



Socio-economic Impact Study for the Shutdown and Repurposing of Komati Power Station

Virtual launch: MS Teams 15 November 2022

Prepared by:



Purpose of the webinar





- The Socio-Economic Impact Study for the Shutdown and Repurposing of Komati Power Station has been completed and has been made available for comments
- The study is now in the outcomes consultation phase to obtain feedback from stakeholders
- The **purpose of this webinar** is to present the findings of the study and allow participants to engage with the research team and Eskom

Structure of webinar



Structure:



House rules:

- The presentation will be delivered in **full** during which all participants will be muted.
- Use the **chat room or Q&A tool** to provide inputs.
- Raise your hand during discussions to be unmuted.
- Constructive and level-headed discussions are encouraged.





- 1. Project objectives, components and methodology
- 2. Baseline profile of study area
- 3. Impact analysis without mitigation
- 4. Mitigation strategy and implementation plan
- 5. Conclusion



PROJECT OBJECTIVES, COMPONENTS & METHODOLOGY

(2) Eskom

- According to IRP 2019:
 - By 2030, 10 500 MW of electricity from coal will be decommissioned by Eskom

• Eskom's JET vision:

- Reach net zero carbon emissions by 2050 coupled with an increase in sustainable employment opportunities
- Komati coal-fired operations are to be shut down in 2022:



Determining the impact and creating a plan to address them – key focus of the study

- A socio-economic study was commissioned in 2020 for Komati, Hendrina and Grootvlei Power Stations
- When Generation Board commissioned the impact assessment studies, the questions raised were:
 - How will the workers and communities be affected? How many will be affected?
 - What will happen to the affected employees?
 - What will be the impact on jobs?
 - How do we engage our stakeholders?
- Purpose and scope of the study:

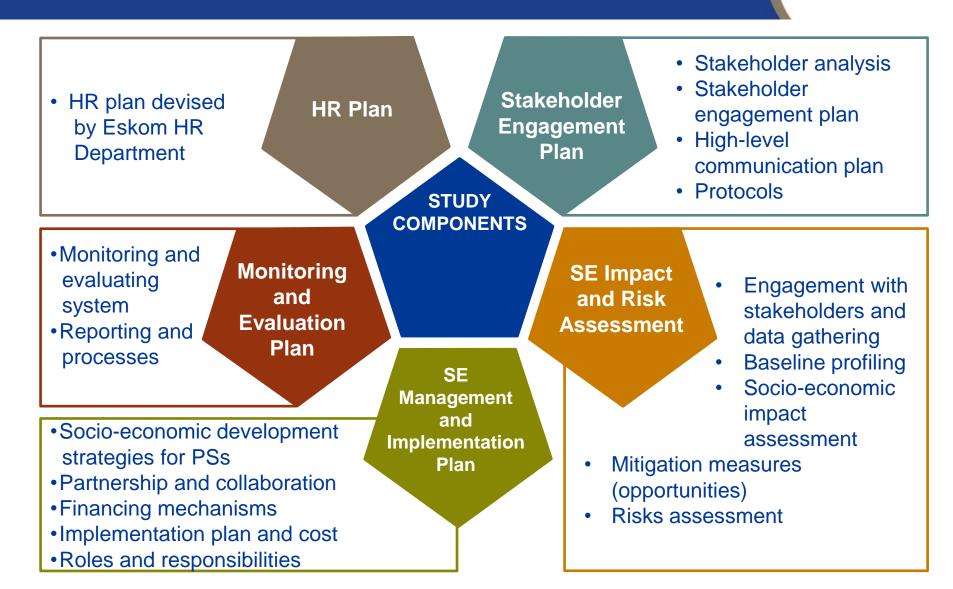
Purpose:

To undertake a socio-economic impact assessment and develop a mitigation strategy to identify impacts, risks and opportunities to manage and mitigate the socio-economic impact of the KPS shutdown.

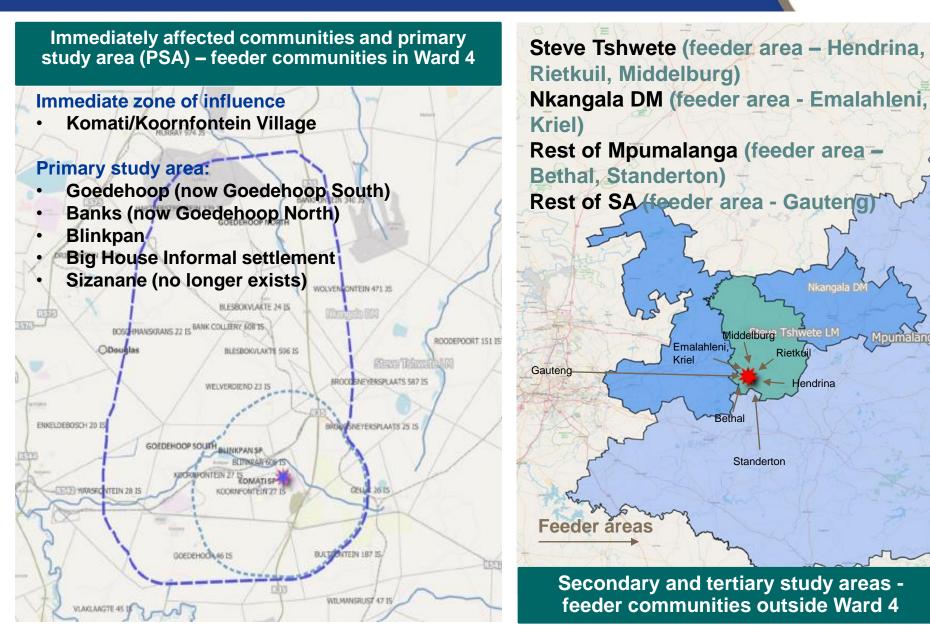


- Identify and assess impacts
- Determine risks
- Identify opportunities
- Formulate sustainable mitigation plan

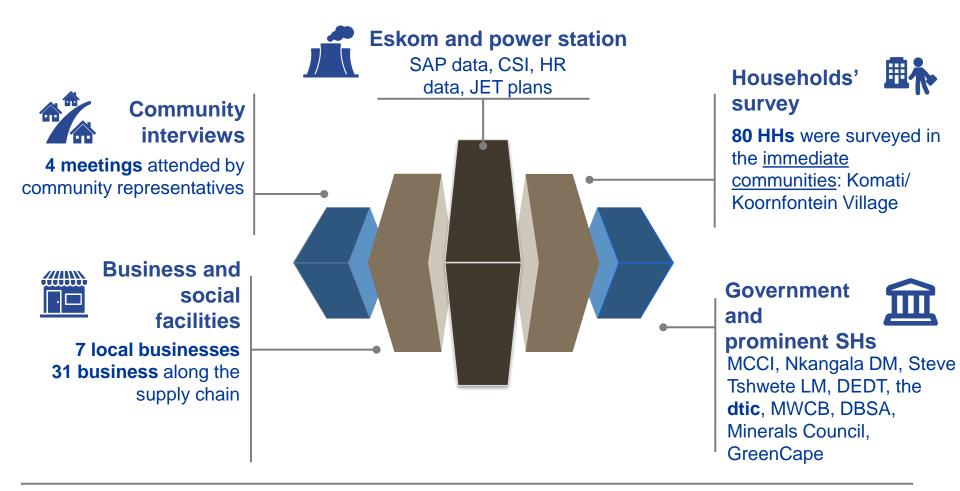
Study comprised <u>five components</u>



Study **boundary** was divided into four areas



Extensive <u>data collection</u> was conducted to inform the study



Stats SA and GIS data

Government policies, strategies and plans

Eskom

Studies conducted for repurposing and repowering of the power station



BASELINE PROFILE OF STUDY AREA

The baseline of Mpumalanga Province was evaluated to inform impact assessment and mitigation strategy

() Eskom

- Mpumalanga's economy is highly reliant on the coal value chain.
 - Shutdown of the power station will have a far-reaching negative effect on the lives of directly and indirectly affected communities
- Provincial government focuses on creating **new opportunities**:
 - Diversifying the economy from its dependence on the coal value chain
 - Repurposing of mine land for agricultural use
 - Use of coal ash to manufacture cement and railway to transport the product
 - Support labour-intensive industries, such as farming and agro-processing enterprises
- The areas where the power stations are located have **limited tourism potential** relative to the north-eastern side of Mpumalanga, but is rich in mineral resources and have access to strategic routes (N4, N11, N12, and R555)
- Major challenges identified:
 - High unemployment, especially amongst youth
 - Relatively low access to piped water inside dwellings, flush toilet facilities and removal of municipal waste
 - Relatively low education levels which limits job seekers (particularly youth) to be gainfully employed



R841 532 m

worth of production generated by businesses located in province



R360 873 m of GDP created by businesses located in the province



1 112 708 employed



R16 846/month

average HH earned income



Electricity sector contributed towards GDP and created jobs

Source: calculated from Quantec (2020)

The <u>baselines for Nkangala DM and Steve</u> <u>Tshwete LM</u> was evaluated to inform impacts and mitigation measures



Nkangala DM



R147 109 m of GDP created



391 299 employed



R17 352/month average HH earned income

Steve Tshwete LM



R40 941 m of GDP created



93 452 employed



R24 925/month average HH earned income

Source: Calculated from Quantec (2022)

- Both Nkangala DM and Steve Tshwete LM are **economic hubs** attracting labour from various areas due to the coal value chain
- The area is **coal-rich** and hosts most of the coal-fired power stations industries that are subject to life spans which raises the need for more economic diversity
 - **Opportunities** for diversifying the economy include:

• Consideration of the agriculture and tourism sectors (potential to employ large numbers of relatively unskilled workers)

Promotion of SMMEs, cooperatives and informal traders

• Strategic routes such as N4, N12, and N11 which have opportunities across sectors such as agriculture, manufacturing, storage and transport business, wholesale trade and accommodation

- Challenges experienced in the municipalities include:
 - Low education completion levels and insufficient skills which contribute to the unemployment and low-income necessitating skills development and training programmes
 - Poor financial health of municipalities limiting capacity to invest into local economic development necessitating alternative sources of funding

The <u>PSA profile</u> was used to assess the potential impacts of the KPS shutdown and identify mitigation measures

() Eskom

COLUMN DE LE COLUMN

Lakama Guest House

Goedehoop Colliery

PSA profile

- Population:
 - Under 4 200 people (1 904 HHs) lived in 2011
 - Since 2011, Sizanane closed and population in Banks reduced; Komati Village – remained the same
- Large proportion of males in the PSA in 2011, 60.8% of population was male
- Most residents are aged between 35 and 44 years
- Below average education majority no schooling or some schooling
- Dominance of low skill levels
- Largest employers mining, utility and agriculture
- Most community members have resided in the region for at least 16 years
- Communities in the PSA are very engaged and involved with one another

Key strengths

- Endowed with mineral resources
- · Moderate and high potential arable land
- **Transport linkages** to Emalahleni and Middelburg, Mbombela and Johannesburg
- Large tracks of land owned by mining houses
- Moderate solar resource potential



Laerskool Koornfontein





Apartments

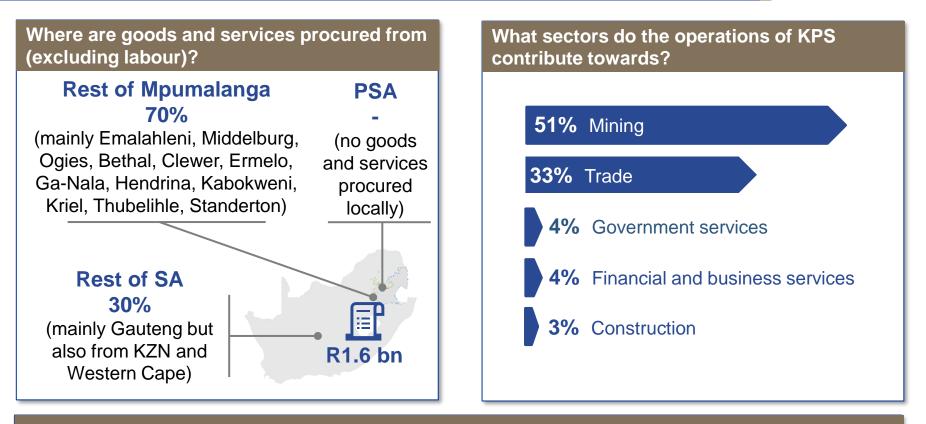
Key weaknesses

- Dilapidated built environment
- Below average access to basic services
- Health-related problems: chronic illness, malnutrition, HIV and AIDS, TB
- Social ills: drug and alcohol abuse, and prostitution
- Unemployment: frustration among the youth

Note: Census 2011 data was used due to the unavailability of more recent ward-level data when baseline was developed.

KPS primarily <u>sourced goods and services</u> from Mpumalanga and supplied water to the local communities in <u>2020</u>





What services are provided by the PS directly and to who?



KPS supplies water to:

- Komati Village: 45 ML/month
- Lakama Group (Komati Village): 1.5 ML/month
- Koornfontein mine: 8 ML/month



Shutdown of KPS may have impacts on <u>coal</u> <u>mining and transportation</u> industry



The shutdown of KPS may reduce demand for goods and services, negatively impacting business along its supply chain



Coal is diverted to KPS under <u>existing contracts</u> with other PSs



Coal supply to KPS <u>supported employment</u> – shutdown may affect employment in the industry



KPS receives coal supplies via road transportation



Road transportation of coal supports <u>employment</u> <u>opportunities</u>

*Assuming one truck carries 33 tonnes of coal, which translates in 2 205 truckloads on average per month. Also assumes one truck makes one trip per day.

2020 figures

873 kt supplied to KPS (0.7% of coal purchased by Eskom during the year)

321 jobs supported by coal supply operations at KPS (0.4% of industry total)

82* truck trips per month to supply KPS with coal

41 jobs supported by delivery of coal to KPS Eskom permanent employees amounted to 276 individuals, 231 ERI employees and 303 sub-contractors were employed through other companies but working on site in <u>2020</u>

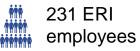




- 52% males and 48% females
- Majority aged below 45 y/o, and minority (5.2%) close to or at pension age
- Fairly young, productive and experienced population with flexibility and a higher chance of mobility elsewhere
- Many skills sets (technicians, engineers, operators) are reusable allowing for shifts to different technologies

Note: KPS employee composition is reflective of 2020 situation when the study commenced.

Eskom Rotek Industries (ERI) Employees



167 (72%) male 64 (28%) female



- Mostly work as operators (33%), utilityman (14%), general workers (12%) and artisans (10%)
- ERI permanent employees can be transferred to other sites/operations

Contractors



303 contractor employees

 Alternatives will need to be considered through engaging external contractors

Holistic <u>stakeholder engagement</u> approach was followed to validate the findings and seek inputs

 Extensive stakeholder engagement has been undertaken as part of the study

- Local community involvement, and empowerment through collective and participative approaches to solving the problem
- Engagement and inclusion of stakeholders: the dtic, DPE, DMRE, Mpumalanga, District and Local government, Municipalities, NGOs, CBOs, local communities, DFIs, funders, etc.
- Potential partnerships



<u>Concerns</u> raised by stakeholders were used to inform impact assessment

basic services needs increases loss of business revenue provincial sustainability ghost town land rehabilitation mine closures limited ECDs informal settlement mushrooming loss of income property value decreases crime increases tax base shrinkage substance abuse CSR projects halting migrant influx local skills deficit access to water

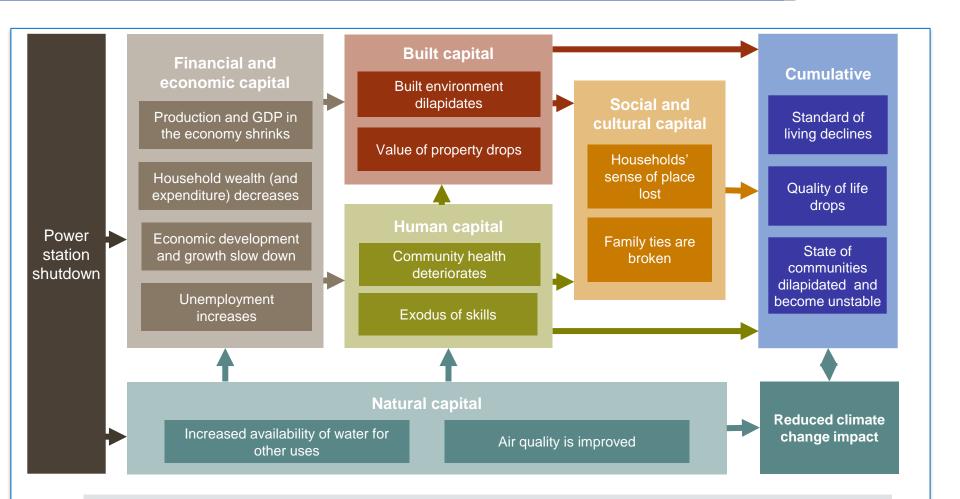
<u>Recommendations</u> made by stakeholders were used to inform proposed mitigation measures





IMPACT ANALYSIS WITHOUT MITIGATION

No mitigation scenario: The root cause of impacts on communities is linked to financial and economic capital



Eskom

A Theory of Change principal was applied to develop a causal chain of events and impacts that would be triggered by the shutdown. This allowed identification of "root causes" of impacts that need to be prioritised for mitigation.

Impacts were measured according to their <u>significance</u>

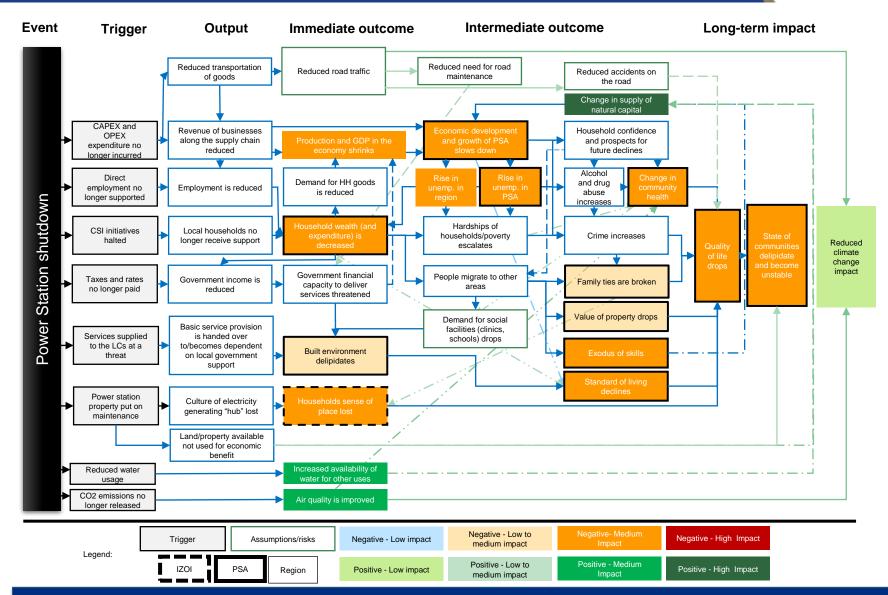


- Significance (S) of each impact calculated by evaluating its Extent (E), Duration (D), Magnitude (M) and Probability (P)
- Formula used: S = (E+D+M)*P
- Interpretation of significance rating:

Positive	Rating	Negative
Impact slightly improves the social stability of the area and has a limited direct influence on future development decisions	Low Impact does not influence the social stab of the area and does not have a direct influence on future development decisio	
Impact could noticeably improve the social stability	Low to medium	Impact could noticeably affect the social stability and may need to be mitigated
Impact would significantly improve the social stability of the area	Medium	Impact would threaten the stability of the area and requires targeted mitigation
Impact will secure the social stability of the area	High	Impact is devastating and must be mitigated

<u>No mitigation scenario</u>: The majority of the impacts linked to KPS shutdown will be of <u>medium</u> <u>significance</u>

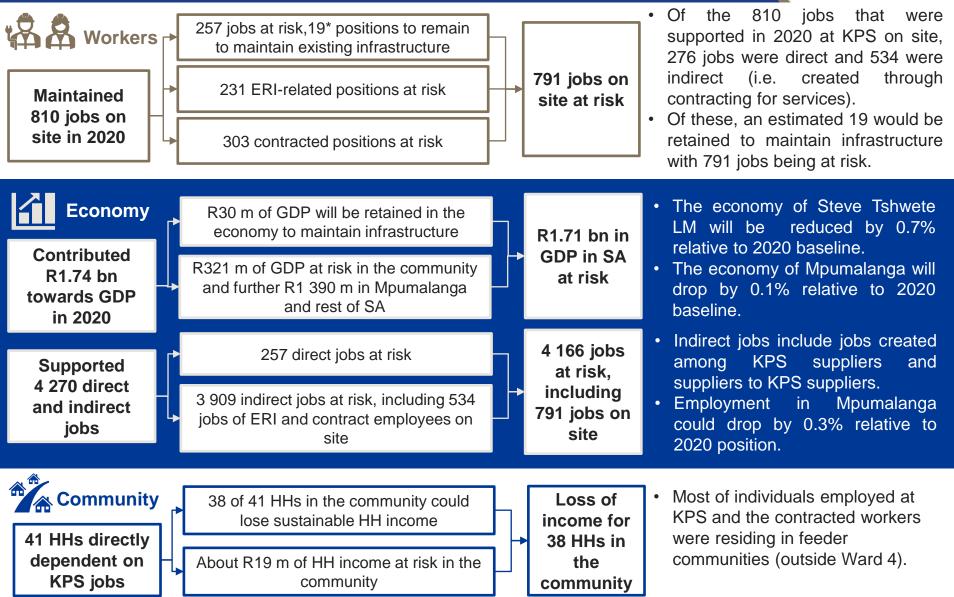




Most of economic impacts will be concentrated in the province, while social impacts – in the LCs

<u>No mitigation scenario</u>: Economy, communities and workers will be negatively <u>impacted as a result of a</u> <u>shut down</u> (impact in 2020 figures)

() Eskom



*Preliminary estimated number of jobs to remain at KPS following shutdown



MITIGATION STRATEGY AND IMPLEMENTATION PLAN



Mitigation strategy philosophy is based on six key principles

Lessons learned from coalfired power stations' repurposing case studies in other countries

Planning ahead of time; partnerships and collaborations; use of public and private funding sources; use of clean energy and energy efficient technologies; application of green building practices; fit-forpurpose solutions that consider location pros and cons; involvement of communities and local government

Integration of Just Energy Transition (JET) strategy of Eskom

Repurposing and repowering projects that have low carbon footprint, stimulate economic development and create employment opportunities for communities

Partnership and collaborative approach

Responsibility for strengthening and developing of communities is shared among various private and public sector stakeholders; it thus requires a partnership approach with all stakeholders (communities, government, NGOs, private sector, organised labour) coming together and collaborating

Alignment with Just Energy Transition (JET) vision and principles for South Africa Affordable, decentralised, diversely-owned renewable energy systems

Alignment with government priorities and strategic objectives

Ensure alignment with the government priorities and to enable tapping into government programmes and initiatives that can facilitate implementation of interventions and projects

Consideration of other initiatives and interventions by private and public sector

Consideration is given to other interventions implemented in Nkangala DM

Komati PS mitigation strategy comprises of five pillars and is driven by repurposing and repowering initiatives



Stabilise Focus:

Reskill, upskill and develop new skills

among power station employees and

local community workforce

Stabilise the local economy by setting up new economic activities and creating new jobs in the community through

- Repurposing and repowering (R&R) projects focus
- **Economic opportunities**

Enable, support and realise

Focus:

- PS's permanent employees
- **ERI** employees
- Contractors
- **PSA** workforce

Develop

Strengthen

Focus:

- Basic services infrastructure
- Health and education
- Communication
- Sports and leisure facilities

Strengthen the communities by addressing the existing gaps and challenges in the community

Communicate



Communicate plans and engage with stakeholders throughout project life cycle

Facilitate growth of SMMEs and economy through localisation of supply chains and other business opportunities created by R&R



There is a clear link between the mitigation strategy pillars and community capital framework used throughout the study



Mitigation strategy and implementation plan aligns with E-JETP

() Eskom



Eskom is the process of engaging government to champion and fund community/local area development projects under Component C through:

- Presidency Just Energy Transition Partnership (JETP) IP
- Mpumalanga MoA
- Other Government platforms

*Community development projects are at concept phase



Stabilise the local economy by setting up new economic activities and creating new jobs in the local community

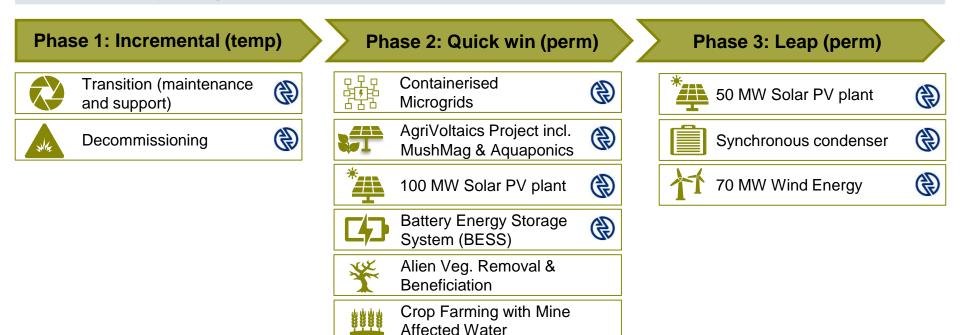


Two sets of potential interventions:

Eskom-led repurposing and repowering projects i.e. projects implemented at Komati PS

Eskom-led projects or projects where Eskom is a partner and that are implemented in the local community

Potential projects grouped into three phases in terms of their implementation timeframe:



Eskom-led repurposing and repowering (R&R) interventions

Solar PV and Battery Energy Storage





JASPER SOLAR FARM, SOUTH AFRICA





Containerised Microgrids and Workshop





Agrivoltaics Demonstration Facility







Reskill, upskill and develop new skills among power station employees and local community workforce

Two sets of potential interventions:

1) Eskom HR plan for employees



Focusing on employees of the power station

2) Human capital development

(Eskom



Focusing on labour force in the community



Reskill, upskill and develop new skills among power station employees and local community workforce



1) Eskom HR plan for employees							
Key principles							
1. No job losses or retrenchments for permanent employees	2. All permanent employees to undergo change management interventions	3. Some permanent employees to be reskilled/upskilled	4. Skills sets such as technicians, engineers, operators among others, to be reused	5. No policy to forcibly let go of permanent employees			

Applying these principles, the <u>HR plan</u> allocates approximately R69 million to:

	Incremental and other options Consideration of other levers, if and when necessary	140 perm. employees and 190 contractors to maintain existing infrastructure	
HR plan	Reskilling/Upskilling Reskill & upskill employees to redeploy to R&R projects	Up to 300 people required for R&R*	
	Transfer Transfer to similar vacancies in other Generation (Gx) operations	Permanent ERI employees involved at Komati PS	

* Assuming 140 permanent Eskom employees retained for maintenance and contractors hired.



Reskill, upskill and develop new skills among power station employees and local community workforce



2) Human capital development

Interventions



By implementing these interventions, the potential <u>benefits</u> may be:

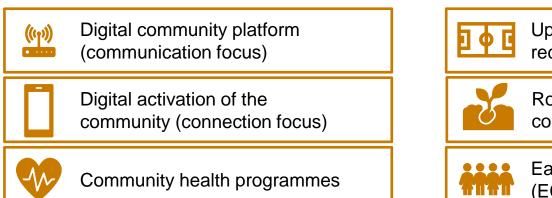
- Enhanced skill levels and improved employability of local workforce through reskilling/upskilling interventions
- Opportunities and enabling environment for the creation of new SMMEs
- Retained sense of place in local community
- Improved economic prospects for youth, reducing the prevalence of drug and alcohol abuse



Strengthen the communities by addressing the existing gaps and challenges in the community



Proposed interventions:



Upgrade/expand sport and recreational facilities

Roll out commercial scale community gardens

Early childhood development (ECD) focused programmes

By implementing these interventions, the potential <u>benefits</u> may be:

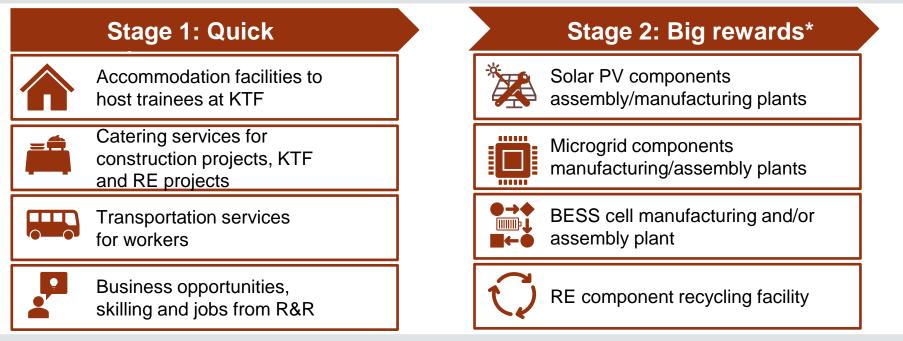
- Improved communication in the area, reducing uncertainty and community apprehension
- Expanded social infrastructure, maintaining and/or strengthening community ties and social cohesion
- Improved community health due to improved health awareness
- Enhanced access to basic education services



Facilitate growth of SMMEs and economy through localisation of supply chains



Proposed interventions:



The **benefits** of these may include:

- Growth of local SMMEs in the community
- Improved livelihoods of households
- Retention/increase of the local purchasing power that would support local trade and personal services in the community
- Industrialisation through localisation of new energy technologies and components thereof
- Sustainability of local economy

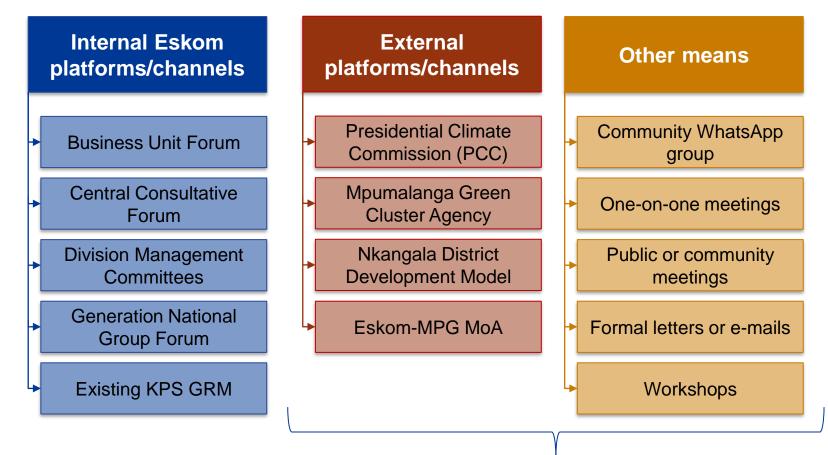
*Requires consideration of R&R interventions for all PSs to create **economies of scale**

Communicate

Communicate the implementation plan to all stakeholders: internal and external communication



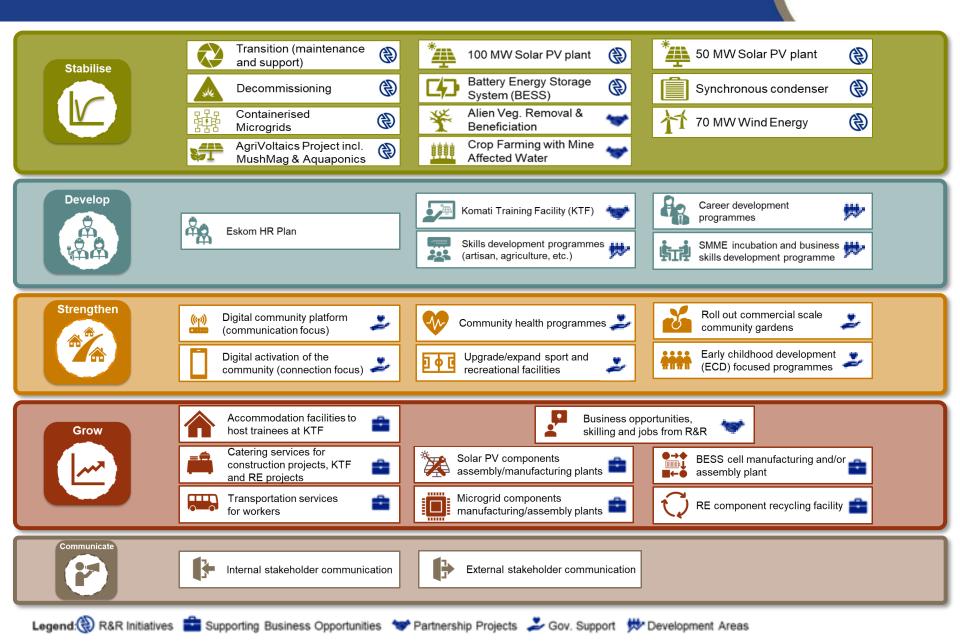
Various means of <u>communication and consultation</u> are to be utilised per stakeholder group at different intervals.



Dedicated Stakeholder Engagement Plan (SEP)

Proposed KPS implementation plan in summary

() Eskom



The initial negative impact will be <u>mitigated</u> to the large extent through the implementation plan (based on 2020 figures)



Impact WITHOUT mitigation		Mitigation		Impact AFTER mitigation		
Workers	791 jobs on site at risk		HR plan (incremental and secondment – temp, reskilling and upskilling for new jobs, transfer)		•	Current KPS permanent employees (2020:257) retain employment and reskilled/upskilled 190 contract workers remain on site during transition Permanent ERI workers redeployed
	R1.71 bn in GDP in SA at risk		Over R7 bn will be invested into new projects (once off) and to support transition		•	About R870 m of GDP will be created during transition period (51% of loss mitigated) Around R550 m of GDP will be created and supported on an annual basis (33% of losses mitigated)
Economy	4 166 jobs at risk, including 791 jobs on site		Temporary jobs during construction, permanent jobs for R&R projects and community initiatives		•	About 8 700 temp. jobs supported by construction, including 2,200 created on site over 5 years (53% of losses mitigated) A further 2 150 sustainable jobs will be created once all projects are operational (incl 660 direct jobs) (52% of losses mitigated)
Community	Income for 38 HHs in the community at risk		No HH currently dependent on Eskom permanent employment will be affected		•	Employment in PSA retained/increased 125 employment opportunities will be created for local community benefiting the same number of HHs

Private and public sectors have <u>various economic</u> <u>interventions in the pipeline</u> that need to be considered for alignment and leverage



Item	Project	Location	Champion	Estimated jobs	Estimated CAPEX
1	Establishment of Steve Tshwete Hotel and Convention Centre	Steve Tshwete LM	Steve Tshwete LM	20-50	R350 000 000
2	Establishment of Centre of Excellence for Steel and Metal Fabrication	Steve Tshwete LM	Steve Tshwete LM & GIZ	20-50	R102 207 619
3	Crop Farming with Mine- affected Water at Mafube Colliery	Steve Tshwete LM	DWS, Mafube Coal & MWCB	20-50	R9 200 000
4	Establishment of Fly Ash Beneficiation Plant	Steve Tshwete/ Emalahleni LM	Nkangala DM	20-50	R195 000 000
5	Green Economy Hub Recycling Plant	Steve Tshwete/ Emalahleni LM	Nkangala DM	<20	R27 000 000
6	Mining and Metal Industrial Park	Emalahleni LM	DEDT	50-100	R100 000 000
7	Establishment of Glass Recycling Plant	Dr JS Moroka LM	Nkangala DM	50-100	R1 700 000 000
8	Dr JS Moroka Agri-Hub	Dr JS Moroka LM	DEDT	20-50	R5 000 000 - R10 000 000
9	Revitalisation of Siyabuswa Industrial Park	Dr JS Moroka LM	DEDT	20-50	R10 000 000 - R20 000 000
10	Establishment of Biodiesel Tech Incubator	Dr JS Moroka LM	Dr JS Moroka LM & MPG	<20	R27 000 000
11	Construction of High-Altitude Sports Centre	Emakhazeni LM	Nkangala DM	50-100	R5 300 000 000
12	Mpumalanga Winter Wheat Pilot Programme at Wonderfontein Colliery	Emakhazeni LM (pilot site)	B4D, Impact Catalyst, MWCB, Glencore & ICMM	20-50	R820 000 (for pilot)
13	Resuscitation of the Sawmill Project	Emakhazeni LM	Nkangala DM	20-50	R27 000 000
14	Revitalisation of Thembisile Hani Industrial Park	Thembisile Hani LM	DEDT	20-50	R10 000 000 - R20 000 000

If these <u>projects</u> are successfully implemented they could:

- Attract around R7.9 bn of investment and create 9 000 temporary employment opportunities during construction
- Create between 370 and 750 direct permanent employment opportunities in Nkangala DM during operations
- Directly stimulate the economy's production by between R305 million and R510 million per annum

Eskom should:

Continue participating in various regional platforms to keep abreast of the progress with these projects and seek new opportunities Infrastructure and skills development interventions are also already considered by various parties and need to be considered

If these <u>projects</u> are successfully implemented they could:

- Increase the skills base of the local workforce (specifically Ward 4 skills base)
- Expand opportunities for job creation
- Improve access to basic and community services

Eskom should:

 Continue participating in various regional platforms to keep track of the progress with these projects and seek new opportunities

Project/Intervention	Location	Champion/owner							
Human capital/skills development projects									
EPWP Vuk'uphile Learnership Programme	Steve Tshwete LM	Department of Public Works and Infrastructure (DPWI)							
Goedehoop Colliery Skills Development Plan	Goedehoop (Steve Tshwete LM)	Goedehoop Mine (Thungela)							
Mining Academic Programme (MAP)	Ward 4 (Steve Tshwete LM)	Black Royalty Minerals (owner of Koornfontein mine)							
Mpumalanga Stainless Initiative (MSI)	Mpumalanga Province	DEDT (supported by various stakeholders)							
Built capital/Infrastructural projects									
Mobile clinic	Steve Tshwete LM	Goedehoop Mine (Thungela)							
Municipal capacity project	Steve Tshwete LM	Goedehoop Mine (Thungela)							
Water supply sustainability: 2 boreholes and tanks	Steve Tshwete LM	Goedehoop Mine (Thungela)							
Construction of Thusong Centre	Blinkpan	Steve Tshwete LM							

(Eskom

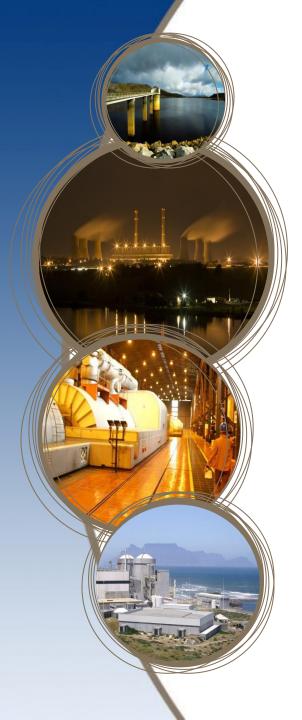




CONCLUSION

Conclusion

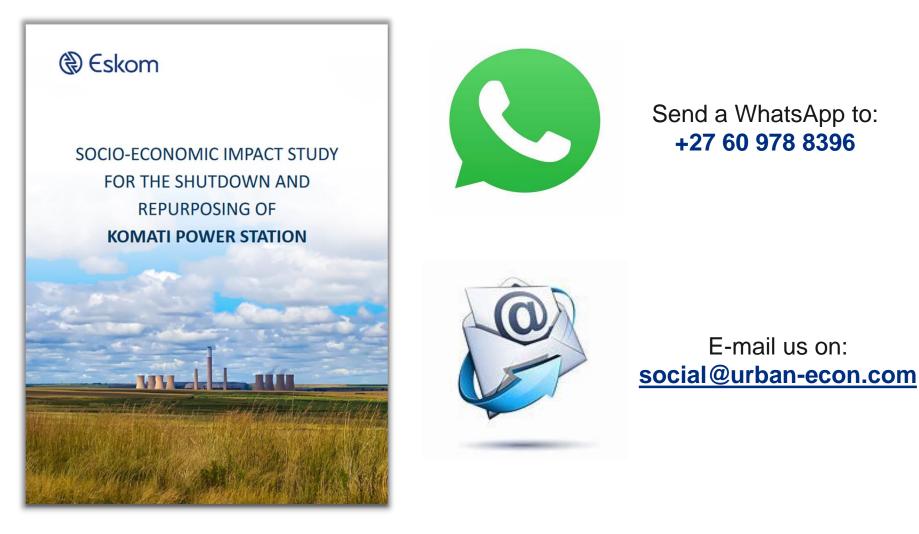
- Eskom
- The impact of KPS closure will be significant and will affect the economy and the lives of the people; however, it also offers an opportunity to change the lives of people for better and re-build the company's reputation
- Closure of KPS may have the potential to reduce the economy by R1.7 bn and result in the loss of 4 166 jobs (direct and indirect)
- The proposed R&R projects can make a significant contribution to mitigating the impacts of the shutdown by creating sustainable employment opportunities and supporting jobs during construction, while stimulating the local economy
- About 8 700 temporary jobs may be created during construction, 2 200 jobs over 5 years and 2 150 sustainable jobs (660 direct and 1 490 indirect) during operations. A total contribution of R1.3 bn to the economy
- Procurement strategy for R&R (ESD, job, skills development) are crucial to the economic recovery. Owners Engineer, Procurement Strategy EPC contractor implementation will play a major role seeing these results
- Achieving the above results will require commitment and leadership not only from Eskom but from government and other stakeholders, including business, labour and civil society
- A broader integrated plan for the local area and region is required to support the shutdown of coal-fired power stations in Mpumalanga



Thank you



How to provide <u>comments</u>



(Eskom

All comments are due by the <u>18th of November 2022</u>