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NATIONAL ELECTRICITY PLAN (NEP)

This article covers "Daily Current Affairs" and the topic details "National Electricity Plan (NEP)". The topic "National Electricity Plan (NEP)" has relevance in the Environment section for the UPSC CSE exam.

Relevance of the topic "National Electricity Plan (NEP)"
For Prelims:
What is National Electricity Plan (NEP)?
For Mains:
GS 3: Environment
What are the components of the National Electricity Plan (NEP)?
What is the government's emphasis on Energy Transition?
What are the targets and progress and progress made in the area of Energy Transition?
What are the issues with Energy Transition?
Way Forward

Why in the news?
The Central Electricity Authority (CEA) has notified the National Electricity Plan (NEP) (Vol-I Generation) for the period of 2022-32.

What is National Electricity Plan (NEP)?
The NEP in India is a crucial document that guides the development of the power sector in the country. It is formulated by the Central Electricity Authority (CEA), which is the apex statutory organization responsible for planning and coordination in the power sector.
The NEP is designed to assess the demand for electricity and plan the capacity addition required to meet that demand. It also aims to optimize the utilization of resources and coordinate the activities of various planning agencies.
The plan provides:
1. Review of the previous five years,
2. Capacity addition requirements for the upcoming five-year period
3. Projections for a further 15-year period. (5+5+15)

What are the components of the National Electricity Plan (NEP)?
1. Additional coal-based capacity: There is a requirement of adding coal-based capacity ranging from 17 GW to nearly 28 GW by 2031-32. This is in addition to the 25 GW of coal-based capacity that is already under construction.
2. Investing in battery storage infrastructure: The draft plan estimates a need for between 51 GW to 84 GW of battery storage capacity by 2031-32.

3. Increase in Plant Load Factor(PLF): The NEP projects an increase in the Plant Load Factor (PLF) of coal-fired power plants. The PLF is expected to rise from 55% by 2026-27 to 62% by 2031-32.

What is the government's emphasis on Energy Transition?

Green growth is an important pillar in India's energy transition model. The government has formed a target of **500 GW of renewable energy to be produced by 2030.**

1. **Setting up battery energy storage** of 4,000 MwH through viability gap funding.
2. **National Green Hydrogen Mission** launched on January 4, 2023, with an initial outlay of Rs 19,700 crore.
3. Rs 35,000 crore for **priority capital investment** towards energy transition and net zero objectives.
4. Rs. 70,000 crores for **specific initiatives**:
1. Rs.19,700 crores for Green Hydrogen,
2. Rs. 35000 crores for energy transition,
3. Rs. 20,700 crores for renewable energy evacuation.

What are the targets and progress and progress made in the area of Energy Transition?

India has made significant progress in the area of energy transition in recent years. Some of the key developments include:

Renewable Energy Capacity: India has announced that it aims to achieve net zero by 20270 as announced in COP-26.

India has set an ambitious target of achieving 500 GW of renewable energy capacity by 2030.

As of 2021, India had installed more than 172 GW of renewable energy capacity, with solar and wind energy accounting for the majority of this capacity.

Energy Efficiency: It means using the same energy source in such a way that the energy consumption is less and the savings are more. The government of India has implemented several energy efficiency measures such as:

UJALA scheme provides energy-efficient LED bulbs at subsidised rates.

Perform Achieve and Trade (PAT) scheme incentivizes industries to improve energy efficiency through incentive-based approach.

- **Solar and Wind policy.**

Electric Mobility: The government of India has launched several initiatives to promote electric mobility:

Faster Adoption and Manufacturing of Electric Vehicles (FAME) scheme provides incentives for electric vehicle adoption.

National Electric Mobility Mission Plan (NEMMP) to achieve 30% electric vehicle penetration by 2030.

Policy Reforms: The Indian government has implemented several policy reforms to support the energy transition, such as:

Competitive bidding for renewable energy projects,

Removal of subsidies on fossil fuels

Implementation of a **national carbon tax.**

International Cooperation: India has also engaged in international cooperation to support the energy transition, such as:

International Solar Alliance and **OSOWOG**, which aims to promote solar energy adoption in developing countries.

What are the issues in the energy transition?

Technological Challenge

- Development and deployment of new renewable energy technologies
- Scaling up renewable energy to meet energy demands
- Engineering and technical complexities in integrating renewable sources

Cost and Economics

- Higher upfront costs of renewable energy compared to fossil fuels
- Need for financial incentives and support mechanisms to bridge cost gap
- Achieving cost competitiveness and improving financial viability of renewables

Grid Integration and Stability

- Managing the intermittent nature of renewable energy sources
- Development of advanced grid management systems
- Energy storage solutions to balance supply and demand

Infrastructure and Planning

- Upgrading energy infrastructure for renewable integration
- Expanding transmission and distribution networks
- Ensuring a smooth transition from fossil fuel-based infrastructure

Energy Storage

- Developing cost-effective and efficient storage technologies
- Balancing variable renewable energy generation with storage
- Advancements in battery technologies and other storage solutions

Policy and Regulation

- Supportive policy and regulatory frameworks for renewables
- Setting renewable energy targets and financial incentives
- Clear rules for grid integration and long-term policy stability

Employment and Just Transition

- Addressing workforce implications in the fossil fuel industry
- Retraining and job creation in the renewable energy sector
- Supporting affected communities for a fair and equitable transition

Way Forward

There is a need for collaboration, innovation, research and development, supportive policies, and a long-term commitment to transitioning to a sustainable energy future.

Source: **https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1928750#:~:text=According%20to%20the%20NEP%20document,Survey%20(EPS)%20Demand%20projections.**

PRELIMS QUESTIONS

Q.1 Which of the following is NOT the challenge in transitioning from fossil fuels to non-fossil energy sources?

1. Technological complexities in integrating renewable sources
2. Low costs of renewable energy compared to fossil fuels
3. Development of advanced grid management systems
4. Stable and reliable supply of renewable energy at all times

Answer: (b)

Mains Question

1. What is Energy Transition? Give an account of the issues involved and the related suggestions.

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FOREIGN PORTFOLIO INVESTMENT (FPI)

This article covers "Daily Current Affairs" and the topic details "Foreign Portfolio Investment". The topic "Foreign Portfolio Investment" has relevance in the Economy section of the UPSC CSE exam.

Relevance:
For Prelims:
What is Foreign Portfolio Investment?
For Mains:
GS 3: Economy
Impact of FPI on Indian Economy?
How is FPI Misused?
Measures to curb FPI misuse?

Why in the News?
The Securities and Exchange Board of India (Sebi) has proposed that foreign portfolio investors (FPIs) with investments concentrated in a single stock or stocks of a business group should provide granular information on beneficial ownership to custodians.India's markets regulator proposed tightening of disclosure requirements for offshore funds in a consultation paper released on Wednesday. The move is intended to prevent promoters of Indian companies from abusing the FPI route to circumvent minimum public shareholding norms.

What is Foreign Portfolio Investment?
It refers to the investment made by foreign individuals, institutions, or funds into the financial markets of a country. FPI typically involves the purchase of stocks, bonds, and other financial assets in the foreign market. It is a passive form of investment, where investors do not actively participate in the management or control of the invested company or entity. FPI plays a significant role in attracting capital, promoting liquidity, and supporting the growth of financial markets in a country. Governments and regulatory bodies often monitor and regulate FPI to maintain stability in the economy and protect national interests.

Impact of FPI on Indian Economy?

- **Capital Inflows:** FPI has been a significant source of capital inflows for India. It has provided the country with much-needed foreign exchange reserves, which contribute to the stability of the Indian economy. These inflows help finance infrastructure development, investment in various sectors, and overall economic growth.
- **Market Liquidity:** FPI has played a crucial role in increasing liquidity in Indian financial markets, particularly in the stock and bond markets. The influx of foreign funds has enhanced market depth and facilitated smoother trading activities.
- **Increased Investment Options:** FPI has expanded the investment opportunities available to Indian investors. It has introduced foreign securities, such as stocks and bonds, enabling domestic investors to diversify their portfolios and potentially earn higher returns.
- **Volatility and Market Risk:** FPI can also contribute to market volatility and risk. Sudden outflows of foreign funds can lead to market downturns and fluctuations in asset prices. This volatility can pose challenges for policymakers and investors in managing risks and maintaining stability.
- **Exchange Rate Fluctuations:** Large FPI inflows or outflows can impact the value of the Indian rupee against other currencies. Rapid capital inflows can appreciate the currency, making Indian

exports relatively more expensive and potentially affecting the competitiveness of domestic industries.
- **Policy Challenges:** FPI flows require effective regulation and policy management to ensure that they align with national interests and financial stability. Governments and regulatory authorities need to monitor and manage FPI to prevent excessive volatility, safeguard investor interests, and maintain macroeconomic balance.

How is FPI Misused?
- **Round-Tripping:** Round-tripping refers to the practice of routing domestic funds through offshore entities to bring them back into the country as FPI. This can be done to take advantage of tax benefits, regulatory loopholes, or to inflate investment figures. Round-tripping can artificially inflate FPI numbers, giving a misleading impression of actual foreign investments.
- **Market Manipulation:** FPI can be misused for market manipulation purposes. Large-scale investors or groups of investors may collude to manipulate stock prices or engage in insider trading, taking advantage of their positions and the liquidity they bring to the market.
- **Tax Evasion:** Some investors may use FPI to evade taxes. By routing their investments through tax havens or jurisdictions with favorable tax treatment, they can minimize their tax liabilities and avoid reporting their true income.
- **Money Laundering:** FPI can be misused as a means to launder illicit funds. Money launderers may use complex structures and transactions through FPI channels to obscure the origin and destination of their funds, making it difficult for authorities to trace and detect the illicit activities.
- **Front-Running:** Front-running involves taking advantage of advance knowledge of large FPI transactions. Individuals or entities with access to such information may trade ahead of the FPI transaction, thereby benefiting from the subsequent market movements caused by the large investment.
- **Speculative Activities:** Excessive speculative FPI flows can disrupt financial markets and destabilize economies. Speculators may engage in short-term trading or aggressive investment strategies solely for profit, without considering the long-term consequences or the underlying fundamentals of the market.

Measures to FPI curb misuse?
- **Robust Regulatory Framework:** Establishing a strong and comprehensive regulatory framework is crucial. This includes regulations and guidelines governing FPI, such as eligibility criteria, registration processes, disclosure requirements, and compliance standards. These regulations should be regularly updated to address emerging risks and loopholes.
- **Anti-Money Laundering (AML) and Know Your Customer (KYC) Policies:** Implementing stringent AML and KYC policies helps in verifying the identity of investors and ensuring the legitimacy of their funds. Robust due diligence procedures should be in place to identify and prevent money laundering and illicit activities associated with FPI.
- **Enhanced Transparency and Reporting:** Requiring regular reporting and disclosures from FPI participants can increase transparency in the market. This includes reporting of holdings, transactions, beneficial ownership, and any changes in investment patterns. Timely and accurate information helps identify any suspicious activities and promotes market integrity.
- **Monitoring and Surveillance:** Establishing dedicated monitoring and surveillance systems is essential to detect any market manipulation, insider trading, or unusual trading patterns related to FPI. This can involve the use of technology, data analytics, and cooperation between regulatory bodies and market participants to identify potential risks and take timely action.

- **Cooperation and Information Sharing:** Promoting international cooperation and information sharing among regulatory authorities is crucial. Collaboration with foreign counterparts helps in detecting cross-border illicit activities, tracking round-tripping, and sharing best practices in regulating FPI.
- **Strict Penalties and Enforcement:** Implementing strict penalties and enforcing them effectively acts as a deterrent against FPI misuse. Heavy fines, legal actions, license revocation, and criminal prosecution can discourage individuals or entities from engaging in fraudulent activities related to FPI.
- **Continuous Monitoring and Evaluation:** Regular monitoring, evaluation, and assessment of the effectiveness of regulatory measures are necessary. This ensures that regulations and policies remain up-to-date, relevant, and effective in addressing emerging risks and challenges in the FPI space.

Source: https://www.livemint.com/market/stock-market-news/sebi-moves-to-deter-promoters-from-misusing-fpi-route-11685556803980.html

Q.1 Which of the following statements regarding the misuse of Foreign Portfolio Investment (FPI) is correct?
(a) Round-tripping involves routing domestic funds through offshore entities to bring them back into the country as FPI.
(b) FPI is not susceptible to market manipulation as it involves passive investments.
(c) Money laundering through FPI is easily traceable due to strict regulatory measures.
(d) Front-running in FPI refers to investors colluding to manipulate stock prices.
Answer:(a)

Q.2 Which of the following statements regarding the impact of Foreign Portfolio Investment (FPI) in India is/are correct?
1. FPI inflows contribute to the stability of the Indian economy by increasing foreign exchange reserves.
2. FPI can lead to market volatility and fluctuations in asset prices.
3. FPI has no impact on the competitiveness of domestic industries.
4. FPI primarily benefits large-scale investors and does not provide opportunities for small investors.

Select the correct statement(s) from the options given below:
(a) 1 and 2 only
(b) 2 and 3 only
(c) 1, 2, and 4 only
(d) 2 and 4 only
Answer:(c)

Q.3 "Discuss the impact of Foreign Portfolio Investment (FPI) on the Indian economy and financial markets. Examine the positive contributions of FPI in terms of capital inflows and market liquidity, and analyze the potential challenges and risks associated with FPI. Evaluate the role of regulatory measures in ensuring transparency, stability, and preventing misuse of FPI. Provide examples and relevant data to support your arguments."

Rishabh