

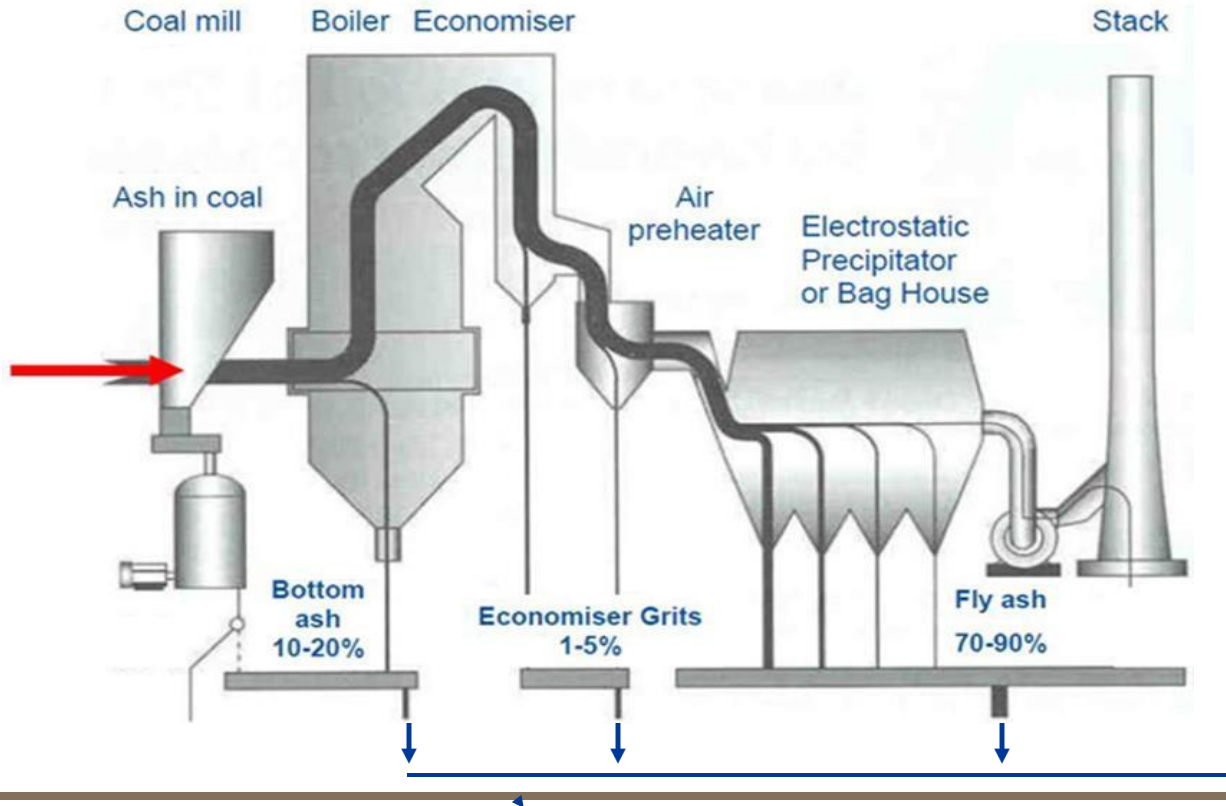
# Eskom Coal Combustion Products: Challenges Faced By Ash Off-takers

27 February 2025

Compiled by: Mokwena Mothogoane

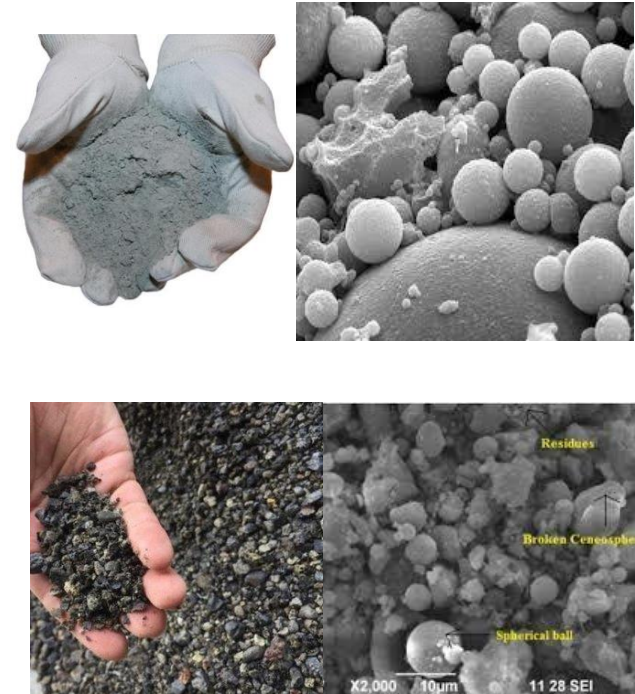


# COAL ASH PRODUCTION



# INTRODUCTION

- Grey powder formed by inorganic matter after combustion of coal.
- Eskom produces approximately 34 million tons annually.
- Fly ash
  - Small, fine particles (0.01-100µm diameter)
  - 85-90%
  - Spherical glass aluminosilicate
  - Captured by ESP or bag filters
- Coarse / Bottom ash
  - Heavier particles
  - 10-15%
  - Base of the boiler
  - Collected by submerged scraper conveyor
- Dumped (Legacy) ash
  - Combination of 80:20 Fly ash : Bottom ash
  - Weathered
  - Reactive
  - Vast volumes – 2 billion tons



# Market-Related Challenges

## Topic

## Comments



A) Waste Foundry Sand



B) Copper Slag



C) Ferrochrome Slag



D) Palm oil clinker



E) Bottom Ash



F) Blast Furnace Slag



G) Imperial smelting furnace slag



H) Steel Slag



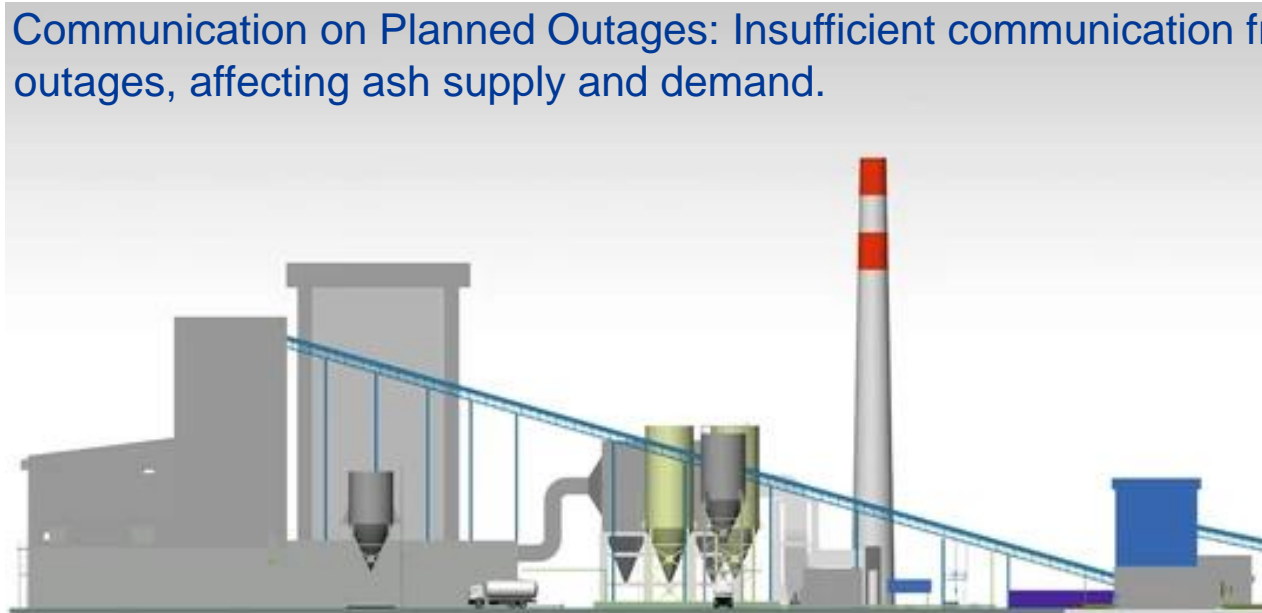
I) Fly Ash F Class

- Declining Ash Volumes: Steady decline of ash volumes due to low demand and supply, exacerbated by COVID-19, load shedding, and stagnated infrastructure investment.
- Stagnation in the Ash Market: The construction market in South Africa has declined by almost 40% since 2016, impacting ash demand.
- Competition from Alternative Materials: The ash market is opting for other aggregate materials due to the non-reliability of ash supply, such as sand, crushed or broken blast-furnace, slag, and boiler ashes.



# OPERATIONAL CHALLENGES

Topic	Comments
Plant Issues at Eskom Power Stations:	Ongoing plant issues, including maintenance and outages, affecting ash production and supply.
Lack of Support at Power Stations:	Delays in processing access documentation and long turnaround times due to inadequate support at some power stations.
Outages and Planned Maintenance:	Unplanned outages and planned maintenance affecting ash production and supply.
Lack of Communication on Planned Outages:	Insufficient communication from stakeholders on planned outages, affecting ash supply and demand.



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# LOGISTICS AND INFRASTRUCTURE CHALLENGES

## Topic

## Comments



- Access to Ash Markets: Infrastructure issues, including railway, access to ports, and long distances from markets, hindering ash supply.



- Bulk Quantities of Free Ash: Other utilities, such as Sasol and Sappi, giving away ash for free, impacting demand for paid ash.



# Financial and Regulatory Challenges

Topic	Comments
	<ul style="list-style-type: none"><li>• Excessive Capital Costs: High capital costs required to develop fly ash extraction plant, deterring investment.</li><li>• Red Tape and Funding Challenges: Difficulty in securing funding due to regulatory hurdles and cautious financiers.</li><li>• Monopoly Threats: Growing threats of a monopoly in the ash industry, potentially limiting competition and innovation.</li><li>• Parked Ash Contracts: Challenges in raising CAPEX and securing funding, leading to parked ash contracts and missed opportunities.</li></ul>



**Thank you!**

