

NEWS TODAY

TECHNOLOGY AND INNOVATION REPORT 2023 RELEASED BY UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT (UNCTAD)

• Report is built around the **concept of green innovation** i.e., creating or introducing new or improved goods and services that leave lighter carbon footprints and open up green windows of opportunity.

• Key findings of report

- **Widening North-South Divide:** While countries in EU reach Research & Development expenditure of 3% of GDP, only a few developing countries reach 1% of GDP expenditure.
- Following Paris Agreement, 2015, **most countries have increased their climate-change-related, green official development assistance (ODA).**
- **UN support for Technology Transfer:** Within UN system, **Global Environmental Facility (GEF)** is largest public sector funding source for transferring Environmentally Sound Technologies (ESTs).
 - UNFCCC has **UN Climate Technology Centre and Network (CTCN)**, which provides technical assistance to developing countries.

• Recommendations to foster international cooperation for green innovation

- Align trade with **Paris Agreement on Climate Change.**
- **Partnership oriented approach** to green technology development.
- **Shifting research for green innovations** from national to international levels, including open innovation approaches.
- **Support South - South Science, Technology and Innovation (STI) cooperation** for green innovation.

Green innovation has four key characteristics:



Higher degree of experimentation - countries have to be innovators. Path-following catch-up is not enough



Driven by social value and the provision of climate-related public goods



Direct government intervention



Influenced by global agendas, rules, and mechanisms related to climate change such as the Paris Agreement

CENTRE SETS 2030 AS TARGET TO BECOME GLOBAL HUB FOR GREEN SHIPPING

• Ministry of Ports, Shipping and Waterways has launched the **Green Tug Transition Programme (GTTP)** and inaugurated **India's first Centre of Excellence in Green Port & Shipping (NCoEGPS).**

• Programme will start with '**Green Hybrid Tugs**', which will be powered by **Green Hybrid Propulsion systems**, and subsequently adopting **non-fossil fuel solutions** like (Methanol, Ammonia, Hydrogen).

- **Target** has been set for **initial Green Tugs** to start working in **all major ports by 2025**. At least, 50% of all Tugs are likely to be converted into **Green Tugs by 2030**.
- Tug Boats or Tugs are small but powerful ships which are **used to pull or push other large ships for maneuvering or salvage purposes.**

• Benefits

- **Reduce emission** as country moves towards achieving sustainable development.
- In line with **India's Mission LiFE movement** and to become **carbon neutral by 2070**.

• NCoEGPS (in Gurugram) is result of collaboration between **Ministry of Ports, Shipping & Waterways** and **The Energy and Resources Institute (TERI).**

- It aims at **empowering 'Make in India' in Port, Coastal and Inland water transport.**

OTHER INITIATIVES FOR GREEN SHIPPING

• **India** has been selected as **first country under IMO Green Voyage 2050 project** to conduct a pilot project related to Green Shipping.

• **Maritime Vision Document 2030** for sustainable maritime sector and vibrant blue economy.

• **Paradip Port, Deendayal Port and V.O. Chidambaram Port** to be developed as **Hydrogen Hubs** - capable of handling, storing and generation of green hydrogen by 2030.

DIRECTORATE GENERAL OF FOREIGN TRADE (DGFT) AMENDS BIOFUELS' EXPORT POLICY

• DGFT has modified the 2018 notification, allowing **export of biofuel from Special Economic Zones (SEZs) and Export-Oriented Units (EOUs)** for both fuel and non-fuel purposes without any restrictions if biofuel is produced using imported feed stock.

➤ **Biofuel imports and exports** both require a license.

• Biofuel, **renewable form of energy, is any hydrocarbon fuel that is produced from organic matter** in a short period of time. This is in contrast with fossil fuels.

➤ **Types of Biofuel:** Bio ethanol, Biodiesel, Compressed Bio-Gas (CBG), Bio-hydrogen etc.

• **Significance of Biofuels**

➤ **Reduce greenhouse gas emissions** and are a renewable source of energy.

➤ **Benefit Farmers with additional income.**

➤ **Opportunities for new businesses** in processing of biomass, storage solutions and enable employment generation.

• **Government policies to promote Biofuels**

➤ **National Policy on Biofuels, 2018** for reaching **20% ethanol-blending by 2025-2026.**

➤ **Pradhan Mantri JI-VAN** (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran) Yojana, 2019.

➤ **GOBAR** (Galvanizing Organic Bio-Agro Resources) DHAN scheme, 2018.

➤ **Sustainable Alternative Towards Affordable Transportation (SATAT)** to establish an ecosystem for CBG production.



First Generation

Edible biomass

- Sugar beet
- Sugar cane
- Wheat
- Corn
- Oil crops



Second Generation

Non-Edible biomass

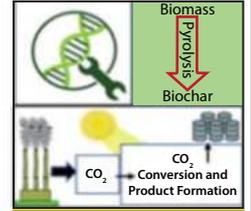
- Wood
- Grass
- Straw
- Waste



Third Generation

Algal biomass

- Marcoalgae
- Microalgae



Fourth Generation

Breakthrough

- Pyrolysis
- Solar to fuel
- Genetically modified organisms

PRIME MINISTER UNVEILS BHARAT 6G VISION DOCUMENT

• Bharat 6G vision document has been prepared by **Technology Innovation Group on 6G (TIG-6G) constituted by Department of Telecommunications (DoT), Ministry of Communications** in November 2021.

➤ It aims to **design, develop and deploy 6G network technologies** that provide ubiquitous intelligent and secure connectivity.

• **Key highlights of vision document**

➤ **Bharat 6G Mission** can be divided into **two phases**

- **Phase 1 (2023-2025):** Support to explorative ideas, risky pathways, and proof-of-concept tests.
- **Phase 2 (2025-2030):** Conceptualizing and delivering potential technology solutions.

➤ An **apex council** is to be **constituted to lay down phase wise objectives, select research and innovation pathways**, and approve financial support for them.

- Key focus of council will be on **new technologies such as Terahertz communication, radio interfaces, tactile internet**, etc.

• PM also launched **6G research and development test-bed** (Co-developed by a consortium of Indian Institutes of Technology (IITs), including Guwahati and Madras).

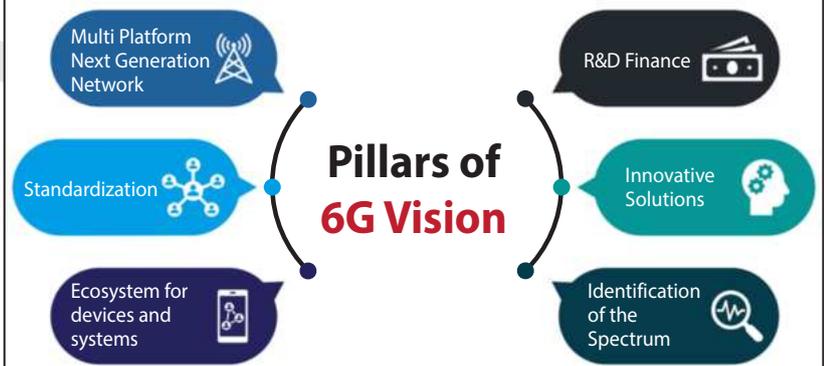
➤ It'll provide academic institutions, industries, start-ups, MSMEs etc. a platform to test and validate evolving ICT technologies.

• **6G network** is the **successor of 5G** which offer **ultra-low latency** with speeds up to **1 Tbps** and **operate by using higher end of radio spectrum**.

➤ **6G use cases:** Remote-controlled factories, constantly communicating self-driven cars and smart wearables.

➤ **Significance:** Support high-performance computing, Technology Convergence, etc.

Six task forces formed under the Technology Innovations Group



Recommendations of taskforces

- **Innovative funding mechanisms** to support industry, start-ups, academia, and national laboratories to undertake R&D.
- **Shared use of spectrum**, particularly in higher frequency bands.
- **Participation in global standards forums** to ensure interoperability.

JAPAN ANNOUNCED NEW PLAN FOR FREE AND OPEN INDO PACIFIC (FOIP)

- FOIP plan was announced by Japan's Prime Minister visit to India.
- FOIP is an initiative aimed at **curbing China's growing assertiveness in Indo-Pacific region**. Japan's concept of FOIP is akin to India's concept of Indo-Pacific Oceans Initiative (IPOI).
 - **Core principles of FOIP** include defending freedom and rule of law and respecting diversity, inclusiveness, and openness.
- **Four pillars of cooperation for FOIP**

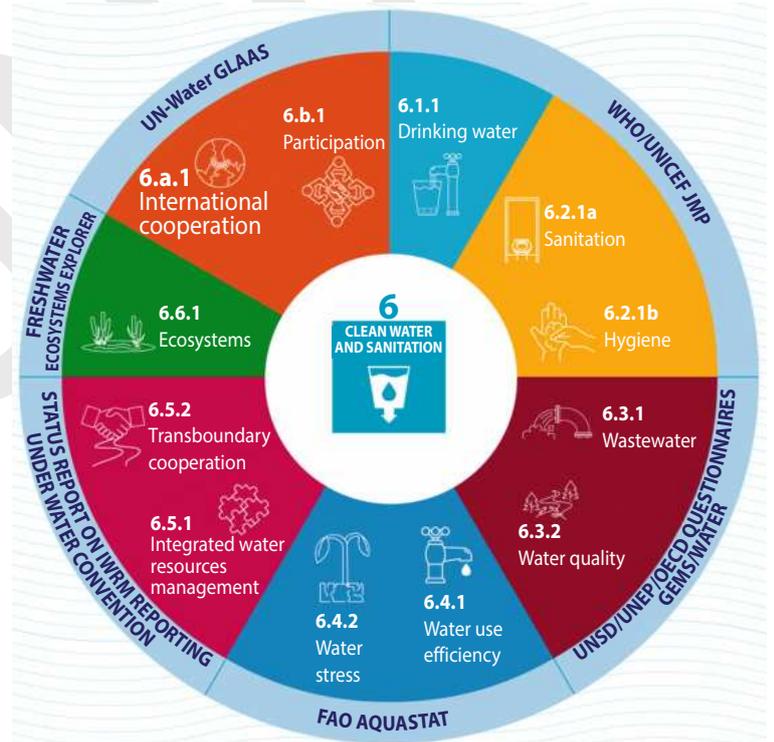
Principles for Peace and Rules for Prosperity	<ul style="list-style-type: none"> • Backbone of Japan's FOIP. • Includes respect for sovereignty and territorial integrity and opposition to unilateral changes to the status quo by force.
Addressing Challenges in an Indo-Pacific Way	<ul style="list-style-type: none"> • Emphasizes cooperation to face increasing challenges to global commons such as climate and environment, global health, cyberspace etc.
Multi-layered Connectivity	<ul style="list-style-type: none"> • Japan would focus on three regions: Southeast Asia, South Asia (special focus on Northeast India) and Pacific Islands region. • Japan will promote Bay of Bengal-Northeast India industrial value chain concept in cooperation with India and Bangladesh.
Extending Efforts for Security and Safe Use of the "Sea" to the "Air"	<ul style="list-style-type: none"> • To free the oceans from growing geopolitical risks. • Japan assured help to strengthen maritime law enforcement capabilities of each country through human resource development.

UNITED NATION WORLD WATER DEVELOPMENT REPORT (UNWWDR) 2023 RELEASED

- 2023 report titled '**Partnerships and Cooperation for Water**' has been published by **UN Education, Scientific and Cultural Organization (UNESCO)** on behalf of **UN-Water**.
 - It is published annually on World Water Day (WWD), celebrated on 22 March.
 - Theme of WWD 2023 is "**Accelerating the change to solve the water and sanitation crisis**".
 - **Coordinated by UN-Water since 1993**, WWD raises awareness and inspires action to tackle water and sanitation crisis.

- **Key findings of report**
 - At current rates, **progress towards all targets of SDG 6 (refer image) is off-track**.
 - **26 % of global population (2 billion) does not have access to safe drinking water** and 46 % of population (3.6 billion) lacks access to safely managed sanitation.
 - Water use has been **increasing globally by roughly 1% per year** over last 40 years and is **expected to grow at a similar rate through to 2050**.
 - **10% of global population** lives in countries with **high or critical water stress**.

- **Recommendations**
 - **Education and Capacity Development** for sustainable and equitable water management practices.
 - **Involvement of women in delivery of targeted water, sanitation, and hygiene (WASH) services** and broader water-related goals.



ALSO IN NEWS



Armed Forces Tribunal (AFT)

- SC in a recent judgment allowed **high courts to interfere** with pension and service-related matters decided by AFT.
 - SC observed that **power of judicial review under Article 226** is part of **basic structure of Constitution** and all decisions of a tribunal would be subject to High Court's writ jurisdiction.
- **AFT are established under AFT Act, 2007** to provide for adjudication with respect to commission, appointments, enrolment, and conditions of service.
 - **Section 30 of AFT Act, 2007** provided that an appeal against order of AFT will lie **only in Supreme Court** if it involves a question of law of public importance.

 <p>Quacquarelli Symonds (QS) World University Rankings</p>	<ul style="list-style-type: none"> Led by its Institutes of Eminence (IoE), India has improved its position in QS World University Rankings by Subject. <ul style="list-style-type: none"> Indian universities perform well in fields of Computer Science, Chemistry, Biological Sciences, Business Studies, and Physics. 44 courses offered in India's higher educational institutes ranked among global top 100. QS use six indicators to compile the ranking: Academic reputation, employer reputation, citations per faculty, faculty/student ratio, international faculty ratio and international student ratio. <ul style="list-style-type: none"> It is an annual publication of university rankings which comprises global overall and subject rankings.
 <p>Exercise Cobra Warrior</p>	<ul style="list-style-type: none"> Multilateral Air exercise held twice a year in United Kingdom in which Air Forces from India, Finland, Sweden, South Africa, USA, UK and Singapore participated.
 <p>Call Before You Dig App</p>	<ul style="list-style-type: none"> It is an initiative of Department of Telecommunications, Ministry of Communications. It aims to prevent damage to underlying assets like optical fiber cables that occur because of uncoordinated digging and excavation. <ul style="list-style-type: none"> It will connect excavators and asset owners through SMS/Email notifications to ensure safety of underground assets.
 <p>International Telecommunication Union (ITU) Area Office and Innovation Centre</p>	<ul style="list-style-type: none"> Inaugurated by Prime Minister, it will serve India, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives, Afghanistan, and Iran. <ul style="list-style-type: none"> India signed a Host Country Agreement in 2022 with ITU for establishment of Area Office. ITU (Headquarter in Geneva, Switzerland) <ul style="list-style-type: none"> It was founded in Paris in 1865 as International Telegraph Union. It took its present name in 1932, and in 1947 became a specialized agency of United Nation. It is an intergovernmental organization that coordinates between governments and private sector bodies with respect to global telecommunication and information communication technology (ICT) services. Membership: 193 member states. 
 <p>Khandagiri Udayagiri Caves</p>	<ul style="list-style-type: none"> Archaeological Survey of India (ASI) has warned that these caves are eroding fast. About caves <ul style="list-style-type: none"> One of the earliest groups of Jain rock-cut architecture in Eastern India. Built around 2nd century BC by King Kharavela of Meghavahana dynasty. They were first brought to notice by A. Stirling in 1825 A.D. Udayagiri has 18 caves whereas Khandagiri has 15 caves. Each of these caves has various inscriptions either in Brahmi script or Devanagari script. Hathigumpha Inscription is a seventeen line inscription in Prakrit language incised in Brahmi script in a cavern called Hathigumpha in Udayagiri hills, inscribed by Jain king Kharavela.
 <p>Places in news</p>	<p>Jordan (Capital: Amman)</p> <ul style="list-style-type: none"> Second Consultative Meeting on Defence Cooperation held between India and Jordan. Political Boundaries <ul style="list-style-type: none"> Middle Eastern Country located in Arabian Peninsula. Shares border with Syria, Iraq, Saudi Arabia, Israel and parts of Palestine (West Bank). Al-Aqabah, only port of Jordan, provides a short coastline to Jordan at Gulf of Aqaba (Red Sea). Geographical Features: <ul style="list-style-type: none"> Physiographic regions (from east to west): Desert (Wadi Rum, spread over other country also), uplands, and Jordan Valley (northwest portion of great East African Rift System). Major River: River Jordan. Highest point: Jabal Umm ad Dami. Lowest Point: Dead Sea. 