

GOVERNANCE
First Green Hydrogen Microgrid Project: Andhra Pradesh

Recently, National Thermal Power Corporation Ltd has awarded the country's first green hydrogen microgrid project at its Simhadri (near Visakhapatnam) plant in Andhra Pradesh.

Key Points
About:

- This unique project configuration is designed in-house by NTPC. It would be a precursor to large-scale hydrogen energy storage projects. It is in line with India's vision to become carbon neutral by 2070.
- The hydrogen would be produced using the advanced 240 kW Solid Oxide Electrolyser by taking input power from the nearby Floating Solar project. Earlier, NTPC had commissioned the development of India's biggest floating solar plant in Telangana's Ramagundam.
- The hydrogen produced during the day will then be stored at high pressure and would be electrified using a 50 kW Solid Oxide Fuel Cell. A solid oxide fuel cell (or SOFC) is an electrochemical conversion device that produces electricity directly from oxidizing a fuel.

Significance:

- **Helpful in Deploying Multiple Microgrids:** The project will be useful for further studying and deploying multiple microgrids in various off-grid and strategic locations of the country. Clean energy development is an important weapon against climate change and limiting its devastating effects.
- **Open Prospects for Decarbonizing:** It will open prospects for decarbonizing the far-off regions of the country such as Ladakh, J&K, etc., which are dependent on diesel generators. Decarbonizing means removing or reducing the amount of gaseous carbon compounds released in the environment. NTPC Renewable Energy Limited (NTPC REL) has also inked a pact with the Union territory of Ladakh for a green hydrogen mobility project.

Energy Security:

- Hydrogen fuel can be a game-changer for the energy security of India, which imports 85% of its oil and 53% of gas requirements.
- To promote clean fuels, India is considering making it mandatory for fertilizer plants and oil refineries to purchase green hydrogen. NTPC is also looking to leverage hydrogen for transportation by mixing the fuel with natural gas for the City Gas Distribution (CGD) network.

Related Initiatives:

- The country's first experiment of a hydrogen-fuel cell technology-based train by retrofitting an existing diesel engine has been announced by Indian Railways.
- **National Hydrogen Energy Mission (NHM):** The Union Budget (2021-22) has announced the mission for using hydrogen as an energy source.
- Intended Nationally Determined Contributions (INDCs) target: It targets installing 100 GW grid-connected solar power plants by the year 2022.
- National Action Plan on Climate Change
- International Solar Alliance (ISA)

Green Hydrogen

- It is produced by splitting water into hydrogen and oxygen using an electrolyzer powered by renewable energy sources such as wind and solar.
- The fuel can be a game-changer for the energy security of India, which imports 85% of its oil and 53% of gas requirements.
- To promote clean fuels, India is considering making it mandatory for fertilizer plants and oil refineries to purchase green hydrogen.

Other Forms of Hydrogen

- **Brown hydrogen:** It is produced using coal where the emissions are released to the air.
- **Grey hydrogen:** It is produced from natural gas where the associated emissions are released to the air.
- **Blue hydrogen:** It is produced from natural gas, where the emissions are captured using carbon capture and storage.

INTERNATIONAL RELATION**Mutual Legal Assistance Treaty: India- Poland**

Recently, the Union Cabinet has approved the Treaty on Mutual Legal Assistance in Criminal Matters between the Government of India and Poland.

Key Points**About:**

- **Mutual Legal Assistance Treaties (MLATs):**
 1. The MLATs in criminal matters are the bilateral treaties entered between the countries for providing international cooperation and assistance.
 2. These agreements allow for the exchange of evidence and information in criminal and related matters between the signing countries.
- **Benefits of Treaty:**
 1. **Investigation and Prosecution of Crime:** It will enhance effectiveness of both the countries in investigation and prosecution of crime, through cooperation and mutual legal assistance in criminal matters.
 2. **Transnational Crime and its Linkages to Terrorism:** It will provide a broad legal framework for bilateral cooperation with Poland in investigation and prosecution of crime as well as in tracing, restrain and confiscation of proceeds and instruments of crime as well as the funds meant to finance terrorist acts.
 3. **Gaining Better Inputs:** It will be instrumental in gaining better inputs and insights in the modus operandi of organized criminals and terrorists. These in turn can be used to fine tune policy decisions in the field of internal security.
- **Nodal Agency in India:**
 1. The Ministry of Home Affairs is the nodal Ministry and the Central authority for seeking and providing mutual legal assistance in criminal law matters.
 2. The Ministry of External Affairs may be involved in this process when such requests are routed through diplomatic channels by these Ministries.
- **Legal Basis:**
 1. Section 105 of the Criminal Procedure Code (CrPC) speaks of reciprocal arrangements to be made by the Central Government with the Foreign Governments with regard to the service of summons/warrants/judicial processes.
 2. India has entered into Mutual Legal Assistance Treaties/Agreements with 42 countries (November 2019).

India-Poland Relations**Historical Background:**

- India and Poland diplomatic relations were established in 1954, leading to the opening of the Indian Embassy in Warsaw in 1957.
- The two countries shared common ideological perceptions, based on their opposition to colonialism, imperialism and racism.
- During the Communist era of Poland (1944 to 1989), bilateral relations were close and cordial, with regular high level visits, coupled with planned trade and economic interactions by state trading organizations, underpinned by the rupee clearing arrangements.
- The relationship continued to remain close after Poland chose the democratic path in 1989.
- A cordial political relationship has emerged in the current century, particularly after Poland joined the European Union in 2004, and became one of India's key economic partners in Central Europe.

Economic & Commercial Relations:**Export:**

- Poland is India's largest trade partner and export destination in the Central European region, with bilateral trade growing almost seven-fold over the last ten years.
- As per Indian statistics, the overall value of bilateral trade in 2019 was USD 2.36 billion.

Investment:

- Indian investments in Poland are valued at over USD 3 billion .
- Total Polish investment in India is estimated at USD 672 million.

Foreign Direct Investment (FDI):

- From April 2000 to March 2019, India recorded over USD 672 million of FDI from Poland, 0.16% of its total FDI inflows in that period.

Cultural and Educational Relations:

- There is a strong tradition of Indology studies in Poland, with Polish scholars having translated Sanskrit into Polish as early as in the 19th Century. Indology is the academic study of the history and cultures, languages, and literature of India and as such is a subset of Asian studies.
- The Polish Mission organised the 150th anniversary of Mahatma Gandhi in 2019. Polish Post (Poczta Polska) issued a Commemorative Stamp on the 150th Birth Anniversary of Mahatma Gandhi which was released on the occasion.
- On the occasion of 550th Prakash Purab of Guru Nanak Dev ji, Mission and Gurudwara Sahib of Poland jointly organised functions at Gurudwara Sahib, Poland.
- The first International Day of Yoga was organized in 21 cities in Poland on June 21, 2015. An estimated 11000 people participated in public events.

Indian Community:

- Estimated at approximately 10,000, the Indian community in Poland consists of traders (textiles, garments and electronics) who came after the collapse of communism, and professionals with multinational or Indian companies and software/IT experts, including a rising number of Indian students.

Way Forward

- Poland was acclaimed one of 50 most innovative countries by Bloomberg in 2017 and it is important that India continues to see it as the technology hub in Central Europe and the friendly place to do business.
- Poland has a lot to offer in terms of green technologies, smart cities, cybersecurity, fintech and water management.
- Poland also offers excellent opportunities to Indian investors and exporters in the automotive sector. Given Poland's strategic location, shortages in healthcare personnel and 25% growth in the pharma market in the last 5 years, there are good opportunities for Indian exporters and investors.
- The relationship between India and Poland has always been very good. But trade between us has suffered due to Covid.
- A new factor that has strengthened ties between the two countries is the increasing Indian diaspora in Poland, including about 6,000 students. Poland has become more attractive for students ever since it introduced English as a medium of instruction in medicine and engineering at major universities
- Before Covid, there used to be a direct flight to Warsaw from Delhi. The restoration of direct flight will enhance trade relations between two countries.

ENVIRONMENT**Draft Resolution on Climate Change: U.N.**

Recently, India and Russia opposed a United Nations Security Council (UNSC) draft resolution on climate change. The resolution was co-sponsored by Ireland and Niger and it was first proposed by Germany in the UNSC in 2020.

It was supported by 113 UN member countries (of a total of 193), which includes 12 of the 15 UNSC members.

Key Points**About:**

- The draft resolution sought to create a formal space in the Security Council for discussions on climate change and its implications on international security.
- It also asked that the UN Secretary-General provide periodic reports on how risks from climate change can be addressed to prevent conflicts.
- It also asked the Secretary General to appoint a special envoy for climate security.
- Further, it asked UN field missions to regularly report on climate change assessments in their areas of operation and take the help of climate experts in carrying out their routine functions.

Need:

- It has been argued that climate change had an international security dimension.
- Climate change-induced food or water shortage, loss of habitat or livelihood, or migration can exacerbate existing conflicts or even create new ones.

- This can have implications for the UN field missions that are deployed across the world in peacekeeping efforts.

Criticism:**Shift from UNFCCC:**

1. India said that it was an attempt to shift climate talks from the United Nations Framework Convention on Climate Change (UNFCCC) to the Security Council and a “step backward” for collective action on the issue. At the annual climate change conference also, India had forced a last-minute amendment in the final draft agreement to ensure that a provision calling for “phase-out” of coal was changed to “phase-down”.
2. The draft resolution, as per India, would undermine the progress made in the right direction.

UN Framework Convention on Climate Change

- It discusses all matters related to climate change.
- The parties to the UNFCCC — over 190 countries — meet several times every year, including at a two-week year-ending conference like the one at Glasgow, to work on a global approach to combat climate change.
- It is this process that has given rise to the Paris Agreement, and its predecessor the Kyoto Protocol, the international instrument that is designed to respond to the climate change crisis.

UNSC does not have Expertise:

- It has been argued that the UNFCCC must remain the appropriate forum for addressing all climate change-related issues, and claimed the Security Council does not have the expertise to do so.

Hegemony over Climate Action:

- Unlike UNFCCC, where decisions are taken by consensus of all the 190-plus countries, the UNSC would enable climate change decision-making by a handful of developed countries. The UNSC members are “major contributors to climate change due to historic emissions
- Also, the decision of bringing the issue to the security council was made without the involvement of most developing countries and without recognising consensus.

Recent Climate Related Measures by India:

- An ambitious climate action vision with five elements has been unveiled at COP26.
 1. Taking non-fossil energy capacity to 500 GW by 2030
 2. Meeting 50% of energy requirements from renewable energy by 2030
 3. Reducing total projected carbon emissions by one billion tons by 2030
 4. Reducing the carbon intensity of the economy to less than 45% by 2030
 5. Achieving the target of “net zero” by 2070.
- India now ranks fourth in terms of installed renewable energy capacity and non-fossil energy has increased by more than 25% in the past seven years and reached 40% of the total energy mix.
- India has also taken the lead in initiatives such as the International Solar Alliance (ISA) and Coalition for Disaster Resilient Infrastructure (CDRI).

PRELIMS FACT**Sardar Vallabh Bhai Patel**

Recently, the Prime Minister paid tribute to India's first home minister, Sardar Vallabhbhai Patel, on his 71st death anniversary on 15th December.

Key Points**Born:**

- 31st October 1875 in Nadiad, Gujarat.
- First Home Minister and Deputy Prime Minister of India.
- He always requested the people of India to live together by uniting (Ek Bharat) in order to create a foremost India (Shresth Bharat). This ideology still reflects in the Atmanirbhar Bharat initiative which seeks to make India Self-Reliant.

Headed various Committees of the Constituent Assembly of India, namely:

- Advisory Committee on Fundamental Rights.
- Committee on Minorities and Tribal and Excluded Areas.
- Provincial Constitution Committee.

Reforms:

- He worked extensively against alcohol consumption, untouchability, caste discrimination and for women emancipation in Gujarat and outside.
- Integrated the farmer's cause in Kheda Satyagraha (1918) and Bardoli Satyagraha (1928) with the national freedom movement. Women of Bardoli bestowed the title 'Sardar' on Vallabhbhai Patel, which means 'a Chief or a Leader'.
- Remembered as the 'Patron Saint of India's Civil Servants' as he established the modern all-India services system.

Integration of the Princely States:

- As India's first Home Minister and Deputy Prime Minister, Sardar Patel played a key role in the integration of about 565 princely states into the Indian Union.
- Few princely states like Travancore, Hyderabad, Junagadh, Bhopal and Kashmir were averse to joining the state of India.
- Sardar Patel worked tirelessly to build a consensus with the princely states but did not hesitate in employing methods of Sama, Dama, Dand and Bhed wherever necessary.
- He had used force to annex princely states of Junagadh ruled by Nawab and Hyderabad ruled by Nizam, both of whom had wished not to merge their respective states with the Union of India.
- Sardar Vallabhbhai Patel stitched the princely states along with British Indian territory and prevented the balkanization of India.
- Known as the "Iron Man of India" for playing an important role in unification and integration of Indian princely states into the Indian federation and for convincing princely states to align with the Indian Union.

Death:

- 15th December 1950 in Bombay.

Statue of Unity

- The Statue of Unity is built in honor of Sardar Vallabhbhai Patel.
- It was inaugurated on 31st October, 2018 to mark the 143rd birth anniversary of Sardar Patel.
- The Statue of Unity is the tallest statue in the world. At 182 meters, it is 23 meters taller than China's Spring Temple Buddha statue and almost double the height of the Statue of Liberty (93 meters tall) in the US.
- In January 2020, it was added to the 'Eight Wonders' of the Shanghai Cooperation Organization (SCO).

2. Atmanirbhar Bharat Rojgar Yojana

Maharashtra has topped the list of states with maximum number of beneficiaries under the Atmanirbhar Bharat Rojgar Yojana (ABRY), followed by Tamil Nadu and Gujarat.

Key Points**About:**

- It was launched in November 2020 to boost employment in the formal sector and incentivize creation of new employment opportunities during the Covid-19 recovery phase under Atmanirbhar Bharat Package 3.0.

Government Contribution:

- It provides subsidy for provident fund contribution for adding new employees to establishments registered with the Employees' Provident Fund Organization (EPFO).
- The organizations of up to 1000 employees would receive employee's contribution (12% of wages) & employer's contributions (12% of wages), totalling 24% of wages, for two years.
- Employers with over 1,000 employees will get employees' contribution of 12%, for two years.
- The subsidy amount under the scheme will be credited upfront only in Aadhaar-seeded EPFO accounts (UAN) of new employees.

Eligibility Criteria for Establishments:

- Establishments registered with EPFO will be eligible for the benefits if they add new employees compared to the reference base of employees as in September 2020.
- Establishments, with up to 50 employees, would have to add a minimum of two new employees.
- The organizations, with more than 50 employees, would have to add at least five employees.

Target Beneficiaries:

- Any new employee joining employment in EPFO registered establishments on monthly wages less than Rs. 15,000.
- Those who left their job between 1st March to 30th September 2020 and are employed on or after 1st October 2020.

Other Employment Related Initiatives

1. Pradhan Mantri Garib Kalyan Ann Yojana
2. Mahatma Gandhi National Rural Employment Guarantee Scheme
3. Pt. Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY)
4. Deendayal Antyodaya Yojana-National Urban Livelihoods Mission
5. The Atma Nirbhar Bharat Rojgar Yojana as part of Atma Nirbhar Bharat package 3.0
6. Emergency Credit Line Guarantee Scheme (ECLGS)

DAILY ANSWER WRITING PRACTICE

Qns. Cooperatives in India face diverse problems. A renewed political and economic focus on cooperatives is needed make it a truly people-based movement at the grassroots level. Examine. (250 words)

Ans:

Introduction

A cooperative is an autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through a jointly-owned and democratically controlled. The need for profitability is balanced by the needs of the members and the wider interest of the community.

Body

Background

- India is an agricultural country and laid the foundation of World's biggest cooperative movement in the world.
- For instance, Amul deals with 16 million milk producers, 1,85,903 dairy cooperatives; 222 district cooperative milk unions; marketed by 28 state marketing federations.
- Amul is an example of what 36 lakh women dairy farmers can achieve if they work together with transparency
- There are over 8 lakh cooperatives of all shapes and sizes across sectors in India.
- The Union government of India in July 2021 created a new Ministry of Cooperation for strengthening cooperative movement.
- It was created for realizing the vision of 'Sahakar se Samridhhi' (Prosperity through Cooperation) and to give a new push to the cooperative movement.

Challenges faced by Cooperatives currently:

- Government control on cooperatives has increased, violating a core cooperative principle of political neutrality. This reflects a collective failure of the political class..
- Cooperatives have become avenues for regulatory arbitrage, circumventing lending and anti-money laundering regulations.
- The Registrar of Cooperative Societies (RCS) has become an instrument of inspection and domination, one which imposes uniform by-laws, and amends them when individual societies do not fall in line.
- The rural-urban dichotomy in the regulatory treatment of cooperatives is specious and outdated.
- In India, adopting a multi-agency approach, especially after bank nationalisation, has affected the efficiency of both commercial and cooperative banks.
- Lack of genuine cooperation between the states and the centre wrt Cooperatives and centralization of power.
- There should be a focus on women cooperatives because they are less than three per cent of the 8 lakh cooperatives in the country.
- People are not well informed about the objectives of the Movement, rules and regulations of co-operative institutions.

Renewed focus on cooperatives is need of the hour

- The RCS should stick to its original role of facilitator: : a friend, philosopher, and guide to cooperative societies.

- The regulation is to be based on the cooperative nature of organisations.
- The regulation and the supervision of cooperative banks should move to a new body from the Reserve Bank of India (RBI) for urban banks and the National Bank for Agriculture and Rural Development (NABARD) for rural banks.
- Lessons from the Netherlands, where cooperative banks owe their success to a segmented market, are pertinent.
- Commercial bank-cooperative sector linkages at various levels could alternatively provide better synergies.

Conclusion

Principle of the cooperative movement is to unite everyone, even while remaining anonymous. The cooperative movement has the capacity to solve people's problems. However, there are irregularities in cooperatives and to check them there have to be rules and stricter implementation.

DAILY QUIZ

Q1. Consider the following statements about National Export Insurance Account (NEIA):

1. The NEIA Trust was established in 2006 to promote project exports from India that are of strategic and national importance.
2. The NEIA Trust promotes Medium and Long Term (MLT) /project exports.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. **Both 1 and 2**
- d. Neither 1 nor 2

Q2. Consider the following statements about the Mission Indradhanush:

1. It is a health mission of the Government of India.
2. It targets children under 2 years of age and pregnant women for immunization.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. **Both 1 and 2**
- d. Neither 1 nor 2

Q3. Consider the following statements:

1. The SEZ Act 2005 allows setting up an International Financial Services Centres (IFSC) in an SEZ or as an SEZ after approval from the central government.
2. The first IFSC in India has been set up at the Gujarat International Finance Tec-City (GIFT City) in Ahmedabad.

Which of the statements given above is/are correct?

- a. **1 only**
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

Q4. The term "tissue heating" was in news recently, is related to which of the following?

- a. harmful effects of stubble burning
- b. **health risks from 5g**
- c. long-term health effects from air pollution
- d. none of the above

Q5. Consider the following statements with reference to Parker Solar Probe:

1. It is a NASA space probe launched in 2020.
2. It will fly close enough to the Sun to make observations of the outer corona of the Sun.

Which of the statements given above is/are correct?

- a. 1 only
- b. **2 only**
- c. Both 1 and 2
- d. Neither 1 nor 2