bolster climate-tech entrepreneurship in India. It will seek to promote innovation, sustainability, and entrepreneurial growth within the nation's clean energy and manufacturing industries.

A central element of this collaboration is the introduction of the **Energy Transitions Innovation Challenge (ENTICE)**, a platform that offers up to **\$500,000** in rewards for innovative and scalable clean energy solutions. This initiative assists early-stage climate-tech startups by providing access to funding, mentorship, pilot projects, and market connections. Under the partnership, investment support will be provided through **investment partners such as Spectrum Impact and Avana Capital**.

DPIIT will integrate the program with its Startup India ecosystem, ensuring outreach through major government schemes and startup channels. This integration will aim to build a robust pipeline of scalable, investable ventures that are aligned with India's net-zero ambitions and climate commitments. **It will also foster regional inclusion by encouraging participation from tier-II and tier-III cities, democratizing access to innovation, and empowering local communities to contribute to the clean energy transition.**



Source: <https://www.convergence-now.com/startup/dpiit-partners-with-global-energy-alliance-to-launch-climate-tech-innovation-challenge-for-startups-with-500000-prize-pool-119357/>



Source: <https://www.thehindu.com/business/dpiit-inks-pact-with-geapp-to-support-climate-tech-startups/article69588538.ece>

KEY STATISTICS

Climate-Tech Growth

600

DPIIT-recognized climate-tech startups

DPIIT-recognized climate-tech startups

39%

Startups are led by women directors.

Climate Tech's Diverse Roots

50%

Climate-tech startups are springing up from India's Tier-II and Tier-III cities.

The MoU represents a step toward driving systemic change through collaboration between the government, private sector, and innovators. It will leverage GEAPP's global expertise and utilize the vast network of DPIIT and Startup India. It is anticipated to create new opportunities in climate-tech entrepreneurship and draw international focus towards India's growing green economy. This partnership comes as India intensifies efforts to decarbonize key sectors while ensuring inclusive growth. Startups and MSMEs are recognized as critical enablers in this transformation, particularly in areas like renewable energy, sustainable mobility, battery storage, and industrial decarbonization.

With global capital seeking to fund climate-positive ventures and the government committed to net-zero emissions by 2070, this public-private collaboration underscores the growing importance of entrepreneur-led climate solutions in the country's investment priorities. The initiative reflects India's approach to integrating innovation into its green transition roadmap, creating a resilient and future-ready ecosystem for sustainable development and energy security.



Source: <https://knnindia.co.in/news/newsdetails/sectors/india-charts-path-to-net-zero-emissions-by-2070>

HOW AG GROUP CAN HELP YOU

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03 GREEN ENERGY

India Showcased its Vision on Renewable Energy and Green Hydrogen at World Hydrogen Summit 2025

At the World Hydrogen Summit 2025 held in Rotterdam, India showcased its ambitious renewable energy and green hydrogen vision, underscoring its commitment to becoming a global leader in clean energy. The Indian delegation highlighted the country's strategic roadmap, emphasizing its robust renewable energy base and transformative potential in green hydrogen production and export capabilities on the global stage.

India's renewable energy capacity has exceeded 223 GW. It is comprised of 108 GW from solar and 51 GW from wind sources which helps in placing the country among the world's fastest-growing clean energy markets. Based on this strong foundation, **the National Green Hydrogen Mission was formally launched in 2023 with an initial allocation of USD 2.4 billion. The mission sets the following ambitious targets:**



Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2129952>

5 MMT

Ambitious Production Goal

The aim is to achieve **millions of metric tons** in yearly production by 2030.

\$100 billion

Economic Impact

The sector anticipates **hundreds of billions of dollars** in investments and the creation of **hundreds of thousands of jobs**.

50 MMT

Significant Emission Reduction

The goal is to cut Co2 emissions

In pursuit of its green hydrogen ambitions, **India has strategically designated an annual production capacity of 862,000 tonnes to 19 companies, alongside awarding 3,000 MW of electrolyzer manufacturing capacity per year to 15 firms.** Pilot initiatives are already in progress across key sectors such as steel, transportation, shipping, and other critical sectors.



Source: <https://energy.economictimes.indiatimes.com/news/renewable/three-ports-identified-as-hydrogen-hubs-15-states-announce-green-hydrogen-policies-mnre/121293964>

Furthermore, the government has implemented **supportive measures, including exemptions from environmental clearances for green hydrogen and ammonia facilities, the development of Kandla, Paradip, and Tuticorin ports** as dedicated green hydrogen hubs, and the introduction of the Green Hydrogen Certification Scheme to ensure product traceability and environmental sustainability. Although challenges like high production costs and infrastructure constraints persist, India remains optimistic about addressing these issues through targeted strategic initiatives, policy support, and strong international partnerships.

The MNRE's participation in the summit reflects India's vision to not only meet domestic demand but also become a major global exporter of green hydrogen by 2030, contributing significantly to global decarbonization efforts and climate targets. India's active role at the World Hydrogen Summit 2025 shows its strong commitment to a clean energy future, using its renewable energy resources to become a leader in the global green hydrogen field.



Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2125231>

04 ENERGY SECURITY

The GoI has Approved Revised SHAKTI Policy to Grant Coal Allocation to India's Power Sector

The Government of India on May 7, 2025, approved the revised Scheme for Harnessing and Allocating Koyala Transparently in India (SHAKTI Policy). It will streamline coal allocation to the power sector in India. This policy ensures transparency, efficiency, and greater flexibility in distributing domestic coal to power producers, supporting India's energy security and reducing reliance on imported coal. The Cabinet

Committee on Economic Affairs (CCEA), has approved the revised policy under the chairmanship of the Prime Minister of India marking a key reform in coal linkage management and energy planning.



Source: https://www.businessstandard.com/indianews/cabinetapprovesrevised-shakti-policy-for-coal-allocation-to-power-sector-125050701288_1.html

The **dual-window system** has been introduced under the revised policy for coal allocation. **Window-I allocates coal at notified prices to central and state power-generating companies and independent power producers with existing power purchase agreements (PPAs).** Window-II offers coal to power producers without PPAs through an auction mechanism, allowing purchase at a premium over the notified price. This provides greater flexibility for power producers managing coal needs, whether for long-term capacity expansion or short-term operational requirements.



Source: <https://www.devdiscourse.com/article/law-order/3373585-revised-shakti-policy-gets-cabinet-nod-boost-for-coal-linkages-power-sector-flexibility>

The policy simplifies the complex coal allocation process by consolidating provisions into two transparent windows, expected to reduce bureaucratic hurdles and promote ease of doing business. **By facilitating coal linkages for existing and new thermal power plants, including greenfield and brownfield projects, especially at pithead locations, the policy aims to optimize logistics and lower power generation costs.** Under the revised policy, imported coal-based power plants can access India's domestic coal. It will reduce dependence on coal imports and strengthen India's energy self-reliance.

The Ministry of Coal will oversee implementation by issuing directives to Coal India Limited and Singareni Collieries Company Limited, coordinating with state governments and regulatory authorities to ensure smooth execution. Increased domestic coal availability under this scheme is expected to enhance power generation, improve grid stability, reduce electricity tariffs, and promote economic growth in coal-rich regions by generating employment opportunities.

Overall, the revised SHAKTI Policy marks a significant step toward a more efficient, transparent, and flexible coal allocation system, aligning with India's goals of sustainable energy development and economic progress.



Source: <https://www.bigmint.co/insights/detail/india-government-approves-revised-shakti-policy-to-strengthen-coal-supply-for-power-sector-645149>

FINAL TAKEAWAYS

Dual-window system enhances coal allocation flexibility and transparency

Streamlined process reduces imports, boosts domestic coal use

Policy to increase power output, lower tariffs, create jobs

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05 NORTHEAST CORNER

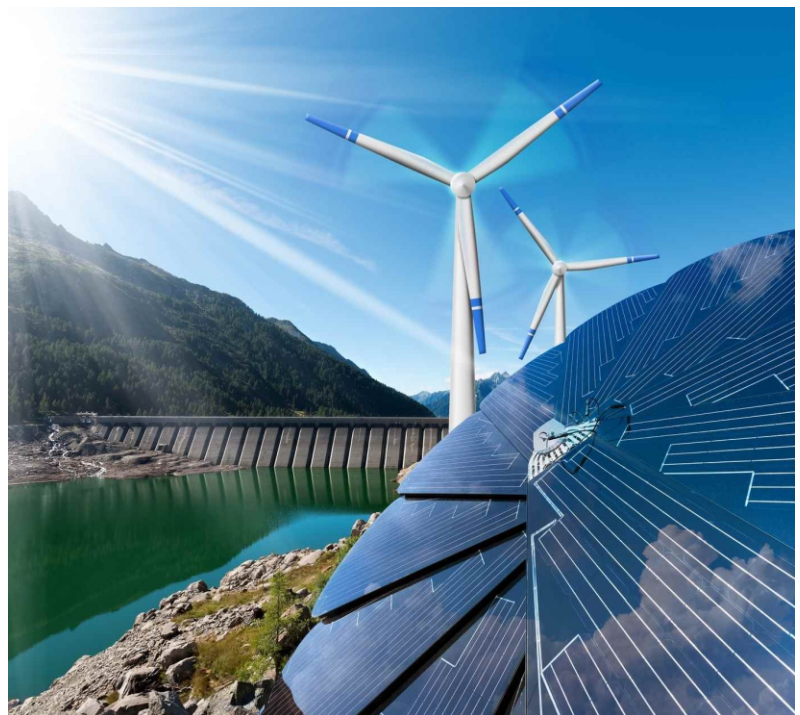
MNRE Unveils the Power Growth Vision for India's Ashtalakshmi, Northeast Region

The Ministry of New and Renewable Energy (MNRE) has unveiled an ambitious roadmap to transform India's Northeast—referred to as the "Ashtalakshmi"—into a powerhouse of clean energy and sustainable development. This vision was articulated during the Rising North East Investors Summit 2025, emphasizing the region's pivotal role in India's green growth trajectory and inclusive development.



Source: <https://www.pib.gov.in/PressReleasePage.aspx?PRID=2130793>

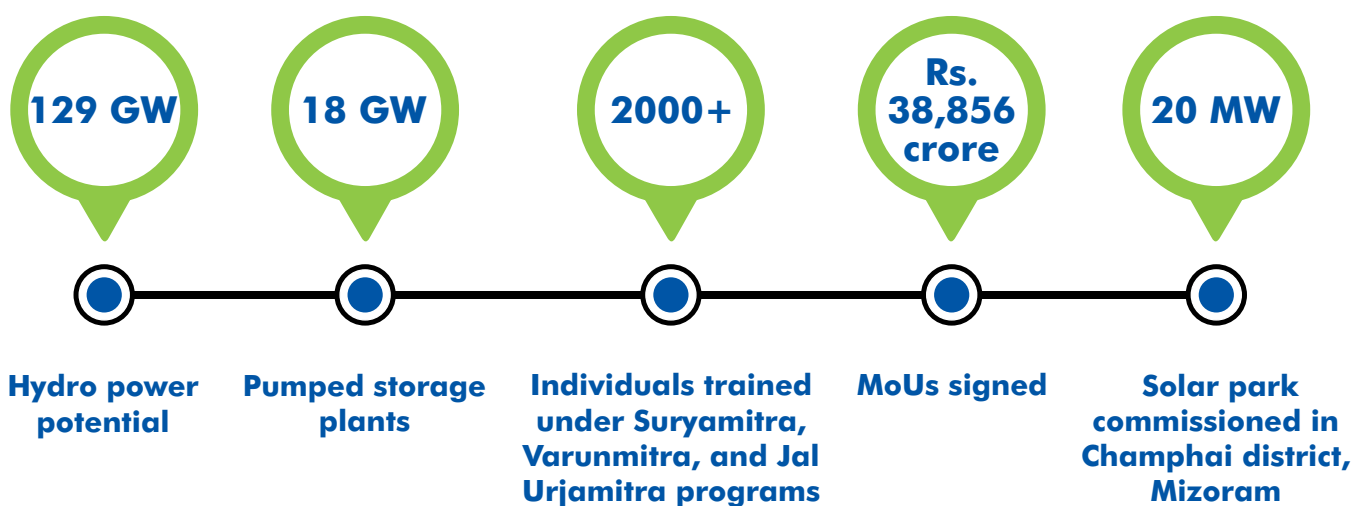
The Northeast region holds vast reserves of renewable energy yet to be harnessed, with over 129 GW from large hydro projects and more than 18 GW from pumped storage systems. To capitalize on this opportunity, the MNRE has allocated 10% of its annual scheme budget specifically for the region. Additionally, the ministry is providing enhanced financial incentives, including a 10% higher Central Financial Assistance (CFA) under the PM Surya Ghar Muft Bijli Yojana and a 20% higher CFA for two components of the PM-KUSUM scheme (Component B and Component C).



Source: <https://www.eqmagpro.com/renewable-energy-to-make-northeast-central-to-indias-green-growth-plans-pralhad-joshi-eq/>

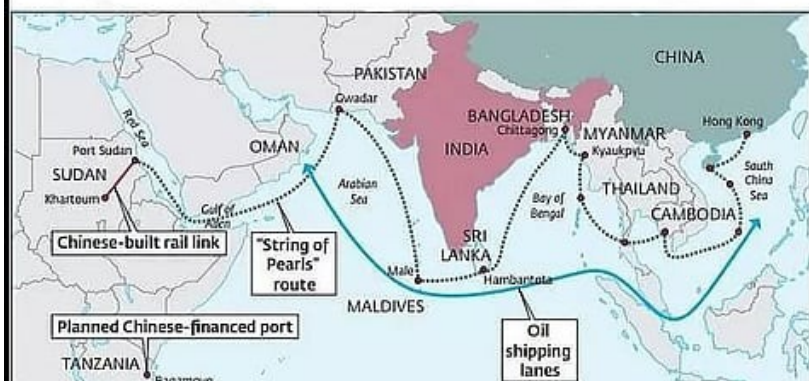
Significant investments are already underway. **A 20 MW solar park has been established in Mizoram's Champhai district, while Assam is developing a 25 MW green hydrogen plant**—also home to India's first dedicated green hydrogen facility. Furthermore, over 2,000 individuals have been trained under programs like Suryamitra, Varunmitra, and Jal Urjmitra, preparing a skilled workforce for the region's renewable energy sector.

KEY FACTS



The 115 renewable energy sector MoUs were signed in the summit between state governments and private investors which are valued at around Rs. 38,856 crore. These investments are expected to catalyze economic growth, infrastructure development, and employment opportunities in Northeast India through enhanced technological collaboration and regional empowerment.

"Act East Policy" of India



Source: <https://www.sentinelassam.com/more-news/editorial/act-east-policy-and-future-of-northeast-india-521374>

The summit highlighted the Northeast's transformation into a hub of connectivity, organic farming, and digital innovation. **It emphasized the region's strategic role in India's Act East Policy, envisioning it as a gateway for ASEAN trade.** A tri-fold agenda was underscored—focused on enhancing confidence, improving connectivity, and promoting commerce through policy reforms and sustainable practices. With these concerted efforts, the Northeast is poised to emerge as a central player in India's pursuit of a sustainable and prosperous future.

RESOURCES

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