



Innovating for a Just Transition: Coaltech’s Strategic Contribution to South Africa’s Climate Goals at COP29

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As the world prepares for COP29 in Baku, Azerbaijan, from 11 to 22 November 2024, this pivotal conference represents a crucial opportunity to accelerate global action to tackle the climate crisis.

Coaltech is deeply aligned with this effort, leveraging our expertise in coal research and innovation to support the transition towards a more sustainable economy, while ensuring it remains just, equitable, and orderly. Coaltech has been at the forefront of advancing sustainable practices in the coal industry since 1999. With a strong mandate to keep the coal sector competitive, safe, and sustainable, we are dedicated to ensuring that the industry evolves in step with South Africa’s climate goals. This evolution is not something we can achieve in isolation; it requires collaboration across business, government, and civil society, aligning with Team South Africa’s messaging that a just transition and reaching net zero is possible through strategic partnerships and ambitious climate action.

Our current research projects, grouped into Mining, Coal Processing, Surface Environment, and Future Technologies, are strategically designed to address both the opportunities and risks inherent in the transition process. Our work on circular economy models, such as transforming coal waste into building materials or incorporating it into asphalt, creates new economic opportunities for coal-dependent regions. This approach ensures that South Africa’s transition not only mitigates environmental damage but also unlocks new streams of economic value, keeping communities at the centre of the transition.

Our commitment to ensuring that the transition is just is embedded in our focus on alternative coal uses, such as coal-to-hydrogen production and the production of advanced material from our abundant carbon ore. These innovations are crucial for maintaining economic stability in coal-dependent areas, offering them a bridge toward participation in a sustainable economy.

South Africa’s ambition at COP29, framed as a “Finance COP,” is to stimulate relationships and investment between business, government, and civil society. The investment needed to enable action is significant, and it will take collaborative efforts to unlock the full potential of climate finance. At Coaltech, we see ourselves as a key player in this ecosystem, working alongside our primary members such as the Minerals Council, Eskom, the Council for



Scientific and Industrial Research, Exxaro, Sasol, Seriti, Thungela, and Glencore to develop technology-driven solutions that support South Africa’s national climate ambitions. Our Future Technologies steering committee is positioned to lead research, development, and innovation in climate change, carbon management, and interventions like carbon capture and storage. With targeted funding, institutions such as ours will spearhead these technologies.

Our research into carbon farming, phytomining, and biological treatment of brine waste helps rehabilitate post-mining landscapes, turning them into carbon sinks and agricultural hubs. These projects align with South Africa’s commitment to promoting sustainable land use practices and ensure that previously mined land is not left barren but becomes part of a climate solution with real community impact.

The emphasis on collaboration—between business, government, and civil society—resonates well with our mandate and speaks to our very foundations. Coaltech’s collaborative approach, working with institutions of higher learning, and industry leaders, underscores the power of shared value partnerships in driving meaningful change. By sharing the knowledge and technologies we develop, we contribute to capacity building in both local and international contexts. This kind of knowledge transfer is critical for South Africa and other developing nations as they implement their climate action plans and navigate the challenges of intellectual property rights and technology licensing.

As the global community works on achieving sustainable climate outcomes, we believe that Coaltech’s innovations in clean technologies and future uses of coal are critical to ensuring a smooth, just transition. Our projects demonstrate that coal can remain a part of the energy landscape while significantly reducing its carbon footprint. By focusing on clean coal technologies, carbon capture, and alternative uses of coal including the extraction of rare earth elements we are actively supporting South Africa’s broader goals of economic resilience and sustainability in a low-carbon future.

In the lead-up to COP29, we recognise that business has a critical role to play in driving ambition, unlocking investment, and supporting the just transition. Coaltech stands ready to be a key contributor to South Africa’s climate strategy in a manner that is inclusive, equitable, and grounded in innovation. Working alongside Team South Africa, we are committed to driving the country’s national climate ambition, positioning South Africa as a global leader in climate action while safeguarding the future of our coal-dependent communities.