



Group

MAY 2024 EDITION

# GOVERNMENT POLICY REPORT



# 01 SUSTAINABILITY

## ISRO's Indian Space Situational Assessment Report 2023 Compiled for Safe and Sustainable Space Operation Management

In April 2024, the Indian Space Research Organization (ISRO) revealed the Space Situational Assessment Report 2023 which was compiled by the ISRO System for Safe and Sustainable Space Operations Management (IS4OM). It has highlighted the need for safe and sustainable outer space operations while highlighting the ISRO's SSA activities followed in their 2023 space operations.



Source: [https://www.isro.gov.in/Indian\\_Space\\_Situational\\_Assessment\\_Report\\_ISSAR2023.html](https://www.isro.gov.in/Indian_Space_Situational_Assessment_Report_ISSAR2023.html)

As the world is continuously trying to explore the unknown facts of the universe, space assets are also increasing. Space objects are showing an upward trend to enrich human life experiences with the advancement of space technology. **2023 has seen a total addition of 3143 objects through 212 launches and on-orbit break-up events in the space object population.** It was recorded as 2533 objects from 179 launches in the previous year i.e. 2022.

SPACE SCOREBOARD	
OBJECT TYPE ↑↓	APPROX OBJECTS ↓↑
Active Payloads	10000
Analyst Objects	16200
Debris	18700
Total	44900

Source: <https://www.space-track.org/auth/login>



The space assets have remained in outer space even after their operation tenure and become part of space junk. Such assets are prone to various environmental hazards, collisions from artificial space objects, and natural objects such as meteoroids, asteroids, and comets along with energy and particle flux. The space debris population was expecting to get an addition of 69 additional fragmented objects by the end of 2023. Last year, globally the five major on-orbit break-up events have been the main reason behind it. To ease the burden, ISRO has highlighted the inclusion of various activities to safeguard India's space assets in national interests.

## MAJOR SSA ACTIVITIES FOLLOWED BY ISRO

Close Approach Assessment of Satellites and Launch Vehicles

Prediction of Atmospheric Re-entry

Study of the Evolution of Space Object Population

It is practising responsible space behaviour in conducting outer space operations. Till 31st December 2023, ISRO in its entire space operation history, launched 127 Indian Satellites that include the satellites of private operators and academic institutions. But 2023 was a milestone year as the world has seen the great research and operation capabilities of India in outer space.

Sl. No.	Mission in 2023	Indian Payloads		Foreign Payloads
		ISRO/GOI	Private/Academic	
1	SSLV-D2/EOS-07	EOS-07	AZAADISAT-2	Janus-1
2	LVM3-M3/OneWeb India 2	-	-	36 OneWeb satellites
3	PSLV-C55/TeLEOS-2	-	POEM-2 hosted 7 non-separating payloads	1. TeLEOS-2 2. Lumelite-4
4	GSLV-F12 NVS-01	NVS-01	-	-
5	LVM3-M4/Chandrayaan-3	Chandrayaan-3	-	-
6	PSLV-C56/DS-SAR	-	-	DS-SAR, NuLlon, Orb-12 Strider, Galassia-2, SCOOB-II, Arcade, Velox-AM
7	PSLV-C57/Aditya L-1	Aditya L-1	-	-

Source: [https://www.isro.gov.in/Indian\\_Space\\_Situational\\_Assessment\\_Report\\_ISSAR2023.html](https://www.isro.gov.in/Indian_Space_Situational_Assessment_Report_ISSAR2023.html)





In 2023, ISRO launched a total of 5 Indian Satellites and 46 foreign satellites besides 8 rocket bodies. For all their launch vehicles, ISRO has made Collision Avoidance Analysis (COLA) a mandatory clearance protocol.

### LIST OF ACTIVE DEEP SPACE MISSIONS OF INDIA IN 2023

Chandrayaan-2 Orbiter

Aditya-L1

Propulsion Module of Chandrayaan-3



Source: [https://www.isro.gov.in/Indian\\_Space\\_Situational\\_Assessment\\_Report\\_ISSAR2023.html](https://www.isro.gov.in/Indian_Space_Situational_Assessment_Report_ISSAR2023.html)

The report has also mentioned the controlled re-entry of Meghatropiques-1 into Earth's atmosphere post its end-of-life. The entry was controlled by the ISRO ground station. This year has seen the highest rise in several close approach alerts and the number of CAMs executed due to the increasing number of space assets.

Orbital Regime of Spacecraft	No. of Orbit Manoeuvres (excluding CAM)
LEO	450
GEO	456 (excluding small pulsing manoeuvres)
Planetary (Chandryaaan-2)	17

Source: [https://www.isro.gov.in/Indian\\_Space\\_Situational\\_Assessment\\_Report\\_ISSAR2023.html](https://www.isro.gov.in/Indian_Space_Situational_Assessment_Report_ISSAR2023.html)

In 2023-24, India being the chair of the Inter-Agency Debris Coordination Committee (IADC), hosted the 13 space agencies alongside leading space working groups. They have discussed space debris, and space traffic management to achieve the long-term sustainability of the outer space activities and operations in April 2024. India has been the signatory of all major space treaties and thus, has improved compliance and set launch protocols to continuously safeguard the outer space and space assets.





# 02 GREEN FINANCE

## NABARD Unveiled Climate Strategy 2030 to Accelerate Growth of Green Financing in India

On World Earth Day 2024, aiming at India's rising need for green financing, the National Bank for Agriculture and Rural Development (NABARD) launched the Climate Strategy 2030 document. The document was unveiled at the 78<sup>th</sup> Business Plan Meet of NABARD at Thiruvananthapuram.



Source: <https://www.nabard.org/auth/writereaddata/WhatsNew/2904240453nabard-releases-climate-strategy-2030.pdf>

It has identified four key pillars to address the demand for green finance and keep up the momentum of the sustainable development of the country. It will help India to attract a flow of financial investments for the success of environmental initiatives to boost the green economy and green jobs.

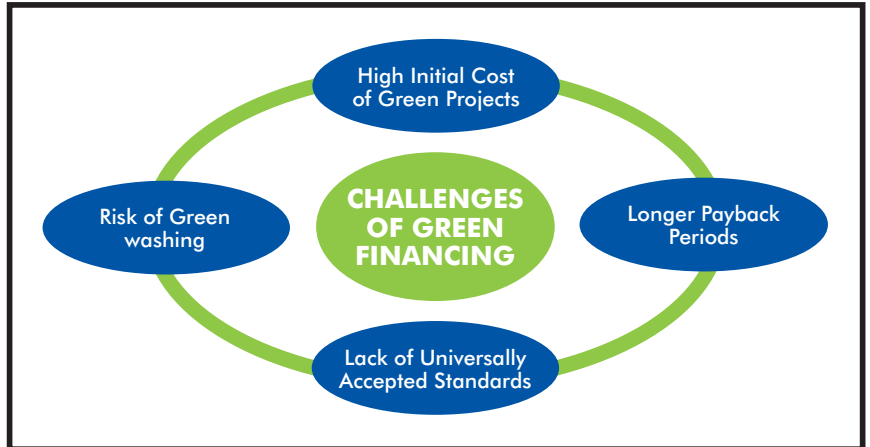




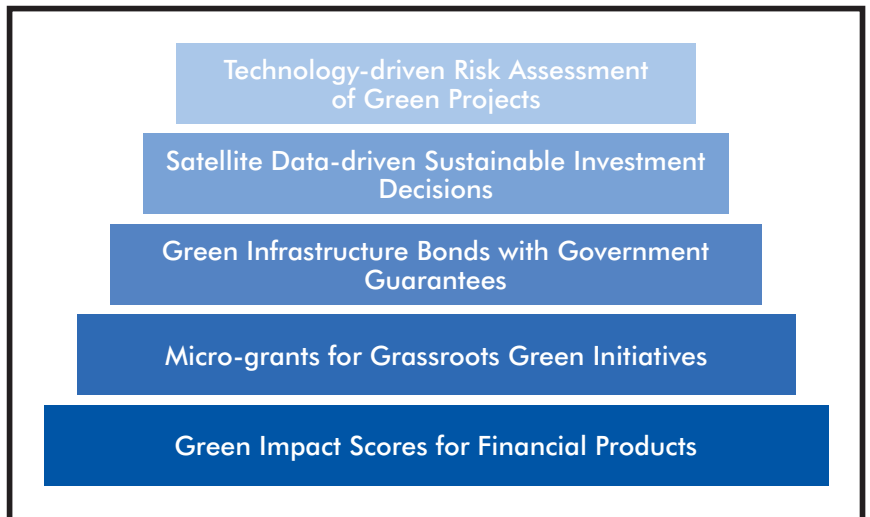
The efforts will reduce the vulnerability of climate change, as India demands around US\$ 170 billion annually to achieve over US\$ 2.5 trillion in finance to fuel up its sustainable growth by 2030. At present, it has largely insufficient green finance to cater to its sustainable development demands. The strategy will address this huge financial gap to accelerate India's efforts towards green development with the help of NABARD.

As per the 2019-20 statistics, India has reserved US\$49 billion to give green financing a boost. Out of the total, only a mere US \$5 billion was allocated towards adaptation and resilience. But, this being one of the major aspects of green development to tackle the ongoing climate change scenario, further financial allocation is required.

India's green financing efforts have experienced very minimal engagement from private players due to the challenges in the availability of bank finance and the commercial viability of green projects. The NABARD's strategy will address the key challenges and create a conducive market scenario for private entities to play a major role in implementing sustainable practices. This will help India to unlock new economic potential in green financing through stimulating innovation and demand for clean technologies in the future.



### KEY IMPROVEMENTS NEEDED IN GREEN FINANCING



#### How AG Group Can Help You

To equip your business with innovative solutions to adapt to climate change [Click Here](#)

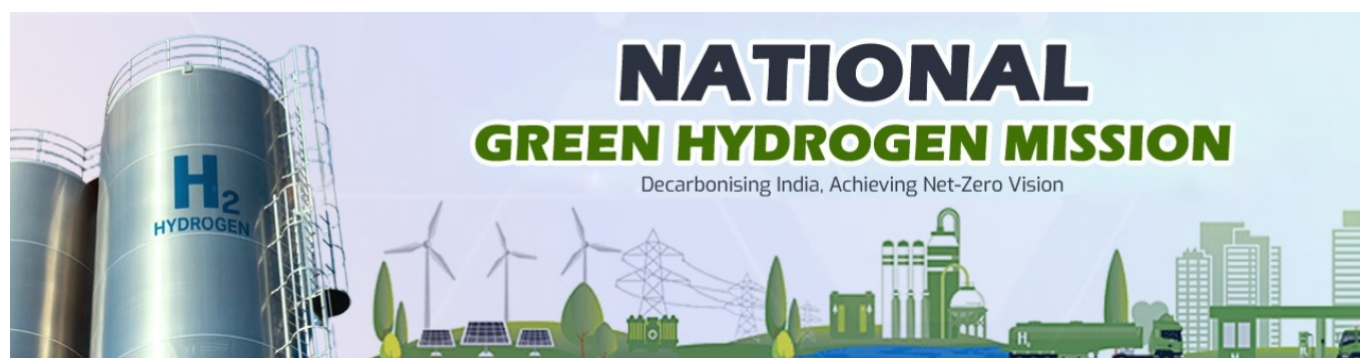


# 03

## GREEN ENERGY

### Govt Issued Guidelines to Implement R&D Scheme under Green Hydrogen Mission

On 15<sup>th</sup> March 2024, the Ministry of New & Renewable Energy (MNRE) announced the all-inclusive guidelines for implementing the Research and Development (R&D) Scheme under the National Green Hydrogen Mission. **The mission was launched by the Govt on 4 January 2023 with a total budget outlay of INR 19744 crores till the FY 2029-30.**



Source: <https://www.indianchemicalnews.com/policy/govt-extends-deadline-for-submission-of-rd-proposals-under-national-green-hydrogen-mission-21351>

This R&D scheme aims to engage multiple stakeholders such as government, industry, and academia to bring innovative solutions with the aim to make the green hydrogen value chain efficient, safe, and reliable. This scheme will foster the promotion of green hydrogen technologies all around its life cycle including production, storage, transportation, and utilization. To promote innovations, the scheme encourages building a cutting-edge ecosystem for advancing technologies in green hydrogen production.

#### OBJECTIVE OF R&D SCHEME

- To Increase Affordability of Green Hydrogen Production, Storage, Transportation, and Utilization and Enhance the Efficiency, Safety, and Reliability of the Relevant Systems and Processes.
- To Build-Industry-Academia-Government Partnerships to Leverage the Opportunity to Establish an Innovation Ecosystem for Green Hydrogen Technologies.
- To Facilitate Scaling up and Commercialization of the Technological Advancements by Providing Requisite Policy and Regulatory Support.





It will further attract green development across the sectors including industries, power generation, and transportation. Adequate policies and regulations-driven support will help to commercialize and scale up India's green hydrogen industry globally. **The R&D scheme under the mission is granted a total budget of INR 400 crores to be implemented till FY 2025-26.**

**The industry players, selected organizations of the public and private sector, universities, and research institutions will be eligible** to take part in this scheme. The financial allocation will be focused on goal-oriented, time-bound, and scalable research projects that can promise quantifiable returns and growth of the green hydrogen ecosystem in India.

The idea is to develop innovative solutions impacting cost reduction and scalability. The guidelines under the scheme are going to boost technology advancement and innovation to support further development in green hydrogen. It will accelerate India's green efforts in supporting green energy transition and sustainable development across the sectors.



Source: <https://hydrogengentech.com/category/news/green-hydrogen-mission/>



Source: <https://hydrogengentech.com/category/news/green-hydrogen-mission/>



Source: <https://hydrogengentech.com/category/news/green-hydrogen-mission/>





# 04 CRITICAL MINERALS

## Ministry of Mines Organized Critical Minerals Summit to Move Forward India's Critical Mineral Agenda

The **Ministry of Mines** has organized a two-day summit between 29 to 30 April 2024 with the title '**Critical Minerals Summit: Enhancing Beneficiation and Processing Capabilities**'. The event took place at the Indian Habitat Centre (IHC), New Delhi. The summit was conducted in association with the **Council on Energy, Environment, and Water (CEEW)**, the **Shakti Sustainable Energy Foundation (Shakti)**, and the **International Institute for Sustainable Development (IISD)**.



Source: <https://pib.gov.in/PressReleaseSelfframePage.aspx?PRID=2019185>

It has promised a positive outcome to achieve the strategic objective of countries' critical minerals strides through planned collaboration and decisive policy formulation. The authorities have discussed the realization of the practical importance of knowledge sharing and fostering an innovation system in the critical mineral domain. **This has highlighted the importance of national and global efforts to maintain an adequate supply chain of critical minerals.** It will further boost skill development and recycling capabilities in the area within our country to play a significant role in India's strategic interest.

### KEY INSIGHTS

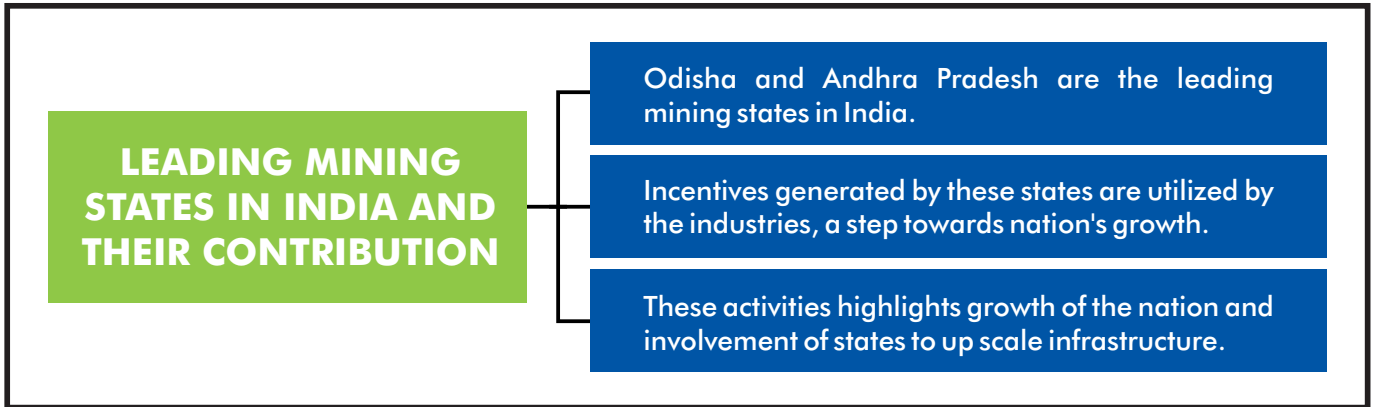
To Increase Affordability of Green Hydrogen Production, Storage, Transportation, and Utilization and Enhance the Efficiency, Safety, and Reliability of the Relevant Systems and Processes.

To Build-Industry-Academia-Government Partnerships to Leverage the Opportunity to Establish an Innovation Ecosystem for Green Hydrogen Technologies.

To Facilitate Scaling up and Commercialization of the Technological Advancements by Providing Requisite Policy and Regulatory Support.



Various authorities including government officials, industry experts, and representatives from leading states in the critical mineral segment have discussed transformative inputs and critical collaborations. The discussions revolved around policy incentives and investment opportunities in India under a **cluster-based approach**. It will **promote synergy in mining operations and especially support the promotion of low-carbon technologies in various mining processes including extraction, refining, and end-use**.



The summit showcased the benefits of adopting critical mineral processing prospects in India. Besides this, **fiscal incentives offerings like subsidies and tax credits along with non-fiscal incentives have also been discussed**. The summit has primarily educated the stakeholders from government and industry about essential tools, updated knowledge, and networking to foster the production of critical minerals in the country.

The event encouraged the wise selection of incentive-driven policies and advancement in the Critical Mineral sector. **It has also highlighted the significance of a defined regulatory regime along with clear ESG standards for the mining industry to attract investments**. Thus, it will place India among the top players in the critical mineral supply chain globally while primarily fulfilling its national interests.



Source: <https://pib.gov.in/PressReleaseIframePage.aspx?PRID=2019185>

### How AG Group Can Be a Help

To receive assistance in identifying government programs for partnership [Click Here](#)



# 05 COMMUNICATION

## Telecommunication Infrastructure and Spectrum Sharing Recommendations Issued By Gol

On 24<sup>th</sup> April 2024, the recommendations on 'Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing' were announced by the Telecom Regulatory Authority of India. **The goal is to encourage collaboration, boost the quality of service, and improve the utilization of resources** to ultimately benefit the end customers. The recommendations are in response to the request made by telecom operators to the **Department of Telecommunications (DoT)** to find ways to enable efficient sharing of spectrum resources.

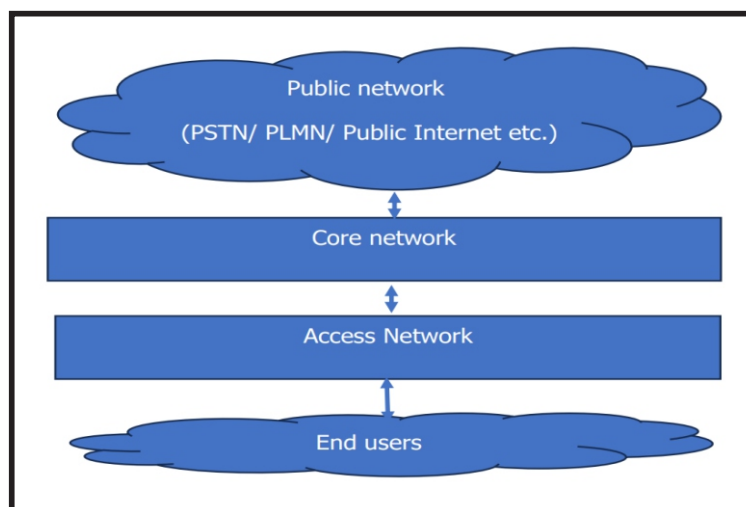
In recent years, the telecom sector has witnessed outstanding advancement. Today's market witnesses huge demand for varied digital services such as voice calls, data services, etc. To cater to this demand and minimize the service gap, the optimum use of telecommunication infrastructure is paramount. Thus, these recommendations will provide a framework for sharing the valuable spectrum resources of the country among telecom operators.

The TRAI recommendations have included several changes to transform existing telecom systems into more consumer-centric liberalized spectrum



Source: <https://ddnews.gov.in/en/trai-releases-recommendations-on-telecom-infrastructure-and-spectrum-sharing/>

### TELECOMMUNICATION NETWORK OF TSPs



Source: [https://tra.gov.in/sites/default/files/Recommendation\\_24042024.pdf](https://tra.gov.in/sites/default/files/Recommendation_24042024.pdf)



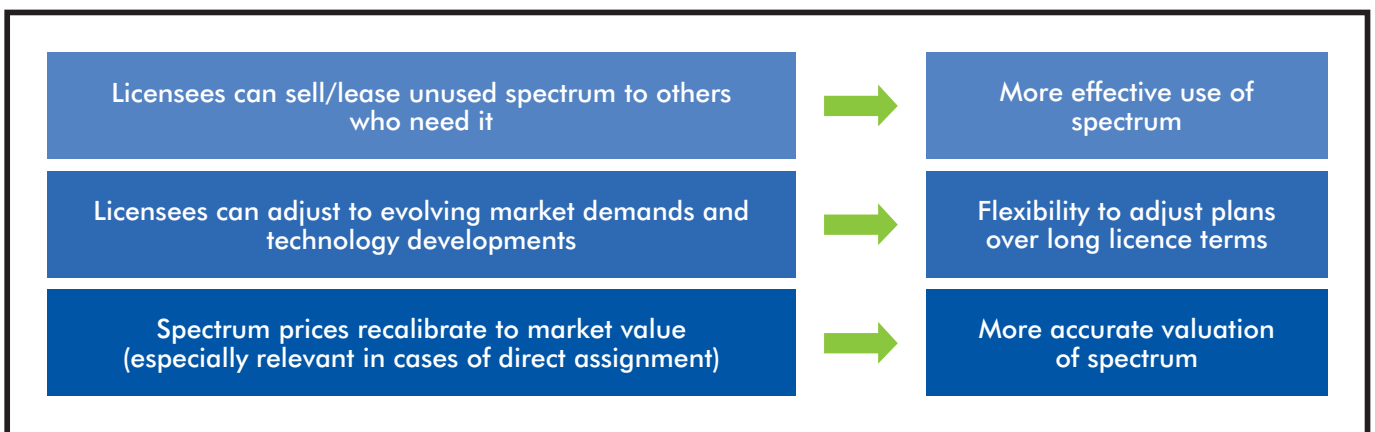
sharing and leasing. It advises the usage of active as well as passive telecom infrastructure sharing. Base stations, Radio Access Networks (RANs), etc. form part of active infrastructure sharing whereas facilities like towers, power supply systems, etc refer to passive ones. This is further complemented by promoting infrastructure sharing for achieving cost savings, advanced service quality, and minimizing its impact on the environment.

Spectrum band category	Short description of the category	Frequency bands under the category
Category-1	Low bands	Sub-1 GHz bands i.e., 600 MHz, 700 MHz, 800 MHz and 900 MHz bands
Category-2	Mid bands (FDD)	1800 MHz and 2100 MHz bands
Category-3	Mid bands (TDD)	2300 MHz, 2500 MHz and 3300-3670 MHz bands
Category-4	High bands	26 GHz and newly identified bands (37-37.5 GHz, 37.5-40 GHz, 42.5-43.5 GHz)

Source: [https://traai.gov.in/sites/default/files/Recommendation\\_24042024.pdf](https://traai.gov.in/sites/default/files/Recommendation_24042024.pdf)

The latest Telecommunications Act of 2023 empowers the central government to sanction leasing, spectrum sharing, trading, etc. The recommendations have suggested the sharing of inter-band access spectrum in each service area among existing telecom operators. To realize this, the use of Radio Access Network Sharing and Pooling of Spectrum will be done.

### BENEFITS OF SECONDARY MARKET FOR SPECTRUM TRADING AND SPECTRUM LEASING



Source: [https://traai.gov.in/sites/default/files/Recommendation\\_24042024.pdf](https://traai.gov.in/sites/default/files/Recommendation_24042024.pdf)

In Radio Access Network Sharing, the cooperation between the telecom operators permits the shared use of a radio access network among various operators on a shared band of different frequencies. **This brings transparency to telecommunication and promotes impartial prices and neutral access to telecom infrastructure.** Thus, the latest recommendations will be beneficial to all the stakeholders including telecom providers, and boost the overall efficiency and quality of digital services in the country.







# RESOURCES

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