SATRI
SAM TAMBANI RESEARCH INSTITUTE

JULY 2022

QUARTERLY RESEARCH REPORT

Energy price trends in African countries that have unbundled their state-owned energy enterprises

The effects of Covid 19 in the mining sector

COSATU Just Transition blueprint for workers

QUARTERLY RESEARCH REPORT

JULY 2022

Contents

SATRI
SAM TAMBANI RESEARCH INSTITUTE

For inquires contact:
Ms Lerato Mathibedi • Email: Leratom@satri.org.za • Tel: 010 593 7238

Please note that these are summarised versions of the articles. Full articles are available at: www. satri.org.za

Cover image by Tim Mossholder, Unsplash

ENERGY PRICE TRENDS IN AFRICAN COUNTRIES THAT HAVE UNBUNDLED THEIR STATE-OWNED ENERGY ENTERPRISES:

A Reflection for South Africa

Mpho Nchabeleng

The South African government has taken the decision to unbundle the power utility, Eskom, due to the challenges that the utility has been experiencing. Unbundling basically refers to a split or separation of companies, into independent separate business entities. These separate entities or companies are often given business autonomy or completely sold off. These is done with the desire to make profits. Organised labour, especially in the energy and the mining sectors, has been vehemently against the unbundling of Eskom, viewing the process as an indirect privatisation of the energy sector that will ultimately lead to job losses. Beyond potential job losses, one aspect of unbundling that has not so far received much attention relates to the question of what will happen to energy prices payable by consumers when Eskom is unbundled. Energy prices are an important aspect to consider given the economic inequalities in South Africa. Unbundling is not a new phenomenon in Africa, so one can look at what happened to energy prices in other countries on the content to infer what is likely to happen in South Africa. Against this background, this article examines energy price trends in four African countries that have unbundled their state-owned energy utilities, namely: Nigeria, Ghana, Kenya and Uganda. The finding is that energy prices payable by consumers increased after the unbundling process, although the degree varied from one country to another. Based on these case studies, it is highly likely that beyond the potential job losses, consumers will pay even higher energy prices when Eskom is completely unbundled. It is important, therefore, for organised labour and all social partners to continue to demand that the decision to unbundle Eskom be reviewed. In the event that some unbundling processes have already taken place and cannot be reversed, organised labour and communities should seek guarantees from government that electricity prices payable by consumers will not be as exorbitant as has been the case in the other African countries that embarked on the path of energy utilities unbundling

Photo by Pok Rie, Pexels

Introduction

South Africa has historically enjoyed cheap electricity because of its electricity production surplus. However, this luxury has now ended as South Africans are paying steep prices due to the challenges experienced by Eskom (Human Sciences Research Council, 2008). Eskom is a South African electricity public utility that generates, transmits, and distributes electricity to industrial, mining, commercial, agricultural, and residential customers and redistributors (DBSA, 2019). The challenges experienced at the state-owned utility include unexpected plant failures that are leading to insufficient generating capacity which results in a decline of available energy (De Lange, 2010). Plant failures are categorised as a production issue which has enormous consequences, such as load shedding. Load shedding is caused by operational failures, maintenance issues and breakdowns of ageing, poorly maintained power stations (Mburu, 2017). Another challenge at Eskom is the growth in the demand for electricity. Electricity supply cannot keep up with the high increases in demand. Moreover, Eskom has been bedevilled by alleged corruption and mismanagement of funds for a while now (Businesslive, 2021) (News24, 2021) (BizNews, 2022). Corrupt practices lead to increased tariffs, financial losses, and a poor service delivery (Lovei & & McKechnie, 2000) (Ruth, 2002).

To deal with these issues that Eskom is facing, the South African President, Cyril Ramaphosa, made a public announcement during his State of the Nation Address on 2019/02/07 that Eskom will be split into three separate entities: generation, transmission, and distribution under Eskom Holdings (SONA, 2019). The part of the business that operates power plants and generates electricity is to be known as **generation**. **Transmission** will deal with the power lines and directing the flow of electricity, while **Distribution** will be in charge of selling power to municipalities, citizens, and businesses (ESI-Africa, 2020).

Unbundling has been widely seen as the only sensible solution to Eskom's crises. Many people believe this latest campaign is a step in the right direction but the decision to unbundle has been met with substantial criticism from the labour organisations (Dailymaverick,

2020). The National Union of Mineworkers (NUM), the National Union of Metalworkers of South Africa (NUMSA), and IndustriALL Global Union have a firm believe that unbundling will lead to job losses and privatization, which does not favour the poor and the low-income workers (News24, 2021).

Unbundling of state-owned energy utilities is not a new phenomenon in Africa. Various countries have dismantled the monopoly of the energy sector and introduced Independent Power Producers (IPPs) into the mix (World Bank, 2019). These countries also adopted different methods of unbundling in line with their unique circumstances. The challenges and successes of unbundling in these countries are widely documented and can be informative for the Eskom situation in South Africa (Investopedia, 2021). With the aim of drawing lessons for South Africa, this article explores the energy price trends in African countries that have unbundled their state-owned energy utilities, namely: Nigeria, Ghana, Kenya and Uganda.

Electricity Pricing

Electricity pricing (also known as electricity tariff) differs greatly from country to country for a variety of reasons which include the market price of the kind of fuel used, government subsidies, industry regulation, and even local weather patterns (Anyaka & & Edokobi, 2014). Electricity rates differ between countries, and even within a single country's regions or distribution network in unbundled countries. Electricity rates for residential, commercial, and industrial consumers generally differ in traditional regulated monopoly markets. Prices for any single type of energy consumer might vary depending on the time of day, the capacity or nature of the supply circuit for industrial customers, whether single-phase or three-phase, and so on (Ansu-Mensah & & Kwakwa, 2019). Prices can even vary between times of low and high electricity network demand in a specific market. It is important to note that electricity prices have a strong bearing on the quality of life of consumers.

Figure 1: Comparison of electricity tariffs with neighbouring countries

Neighbouring Countries	Electricity cost (p/kWh)
South Africa	R 2.558
Namibia	R 1.935
Botswana	R 1.592
Zimbabwe	R 0.525
Eswatini	R 1.749
Mozambique	R 2.164
Lesotho	R 1.537

Source: (Just Energy, 2020)

Global Price Comparison of Electricity

The world average price of electricity was USD 0.14 per kWh for households and USD 0.12 per kWh for businesses in 2019 (International Energy Agency, 2019). Given each country's unique energy sector landscape, prices are different based on the numerous factors explained above. For example, because of its huge amounts of hydropower and utilization of other low-cost alternative energy sources, such as solar and wind, Canada has cheaper energy costs (Just Energy, 2020). Australia, on the other hand, is one of the most expensive countries in terms of electricity tariffs despite the fact that coal is abundant in Australia. Coal usage was subject to significant levies imposed by the government. Saudi Arabia has much lower energy expenses than the rest of the world because the area is primarily a desert, the amount of sunlight is rather constant, allowing them to take advantage of solar energy; they are also one of the world's largest crude oil suppliers, which can also be used for energy production at any time (The International Renewable Energy Agency, 2020).

South Africa's average electricity price was R2.558 per kWh in 2020 (BusinessInsider, 2020). This is about 45c more than the global average of R2.109 per kWh. According to (BusinessInsider, 2020), South Africa's electricity price is about average compared to the rest of the world - it is half that of the most expensive global electricity price. However, in most of South Africa's neighbouring countries, even those that South Africa supplies with electricity, electricity is generally a lot cheaper (De Lange, 2010).

Electricity Pricing Methods

Another factor that goes into electricity prices is how prices are set up in the respective countries. In the UK, for gas or electricity, domestic costs are calculated using a historical price and the change in the Consumer Price Index (CPI). Industrial electricity prices come from a monthly survey of electricity suppliers conducted by the Department for Business, Energy, and Industrial Strategy (BEIS), while industrial gas prices come from the monthly Producer Price Index (PPI) series for gas (BEIS, 2019). In South Africa, the power utility Eskom provides different tariff structures to its direct customers and to municipalities (ESKOM, n,d). Each municipality has its own tariff structures and annual increases

that are only affected on the 1st of July of each year, and approved by the National Energy Regulator of South Africa (NERSA, 2020). There are also tariff structures called Real Time Pricing (RTP) and Time of Use (TOU) pricing. A TOU is a tariff that includes energy charges that vary depending on the TOU period and season (ESKOM, n,d).

Energy Price Trends in African countries that unbundled

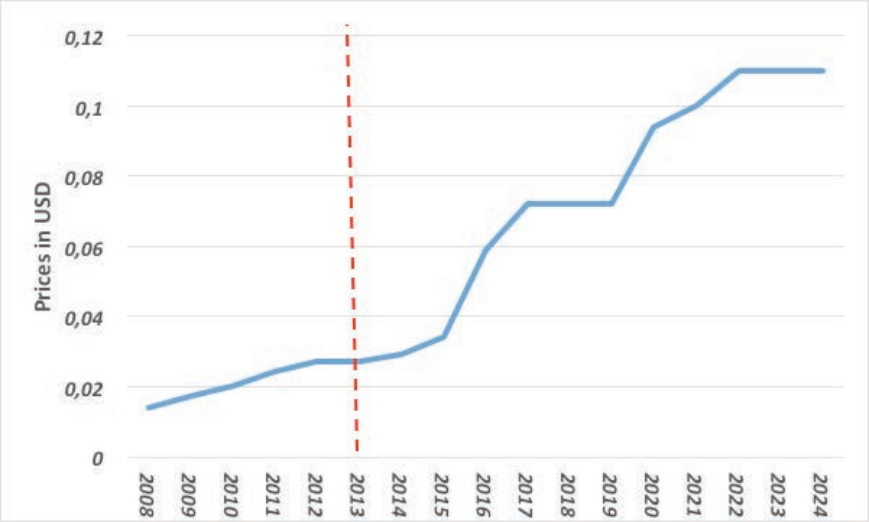
This section gives an overview of the different electricity tariffs from four African countries that have unbundled their energy sectors: Nigeria, Ghana, Kenya, and Uganda. The currencies of these respective countries have also been converted to American dollars for comparability purposes.

Nigeria

Nigeria's power sector was partially privatized and unbundled in 2013 to create a competitive market with the goal of improving management and efficiency, attracting private investment, increasing generation, and providing a stable and cost-effective power supply (Akanonu, 2019). In Nigeria, there are two types of electricity pricing. One is for generating, and the other is for distribution, both of which are governed by the Nigerian Electricity Regulatory Commission (NERC) under the Multi-Year Tariff Order principle (MYTO) (Chukwueyem, et al., 2019). MYTO provides a 15-year tariff path for renewable electricity with minor reviews bi-annually, and major reviews every five years (NERC, 2016).

Nigeria has eleven distribution companies (Discos) in different provinces that charge electricity differently, namely: Abuja, Benin, Enugu, Ibadan, Jos, Kaduna, Kano, Eko, Ikeja, P/H and Yola. These eleven Discos charge differently for residential, industrial, special

Figure 2: Price trends of electricity in Nigeria based on US dollars



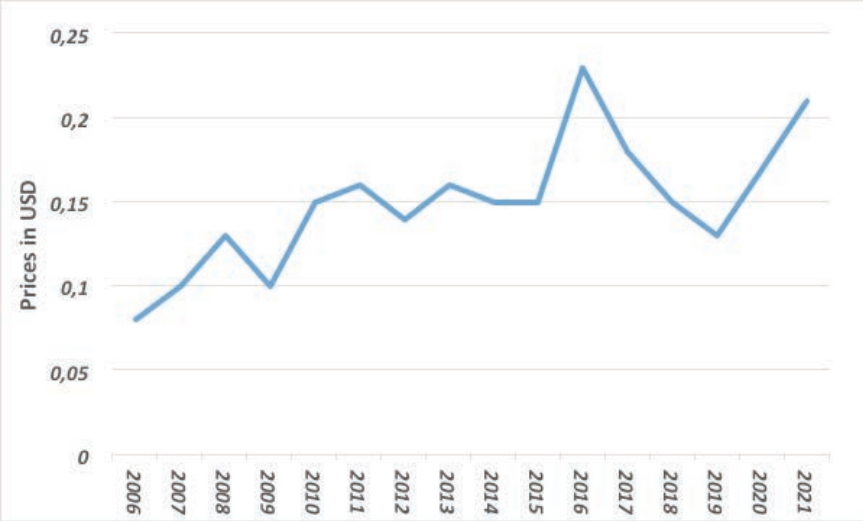
Source: (Nigerian Electricity Regulatory Commission, 2016)

(Hospitals, schools etc.), commercial (small business, hotels etc.), and streetlights (NERC, 2016). The Discos charge consumers non-cost reflective tariffs which means that pricing does not reflect its cost of production (Akanonu, 2019). However, in March 2020, the government of Nigeria introduced service reflective tariffs which means that customers will enjoy tariffs that will be proportional to the quality of electricity supplied as determined by the service parameters. The parameters as stated by the government include 'hours of supply of electricity; reliability of supply which would be determined by the frequency and duration of interruptions and quality to be determined by voltage and operating frequency prescribed in governing industry codes' (NERC, 2016). Simply put, customers will pay for what they receive.

Notwithstanding the energy price data from the Nigerian Electricity Regulatory Commission presented in Figure 2 above, the electricity prices in Nigeria have been increasing at a slow pace after the unbundling in 2013. However, cheap tariffs do not mean electricity is reliable and efficient in the country. According to (Ali, Nathaniel, Uzuner, Bekun, & Sarkodie, 2020), the investors who bought the electrical distribution and generation companies are dealing with issues such as gas shortages, water management, insufficient supply, electricity theft, limited distribution networks, and a massive metering gap. Moreover, similar to South Africa, Nigeria experiences power outages that affect businesses and the economy at large (Akuru, 2014).

There is extensive literature on electricity tariffs in the country that discloses that the MYTO tariff is too low due to inadequate accounting for increasing electricity and gas prices that could not cover production costs, and a declining naira currency rate. As a result, return on investment is no longer attainable for the industry participants, and the cost-reflective prices are not reflecting the cost of production (Tallapragada, 2009); (Gershon & & Ezurum, 2018); (Adeyeye, 2017); (Akanonu, 2019). In essence, the existing tariff level is insufficient to cover private companies' operating and capital investment costs, as well as gas supply and IPP payments. High technical loss levels and low collecting efficiency are two other important causes of this insufficiency (Makanjuola, Shoewu, Akinyemi, & Imohimi, 2015); (Amadi, 2013).

Figure 3: Price trends of electricity in Ghana based on US dollars



Source: (Energy Commission of Ghana, 2016); (Energy Commission of Ghana, 2020)

Pertaining to the energy price in Nigeria after the unbundling of its state-owned utility, it is safe to conclude that although energy prices are still inexpensive, the prices payable by consumers have been slowly but surely increasing after the unbundling. The average rate of electricity tariff in the country as of 2017 was 13,3 percent (Poweroptimal, 2010).

Ghana

Ghana unbundled the Volta River Authority (VRA) in 2008 as it was established with the mandate to generate, transmit, and distribute electricity under the Volta River Development Act. The government unbundled when most African countries were opting for new energy reform models on the continent (DBSA, 2019). Ghana's electrical sector has seven public institutions: a few Independent Power Producers (IPPs) who specialize in power generation, the Ministry of Power (MOP), the Energy Commission (EC), the Public Utility Regulatory Commission (PURC), the Volta River Authority (VRA), the Ghana Grid Company (GridCo), the Electricity Company of Ghana Limited (ECG), and the Northern Electricity Department Company (NEDCo) - a subsidiary of the VRA (Jonathan, 2017).

The Ghanaian Energy Commission divides electricity users into four categories: industrial, residential, non-residential, and street lighting. Industrial consumers, also known as Special Load Tarrif (SLT) users, include Volta Aluminium Company Limited (VALCO), mining enterprises, and other production and manufacturing facilities that use energy for industrial reasons. Non-residential consumers are largely business establishments, while residential consumers are dwellings in both rural and urban areas of the country. The street lighting class accounts for the electricity used by streetlights around the country (Kumi, 2017).

According to the Energy Commission of Ghana, as shown in the graph above, Ghana electricity tariffs have been fluctuating prior to unbundling. The electricity sector of Ghana has improved significantly between 2000 and 2019 in terms of security and equity. Despite the increased access to electricity, the changes in the energy mix, as well as the electricity pricing structure, there were inefficiencies in the distribution system (Acheampong, Agbevivi, & Menyeh, 2021). The quantity of electricity not accounted for in terms of transmission and distribution losses is one of the key challenges afflicting Ghana's electricity sector (Kumi, 2017). Even though Ghana reduced its electricity tariffs in 2018 from the 2017 tariffs to make electricity more affordable, literature on electricity tariffs reveals that Ghana has the most expensive electricity tariff in West Africa (Ansu-Mensah & & Kwakwa, 2019).

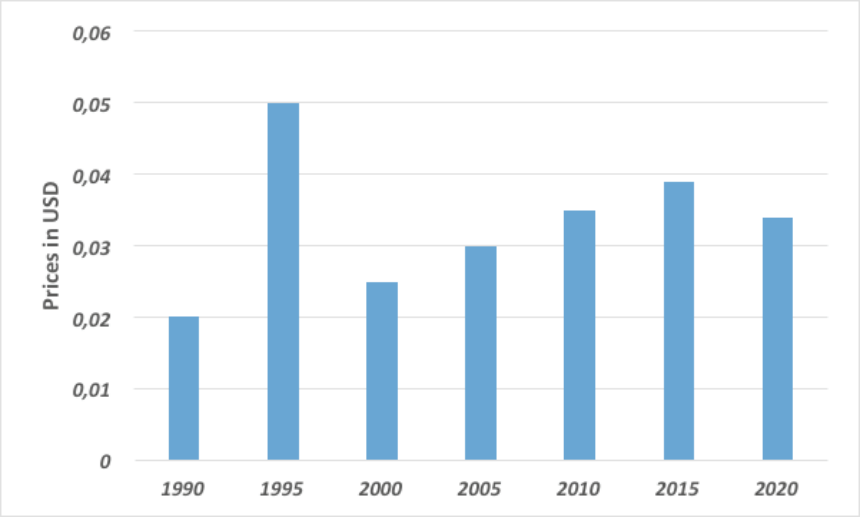
In general, energy prices in Ghana increased after unbundling. The electricity prices were fluctuating due to distribution services' aim to recover distribution losses and prices for IPPs meant for energy generation went up. The rate of increase of electricity prices in Ghana was 19,3 percent as of 2017 (Poweroptimal, 2010).

Kenya

Kenya's energy sector has been unbundled for almost three decades. The energy sector of the country has been structured since 1997. Kenya's energy sector's main goal was to encourage private sector investment while simultaneously complementing governmental sector investment (Eberhard A. , Gratwick, Morella, & & Antmann, 2016). Following the World Bank and IMF's suggestions, the government indicated that its aim is to separate the sector's regulatory and commercial roles, facilitate restructuring, and stimulate private-sector investment, particularly through IPPs (Government of Kenya, Energy act, 1996).

Kenya's electricity sector has various public institutions. The Ministry of Energy and Petroleum (MoEP), deals with policy formation, and its regulatory authority was delegated to the newly established Electricity Regulatory Board (ERB) that became functional in 1998 (Eberhard, Gratwick, & & Laban, 2018). There is also the Kenya Power and Lighting Company (KPLC) (now branded as Kenya Power) which deals exclusively with transmission and distribution while KenGen took over all public power generation activities. The

Figure 4: Price trends of electricity in Kenya based on US dollars



Source: (Kenya Power and Lighting Company, 2018); (Eberhard A. , Gratwick, Morella, & Antmann, 2016)

government of Kenya voiced its discontentment with the energy sector's performance in 2003, stating that despite changes such as the introduction of IPPs, electricity in Kenya was still unreliable and expensive (Government of Kenya, 2003). Broadly, with the exception of the year 1995, energy prices in Kenya have been consistently above the pre-unbundling period (Figure 4).

According to the (World Bank, 2019), the period 1990-1999 was characterised by high energy tariffs in Kenya. This was due to drought, a general weakening of trade, political instability, and the beginning of an aid ban in 1991 that was imposed because of the poor macroeconomic performance and governance failures. To respond to the ban, the Kenyan government draw up the 1992 Policy Paper on Public Enterprise Reforms and Privatisation which targeted the recommendations for reforms, studies on tariffs, the reorganization of the power sector, legal and regulatory reforms as well as the move to cost-reflective tariffs. Before the drought set in in 1999, consumers paid a standard tariff of KSh 1.76/kWh (0.02 USD). The price did not increase drastically for some time (The World Bank, Godinho, & & Eberhard, 2019).

The period 2000-2010 was preceded by the standard tariff hike of K Sh2.36/kWh (0,020 USD) and the government had to provide a KSh 0.60/kWh subsidy (0,0051 USD). The Kenyan government saw the need to stall the need for tariff increases for a period of 3 years, from July 2006 to June 2008 (Trimble, Kojima, Arroyo, & & Mohammadzadeh, 2016). This was based on the perception that the cost of energy from thermal plants, particularly from IPPs, had sharply increased (Eberhard, 2018).

From the period 2011-2020, Kenya energy tariffs were high, with a standard rate of 0.22 USD in 2014 and USD 15 cents per kWh in 2017. This is mainly due to the high capital expenditure costs driven by hydropower and geothermal technologies, which are heavily capital intensive (Eberhard A. , Gratwick, Morella, & & Antmann, 2016). In 2021, the Kenyan Ministry of Energy approved an electricity tariff ordered by President Uhuru Kenyatta that will see a reduction of 15% in electricity prices, but this is yet to be proven (BusinessInsider, 2020).

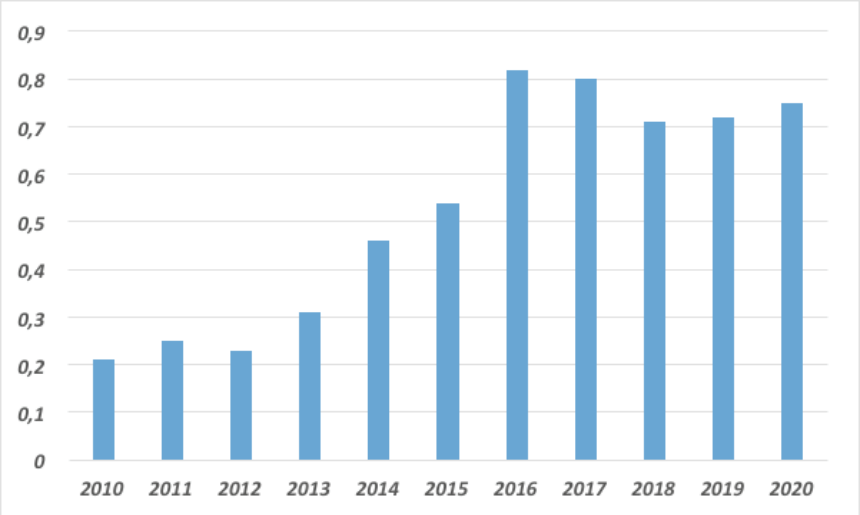
For a country that has almost three decades of a reformed energy sector, energy tariffs are still high. It is often argued that IPPs will reduce their electricity prices after collecting their invested capital, which happens after some years, but for Kenya this is not the case. Kenya is ranked as one of the countries with expensive energy tariffs in East Africa, with an increase rate of 20,1% in 2017 (Poweroptimal, 2010).

Uganda

The Uganda energy sector is privatized and unbundled. The process of unbundling started in 1993 when the Ugandan government enacted the legislation for privatization and utility reforms, the Public Enterprises Restructuring & Divestiture (PERD) Statute. In 2001, the government then formally commenced the unbundling of Uganda Electricity Board (UEB) which enabled private participation in the power sector (Republic of Uganda, 1999); (Electricity Regulatory Authority, 2003). Besides the PERD and UEB, there are various role players in the sector with different roles: The Power Sector Restructuring and Privatization Strategy (PSRPS) has the role of making the power sector financially viable and efficient so that it can meet the growing demand for electricity and to increase area coverage. A Utility Reform Unit (URU) was created in the Ministry of Finance, Planning & Economic Development as the lead agency for privatization (Electricity Regulatory Authority, 2001). The Electricity Regulatory Authority (ERA) has key functions of issuing licenses for electricity generation, transmission, distribution, supply, imports and exports, and reviewing and approving tariffs (Ministry of Energy and Mineral Development., 2002).

Uganda Electricity Generation Co. Ltd (UEGCL) owned the two major hydro-power plants at Nalubaale (180 MW) and Kiira (200 MW) but later adopted the methodology of privatizing UEGCL & Uganda Electricity Distribution Company Limited (UEDCL) managed by Eskom Uganda through long-term

Figure 5: Price trends of electricity in Uganda based on US dollars



Source: Electricity Regulatory Authority (2019); Statista, 2020

concessions. Uganda was the first country in Africa to unbundle its generation, transmission, and distribution utilities (Meyer, Eberhard, & & Gratwick, 2018). The generation segment has a combination of power plants owned by the Ugandan government, Independent Power Producers (IPPs), and Public-Private Partnerships (PPPs). The Ugandan government owns the transmission segment entirely. The distribution segment, like generation, has opened up and now includes private businesses as well as the Uganda Electricity Distribution Company Ltd, which is owned by the Ugandan government (UEDCL) (Cardoso, Mugimba, & & Maraka, 2018).

Electricity prices have been constantly increasing in Uganda since unbundling of the power utility. For example, the electricity price was 0.003 USD in 2013, but reached 0.075 USD by 2020 (Figure 5).

According to the Uganda Electricity Regulator, electricity prices in Uganda kept going higher by the year (Figure 5). The Ugandan government has attempted to reduce electricity tariffs in the past but partially succeeded (Nduhuura, Garschagen, & & Zerga, 2021). The government achieved debt refinancing for Bujagali hydropower facility (HPP) in June 2018, resulting in a 15% reduction in the rate applicable to the extra-large industrialist user group from US 10.1 cents to 8.3 cents per kWh during peak hours and 5.0 US cents per kWh during off-peak hours (Anyaka & & Edokobi, 2014). The steep electricity tariffs were due to severe loan repayment commitments from the industry participants (Eberhard, Gratwick, & & Laban, 2018). Another factor that led to high electricity prices in Uganda was the lack of good transmission lines. These constraints impacted electricity prices (Adeyemi & & Asere, 2014).

Another major concern is the three different tariffs from the generation, transmission, and distribution sectors which end up being passed on to the consumers. When the three average tariffs are compared, it becomes clear that the distribution businesses have the biggest profit margins. UETCL paid the generation businesses on average USD 7.5 per kWh, the distribution firms paid UETCL an average USD 8.2 per kWh and the end-consumer paid the distribution companies an average USD 15.89 per kWh. The distribution businesses' profit margin is higher than the price received by generation companies for power generation. Apart from a lifeline tariff for homes' first 15 kWh, the government no longer directly subsidizes tariffs like it used to do in the past (Adeyemi & & Asere, 2014); (Jan van der June, 2020).

On the subject of energy prices in Uganda after unbundling, the energy prices kept increasing as a result of the high cost of electricity generation due to the engagement of private-sector participants seeking a return on investment (Electricity Regulatory Authority, Deconstructing the myth of power tariffs, 2021). Uganda, just like Kenya, has some of the most highest electricity tariffs in sub-Saharan Africa (BusinessInsider, 2020) (Meyer, Eberhard, & & Gratwick, 2018).

Energy price trends in African countries that have unbundled their state-owned power utilities: a reflection for South Africa

There are lessons that South Africa can pick from the four African countries that have unbundled their power utilities as it embarks on its own energy unbundling path. The two lessons that stand out are:

- Energy prices or tariffs payable by consumer tend to increase after the unbundling of the state owned energy entity. This happens irrespective of increased energy availability or energy generation efficiency. This realisation is important regarding guarantees that trade unions, communities and other stakeholders ought to seek from government that seems to have already made up its mind to unbundle Eskom. Among the guarantees to seek is that energy prices payable by consumers will not increase after the unbundling process.
- While acknowledging that energy prices payable by consumers depend on more than one factor, the number of players in the

Summary of energy prices in 4 African countries that have unbundled their power utilities

Country	Method of Unbundling	Energy Price Trends
Nigeria	Generation - The government unbundled Power Holding Company of Nigeria (PHCN) into 6 private generating companies	Prices payable by consumers increased at a low rate after unbundling. Overall, though, energy price remained low.
	Transmission – state owned through the transmission company (TCN)	
	Distribution - The government unbundled the energy monopoly into 11 private electricity distribution companies	
Ghana	Generation – mixed ownership structure with IPPs and state-owned generation company called Volta River Authority (VRA)	After unbundling, energy prices payable by consumers increased and have stayed above the pre-unbundling prices. Generally, energy prices payable by consumers in the country are high and energy costs across the board remain very high.
	Transmission – state owned through the Ghana Grid Company (GridCo)	
	Distribution - The VRA as a power-generation company carries out limited distribution functions through its subsidiary, the Northern Electricity Distribution Company (NEDCo)	
Kenya	Generation – mixed ownership structure through Kenya Generating Company Limited (KenGen) and few IPPs	Energy prices payable by consumers significantly increased after unbundling. Overall, energy remains expensive in the country.
	Transmission – state owned through Kenya Electricity Transmission Company Ltd (KENTRACO)	
	Distribution – state-owned through Kenya Power and Lighting Company (KPLC)	
Uganda	Generation - facilitated through competitive bidding by the private sector (IPPs)	Energy prices payable by consumers increased after unbundling. Energy access remains very expensive and unaffordable to low income earners.
	Transmission - state-owned but private sector is allowed to participate under some concession arrangements	
	Distribution – financially viable distribution companies created out of the existing distribution structures	

Sources: (DBSA, 2019); (African Development Bank, 2020); (ESI-Africa, 2020); (Just Energy, 2020)

energy distribution has an impact on prices that consumers pay for energy after unbundling. In general, the less the number of actors in the energy distribution space, the higher the price consumer pay for energy. This can be attributed, partly, to the competition pressures introduced in the energy distribution space. Nigeria that allowed competition in the distribution space by permitting 11 distribution companies to sell electricity to consumers had less drastic energy price increases after unbundling compared to Ghana which had only 3 players in the same space.

This tentative observation on competition in the energy distribution space mitigating drastic energy increase for consumers after unbundling is an aspect that ought to be considered and given attention in the unbundling Eskom

Concluding Remark

There is a high likelihood that energy prices payable by consumers will increase post unbundling of Eskom. It is, therefore, important that unions and communities put government under pressure to ensure that electricity prices do not get higher.

The government has a developmental role of protecting its constituencies from unfair trade practices in the energy sector. Organised labour and communities should seek guarantees from government that electricity prices payable by consumers will not be exorbitant, after the Eskom unbundling, as has been the case in other African countries that embarked on the energy unbundling path.

References

Acheampong, T., Agbevivi, D., & Menyeh, B. (2021). Ghana's changing electricity supply mix and tariff pricing regime: Implications for the energy trilemma.

Adeyemi, O., & & Asere, A. (2014). A review of the energy situation in Uganda. International Journal of Scientific and Research.

Adeyeye, T. (2017). How your electricity tariff is determined.

African Development Bank, .. (2020). AfDB Annual Reports.

Akanonu, P. (2019). Reflections on Nigeria's power sector privatization.

Akuru, U. (2014). Economic implications of constant power outages on SMEs in Nigeria. *Journal of Energy in South Africa*, 25(3): 61-66.

Ali, H., Nathaniel, S., Uzuner, G., Bekun, F., & Sarkodie, S. (2020). Trivariate modelling of the nexus between electricity consumption, urbanization and economic growth in Nigeria: Fresh insights from Maki Cointegration and causality test.

Amadi, S. (2013). Cost reflective tariffs: Balancing commercial and socio-economic imperatives - The MYTO Perspective. *African Utility Week*, 1-23.

Ansu-Mensah, P., & & Kwakwa, P. (2019). Modelling electricity consumption in Ghana: the role of financial development indicators. *Faculty of Business and Management Studies, Sunyani Technical University*.

Anyaka, B., & & Edokobi, C. (2014). The negative impact of high electricity tariff on consumers/end-users in some developing countries. *Department of Electrical Engineering, University of Nigeria* , 27-34.

BEIS. (2019, 09 04). BEIS. Retrieved from BEIS: https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy/about/statistics

BizNews. (2022, 01 26). *BizNews*. Retrieved from BizNews Website: https://www.biznews.com/sa-investing/2022/01/26/anc-eskom-election-thunderbolt

BusinessInsider. (2020, 02 06). *BusinessInsider*. Retrieved from BusinessInsider: https://www.businessinsider.co.za/how-south-africas-electricity-price-compares-to-other-countries-around-the-world-2022-2

Businesslive. (2021, 11 23). Retrieved from Businesslive Website: https://www.businesslive.coza/bd/national/2021-11-23-lawmakers-slam-eskoms-recording-keeping-and-failure-to-act-against-corruption/

Cardoso, D., Mugimba, C., & & Maraka, J. (2018). Fiscal policy analysis. An assessment of the tax and sbsidy options to accelarate solar home systems in Uganda. *Uganda off-grid energy market accelerator*.

Chukwueyem, S., Aneniyi, R., Williams, J., Magnus, O., Abeng, P., Golit, M., . . . Uba, E. (2019). Analysis of energy market conditions in Nigeria.

Dailymaverick. (2020, 07 23). *Dailymaverick Web site*. Retrieved from Dailymaverick: https://www.dailymaverick.co.za/article/2020-07-23-eskom-unbundled-contradictions-in-the-plan-will-exacerbate-the-energy-crisis/

DBSA, .. (2019). Briefing note: Unbundling practices and opportunities for private sector engagement in energy transmission in Africa.

De Lange, E. (2010). The impact of increased electricty prices on consumer demand.

Eberhard, A. (2018). The Kenyan IPP experience.

Eberhard, A., Gratwick, K., & & Laban, K. (2018). Kenya's lessons from two decades of experience with Independent Power Producers. *University of Cape Town*.

Eberhard, A., Gratwick, K., Morella, E., & & Antmann, P. (2016). Independent power projects in Sub-Saharan Africa; Lessons from five key countries. *World Bank Group*.

Electricity Regulatory Authority. (2001). End-user consequences of generation contracts.
Electricity Regulatory Authority. (2021). Deconstructing the myth of power tariffs.
Electricity Regulatory Authority, .. (2003). Development of tariff model.
Electricity Regulatory Authority, .. (July 2004). Generation costs and end-user tariffs in Uganda.
Energy Commission of Ghana, .. (2016). National Energy Statistics (2006-2016). Retrieved fromEnergy Commission of Ghana: http://energycom.gov.gh/files/National%20.
Energy Commission of Ghana, .. (2020). Energy (Supply and Demand) Outlook for Ghana.
ESI-Africa. (2020, 04 04). *Electricity tariff increase wars in South Africa*. Retrieved from ESI-Africa: https://www.esi-africa.com/industry-sectors/finance-and-policy/eds-note-electricity-tariff-increase-wars-in-south-africa-the-gist-of-it/
ESKOM. (n,d). Electricity price structure.
Gershon, O., & & Ezurum, A. (2018). Energy sector governance and cost reflective pricing in West Africa.
Government of Kenya, .. (1996). Energy act.
Government of Kenya, .. (2003). Energy Bill.
Human Sciences Research Council. (2008). The impact of electricity price increases and rationing on the South African economy.
International Energy Agency. (2019). World Energy Prices Overview.
Investopedia. (2021, 03 04). Retrieved from Investopedia Web site: https://www.investopedia.com/terms/u/unbundling.asp
Jan van der June, M. (2020). An overview of recent developments and the current state of the Ugandan energy sector.
Jonathan, D. (2017). A as to international grocentre (IGC) for projectsessing the total economic value of electricity in Ghana: A step toward energizing economic growth a report presented. *Department of Economics, Kwame Nkrumah University of Science and Technology*.
Just Energy, .. (2020, 04 05). *Just Energy*. Retrieved from Just Energy Website: https://justenergy.com/blog/the-average-cost-of-electricity-country-by-country/
Kenya Power and Lighting Company, .. (2018). Enhancing Supply Quality to Support Manufacturing.
Kiiru, J. (2002). Pricing of Electricity by bulk Power Producers in Kenya .
Kumi, E. (2017). The electricity situation in Ghana: Challenges and Opportunities.
Lovei, L., & & McKechnie, A. (2000). The costs of corruption for the poor - The energy sector.
Makanjuola, N., Shoewu, O., Akinyemi, L., & Imohimi, E. (2015). The need for tariff adjustment by the distribution companies in Nigeria. *Department of Electronic and Computer Engineering, Lagos state University*.
Mburu, E. (2017). Energy-Related Services in Kenya: Implications of Unbundling the Electricity Sector.
Meyer, R., Eberhard, A., & & Gratwick, K. (2018). Uganda's power sector reform: There and back again? *Energy for Sustainable Development*, 75-89.
Ministry of Energy and Mineral Development. (2002). Energy policy for Uganda.
Nduhuura, P., Garschagen, M., & & Zerga, A. (2021). Impacts of Electricity Outages in Urban Households in Developing Countries: A Case of Accra, Ghana.
NERC. (2016, 04 24). NERC. Retrieved from NERC: https://nerc.gov.ng/
NERSA. (2020, 04 15). NERSA. Retrieved from NERSA: https://www.nersa.org.za/
News24. (2021, 10 28). News24. Retrieved from News24: http://www.news24.com/news24/columinst/pieter du toit-eskom-broken-by-corruption-theft-mismanagement-is-ancs-flagship-capture-project-20211028
Nigerian Electricity Regulatory Commission, .. (2016). MYTO 2016-2020.
Poweroptimal. (2010, September 27). *Poweroptimal*. Retrieved from Poweroptimal Web site: https://poweroptimal.com/350-increase-decade-expensive-electricity-south-africa-compared-countries/
Republic of Uganda. (1999). Electricity Act of 1999.
Ruth, M. (2002). Corruption and the energy sector. *Management System International*.
SONA, .. (2019). State of the Nation Address 2019.
Tallapragada, P. (2009). Nigeria's electricity sector -electricity and gas pricing barriers . *International Association for Energy Economics*.
The International Renewable Energy Agency, .. (2020, 06 25). *IRENA* . Retrieved from IRENA: https://www.irena.org/publications/2021/Jun/Renewable-Power-Costs-in-2020
The World Bank, Godinho, C., & & Eberhard, A. (2019). Learning from Power Sector Reform:The Case of Kenya. *Policy Research Working Paper* 8819.
Trimble, C., Kojima, M., Arroyo, I., & & Mohammadzadeh, F. (2016). Financial Viability of Electricity Sectors in Sub-Saharan Africa: Quasi-Fiscal Deficits and Hidden Costs.
World Bank. (2019). Energy Sector Management Assistance Program. Mini Grids for Half a BillionPeople: Market Outlook and Handbook for Decision Makers. ESMAP Technical Report; 014/19.
World Bank. (2019). Learning from Power Sector Reform. The Case of Kenya. *Policy Research Working Paper* 8819.

THE EFFECTS OF COVID 19 IN THE MINING SECTOR:

Taking stock and picking up the pieces

Pulane Mafoea-Nkalai

It has been over two years since Covid 19 pandemic began, disrupting almost all global systems. The effects and impact of the pandemic in the global economy are genuinely devastating and are possibly going to be felt for a long time. And, as South Africa prepares for recovery, it is important to take stock of the pandemic's economic consequences. If more attention is given to understanding the effects of Covid 19 on various sectors, particularly core industries (such as mining) to the economy, the road to recovery may be made a bit easier for many developing and poor countries.

The pandemic occurred at a time when the South Africa mining sector was experiencing serious challenges, shrinking and shedding jobs in order to survive. The pandemic has affected industries in many different ways, fast-tracking some trends, and changing others. These changes are not yet fully understood; neither are they fully documented. Using the crisis management framework, this article provides an insight into how the pandemic and its disruptions affected the traditional business value in the SA mining sector. In addition, the article explores how these new trends will affect the mining business and operation in the long term.

The mining industry was affected differently by the pandemic, with some companies hit hard whilst others performed well. This created disruptions in the business value chain, affecting both the demand and the supply. In addition, the pandemic fast-tracked the uptake of technological advancements as well as new forms of work arrangements. These advancements pose both challenges and opportunities that the industry and trade unions need to engage with in order to ensure that jobs are secured in the future.

Introduction

To say that the Covid 19 pandemic has been bothersome would be an understatement. The last two years have been a rollercoaster, comprising of numerous infection waves, lockdowns, travel restrictions and many other stringent protocols to curb the spread of the virus. From the beginning of the Covid 19 pandemic, the South African government crisis management response to the pandemic was focused on short-term measures. Government's attention and efforts were directed towards the immediate health and economic crisis. These interventions included stringent alert level lockdowns with regulations and protocols such as night curfews, prohibitions of alcohol and cigarettes, and many more. The government also introduced various social welfare relief initiatives, including the special Covid 19 grant to help vulnerable and unemployed people affected by the pandemic. To date, the government has spent over R18 billion on goods and services related to the Covid 19 emergency (National Treasury Budget Review, 2021).

The South African government and business leaders are now faced with the challenging task of planning and focusing on strategies for economic recovery whilst continuing to support and manage the immediate health and economic crisis. This is a daunting task because the South African economy was particularly vulnerable and weak when the Covid 19 pandemic occurred. The economy was characterised by low levels of economic growth, high levels of unemployment, poverty, and inequality.

Likewise, the South African mining industry was under significant financial pressure when Covid 19 started. The industry was experiencing a decline in global commodity prices and high operational costs with most mining companies reporting losses. So, as government and businesses shift their focus on to economic recovery, it is important to scan the effects of Covid 19. Given that the mining industry is an important and integral part of the economy, it would be unwise to not take stock of how the pandemic has affected and impacted the industry. This process of reflection is also necessary for a better understanding of the mining industry's present predicament and future alternatives.

The aim of this article is to reflect and take stock of the changes that have

been brought about by the pandemic in the SA mining sector. It documents how the pandemic affected the sector and the emerging trends as we move towards recovery. In addition, the article highlights areas that need action and interventions that the SA mining industry has to embark on in order to have an inclusive and sustainable recovery. The interventions may include re-skilling and upskilling, and new ways of recruiting union membership. This is important because economic recovery has many aspects, which include actions, interventions, policies, and political dynamics in the aftermath of the crisis (Few R, 2020).

The article is structured as follows:

- Section 1 gives an introduction and brief background to Covid 19 in the mining sector.
- Section 2 gives a brief theoretical framework.
- Section 3 examines the changes and effects of Covid 19 and regulations on operations, production, and employment in the mining industry.
- Section 4 looks at the mitigating factors to cushion the effects of Covid-19 from a labour perspective.
- Lastly, Section 5 concludes the article and provides recommendations.

Crisis Management and Recovery from Covid 19 in the Mining Sector

Crisis management is a holistic approach grounded in principles and values of preparedness, prevention, monitoring, and recovery (Bundy, Pfarrer, Short, & Coombs, 2017) . Crisis management prepares organisations to properly deal with sudden changes and effects brought about by the crisis. Generally, there are three basic phases of crisis management: the pre-crisis, crisis response, and post–crisis. When the Covid 19 pandemic began, government focused on the first two phases. The lockdowns and Covid19 regulations and many economic interventions such as social grants were all focused on prevention of infections and ensuring that the health care system was prepared to deal with the pandemic. The last phase of crisis management deals with planning a recovery. Planning crisis recovery is important in identifying the lessons that might help the business or government in the future. It assesses the current standing and operational impact, as well as planning for short and long term impacts so as to identify priority areas.

To guarantee that a lasting economic recovery is ensured and that no one is left behind it is important to reflect on the effects of the pandemic of the core sectors of the economy. Crisis recovery planning, rooted in the crisis management theory, is vital in assisting business to navigate through the pandemic.

Perhaps the challenge with planning for the Covid 19 recovery is that no one really knows how long the pandemic will last. Furthermore, it is often difficult to foretell the full implications, especially because the virus has been mutating, making it difficult to understand its behaviour. Whilst Covid 19 still needs attention, for many countries and businesses the focus is on returning to business as usual. And so there is a need to look back, with the purpose of learning and preparing for the future. The recovery phase offers an opportunity to tackle some of the challenges faced by the mining sector, so as to prevent job losses.

There is strong evidence which shows that most businesses are likely to face serious setbacks if they do not plan the post-crisis recovery well (OECD, 2020) (World Business Council, 2020). The importance of planning a transformative COVID 19 recovery can never be overstressed, because the pandemic has amplified many of the challenges that existed (Bárcena, 2020). In South Africa, slow economic growth, high levels of inequalities (particularly in access to healthcare, education and basic services) and corruption are some of the challenges that have been exacerbated by the pandemic. The crisis management and recovery theoretical framework provides a good lens through which to understand the effects of Covid 19 in SA and in coming up with plausible recovery plans.

Lockdown Phases and Pandemic Regulations

Like many of the Africa countries, SA was not prepared for the storm that came with Covid 19. From the onset, government realised that it had to adopt and impose stringent regulations and protocols in order to curb the spread of the virus. There were fears that the health care system was not fully prepared to manage the increase of patients as a result of Covid 19. And so, by mid-March 2020, government announced a national state of disaster, which gave government authority to institute a stringent nation-wide lockdown.

The lockdown was initially meant to last for 21 days to allow the health sector to prepare and to also help flatten the wave of infections that were increasing. During that time, only essential services and goods such as health, electricity, and food were prioritised. From the onset of the hard lockdown (first 21 days) and throughout, mining of coal was permitted. Mining of coal was classified as an essential service because it fuels Eskom's coal-fired power stations. In addition, partial mining activities needed for medical purposes (gold and platinum group metals) were also allowed (Herbet Smith Freehills, 2020).

Whilst the 21 days of lockdown offered the government, especially

the department of health, the chance to better prepare for the pandemic, it also exposed the many shortages and imbalances that the country faces. For instance, because of the hard lockdown, it has become difficult for some sectors to proceed with their operations after the lifting of the lockdown (de Villiers, 2020).

The lockdown disrupted traditional mining business, particularly because many other countries were also imposing lockdowns around the world. However, as mentioned earlier, the SA mining sector was already in a dire situation before the pandemic. As a result, when the government announced a two-week extension of the lockdown, it was met with serious opposition from the business sector. According to (Naudé, 2020) the business sector's resistance was based on two reasons: the government's mismanagement of the lockdown, and the economic collapse in the country. As a result of the pressure from both the public and business sector, government introduced the alert system with five levels to help manage the easing of the lockdown (SA Gov: Gazette 43599, 2020). The end of the 35 days of Alert Level Five national lockdown and a move to Alert Level Four was aimed at moderately opening up the economy, as the infections were still increasing. This meant that businesses had to adhere to health and safety protocols to protect their employees.

To allow for social distancing and non-pharmaceutical interventions needed to curb the spread of infections, the mining sector and many businesses operated on 50-70% capacity. These interventions undeniably brought changes in mining and in the workplace.

Implications of Covid 19 and the Potential Long-term Impact of the Pandemic in Mining Sector

Operations disruption

Because of the infectious nature of Covid 19, it forced and compelled people to live and work differently. Many businesses had to adopt new ways and models of working in order to survive. For instance, it has now become a 'new norm' to work remotely or in a hybrid manner.

Undeniably, there are a number of implications on business operations that arose from the lockdown and Covid 19 regulations and protocols.

In order for mining to happen successfully, the health and safety of all workers is extremely important. This is because mining is naturally hazardous, and for that reason, it relies heavily on certainty and efficiency for the safety of workers. Any uncertainties and disruptions in the normal working processes and procedures may pose serious health and business challenges. Because initially the world knew little about Covid 19, it posed serious uncertainties to the mining operations.

One of the first changes that the mining industry effected was to develop and adopt a 10-point action plan. The plan, developed by the Minerals Council, works as a guide on how companies need to respond to the pandemic. In addition, from the onset, it was evident that Covid 19 was going to be around for some time. As such, there was time for the mining sector to acclimatize to lockdown restrictions and the gradual easing of these restrictions, but also to acclimatize to the reality of the new work arrangements (Macfarlane, 2020). The plan involved the use of masks, sanitisers and temperature monitors, management of suspected cases or contacts of cases, provision for isolation of employees where required, travel advice, industry reporting, communication and monitoring to name a few.

Shortly after the Mineral Council adopted its 10-Point plan, the government announced a national lockdown. The lockdown, which lasted until end of April 2020, had huge implications on the mining sector. Whilst only operations classified as essential were allowed, most of the mining operations were only allowed to focus on issues of care and maintenance. The lockdown encouraged remote monitoring. And so, when government announced the lifting of lockdown Alert Level Five, the mining industry had already adopted the 'new normal' working environment (Mineral Council SA, 2020).

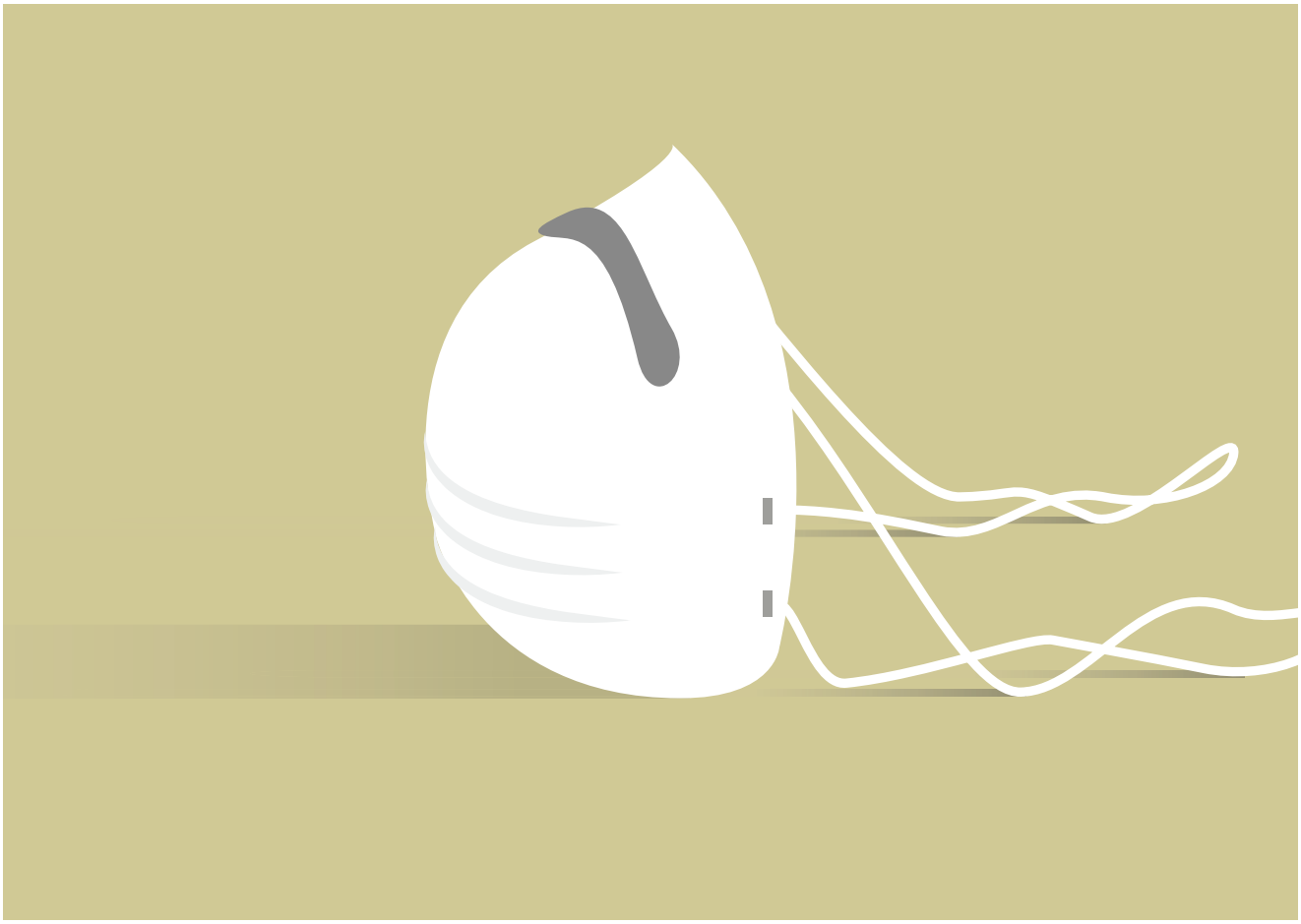
Shortly after the lifting of the lockdown, government released new regulations in which mining companies were allowed to begin their mining operations but only to 50% capacity, and only if they ensured and implemented all the required preventative and mitigating controls to prevent the spread of Covid 19. Such measures included social distancing protocols and ensuring that all workers were provided with adequate personal protective equipment, masks and sanitizers, and cleaning supplies (SA Government, 2020) .

Another implication on mining operations arose from these regulations. Often mine workers work in crowded and poorly ventilated conditions, and they share equipment, transportation, and even showering facilities, thus making it difficult for them to social distance (OXFAM, 2020). Therefore, the scaling down of mining operations - especially deep level mining as well as the production of minerals such as gold, chrome, manganese - was merited. It is important to note that these changes meant that companies were working with a reduced staff complement, creating severe limitations on the degree to which stock could be processed without creating stock gaps in the value chain (Macfarlane, 2020).

Furthermore, the pandemic required people to observe social distancing at all times in order to stop the spreading of the virus. The need for social distancing heightened the need and use of digitalization in the mining industry. A report by (PWC SA MINE, 2022) reveals that most mining companies have begun to introduce aspects of 4IR in their operations, and that there is strong agreement that these technologies have apparently been human centred. The report emphasises that people and workers are at the centre of the mining industry and as such the uptake of these technological advancements should focus on improving skills, health, and the quality of life for workers and their communities.

Covid 19 has indeed fast-tracked the uptake of these technological advancements in the workplace. For instance, because of remote or hybrid working, the majority of the mining companies surveyed reported that they had begun implementing Condition Monitoring as well as Connectivity and IoT, whilst at least 50% had tested Artificial Intelligence (AI) programmes (PWC SA MINE, 2022). These technologies enable the remote monitoring of machines and they offer better chance of identifying failures in advance. However, there is still fear about relying heavily on these technologies; the majority of low skilled mineworkers are at the risk of losing their jobs as machines take over.

Lastly, instead of focusing only on mine operations and health and safety of mineworkers, the mining industry has had to step up efforts on interventions aimed at helping communities around the mines to curb the spread of infections. For instance, by October of 2020 the (Mineral Council SA, 2020) had already spent over R100 million on community interventions such as supplies to local hospitals, the donation of medical equipment, and supplies. Because of the infectious nature of Covid 19, the mining industry's Covid 19 response and management had to include mining communities where workers live. These interventions were necessary, in order to avoid surges in infections that could lead to mine closures.



Production Disruptions

The mining of minerals is extremely important for the growth and development of any economy. Mining in South Africa is particularly important because of its contribution to the GDP and the number of jobs it creates.

In general, global production declined because of the low economic activity caused by efforts to prevent the spread of COVID-19 (Jowitt, 2020). In April of 2020, the South African mining industry witnessed a decrease of 8% in production. That drop was partially linked to restrictions imposed as a result of the pandemic. During that time, only coal mines and a few others were allowed to operate. However, the industry performance improved by the end of May 2020 as the country phased out lockdown restrictions (PWC SA MINE, 2020).

Covid 19 travel bans that were imposed by various countries also had significant effect on the supply of commodities. Some companies were forced to halt production, and later were only able to return to work at reduced staff capacity. For example, several copper mines have temporarily closed and new projects put on hold in major copper-producing countries (PWC SA MINE, 2020) consequently affecting the demand of commodities such as copper, Iron ore and Zinc, with the exception of gold which its demand normally increase during a crisis. However, the decrease in demand for some commodities will possibly drive the prices down due to an excess of those metals. Low prices of commodities are worrying as they do not encourage production.

Although 2020 was a difficult year for the mining industry, the industry's performance started to improve towards the third quarter of the year, declining again in the last quarter. According to (PWC SA MINE, 2020) the increase in production of Platinum Group Metals (PGM), iron ore, gold manganese ore and diamonds, coupled with strong commodity prices, drove the growth. In addition, because of a weaker rand the commodity prices increased. Also, due to the uncertainties of Covid 19, investors' interest in gold increased. As a result, mine companies reported an increase of 50% revenue generated from operations after working capital changes in 2021, the gold and PGM sectors with the biggest contribution of R24 billion each (PWC SA MINE, 2022).

Employment and Job Losses Disruptions

The mining industry was already experiencing dire job losses when Covid 19 hit South Africa. In 2009, there were over 510 000 people working in the South Africa mining industry and at least 23 000 jobs had been lost since 2012 (StastSA, 2019). The enforcement of lockdown

and Covid 19 regulations such as social distancing has made the situation worse in that some mining companies have had to let go of staff in order to resume business. Although no major job losses have been reported since the start of the pandemic, (Mineral Council SA, 2020) reports that in 2020 there was an average of 1.87% decline in employment in the industry as opposed to 2019. Although, it is still too early to determine whether the decrease in employment was a direct result of Covid and the regulations, it is not difficult to understand how Covid could have played a significant role in the situation. For example, as result of travel bans that were imposed, many migrant mineworkers found it difficult to return to work once Alert Level 5 lockdown was lifted. In addition, over 740 mineworkers have lost their lives as result of Covid 19.

Covid 19 has affected employment in different ways. There are different types of professions, jobs and skills employed in the mining industry. This means that not everyone was affected by Covid in the same manner. Some professions and jobs which were considered essential and important were allowed to continue working, whilst others were temporarily put on hold. For instance, during the hard lockdown underground mining was prohibited because the underground environment can easily become a super spreader for Covid as there is little ventilation and is crowded. This meant that workers such as underground mineworkers, who could not work remotely, found themselves vulnerable.

In addition, the remote or hybrid way of working has meant a change of what is unusually known as the workplace. With more opportunities to work from home, there has been confusion of whether the employer is still responsible for the health and safety of workers when they are working remotely. These changes have serious implications on the role and relevance of trade unions. There are concerns that standard forms of employment, such as full–time and permanent work, might be phased out in the near future. Other workers, particularly low skilled workers, are likely to be hit hard by such changes.

Mitigating Measures that may Assist to Cushion the Effects of Covid 19 for Workers in the Mining Sector

It is still early to measure the magnitude of the destruction caused by Covid 19, yet some of the effects are already evident. Whilst the effects of Covid vary by industry, commodity and company, the uncertainties of Covid have a potential to affect the mining business value chain. Some companies might not even survive the end of the pandemic.

It has also become evident that Covid 19 will be around for some time, and that there is a need to change and adopt new ways of living and working. The pandemic is pushing mining companies to find innovative ways and new business models, as well as new production approaches to provide a safe environment for workers. This includes the taking on of new technologies and remote working. This, however, has serious implications for the majority of low-skilled workers. Workers with low levels of education will be hit hardest, as new technologies require people with high level skills and education. With this in mind, here are some mitigation measures that can be adopted to cushion mineworkers in the post Covid 19 period:

- **Targeted Re-skilling and upskilling:** There are arguments that the introduction of new technologies does not necessarily mean that low-skilled workers are automatically going to lose their jobs; with upskilling these workers may just need to use different skills and technologies. According to (Rungasammy, 2021), machines such as autonomous haulage vehicles may not need a driver but still need human control. However, taking into consideration that the South African mining industry is labour intensive, it is not rocket science to predict that a majority of workers may not be absorbed by the new digitally transformed mining. The industry must therefore invest heavily in upskilling workers, but also in reskilling those that will be affected by the transition so that they can be able to find other means of livelihoods. One of the ways to cushion the potential job losses in the mining industry as a result of the 4IR uptake is for the industry to encourage collaboration and partnerships with communities; for instance, forming community businesses, products and services across the value chain.
- **Adoption of hybrid wage bargaining models by trade Unions:** Remote and flexible work arrangements pose challenges for trade unions, as they have implications on the nature of work. Besides the potential job losses and new skill requirements, new work arrangements and flexible forms of work are on the rise due to technological advancement. Another challenge with flexible and new forms of work is that workers are becoming more isolated. Also true is that workers with low skills are more vulnerable as their have little bargaining power compared to high skilled workers. As such, both the mining industry and the trade unions should back and support flexible work arrangements only to the point where workers interests and jobs are secured and protected.
- **Revised scope and recruitment strategies by trade Unions:** Flexible work arrangements also pose challenges for trade unions regarding their relevance, as well as retaining and recruiting membership. Trade unions' strength comes from worker's collectivism, which is easy when workers are organised in a formal work arrangement. It is difficult to attain collectivism with flexible forms of work, as workers get into individual arrangements with employers. Therefore, collective bargaining, which is the basis on which unions are founded, ends. As a result, trade unions have to find innovative ways in which they can still remain relevant. These may include finding ways to include and organise informal and casual workers. Equally important, trade unions have to widen their scope beyond workplace issues - such as partnering with other civil society movements.

Conclusion

The Covid 19 pandemic changed how people work and interact, thus imposing new ways of conducting work. The pandemic has prompted some mining companies not to focus on making profits but on changing their operations. Whilst there have been devastating negative impacts on the economy, the mining industry has bounced back remarkably well. The mining industry has managed to cope with the pandemic without serious disruptions in production and operations because of the strong health and safety culture that is inherent in the mining industry. It is easy to recognise that the ability of the mining sector to overcome Covid 19 has largely been as result of putting the health and safety of workers and their communities above making profits. Technological advancements in the workplace will only yield positive results if they are people-centred.

COSATU JUST TRANSITION BLUEPRINT FOR WORKERS

Pointers for the National Union of Mineworkers

Martin Kaggwa

The Congress of South African Trade Unions (COSATU), the major trade union federation in South Africa, has produced a blueprint for a Just Energy Transition for workers. This has come at a time when many unions, as workers' representatives in the country, are grappling with the massive challenge of how to protect the interests of their members in the wake the energy transition. At the centre of the blueprint is the desire to ensure that workers' livelihoods are protected in the transition process. The blueprint is expected to trigger further debates and negotiations on how to come up with refined pathways to a cleaner energy regime without compromising jobs and livelihoods across all sectors of the economy but most especially in the mining, transport, and agricultural sectors. The article highlights the demands for a just energy transition that organized labour ought to put across. It reflects critically on opportunities for achieving a just transition in the mining sector as suggested in the blueprint. Ultimately, the article proposes seven practical steps that trade unions in general and the National Union of Mineworkers (NUM) in particular can take in operationalizing the blueprint to ensure that the well-being of workers is not sacrificed in the energy transition process.

Photo by Jem Sanchez, Pexels

Introduction

There is a deliberate global agenda, coming from mainly developed countries in the northern hemisphere, to change the energy sources that countries around the world use. The intention is to move away from environment-polluting fossil energy sources, like coal and oil, to renewable energy sources such as solar and wind. The change in the energy sourcing and use is based on concerns about climate change and about the future health of mankind.

For some countries like South Africa, generating energy from fossil energy sources has been and still remains an important economic activity. Its impact on the climate notwithstanding, the sector is a source of livelihood to a significant number of people in the country. Hence, the proposal to change from fossil to clean energies comes with the risk of job losses. This is a key concern to the national government and to trade unions especially those that recruit from the mining and energy sectors. Trade unions, in particular, find themselves caught between acknowledging climate concerns and the need to address them, and the potential job losses to their members.

COSATU undertook the initiative to develop a blueprint document to assist individual trade unions across all the sectors of the economy to navigate the energy transition in a way that protects workers' interests. For practical use, the proposal of the blueprint needs to cascaded and adjusted to the unique circumstance of each sector where unions recruit. In this regard, this article presents salient and practical pointers to the National Union of Mineworkers on how to engage with other parties regarding the *Just Energy Transition*.

Basic Demands for Labour Regarding the Just Energy Transition

The COSATU blueprint on a *Just Energy Transition* proposes 5 top demands that labour across all sectors of the economy ought to set in negotiations will all stakeholders.

a. Employment Creation

The first demand that should be tabled by labour is that the process of energy transition, from the current high emitting energy sources to low emission energies, should be underpinned by **employment creation**. The employment creation demand should be accompanied by another demand of having in place an industrial policy that stimulates investment and productive activities in low emission sectors of the economy. The blueprint does not mention

the low emission sectors but one can assume sectors like green agriculture and renewable energy.

The inclusion of a sustainable industrial policy with job creation demands comes from a realization that job creation in low emission sectors cannot be left to market forces. There should be a deliberate policy by government to incentivize investment in such a sector. If investment in such sectors increases and results in job creation, then the important objective of reducing emission while creating new jobs will be realized in the energy transition process.

b. Universal Basic Income Grant

The second *Just Transition* demand being proposed in the blueprint is that government should put in place a permanent Universal Basic Income Grant (UBIG). The demand is drawn from the social protection pillar of the *Just Transition* as articulated by organized labour regarding the energy transition.

The UBIG is the lowest lying safety net to protect people's livelihoods when the energy transition takes place. It cuts across all sectors and it is almost an issue of basic human rights. So, this demand cuts across all sectors of the economy and across developments at national level.

c. Re-skilling and Upskilling

The third demand to be made is ensuring that there is well thought out and targeted re-skilling and upskilling of workers to make them relevant and employable under the new energy dispensation.

This demand needs to be qualified because there is a possibility of re-skilling and upskilling workers to unemployment. The possibility of this happening is high given the fact that there is no clarity on jobs to be created under the low emission energy regime. Whereas the jobs to be lost or have already been lost are clear, the anticipated jobs under the clean energy regime remain largely hypothetical.

d. Land redistribution

This demand is based on the recognition that lack of land limits the ability of people to adapt and take advantage of opportunities that will emerge out of the energy transition. Access to land, for example, provides a possibility that those who will lose jobs in coal mining can transition into commercial agriculture.

From an environmental protection perspective, land ownership is an incentive for climate friendly use of one's land as the benefits that come therefrom can then be enjoyed by the owner.

e. Adapt a policy of increased expenditure and investment in people-centred and climate friendly economic activities

This demand is made against the recognition of the South African government's stand that prioritizes a neo-liberal economic approach where, for example, inflation control is given priority over employment, and where profitability is given priority over access to social services.

This demand is supporting the demand to ensure that employment and livelihoods protection is prioritized over other economic considerations.

It is important to note that these demands are presented as the basic guide for workers across all sectors of the economy. Considered in totality, the demands are expected to act as a starting point for crafting out sector specific demands for a *Just Transition*. Hence, workers need to reflect and come up with ways they can cascade, fine-tune, and apply these demands in their respective sectors.

The next section reflects how these demands can be tailor-made and applied in the mining sector which will be definitely affected by energy changes. This article makes an attempt to operationalize these demands in the mining sector.

Reflection on Suggested Opportunities for Achieving a Just Transition in the Mining Sector

The mining sector, especially coal mining, will be one of those sectors that will greatly be affected by the transition from fossil energy to lower emission energy sources like renewables. It is, therefore, important to reflect on potential opportunities that may arise out of the transition in the mining sector that contribute in one or another to making the transition just, particularly from a job creation and retention perspective.

In this regard, the COSATU blueprint identifies 5 opportunities for job creation and retention in the mining sector which will contribute to the justness of the process by making sure that nobody is left behind. The five top opportunities are:

- **Localizing and manufacturing of renewable energy technologies products in the country has the potential to create jobs that are not in existence at the moment under the high emission coal energy generation regime:** The blueprint does not, however, go into details in evaluating the likelihood and feasibility of localizing and manufacturing of renewable energy inputs and products in the country. Thus far, renewable energy technologies are by and large foreign owned and imported. Although there exists a possibility of technology

Photo by Yury Kim, Pexels

transfer, the reluctance exhibited by technology owners from developed countries in sharing the Covid-19 vaccines indicates that acquisition of renewable energy technologies from outside will not be easy. Therefore the opportunity to localize the manufacturing of renewable energy technologies products in the country, although plausible, is unlikely.

- **Recycling of metals to reduce waste and environmental harm:** Recycling metal can potentially create jobs and reduce the environmental degradation caused by direct extraction of metals from the earth. There are two challenges with this identified opportunity: first is that it is based on the assumption that metal recycling does not involve environment pollution; second, it is assumed that a significant number of jobs can be created through metal recycling. Since metal recycling can still pollute the environment and the jobs to be created through metal recycling may not be many, the overall contribution of this opportunity to the justness of the energy transition is likely to be insignificant.
- **Have publicly-owned renewable energy systems:** Mindful of the fact that renewable energy production in the hands of the private sector will be profit driven and may not necessarily prioritize that 'nobody is left behind', the blueprint advocates for and sees opportunity in having publicly-owned renewable energy systems. Such systems will ensure that the state continues to play its developmental role of ensuring access to affordable energy to the citizens and to firms for production purposes. Thus far, though, renewable energy production in the country is still in the hands of private actors. Eskom, the state-owned energy entity in the country, seems to have a low appetite in becoming an active player in the renewable energy space. Although a plausible opportunity and supported by unions, having publicly owned renewable energy systems will require deliberate steps by government to direct and support Eskom or any other state entity to partake in renewable energy generation in the country. Thus far, the government seems to be more interested in creating space and incentivizing private actors, rather than its own entity, to participate in renewable energy production.
- **Job creation through mine rehabilitation and regional economic development:** After many decades of mining, there is a lot of mining area rehabilitation that needs to be done. Indeed, this creates opportunities of job creation and alternative livelihood in areas that have to reduce mining activities, such as the coal mining areas of Mpumalanga, as part of the energy transition. There are two aspects that need further scrutiny on this opportunity, that is, the extent of its job creation and the duration of such jobs. There is a possibility that mining rehabilitation may last as long as mining has lasted, may not create as many jobs as mining created, and may not be such a strong nucleus of regional economic development as direct mining.
- **Implement a job guarantee for transition:** Having a job guarantee arrangement is more of an

intervention than an opportunity. It is a critical intervention to have in place before the full implementation of the energy transition. The challenge with this intervention is: who will offer the guarantee? And will the guarantor have the interest and the means to ensure that whoever will lose a job will be guaranteed a comparable or even a better job? Government, as the people's representative, may have the appetite to guarantee jobs but it does not control the potential job replacement areas. Most of these are in private hands. The private sector may have the control of the potential job replacement space, but they may not have the appetite to do this as this may have a negative effect on their profitability. Trade unions are definitely interested in the job guarantees for their members but offering such guarantees is outside their core business.

Ultimately, four of the five identified potential opportunities that can be taken advantage of in the energy transition can, under some circumstances, contribute towards making the energy transition just. However, even if they are taken advantage of, they do not guarantee the justness of the transition. The identified opportunities are relevant but do not necessarily guarantee a just energy transition for South Africa. They need to be supplemented by other interventions such as targeted industrial policy.

Practical ways to use and operationalize Cosatu's Blueprint by Unions in Engaging with the Just Energy Transition Issue in the Country

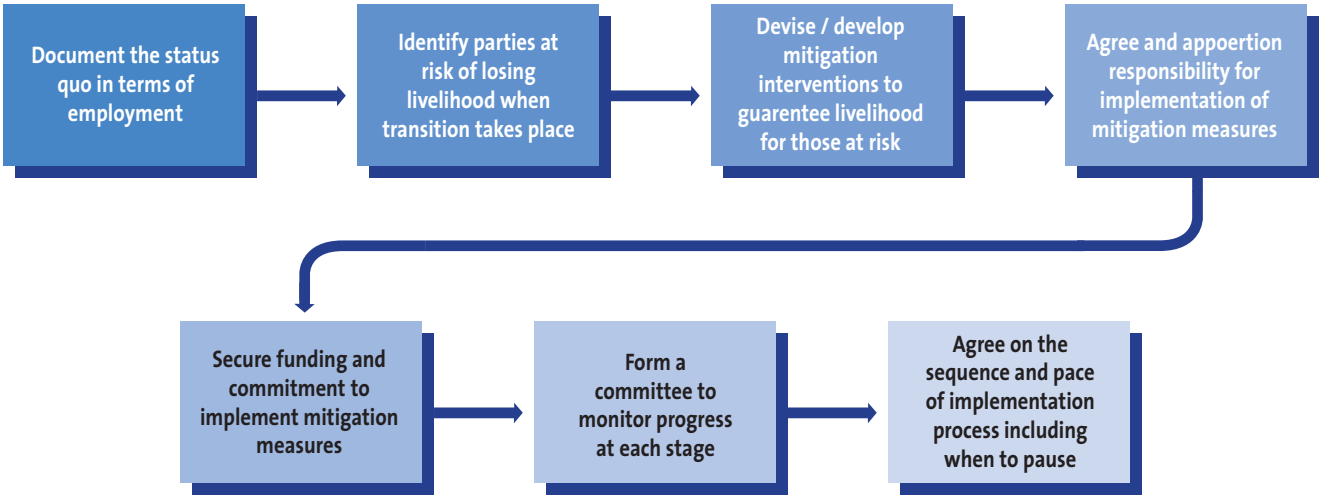
As indicated in the introduction of the article, Cosatu's blueprint suggests broader and non-sector specific demands that trade unions ought to put across in order to get some guarantees that the energy change being proposed will be just. The blueprint is not prescriptive but rather provides general directions and pointers for unions to meaningfully deal with the energy transition aspect in the interest of their members.

Responsibility lies with the individual trade unions, in the different sectors, to come up with practical ways to use and operationalize the blueprint in engaging with the Just Energy Transition in the country.

This section proposes such practical ways that could be adopted by a union to ensure that the interests of its members are not compromised in the energy transition. The steps are more relevant to the employment aspect. Nonetheless, it is acknowledged that justness in energy transition does not only deal with employment. Seven steps are proposed in making the Cosatu blueprint operational:

- **Document employment numbers before the commencement of the transition:** If indeed jobs are to be saved during the energy transition, then the first step should be a practical documentation of all people directly and indirectly employed in sectors that will be directly affected by the transition. In the case of South Africa, the sectors will be the energy and the mining sector. With the establishment of the number of people involved, the scope of the job-preservation task becomes clear to all stakeholders. Such a step is important because information collected at this stage becomes the basis of establishing whether nobody is indeed left behind, from an employment perspective, as the energy transition unfolds.
- **Identify those employed but are at risk of losing their jobs due to the transition:** In acknowledgment that there will be winners and losers, at least in the short term of the energy transition, it is important to identify those employed within the sectors to be affected whose employment or source of livelihood is likely to be threatened by the energy transition. This step should be objectively done using the most up-to-date information on jobs and skills required in the low carbon emission energy dispensation in the country. Ideally, all stakeholders have to be involved in the process.
- **Put in place practical interventions to guarantee livelihood for those at risk:** The next logical step will be devising and putting in place an intervention and safety net to guarantee the livelihoods of those whose socio-economic survival will be put at risk due to the energy transition. Careful thought needs to be put in this step as there is a risk that superficial and unfeasible interventions may be proposed with the intention of getting the buy-in of sceptical stakeholders, but without certainty that they will work.
- **Apportion implementation responsibility:** Having gone through Steps 1-3, the next step should be apportioning implementation responsibilities with special focus on mitigation measures. There needs to be an agreement and commitment among all stakeholders regarding who will be responsible for each mitigation measures. For measures that are to be implemented jointly by stakeholders, the different roles ought to be specified.
- **Secure funding for implementation:** Ensuring a just energy transition will require funds to be channelled to intervention measures that would have been agreed upon in Step 2. Somebody has to come up with the money, otherwise the justness aspect of the transition will not happen. With this recognition, Step 5 will be the securing of funds or funding commitment for

Figure 1: Steps for Operationalizing COSATU Blueprint on Just Energy Transition at a Sector or Union Level



mitigation measures. Caution should be taken in terms of the source and conditions pertaining to funding. It would be preferable to secure non-conditional funds. With funding that comes with conditions, it is probable that it could lead to unsustainable debt for the country - and the ultimate effect will be reduced public goods and services to the citizens. Such a development will be counter to a Just Energy Transition.

- **Form a monitoring and evaluation system:** Step 6 will be putting in place a monitoring and evaluation system that will be used to ensure that the just aspect is not lost or compromised in the energy transition. How the system will work, who will be involved in the monitoring and evaluation and what key parameters will be monitored will have to explicitly decided at this stage.
- **Agree on sequencing and pace of implementing the transition:** It is important to acknowledge that sequencing and pacing activities pertaining to the energy transition will have a bearing on the extent to which such a transition will be just. As such, all stakeholders on the energy transition need to agree on the sequencing and the pace at which the transition activities should take place.

Figure 1 summarizes the seven steps of operationalizing and cascading the COSATU blueprint on the Just Energy ransition as explained above. It is important to note that these steps can overlap and they may not necessarily be implemented in the order presented in this article. Based on practical considerations, trade unions in particular sectors may change the order of these step or even add to them.

Concluding Remark

There are many parties with differing interests who are involved in the energy transition debate in the country. As a result, how the transition should unfold is highly contested. With this recognition, it is important that organized labour suggests and insists on the process that needs to be followed before it unconditionally supports the transition. The COSATU blueprint on a *Just Energy Transition* is a step in the right direction. This article builds on the proposals in the COSATU blueprint to suggest practical components that organized labour needs to demanded. With these steps, the likelihood of labour interests being compromised in the energy transition is lessened - although not completely eliminated.

From sector to sector, it has to be acknowledged that there will be challenges in implementing some of the recommendations of the blueprint. Nevertheless, such unique challenges will be better dealt with if there is clarity on processes to be followed in implementing the energy transition in a just way. This article attempts to contribute towards this objective.

Reference:

Congress of South Africa Trade Unions (COSATU), 2022. *Just Energy Transition: Blueprint for Workers.*

Congress of South Africa Trade Unions (COSATU), 2022. *A Just Transition to a Low-Carbon and Climate Resilient Economy: COSATU Policy on Climate Change*.

SAM TAMBANI RESEARCH INSTITUTE

About Sam Tambani Research Institute

The Sam Tambani Research Institute (SATRI) is a registered Public Benefit, Non-profit Company that was founded by the National Union of Mineworkers (NUM) and Mineworkers Investment Trust (MIT) in 2012.

The Institute's major objective is to undertake research and analysis of substantive and primary issues affecting the welfare of workers and workers' communities in general, but especially workers in the mining, construction and energy sectors of Southern Africa. From the research conducted, SATRI aims to produce publications and recommendations that inform policies and interventions related to the welfare of workers' and their communities.

Recognising that interventions aimed at improving workers and workers' communities welfare have become complex and require a great deal of factual information, SATRI gathers and analyses such information through its targeted research agenda.

SATRI

SAM TAMBANI RESEARCH INSTITUTE

No 3 Rissik Street, Cnr Albert Street
Alris Building, 2nd Floor, Johannesburg 2000
PO Box 32202, Braamfontein 2017
Tel: 010 593 7238 • Fax: 011 442 0814
Email: Leratom@satri.org.za
Website: www.satri.org.za