PUBLIC NOTICE FOR
STAKEHOLDER COMMENT ON ESKOM
Minimum Emission Standard Health Cost Benefit Analysis Study at Medupi Power Station

Dear stakeholder,

Eskom, South Africa's primary electricity supplier, continues to provide reliable power while steadily reducing its environmental impact. Over the past decade, it has invested in technologies to lower particulate and nitrogen oxide emissions and improve operational efficiency, achieving measurable improvements across its generation fleet. Eskom's newest station, Kusile, is built with flue gas desulphurisation technology to also reduce sulphur dioxide emissions.

While Eskom remains committed to complying with the Minimum Emission Standards, it faces challenges in meeting the required stack emission limits at eight of its coal-fired power stations due to the restrictive legal framework, the age of the plants, and various technical constraints. The high cost of emission-reduction technologies and the potential impact on electricity prices also present significant concerns. These considerations must be balanced with the need to maintain electricity reliability and affordability.

As such, Eskom applied to the Minister of Forestry, Fisheries, and the Environment for an exemption from compliance with certain limits for a period in 2025. The Minister at the time, Dr. D.T. George issued a decision in terms of these applications on 31 March 2025. In terms of the decision, Eskom is required to complete and publish for stakeholder comment a revised and expanded plant-specific cost-benefit analysis for flue gas desulphurisation at Medupi. As such, a non-technical summary and the full study report are included in this email for your review and comment. After the comment period, Eskom will respond to comments and submit the final cost-benefit analysis report and a stakeholder response report to the new Minister, Mr W. Aucamp, for his consideration.

Stakeholders with an interest in the matter are requested to submit their comments to Eskom at EskomMES@eskom.co.za by 26 March 2026.

Further information on the issue can be obtained by emailing the address above.

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PUBLIC NOTICE FOR STAKEHOLDER COMMENT ON ESKOM MINIMUM EMISSION STANDARD HEALTH COST BENEFIT ANALYSIS STUDY AT MEDUPI POWER STATION

Eskom plans to hold an online public information meeting to discuss the report on 10 March 2026, 14h00 to 16h00. Interested parties can join the meeting using the link below:

Join Zoom Meeting
https://zoom.us/j/95770702787?pwd=Vz5NQzMHrbtCYZWzeOyp8eVu6fC1ub.1
Meeting ID: 957 7070 2787
Passcode: 412001

SUMMARY AND DISCUSSION ON THE MEDUPI FGD CBA

This Medupi Cost-Benefit Analysis (BCA)[1] was conducted to comply with the Department of Forestry, Fisheries and the Environment (DFFE) Minister's Record of Decision [2] on an exemption application submitted by Eskom[3] for the Minimum Emissions Standard (MES) for sulphur dioxide (SO_2) for Medupi Power Station.

The BCA was prepared in accordance with World Health Organisation guidelines and compares the financial costs of implementing three alternative sulphur dioxide (SO_2) emission-reduction measures at Medupi Power Station in the Waterberg–Bojanala Priority Area with the corresponding health benefits. The three SO_2 reduction options compared at Medupi are wet-Flue Gas Desulphurisation (FGD), semi-dry FGD and dry FGD.

Additionally, the financial costs and health benefits of implementing six alternative SO_2 reduction scenarios were assessed. These scenarios are the Eskom Air Quality Offset (AQO) Programme (clean cooking and household interventions); Small Modular Reactors (SMR); Long Duration Energy Storage (LDES); Coal beneficiation; High Efficiency Low Emissions (HELE) (an advanced coal-fired generation technology); and Carbon Capture, Utilisation and Storage (CCUS). The health benefits of these scenarios are expected to occur in the Highveld rather than in the Waterberg.

Key Findings

Ambient air quality:

For the analysed period, air quality in the Waterberg-Bojanala Priority Area is materially compliant with the National Air Quality Standards (NAAQS) for SO_2 and nitrogen oxide (NO_2). Particulate matter

[1] The terms Benefit Cost Analysis (BCA) and Cost Benefit Analysis (CBA) are commonly used interchangeably
[2] Section 7.3 of 31 March 2025
[3] In terms of Section 59 of the National Environmental Management: Air Quality Act (NEMA: AQA), 2004 (Act No. 39 of 2004).

does not comply with ambient standards, likely due to ground-level sources rather than stack emissions from Medupi. Continued operation of power stations with existing abatement equipment is unlikely to cause non-compliance with NAAQS.

Medupi FGD SO_2 reduction scenarios:

Across all three FGD technologies, benefit-cost ratios remain well below 1 for different power station end-of-life timelines and other sensitivity tests. This means the monetised value of health benefits is substantially lower than the required capital and operating expenditure for FGD.

Wet FGD delivers the largest health benefit due to its higher SO_2 removal efficiency, but its financial costs still outweigh health benefits by several orders of magnitude. The total project lifetime cost (45 years) to Eskom, including both capital expenditure (capex) and operating costs, which must be recovered through electricity prices, is R383 billion (nominal).

While semi-dry and dry FGD options are financially more expensive (R534 billion (nominal) and R408 billion (nominal), respectively), due to much higher operating costs, the associated health gains are lower, resulting in even less favourable benefit-cost ratios. All financial costs must be recovered through electricity prices, potentially adding 4c/kWh to the price.

Alternative emission reduction scenarios:

The Eskom AQO programme delivers pronounced health benefits by reducing human exposure to household air pollution, including fine particulate matter and SO_2. Estimated health benefits significantly exceed implementation costs, with benefit-cost ratios above 30. The total AQO project lifetime cost to Eskom (5 years), to be recovered through electricity prices, is R5.1 billion (nominal). The programme stands out as the most cost-effective human health intervention, and based on pilot study results, has a high likelihood of success.

SMR and LDES are expected to generate significant health benefits, notably SMR, given their broader potential for implementation (with no additional costs to achieve these benefits). Both interventions offer additional power-generation benefits that were not assessed in the study.

Coal beneficiation, HELE and CCUS generate some health benefits but at costs that exceed the quantified benefits. Costs of coal beneficiation range between R128 and R386 billion (nominal), HELE costs range between R8 and R10 billion (nominal), and CCUS costs range between R1,811 and R13,837 billion (nominal).

The full CBA report and a non-technical summary are available on the Eskom website or by contacting *EskomMES@eskom.co.za*.

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ESKOM MINIMUM EMISSION STANDARD HEALTH COST BENEFIT ANALYSIS STUDY AT MEDUPI POWER STATION

Eskom has submitted this information to you based on your previous registration as a stakeholder in an air quality matter. If you do not wish to receive further information, please contact us at EskomMES@eskom.co.za, and we will remove you from our distribution list. Thank you.
