

GOVERNANCE**Green Energy Corridor**

Recently, the Cabinet Committee on Economic Affairs approved the scheme on Green Energy Corridor (GEC) Phase-II for Intra-State Transmission System (InSTS).

Key Points**GEC-1:**

- Phase 1 of the Green Energy Corridor is already under implementation in Gujarat, Andhra Pradesh, Karnataka, Himachal Pradesh, Maharashtra, Madhya Pradesh, Tamil Nadu, and Rajasthan.
- It is working for the grid integration and power evacuation of about 24GW of Renewable Energy.

GEC-2:

- It will facilitate grid integration and power evacuation of approximately 20 GW of Renewable Energy (RE) power projects in seven States namely, Gujarat, Himachal Pradesh, Karnataka, Kerala, Rajasthan, Tamil Nadu and Uttar Pradesh.
- The transmission systems will be created over a period of five year from Financial Year 2021-22 to 2025-26.
- It is targeted to be set up with a total estimated cost of Rs. 12, 031 crores, and the Central Finance Assistance (CFA) will be 33% of the project cost. The CFA will help in offsetting the Intra-State transmission charges and thus keep the power costs down.

Objectives:

- It aims at synchronizing the electricity produced from renewable resources, such as wind and solar, with the conventional power stations in the grid.
- It aims to achieve the target of 450 GW installed RE capacity by 2030.
- The objective of the GEC is to evacuate approx. 20,000 MW of large-scale renewable power and improvement of the grid in implementing states.

Significance:

- It will contribute to the long-term energy security of India and will promote ecologically sustainable growth by reducing carbon footprint.
- It will facilitate in generating large direct and indirect employment opportunities for both the skilled and unskilled personnel.

Initiatives related to Green Energy

1. International Solar Alliance
2. One Sun, One World, One Grid (OSOWOG).
3. National Solar Mission.
4. Pradhan Mantri Kisan Urja Suraksha evam Utthan Mahabhiyaan (PM KUSUM)
5. Atal Jyoti Yojana
6. Suryamitra Skill Development Programme
7. Solar Park Scheme and Grid Connected Solar Rooftop Scheme
8. Rewa Solar Power Plant.
9. National Wind-Solar Hybrid Policy 2018.
10. Hydrogen Based Fuel Cells Vehicles.

SCIENCE & TECHNOLOGY**Use of Drones Technology**

Recently, the Ministry of Civil Aviation has suggested to the other Ministries to promote effective use of Drone technology. This suggestion was made as part of the initiatives to make India a global hub for drones under the Atmanirbhar Bharat Abhiyan and in the backdrop of the Union Government rolling out the liberalised Drone Rules 2021.

Drones offer tremendous benefits to almost every sector of the economy, national defence, agriculture, law enforcement, and mapping, among others.

Key Points**About Drones:**

- It is a layman terminology for Unmanned Aircraft (UA).
- Originally developed for the military and aerospace industries, drones have found their way into the mainstream because of the enhanced levels of safety and efficiency they bring.

- A drone's autonomy level can range from remotely piloted (a human controls its movements) to advanced autonomy, which means that it relies on a system of sensors and LIDAR detectors to calculate its movement.

Application of Drone Technology:

- **Defence:** Drone system can be used as a symmetric weapon against terrorist attacks.
 1. Drones can be integrated into the national airspace system.
 2. Deployment of drones for combat, communication in remote areas, counter-drone solutions can be done.
- **Healthcare Delivery Purposes:** Recently, the Ministry of Civil Aviation has approved a project with the Telangana government for using drone technology to deliver vaccines in remote areas.
- **Agriculture:** In the agriculture sector, micronutrients can be spread with the help of drones. It can also be used for performing surveys for identifying the challenges faced by the farmers.
- **Monitoring:** The drone technology in the SVAMITVA scheme launched by the Government of India, within less than a year, has helped about half a million village residents to get their property cards by mapping out the abadi areas.
 1. Drones can be used for real-time surveillance of assets and transmission lines, theft prevention, visual inspection/maintenance, construction planning and management, etc
 2. They can be used for anti-poaching actions, monitoring of forests and wildlife, pollution assessment, and evidence gathering.
- **Law Enforcement:** Drones are also significant for the law enforcement agencies, the fire and emergency services wherever human intervention is not safe and the healthcare services.

Associated Issues:

- **Increased Risk of Armed Attacks:** Operation of drones without any adequate legal backing can pose several security threats.
 1. Incidents of arms being dropped by drones are also there such as the recent Jammu drone attacks.
 2. They can be put to destructive use, to slam into critical targets, destroy infrastructure and so on.
- **Paramilitary Not Exempted from the Rules:** The drone rules 2021 are not applicable to the army, navy or the airforce. However, it still includes paramilitary forces. BSF is suffering a lot of issues due to the drones coming across the lines.
- **Cheaper Cost Enables a Larger Population to Procure Drones:** Drones are relatively cheaper in comparison to conventional weapons and yet can achieve far more destructive results which is the primary reason for increased number of drone attacks.
- **Delivery of Mass Destruction Weapons:** What makes combat drones most dangerous is the threat of them being used to deliver weapons of mass destruction. Procurement of combat drones by non-state actors poses serious threats.

Way Forward

- **Training Programs:** There has to be training programs for drone pilots. The drone technology alone will not be enough, there have to be a few more aspects to take care of for using the technology to its fullest.
- **Balancing Security and Benefits:** There is a need to ensure that the guidelines are in such a manner that the security concerns are not at all compromised but the drone technology is also used to the maximum of its advantages.
- **Developing Anti-Drone System:** The DRDO has started developing an anti-drone system, one is already in place. There are soft kill and hard kill options available.
 1. Soft kill options include jamming the drone.
 2. Hard kill options include the laser technology, missiles or other drones to shoot down the drone.
- **Increasing Investments:** India needs to invest in its own Unmanned Aerial Vehicle (UAV) systems and counter-drone technology to detect and track threats, especially around critical assets.

INTERNATIONAL RELATION

Unrest in Kazakhstan

Recently, a sharp and sudden spike in fuel prices triggered a national crisis in Kazakhstan, with the government officially stepping down following days of violent protests across the country. Russian-led

forces have also arrived in Kazakhstan at the request of the country's authoritarian president, amid a violent crackdown on anti-government protests.

Earlier, the Defence Minister of India held bilateral talks with the Defence Minister of the Republic of Kazakhstan in New Delhi.

Key Points

Reason for the Unrest:

- Angry Kazakhs first took to the streets after fuel prices doubled in the oil-rich Central Asian nation when the government lifted price caps for Liquefied Petroleum Gas (LPG), commonly used in vehicles.
- The protests began in the oil city of Zhanaozen, where at least 16 oil workers protesting against poor working conditions were killed by the police in 2011.
- Demonstrations broke out and quickly turned violent in cities and towns across the country, in what is being called the biggest wave of protests in Kazakhstan's history.
 1. Kazakhstan has been a largely stable autocracy since the collapse of the Soviet Union, protests of this scale haven't been seen since the 1980s.
 2. Autocracy is a system of government of a country in which one person has complete power.
- Protesters demanded the resignation of the government and lowering of LPG prices.
- They have argued that the jump in prices would cause a steep increase in food prices and deepen the income inequality that has plagued the nation for decades. Just last year (2021), inflation in the country was closing in on 9% year-on-year, the highest it has been in over five years.

Demand for Democracy:

- Cheaper fuel is only the tip of the iceberg. There has been a growing discontent among ordinary Kazakhs, both over rising income inequality, which has only worsened due to the coronavirus pandemic, and the lack of democracy.
- While the country has been able to attract millions of dollars worth of foreign investments by appearing politically stable, its authoritarian government has been widely criticised over the years for violating fundamental freedoms.

Significance of the Protests:

- **For the World:**
 1. Sandwiched between Russia and China, Kazakhstan is the world's largest landlocked country, bigger than the whole of Western Europe, though with a population of just 19 million.
 2. It has vast mineral resources, with 3% of global oil reserves and important coal and gas sectors.
 3. It is the top global producer of uranium, which jumped in price by 8% after the unrest.
 4. The country is also the world's second-largest miner of bitcoin.
 5. A mainly Muslim republic with a large Russian minority, it has largely escaped the civil strife seen in other parts of Central Asia.
 6. The latest demonstrations matter because the country has been regarded until now as a pillar of political and economic stability in an unstable region, even as that stability has come at the price of a repressive government that stifles dissent.
- **For Russia:**
 1. The protests are also significant as Kazakhstan has been aligned with Russia, whose president views the country — a body double of sorts for Russia in terms of its economic and political systems — as part of Russia's sphere of influence.
 - ✓ The intervention by the Collective Security Treaty Organisation, a Russian version of North Atlantic Treaty Organisation (NATO), is the first time that its protection clause has been invoked, a move that could potentially have sweeping consequences for geopolitics in the region.
 - ✓ This is the third uprising against an authoritarian, Russia-aligned nation, following pro-democracy protests in Ukraine in 2014 and in Belarus in 2020.
 - ✓ The chaos threatens to undermine Russia's sway in the region at a time when Russia is trying to assert its economic and geopolitical power in countries like Ukraine and Belarus.
 2. The countries of the former Soviet Union are also watching the protests closely, and the events in Kazakhstan could help energise opposition forces elsewhere.

For US:

1. Kazakhstan also matters to the US, as it has become a significant country for American energy concerns, with Exxon Mobil and Chevron having invested tens of billions of dollars in western Kazakhstan, the region where the unrest began this month. The United States government has long been less critical of post-Soviet authoritarianism in Kazakhstan than in Russia and Belarus.

Government's Reaction:

- It called the protesters "a band of terrorists," declared Kazakhstan under attack and asked the Russian-led military alliance to intervene.
- The government has also tried to quell the demonstrations by instituting a state of emergency and blocking social networking sites and chat apps.
- Public protests without permits were already illegal. It also initially conceded to a few of the demonstrators' demands, dismissing the cabinet and announcing the possible dissolution of Parliament, which would result in new elections. But its moves have so far failed to tame discontent.

Global Stand:

- The United Nations (UN), US, UK, and France have called on all sides to refrain from violence.
- India is closely monitoring the situation in Kazakhstan and will facilitate the return of Indians.

Way Forward

- The US and other major nations of the world need to tell the Kazakh authorities to stop throttling the internet and to avoid violence.
- In the long-term, the United Nations (UN) must press the Kazakhs to hold legitimately free and fair elections or else they will see more and more protest activity.

PRELIMS FACT**Sea Dragon 22 Exercise**

Recently, the US Sea Dragon 22 exercise began along with the navies of India, Australia, Canada, Japan and South Korea in the Pacific Ocean. India, Japan, Australia and the US are also part of the Quadrilateral Security Dialogue (Quad), and also participate in the Malabar exercise.

Key Points**About:**

- Sea Dragon is a US-led multi-national exercise designed to practice and discuss Anti-submarine warfare tactics to operate together in response to traditional and non-traditional maritime security challenges in the Indo-Pacific region.
- It is an annual exercise.

Significance:

- The exercise assumes significance in the face of strained relations that some countries have with China and the growing forays of the PLA-Navy into the Indian ocean region.
- The Indian Navy has recently inducted two more Poseidon 8I maritime reconnaissance and anti-submarine warfare aircraft, which would further boost its ability to keep an eye over the Chinese ships and submarines in the region.

2.Seven Years of UJALA Scheme

Recently, the Ministry of Power has successfully completed seven years of distributing and selling LED lights under its flagship UJALA (Unnat Jyoti by Affordable LEDs for All) programme. The initiative evolved into the world's largest zero subsidy domestic lighting programme with more than 36.78 crore LEDs distributed across the country.

Key Points**About:**

- Launched in 2015 and initially labeled as the LED-based Domestic Efficient Lighting Programme (DELP), it aims to promote the efficient usage of energy for all i.e., its consumption, savings and lighting.
- Energy Efficiency Services Limited (EESL), a government company under the administrative control of the Ministry of Power, has been designated as the implementing agency for this programme.
- Every domestic household having a metered connection from their respective Electricity Distribution Company is eligible to get the LED bulbs under the Scheme.

Achievements:

- UJALA succeeded in bringing down the retail price of LED (Light-Emitting Diode) bulbs from INR 300-350 per bulb to INR 70-80 per bulb.
- Apart from making affordable energy accessible to all, the programme also resulted in massive energy savings. As of today, 47,778 Million kWh per annum energy has been saved.
- Further, there has been 3,86 crore tonnes of reduction in CO2 emissions.
- It provides an impetus to the domestic lighting industry. It encourages Make in India as domestic manufacturing of LED bulbs has increased from 1 lakh per month to 40 million per month.

Other Initiatives Related to Energy Efficiency/Conservation

- **Gram Ujala:** Under the initiative, LED bulbs will be distributed at a highly subsidised rate at Rs. 10 across 2,579 villages in five states of Bihar, Uttar Pradesh, Telangana, Andhra Pradesh, and Karnataka.
- **Perform Achieve and Trade Scheme (PAT):** It is a market based mechanism to enhance the cost effectiveness in improving the Energy Efficiency in Energy Intensive industries through certification of energy saving which can be traded.
- **Standards and Labeling:** The scheme was launched in 2006 and is currently invoked for equipment/appliances.
- **Energy Conservation Building Code (ECBC):** It was developed for new commercial buildings in 2007.
- **Street Lighting National Programme:** EESL replaces the conventional street lights with LEDs at its own costs.

DAILY ANSWER WRITING PRACTICE

Qns. Electoral bonds were introduced as a harbinger of a new era of transparency and accountability. In truth, electoral bonds have only legitimized opacity. Critically Analyse. (250 words)

Ans:

Introduction

Electoral bonds will allow donors to pay political parties using banks as an intermediary. Although called a bond, the banking instrument resembling promissory notes will not carry any interest. The electoral bond, which will be a bearer instrument, will not carry the name of the payee and can be bought for any value, in multiples of Rs 1,000, Rs 10,000, Rs 1 lakh, Rs 10 lakh or Rs 1 crore. Electoral bonds have received tremendous attention and scrutiny as a unique poll funding instrument since their introduction in 2018. Critics have termed this a significant step backward in achieving the goal of transparency in political funding.

Body

Rationale behind the electoral bonds:

- Electoral bonds have been introduced to promote transparency in funding and donation received by political parties.
- The scheme envisages building a transparent system of acquiring bonds with validated KYC and an audit trail. A limited window and a very short maturity period would make misuse improbable.
- The electoral bonds will prompt donors to take the banking route to donate, with their identity captured by the issuing authority. This will ensure transparency and accountability and is a big step towards electoral reform.
- The previous system of cash donations from anonymous sources is wholly non-transparent. The donor, the donee, the quantum of donations and the nature of expenditure are all undisclosed.
- According to government the system of Bonds will encourage political donations of clean money from individuals, companies, HUF, religious groups, charities, etc.
- After purchasing the bonds, these entities can hand them to political parties of their choice, which must redeem them within the prescribed time.
- Some element of transparency would be introduced in as much as all donors declare in their accounts the amount of bonds that they have purchased and all parties declare the quantum of bonds that they have received.

- The electoral bonds are aimed at rooting out the current system of largely anonymous cash donations made to political parties which lead to the generation of black money in the economy.

Findings on Electoral bonds:

- Since its introduction, electoral bonds have become an essential source of financing for all major political parties.
- Between March 2018 and January 2021, electoral bonds worth Rs 6,514.50 crore were redeemed by parties.
- While the ruling BJP has managed to receive the lion's share (60.17%) of political funding made through the bonds, over half of the total income of all national and regional parties too was contributed through this method.
- For both the principal political parties, it seems that the quantum of political donations channelised through cash donations/non-identifiable sources has decreased substantially.
- Instead, today more funds are channelised through the formal banking system. This was not the case with the earlier system in which half of the political donations were not traceable as they were made in cash form.
- Viewed from this angle, the electoral bonds scheme is an improvement over the previous system.

Electoral bonds have only legitimized opacity:

- The move could be misused, given the lack of disclosure requirements for individuals purchasing electoral bonds.
- Electoral bonds make electoral funding even more opaque. It will bring more and more black money into the political system. Electoral bonds would cause a "serious impact" on transparency in funding of political parties.
- With electoral bonds there can be a legal channel for companies to round-trip their tax haven cash to a political party. If this could be arranged, then a businessman could lobby for a change in policy, and legally funnel a part of the profits accruing from this policy change to the politician or party that brought it about.
- The amendments would pump in black money for political funding through shell companies and allow "unchecked foreign funding of political parties in India which could lead to Indian politics being influenced by foreign companies.
- Companies no longer need to declare the names of the parties to which they have donated so shareholders won't know where their money has gone.
- They have potential to load the dice heavily in favour of the ruling party as the donor bank and the receiver bank know the identity of the person. But both the banks report to the RBI which, in turn, is subject to the Central government's will to know.

Alternative mechanisms for electoral funding:

- According to Former Chief Election Commissioner S.Y. Quraishi, an alternative worth exploring is a National Electoral Fund to which all donors can contribute.
- The funds would be allocated to political parties in proportion to the votes they get. Not only would this protect the identity of donors, it would also weed out black money from political funding.
- The total cost of MPLADS funding for all MPs is nearly ₹4,000 crore every year, and scrapping the scheme even for one year in an MP's five-year term will be enough to bankroll state funding of Lok Sabha candidates. This is a legalized way of allowing MPs and MLAs to shower money on their constituencies at state expense.
- Direct funding of candidates, who will be reimbursed according to their final share of the votes cast.
- The best way to bring about such transparency in political funding is to put a complete ban on cash donations by individuals or companies to political parties.
- Making it mandatory for all parties to receive donations only by cheque, or other modes of money transfer.
- There should be clear provisions for getting tax benefits for all those making such donations.
- Make it mandatory for political parties to submit details of all donations received with the Election Commission and also with the income-tax department.

- State funding of political parties can be considered. The Indrajit Gupta Committee on State Funding of Elections had endorsed partial state funding of recognised political parties.
- The mechanics of this process need to be carefully worked out to establish the allocation of money to national parties, State parties and independent candidates, and to check candidate's own expenditure over and above that which is provided by the state.
- Voters have to be made aware through awareness campaigns about ill effects of money power during elections. Bringing political parties under the preview of RTI act.

Conclusion

The 255th Law Commission Report on Electoral Reforms observed that opacity in political funding results in "lobbying and capture" of the government by big donors. Various commissions, including the Election Commission, have given detailed recommendations on suitable remedies. Public funding needs to be examined and introduced with proper checks and balances.

DAILY QUIZ

Q1. Consider the following statements about Mokedatu Project:

1. It was first approved by the Andhra Pradesh state government in 2017.
2. It is a multi-purpose irrigation project on the Godavari River.

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 James Webb Space Telescope:

1. It is a space telescope being jointly developed by the NASA and SpaceX.
2. It will provide improved infrared resolution and sensitivity over Hubble telescope.

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 about UDAN scheme (Ude Desh Ka Aam Nagrik) Scheme:

1. It is a part of the National Civil Aviation Policy (NCAP).
2. It is funded by the World Bank.

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. On 21st June, the Sun

- a. does not set below the horizon at the Arctic Circle**
- b. does not set below the horizon at Antarctic Circle
- c. shines vertically overhead at noon on the Equator
- d. shines vertically overhead at the Tropic of Capricorn

Q5. Which of the following statements are correct about the deposits of 'methane hydrate'?

1. Global warming might trigger the release of methane gas from these deposits.
2. Large deposits of 'methane hydrate' are found in Arctic Tundra and under the seafloor.
3. Methane in atmosphere oxidizes to carbon dioxide after a decade or two.

Select the correct answer using the code given below.

- a. 1 and 2 only
- b. 2 and 3 only
- c. 1 and 3 only
- d. 1, 2 and 3**