

SA's pursuit of net-zero carbon emission requires visualisation and commitment

By [Eckart Zollner](#)

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Energy production and usage accounts for nearly three-quarters of global emission, therefore attaining net-zero emissions requires urgent change and innovation across multiple industries. All sectors will need to be innovative with their processes and reevaluate their energy consumption, placing climate change at the centre of economic stimulus going forward.



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Eskom, for example, issued an expression of interest (EOI) earlier this year, which solicited feedback from various businesses and institutions on possible strategies for repurposing the ageing Camden, Komati, Grootvlei, and Hendrina plants, all of which are scheduled to stop producing electricity by 2028. Opportunities such as this provide organisations an opportunity to co-innovate alternative solutions to assist with the end goal of a net-zero carbon emitting South Africa and great economic stimulus.

In order for South Africa to be close to net-zero emissions by the time these stations are decommissioned, business in general will be required to take full responsibility for their impact on the environment and emissions by monitoring, analysing, and make a firm commitment to actively reduce their carbon footprint. The starting point for change and innovation? The right business tools to unlock the ability to visualise an organisation's carbon footprint.

South Africa's fossil-fuelled problem

As a signatory to the Paris Accord, South Africa has committed to reaching net-zero carbon emissions by 2050 but given our current trajectory, we will be hard-pressed to meet this target. South Africa is the world's 14th largest emitter of greenhouse gases and heavily dependent on fossil fuel, with an indigenous energy resource base that is coal-dominated. Globally, coal is the most widely used primary fuel, accounting for about 36% of the total fuel consumption for the world's electricity production. Back home, about 77% of South Africa's primary energy needs are provided by coal.

Locally, coal for electricity production is among the cheapest in the world. However, the beneficiation of coal particularly for export results in more than 65 megatonnes of coal discards annually. Roughly 21% of coal production is exported, 21% is used locally (not counting power-station coal) while the rest is discarded because it is not saleable. The remainder of our coal production feeds various local industries directly: 62% goes to electricity generation; 23% for petrochemical industries; 8% for general industry; 4% for the metallurgical industry; and 4% is sold locally or exported by merchants.

At the present production rate, we have more than 50 years of coal supply left. However, considerable pressure is placed on the environment by our energy supply and consumption, leading to climate change through increasing greenhouse gas emissions, as well as air pollution and damage to natural ecosystems. There is a debate currently about major overhauls of the generation side of the old sites instead of a full repurpose, this would allow for technology upgrades whilst retaining the core purpose of the sites. All that is clear from this is that there is a urgent need for a massive policy shift toward a greener future from government and across industries if we're to have any hope of reaching our targets by 2050.

A greener future depends on innovation

If we're to reverse our dependence on fossil fuel, South African industries are going to have to get innovative with energy production and consumption, which is going to require the prioritisation of sustainability instead of focusing purely on profit. Change depends on an organisation's ability to quantify their carbon emissions for monitoring and reporting purposes, which is where technology can help. Designed for local conditions, carbon tax calculator tools enable businesses to examine emissions across the entire operational chain. These cloud-based tools provide the visibility to identify quick wins to achieve emission reductions throughout the carbon footprint of the organisation as well as offering the ability to see the real-time impact of these decarbonisation efforts. Planning and achieving effective sustainable change starts with appraisal and that's where technology can make all the difference.

With the right tools, saving the planet and preventing climate change doesn't have to feel like an insurmountable goal. With the ability to manage, monitor and advance decision-making, businesses will find it much easier to innovate and commit to a carbon-neutral future, by having total visibility of the carbon consequences of their actions at all times.

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