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Current affairs summary for prelims

4 April, 2024

Synchronizing energy transitions towards possible Net-Zero for India: Affordable and clean energy for All

Context: *A meeting was convened to discuss the launch of the report titled "Synchronizing Energy Transitions towards Possible Net-Zero for India: Affordable and Clean Energy for All," prepared by IIM Ahmedabad.*

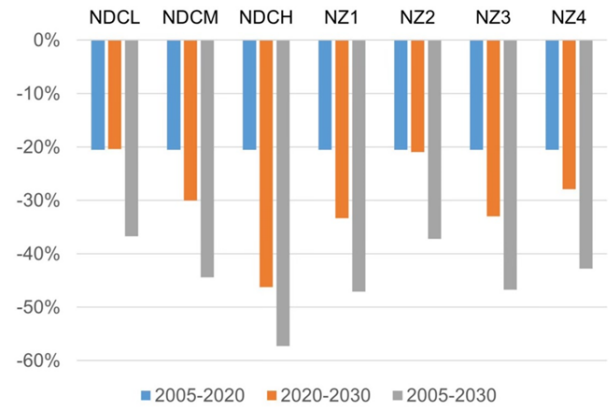
➢ **Report Overview:**

- The report, "Synchronizing Energy Transitions towards Possible Net-Zero for India: Affordable and Clean Energy for All," conducted by IIM Ahmedabad, was sanctioned by the Office of the Principal Scientific Adviser to the Government of India in November 2021.
- Funding for the project, totaling one-third, was provided by the Nuclear Power Corporation of India Ltd (NPCIL).

➢ **Key Findings:**

- Coal is projected to serve as a foundational component of India's energy landscape for the next two decades.
- Achieving net-zero emissions by 2070 necessitates significant investments in both nuclear power and renewable energy sources.
- Decarbonizing the electricity sector must occur well before 2070.
- India's emissions are expected to range between 0.56 btCO2 and 1.0 btCO2 by 2070, with remaining gaps addressed through sequestration methods.
- Effective policies regarding critical minerals and carbon dioxide removal technologies are imperative for the gradual phasing out of coal.
- A transition towards clean and affordable electricity, primarily through nuclear and renewable energy sources, is crucial for widespread electrification.
- Financial estimates suggest a requirement of Rs 150-200 lakh Crore from 2020 to 2070, emphasizing the need for significant international financial support.

Figure S.2: India's performance on GHG intensity of GDP under various scenarios



➢ **Remarks:**

- The report was underscored as pivotal for India's energy transformation, emphasizing the importance of advancing low-cost hydrogen production technologies.
- Satisfaction with the study's findings was expressed, with a call for a development-focused approach to clean energy transitions, prioritizing renewable and nuclear energy.
- Plans to increase nuclear capacity by 100GW by 2047 were outlined, indicating the report's significance in shaping future energy policies.

AI Safety Testing Agreement

Context: *Following commitments made at last year's Bletchley Park AI Safety Summit, the US and UK signed an agreement to collaborate on developing tests for advanced AI models.*

➢ **US-UK Agreement on AI Safety:**

- Both countries will exchange vital information concerning the capabilities and risks associated with AI models and systems.
- Immediate implementation of the agreement enables collaborative efforts in fundamental technical research on AI safety and security.
- Alignment of approaches towards the safe deployment of AI systems is a shared objective.

➢ **Partnership Initiatives:**

- Collaboration aims to synchronize scientific approaches and accelerate the development of robust evaluations for AI models, systems, and agents.
- Plans include establishing a common approach to AI safety testing and sharing capabilities to effectively address risks.

➢ **Joint Testing Exercise:**

- The partnership intends to conduct at least one joint testing exercise on a publicly accessible model.
- Exploring personnel exchanges between Institutes will tap into a collective pool of expertise.

➢ **Global Commitment:**

- The US and the UK pledge to develop similar partnerships with other nations to advance AI safety worldwide.

➢ **US Consultation on Open-Source AI Models:**

- The National Telecommunications and Information Administration (NTIA) seeks input on risks, benefits, and policy considerations related to open-source AI models.
- Topics include varying levels of openness, innovation, competition, safety, security, trustworthiness, equity, and national security concerns.

➢ **Industry Perspectives:**

- Meta emphasizes open source as the foundation of US innovation, highlighting its importance for economic, domestic, foreign policy, and national security interests.
- OpenAI advocates for both open weights releases and API/product-based releases as tools for achieving beneficial AI.

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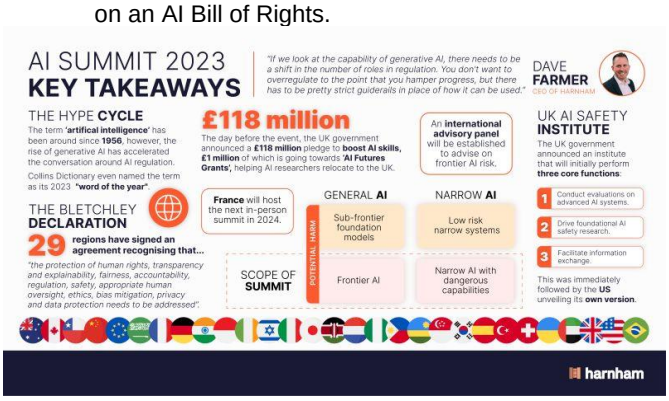
- **Global AI Regulation:**
  - Lawmakers worldwide grapple with legislative frameworks to address the challenges of AI, including setting guardrails and safeguards.
  - Recent initiatives include the EU's AI Act, the US White House Executive Order on AI, and discussions on an AI Bill of Rights.



Antiretroviral therapy coverage for HIV

Context: *The WHO reported an increase in individuals receiving antiretroviral therapy (ART) in low- and middle-income countries (LMIC) from 23.6 million in 2019 to 26.6 million in 2021.*

- **Antiretroviral Therapy (ART) Expansion:**
  - Projections indicate a 25% increase in individuals receiving ART in low- and middle-income countries (LMICs) by 2025, according to recent WHO publication.
  - Insights from this report can inform advocacy, procurement planning, and manufacturing strategies for medications used in treating HIV, viral hepatitis, and sexually transmitted infections (STIs).
- **HIV Statistics:**
  - Of the estimated 38.4 million people living with HIV by the end of 2021, the WHO African Region accounted for 25.6 million.
  - Dolutegravir-based ART is the
  - primary treatment recommended for HIV in LMICs, both for initial and secondary treatments.
- **Children's HIV Treatment:**
  - Despite a projected decline in the number of children living with HIV in LMICs, meeting the UNAIDS target of 95% treatment coverage by 2025 would require an increase in the number of children receiving treatment to 1.1 million.
- **Pre-Exposure Prophylaxis (PrEP):**
  - Oral PrEP utilization globally increased significantly, with around 1.8 million individuals receiving it in 2021, a five-fold rise from 2018.
  - The African Region experienced the most significant growth in PrEP use, with projections suggesting up to 5 million individuals may be using PrEP by 2023.
- **Hepatitis B and C Infections:**
  - Chronic hepatitis B and C infections remain significant global burdens, with over 350 million affected globally as of 2019.
  - An estimated 3 million new infections occur each year.
- **Sexually Transmitted Infections (STIs):**
  - Around 374 million new infections annually with one of four curable STIs: chlamydia, gonorrhea, syphilis, and trichomoniasis.
  - Approximately 930,000 pregnant women annually have probable active syphilis, targeted in WHO's initiative to eliminate mother-to-child transmission along with HIV and Hepatitis B.
- **Global Health Sector Strategies:**
  - The 75th World Health Assembly approved the implementation of WHO's global health sector strategies on HIV, viral hepatitis, and STIs for the period 2022-2030.
  - These initiatives align with the UNAIDS Global AIDS Strategy 2021-2026, aiming to reduce inequalities driving the AIDS epidemic and end AIDS as a public health threat by 2030.

News in Between the Lines

NATO

Today, the North Atlantic Treaty Organization (NATO) celebrates its 75th anniversary since its establishment on April 4.

About NATO:

- The North Atlantic Treaty Organization (NATO) is an **international military alliance** that was established in **1949**.
- Its primary goal is to protect the freedom and security of its members through political and military means.
- It is **made up of 32 countries** from North America and Europe, including the US, UK, France, Germany, Italy, Spain and Turkey.
- A crucial aspect of NATO is **Article 5** of the Washington Treaty, which enshrines the principle of collective defense.
- According to this article, an **attack against one member is considered an attack against all**, necessitating a collective response.
- NATO's engagement with **non-member countries like India** reflects its efforts to adapt to changing global security challenges and foster cooperation beyond its traditional boundaries.
- The member countries are sovereign states that come together to discuss political and security issues and make collective decisions by consensus.
- Its headquarter is located at **Brussels in Belgium.**

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UN Human Rights Council

Recently, the UN Human Rights Council announced its consideration of a draft resolution proposing an arms embargo on Israel, citing concerns about the "plausible risk of genocide in Gaza."

About UN Human Rights Council:

- The United Nations Human Rights Council (UNHRC) is an **intergovernmental body** that **promotes and protects human rights** around the world.
- The United Nations Human Rights Council (UNHRC) was **established in 2006** by the United Nations General Assembly, **replacing the United Nations Commission on Human Rights (UNCHR).**
- It **comprises 47 member states** elected by the UN General Assembly through a majority vote.
- It **conducts periodic reviews** of human rights situations in UN member states through the Universal Periodic Review (UPR) mechanism.
- It **addresses specific human rights violations, monitors human rights** situations globally, and recommends measures to address them.
- Its headquarter is located in Geneva, Switzerland.

Right to Information Act

Recently, the Indian Security Press (ISP) and the State Bank of India have refused to divulge information on electoral bonds under the RTI Act.

About Right to Information Act:

- The Right to Information (RTI) Act 2005 is a **fundamental right in the Indian Constitution.**
- It allows citizens to **access records held by the central and state governments**.
- The act was passed by the parliament in **June 2005**.
- Its aim is to inculcate a culture of openness, accountability and participatory governance.
- The Act and its rules outline procedures for requisitioning information, specifying time frames, methods of disclosure, application charges, and exemptions for non-disclosure.
- It helps in exposing corruption prevailing in the government systems, bringing the focus on any violation of human rights and highlighting malpractices of government authorities at union or state levels.
- The RTI Act 2005 is enshrined in **article 19(1) of Part 3** of the Indian Constitution.

Shrimp Farming

Recently, India has vehemently denied allegations of human rights and environmental abuses made by a Chicago-based human rights group at its shrimp farms.

About Shrimp Farming:

- Shrimp farming involves the cultivation of **shrimp species in controlled aquatic environments** such as ponds, tanks or enclosures.
- It is **prevalent in coastal regions**, particularly in states like **Andhra Pradesh, Tamil Nadu, Gujarat and West Bengal**.
- Common shrimp species cultivated include the **Pacific white shrimp** (Litopenaeus vannamei) and the **Black Tiger shrimp (**Penaeus monodon) among others.
- This farming often begins in hatcheries where **shrimp larvae** are bred and raised under controlled conditions before being transferred to grow-out ponds or tanks.
- Shrimp farming can have environmental implications such as **habitat destruction, water pollution** and **mangrove deforestation** if not managed sustainably.
- This farming contributes significantly to local economies by providing employment opportunities, income generation, and export revenue.
- **India is the largest supplier of shrimp**, a favorite seafood source for the U.S.

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Nagarjunasagar-Srisailam Tiger Reserve

Recently, restrictions were placed on visitors to the Ahobilam shrine, comprising nine temples within the Nallamala forest, located in the Nagarjunasagar-Srisailam Tiger Reserve.

About the Nagarjunasagar-Srisailam Tiger Reserve:

- The Nagarjunasagar-Srisailam Tiger Reserve (NSTR) is the **largest tiger reserve in India.**
- The reserve is **located in the Nallamala hill range**, which is part of the Eastern Ghats in Andhra Pradesh and the **Krishna River runs** through this reserve.
- It was declared officially in the year **1978** and has been recognized by the **Project Tiger in the year 1983**.
- This Reserve has been renamed as the **Rajiv Gandhi Wildlife Sanctuary in the year 1992.**
- This reserve is **managed by the National Tiger Conservation Authority (NTCA),** established in **2005** under the Wildlife (Protection**) Act, 1972.**
- The reserve is home to the primitive tribes of **Chenchus** and **Lambada**, with 16 villages in the core area.
- **Flora:** The habitat contains unique plants like Andrographis nallamalayana, Eriolaena lushingtonii, Crotalaria madurensis Var, Dicliptera beddomei, and Premna hamiltonii.
- **Fauna:** The reserve's fauna features top species like **tiger, leopard**, wolf, wild dog and jackal, alongside prey species such as **sambar**, **chital**, chowsingha, **chinkara**, mouse deer, wild boar,and **porcupine**.

POINTS TO PONDER

- Recently, the Indian scientists have made significant progress in understanding the genetic makeup of the virus responsible for which disease? **– Lumpy skin disease**
- According to the Indian Constitution, which article designates the Supreme Court as the 'Court of Record' with the power to punish for contempt of itself? **– Article 129**
- Which body of water is also referred to as the East Sea and was the location where North Korea recently fired a ballistic missile? **– Sea of Japan**
- In a recent ruling, the Supreme Court affirmed that Muslim women possess the absolute right to unilateral and extra-judicial divorce through which Islamic legal process? **– Khula**
- The Katchatheevu islet, which has become a contentious issue in the India-Sri Lanka fishing dispute, is situated: **– To the northeast of Rameswaram (India) and southwest of Jaffna (Sri Lanka).**