



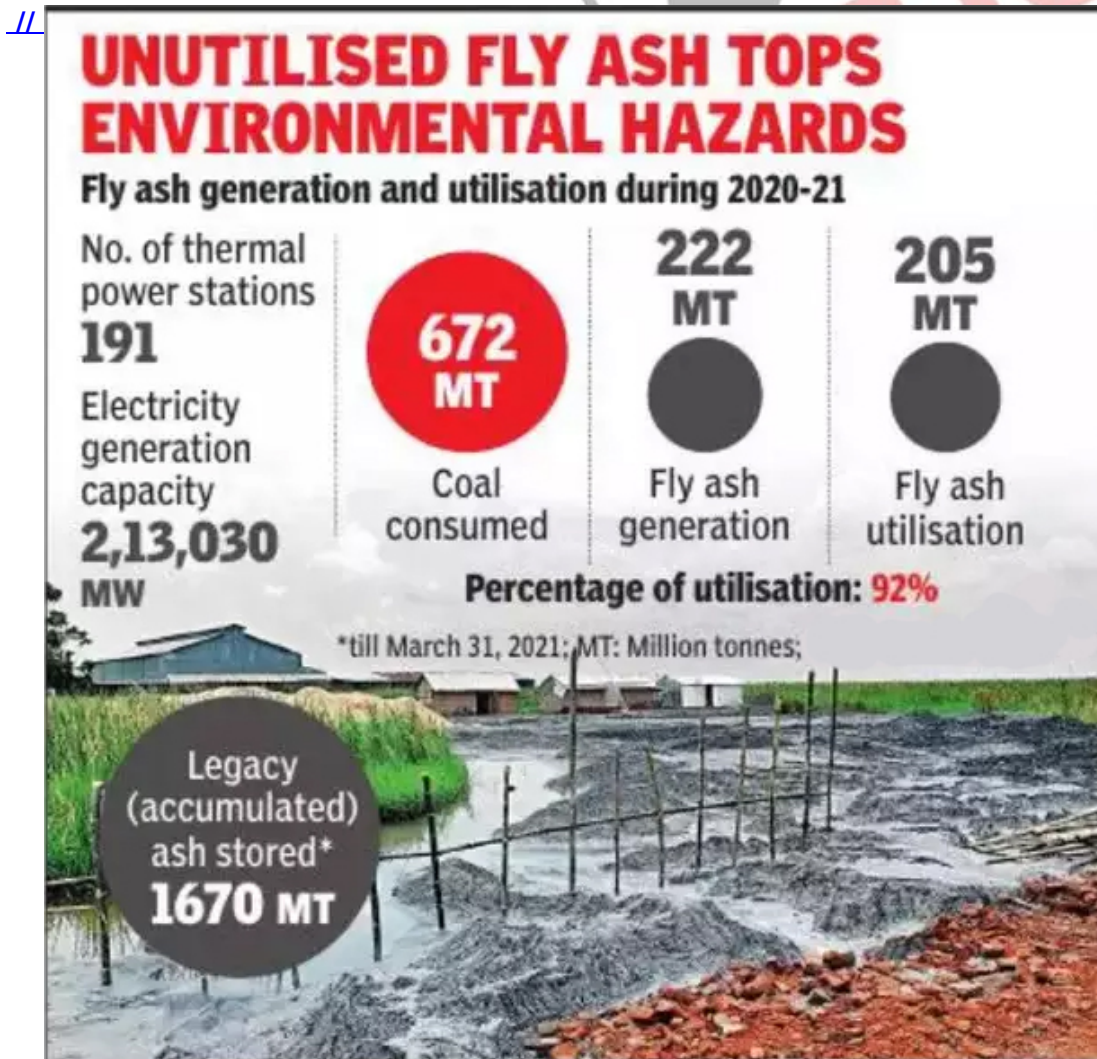
## Fly Ash Management and Utilisation Mission

**For Prelims:** Fly Ash Management and Utilisation Mission, National Green Tribunal, Central Pollution Control Board, Fly Ash Notification, Rihand Reservoir.

**For mains:** Government Policies & Interventions, Environmental Pollution & Degradation, Fly Ash and Related Issues, Fly Ash Management and Utilisation Mission.

### Why in News

Recently, the [National Green Tribunal \(NGT\)](#) directed the constitution of a '[Fly Ash Management and Utilisation Mission](#)'.



## Key Points

### ▪ About:

- The order by the NGT takes note of the **'unscientific handling and storage'** of the fly ash by coal thermal power stations.
  - For example, the draining of industrial effluents and fly ash in the [Rihand Reservoir](#).
- The Fly Ash Management and Utilisation Mission, besides monitoring the disposal of annual stock of unutilised fly ash, will also see how 1,670 million tonnes of legacy (accumulated) fly ash could be utilized in the least hazardous manner and how all safety measures could be taken by the power plants.
- The Mission will **hold its first meeting within one month to assess the fly ash management situation in coal power plants** and to prepare action plans to build road maps for ash utilisation by individual plants.
  - These meetings shall be **conducted each month, for a year**.

### ▪ Aim:

- To 'coordinate and monitor issues relating to the handling and disposal of fly ash and associated issues.'

### ▪ Head & Nodal Agency:

- The Mission is to be jointly headed by the secretaries of the Union **Ministry of Environment, Forest & Climate Change (MoEF&CC)**, Union **Ministry of Coal and Power, keeping on board chief secretaries of respective states** where the mission is being implemented.
- The secretary of **MoEF&CC will be the nodal agency** for coordination and compliance.

### ▪ Different from Fly Ash Notification 2021:

- Fly Ash Notification 2021 was issued under the **Environment (Protection) Act 1986**.
  - Prohibiting dumping and disposal of fly ash discharged from coal or lignite based thermal power plants on land or into water bodies, the **Centre has made it mandatory for such plants to ensure 100% utilization of ash in an eco-friendly manner**, and introduced for the first time a penalty regime for non-compliance based on 'polluter pays' principle.
  - Under new rules, **the non-compliant power plants will be imposed with an environmental compensation** of Rs 1,000 per tonne on unutilised ash during the end of every financial year.
  - The amount, collected by the [Central Pollution Control Board \(CPCB\)](#) from the thermal power plants, **will be used towards the safe disposal of the unutilised ash**. It may also be utilised for advancing research on use of ash including ash based products.
  - In cases where fly ash is being used in various activities, **power plants will have to deliver fly ash at project sites free of cost**.
  - The **power plant may, however, charge for ash cost and transportation as per mutually agreed terms**, in case it is able to dispose of the ash through other means.
- The new fly ash notification of December 2021, has made **provision for the 'enforcement, monitoring, audit and reporting' of the progress of fly ash utilisation and implementation** by coal thermal power plants and user agencies.
- The Notification **holds the CPCB and State Pollution Control Boards (SPCB) / Pollution Control Committees (PCC) responsible** for monitoring the effective implementation of mandates under it.
- However, along with these statutory regulators, **the Mission also extends the responsibility of fly ash management to the chief secretaries of the states**.
- The **Notification mandates the individual thermal power plant to upload monthly information** regarding ash generation and utilisation on its web portal.
  - The Mission as directed by the NGT, on the other hand, will make the roadmaps and progress in fly ash utilisation available for all thermal power plants and their clusters, on the MoEF&CC website on a quarterly basis for the knowledge of all stakeholders.

## Fly Ash

▪ **About:**

- Fly ash is an **unwanted unburnt residue of coal combustion in a coal thermal power plant.**
- It is **emitted along with flue gases** during the burning of coal in a furnace and collected using the electrostatic precipitators.
- The fly ash **collected with the help of precipitators is converted into a wet slurry** to minimise fugitive dust emissions.
- It is then **transported to the scientifically designed ash ponds** through slurry pipelines.

▪ **Composition:** Fly ash includes substantial amounts of silicon dioxide (SiO<sub>2</sub>), aluminium oxide (Al<sub>2</sub>O<sub>3</sub>), ferric oxide (Fe<sub>2</sub>O<sub>3</sub>) and calcium oxide (CaO).

▪ **Properties:**

- **Resemble Portland cement** but is chemically different.
  - Portland cement is a binding material in the form of a finely ground powder that is manufactured by burning and grinding a mixture of limestone and clay.
  - Its chemical composition includes calcium silicates, calcium aluminate and calcium aluminoferrite.
- **Exhibit cementitious properties.**
  - A cementitious material is one that hardens when mixed with water.

▪ **Uses:** It is used in **concrete and cement products, road base, metal recovery, and mineral filler** among others.

▪ **Harmful Effects:** Fly ash particles are toxic air pollutants. They can trigger heart disease, cancer, respiratory diseases and stroke.

- When combined with water they cause leaching of heavy metals in ground water.
- It also pollutes the soil, and affects the root development system of trees.
- **Gross under-utilisation of this by-product over the years has led to the accumulation** of 1,670 million tonnes of fly ash according to the Summary of Ash Generation and Utilisation during 2020-2021 by the Joint Committee earlier constituted by the NGT.

▪ **Related Initiatives:**

- Earlier in 2021, [National Thermal Power Corporation \(NTPC\)](#) Limited had invited [Expression of Interest \(EOI\)](#) for sale of fly ash.
- NTPC has also collaborated with Cement manufacturers around the country to supply Fly Ash.
- [Pradhan Mantri Awas Yojana \(Urban\)](#) has focused on new construction technologies such as using fly ash bricks that are innovative, and environmentally friendly.
  - Even state governments have come out with their Fly ash utilisation policies, e.g. **Maharashtra was the first state to adopt the policy.**
- A web portal for monitoring of fly ash generation and utilisation and a mobile based application titled [“ASHTRACK”](#) has been launched by the Government.
- [Goods and Services Tax \(GST\)](#) rates on fly ash and its products have been reduced to 5%.

[Source: DTE](#)