NAMC
Promoting market access for South African agriculture

ADVISORY NOTE

05 June **2025**

POTENTIAL IMPACT OF THE PROPOSED ELECTRICITY TARIFF HIKE ON SOUTH AFRICA'S AGRICULTURE SECTOR

Bhekani **Zondo**, Lwazi **Dladla**, Dr. Victor **Thindisa**, Dr. Solly **Molepo**, Prof. Heinrich **Bohlmann** (University of Pretoria)

Background

South Africa has a total land surface of 122 million hectares, of which 97 million hectares are classified as agricultural land (DALRRD, 2023). According to the latest abstract of agricultural statistics (DoA, 2025), approximately 9.5 million hectares is under field crops, while about 3.9 million hectares is under horticulture production. On the other hand, the largest piece of agricultural land (63.4 million hectares) is dedicated to livestock production. Moreover, approximately 1.3 million hectares of productive agriculture land dedicated to crops and orchards production is under irrigation. Over 87% of horticulture production is under irrigation, while only about 16% for maize, 15% of soybean, 35% of sugarcane, and 35% of wheat (USDA, 2023). The output of the agricultural sector has doubled over the last couple of decades due to investments in technological improvements which requires reliable source of energy for operations (BFAP, 2025).

The agricultural sector uses electricity for various production activities such as pumping water for irrigation, lighting in animal houses, feed-water dispenser in the various livestock houses, and milking machines in the parlour. Downstream activities that rely on energy include refrigeration facilities, slice-dice machines in the abattoirs, fruit-vegetables grading-packaging machines, and cold chain storages. Electricity contributes about 6% to the total production input costs (BFAP, 2025). The continuous increase in electricity tariffs over the last couple of years threatens the profitability and competitiveness of farms and agribusinesses. Agri SA has cautioned that without urgent intervention, rising electricity costs could drive farmers into financial distress (Agri SA,

2024). Electricity tariffs in South Africa have undergone drastic and significant increases over the past decades, reshaping the economic landscape for both businesses and households. Pre 2007, South Africa boasted some of the lowest electricity prices globally. However, the 2008 national electricity crisis, marked by widespread national load-shedding, sharply shifted the trajectory of electricity costs. Since 2007, tariffs have risen by more than 500%, far outpacing inflation and placing increasing economic pressure on sectors dependent on affordable, reliable and stable energy. The Department of Mineral Resources and Energy (DMRE) reports that the average electricity tariff climbed from 19.59 cents per kilowatt-hour (c/kWh) in 2008 to approximately 143.50 c/kWh by 2023, reflecting a staggering increase of over 600% in just 15 years (DMRE, 2023).

In early 2025, Eskom submitted a new application to the National Energy Regulator of South Africa (NERSA), requesting a further 12.5% increase for the 2025/2026 financial year, following tariff hikes of 18.65% in 2023 and 12.72% in 2024. This latest request is part of Eskom's Multi-Year Price Determination (MYPD6) process. The proposed 12.5% tariff increase is primarily motivated by Eskom's urgent need to address rising operational costs and improve its precarious financial position. Eskom's debt burden exceeds R400 billion, and despite repeated government interventions, the utility remains financially unstable. Eskom's financial challenges are exacerbated by several factors such as operational failures at coal-fired power stations, the high cost of procuring electricity from Independent Power Producers (IPPs), and declining revenues from customers shifting to self-generation. The Department of Public Enterprises (2024) emphasizes that tariff increases are necessary to fund critical maintenance, service Eskom's debt, expand transmission networks, and support South Africa's broader Just Energy Transition commitments. Whilst according to Eskom, without sufficient tariff adjustments, the country faces the risk of deeper and more frequent load-shedding, threatening national economic reconstruction and recovery efforts.

However, the proposed electricity tariffs increase poses significant economic risks to the agricultural sector. Particularly for those farms and agribusinesses whose operations heavily rely on electricity such as irrigation systems, animal feeder machines, cold storage, and grading-packing facilities. Electricity costs for irrigation have already seen substantial increases over the past decade. A study by Jumman and Lecler (2010) highlighted that even before recent tariff hikes, the electricity cost to irrigate a 60-hectare field rose from R74,889 to R134,971 within a few years, placing enormous strain on profitability of farming enterprises. The additional 12.5% increase is likely to increase irrigation costs to prohibitive levels for many farmers, forcing them to scale down operations switch to less energy-intensive crops or abandon certain farming practices altogether. Beyond irrigation, increases in electricity tariffs are bound to contribute to a surge in overall costs of production which in turn are likely to be translated to high food prices. Although higher prices might temporarily benefit farmers, they will ultimately exacerbate food inflation, burdening consumers already facing high cost of living. Henderson (2016) warned that even during times of strong market prices, sustained energy cost increases could erode farm profitability, a risk now facing South African farmers as energy prices continue to rise at unsustainable levels.

Economic modelling results of the potential effects of a 12.74% electricity tariff hike

This section provides an economywide analysis of the proposed increase in electricity tariff and specifically exploring the potential impact on primary agriculture and food industries. Using a single-country computable general equilibrium model for South Africa called the University of Pretoria General Equilibrium Model (UPGEM[1]), **Figure 1, 2** and **3** below illustrates the short-run and long-run economywide effects of increasing electricity tariff by 12.74%. **Figure 1** below illustrates the potential macroeconomic effects of increasing electricity tariff by 12.74%. In the short-run, the results show that an increase in the electricity tariff could potentially lead to 0.31% decline in aggregate employment below baseline. Real GDP is also forecast to contract by 0.28% in the near term and 0.20% in the long term. Similarly, export volumes are forecast to decline by 0.86% and 0.56% in the short-run and long run, respectively. On the other hand, the consumer price index is forecast to increase by 0.65% in the short term while increase slightly by 0.41% in the long-run.

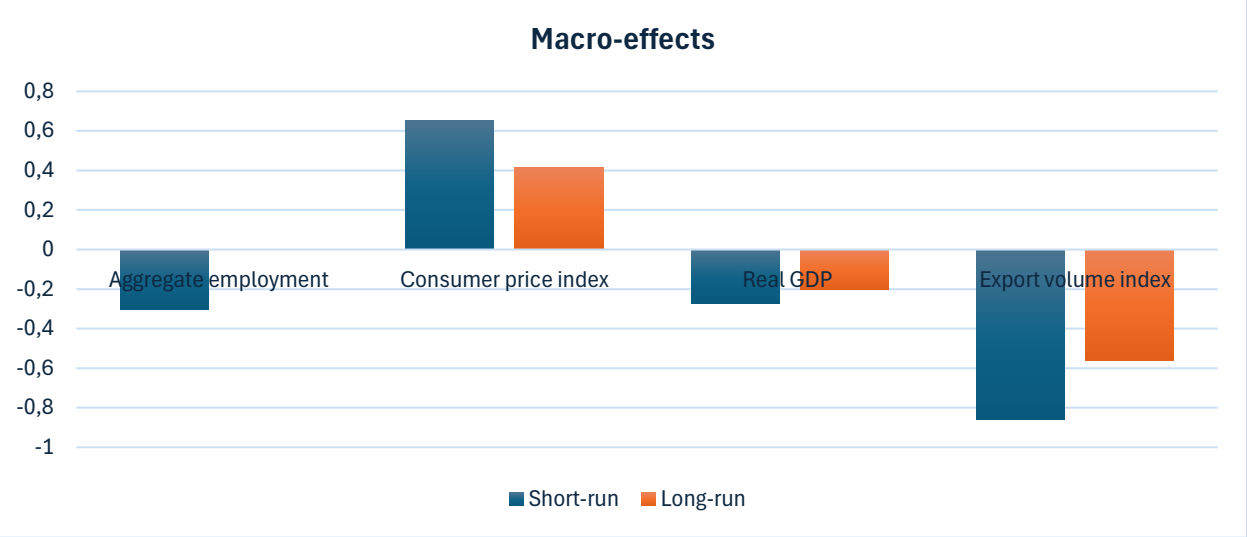

Figure 1: Shock-run and long-run macroeconomic effects of electricity tariff hike
Source: UPGEM results and own calculations

Figure 2 below shows that, in the short-run, the proposed increase in electricity tariff will results in an increase in production costs in all primary agriculture and food producing sectors while production output is also expected to decline significantly. In terms of primary sectors, livestock is forecast to record the highest production costs increase of 0.41%, followed by horticulture (fruit and veg) (0.23%), and field crops (0.16%). On the food manufacturing side, bakery industries are expected to record the highest production costs (0.57%), followed by grains (0.48%), dairy (0.46%), other food industries (0.44%), meat processing (0.37%), beverages (0.28%), among others. In terms of production output, horticulture output is forecasted to decline by 0.14%, followed by field crops (0.09%) and livestock(0.05%).

[1] The UPGEM is a MONASH-style single-country dynamic computable general equilibrium (CGE) model modified for South Africa. The UPGEM model is also modified for policy simulations to address research questions specific to the South African economy and the agriculture sector.

Domestic prices (P0dom) of all commodities will also potentially increase drastically. Domestic prices of bakery products (0.57%), grain (0.48%), dairy (0.46%), livestock (0.41%), and meat (0.38%), are forecast to record the highest increases.

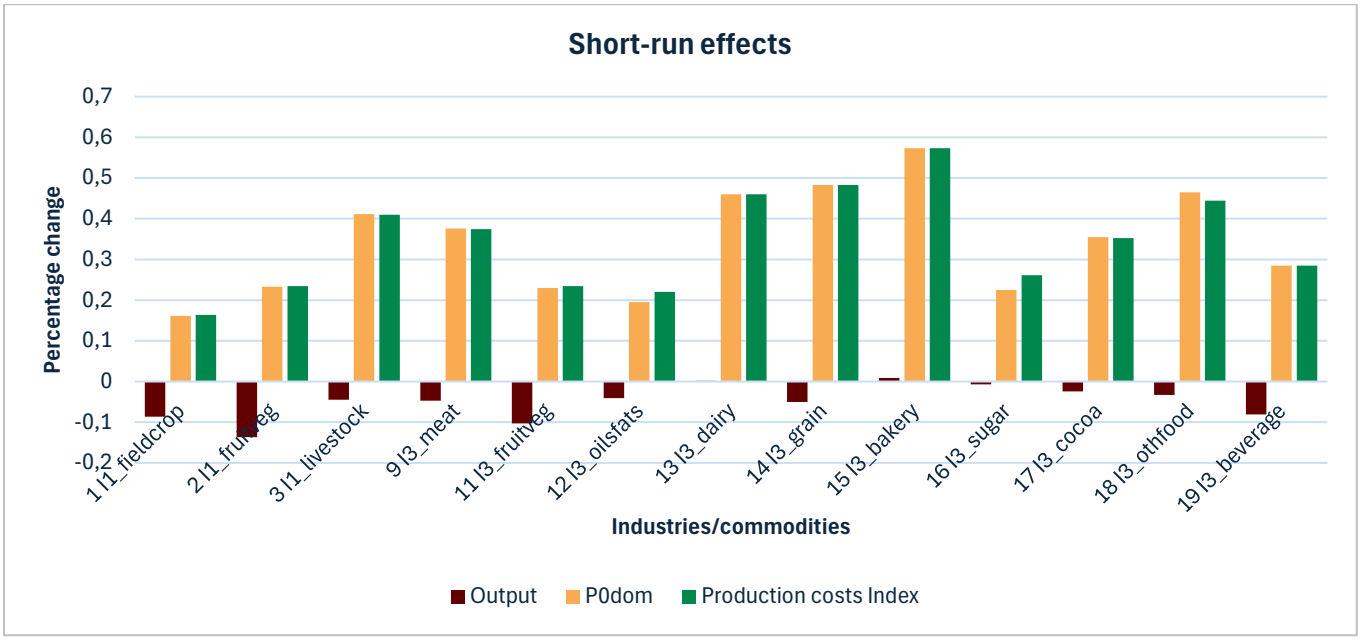

Figure 2: **Short-run effects of electricity tariff hike on agriculture and food industries**
Source: UPGEM results and own calculations

Figure 2 below shows that, in the long-run, although the proposed increase in electricity tariff will results in an increase in production costs for primary agriculture and food producing sectors, for other sectors such as meat processing and horticulture product industries will potentially record decreases in terms of production costs. Bakery production costs will record the highest growth of 0.17% followed livestock (0.15%), field crops (0.12%), and horticulture (0.09%), respectively. Similarly, production output of several industries is forecast to decline while a few industries like oil fats and beverages will increase in long run. Bakery industry output is forecast to decline by 0.30%, followed by field crops (0.27%), livestock (0.25%), and sugar (0.21%), respectively.

Moreover, in the long-run, domestic consumer prices are forecast to increase mildly for some sectors while decreasing notably for industries such as horticulture, and beverages. Prices of bakery products are predicted to remain elevated by 0.17%, followed by livestock (0.15%), and field crops (0.12%), among others.

Figure 3: Long-run effects of electricity tariff hike on agriculture and food industries
Source: UPGEM results and own calculations

Although, the electricity tariff increases may pose severe constraints on several sectors and the entire economy, they may also incentivize positive long-term changes. The DMRE's 2023 Energy Price Report highlights a growing interest among South African farmers in decentralized renewable energy solutions, particularly solar photovoltaic (PV) systems (DMRE, 2023). Although the upfront costs are substantial, investments in on-site renewable energy generation could lower long-term operational costs, increase energy resilience, and reduce dependence on Eskom's increasingly unreliable supply. Some large agribusinesses have already begun piloting solar installations and hybrid energy systems to mitigate the impact of electricity price volatility. This is mainly underpinned by the recently launched Agro-Energy Fund offered by the Land Bank in collaboration with the Department of Agriculture, Land Reform and Rural Development (DALRRD) to incentivize investment in alternative sustainable electricity cogeneration. The Agro-Energy Fund is a blended finance programme that focus on financing energy intensive agricultural activities which include irrigation, intensive agricultural production systems and on farm cold chain related activities. Other funding instruments to cushion the impact of high tariffs hike and intermittent electricity supply is the Comprehensive Agricultural Support Programme (CASP). Specifically, the pillar on on-off farm infrastructure support.

Conclusion

The proposed 12.74% electricity tariff increase is expected to exert significant strain on South Africa's agriculture and agro-processing sectors, compounding the cost pressures that are already faced by farmers due to historical tariff hikes and energy supply challenges. The risks from the electricity tariffs hike are significant considering that these sectors underpin food security, rural livelihoods, and export earnings. Immediate pressures on production costs, employment, and food prices are likely. Without proactive intervention the compounded effects of rising electricity costs could jeopardize South Africa's agricultural prosperity and broader economic recovery. Economic modelling results suggests that rising electricity costs would raise production costs, reduce agricultural output, increase food prices, and negatively affect employment and GDP growth in both the short and long term. While the electricity tariff hikes may serve Eskom's financial recovery goals and energy infrastructure investments, they also risk undermining agricultural sustainability and economic stability unless adequately mitigated. Government should prioritize and scale up farmer support programs such as the Agro-Energy Fund and CASP to facilitate broader adoption of decentralized renewable energy on farms, particularly targeting smallholder farmers and energy-intensive producers.

References

AgriSA., 2024. *Electricity burden stressed – AgriSA™*. AgriCulture South Africa (AgriSA), Pretoria. [online] Available at: https://agrisa.org.za/centre-of-excellence-economics/eskoms-multi-year-price-determination-mypd6-application/.

BFAP., 2021. BFAP Baseline, Agricultural Outlook 2021-2030. Bureau for Food and Agricultural Policy, Pretoria. Available at: https://www.sagis.org.za/BFAP-Baseline-2021.pdf.

BFAP., 2022. South Africa's Land Resource in the Water-Energy-Food (WEF) Nexus Context. Bureau for Food and Agricultural Policy, Pretoria. https://www.bfap.co.za/wp-content/uploads/2023/03/Land-resource-in-the-Water-Energy-Food-nexus-context.pdf.

BFAP., 2025. Agriculture in South Africa in the Democratic Era, 1994-2024. Bureau for Food and Agricultural Policy, Pretoria. Available at: https://www.bfap.co.za/agriculture-in-south-africa-in-the-democratic-era-1994-2024/.

Christensen, D.A. and Heady, E.O., 1984. Impacts of energy price increases on the well-being of farmers and consumers. *Energy Syst. Policy;(United States)*, *8*(3).

DALRRD., 2023. Strategic Plan. Department of Agriculture, Land Reform and Rural Development, Pretoria. Available at: https://www.dalrrd.gov.za/phocadownloadpap/Strategic_Plan/Strategic%20Plan%202020-2025.pdf.

Jason Henderson., 2008. "Are energy prices threatening the farm boom?," Main Street Economist, Federal Reserve Bank of Kansas City, issue 5.

Jumman, A. and Lecler, N.L., 2010. Electricity tariff increases: the impact on irrigators?. Proceedings of the Annual Congress - South African Sugar Technologists' Association, 2010, No. No.83, 152-155 ref. 2.

Mineral Resources and Energy Department: REPUBLIC OF SOUTH AFRICA mineral resources & energy. (n.d.). Available at: https://www.dmre.gov.za/Portals/0/Energy_Website/files/media/explained/Energy-Price-Report-2023.pdf.

USDA., 2023. Load shedding and the economic strain on the food supply chain. United States Department of Agriculture Foreign Agricultural Service, Available online: https://www.fas.usda.gov/data/south-africa-load-shedding-and-economic-strain-food-supply-chain.

Enquiries: Dr. Victor Thindisa (thindisa@namc.co.za);
Senior Manager: Markets and Economic Research Centre;
National Agricultural Marketing Council