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POWER POVERTY: ENERGY INJUSTICE IN SOUTH AFRICA

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Reflecting on his arrival in Johannesburg from the Eastern Cape in 1941, Nelson Mandela recalled, "We saw before us, glinting in the distance, a maze of lights that seemed to stretch in all directions. Electricity, to me, had always been a novelty, and a luxury, and here was a vast landscape of electricity, a city of light."[1] His thrill at seeing the brightly lit city reveals a stark contrast between the "landscape of electricity" and the lived reality of Black South Africans then subjected to apartheid.

Enkanini, South Africa. © mrnovel80 on Adobe Stock. All rights reserved.

Segregated into resource-poor and overcrowded parts of the country, Black communities had virtually no access to electricity or to many other state services. The services that were available to them, such as education or health, were designed for a second-class and subjugated population. Injustice and inequality were not only the norm, they were the law.

When apartheid ended in 1994, the new South African Constitution entrenched equality while also addressing restitution and redistribution. Among its benefits, the Constitution promised electricity to those who had previously been denied it. From the mid-1990s, tremendous strides have been made in this regard, raising the proportion of South Africans with access to electricity from just over half in 1996 to over 80 percent currently.[2] Some indigent households qualify for 50–100 kWh of free electricity each month (average monthly per capita consumption is around 287 kWh in South Africa).

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And yet, access has not guaranteed supply. Generation is insufficient to meet demand, and electricity remains an intermittent luxury for all South Africans, although entrenched injustice affects people's ability to cope with the faltering supply. Recently, a World Bank report reaffirmed that South Africa is the most unequal country in the world; lack of power, which constrains economic growth and opportunities, exacerbates inequality.[3] The crime rate is the third highest in the world. Almost half the population survives on state support. Although the creation of employment opportunities is paramount, economic growth is barely discernible. As a consequence, the nation seethes daily with civil unrest—referred to as "service delivery protests." Many street protests turn violent, with loss of life and damage to property. These issues of social inequality are bound up with concerns of environmental justice due to South Africa's overreliance on coal and environmental degradation caused by mining.

Electricity supply in South Africa lies in the hands of Eskom Holdings SOC Ltd., a centralised state-owned corporation founded in 1923, which absorbed all existing large generating plants in the Republic. Over time, Eskom has constructed its own plants and expanded transmission beyond South Africa to many parts of the African continent. By the late 1990s, Eskom was supplying 95 percent of South Africa's and 38 percent of the continent's power consumption.

Coal-fired power station in South Africa. © Willem on Adobe Stock. All rights reserved.

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Along with Eskom's monopoly over the energy sector, coal—the largest energy source for electricity in South Africa—lies at the heart of the economy. In South Africa, coal is plentiful and cheap, and a high-value export product. Apart from abundant sunshine and unexplored shale gas, no alternative indigenous resources to coal exist. Natural gas, comprising 3 percent of the primary energy supply, comes via pipeline from fields off the Mozambique coast and is dedicated for use in liquid-fuel synthesis. Crude oil, imported mainly from Saudi Arabia and Nigeria, is refined to produce petrol, diesel, and other fuels. Thirteen coal-fired power stations produce 80 percent of the Republic's electricity.

Although South Africa's coal-fired power infrastructure ought to be able to provide enough electricity for some 60 million people, the country has experienced rolling blackouts since 2007 due to a failure of supply and insufficient reserves. When the grid is at risk and megawatts need to be conserved, Eskom publishes a schedule listing times for outages, staggered for different geographical areas, to reduce consumption and avoid a total blackout. This rationing, euphemistically called "load-shedding," results in blackouts lasting for 2.5 or 4.5 hours at a time. Power cuts affect every activity that relies on a dependable power supply.

When power is down, cables and other equipment are frequently stolen or vandalised. Switching parts of the system repeatedly off and on creates surges and often damages the aging infrastructure, leading to even more power outages. The poor—and particularly women, who carry the burden of household management—are hit the hardest. Many South Africans despairingly but passively accept blackouts, while others take to the streets in radical protest. Rob Nixon's "slow violence"[4] resonates throughout South Africa's energy regime. And literal power poverty emerges from the harmful effects of the country's electricity generation.[5]

South Africans have developed different ways of coping with this situation. Many middle-class households have made use of inverters or domestic solar supply, while large businesses have often installed backup diesel generators. However, it is illegal to feed any excess energy into the grid. Many urban townships inhabited by poor Black communities display a sea of small solar roof panels that supply hot water. But only electricity from the grid can power technological devices and vital domestic appliances, such as a kettle, a stove, or lighting.

As French urbanist Sylvy Jaglin and geographer Alain Dubresson emphasise, many factors have created the current situation of insufficient energy generation, including large new plants that have been inadequately planned or badly constructed.[6] Additional causes include incompetent and inefficient management at Eskom due to an acute skills shortage, expertise drain, and lack of maintenance; extensive patronage in employment; complications arising from the transformation of the coal industry from large to smaller suppliers; labour unrest; sabotage; non-payment by consumers (including municipalities); widespread theft; and, importantly, massive corruption.[7]

On top of that, current environmental crises have further destabilised the supply of electricity in South Africa. Many baseload plants use wet recirculation cooling technologies, which are extremely

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wasteful of water.[8] The Republic is arid, and water security is fragile. With even more intense drought anticipated as a result of climate change, the issue of energy security will become increasingly significant and, of course, even more detrimental to climate justice. For many reasons, the government has given little support to renewable energy. Fearing that any change to the status quo or privatisation will come with diminishing state control and price increases, the role for private enterprise in the industry has also been restricted.[9]

> *Widespread illegal "zama-zama" mining—extremely dangerous extraction in abandoned or closed mines—is increasing, aggravating the damaging effects of commercial coal mining.*

Coal-mining regions suffer from extreme air pollution, poisonous old mine dumps, long-burning fires, water pollution, and acid mine drainage. There are 19 coalfields in South Africa. Most deposits lie in the northern and eastern parts of the country, where the large power plants are situated. New areas are being mined, and the government often signs contracts for new coal mines or extensions without restrictions, even in environmentally sensitive or conserved areas. Widespread illegal "zama-zama" mining—extremely dangerous extraction in abandoned or closed mines—is increasing, aggravating the damaging effects of commercial coal mining.[10]

Air pollution detrimentally affects those who are already economically disadvantaged or who live near power plants and coal mines. At times, the power stations in the east even contaminate the air over Johannesburg. The emission of toxic particulates in the southeastern province of Mpumalanga is among the highest in the world. The poor in South Africa, unable to escape these hazardous environments, suffer from sinus ailments, burning eyes, pulmonary infections, and other illnesses.[11]

Mining also affects the landscape, leaving immense, visible scars. Although by law land must be rehabilitated when mining ceases, the law is rarely obeyed, and defunct mines cannot be made to pay. Section 24(b) of the Constitution provides that "everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation [and] promote conservation." Despite excellent environmental laws—among the best in the world—lack of money, poor human capacity, and widespread corruption often prevent implementation.

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Truck transporting coal. © Jane Carruthers. All rights reserved.

Citizens are working to improve the situation in various ways. In addition to social protests in the streets, South African youth are also raising their voices. The "#CancelCoal" campaign to block any new coal mining involves young activists linked to the African Climate Alliance, the Vukani Environmental Movement, the environmental justice organization groundWork, and the Centre for Environmental Rights.[12] Brave activists and some non-governmental organisations have formally held the government to account. In 2017, Earthlife Africa won a significant court case: a challenge to the government decision to build a new coal-fired power station, Thabametsi, in Limpopo province.[13] In another victory, a 2019 Constitutional Court ruling prevented the construction of an opencast mine in the Mabola Protected Environment near Wakkerstroom in Mpumalanga.[14] However, protesters run the risk of being persecuted, or even murdered, while recourse to the courts is prohibitively expensive for many activists.[15]

> *In addition to social protests in the streets, South African youth are also raising their voices.*

International pressure may stimulate a change in South Africa's energy mix. At COP26, a deal was announced, promising $8.5 billion to help end the country's reliance on coal. While President Cyril Ramaphosa called it a "watershed moment," a lack of clarity remains regarding how this assistance will be utilised.[16] Additionally, South Africans fear job losses if the energy environment is altered to focus on renewables. Already, a third of the population is officially unemployed, including almost two-thirds of those between the ages of 15 and 24.[17]

A new COP meeting is underway in November 2022, and although many people inside South Africa are saying that green energy is a colonial plot, it seems that a realistic government plan was unveiled in Sharm El Sheikh, Egypt.[18] However, due to legal hurdles, a lack of technological expertise, and insufficient popular support, it is questionable whether renewable energy can ever be generated

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on a scale that would bring about a just energy transition for South Africa's society and its environment.

Notes

[1] Mark Gevisser, *Lost and Found in Johannesburg: A Memoir* (New York: Farrar, Strauss and Giroux, 2014), 135.

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[10] Alan Martin, "Uncovered: The Dark World of the Zama Zamas," *ENACT*, Policy Brief, 8 April 2019, https://globalinitiative.net/wp-content/uploads/2019/04/ENACT-Policy-Brief-008-Zama-Zama-24Apr1115-WEB.pdf.

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