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South African Just Transition Pathway- Lessons Learnt from The Komati Power Station Decommissioning and Repurposing Project

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Abstract

After more than 50 years in operation, Eskom contemplated the idea of decommissioning Komati Power Station in 2017. In 2018 the process of decommissioning Komati began and in 2022 funding amounting to US$497 was sourced from the World Bank to support the decommissioning process. The aim of this article is to present an independent view of the closure and transition at Komati Power Station. A particular focus of this investigation was to find out the extent to which the process and early outcomes at Komati met the principles of justice (procedural, distributive, restorative), as set out in the country's Just Transition Framework (JTF). In that regard the Presidential Climate Commission (PCC) adopted a qualitative approach in its investigations which came in the form of engagements and consultations with various stakeholder groups. Data was collected from Eskom, workers, labour unions, community members, and other relevant stakeholders. One of the key aspects unravelled from the investigation was the flawed communication processes. Communities and workers pleaded for greater transparency in terms of information sharing from the government. It is this information gap that led to questions regarding procedural justice during the decommissioning process. Closely linked to the challenge concerning communication processes was the lack of climate literacy among the affected communities. In order for people to perceive that there was procedural, distributive and restorative justice in the decommissioning of Komati they needed at least to understand the reasons behind the transition. Climate literacy was therefore critical in that respect. Based on the study's findings, it is thus recommended that climate change educational initiatives should be implemented to assess the pre-program conditions of impacted areas, since these have a significant impact on the program's learning outcomes. For future similar projects the project also recommended that: large scale projects should not be conceptualized on a narrow scope but should broadly consider economic aspects such as diversification beyond the project scope to help the communities who depended on these projects; inclusive participatory processes involving affected communities should precede future decommissioning projects in line with the tenets of procedural justice; communities and workers should be informed in time (preferably many years before the process starts) and appropriate empowerment measures should be developed for them to cope with a change of such magnitude. An inter-governmental and multi-stakeholder approach is required to design and oversee effective transitional projects.

Keywords: decommissioning, repurposing, community participation, procedural justice, economic diversification, stakeholder engagement.

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1. Introduction

In South Africa, the Just Transition Framework (JTF) sets out the principles of justice (procedural, distributive, and restorative) that need to be met by the process of decommissioning, repurposing, and repowering the power stations, among others (PPC, 2021). For the purpose of this article, Komati power station was selected as a case study from multiple Eskom power stations which were covered in the socio-economic impact study (SEIS) commissioned by Eskom to assess the potential impacts of a shutdown. The study aimed at providing an independent view of the process of closure and transition at Komati power station and offer recommendations for improvement. Komati power station (Komati) was commissioned in 1961, consisting of nine coal-fired generators, with a total installed capacity of 1 GW more than twice the capacity of any existing power station at that time. The construction and operation of the power station brought new jobs and communities into the area, with more than 500 people finding fulltime work at the plant itself, along with a burgeoning local economy. In the late 1980s, after more than 20 years of operation, the Komati plant was mothballed because of surplus

capacity on the South African electricity grid, the increasing costs to maintain older power plants, and the ability to bring more commercially viable plants online (PCC, 2023).

In the early 2000s, the economic picture had changed. Growing demand for electricity pressed the Komati power plant back into service. By the end of 2012, all nine coal-fired generators were running again. During the period of full operation, the site fell in breach of the national air quality laws, with Komati granted its first suspension of compliance with the minimum emissions standards in 2014. In 2017, Eskom began looking into possible decommissioning of South Africa's five oldest plants, including Komati. Two generators at Komati were placed in reserve that same year due to age and cost of operation. At that time, 586 full-time Eskom employees worked at the Komati power station, with more than 1000 people further employed as contractors.

Between 2018 and 2022, all nine Komati generators were sequentially removed from operation. The decommissioning process was in line with the schedule stipulated in the 2019 Integrated Resource Plan, which projected a 2019/2020 shutdown for Komati based on the 50-year operational period. As the units at Komati were shutdown, various spares/plant equipment were removed and transferred to other units and power stations. The number of jobs supported by the plant also declined over this period. In 2020, Eskom established a Just Energy Transition (JET) office to support the process of reaching Eskom's goal of NetZero carbon emissions by mid-century, with a focus on job preservation and creation. Initially, Komati, Hendrina, and Grootvlei were the sites that were considered for potential JET projects and scheduled for early shutdowns (PCC, 2023).

The PCC (2023) states that later in 2020, Eskom commissioned a socio-economic impact study (SEIS) for Komati, Hendrina and Grootvlei to assess the potential impacts of a shutdown. In late 2020 through early 2021, the consultants conducting the SEIS held initial meetings with select stakeholder groups in Komati, as well as the province more broadly. The aim was to gather information on projects (already being implemented in the region) that are expected to create jobs, provide new skills, or develop new Infrastructure, which could help mitigate some of the impacts of the Komati plant shutdown. Select community members, farmers, and local businesses were surveyed to better understand potential impacts of the shutdown and to explore areas of collaboration. These initial consultations did not involve workers or broad community feedback as only some community members were consulted through focus group discussions. Following these initial meetings, the consultants returned between March and May of 2022 to collect further information and feedback from local and provincial government, community members, ward councillor/ committee members, small business representatives, NGOs, and farmers. The aim of the secondary consultations was to obtain feedback and inputs into the outcomes of the SEIS. According to the SEIS report, stakeholders were provided with an opportunity to raise their concerns, ask questions on aspects related to the study, and provide their views on the study outcomes and methods of communication.

Around the same time, Eskom also conducted its own engagements with national departments (Forestry, Fisheries and Environment [DFFE], Mineral Resources and Energy [DMRE] and Trade, Industry and Competition [DTIC]); local government (Steve Tshwete, Nkangala, Gert Sibande, EMalahleni, Mpumalanga Provincial government); as well as some international representatives (British High Commission, COP26 Delegation and the Ambassador of Spain). A focus group meeting was held with community and NGO representatives in June 2022. In these engagements, local and provincial government representatives raised their concerns about how the closure of Komati would impact livelihoods, local businesses, the tax base, and crime rates.

In May 2022, the first repurposing project broke ground at Komati, which included an assembly of microgrid containers for renewable energy. Plans for the development of an agrivoltaic project and training facility at the site were announced. At the time, the plan was to train workers at the facility and eventually produce the microgrids on site, which could employ 500 workers. This is also when Eskom officially began negotiations with 236 permanent workers and 133 Eskom Rotek Industries workers, [2] along with their labour unions, to discuss transition options for each employee.

In September 2022, Eskom announced a partnership with the South African Renewable Energy Technology Centre (SARATEC) and the philanthropy-funded Global Energy Alliance for People and Planet (GEAPP) to develop a new renewable energy skills training facility at Komati. In October 2022, the last operational unit at Komati was shut down, which had been generating just 121 MW of power, marking the closure of Komati as a coal power station. Without a complete overhaul and huge investments to replace generators and related equipment, as well as retrofitting with pollution abatement equipment to ensure air pollution regulation compliance, the power plant cannot be brought back to life. At the time of closure, 236 full time Eskom employees worked at Komati, along with an additional 534 contract employees. Eskom stated that no Eskom

employees would lose their jobs because of this closure (National Treasury of South Africa, 2023).

In November 2022, a community engagement session was held on the decommissioning, repurposing, and repowering plans. This was the first public session in which community members were presented with the socio-economic impact study and given details on proposed mitigation solutions. Later in November 2022, the World Bank Group approved a US$497 million project to support the decommissioning of the Komati coal-fired power plant, repurpose the project area with renewable energy and batteries, and create opportunities for workers and communities (henceforth named "the Komati project").

In line with the developments at Komati, the government through the Presidential Climate Commission (PCC) gave a green light for an investigation to look into the process of decommissioning, repurposing, and repowering the power station, with a particular focus on the extent to which the process and early outcomes at Komati meet the principles of justice (procedural, distributive, restorative), as set out in the country's Just Transition Framework. Thus, the problem statement unpacks the closure and transition process at Komati Power Station which revealed significant challenges, particularly in communication and climate literacy among affected communities. The lack of transparency and understanding led to questions regarding procedural justice during the decommissioning process, highlighting a gap in information dissemination and community engagement. Addressing these issues is crucial to ensure perceptions of procedural, distributive, and restorative justice in similar decommissioning projects and to facilitate effective transitional projects in the future (PCC, 2023).

2. The Just Transition Framework

The Just Transition Framework is a planning tool for achieving a just transition in South Africa, setting out the actions that the government and its social partners will take to achieve a just transition, and the outcomes to be realised in the short, medium, and long term. The framework sets out the policy measures and undertakings by different social partners to minimise the social and economic impacts of the climate transition, and to improve the livelihoods of those must be vulnerable to climate change. The just transition framework sets out a shared vision for the just transition, principles to guide the transition, and policies and governance arrangements to give effect to the transition (PCC, 2021).

Towards the end of 2021 President Cyril Ramaphosa appointed the Country's first ever multi-sectorial Presidential Climate Commission (PCC) to advise the country on issues of just transition, oversee and facilitate a just and equitable transition towards a low-emissions and climate-resilient economy (PCC, 2022). The PCC was tasked to develop a social compact and develop a Just Transition Framework which was later adopted by cabinet as the national planning tool on just transition (PCC, 2023).

Communities agree that central to the just transition processes is to ensure that no one is left behind and everyone understand the processes. For coal and oil communities, community renewal with investment in new energy, new industries and new jobs is vital. For cities, investment in low and zero emissions transport, clean energy and circular economy are the way forward. For industry, switching to renewable energy must be supplemented with clean industrial processes. For workers, collective bargaining ensures that essential support is there for reskilling and redeployment. And, for governments and their leaders, just transition offers the opportunity to solve three key challenges at once: Climate change, growing inequality, and social inclusion (Cozzi and Motherway, 2021).

As the world transitions toward clean renewable energy alternatives, just transition is takes place at the unprecedented fast rate, of course while it differs from one country to another based on individual countries' targets. In South Africa, just transition take place in the face of multiple challenges including the climate crisis caused by capitalism. Some argue that communities must correctly reflect and place the catastrophic climate crisis at the door of big corporates and capital institutions. The groundWork Report (2022) recognise that the just transition cannot avoid dealing with boarder challenges and the Just Transition Framework can not only be evaluated in terms of the criteria it has set for itself.

South African capitalists have been allowed to drain the economy of finances through illicit and licit financial leaks. Climate change is fundamentally a crisis of extractivism - of the minerals energy complex and its reproduction, and also crises engrained by the minerals energy complex, such as the bast toxic legacies left by mining, including acid mine drainage, radioactive waste where people are living, and the ongoing rifts in social fabric caused by the migrant labour system (Chikozho, 2018).

3. The impact of coal on climate

Recently, coal extraction and power generation have decreased as other greener sources of power have grown increasingly economical. While tough for towns that rely on coal mining and plants, the move away from coal is critical for averting some of coal's most serious consequences. Over the past 20-30 years (and especially in the last ten years), growing worry about the dangers that environmental degradation poses to the globe has sparked an international reaction, as researchers, governments, world leaders, decision-makers, governmental agencies, and other participants have come together around the pressing need to act. Key to these conversations is creating policy/energy consumption in the context of climate change. The elimination of coal from the worldwide energy mix is being widely prioritized as administrations aim to minimize the production of greenhouse gases and limit the expansion of coal mining operations, power stations, and associated facilities (Brown and Spiegel, 2019).

Furthermore, the lack of any effective means for removing carbon dioxide from the environment or reducing carbon dioxide emissions from power plants powered by fossil fuels has persuaded power companies and governments to avoid coal. In recent years, coal consumption has dropped considerably in the United States (U.S.) and Europe, owing partially to their stated support for the 2015 Paris Agreement (Parra et al., 2019). By July 2020, fifteen European nations had indicated that they intended to gradually eliminate coal, while Austria, Belgium, and Sweden are already coal-free (Europe Beyond Coal, 2020). Several nations, including France and Germany, shuttered their final coal-fired power stations or mines in 2004 (Bezzina, 2004) and 2018 (Campbell, 2020; Rauner et al., 2020), accordingly. Canada, Mexico, Hungary, the United Kingdom, France, Germany, Denmark, Finland, South Korea, and Japan have all pledged to gradually eliminate coal use (Casey, 2020). The causes for this are numerous, and they are most likely irrevocable.

The ultimate nail in coal's coffin might be banks' hesitation, if not outright rejection, to offer financial backing for coal-related initiatives. For instance: Funding a thermal coal venture in Australia just became a little more difficult after Westpac Banking Corp. indicated it will depart the industry by 2030, rendering Australia and New Zealand Banking Group Ltd. as the only two of the nation's major four yet to make a pledge to eliminating the most toxic fuel (Thornhill, 2020). This rising institutional hesitancy to make investments in the coal sector is driven by greater pressure from numerous parties and groups to change to cleaner types of energy, as governments build short- and long-term renewable energy plans in order to meet their commitments under the 2015 Paris Agreement (e.g., European Commission, 2019; Simon, 2019).

In May 2020, the Energy and Policy Institute claimed that major banking institutions had issued new regulations limiting their operations with coal-reliant industries almost all make it clear that large banks anticipate power utilities to shift from coal over the coming decade (Smyth, 2020). These choices are accompanied by an increasing sense of panic that we are quickly running out of time to prevent global warming and are swiftly nearing the brink of no recovery (e.g., Politi, 2019; Hutt, 2019; Lenton et al., 2019). Furthermore, declining monetary resources are supported by a rising worldwide campaign to move away from energy sources such as coal (fossil fuels) (Financing the Future, 2019; Tyler-Davies, 2019; Burke, 2020; Cheeseman, 2020; Go Fossil Free, 2020).

Undoubtedly, coal has fuelled human development and significantly reshaped civilization; but the long-term effects of fossil fuel consumption on human health and the environment, such as pollution of the environment, human-caused climate change, and limited resources, are considerable. There is an increasing acknowledgment of the function that coal burning plays in causing global warming and changes in the climate, as well as the implications of coal mining, processing, and use on the well-being of humans and the environment, resulting in a swelling chorus calling for an immediate cessation of coal use. The complexity of these concerns is significant, and successful interventions will need a worldwide, linked, multidisciplinary effort. For many years, the UN (United Nations) and the WHO (World Health Organization) have dominated efforts to give worldwide attention to these challenges, as well as provide structures to assess advancement and promote change, within the context of shifting economic, political, humanitarian, and ecological circumstances. In recent years, the demand for an international reaction has attracted widespread backing from scientific organizations, resulting in the establishment of inter- and transdisciplinary partnerships (e.g., The Lancet Countdown), as scientists are encouraged to work diligently at the intersections between science, policy, and society (Bednarek et al., 2016; McEntee, 2020).

4. Importance of Climate Literacy

Climate change is one of the most significant worldwide environmental concerns confronting mankind (Steffen et al., 2015). If society is to solve this, a fundamental transformation in principles and methods of thinking is

necessary (Gifford, 2013; UNESCO, 2014) amongst both governments and individuals (Moser & Dilling, 2011). Keeping this in mind, several educational initiatives strive to increase people's climate change literacy (Ojala, 2015; UNESCO, 2015). To inform people concerning climate change and increase their literacy in the subject, it is first necessary to comprehend their preconditions, which shape and impact a person's learning process (Robottom2 004; Krahenbuhl 2016). Communities enter climate change education initiatives with varying levels of climate change knowledge (Kuthe et al., Accepted). According to recent research, climate change education must be tailored to the specific needs of the target population in terms of content, framework, and manner. This is especially crucial since improperly phrased communications can be ineffective or even harmful (Lawrence & Estow, 2017; Uhl, Jonas, & Klackl, 2016). Addressing the preconditions in learning is also consistent with the constructivist perspective of an educational process, which posits that learning generally depends on prior knowledge and expertise (Robottom 2004, Schuler 2010). The phrase "climate change literacy" varies throughout publications. Climate change literacy includes a set of five aspects:

- Attitude: A positive mind-set about climate change and willingness to act promotes climate-friendly behaviours. Positive mentality includes, for instance, an understanding of one's capacity to alter one's behaviour (self-efficacy), the eagerness of an individual to adjust one's conduct (willingness to act), or the belief that an alteration in conduct has a positive influence on the extent of climatic change (locus of control) (Ernst, Blood, & Beery, 2017; Hines, Hungerford, & Tomera,1986/1987).
- Personal concern: People who are worried about climate change in their life are more likely to support climate-friendly initiatives (Boyes & Stanisstreet, 2012; Metag, Fuchslin, & Schafer, 2015).
- Climate-friendly behaviour: Teenagers may modify their actions in order to be increasingly climate-friendly in their daily lives and lower their personal carbon emissions (Corner et al., 2015; Metag et al., 2015).
- Multiplicative actions: People in communities can also be involved as promoters for climate change literacy, or "change agents." They can impact their circle of relatives and colleagues' climate change literacy by discussing the initiative within their homes or in their leisure time activities (Hiramatsu, Kurisu, Nakamura, Teraki, & Hanaki, 2014).
- Knowledge: All other aspects of climate change literacy rely heavily on understanding climate change and its origins and effects (Hines et al., 1986/1987; Metag et al., 2015).

5. Public Understanding of Climate Risk

Multiple studies throughout Africa reveal that the people are very aware of the effects of climate change. According to a recent Afrobarometer poll, more than two-thirds of Africans believe climatic conditions for agricultural output have deteriorated in the last decade (Selormey, E.E. 2019). However, increased climate change knowledge and access to relevant climate data can boost people's perceptions of agency. Amongst Africans who are aware about climate change, 71% think that it should be halted.

However, few people comprehend how humans contribute to climate change. National climate change literacy levels vary between 23% and 66% of the general public in 33 African nations. Significantly, women have a 12.8% lower mean climate change literacy rate than males. Nearly two-thirds of the nations studied reported a disparity in climate change levels of literacy among men and women of more than 10%. This gender discrepancy is concerning, as women are frequently more exposed to climate consequences than males. Understanding the human component of climate change is critical. It is a powerful determinant of perceived risks and may facilitate reactions that go beyond merely responding to climate change to preparing and predicting more suitable and revolutionary activities.

Climate change literacy entails knowing the human-caused drivers of climate change as well as its possible consequences for critical industries, economies, and people. Without it, individuals are not as able to make educated adaptation decisions or see climate change as a real and imminent danger. For instance, the African Shifts study predicts that by 2050, over 750 000 individuals may be forced to flee Ethiopia's Adama Valley due to climatic changes in the region. However, we know that in such remote places throughout several African nations, just over ten percent of the general population is climate change-literate. This implies that young pastoralists in Africa, for example, are taking career and life decisions without fully comprehending the immediate and long-term hazards that climate change presents to their standard of life. It implies that countless business decisions are being made without considering risks like flooding and possible interruptions to electricity, water, and supply lines. Many hydroelectric and irrigation programs across the African continent require this

degree of climate change literacy to realize, for example, that profits from hydroelectric power for the Zambezi River Basin may be increasingly volatile and up to 58% less than in the years to come without climate change. Low water levels at Lake Kariba in 2022 resulted in daily six-hour load control, which had a significant impact on the Zambian and Zimbabwean economy. It also left Zimbabwe nearly entirely reliant on its old coal-fired power facilities, raising the possibility of illegally harvesting timber for cooking and heating purposes. Furthermore, there will most certainly be more rivalry for water among hydroelectric and agricultural irrigation, and changes in the climate in the Zambezi River basin will present new strains to this system.

To avoid the numerous repercussions of climate impacts from compromising Africa's development advancements, we need to build adaptive response capability through increased public knowledge of climate risk, by applying strategies that would focus on empowering communities to better understand, prepare for, and respond to the impacts of climate change (Nakashima, et al., 2012; Preston, et al., 2011). In this digital era, leveraging on technology like Artificial Intelligence (AI) has the potential to significantly enhance climate change literacy by providing innovative solutions for education, communication, and data analysis. This can be achieved by, inter alia:

- powering personalized learning platforms that adapt to individual learning styles and paces (Brusilovsky & Millán, 2007);
- improving extraction of relevant information to ensure that it is presented in a comprehensible manner, which enhances responding to questions and providing information on climate change topics through making use of AI-powered Natural Language Processing (NLP) NLP that analyses vast amounts of climate-related texts, including research papers, news articles, and social media posts (Pires, Schlinger & Garrette, 2019);
- optimizing climate change communication strategies that apply AI to analyse social media trends and user engagement to assist organizations to tailor their messaging to increase awareness and engagement by obtaining understanding of the types of content that resonate most with different audiences (Tufekci, 2014);
- enhancing data visualization tools that can generate interactive maps, graphs, and simulations that illustrate climate trends and projections, thereby increasing accessibility and better understanding of complex climate data by the public (Gorelick, et al., 2017); and
- utilizing AI Climate modelling and Predictions (Pathak, et al., 2018) and machine learning (Rolnick et al., 2019).

6. Methodology

The chosen methodology for the project was qualitative in nature. Focus groups were conducted with various stakeholders to the Komati decommissioning project. These stakeholders include Steve Tshwete Local Municipality; farmers within the vicinity of KPS; community members; ward 4 committee members; small businesses around KPS; JOG Church; Nkangala District Municipality and contractors of KPS surveyed. Table 1.1 shows the full list of research participants in the research project.

Table 1.1 a summary of the participants involved during data collection.

Phase 1 Consultations[4] (August 2022-March 2023)	
Stakeholders	**Purpose of Engagement**
Steve Tshwete LM	During the first phase of the Urban-Econ (2022) study, engagements with various stakeholders were focused on obtaining information to inform the socio-economic impacts associated with the shutdown of KPS, the identification of possible areas of collaboration in the proposed mitigation measures, and information on projects implemented by local government entities. These included: • Engagements with local government (Steve Tshwete LM and Nkangala DM) primarily revolved around the acquisition of information relating to projects implemented by each municipality. These projects were noted as possible mitigation measures for the shutdown of KPS. • Engagements with community members, ward committee members, CBOs, PBOs, NGOs, farmers, small businesses, and KPS contractors/suppliers were undertaken in various forms to inform the socio-economic impacts associated with the shutdown of KPS on the respective stakeholder groups. • Organised businesses and NPOs were engaged to inform possible areas of collaboration in the proposed mitigation interventions. • Other entities, such as national government (DFFE) and DFIs (DBSA) were engaged to obtain their views on the shutdown of KPS.
Various community members surveyed	
Farmers surrounding KPS	
Ward 4 committee member	
Farm Belt Community Economic Development Structure	
JOG Church	
Small businesses in the local area surveyed	
Nkangala DM	
Contractors/suppliers of KPS surveyed	
Middelburg Chamber of Commerce (MCCI)	
Mine Water Coordinating Body (MWCB)	
Minerals Council of South Africa (MCSA)	
Development Bank of Southern Africa (DBSA)	
GreenCape	
Department of Forestry, Fisheries and Environment (DFFE)	

Source: Presidential Climate Commission (2023: 24)

Data collection took place on a span of nearly a year (i.e. from August 2022 to March 2023). Data collection took place in the form of consultations and community engagements as indicated in Table 1.1 above. Information collected was consolidated into this report. The PCC has also engaged in extensive stakeholder consultations over the last couple of years, including on the Just Transition Framework (in 2021 and 2022) and electricity planning (in 2022 and 2023). Other groups have consulted with local government and community members on the Komati project, including a consultation hosted by Mpumalanga's Office of the Premier and the Departments of Agriculture, Rural Development and Environmental Affairs and Social Development, in coordination with the African Development Bank (AfBD), on 5 July 2023, which was held with over 100 community members and environmental justice group groundWork. There has also been significant media coverage of Komati's decommissioning and statements from various government representatives on the topic. On 7 July 2023, the PCC visited the Komati power station and met with government (national, provincial, local), Eskom, workers, labour unions, community organisations, and community members. The aim of the visit was to gather first-hand information from all relevant stakeholders and develop an independent view of the process followed at Komati and recommendations for improvement. The visit was broadcast live, in keeping with the PCC's transparent and consultative approach.

7. Results Role of Government Discussion

This section sums up the perspectives voiced during the PCC's site visit, categorised in terms of the major themes emerging, and set against the context of the additional relevant perspectives that have been voiced in other consultations, as well as public comments that have been made since the site visit.

7.1 The Closure of Komati and Potential for Reopening

Eskom has consistently stated that the Komati coal plant closure is due to age and cost of operations of the plant. The closure is also in line with the decommissioning schedule set out in the 2019 Integrated Resources Plan

published by the Department of Mineral Resources and Energy. There is, however, still a widespread perception amongst stakeholders that Komati closed because of pressure from developed countries and foreign investors to decarbonise, and that the process is being driven by the World Bank rather than Eskom. This perception has been reinforced by recent public statements made by the Ministers of Electricity and Mineral Resources and Energy. As reported in a *Mail & Guardian* article, a Ward Councillor stated: "The minister's words gave the people of Komati hope - now they are saying even the minister agrees with us that the plant should be opened because coal is the future. They are calling for the plant to continue to burn coal."

During the PCC site visit, stakeholders asked why the government would be acting based on a mandate from the international community, particularly developed countries, and trying to copy solutions from Europe without studying how they would work here. The viewpoint was also echoed during the consultations the PCC conducted on electricity planning with some social groups, especially labour, voicing frustration that South Africa was being forced to transition more quickly than was feasible because of pressure from larger polluting countries.

Throughout the site visit, several workers and community members stated their hope that Eskom would bring 2-4 generators at Komati back online, on the basis that this was not only possible, but would help to end load shedding. Eskom stated in their presentation that restarting Komati would require a total overhaul at considerable cost and is beyond the financial capacity of Eskom.

7.2 The Future of Coal and Deployment of Other Technologies

During the PCC site visit, many stakeholders expressed the view that coal should remain part of South Africa's energy mix and the economy for the foreseeable future. For instance, at the site visit, the Mayor Councillor of Nkangala stressed the importance of coal in Mpumalanga Province and stated that the country should continue to use this "God-given" resource in concert with carbon capture and storage (CCS) technologies. The idea of using CCS to enable the prolonged use of coal was also raised by workers and community members at the site visit, as well as at the PCC's consultations on electricity planning and on the Just Transition Framework. Labour representatives have been particularly vocal in calling for continued use of and investment in coal along with so-called "clean coal" technologies; during the site visit they also voiced concern that renewable energy was not reliable enough and asked about investing in nuclear as well as carbon capture technology.

While workers at the site visit acknowledged the issue of climate change, they stated that it is not a top priority compared to South Africa's triple challenges and that there are things that could be done to address climate change without having to start with coal. The topic of moving away from coal is seen as highly contentious given that it is so embedded in the identity of the Mpumalanga region, with one worker stating that he was "born into coal, lived coal." A labour representative stated that the transition is slowly turning Mpumalanga into a ghost province.

7.3 Transparency and Communication

One of the repeated requests from workers and communities at Komati was for greater transparency throughout the process, particularly with respect to information sharing, so that they can engage "on an equal level." Community members and workers stated that they had been unable to obtain detailed employment figures for Komati. Many felt that the numbers Eskom provided misrepresented the true impact of the shutdown as it did not capture job losses in the preceding years, those of contractors, or impacts in the broader community. Eskom maintains that no permanent Eskom employees lost their jobs because of the decommissioning.

Beyond clarity on the impacts, the community and workers also requested clearer information on the projects that are already underway, including timelines and jobs to be created. A community activist emphasised that until all the requested information was in the public domain, there could not be procedural justice. In the same vein, during the PCC consultations in EMalahleni on the Just Transition Framework, stakeholders felt they did not understand what the just transition is and called for more accessible language to be used along with practical and relevant examples. Stakeholders want case studies or demonstration sites to prove that the alternatives proposed under the just transition will work for communities.

In the PCC's consultations on electricity planning, social groups requested that any information be shared at least two weeks to a month before consultations so that stakeholders had time to review and prepare positions in advance. They emphasised the need for government to set up infrastructure that enables transparency and

accountability alongside robust management strategies to prevent corruption.

7.4 Engagement Process

In general, workers and community members considered the engagement process around the decommissioning, repurposing, and repowering of Komati to be highly inadequate. They felt the process should have started much earlier, with more frequent engagement opportunities and follow up after engagements to respond to questions that were raised in sessions. Workers also said they felt that they were being consulted after the fact, and that the decommissioning of Komati was a fait accompli (already done). At the same time, Eskom highlighted its own frustrations with the engagement process, in which they indicated that the labour relations machinery prescribed overly bureaucratic procedures, and that labour itself had contributed to delays in the issue being tabled.

There was a sense of frustration over the many first-time visits from funders and the government without any follow up or feedback mechanism in place to understand if/how their input was being implemented. This point was also raised in consultations on electricity planning and the Just Transition Framework.

Community members felt the process should have been more inclusive in terms of who was consulted. In the PCC consultations on electricity planning, stakeholders called for better inclusion of youth, communities, CSOs and women's groups throughout the entirety of the process and not just for information gathering and feedback. Youth felt particularly excluded from the decision-making process, and they did not appear to have a strong presence at the site visit. Overall, workers and communities felt that the process at Komati was not just and should not be called such as justice must be earned and not assumed. A community leader said during the site visit that he believed this project had come to "plant poverty." Community members felt that they had not been consulted adequately, if at all, before the shutdown. In their *Contested Transition* report, groundWork, referred to the process followed at Komati as "tick box consultation" and criticised Eskom's "choice to plan on behalf of communities, rather than with communities."

While the community members expressed their frustration over how the decommissioning process was handled and concern over the lack of forthcoming solutions, they also stated that they are not against change. There seemed to be a recognition that some type of transformation is necessary, but the community wants to be part of the process, to "walk with" Eskom and the government, rather than behind it. This sentiment echoes the fundamental principles that should underpin the just transition, which is further explored in section 3 of this report. Workers and community members wanted the chance to inform the types of projects to be undertaken based on what they saw as their own opportunities and assets. During consultations on the Just Transition Framework, stakeholders emphasised that they want a say in their future and to be integral to the decision-making process. Communities have their own ideas for what would work best in the local context and their ideas should be listened to and leveraged.

Eskom representatives at the site visit acknowledged that the engagement process was inadequate. They stated that it should have started sooner and that there were procedural justice aspects missing.

7.5 Timing

On the issue of timing, workers at the site visit stated that the process of shutting down had been rushed, while at the same time, the process of putting solutions into place to address impacts had been too slow. Workers and the community thought the phrase "just transition" implied an immediate replacement of jobs and economic opportunities, but many of the proposed solutions will not come to fruition for years.

Media coverage following the site visit has highlighted how the delays in implementing new projects to address the economic impacts of the closure have impacted Komati. One article referred to feelings of "despair and frustration" in Komati and a former Eskom contractor was quoted as saying: "We have been saying that the green energy things will not work. Look, we are going for a year now and there hasn't been any action in that place. While we sit here being hungry, the plant would have continued while they trained and the transition would've been smooth, but now we are waiting and not sure if we can wait any longer."

7.6 Jobs and Training

One of the most frequently raised points throughout the various consultations was the need to take a wider view of impacted workers. While none of the permanent full-time Eskom employees who were working at the plant, at the very end, may have lost their jobs, this does not account for those who were retrenched earlier as other units

shut down, or contract workers. During the consultations, contractors and contract workers voiced a sense a hopelessness as they felt they no longer had a way to earn a living if they remain in Komati.

During the public consultation conducted following the release of the Socio-Economic Impact Study (SEIS), another community member raised the issue of whether the sectors in which new jobs might be created (agriculture, tourism) would provide wages comparable to those lost at the power station. While the SEIS sates that the agriculture sector likely has the best capacity to create additional jobs in the area, stakeholders consulted for the Just Transition Framework cautioned that the sector should not be expected to absorb all jobs lost during the transition. During the site visit, workers requested more detailed information on where jobs will be coming from and in which sectors, as well as the sustainability of the jobs (short-term versus permanent).

During the site visit, there were numerous questions about the training opportunities to be provided, with workers and community members wanting to know more specifics on who would be eligible and prioritised for training. They wanted to know whether workers who previously lost jobs before the final unit closed would be eligible; whether women/youth would be prioritised; how people in more rural areas could access training opportunities; and more about the types of skills to be developed, the timing of trainings, number of participants, and prerequisites (e.g., literacy). There were also questions about why the training was being led by a university from Cape Town (SARATEC is hosted at the Cape Peninsula University of Technology) rather than an institution based in Mpumalanga.

During the PCC consultations on electricity planning, stakeholders said they felt that skills development in general had not been given high enough priority in transition conversations and that youth especially need to see that there are opportunities for them in the emerging green economy.

In the same vein, stakeholders said that there needs to be clear job opportunities for the people being trained. People must be equipped with skills that are currently in demand in the job market and the mitigation solutions for Komati should be connected to the local supply chain and labour market. For example, a community activist remarked that the skills and materials are not available locally for many of the products Eskom wants to develop at Komati. This means the money from the World Bank will be going to foreign companies, and localisation may be years away. Stakeholders consulted as part of the Just Transition Framework creation emphasised that they want relevant and meaningful skills that fit into the alternative development pathways being developed under the transition. They also stressed that communities and workers being directly impacted by the move away from coal should be the first to receive reskilling.

7.7 Role of Government

Community members and workers at the site visit wanted more involvement of local and provincial government. There were questions raised around what the role of the local and provincial government has been to date and whether they are considered co-implementers or managers of the process. Community members also noted that the municipality has failed in delivering community and health services to Komati community and seems to have washed its hands of responsibility for service delivery. Community members at the provincial consultation emphasised that more coordination with and empowerment of local actors is key to JET implementation. The lack of local, district and provincial government involvement has been noted in other PCC engagements.

With respect to national government, Komati stakeholders want the opportunity to speak directly with relevant ministers. During consultations on the Just Transition Framework broadly and in EMalahleni specifically, stakeholders voiced their perception that national government is unresponsive to their needs and unwilling to engage or act on their behalf. One worker said he hoped that the energy minister would come to Komati so they can ask him to reopen some of the generators.

8. Discussion

The PCC convened a closed special sitting on 21 July 2023, to review information about Komati project, discuss the evidence and perspectives gathered during the site visit, and coalesce around key points and recommendations. These points were subsequently taken forward for consideration though the Monitoring and Evaluation Working Group (including a meeting on 14 August 2023) and circulated to all Commissioners for final comment.

The key points from Commissioners are as follows:

First, the Komati coal power station was closed due to economic reasons associated with its age, not the

country's decarbonisation agenda and overall drive to reduce greenhouse gas emissions. This means that the project was not conceptualised and implemented as a just transition project *per se* (as the plant needed closing in any scenario). Nonetheless, since the Komati project focuses on repowering a coal-fired station with renewable energy, coupled with social development initiatives, it does offer useful lessons for future just energy transition projects in South Africa. This includes highlighting the risks of closing power plants and mines without sufficiently preparing and supporting affected employees and communities.

Second, the timeline presented earlier in this report shows that Eskom had to define its own approach to justice and implementing the just transition, without a blueprint or framework, and with few links into regional approaches to industrial development and economic diversification. The Komati shut down process commenced well before Eskom established a JET office (in 2020), before Cabinet adopted the Just Transition Framework (in 2022), and before the Province had developed an integrated economic diversification strategy (currently underway).

Third, the consultations described above clearly fall short of the inclusive and participatory engagements required to fully embody procedural justice. Only certain community members were aware of and consulted on the transition plans before the Komati coal plant closed for good. The broader community, many of whom have lives and livelihoods that are tied to activities at the Komati power station, were not consulted at all. There was a clear gap in engagements with communities and workers outside formal structures, with no definition of responsibility for this broader type of engagement.

Fourth, the Komati project was conceptualised with a fairly narrow scope, focused primarily within the boundary of the power station only, not including the wider region, sector, or value chain. If the vision for the just transition is to be realised in South Africa, projects must be designed broadly to enable the necessary deep, just, and transformational shifts. The Komati project could be expanded to provide new opportunities and create additional jobs. For example, a feasibility study could be undertaken to explore the large-scale manufacture of mini grids, based on local and international demand. This could help support South Africa's economic competitiveness and bring innovation to the area. The agrivoltaics project at Komati could also be scaled and tied with agroponics - a model that maximises land usage, creates additional income streams and the development of further subsectors. There is also a need to radically speed up existing projects at Komati, to quickly provide these new opportunities.

Fifth, the area surrounding the Komati power station is woefully underserved with regards to basic services, lacking a high school, full time clinic, library, recreational facilities, and others. The municipality has a constitutional obligation to provide services and infrastructure (even if Eskom did some of that previously when the coal power station was operational). These community needs should be included in the district's Integrated Development Plan, and subsequently budgeted and funded. Simple things such as a pedestrian bridge over the open water areas to Komati's informal settlement should be able to be provided easily. Access to basic services, healthcare, and quality education are necessary pre-requisites for just and equitable transitions, which must be supported in the area.

Sixth, it was clear from the PCC visit that there is a sense of agency among community members and their leaders, and a drive to improve the situation for the community. This agency is, however, currently blocked by a lack of resources, a lack of support and engagement with Eskom management and local government/the municipality on the future of the plant. During the PCC's site visit, residents suggested several community-driven remedial projects that would go a long way towards supporting people's wellbeing and livelihoods in the Komati area, including:

- Transferring Eskom-owned property to a community trust (or similar) to hold community assets e.g., the recreation facility is no longer available for public use; buildings could have been gifted in the context of restorative justice.
- Reconnecting the informal settlement ("The Big House") to water supply from the power station and building the bridge that the community has requested so they don't need to cross an open water area.
- Building or investing in assets that the community currently lacks, including a health clinic, a high school, library, and churches.
- Using a local university for training in addition to the SARETEC site.
- Donating scrap from the site to support new opportunities in the informal economy.
- Retaining some cooling towers and other buildings to create a museum that could be a tourist attraction, which could be locally run as a people's coal museum.

Finally, the decommissioning, repurposing, and repowering process at Komati started all too late to execute a seamless transition for impacted workers and communities. The sequence of steps followed at Komati was done in reverse of the principles of procedural justice, with Eskom starting with plant closure, then identifying and financing repurposing and repowering plans, and ultimately concluding with stakeholder consultation.

9. Conclusions, Recommendations, and implications

In conclusion, the Komati project is instructive for future decommissioning and repurposing projects. Local economic diversification must be central to any transitional process, with local markets stimulated and grown. The Province must drive the deployment of renewable energy projects, with national government channelling sufficient funds and policy support. The planning process for decommissioning and repurposing must commence as soon as the timeline is known, to support seamless transition with immediate jobs and training as coal plants close, and with early and frequent engagement with impacted groups. Participatory planning processes can support community agency and build trust that all actors are committed to the just transition, with communities reaping the benefits.

The Just Transition Framework offers further guidance about how transitional processes can be designed to meet the principles of justice, at a scale that is commensurate with the challenge. While late in application, these justice processes can still be used at Komati, as well as the other coal power stations that are nearing end of life, such as Hendrina, Camden, and Grootvlei. There is still a path to success at Komati. Indeed, there is enough agency and will in and around Komati to see real progress, at an imaginable scale. The ideal outcome is for Komati to emerge as a post-transition town of national significance.

Accordingly, the recommendations for future decommissioning and repurposing projects are as follows:

9.1 Climate Change Education

Based on the study's findings, climate change educational initiatives should be implemented to assess the pre-program conditions of impacted areas, since these have a significant impact on the program's learning outcomes. As a result, knowing people's preconditions in communities ahead of time might help us build on them during the program. Of course, surveys may be used to achieve this, but even little activities to measure prior knowledge and attitude or brief chats can assist to discover the abilities and shortcomings of the people. The findings also underscore the necessity of a moderate constructivist approach, which emphasizes the specific preconditions of people in the learning process. Furthermore, because local organizations and their growth within the project varies, subsequent appraisal studies should explore using a target group-oriented assessment, as it might give important more insight.

9.2 Timing and Sequencing

It is essential to get the timing and sequencing right on decommissioning and repurposing projects. First, all impacted workers, together with the broader community, must be informed of a plant’s decommissioning as soon as the plan is known, which is typically years ahead as the schedule is set by the Integrated Resources Plan. The timeline for that decommissioning process and its associated implications must be made clear, with consistent messages shared with stakeholders. Everyone should have access to the same information at the same time. If there is uncertainty around the timing, because of loadshedding or other factors that should also be clearly communicated. Workers and community members should be encouraged to discuss points of agreement and disagreement around transition plans, openly and transparently.

Second, workers and community members should be involved in discussion and decisions around plans that are implemented in support of the transition, linked with local Integrated Development Planning (IDP) process. Final decisions should be made in the best interests of community members and workers, through inclusive and participatory decision-making structures, allowing each actor to play to their respective strengths. Projects that are selected to be undertaken should be aimed at industrial development and economic diversification of the local area and region, as new economic clusters will be required to create new jobs and replace jobs where they may be lost.

Third, repowering and repurposing projects should commence before any decommissioning takes place, so that the transition from one to another is as seamless as possible, and new jobs are available immediately, even in the

construction phases. These activities require significant lead times, often years or more, given the time required for adequate stakeholder engagement, worker negotiation, project financing, project planning, contracting, and implementation, among others. Having a lag of months to years for several of the training, employment, and economic opportunities to become available is not *just* and could result in additional job losses or forcing people to relocate when they otherwise would not.

9.3 Engagement

Workers, communities, and small business should be supported and empowered in the planning around decommissioning, repurposing, and repowering projects, with them defining their own development and livelihoods in the context of the transition.

There should be transparent, consistent, and inclusive communication and engagement around the decommissioning process with all workers, community members, and other relevant stakeholders. Relevant materials must be shared ahead of engagements using local languages and channels that are accessible and used locally (e.g., radio, WhatsApp, local newspaper). Engagements should be held in places and at times that are accessible to the community and workers, and in places that do not create power imbalances.

Engagements must follow a facilitated, structured process where all parties are given equal opportunity to speak. A trusted, neutral moderator could be employed to help lead discussions. All stakeholder groups and the public should have an opportunity to be involved. There should be both public, accessible, and transparent meetings as well as opportunities for closed-door discussions on more sensitive topics if/as requested by the stakeholders.

Partnerships with local leaders and organisations could be helpful to bring different groups of stakeholders together. Working with organisations that already have a history of engaging at a local level could help with improving inclusivity, as would including local government in discussions at the national level. It should not, however, be assumed that the views of one person in a group represent that of the whole. Importantly, everyone needs to agree on the facts on the table before solutions are discussed. In essence, a clear presentation of agreed upon facts (for instance, operational life, jobs impacted, etc.) needs to be established as a basis for engagements going forward, helping to build trust between all actors.

9.4 Economic Development

Decommissioning, repowering, and repurposing of projects should be designed with a scope and scale that meets the needs of the local area and region, and link with economic diversification. New economic clusters will be needed in Mpumalanga, to create jobs and replace jobs where they may be lost in the declining coal industry and value chain, and to build on local strengths including around agriculture and ecotourism. Such clusters can be designed to meet local needs, for instance, by producing local necessities such as food, construction materials, entertainment, education, or healthcare; alternatively, these clusters can provide products for regional or global markets. Local and provincial authorities need to take responsibility for local economic development in the area, in partnership with Eskom. Particular attention must be paid to enabling opportunities for women.

9.5 Institutional Arrangements

An inter-governmental and multi-stakeholder approach is required to design and oversee effective decommissioning, repowering, and repurposing projects. Eskom cannot diversify the economy alone; the government and other stakeholders must play significant roles.

National government must provide overall leadership and policy to guide the transition. Cabinet adopted the South Africa's first Just Transition Framework in 2021, as the overarching policy frame to facilitate the just transition. Cabinet has also requested the PCC to develop a Just Transition Implementation Plan, to help provide the necessary specificity to guide the responsibilities and timing of the transition, which must be subsequently integrated into government's planning and budgetary system. Further roles for national government are set out in the Just Transition Framework. Within government, the Just Energy Transition Investment Plan Projects Management Unit (JETIP PMU) within the Presidency, is also developing an implementation plan for the Just Energy Transition Partnership (JETP); and DFFE is undertaking further work related to the Sector Job Resilience Plans, among other examples.

Provincial and local governments have important roles to play in coordinating just transition measures in their provinces and local areas. The Mpumalanga government is currently developing an integrated economic diversification strategy for the province to guide future decommissioning, repowering, and repurposing projects

at coal plants facing closure. Supporting local economic diversification, with a particular focus on working people and small businesses in at-risk communities, must be led, and championed by the province.

While Eskom is not responsible for the industrial development of the area surrounding its power stations, nor the broader province, it does have a key responsibility in terms of: (1) engaging openly, transparently, consistently, and timeously with workers and surrounding communities; (2) ensuring that basic services that were historically provided by Eskom are seamlessly transferred to the local municipalities, with the capacity to provide them; (3) transferring/reskilling/retraining all Eskom employees to meet the new opportunities of the future, and/or offering temporary financial support for workers that cannot transition easily, and/or offering early retirement packages, where applicable; (4) collaborating with local and provincial government on economic diversification and industrial development initiatives; and (5) designing and implementing decommissioning, repowering, and repurposing projects in support of local economic development.

9.6 Community Development and Agency

An "asset-based community development approach" is required to help support socio-economic outcomes of areas in transition, which are community led, to help garner support and agency in the transition. This approach, as recommended by groundWork's in its analysis of the Komati decommissioning process in the *Contested Transition* report, starts with a community-based identification of community assets and what can be done with them, a process that has clearly already started among the local people of Komati. An external facilitator could be appointed to run the process, with the aim of producing practical proposals for areas in transition that support and improve the wellbeing of village residents, with the community as the central stakeholder. A key element in support of an asset-based community development approach is a household survey of the entire community so that the range of circumstances and needs are known and so that options can be developed that meet real needs.

9.7 Financing Arrangements

Significant financial resources are required for an effective decommissioning, repowering, and repurposing project, which cannot be carried only by public money or international loans and grants. The private sector will need to be involved in repowering activities. The allocation of loans and grants to transitional activities warrants careful consideration. At this stage, pure "justice" activities are typically not easily financed on the commercial market, so grants are best allocated in support of those outcomes.

An outcomes-based procurement/impact investment approach can be helpful in stimulating innovation, creativity, and scalability for future repowering and repurposing projects–and promote local inclusion and participation. Instead of putting tight specifications on Requests for Proposals, calls could be made broadly, indicating the final outcomes being sought. These would be aimed at improving community and development outcomes, with these groups allowed to come up with their own creative (and bankable) ideas to respond to those outcomes. Local markets should also be stimulated to absorb any domestic and international finance that is channelled towards transitional activities.

Finally, even if the financing is not coming from within South Africa, the process still needs to be driven by and for South Africans, with workers, communities, and local/provincial government able to share their perspectives on how the resources are allocated. A modest commitment (in terms of a local development and alternate livelihoods plan/programme) to a community, as well as women and youth enterprises can go a long way in ensuring goodwill and supporting alternate value chain development. Some resources must also be utilised for sincere community engagement processes and community capacity building. The identified significant deficiencies in the decommissioning process related more to engagement, transparency, and readiness, signalling a critical need to reassess transition strategies to ensure equity, transparency, and community-driven decision-making (PCC, 2023), with transparency regarding the primary impetus behind the closure.

Endnotes

[1] Some of the issues raised during consultations included provincial and local economic impacts, lack of education facilities and teachers, how the shutdown would impact water services, substance abuse and crime in the area, job loss, lack of job and other economic opportunities for community members, decreases in property values, Komati becoming a ghost town, and ownership of infrastructure. Recommendations proposed to address these issues included public-private partnerships, community ownership of solutions, keeping Komati operational, Eskom reskilling/upskilling community members, community ownership of infrastructure and land, increased policing and retain rather than demolish infrastructure.

Eskom Rotek Industries (ERI) workers fall under the purview of Eskom Enterprises, which in turn forms part of Eskom Holdings. ERI was established to provide construction, maintenance, and transportation services in support of Eskom operations.

[3] Beyond timing of engagement which all stakeholder agreed began too late and did not happen frequently enough; the first public consultation on the decommissioning was held four days after the plant shut down, per GroundWork's report.

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