

Ambient air pollution on the Highveld: An airshed at a watershed moment?

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Background

On 18 March 2022, the Pretoria High Court found that chronic air pollution is a violation of Section 24 of the South African Constitution, and that South Africans have a right to an environment that is not harmful to their health and well-being (CER, 2022). This “has important implications for communities forced to live with the debilitating effects of air pollution on the Mpumalanga Highveld, and more broadly for constitutional jurisprudence and government accountability” (CER, 2022).

Since 2019, two environmental justice groups, groundWork and the Vukani Environmental Justice Movement, represented by the Centre for Environmental Rights (CER), sought recourse from the High Court on the high air pollution levels in the Highveld Priority Area (HPA). The basis of this “Deadly Air” Case was a declaration that “the poor air quality in the Highveld Priority Area is a breach of the residents’ right to an environment that is not harmful to their health and wellbeing” (CER, 2022).

The HPA is known for its poor air quality. Numerous studies have reported widespread non-compliance with the PM and O₃, as well as NO_x and SO₂ National Ambient Air Quality Standards (NAAQS) (Steyn and Kornelius 2018; Feig et al., 2019; Chindhindi et al., 2019; Morosele and Langerman 2020). There are a range of air pollution sources which contribute to the poor air quality in the HPA, including industry, roads, vehicles, mining, power generation, biomass burning, wind-blown dust, domestic fuel use practices and waste burning, to name a few (Ross et al., 2007; Nkosi et al., 2018; Walton et al., 2021). The negative impacts of the air pollution are felt by many who reside on the Highveld and even beyond. Much pressure has been placed on government by civil society and legal experts to improve the air quality in the region, leading to many difficult discussions. Consequently, over the past years, the air quality in the airshed has become the focus of many air pollution-related research studies, legal debates and media releases.

Legislation governing air quality on the Highveld and the Minimum Emission Standards

A comprehensive set of laws, standards and guidelines exists in South Africa to govern air quality. This stems from the Constitution, which ensures that clean air is a fundamental

human right (RSA, 1996). Under the National Environmental Management: Air Quality Act, 2004 (RSA, 2005), standards exist to govern the levels of pollutants that are emitted into the air from major industrial activities (e.g., Minimum Emission Standards (MES) (RSA, 2019) and Dust Control Regulations (RSA, 2013)). Similarly, standards have been set to measure the ambient air quality at ground-level, where people breathe (RSA, 2009b; RSA 2012a). A National Framework outlines the governance, measurement and reporting tools (e.g., South African Atmospheric Emission Licencing and Inventory Portal (SAELIP)) systems and procedures for monitoring air quality and implementing air quality management strategies (DEA, 2018). This includes the declaration of Air Quality Priority Areas as well as the drafting of Air Quality Management Plans (RSA, 2007; RSA, 2009a; RSA, 2012b; DEA, 2012).

Larger emitters require an Atmospheric Emission Licence to operate and are mandated to comply with the MES for specific criteria pollutants at source. When created, the MES phased in more lenient emission limits in 2015 and stricter limits in 2020. The MES are the regulations that have the authority needed to achieve significant emission reductions from large sources.

Despite the existence of a world class legislative framework in South Africa to govern air quality, its implementation and compliance to its regulations has often been difficult to achieve. Many industries report that they are unable to comply fully with the MES, citing the unaffordable cost of emission abatement retrofits as the primary reason. Aging technology, water and space constraints, and production considerations are other reasons given for the inability to reduce emissions by the stipulated dates. Larger facilities in particular, like power stations and oil refineries, have struggled to comply. Some of these facilities have applied to the Department of Forestry, Fisheries and the Environment (DFFE) for postponement of the MES compliance timeframes, essentially asking government to allow them to continue operating as usual until the facilities are able to comply, or until they reach the end of their life.

This has been a highly contentious and ongoing legal wrangle. In the most recent developments, and more than a decade after the MES were introduced, government has rejected many postponement applications which will potentially result in many facilities being forced to cease operations.

What lies ahead?

The High Court decision ordering the DFFE to clean up the air has been widely welcomed, but how this will be achieved is still unclear. Going forward, protracted legal battles delaying action to reduce pollution, or the possible premature closure of facilities without appropriate replacements which will hamper economic growth, lead to job losses and an increase in poverty, should ideally be avoided. Unemployed people are often unable to afford clean energy carriers and are exposed to the highest pollution levels in the country (Hersey et al., 2015). Achieving a balance between emission reduction and economic growth is essential.

Minister Creecy has indicated that the DFFE will be drafting new air quality regulations, and that they will continue to engage with communities, experts, NGOs, energy producers and other stakeholders in the area. It is essential that other government departments and agencies – those dealing with housing, health, energy and water – also are active in the dialogue and way forward. The new regulations can only be effective if different interest groups agree, that cleaning the air we breathe is a priority, in order to save lives. Are consumers of some products (like electricity) willing to pay the higher prices needed to fund the emission abatement retrofits? Can water be repurposed from other uses for pollution abatement? Furthermore, resources need to be available to enable compliance with the new regulations.

Beyond the need to reduce emissions from significant pollutant sources, the approach focus for emission reductions needs to be holistic. Studies show that many sources contribute to pollution levels. In addition to large point sources like power stations, smelters, refineries and industries, smaller source like vehicle emissions, unpaved roads, residential wood/coal burning, waste burning, veld fires and mines can also be extremely important at a local level. Prioritising sources based on their contribution to exposure levels is a sensible approach which can have large impacts on ambient pollution levels while not absolving large emitters from meeting their regulatory requirements. Limited resources can be assigned to emission reduction from sources that have the greatest impact on health, informed by a robust evidence base (e.g., outcomes from cost-benefit analysis).

Conclusion

Whatever the approach adopted, it is clear that the HPA will remain an air quality hotspot for the foreseeable future, posing continued health risks to people living in the region. Given the increased pressure on industry and government to reduce emissions, to transition to cleaner energy and ultimately to improve ambient air quality, it seems as though the HPA may have reached a watershed moment – one which we hope will see the airshed move towards cleaner air.

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