

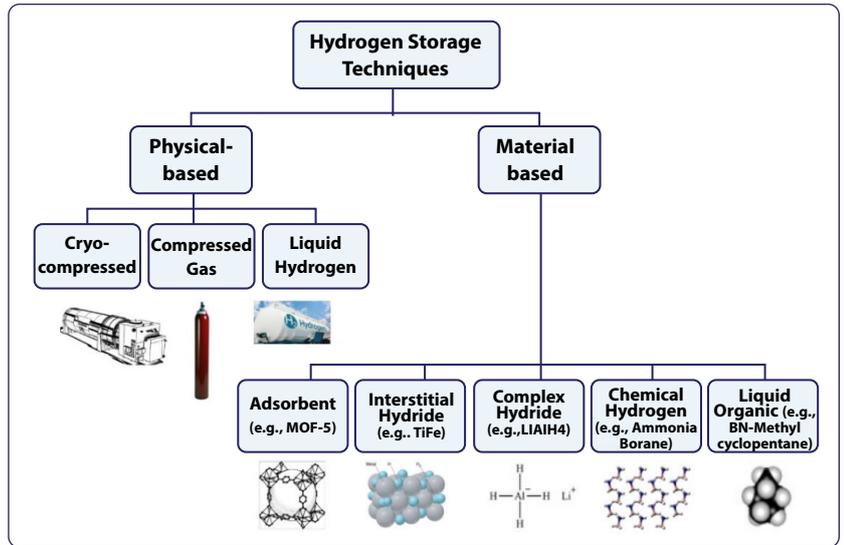
# NEWS TODAY

## ROADMAP FOR GREEN HYDROGEN ECOSYSTEM IN INDIA BY MINISTRY OF NEW AND RENEWABLE ENERGY

- It aims to address the **challenges and cost effectiveness of green hydrogen production ecosystem including its storage and transportation.**
  - The draft proposes **3 key approaches for R&D in Green Hydrogen; Blue Sky Projects (long term strategy for Intellectual Property), Mission Mode approach for Electrolysers and Grand Challenge** to encourage startups.

- Green Hydrogen Production:**
  - It can be **produced by Bio-Photolysis, Dark Fermentation, Electrolysis, photoelectrochemical water splitting, etc.**

- Hydrogen Storage:**
  - It may be stored in different forms (refer image)
  - Large-scale storage** can be **achieved through underground storage** in geological structures like salt caverns, depleted oil and gas reservoirs, and aquifers.
  - Small quantities** can be stored either **in liquified, compressed or solid-state storage.**
- Hydrogen transport:**
  - Gaseous transport:** Compressed hydrogen moved in pipelines or in tanks.
  - Liquid transport:** Liquefied hydrogen transported in cryogenic containers.
  - Solid transport:** Absorbed as metal hydride and transported in solid form then later released by desorption process.
  - Chemical Conversion:** Hydrogen is converted into methanol, ammonia, or synthetic natural gas (SNG) and transported.



## THE ANNUAL ECONOMIC REVIEW FOR 2022-23 BY ECONOMIC AFFAIRS DEPARTMENT OF THE FINANCE MINISTRY

- The report uses various **High Frequency Economic Indicators (HFEI)** such as Manufacturing PMI Services PMI, GST collection etc.
- Key observations**

Area	Observations
<b>Ascending Employment Levels</b>	<ul style="list-style-type: none"> <li>The <b>annual rural-urban combined unemployment rate (UR)</b> declined from 2017-18 to 2021-22.</li> <li>In FY23, <b>net members added by the Employment Provident Fund organization</b> reached a four-year high, growing by double-digits over the previous year.</li> </ul>
<b>Rise and Fall of Inflation in India</b>	<ul style="list-style-type: none"> <li>In the first half of FY23, India <b>reflected high imported inflation.</b></li> <li><b>Factors, like unseasonal rainfall, EL-nino</b> continue to keep upward pressure on the food inflation.               <ul style="list-style-type: none"> <li>India has responded by <b>tightening monetary policy.</b></li> </ul> </li> </ul>
<b>India's Resilient External Sector</b>	<ul style="list-style-type: none"> <li><b>India's merchandise exports</b> peaked in the April-June quarter of 2022 (Q1 of FY23) before the impact of the Russia-Ukraine war.</li> <li><b>Gross FDI</b>, which reached a record high of US\$ 84.8 billion in FY22, moderated in FY23 by 16 per cent</li> </ul>
<b>Macroeconomic stability in an environment of geopolitical uncertainty</b>	<ul style="list-style-type: none"> <li>The <b>fiscal deficit</b> of the Union Government was brought down from 6.7 % in FY22 to 6.4 % in FY23.</li> <li>The <b>gross tax revenue</b> registered a YoY growth of 12.7 % in FY23.</li> <li>The <b>total subsidy expenditure</b> shot up to 15.4 % of revenue expenditure in FY23</li> </ul>

# INDIA REJECTS RULING BY PERMANENT COURT OF ARBITRATION IN DISPUTE WITH PAKISTAN

- The Court **rejected India's objections** and **determined it is competent to consider** matters under **Kishenganga and Ratle hydroelectric projects**.
  - Kishanganga Hydroelectric Project** is a **run-of-the-river hydroelectric project** diverts water from the Kishanganga River to a power plant in the Jhelum River basin.
  - Ratle Hydroelectric Project** (Chenab river) is a hydroelectric power plant being built by India with a capacity of 850 MW.
  - India has opposed it and contends that it is in **contravention of the provisions of the Indus Waters Treaty (IWT)**.
- IWT was **signed in 1960**, between **India and Pakistan** and brokered by the World Bank.
  - IWT gives control over **three eastern rivers Ravi, Beas, and Sutlej to India**.
  - Pakistan has control over three western rivers Indus, Jhelum, and Chenab.
  - IWT provides **3 Step Dispute Resolution Mechanism viz.**
    - Step 1: Permanent Indus Commission-** required to meet at least once every year for the dispute resolution.
    - Step 2: Neutral Expert-** to deal with unresolved differences on water-sharing.
    - Step 3: Court of Arbitration-** a Seven-member arbitral tribunal to deal with the Disputes.

PERMANENTE D'ARBITRAGE PERMANENT COURT OF ARBITRATION

Hague, Netherlands

**Genesis:** It was established by the first International Peace Conference held in 1899.

**Role:** It is an intergovernmental organization that offers the worldwide community a variety of conflict resolution services.
 

- If parties choose arbitration for conflict resolution, the judgment of the arbitral tribunal is binding on them.**

**Member:** India is a member.

## INCREASE IN TOMATO PRICES AND INITIATIVES TO CURTAIL THEM

- The **sudden price rise is due to combination of various factors like:**
  - Monsoons, high temperatures, low production, heavy rainfall, and reduced supply from neighbouring states.
  - The attacks of the **Cucumber mosaic virus (CMV)** and the **Tomato mosaic virus (ToMV)** are also responsible for current crop losses.
    - CMV**
      - Host includes **cucumber, melon, eggplant, tomato, etc.**
      - Spread by aphids**, which are sap-sucking insects.
      - CMV causes **stunting and lower production**.
    - ToMV**
      - ToMV hosts include **tomato, tobacco, peppers, and certain ornamental plants**.
      - ToMV belongs to the Virgaviridae family and is closely related to the tobacco mosaic virus (TMV).
  - The government tries to **control the price through Operation Greens**.
- About Operation Greens**
  - Ministry: Ministry of Food Processing Industries (MoFPI)**
  - Objective:** To protect the growers of fruits and vegetables from making distress sale and to reduce post-harvest losses.
  - It was extended from Tomato, Onion and Potato (TOP) to all fruits & vegetables (TOTAL)
  - The pattern of Assistance:** Ministry will provide a subsidy @ 50 % of the cost of the following two components
    - Transportation of eligible crops; and/or
    - The hiring of appropriate storage facilities.

## CLASSIFICATION OF SOLAR FLARE

- Recently, X-class solar flare led to a radio blackout in parts of the US, Pacific Ocean
- Classification of Solar Flares:**
  - They are classified **according to their strength**. The smallest are A-class, followed by B, C, M, and X, the largest.
  - Each letter represents a 10-fold increase in energy output.** So an X is ten times an M and 100 times a C.
  - Within each letter class**, there is a finer scale from 1 to 9.
- What are solar flares?**
  - Solar flares are **giant explosions on the sun** that send energy, light, and high-speed particles into space.
  - These flares are often associated with **solar magnetic storms known as coronal mass ejections (CMEs)**.
  - It happens when energy stored in **'twisted' magnetic fields (usually above sunspots)** is suddenly released.

Classes of Solar Flares	Impact on Earth
X (Strongest)	Can trigger planet-wide radio blackouts and long-lasting radiation storms
M	Can cause brief radio blackouts that affect Earth's polar regions and minor radiation storms.
C	Small with few noticeable consequences on Earth.
B	Too small to harm Earth.
A (Weakest)	Are hardly noticed and does not cause any harm

## 2,200 EARTHQUAKES IN ICELAND IN 24 HOURS: WHAT IT MEANS FOR THE REGION

- Iceland is **Europe's largest and most active volcanic region due to its presence on the Mid-Atlantic Ridge.**

➤ The **diverging plate movements in the ridge region is the main cause of these swarms of earthquakes** and also lead to **creation of Hotspots** through which a vertical plume of hot molten rock erupts from the mantle.

➤ **Mount Fagradalsfjall and Eyjafjallajokull volcano** are two major earthquake zones in Iceland.

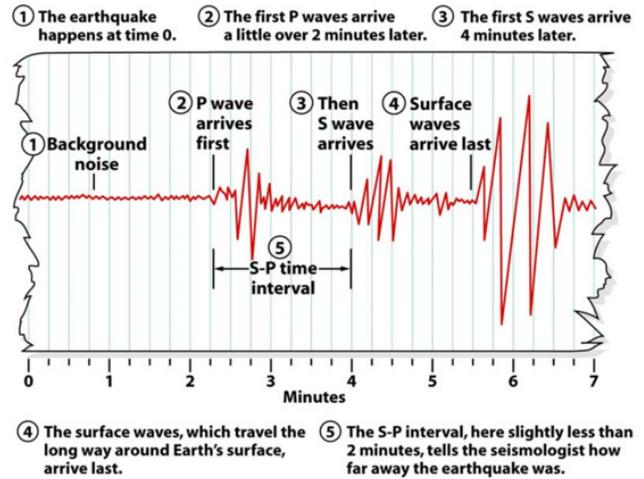
### • Earthquakes and Earthquake Swarm:

➤ Any sudden shaking of the ground caused by the **passage of seismic waves ( Body Waves (P and S) and Surface Waves Rayleigh and Love through Earth's rocks (refer infographic).**

- **S-Waves can only travel through solids.**

➤ Earthquake swarms are **sequences of many earthquakes that occur in a relatively short period** without a specific fore shock, main shock or after Shocks.

- Earthquake swarms **can last for hours, days, or even weeks.**
- They **mostly consist of low to moderate magnitude events**, although larger quakes can occur within the swarm sequence.
- They often **occur at relatively shallow depths** within the Earth's crust.
- They **normally occur along existing fault systems** which experience continuous stress and strain accumulation.



## ALSO IN NEWS



### National e-Governance Service Delivery Assessment (NeSDA) portal

- The **Department of Administrative Reforms & Public Grievances (DAPRG)** has launched the third edition of the NeSDA portal.
  - Through the portal DAPRG, **intends to conduct service delivery assessment for improving the effectiveness online services** delivery to the citizens.
  - The **2023 framework also proposes to evaluate the e-Governance at the City level** by assessing City Portal.



### World Investment Report 2023

- It was published by the **United Nations Conference on Trade and Development (UNCTAD).**
- **Key findings**
  - **Global foreign direct investment (FDI)** declined by 12 per cent in 2022.
  - **India and ASEAN** were the most buoyant recipients of FDI, with increases of 10 and 5%, respectively.



### Card Networks

- RBI has invited comments on **draft circular on Arrangements with Card Networks for issue of Debit, Credit and Prepaid Cards.**
- The circular has **proposed that card issuers provide an option to their eligible customers to choose any one among the multiple card networks.**
  - Presently, many banks **have tied up – informally – with card networks to offer their services** whether the customers prefer them or not.
- In general, a **surge in credit card usage in India is a positive indicator** of the growing purchasing power of our country.



### SALVEX

- The Seventh edition of the **Indian Navy – US Navy , Salvage and Explosive Ordnance Disposal (EOD) exercise, SALVEX** was conducted recently in Kochi.

 <p><b>Edible Oils</b></p>	<ul style="list-style-type: none"> <li>● The Agricultural Ministry has notified “<b>the Multi-Source Edible Oils Grading and Marking Rules, 2023</b>”                     <ul style="list-style-type: none"> <li>➤ The new rules <b>make it mandatory to specify the blend percentage of edible oils</b> in case of multi-source edible oils processed by blending.</li> <li>➤ <b>Edible Oil companies must mention that the oil is “Multi source edible Oil” prominently</b> on the label after the Brand name.</li> <li>➤ <b>They also should mention the names and the blending volume of the edible oil in the packet</b> and should also mention their form i.e either raw or refined.</li> </ul> </li> </ul>
 <p><b>Taylor Glacier</b></p>	<ul style="list-style-type: none"> <li>● Scientists have discovered why Taylor Glacier in <b>Antarctica bleeds 'crimson red' drool from its tongue.</b> <ul style="list-style-type: none"> <li>➤ <b>Also known as Blood Falls, it was first discovered</b> in 1911 by a British expedition.</li> </ul> </li> <li>● <b>The reason for the iconic red hue</b> was the presence of little '<b>iron-rich nanospheres</b>'.</li> <li>● <b>Location:</b> McMurdo Dry Valleys, Antarctica.                     <ul style="list-style-type: none"> <li>➤ Similar method could be used to know about the <b>land below the ice on Mars.</b></li> </ul> </li> </ul>
 <p><b>Peste des petits ruminants (PPR)</b></p>	<ul style="list-style-type: none"> <li>● PPR has recently killed 60 sheep and goats in the highland pastures of the Lahaul and Spiti district of Himachal Pradesh.</li> <li>● <b>About PPR</b> <ul style="list-style-type: none"> <li>➤ It is a highly contagious <b>viral disease.</b></li> <li>➤ <b>It is caused by a morbillivirus</b> closely related to the rinderpest virus, and affects goats, sheep, and some wild relatives of domesticated small ruminants, as well as camels.</li> <li>➤ It is characterized by <b>severe morbidity and mortality rates.</b></li> <li>➤ <b>The PPR virus does not infect humans.</b></li> </ul> </li> </ul>
 <p><b>First overseas Indian Institute of Technology (IIT)</b></p>	<ul style="list-style-type: none"> <li>● IIT campus outside the <b>country will be set up in Tanzania</b> following the signing of an <b>agreement between the both sides of education authorities.</b> <ul style="list-style-type: none"> <li>➤ The IIT campus will be set up in <b>Zanzibar under the name IIT Madras at Zanzibar (Tanzania)</b></li> </ul> </li> <li>● The move aligns with <b>National Education Policy 2020</b>, encouraging high performing Indian universities to set up campuses abroad.</li> </ul>
 <p><b>Annapurthi</b></p>	<ul style="list-style-type: none"> <li>● A demonstration of the <b>Automated Multi-Commodity Grain Dispensing Machine – ‘Annapurthi’</b> was conducted at the “National Conference of Food Ministers of States/UTs”                     <ul style="list-style-type: none"> <li>➤ <b>Referred as Grain ATM</b>, the Grain dispenser was developed by the <b>World Food Programme-India.</b></li> </ul> </li> <li>● It <b>ensures 24x7 access to the monthly subsidised grains</b> to the needy, which was dispensed through <b>Public Distribution System.</b> <ul style="list-style-type: none"> <li>➤ It leads to a <b>reduction in waiting time of up to 70%.</b></li> <li>➤ <b>It can dispense one or two grain commodities, up to 50 kgs in five minutes, with an error rate of 0.01%.</b></li> </ul> </li> </ul>
 <p><b>Places In news</b></p>	<p><b>Mozambique (Capital: Maputo)</b></p> <ul style="list-style-type: none"> <li>● The Cabo Delgado gasfield in <b>Mozambique</b>, in which Indian energy <b>majors (ONGC Videsh, BPCL, Oil India Ltd) hold 30% stake, is expected to resume production.</b></li> <li>● <b>Location:</b> situated in Southern Africa, sharing its borders with Tanzania, Malawi, Zambia, Zimbabwe, South Africa and Eswatini.                     <ul style="list-style-type: none"> <li>➤ It shares <b>Indian ocean coastline</b> and is separated from Madagascar, Comoros and Mayotte islands through Mozambique Channel.</li> </ul> </li> <li>● <b>Geographical Features</b> <ul style="list-style-type: none"> <li>➤ <b>Biggest River:</b> Zambezi River, <b>Limpopo River</b> (cuts the Tropic of Capricorn twice).</li> <li>➤ <b>Biggest Lake:</b> Lake Malawi (Nyasa), southernmost lake in the East African Rift System.</li> </ul> </li> </ul> 