



48th G-7 Summit

For Prelims: G7, Clean Energy Technology, Ethanol Blending, Foreign Direct Investment, Low-Carbon Technology

For Mains: Market of Clean Energy Technology in India, Important International Institutions

Why in News?

Recently, at the 48th G7 Summit, Indian Prime Minister invited the [G7 Nations](#) to tap into the huge market for **clean energy technologies** emerging in the country.

- [Germany](#) holds the presidency of the G7 in 2022.
- The German Presidency has invited Argentina, India, Indonesia, Senegal and South Africa to the G7 Summit.

What is Group of Seven (G7)?

- It is an **intergovernmental organisation** that was **formed in 1975**.
- The bloc meets annually to discuss issues of common interest like **global economic governance, international security and energy policy**.
- The G7 countries are the **UK, Canada, France, Germany, Italy, Japan and the US**.
- **All the G7 countries and India are a part of G20**.
- **The G7 does not have a formal charter or a secretariat**. The presidency, which rotates among member countries each year, is in charge of setting the agenda. **Sherpas, ministers and envoys hammer out policy initiatives before the summit**.
- As of 2022, **G7 countries make up 10% of the world's population, 31% of global GDP, and 21% of global carbon dioxide emissions**, according to the **Summit website**. **China and India, the two most populous countries with among the largest GDP figures in the world, are not part of the grouping**.
- In all G7 countries, annual public sector expenditure exceeded revenue in 2021. Most G7 countries also had a **high level of gross debt**, especially **Japan (263% of GDP), Italy (151%) and the US (133%)**.
- The G7 countries are important players in global trade. The US and Germany in particular are major export nations. Both sold goods worth well over a trillion US dollars abroad in 2021.

What are the Other Highlights of G7 Summit?

- **PGII:**
 - G7 announced the collective mobilization of **600 billion dollars by 2027 under Partnership for Global Infrastructure and Investment (PGII)** to deliver “**game-changing**” and “**transparent**” infrastructure projects to developing and middle-

income countries.

- **LiFE Campaign:**
 - Indian Prime Minister highlighted Global Initiative for **LiFE (Lifestyle for Environment) campaign**.
 - The goal of this campaign is to encourage an eco-friendly lifestyle.
- **Stand on Russia-Ukraine Crisis:**
 - Russia-Ukraine crisis has pushed the energy prices to a record high, Indian Prime Minister addressed the need for equal **energy distribution amongst the population of rich and poor nations**.
 - On [Russia-Ukraine war](#), Prime Minister reiterated his stand that there must be an immediate end to the hostilities and a resolution should be reached by choosing the path of dialogue and diplomacy.

What is Clean Energy Technology?

- **About:**
 - It refers to **any process, product or service that reduces negative environmental impacts** through significant energy efficiency improvements, [sustainable use of resources](#) or environmental protection activities.
 - Clean energy technologies **also endure economic growth** by enhancing the supply of energy demand and **tackling environmental challenges** and their impacts due to the use of other conventional sources of energy and their impacts due to the **use of other conventional sources of energy**.
 - Clean technology includes a broad range of technology related to recycling, [renewable energy \(Wind power, solar power, biomass, hydropower, geothermal, biofuels, etc.\)](#), information technology, green transportation, electric motors, green chemistry, lightning, greywater, etc.
- **Emerging Market for Clean Technology in India:**
 - **Governmental Regulations:**
 - With a more active media and awareness of people towards the environment, India is driven towards adopting a **pro-environment stance in all its development strategies**.
 - **Adopting Newer & Cleaner Technologies:**
 - The adoption of newer and cleaner technologies will **help India in leap frogging into the sustainable growth** pathway as the Indian economy grows at an unprecedented rate.
 - **Global Climate Negotiations:**
 - The current global negotiations on climate change have put pressure on rapidly developing economies like India to adopt **green technologies**.
 - **Foreign Direct Investment (FDI):**
 - The Indian market offers strong **business prospects for foreign investors**.
 - India's growing economy and surging demand for clean power to strengthen energy security and reduce pollution, as well as ongoing sector reforms, is making **India one of the most attractive destinations in the world for environmentally-friendly investments**.
 - **Low-carbon Technologies:**
 - India is particularly well placed to become a global leader in **renewable batteries and green hydrogen**.
 - Other low-carbon technologies **can create a market worth up to 80 billion dollars in India by 2030**.
- **Development in India:**
 - **India has achieved the target of 40% energy-capacity from non-fossil sources and 10% Ethanol-blending in petrol**.
 - India has the **world's first fully solar power operated airport**.
 - India is one of the largest energy producing countries from renewable sources. In the electricity sector, renewable energy (excluding large hydro) accounted for 20% of the total installed power capacity.

Types of Renewable Energy Sources



①
Hydropower



Gravitational potential energy of water converted into electrical energy through a hydraulic turbine

②
Wind Energy



Kinetic energy of wind converted into electricity by wind turbines

③
Solar Energy



The sun's energy turned into electricity heat energy by solar panels/solar heaters

④
Biomass



Energy obtained from plant & animal remains; e.g, burning wood produces heat energy

⑤
Geothermal Energy



Heat energy trapped underneath the earth's crust converted into electricity by steam turbines

⑥
Ocean Energy



Oceanic thermal and tidal energy converted into electricity by turbines and other systems

⑦
Hydrogen



Hydrogen's potential chemical energy converted into electricity by Hydrogen fuel cells

What are the Benefits of Clean Energy?

- Clean energy provides a variety of environmental and economic benefits, including a **reduction in air pollution**.
- A diverse clean energy supply also **reduces the dependence on imported fuels**.
- Renewable clean energy also has inherent **cost savings**, as there is no need to extract and transport fuels, such as with oil or coal, as the resources replenish themselves naturally.
- Other industrial benefits of a clean energy mix are the **creation of jobs to develop**, manufacture and install the clean energy resources of the future.

[Source: TH](#)

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