In Depth: Strategic Petroleum Reserve

In light of the immense volatility in global crude prices, the government of India is planning to increase its oil reserves. It has sought investments worth 1.5 billion dollars from global oil producers and traders to build additional emergency crude reserves to act as a buffer against volatility in oil prices. The plan is to build **underground caverns** that can hold 6.5 million tons of crude at two locations - in Odisha and Karnataka. India already has three underground storage facilities that can store 5.33 million tonnes of crude oil. These three Strategic Petroleum Reserves can help meet 10 days of crude requirement. The two new ones will stretch that supply to 12 more days.

Global Strategic Petroleum Reserves (GSPR)

- GSPRs are stockpiles of crude oil maintained by countries or private industries **as a hedge against potential future energy crises.**
- They represent a **defense against any event of downfall in future oil production**, including physical or economic actions which disrupt any part of the production process from exploration and development through refining.
- **Strategic reserves do not get counted among a nation's or company's proven oil reserves**, as proven reserves must be available for production by definition.

Why are Global Strategic Petroleum Reserves Necessary?

- It is the age of globalization where the price of a product is determined by the demand-supply chain. The interconnected nature of international oil markets makes disruptions in any given area likely to affect prices in much wider geography.
- In the event of **a major disruption due to political or natural disaster, countries holding reserves could increase the available supply of oil by releasing some portion of their reserves. The increased supply would moderate price increases caused by the disaster.**
- An agreement among members of the **International Energy Agency (IEA) requires any country that does not export more reserves than it imports** to maintain reserves equivalent to each country's average 90-day crude oil imports for the previous year.

3 Biggest 'Global Strategic Petroleum Reserves'

The United States

- The United States is the world’s largest holder of the crude reserve.
- The United States maintains a strategic petroleum reserve in a complex of caves located along the Gulf Coast. At its maximum inventory, the U.S. reserve held 726.6 million barrels of oil.
- It was created in 1973 when the US faced oil crisis caused by Arab oil embargo.

China

- It has the 2nd largest reserves in the world.
- Its endeavor to store crude oil started relatively late, in 2007.
- A report says that Chinese reserves stand at 475 million barrels at the end of 2017.

Japan

- Japan has third largest petroleum reserves at 324 million barrels.
- In 2007 Japan announced its plan to share the strategic reserves with other countries.

Strategic Petroleum Reserves In India

- The Indian Strategic Petroleum Reserve (ISPR) refers to the emergency **fuel storage maintained by Indian Strategic Petroleum Reserves Limited**, a Special Purpose Vehicle - wholly owned subsidiary of Oil Industry Development Board under the Ministry of Petroleum & Natural Gas.
- Strategic crude oil storages are at **Mangalore (Karnataka), Visakhapatnam (Andhra Pradesh) and Padur (Karnataka)** as per Phase I. They have fuel storage of total 5. 33 MMT (Million Metric Tonnes).
- **The government of India is planning to set up two more such caverns at Chandikhol (Odisha) and Udupi (Karnataka) as per phase II** through Public-Private Partnership. This will give an additional 6.5 million tons of the oil reserves.
- **Thus, a total of 22 days (10+12) of oil consumption will be made available by ISPR.**
- Crude oil from underground rock caverns (considered safest for storage of Hydrocarbons) can be supplied to refineries through pipelines and ships.
- **Indian refiners also maintain crude oil storage (industrial stock) of 65 days.** Thus, a total of 87 days (22 by ISPL + 65 by Indian refiners) of oil consumption will be made available in India after completion of Phase II by ISPR. This will be very close to 90 days mandate by the IEA.

India and Oil & Gas sector

- India is expected to be one of the largest contributors to non-OECD petroleum consumption growth globally.
- India retained its spot as the third largest consumer of oil in the world in 2017. Oil imports rose sharply to US$ 87.37 billion in 2017-18 from US$ 70.72 billion in 2016-17.
- India imports 82% of its oil needs and aims to bring it down to 67% by 2022 by replacing it with local exploration, renewable energy, and indigenous ethanol fuel.
- India was the fourth-largest Liquefied Natural Gas (LNG) importer in 2017 after Japan, South Korea, and China.

Government Initiatives

- The government of India approved fiscal incentives to attract investments and technology to improve recovery from oil fields which is expected to lead to hydrocarbon production worth Rs 50 lakh crore in the next twenty years.
- S**tate-run oil firms are planning investments worth Rs 723 crore in Uttar Pradesh to improve the liquefied petroleum gas (LPG) infrastructure in a bid to promote clean energy and generate employment.**
- India is working to establish a natural gas trading exchange as part of a shift away from a reliance on crude oil based products which are blamed for much of the country’s pollution problem.
- India wants to develop a transparent market for natural gas where the price is determined on an exchange. The aim is to increase the use of natural gas in India’s total energy mix from 6.5 percent to 15 percent between 2028 and 2030.
- **The Oil Ministry plans to set up bio-CNG (compressed natural gas) plants and allied infrastructure to promote the use of clean fuel.**

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