



Negative Interest Rate

❖ Context

- The **European Central Bank (ECB)** policymakers are increasingly concerned that high inflation is getting entrenched. The ECB had raised rates by 50 basis points to **zero** last month as inflation fears mounted.

❖ Key Highlights

- The **European Central Bank and the central banks of Denmark, Japan, Sweden, and Switzerland**, had experimented with negative interest rates to counter weak growth that persisted after the 2008 global financial crisis.
- Normally, one has to pay a charge for using someone's money or savings. It has been known by many different words, from **prayog** in ancient Sanskrit to **interest** in modern English.
- The oldest known example of an institutionalised, legal interest rate is found in the **Laws of Eshnunna**, an ancient **Babylonian text** dating back to about **2000 BC**.

❖ Policy Rate, Economic Cycle & Neutral Rate of Interest

- Central banks vary the **policy rate** in response to changes in the economic cycle and to steer the country's economy.
- A guidepost for central bankers in setting the policy rate is the concept of the **neutral rate of interest** : the long-term interest rate that is consistent with stable inflation.
- The neutral interest rate neither stimulates nor restrains economic growth. **When interest rates are lower than the neutral rate, monetary policy is expansionary, and when they are higher, it is contractionary.**

❖ Negative IR - Meaning and Implications

- Negative interest rates are a form of monetary policy that sees **interest rates fall below 0%**.
- Central banks and regulators use this unusual policy tool when there are strong signs of **deflation**.
- **Borrowers are credited interest** instead of paying interest to lenders in a negative interest rate environment.
- **Central banks charge commercial banks on reserves** in an effort to incentivize them to spend rather than hoard cash positions.
- In cases of a more widespread negative rate environment, **savers would have to pay interest** instead of receiving it.

❖ Impact on Banks

- When rates go below zero, **banks may be reluctant to pass on the negative interest rates** to their depositors for fear that they will withdraw their deposits.
- If banks refrain from negative rates on deposits, this could in principle turn the **spread** (difference between what they pay depositors and what they charge on the loans) negative, because the return on a loan would not cover the cost of holding deposits.
- This could in turn lower bank profitability and undermine financial system stability.

Organisation of the Petroleum Exporting Countries (OPEC+)



❖ Context

- OPEC+ members have come out in support of Saudi Arabia's view that supply curbs may be needed to stabilise world oil markets.

❖ About OPEC

- The OPEC is a **permanent, intergovernmental organisation**, created at the **Baghdad Conference** on September 10–14, **1960**, by **Iran, Iraq, Kuwait, Saudi Arabia and Venezuela**.
- OPEC's objective is :
 - to coordinate and unify petroleum policies among Member Countries, in order to secure fair & stable prices for petroleum producers;
 - Efficient, economic and regular supply of petroleum to consuming nations;
 - Fair return on capital to those investing in the industry.
- The international oil market was dominated by the **"Seven Sisters"** multinational companies in 1960s.
- Its secretariat is located in **Vienna**.
- Currently, the organisation has a total of **13 Member Countries** : Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Libya, the United Arab Emirates, Algeria, Nigeria, Gabon, Angola, Equatorial Guinea & Congo.

❖ About OPEC+

- OPEC+ refers to the 13 members of the OPEC and other non-OPEC members.
- The non-OPEC members are **Russia, Kazakhstan, Azerbaijan, Mexico, Oman, Bahrain, Brunei, South Sudan, Sudan and Malaysia**.
- These nations came to an accord towards the end of **2016** to institutionalise a framework for cooperation between OPEC and non-OPEC producing countries.



- **OPEC accounts for around one-third of the world's oil supply, with the non-OPEC members bringing the total share of global oil to just under half.**
- U.S., China or other leading western producers of energy such as the U.K., Canada and Norway are not part of the group.

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India's First Observatory To Monitor Space Activity



❖ Context

- India's first commercial space situational awareness observatory, to track objects as small as 10 cm in size orbiting the earth, will be set up in the **Garhwal region of Uttarakhand**.

❖ Key Highlights

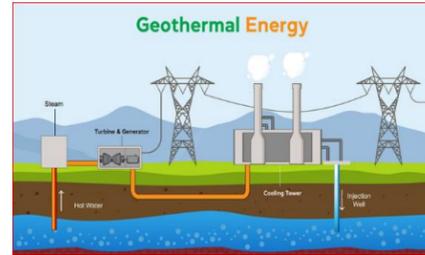
- This will improve the effectiveness of tracking and identifying pre-existing resident space objects, and will result in the creation of a hybrid data pool that will serve both the commercial and the defence sectors of the space industry.
- The **Space Situational Awareness (SSA)** observatory will help India track any activity in space including that of space debris and military satellites hovering over the region.
- Currently, the United States is a dominant player in monitoring space debris with observatories in multiple locations and commercial companies providing additional inputs from across the world.
- The high-quality observations, along with those of its partner ground-based sensor network, would help **improve its ability to monitor** events occurring in deep space, especially in the geostationary, medium-Earth, and high-Earth orbits.

- With this data, it would be able to **reduce the potential for collisions** between satellites and other spacecraft by making more accurate predictions of their location, speed, and trajectory.
- The observatory will also give India **indigenous capabilities** to monitor space activity over the subcontinent.
- This will also bring indigenous capabilities to the nation for both military and civilian applications.
- This will improve **the effectiveness of tracking and identifying pre-existing resident space objects (RSO)**, and will result in the creation of a hybrid data pool that will serve both the commercial and the defence sectors of the space industry.

Geothermal Energy in Ladakh

❖ Context

- **Oil and Natural Gas Corporation (ONGC)** has started drilling to discover energy from the bowels of the earth in *Ladakh* – an area which lies on the Himalayan geothermal belt.
- It will be India's first geothermal energy project and also the world's highest at 14,000ft.



❖ The Himalayan Geothermal Belt

- The collision of the Indian plate with the Eurasian plate gave rise to the *Himalayas* and caused a huge amount of heating which was trapped beneath the rocks.
- The resulting Himalayan geothermal belt runs from parts of India, to Tibet, China (Yunnan) and through Myanmar and Thailand.
- The 150-metre wide region extending for 3000 km in length is believed to have hundreds of geothermal fields that can generate electricity.
- Parts of Ladakh have shown evidence of geothermal activity in the form of hot springs, mud pools, sulphur and borax deposits.
- Ladakh's location at the confluence of two continental plates and the availability of rivers and other water sources makes the place a good candidate for geothermal electricity generation.
- Subsurface temperatures at Ladakh's Puga are very high.
- Geothermal reservoirs are characterised by their temperature, since the hotter it is, the more energy is trapped in the rocks and water that emerges as steam can be used to turn turbines.

- **Other regions with Geothermal Potential:** The 'Geothermal Atlas of India' prepared by the Geological Survey of India (GSI) in 1991 has identified more than 300 sites with geothermal potential across India spread across Himachal Pradesh, Gujarat, West Bengal, Chhattisgarh, Maharashtra and Jammu and Kashmir.
- **Note:** Geothermal resources are not only found at places where plates converge but also in rifts, ocean island hot spots, and tectonically active areas subject to large-scale extension.

❖ About Puga Valley

- Puga Valley is situated in the Changthang Valley in the south-eastern part of Ladakh, about 22 km away from the Salt Lake Valley.



- It is a region of great significance known for its natural beauty and geothermal activities.
- Puga is also visited for its hot sulphur spring.

Manusmriti

❖ Context

- Recently the Vice Chancellor of Jawaharlal Nehru University criticised the Manusmriti, the ancient Sanskrit text, over its gender bias.



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❖ What is Manusmriti?

- The Mānavadharmasāstra, also known as Manusmriti or the Laws of Manu, is a Sanskrit text belonging to the Dharmaśāstra literary tradition of Hinduism.
- Composed sometime between the 2nd century BCE and 3rd century CE, the Manusmriti is written in sloka verses, containing two non-rhyming lines of 16 syllabus each.
- The text is attributed to the mythical figure of **Manu**, considered to be ancestor of the human race in Hinduism.
- There has been considerable debate between scholars on the authorship of the text. Many have argued that it was compiled by many Brahmin scholars over a period of time.

- The Manusmriti is encyclopedic in scope, covering subjects such as :
 - the social obligations and duties of the various castes and of individuals in different stages of life,
 - the suitable social and sexual relations of men and women of different castes,
 - on taxes,
 - the rules for kingship,
 - on maintaining marital harmony and the procedures for settling everyday disputes
- It was the first Sanskrit text to be translated into a European language, by the British philologist Sir William Jones in 1794.
- For colonial officials in British India, the translation of the book served a practical purpose.

News in Between the Lines

India – Bangladesh Joint River Commission



❖ Context

- The 38th Meeting of Ministerial level Joint Rivers Commission, JRC, of India and Bangladesh was held in New Delhi recently.

❖ Key Highlights

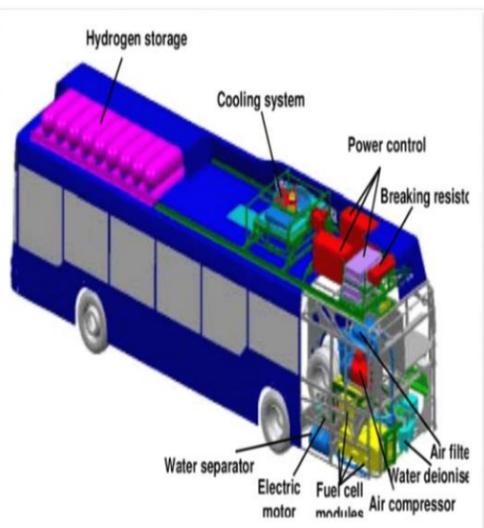
- The two sides finalized the text of MoU on '**Interim Water Sharing of Kushiara river**'.



- The Joint Rivers Commission of India and Bangladesh was constituted in the year 1972.

- Both sides also welcomed finalization of the design and location of the water intake point on the **Feni River** to meet the drinking water needs of Sabroom town in Tripura, as per the October 2019 India - Bangladesh MoU on the subject.
- India and Bangladesh share **54 rivers**, of which seven rivers have been identified earlier for developing framework of water sharing agreements on priority.
- During the meeting, it was agreed to widen the area of ongoing cooperation by including eight more rivers for data exchange.

India's First Indigenous Hydrogen Fuel Cell Bus



❖ Context

- Union Minister recently unveiled India's first indigenous Hydrogen fuel cell bus in Pune.

❖ Key Highlights

- The Hydrogen fuel cell bus is developed by the CSIR - Council of Scientific and Industrial Research and KPIT Limited.
- 'Hydrogen Vision' aim is to make India self-reliant (Aatmanirbhar) to meet weather change goals, clean energy as well as create employment in the sector.
- The fuel cell makes use of hydrogen and air in order to produce electricity and power the bus. If a diesel bus is to be compared, it typically emits 100 tons of CO2 per annum on long-distance routes.
- The hydrogen fuel cell trucks' operational cost is comparatively lower than the diesel buses and this could bring a revolutionary change across the nation.



- About **12-14%** of CO2 emissions come from diesel-powered heavy vehicles.
- Hydrogen fuel cell vehicles provide excellent means to eliminate on-road emissions in this sector.

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Building & Other Construction Workers' Welfare (BOCWW) Cess



❖ Context

- At the **National Labour Conference** organised at Tirupati, PM asked the States to make full use of the construction workers' cess that has been provided for them and had still not been utilised to the tune of Rs. 38,000 crores.

❖ What is it?

- It is a cess levied @ **1% on the cost of construction** incurred by an employer as per the provisions of the **Building and Other Construction Workers' Welfare Cess Act, 1996**.
- It is covered under **Entry 97 of List – I, Union List**, read with Entry at **serial 23 and 24 of List III in Schedule VII**.
- The **Welfare Boards** constituted under Section 18(1) of the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996 are entrusted with the task of ensuring the provision of health and welfare measures to the workers.
- The amount collected shall be transferred to the Board within thirty days of its collection. The **“Building and Other Construction Workers' Welfare Fund”** has been created under the Act. The fund levied and collected as cess is deposited to the fund.

Africa & India's Lines of Credit



❖ Context

- India has been approached by several African countries with offers to service part of their development loans (**Line of Credits, LoCs**) by giving access to Indian companies in their mining operations & allowing exports of highly prized **lithium and cobalt**.

❖ Key Highlights

- India extends development assistance through concessional LoC under the **India Development and Economic Assistance Scheme (IDEAS)**.
- The approach is the **first such instance of an economic trade-off** leveraged by India.
- In all, over **300 LoCs worth \$32 BN** have been extended by India to **65 countries across the globe**.
- With **Africa**, India has extended LoCs to over **41 countries worth more than \$12 BN**.
- LoCs are extended through **Exim Bank of India** and each LoC can have several projects under it. The LoC deal with African countries can also give India access to mineral and metal ores such as **magnesium, nickel, zinc, lead, quartz, limestone, alumina, iron, copper & bauxite**.
- Besides Africa, India may explore the reworked LoC arrangement with **Central Asian countries, Bolivia & Russia**. India had extended \$1BN LoC to Russia in 2020.

World's First Hydrogen Fuel Cell Passenger Train



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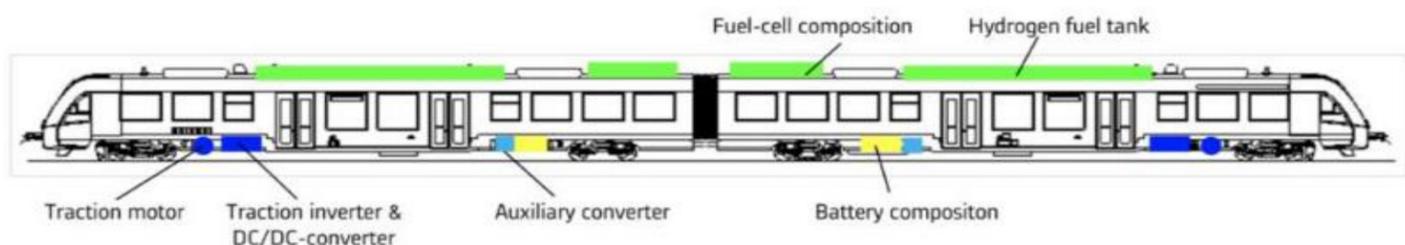
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❖ Context

- The world's first hydrogen train, the **Coradia iLint**, started in Lower Saxony, **Germany**.

❖ Key Highlights

- The first ever rail line will entirely run on hydrogen-powered trains.
- Fourteen hydrogen trains are powered by fuel cell propulsion technology.
- The trains are emissions-free and low-noise, with only steam and condensed water issuing from the exhaust. They have a **range of 1,000 kilometres** meaning they can **run for an entire day** on the network **on a single tank of hydrogen**.



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