



1. Position description and grading

Clean Coal – Research Specialist

2. Department and section

Applied Energy Research, Development and Innovation

3. Purpose

The Applied Energy Research, Development and Innovation Programme is host to SANEDI's clean coal and fossil fuels sub-programme, an existing areas that requires immediate attention given the role of coal in South African energy security. We require a specialist researcher in clean coal technology to support SANEDI with exploring opportunities and areas of focus, namely: to drive the adoption of clean coal technologies. South Africa is set to have coal in as a fuel in its fuel mix after 2050 owing to the lifespans of its coal-fired power stations. A target of achieving decarbonised electricity by 2050 is expressed in the South African Intended Nationally Determined Contribution (INDC) (SA-UNFCCC, 2015). Innovative R&D is required to contribute to realising this goal whilst still utilising the energy derived from the rich resources of coal that we have while maintaining levels of economic and social development. The research into coal and carbon as

a material and the advancement of technologies and industry practices that significantly increase coal conversion efficiency and decrease environmental impacts is key. The successful individual will be based at the SANEDI offices in Sandton, Johannesburg.

4. Job requirements:

4.1 Qualifications and experience

- Master's degree in environmental, energy, engineering or related field only.
- 5 years' experience in clean coal research or related areas;

5. Summary of Key Responsibilities and Research Areas

1. To determine coal, co-firing fuel and sorbent resources available and suitable for new clean coal technologies?
2. To understudy environmental, logistical, commercial and market constraints for new coal, co-firing fuel and sorbent resources.
3. To determine the commercialisation potential and suitability of local fuels, coal inclusive and conditions that supports the countries strategic drivers?
4. To determine what clean coal technologies can absorb or recycle the waste products from coal-fired power stations, including carbon, gaseous, particulate and water emissions?
5. To determine the characteristics, transport pathways and fate of emissions from South Africa's power generation stacks and how they impact on human health and the environment?
6. Other assigned tasks and responsibilities as determined by managers.

*The Specialist will report to the General Manager and assigned Project Managers

6. Knowledge and Skills Requirements

- Core knowledge and understanding in fundamental research;
- Knowledge of South African commitments to address climate change, carbon emissions reduction and just transition;

- Experience in working with South African public sector institutions and carbon emitting industries;
- Excellent communication skills with diverse stakeholders;
- Excellent communication skills (oral and written English);
- Proficient in Microsoft Office suite (outlook, power point, word, excel);
- Research and understand climate change initiatives around the globe
- Review CO2 monitoring research programmes
- Exposure to Carbon Footprint Calculations
- Scope and manage other environmental sustainability work packages i.e., atmospheric, soil, water, ecosystem monitoring
- Collect and compile greenhouse gases emissions
- Identify national/international methodologies, standards, protocols applicable to environmental monitoring
- Develop, implement, and manage service level agreements with relevant service providers

- Well-developed interpersonal, communication and stakeholder liaison skills with experience in networking and establishing and maintaining relationships with partners at different levels.

The closing date for this position is: **10 February 2023**

Please email a detailed CV and cover letter to: recruitment@sanedi.org.za

Dr Titus Mathe

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Chief Executive Officer