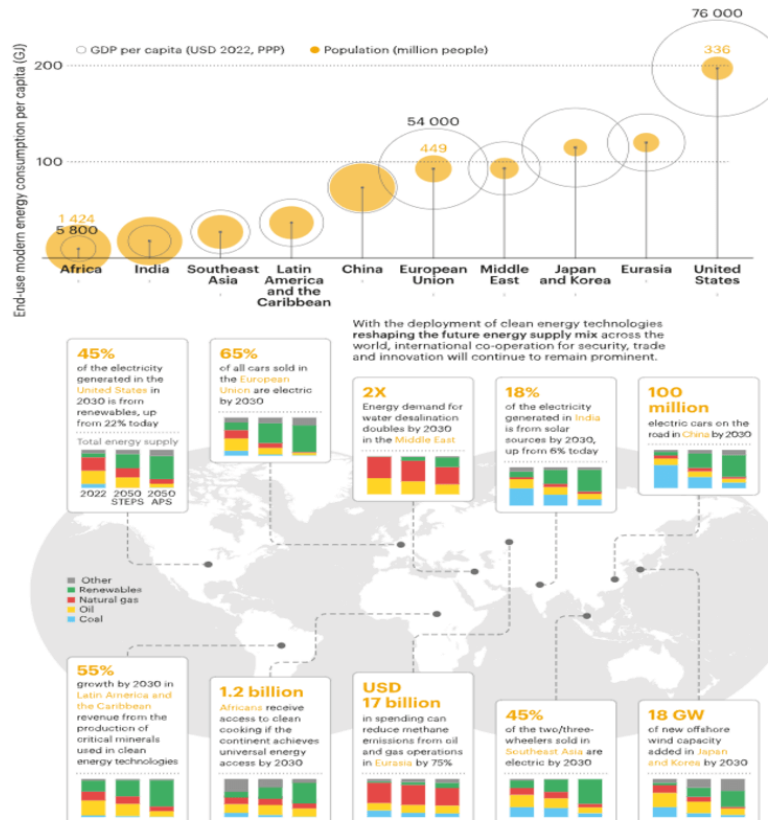


9 November, 2023

## World Energy Outlook 2023

**Context:** The IEA's 2023 World Energy Outlook report applauds India's Energy Conservation Building Code (ECBC) for commercial buildings, setting it apart from other developing economies with poor building energy efficiency.

- The 2023 Outlook assesses energy security changes over 50 years since the IEA's inception and focuses on the COP28 climate conference's role in maintaining the 1.5°C goal.
- The report explores three scenarios to understand the impact of policy choices, investments, and technology trends.
  - **Stated Policies Scenario:** Considers current policies and industrial support for clean energy supply chains.
  - **Announced Pledges Scenario:** Examines the effects of fully implementing national energy and climate goals.
  - **Net Zero Emissions by 2050 Scenario:** Outlines a pathway to limit global warming to 1.5°C.
- The Report analyzes energy trends, investment, trade, electrification, and energy access.
- Regional instability following Russia's invasion of Ukraine could disrupt energy markets and prices.
- In the Stated Policies Scenario, energy demand grows at 0.7% annually until 2030 and continues to rise until 2050.
- The Net Zero Emissions by 2050 Scenario anticipates faster electrification and efficiency improvements.
- Solar manufacturing growth outpaces deployment, presenting opportunities for energy transition acceleration.
- New LNG export projects, notably from the US and Qatar, will impact gas markets.
- The share of fossil fuels in global energy supply is projected to decrease from 80% to 73% by 2030.
- Global energy-related carbon dioxide emissions are expected to peak by 2025.
- Renewables, especially solar PV, will contribute significantly to new power capacity by 2030.
- Energy market volatility underscores the need for affordable, reliable, and resilient supply.
- Various countries encourage clean energy technology supply chain diversification through policies like the Inflation Reduction Act, Net Zero Industry Act, and Production Linked Incentives scheme.
- The global economy is projected to grow at an average of 2.6% annually until 2050, with a rising population.
- India is importing modern clean energy technologies as it expands its solar and wind power generation capacity.
- India is on track to meet its 2030 target of half non-fossil electricity capacity well before the decade ends, with solar PV playing a significant role.
- India's demand for electricity for air conditioning is estimated to increase nine-fold by 2050.



## Hypertension in India

**Context:** Recent data from the National Family Health Survey, published in JAMA, reveals significant disparities in hypertension across Indian states and districts.

- **Variation in Hypertension Care:**
  - Recent analysis of National Family Health Survey data published in JAMA reveals significant disparities in hypertension care within Indian states and districts.
  - The study emphasizes the need for "targeted, decentralized solutions."
- **National-Level Findings:**
  - National-level data indicates that in India, a large proportion of individuals with hypertension go undiagnosed.
  - Among those diagnosed, many do not initiate treatment, and even fewer successfully control their blood pressure.
  - The ratios are as follows: one in three receives a diagnosis, one in five gets treated, and one in twelve achieves blood pressure control.

## Face to Face Centres





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➤ **Inter-State Variation:**

- Prevalence of hypertension in southern states is higher than the national average, with 29.9% of the population affected in the south compared to 26.8% nationwide.
- Diagnosis rates in southern states are similar to the rest of India, but the proportion of individuals on treatment and under control is higher.

➤ **Inter-District Variation:**

- District-level disparities are evident even within states. For instance, in Meghalaya, different districts show variations in diagnosis rates despite similar prevalence.
- In Karnataka, four districts have a similar prevalence of hypertension, but treatment and control rates vary.

➤ **Factors Impacting Continuum of Care:**

- Age, gender, socio-economic status, and education level significantly influence the continuum of care for hypertension.
- Women are more likely to be diagnosed, treated, and have their blood pressure controlled.
- Older individuals have better care outcomes compared to youngsters.
- Wealthier segments of the population have higher rates of diagnosis, treatment, and control.
- Individuals with more education are more likely to receive care.

➤ **Importance of District-Level Data:**

- District-level data can guide state governments in allocating resources for hypertension care.
- Continuum of care is crucial for managing chronic conditions like hypertension.
- Local governments can address issues like medicine availability and follow-up through digitization of records.

➤ **Controlling Hypertension in India:**

- A recent WHO report suggests that nearly 4.6 million deaths can be prevented in India by 2040 if half of those with hypertension can control their blood pressure.
- The government has launched an initiative to put 75 million people with hypertension or diabetes on treatment by 2025.
- Controlling hypertension requires not only increased infrastructure but also active screening, timely treatment, medicine accessibility, and follow-ups.

**Cholesterol**  
is a type of fat that circulates in your blood and performs a number of important functions.

Heart Foundation

≈75% is produced by your liver

≈25% comes from what you eat

**HIGH CHOLESTEROL**  
Extra cholesterol can build up in your body. Having too much in your bloodstream can increase your risk of a heart attack or stroke.

Build up in the walls of arteries can cause heart disease.

A clot in a narrowed artery can cause a heart attack or stroke.

Many people are unaware they have high cholesterol.

54% OF PEOPLE admitted to hospital with a heart attack have high cholesterol.

THE ONLY WAY TO FIND OUT IS TO HAVE A BLOOD TEST.

**CHOLESTEROL CHOICES YOU CAN MAKE TO REDUCE RISK OF HEART ATTACK & STROKE**

- Stop smoking
- Make heart healthy eating and drinking choices
- Move more
- Lose weight
- Take medications

**Blood pressure**  
is the force generated by blood moving through your arteries.

Heart Foundation

**Arteries**  
are the blood vessels that carry blood from your heart to the rest of your body.

Most people don't know that they have high blood pressure!

THE ONLY WAY TO FIND OUT IS TO GET IT CHECKED BY YOUR DOCTOR OR NURSE.

High blood pressure is often called **SILENT KILLER** because for many people, there are no symptoms.

**HIGH BLOOD PRESSURE**  
(hypertension) causes force on your artery walls. This can lead to damaged arteries and increase your risk of heart attack and stroke.

High blood pressure can lead to blindness and kidney failure.

62% OF PEOPLE admitted to hospital with a heart event have high blood pressure.

**BLOOD PRESSURE CHOICES YOU CAN MAKE TO REDUCE RISK OF HEART ATTACK & STROKE**

- Stop smoking
- Make heart healthy eating and drinking choices
- Move more
- Lose weight
- Take medications

## Euclid mission

**Context:** The European Space Agency's Euclid mission, launched in July this year to study dark matter and dark energy, revealed its first five science images.

**Euclid Mission Overview:**

- The mission is named after the Greek mathematician Euclid of Alexandria, the founder of geometry in around 300 BC.
- Euclid spacecraft has a height of approximately 4.7 meters and a diameter of about 3.7 meters.
- It comprises two main components: the service module and the payload module.
- The operational orbit is a halo orbit around the Sun-Earth Lagrange point 2 (L2), located around 1.5 million kilometres beyond Earth's orbit.
- The nominal mission duration is six years, with the possibility of an extension.
- The service module houses various satellite systems, including power generation, attitude control, data processing electronics, propulsion, telecommand and telemetry, and thermal control.

**Mission Objective:**

- Euclid's primary goal is to explore the evolution of the dark Universe by creating a 3D map of the Universe, including time as the third dimension.
- It aims to understand the mysterious aspects of the Universe, particularly dark matter and dark energy.
- The mission will investigate the distance-redshift relationship and the evolution of cosmic structures by measuring the shapes and redshifts of galaxies.

## Face to Face Centres





- Euclid will cover the entire period during which dark energy significantly influenced the expansion of the Universe.
- The image quality provided by Euclid will be at least four times superior to that of ground-based sky surveys.
- The mission will accumulate a substantial archive of unique data, making it a valuable resource for research across various astronomical disciplines.

### Images sent by the Telescope:

- **Perseus Cluster:** Euclid captures an image of the Perseus Cluster, which features 1,000 galaxies belonging to the cluster, along with more than 100,000 galaxies in the background. Some of these distant galaxies are so faint that their light took 10 billion years to reach Euclid. Scientists aim to study the distribution and shapes of these galaxies to understand the influence of dark matter on the universe.
- **Spiral Galaxy IC 342:** Euclid's infrared view reveals details about the stars in IC 342, a spiral galaxy similar in appearance to the Milky Way.
- **An Irregular Dwarf Galaxy (NGC 6822):** The mission captures an image of NGC 6822, an irregularly-shaped dwarf galaxy located about 1.6 million light-years away from Earth. These types of galaxies serve as building blocks for larger galaxies.
- **Globular Cluster NGC 6397:** Euclid provides an image of NGC 6397, a nearly globe-shaped cluster of hundreds or thousands of stars held together by gravity. NGC 6397 is the second closest globular cluster to Earth, located about 7,800 light-years away.
- **The Horsehead Nebula:** Euclid presents a spectacular view of the Horsehead Nebula (Barnard 33). This image is expected to help astronomers in their search for previously unseen Jupiter-mass planets in their early stages of development.

## NEWS IN BETWEEN THE LINES

### United Nations Environment Programme



Recently, a UNEP report disclosed that none of the top 20 fossil fuel-producing nations, including India, have pledged to cut down on coal, oil, and gas production to meet the 1.5-degree Celsius warming limit.

#### About United Nations Environment Programme:

- United Nations Environment Programme was established in 1972 following the United Nations Conference on the Human Environment in Stockholm.
- The main objective of UNEP is to address global environmental concerns, provide leadership and form partnerships for environmental conservation.
- Its headquarter is located at Nairobi in Kenya.
- It is governed by the United Nations Environment Assembly (UNEA), bringing together all UN Member States.
- It focuses on climate change, ecosystem management, disaster and conflict management, environmental governance, resource efficiency, management of chemicals and waste and environmental reviews.
- It publishes major reports like the Emission Gap Report, Global Environment Outlook, Frontiers and Invest into Healthy Planet.
- It runs major campaigns such as Beat Pollution, UN75, World Environment Day and Wild for Life.

### Geoglyph



Recently, a 3,000-year-old Iron Age geoglyph circle was discovered in Telangana.

#### About Geoglyph:

A geoglyph is a large design or motif on the ground, typically formed by durable elements like rocks, stones, gravel or earth.

#### Types of Geoglyphs: 1. Positive and 2. Negative

- Positive Geoglyph is formed by arranging materials on the ground, akin to petroforms.
- Negative Geoglyph is formed by removing part of the natural ground surface, creating differently colored or textured ground, similar to petroglyphs.

**Geoglyphs in History:** Ancient geoglyphs include the mysterious Nazca Lines of Peru, Megaliths in the Urals, Uffington White Horse and the Long Man of Wilmington.

#### Telangana's Geoglyph Features:

- Etched on a granitoid hillock, 5 meters in diameter, with a circular shape and two triangles.
- Dated to the Iron Age (around 1000 BCE), possibly a model for megalithic communities in planning circular burial sites.

#### About Nazca Lines:

It is a group of massive geoglyphs in Peru's Nazca Desert, estimated to be designed between 500 BCE and 500 CE.




#### Characteristics:

- Straight lines and designs of animals and plants covering over 808 miles in an area of 19 square miles.
- Individual designs with a width of 0.2 to 0.7 miles.
- Depth of lines is 4 to 6 inches, visible from heights up to 1,500 feet.

## Face to Face Centres





<p><b>Pralay Missile</b></p> 	<p>Recently, India has achieved a successful test-fire of the surface-to-surface short-range ballistic missile 'Pralay' from Abdul Kalam Island off the Odisha coast.</p> <p><b>About Pralay Missile:</b></p> <ul style="list-style-type: none"> <li>➤ Developed by DRDO, the Pralay missile is tailored to fortify India's borders, specifically addressing defence needs along the China and Pakistan borders.</li> <li>➤ Derived from the Prithvi Defence Vehicle, 'Pralay' stands as a potent addition to India's defence arsenal.</li> <li>➤ Primarily intended for deployment along the Line of Actual Control (LAC) and Line of Control (LoC).</li> <li>➤ Positioned alongside China's 'Dong Feng 12' and Russia's 'Iskander,' showcasing India's stride in missile technology.</li> </ul> <p><b>Technical Specifications:</b></p> <ul style="list-style-type: none"> <li>➤ <b>Range:</b> 350-500 km</li> <li>➤ <b>Type:</b> Short-range, surface-to-surface missile</li> <li>➤ <b>Payload Capacity:</b> 500-1,000 kg</li> <li>➤ <b>Fuel:</b> Solid-fuel, enhancing battlefield efficiency.</li> </ul>
<p><b>Place in News</b></p> <p><b>Ethiopia</b></p>	<p>Recently, the 6th Session of India-Ethiopia Joint Trade Committee (JTC) was conducted in Addis Ababa, Ethiopia.</p> <p><b>Ethiopia (Capital: Addis Ababa)</b></p> <p><b>Location:</b> Ethiopia is a landlocked country in the Horn of Africa, located in the eastern part of the continent.</p> <p><b>Political Boundaries:</b></p> <p>It shares its borders with Eritrea to the north, Djibouti to the northeast, Somalia to the east and southeast, Kenya to the south, South Sudan to the west and Sudan to the northwest.</p> <p><b>Geographical Features:</b></p> <ul style="list-style-type: none"> <li>➤ Running southwest to northeast, the Great Rift Valley is a prominent geological feature, influencing the country's topography.</li> <li>➤ Lake Tana is the source of the Blue Nile, playing a crucial role in Ethiopia's hydrography.</li> <li>➤ The Sof Omar Caves is the largest cave in Africa.</li> <li>➤ Originating from Lake Tana, the Blue Nile is a significant river, impacting the country's agriculture and water resources.</li> </ul> 
<p><b>Personality in News</b></p> <p><b>P.B. Menon</b></p>	<p>Recently, Palakkad's veteran civil lawyer <b>P.B. Menon</b> achieved a <b>Guinness World Record, practicing law for 73 years and 60 days.</b></p> <p><b>P.B. Menon:</b></p> <ul style="list-style-type: none"> <li>➤ Menon surpassed the previous record held by Gibraltar government lawyer Louis Triay, who practiced for 70 years and 311 days.</li> <li>➤ He graduated from Government Victoria College, Palakkad, in 1947.</li> <li>➤ He studied law at Madras Law College (now Dr. Ambedkar Government Law College, Chennai).</li> <li>➤ He is recognized for holding the Guinness World Record for the longest-serving lawyer, with an impressive career spanning 73 years and 60 days.</li> <li>➤ P.B. Menon has also secured a place in the India Book of Records.</li> </ul>  <p><b>Ethical Values:</b> Integrity, Respect, Responsibility and Honesty.</p>

## POINTS TO PONDER

- ❖ Which Asian country gained independence from France 70 years ago, with the current monarch Norodom Sihamoni? - **Cambodia**
- ❖ Who, born on November 9, 1877, in Sialkot, is the author of 'Sare Jahan se Accha' and a prominent Indian philosopher? - **Allama Iqbal**
- ❖ What chemical element with atomic number 110, discovered at GSI Helmholtz Centre for Heavy Ion Research, is named after the city of its discovery? - **Darmstadtium (City: Darmstadt)**
- ❖ Which German vessel, disabled by HMAS Sydney on November 9, 1914, off the Cocos Islands, had earlier bombarded Madras during World War I? - **SMS Emden**
- ❖ In Frederick Forsyth's Day of the Jackal, which French President, the target of an assassination attempt, passed away on November 9, 1970? - **Charles de Gaulle**

## Face to Face Centres

