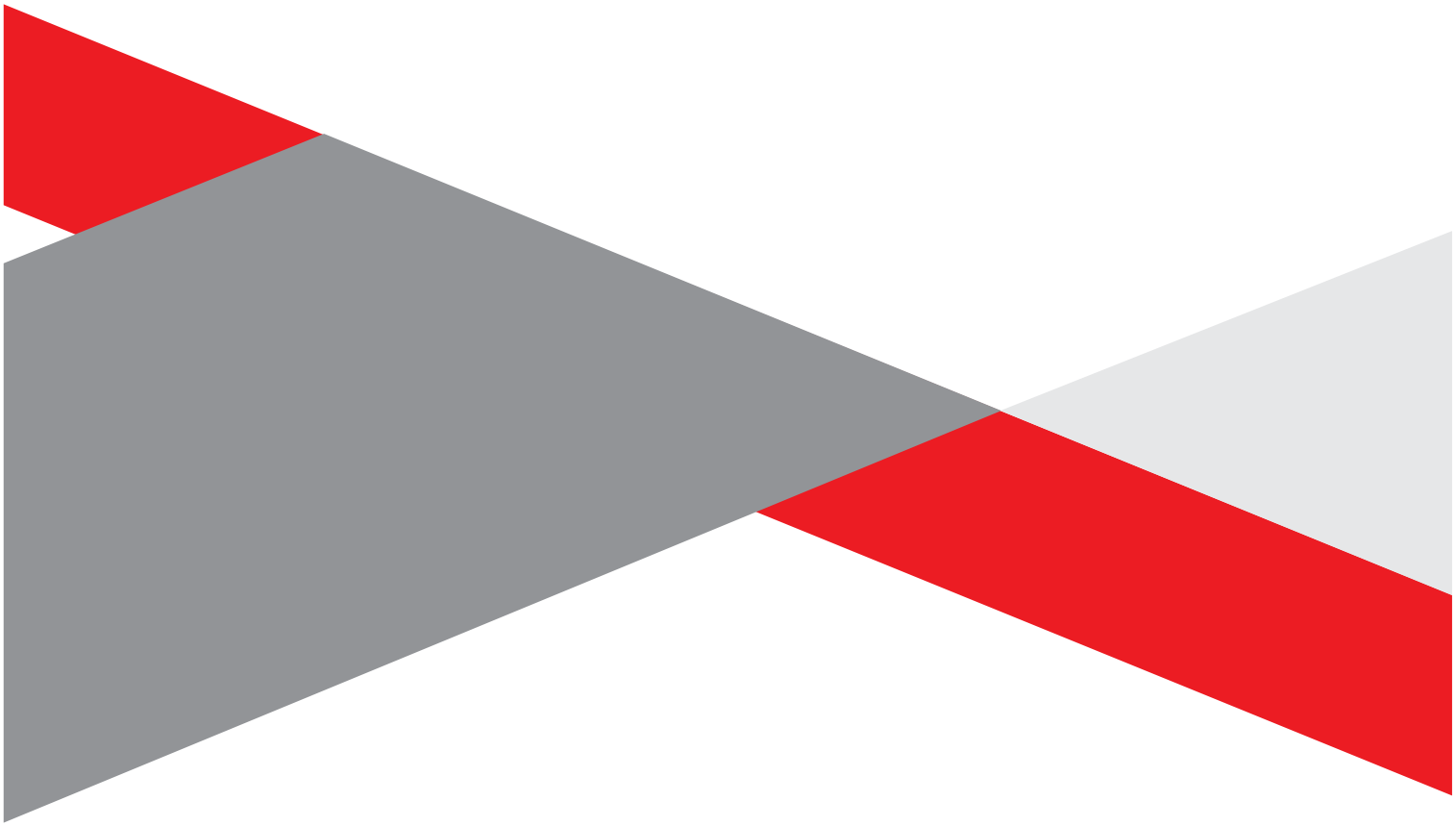
APPENDIX C9
COMMENTS AND RESPONSES REPORT



PHAKWE RICHARDS BAY GAS-TO-POWER 3 2000MW COMBINED CYCLE POWER PLANT, KWAZULU NATAL PROVINCE
DFFE Ref. No.: 14/12/16/3/3/2/2117
COMMENTS AND RESPONSES REPORT

TABLE OF CONTENT

The Environmental Impact Assessment process for the Phakwe Richards Bay Gas-to-Power 3 2000MW Combined cycle Power Plant was announced on Friday, 12 November 2021. The Background Information Document (BID) was distributed together with a notification letter which served to invite Interested and Affected Parties (I&APs) to register their interest in the project and submit any comments / queries they may have on any aspect of the proposed development. The notification of the availability of the Scoping Report for review and comment was included in the notification of the EIA process.

The Scoping Report was made available for a 30-day review and comment period from **Friday, 12 November 2021** until **Monday, 13 December 2021**. The Environmental Impact Assessment Report was made available for a 45-day review and comment period from **Monday, 06 June 2022** until **Friday, 22 July 2022**. All written comments received during the review and comment period have been included in the table below and in **Appendix C8** of the final Environmental Impact Assessment Report. The Comments and Responses Report (C&RR) is included as a separate document to the final Environmental Impact Assessment Report as **Appendix C9**.

NOTE:
All comments captured in the C&RR are verbatim and have not been summarised.

Notes for the record for all meetings held during the 45-day review and comment period of the Environmental Impact Assessment Report are included as **Appendix C8** of the final Environmental Impact Assessment Report and do not form part of this C&RR.

LIST OF ABBREVIATIONS / ACRONYMS

AQIA	Air Quality Impact Assessment
AQMS	Air Quality Management System
BID	Background Information Document
BUSA	Business Unity South Africa
C&RR	Comments and Responses Report
CCI	Climate Change Impact
CCIA	Climate Change Impact Assessment
CCPP	Combined Cycle Power Plant
COGTA	National Department of Co-operative Governance and Traditional Affairs
DEDTEA	Department of Economic Development, Tourism and Environmental Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DM	District Municipality
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMPr	Environmental Impact Assessment Report
ERC	Environmental Review Committee
FGM	Focus Group Meeting
G2P	Gas-to-Power

GHG	Greenhouse Gas
GN	Government Notice
HFO	Heavy Fuel Oil
HHIA	Human Health Impact Assessment
HRSG	Heat Recovery Steam Generators
IDP	Industrial Development Plan
IDZ	Industrial Development Zone
ILO	International Labour Organisation
IPCC	Integovernmental Panel on Climate Change
IRP	Integrated Resources Plan
KSW	Key Stakeholder Workshop
KZN	KwaZulu-Natal
LM	Local Municipality
LNG	Liquefied Natural Gas
MHI	Major Hazardous Installation
Mt	Metric Ton
NAAQS	National Ambient Air Quality Standards
NBI	New Business Initiative
NDP	National Development Plan
NEMA	National Environmental Management Act (Act 107 of 1998)
NIPSCO	Northern Indiana Public Service Co
I&APs	Interested and Affected Parties
IRP	Integrated Resources Plan

NEMA	National Environmental Act
OoS	Organs of State
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PM	Particulate Matter
PSDF	Provincial Spatial Development Framework
PRBGP3	Phakwe Richards Bay Gas Power 3
RAHIA	Rapid Appraisal Health Impact Assessment
RAHRA	Rapid Appraisal Health Risk Assessment
RBCAA	Richards Bay Clean Air Association
RB IDZ	Richards Bay Industrial Development Zone
RMI	Rocky Mountain Institute
SACNASP	South African Council for Natural Scientific Professions
SDCEA	South Durban Community Environmental Alliance
SHEQ	Safety, Health, Environment and Quality
SIA	Social Impact Assessment
SIP	Strategic Investment Project
SR	Scoping Report
SRU	Storage Regasification Units
TIA	Traffic Impact Assessment
USA	United States of America
SR	Scoping Report
VOC	Volatile Organic Compounds
ZCBF	Zululand Chamber of Business Foundation

1. COMMENTS RECEIVED DURING THE ENVIRONMENTAL IMPACT ASSESSMENT REPORT REVIEW & COMMENT PERIOD

1.1. Organs of State

NO.	COMMENT	RAISED BY	RESPONSE
1.	The Department of Forestry, Fisheries and Environment (DFFE) appreciates the opportunity given to review and comment for the above-mentioned project. DEFF through the sub-directorate Forestry Regulations and Support is the authority mandated to implement the National Forests Act No. 84 of 1998 by regulating the use of natural forests and protected trees species in terms of the said Act. *Footnote in letter:* *"Natural forest" means a group of indigenous trees-* *a) Whose crowns are largely contiguous; or* *b) Which have been declared by the Minister to be a natural forest under section 7(2); (xxviii)* With reference to the above-mentioned project received on 14 June 2022, the proposed development of the Phakwe Richards Bay gas power 3 combined cycle power plant, Richards Bay IDZ zone 1F, Richards Bay, KwaZulu-Natal. The proposed development is likely to affect grassland and Maputaland wooded vegetation. Terrestrial Biodiversity assessment study have the following findings regarding the area of development, "*A small thicket dominated by Dichrostachys cinerea, and with the species Phoenix reclinata, Psidium guajava, Osteospermum moniliferum, Searsia nebulosa, Syzygium cordatum and Diospyros lycioides (low abundance) also present, was embedded within the hygrophilous grassland on a slightly elevated area and more representative of terrestrial vegetation than hygrophilous grassland vegetation)*."	T Sibozana Senior Forester: Forestry Management Sub-directorate: Forestry Regulations and Support DFFE: KZN Letter: 07 July 2022	The comment is acknowledged. Specific comments raised have been responded to in the sections which follow.
	However, the proposed project will not affect natural forests and there are no protected trees within the vicinity of the developmental footprint, as per The Natural Forests Act (Act No 84 of 1998) as		It is correct that the proposed project would not affect any natural forests and protected trees. The no objection from the Department therefore is acknowledged.

NO.	COMMENT	RAISED BY	RESPONSE
	amended. Therefore, the department does not object the proposed development of Phakwe Richards Bay gas power 3 combined cycle power plant but, it is strongly recommended that indigenous trees endemic to the area be incorporated on rehabilitation plan to promote green industry.		The recommendation to incorporate indigenous trees endemic to the area into rehabilitation plan to promote green industry has been included into the EMPr (refer to Objective 13 of Section 7.1.
	This letter does not exempt you from considering other legislations.		The relevant National and Provincial environmental policies, legislation, guidelines and standards applicable to the PRBGP3 CCPP project are listed in **Table 7.6** as included in the Final EIA Report.
2.	This letter serves to inform you that the following information must be included in the final EIAr: **a) Specific comments** • Recommendations provided by specialist reports must be considered and used to inform the layout.	Matlhodi Mogorosi Case Officer DFFE Letter: 08 July 2022	The recommendations as documented in the specialist reports have been considered and applied to inform the layout of the proposed facility.
	• Please ensure that all mitigation recommendations are in line with applicable and most recent guidelines.		The appointed independent environmental specialist studies have been undertaken in accordance with the relevant guidelines and protocols, and the mitigation recommendations, as included in their reports, are in line with the applicable and most recent guidelines.
	• The final EIAr must provide the technical details for the proposed facility in a table format as well as their description and/or dimensions.		**Table 4.1** as included in the Final EIA Report provides the technical details for the proposed facility in a table format as well as their description and/or dimensions.
	• Please ensure that all softcopy maps are clear and legible.		It is confirmed that all maps included in the final EIA Report are clear and legible and can be enlarged without losing quality.
	• Please ensure that the final EIAr complies with the requirements of Appendix 3 of the NEMA EIA Regulations, 2014, as amended.		The final EIA Report complies with the requirements of Appendix 3 of the NEMA EIA Regulations, 2014, as amended, as detailed within the report.
	b) Listed Activities • Please ensure that all relevant listed activities are applied for, are specific and can be linked to the development activity or infrastructure as described in the project description. Only activities applicable to the development must be applied for and assessed. Activity 15 of Listing Notice 3 has been applied		All relevant activities applied for in the application for an EA and included in the EIA Report are relevant to the Phakwe RBGP3 2000MW CCPP project as described in the project description. Activity 15 of Listing Notice 3 has been removed from the application form and Final EIA Report as there is no relevant geographical area within

NO.	COMMENT	RAISED BY	RESPONSE
	for even though the geographical area in which the activity is proposed (KwaZulu-Natal Province) is not part of the geographical areas listed in Listing Notice 3 for this particular activity. This activity may not need to be applied for, given that it is proposed in the KwaZulu-Natal Province. Kindly confirm this and amend the application form accordingly.		KwaZulu-Natal. A revised application form is submitted with the Final EIA Report.
	• If the activities applied for in the application form differ from those mentioned in the final EIAr, an amended application form must be submitted. Please note that the Department's application form template has been amended and can be downloaded from the following link https://www.environment.gov.za/documents/forms.		Activity 15 of Listing Notice 3 has been removed from the application form and Final EIA Report as there is no relevant geographical area within KwaZulu-Natal. A revised application form is submitted with the Final EIA Report.
	• The relevant authorities with jurisdiction in respect of geographically designated areas in terms of GN R. 985 (Listing Notice 3) Activities must be continuously involved throughout the environmental impact assessment process. Written comments (or proof of consultation) must be obtained from the relevant authorities and submitted to this Department. In addition, a graphical representation of the proposed development within the respective geographical areas must be provided. Please also ensure that the potential impacts on the affected Critical Biodiversity Areas indicated in Listing Notice 3 are fully assessed in the EIAr.		Proof of correspondence with the relevant authorities with jurisdiction in respect of geographical areas to the project site is included as **Appendix C5** of the final EIA Report, including attempts to obtain comments during the 45-day review and comment period of the EIA Report. Potential impacts on the affected Critical Biodiversity Areas indicated in Listing Notice 3 are fully assessed in the EIAr (refer to **Chapters 8 and 9** and **Appendix D**).
	c) <u>Public Participation Process</u> • Please ensure that comments from all relevant stakeholders are submitted to the Department with the EIAr. This includes but is not limited to the KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs, the KwaZulu-Natal Department of Agriculture and Rural Development, the Department of Water and Sanitation, Ezemvelo KZN Wildlife, AMAFA, SANRAL, Transnet, Richards Bay Industrial Zone, Eskom, the City of uMhlathuze Local		Correspondence with the OoS which have jurisdiction in respect of the proposed activity, including key stakeholders such as Transnet, Eskom, etc, and those listed by the DFFE have been included in **Appendix C5: Organs of State Correspondence** of the final EIA Report. All issues raised and comments received during the 45-day review and comment period of the EIA Report, including the OoS, key stakeholders and I&APs have been included in **Appendix C7: Comments Received** of the final EIA Report, captured and

NO.	COMMENT	RAISED BY	RESPONSE
	Municipality, the King Cetshwayo District Municipality, the relevant Atmospheric Air Emission Licence (AEL) Authority, the South African Civil Aviation Authority, the Department of Environment, Forestry and Fisheries: Directorates: Biodiversity and Conservation (BCAdmin@environment.gov.za), Climate Change, Air Quality (Derrick Makhubele: DMakhubele@dffe.gov.za) and Protected Areas. Furthermore, ensure that the management of the three schools (i.e., Little Junior, Batesda Primary School and Batesda High School) identified to be in close proximity to the proposed development is consulted.		adequately addressed in this C&RR. This C&RR is included as **Appendix C9: Comments & Responses Report** of the final EIA Report. Organs of State and stakeholders have been included in the consultation process for this application which included notification of availability of Reports, reminders of report review periods ending soon (two notifications were sent regarding the EIA Report) and invitation to various FGMs and the KSWs. Proof of the notifications are included in **Appendix C5: Organs of State Correspondence** and **Appendix C8: Meeting Notes**. In terms of the educational centres, notifications were done through the Ward Councillor, Ward 2, in which these educational centres are located. These educational centres have facebook pages and messages were submitted on the message platform, requesting them to contact Nicolene Venter at Savannah Environmental and the reason for the request. One response was received in which our request was acknowledged, but no further correspondence received upon 2nd enquiry from Savannah Environmental's side (refer to **Appendix C6: Stakeholder Correspondence**).
	• You are reminded to provide proof that the key stakeholders received written notification of the proposed activity as well as of the availability of the draft EIAr for comment. Proof of correspondence with the various stakeholders must be included in the final EIAr. Should you be unable to obtain comments, proof must be submitted to the Department of the attempts that were made to obtain comments. The Public Participation Process must be conducted in terms of Regulation 39, 40, 41, 42, 43 & 44 of the EIA Regulations 2014, as amended and the approved Public Participation (PP) Plan.		The Public Participation Process has been conducted in terms of Regulations 39, 40, 41, 42, 43 & 44 of the EIA Regulations 2014, as amended (GNR 326), as well as in accordance with the approved Public Participation Plan (**Appendix C1: Public Participation Plan & Approval**) as follows: *Project database:* A register of I&APs has been compiled and has been updated throughout the EIA process (**Appendix C2: I&AP Database**). Registrations were received via Savannah Environmental's automated registration function on our website and no registrations

NO.	COMMENT	RAISED BY	RESPONSE
			were received as a result of the various advertisements placed and notifications e-mailed to registered stakeholders and I&APs in which they were requested to notify us of any additional person and/or organisation that they are aware of that needs to be part of the public participation process. **SCOPING PHASE** *EIA & Public Participation process announcements:* • The BID, accompanied by a cover letter inviting I&APs to register on the project database, was distributed via email to identified I&APs and relevant OoS on 12 November 2021 (refer to **Appendices C4: Background Information Document, C5: Organs of State Correspondence** & **C6: Stakeholder Correspondence** of the final EIA Report). • An advertisement was placed in the Zululand Observer (English) on Friday, 12 November 2021 (refer to **Appendix C3: Site Notices & Newspaper Adverts** of the final EIA Report). • Site Notices announcing the EIA process were placed at visible points at the proposed development site in accordance with the requirements of the EIA Regulations on 10 November 2021 (refer to **Appendix C3: Site Notices & Newspaper Adverts** of the final EIA Report). • Process Notices were placed at various public places in Richards Bay (refer to **Appendix C3: Site Notices & Newspaper Adverts** of the final EIA Report). *Scoping Report available for review and comment:*

NO.	COMMENT	RAISED BY	RESPONSE
			• Registered I&APs were notified of the availability of the Scoping Report for a 30-day review and comment period via e-mail on 12 November 2021 (refer to **Appendix C6: Stakeholder Correspondence** of the final EIA Report). • Commenting authorities, municipal councillors and local and district municipalities which have jurisdiction in the area were requested to submit written comments on the Scoping Report via e-mail on 12 November 2021 (refer to **Appendix C5: Organs of State Correspondence** of the final EIA Report). • An advertisement was placed in the Zululand Observer (English) on Friday, 12 November 2021 (refer to **Appendix C3**: **Site Notices & Newspaper Adverts** of the final EIA Report). • The Scoping Report and Appendices were uploaded onto Savannah Environmental's website allowing I&APs and OoS to download the Scoping Report and Appendices. I&APs wanting to access the project information via this portal were required to register and receive a unique code (via an automated system) to access the report of interest. This step and the online portal support the EAP in maintaining a complete and accurate record and database of all parties who have interest in the project (and who choose to access the report via the online portal), in line with the requirements of the Regulations. *Attempt to obtain comments on the Scoping Report:* An e-mail to all registered I&APs and OoS was sent on 06 December 2021 as a reminder of that the Scoping Report's review and comment period is ending soon and thanking those who submitted comments and urged those who had not yet done so, to please submit before or on 13 December 2021 when the review period ends (refer to **Appendices C5: Organs of State Correspondence** & **C6: Stakeholder Correspondence** of the final EIA Report).

NO.	COMMENT	RAISED BY	RESPONSE
			Meetings Various Meetings were held during the 30-day review and comment period of the Scoping Report (refer to **Appendix C8: Meeting Notes** of the final EIA Report for the meeting notes) as listed below: • A virtual FGM was held with Officials from King Chetshwayo DM & City of uMhlathuze LM on 25 November 2021 • A virtual FGM was held with Officials from KZN DEDTEA & Ezemvelo KZN on 25 November 2021 • Virtual Public Participation Process Meetings were scheduled for 30 November 2021 at 14h00 and 18h00. No attendees regsiteired their attendance. • A virtual FGM was held with the RB IDZ Environmental Review Committee Members on 08 December 2021. • A virtual KSW was held on 09 December 2021 to which all OoS Officials and key stakeholder representatives were invited. *Consultation:* Proof of consultation with I&APs and OoS throughout the scoping phase is included in **Appendices C5**: **Organs of State Correspondence** & **C6: Stakeholder Correspondence** of the final EIA Report. *Comments & Responses Report:* All comments received to during the initiation of the EIA process and the 30-day review and comment period of the Scoping Report have been captured in this C&RR which is attached as **Appendix C9: Comments & Responses Report** to the final EIA Report. **IMPACT PHASE** *EIA Report available for review and comment:*

NO.	COMMENT	RAISED BY	RESPONSE

			The EIA Report was made available for a 45-day review and comment period from Monday, 06 June 2022 until Friday, 22 July 2022.
			
			• Registered I&APs were notified of the availability of the EIA Report for a 45-day review and comment period via e-mail on 03 June 2022 (refer to **Appendix C6: Stakeholder Correspondence** of the final EIA Report).
			• Commenting authorities, municipal councillors and local and district municipalities which have jurisdiction in the area were requested to submit written comments on the EIA Report via e-mail on 03 June 2022 (refer to **Appendix C5: Organs of State Correspondence** of the final EIA Report).
			• Advertisements were placed in the:
			  • Zululand Observer (English) on Monday, 06 June 2022; and
			  • Eyethu Bay Watch (isiZulu) on Wednesday, 08 June 2022
			The invitation to the Information Poster Display and Public Meeting date and times were also included in this advertisement (refer to **Appendix C3**: **Site Notices & Newspaper Adverts** of the final EIA Report).
			• The EIA Report and Appendices were uploaded onto Savannah Environmental's website allowing I&APs and OoS to download the EIA Report and Appendices. I&APs wanting to access the project information via this portal were required to register and receive a unique code (via an automated system) to access the report of interest. This step and the online portal support the EAP in maintaining a complete and accurate record and database of all parties who have interest in the project (and who choose to access the report via the online portal), in line with the requirements of the Regulations.
			
			Attempt to obtain comments on the EIA Report:

NO.	COMMENT	RAISED BY	RESPONSE
			An e-mail reminder to all registered I&APs and OoS was sent on 16June 2022 informing them that the review and comment period on the EIA Report is ending on Friday, 22 July 2022, thanking those who had submitted written comments and urged those who had not yet done so, to submit their written comments before or on Friday, 22 July 2022 when the review period ends (refer to **Appendices C5: Organs of State Correspondence** & **C6: Stakeholder Correspondence** of the final EIA Report). A second email reminder to all registered I&APs and OoS was sent on 15 July 2022 informing them that the review and comment period on the EIA Report is ending on Friday, 22 July 2022, thanking those who submitted comments and urged those who had not yet done so, to please submit before or on 22 July 2022 when the review period ends (refer to **Appendices C5: Organs of State Correspondence** & **C6: Stakeholder Correspondence** of the final EIA Report). <u>*Meetings and Consultation*</u> Various Meetings were held during the 45-day review and comment period of the EIA Report (refer to **Appendix C8: Meeting Notes** of the final EIA Report). These meetings were held as early as possible in the review period to present the environmental findings and provide stakeholders the opportunity to focus on the section/s of the EIA Report and/or Appendices of interest to them. The meeting arranged and held are as listed below • A virtual Special ERC meeting was held with the RB IDZ ERC Members on 20 June 2022 • A virtual FGM was held with Officials from King Chetshwayo DM & City of uMhlathuze LM on 21 June 2022 • A virtual FGM was held with Officials from KZN DEDTEA & Ezemvelo KZN on 21 June 2022

NO.	COMMENT	RAISED BY	RESPONSE
			• A virtual KSW was held on 22 June 2022to which all OoS Officials and key stakeholder representatives were invited. The invitation list consisted of 205 invitees. • All registered I&APs and Oos on the project database were invited to attend an Information Poster Display which was held on 23 June 2022 from 15h00 to 16h30. • All registered I&APs and OoS on the project database were invited to attend the Public Meeting which was held on 23 June 2022 at 17h00. Due to unforeseen loadshedding, the Public Meeting could not proceed and those I&APs who registered their attendance were contacted telephonically and via email and informed that the Public Meeting has been cancelled due to the unscheduled load shedding, and inviting them to attend the Information Poster Display at which the same information as was to be presented in the public meeting was provided. The project team stayed at the venue until 17h30 such that in the event that should a community member arrive as a result of the advertisements in the two local newspapers, the project information could be conveyed to them in printed form. No community member/s arrived at the venue. In order to ensure that community members received information regarding the proposed project, the relevant Ward Councillors were contacted and information provided to them regarding the project. This included a summary of the findings of the assessment in English and Zulu. During this consultation process, they were also requested to disseminate the information to the applicable Ward Committee Members, Rate Payers Associations and any interested stakeholders such as education institutions. Proof of correspondence with the Ward councillors and the distribution of the information is included in Appendix C6 of the final EIA Report.

NO.	COMMENT	RAISED BY	RESPONSE
			Proof of consultation with I&APs and OoS throughout the impact phase is included in **Appendices C5**: **Organs of State Correspondence** & **C6: Stakeholder Correspondence** of the final EIA Report. <u>*Comments & Responses Report:*</u> • All comments received to during the EIA Report's 45-day review and comment period have been captured in this C&RR which is attached as **Appendix C9: Comments & Responses Report** to the final EIA Report.
	• A comments and response (C&R) trail report must be submitted with the final EIAr. The C&R report must incorporate all historical comments for this development. The C&R report must be a separate document from the main report and the format must be in a table format, which reflects the details of the interested and affected parties (I&APs) and the date comments were received, actual comments received, and responses provided. Please ensure that comments made by I&APs are comprehensively captured (copy verbatim if required) and responded to clearly and fully.		This C&RR includes all the written comments received from the EIA process initiation phase, the scoping phase and the impact phase and is included as a separate document to the final EIA Report as **Appendix C9: Comments and Responses Report**. This C&RR include the written comments, captured verbatim, the details of the person who submitted the comment, his/her affiliation, how it was submitted and the date of submission. Comprehensive responses, as applicable, have been provided to the comments submitted.
	• Please ensure that all issues raised, and comments received on the Scoping Report and comments on the draft EIAr from registered I&APs and organs of state which have jurisdiction in respect of the proposed activity, including this Department's comments, are adequately addressed in the final EIAr. Please note that a response such as "Noted" is not regarded as an adequate response to I&AP's comments. The final EIAr must also comply with all conditions of the acceptance of the scoping report dated 24 February 2022.		All comments received on the Scoping Report and that on the EIA Report have been adequately addressed, and where applicable acknowledged. Responses were also provided should the comment not require any further responses. The conditions as outlined in the DFFE acceptance of the Scoping Report dated 24 February 2022 have been complied with.

NO.	COMMENT	RAISED BY	RESPONSE
	d) <u>Cumulative Assessment</u> • Should there be any other similar projects within a 30km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following: * Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e. hectares of cumulatively transformed land.		The assessment of cumulative Impacts is presented in **Chapter 9** of the EIA report and within the specialist studies included in **Appendix D to N**. Due to the nature of the project and the associated impacts, the assessment of cumulative impact for the EIA phase has considered projects within a 10km radius of the proposed development site. This included consideration of other similar developments (i.e. gas to power facilities), as well as other indy=ustrial developments already operating and proposed within the Richards Bay area. Where possible, the extent of the identified impacts have been quantified and indicated. The cumulative impacts significance rating informed the need and desirability of the proposed development. A cumulative impact environmental statement on whether the proposed development can proceed is included in **Section 10.4** (Impact Statement) of the final EIA Report.
	* Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project.		
	* The cumulative impacts significance rating must also inform the need and desirability of the proposed development.		
	* A cumulative impact environmental statement on whether the proposed development must proceed.		
	e) <u>Specialist Assessments</u> • Specialist studies must provide a detailed description of their methodology, as well as all other associated infrastructures that they have assessed and are recommending for the authorisation.		Specialist reports are included in the final EIA Report and provide detailed description of their methodology, as well as indicate the locations and descriptions of the development footprint, and all other associated infrastructures that they have assessed and are recommending for authorisations.
	• The specialist studies must also provide a detailed description of all limitations to their studies. All specialist studies must be conducted in the right season and providing that as a limitation, will not be accepted.		Specialist reports include details of any limitations and assumptions. No limitations are applicable in terms of the season in which studies are undertaken.

NO.	COMMENT	RAISED BY	RESPONSE
	• Please note that the Department considers a 'no-go' area, as an area where no development of any infrastructure is allowed; therefore, no development of associated infrastructure including access roads is allowed in the 'no-go' areas.		The Department's definition of 'no go' area is noted.
	• Should the specialist definition of 'no-go' area differ from the Department's definition; this must be clearly indicated. The specialist must also indicate the 'no-go' area's buffer if applicable.		The specialist definition of 'no-go' area does not differ from the Department's definition.
	• All specialist studies must be final, and provide detailed/practical mitigation measures for the preferred alternative and recommendations, and must not recommend further studies to be completed post EA.		All specialist studies submitted as part of the final EIA Report are final. Detailed/practical mitigation measures for implementation have been recommended.
	• Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defendable reasons; and where necessary, include further expertise advice.		No contradicting recommendations have been specified by the specialists.
	• Please include a table in the EIAR or relevant appendix, summarising the specialist studies required by the Screening Tool, a column indicating whether these studies were conducted or not, and a column with motivation for any studies not conducted. Please note that if any of the specialists' studies and requirements recommended in the Department's Screening Tool are not commissioned, motivation for such must be provided.		**Section 7.5** of the EIA Report includes a table summarising the specialist studies required by the Screening Tool, a column indicating whether these studies were conducted or not, and a column with motivation for any studies not conducted.
	• It is further brought to your attention that the Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated in Government Notice No. 320 of		Specialist studies have been undertaken in accordance with the relevant protocols, where applicable.

NO.	COMMENT	RAISED BY	RESPONSE
	20 March 2020 (i.e. "the Protocols"), and in Government Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal species) have come into effect. **Please note that specialist assessments must be conducted in accordance with these protocols**, except where the applicant provides proof to the competent authority that the specialist assessment affected by these protocols had been commissioned before the date on which the protocols came into effect, in which case Appendix 6 of the Environmental impact Assessment Regulations, 2014, as amended, will apply to such applications. Please indicate in the EIAr whether the protocols were applied.		
	• Please note further that the Protocols require the specialists to be SACNASP registered.		Specialists are appropriately professionally registered, where required.
	f) <u>Environmental Management Programme</u> The EMPr must also include the following: • All recommendations and mitigation measures recorded in the EIAr and the specialist studies conducted		The EMPr includes all recommendations and mitigation measures recorded in the EIAr and the specialist studies conducted.
	• An environmental sensitivity map indicating environmental sensitive areas and features identified during the assessment process.		An environmental sensitivity map indicating environmental sensitive areas and features identified during the assessment process is included as **Figure 2.1** of the EMPr.
	• Measures to protect hydrological features such as streams, rivers, pans, wetlands, dams and their catchments, and other environmental sensitive areas from construction impacts including the direct or indirect spillage of pollutants.		As the wetlands which were located within the site have already been infilled, there are no direct impacts on hydrological features as a result of the proposed project. Measures to mitigate and manage impacts on sensitive areas and measures to manage stormwater have been included within **Chapter 7** of the EMPr.
	• In addition to the above, the EMPr must comply with Appendix 4 of the EIA Regulations, 2014, as amended.		The EMPr complies with the requirements of Appendix 4 of the EIA Regulations, 2014, as amended, as detailed in **Section 4.1** of the EMPr.
	<u>General</u> • Please ensure that the final EIAr includes the period for which the Environmental Authorisation is required and the date on		The period for which the Environmental Authorisation is required is included in **Section 10.5** of the EIA Report. The date on which the activity will be concluded will only be clarified once the details of the procurement programme for gas to power is provided by

NO.	COMMENT	RAISED BY	RESPONSE
	which the activity will be concluded as per Appendix 3 of the NEMA EIA Regulations, 2014, as amended.		government. As detailed in **Section 4.3** of the EIA Report, following selection of the project as Preferred Bidder, construction is expected to take 36 to 48 months depending on the choice of technology and the lead time for equipment. Operation of the facility is expected to be 20 years.
	Should you fail to meet any of the timeframes stipulated in Regulation 23 of the NEMA EIA Regulations, 2014, as amended, your application will lapse.		The requirements of Regulation 23 have been noted and it is confirmed that the final EIA Report will be submitted within these regulated timeframes.
	You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department.		The applicant is cognisant of the fact that the activity may commence prior to an Environmental Authorisation being granted by the Department.
3.	The City of uMhlathuze has reviewed the Environmental Impact Assessment Report, dated June 2022, in respect of the above application. We further refer to the public meeting held on the 20th June 2022 following presentations of various specialist studies undertaken. We accordingly submit the following comments for due consideration:	Nokubonga Duma Deputy Municipal Manager: City Development City of uMhlathuze	The comment is acknowledged. Specific comments raised have been responded to in the sections which follow.
	General Please note the following points pertaining to this application: 1. The City of uMhlathuze has recorded an increasing number of Gas to Power applications being proposed within a 10km radius in Richards Bay. 2. It is therefore important that the cumulative impacts of such proposed developments are addressed.	Letter: 21 July 2022 Rishi Rampershad Wayleave Officer OpenServe E-mail: 21 July 2022	The assessment of cumulative Impacts is presented in **Chapter 9** of the EIA report and within the specialist studies included in **Appendix D to N**. Due to the nature of the project and the associated impacts, the assessment of cumulative impact for the EIA phase has considered projects within a 10km radius of the proposed development site. This included consideration of other similar developments (i.e. gas to power facilities), as well as other industrial developments already operating and proposed within the Richards Bay area. Where possible, the extent of the identified impacts have been quantified and indicated. The cumulative impacts significance rating informed the need and desirability of the proposed development. A cumulative impact environmental statement on whether the proposed development can proceed is included in **Section 10.4** (Impact Statement) of the final EIA Report.

NO.	COMMENT	RAISED BY	RESPONSE
	Biodiversity Assessment 1. The proposed project is located within critically endangered ecosystem and the clearance of vegetation will significantly contribute to the fragmentation of habitats. 2. The applicant must investigate mechanisms to re-building local ecological networks by creating an environmental for new habitats to thrive using landscaping designs. 3. Due to the sensitivity of the site fauna and flora species, an on-site due diligence inspection must be conducted prior to construction.		1. *The biodiversity study states the following regarding the state of the vegetation on the project site: "The vegetation of the project site was found to be impacted by longstanding and significant anthropogenic disturbance and not representative of the environmental sensitivities identified during the desktop assessment. Based on floristic composition, vegetation structure and level of degradation, four vegetation communities were identified, described, and mapped and included Digitaria natalensis – Parinari capensis Grassland, Ischaemum fasciculatum Hygrophilous Grassland, Degraded areas, and Typha capensis – Phragmites australis drainage canal.* *Most of the flora species present are widespread and abundant in South Africa, with no extinction risk. Noteworthy observations included one species listed as Declining (Red List of SA Plants) and provincial protected (i.e., Crinum cf. stuhlmanniii), present in the D. natalensis - P. capensis Grassland, and four South African endemics of which three species (Raphionacme palustris, Helichrysum ruderale, Selago tarachodes) were present in the D. natalensis - P. capensis Grassland, and one in the I. fasciculatum Hygrophilous Grassland (Roella glomerata). All the endemics are listed as of Least Concern on the Red List of SA Plants (SANBI).* *The undeveloped habitats directly adjacent to the project site and alongside the boundaries of Phase 1F on the northwest is degraded by longstanding anthropogenic disturbance. The vegetation on the project site and on the rest of Phase 1F is thus not connected to undisturbed natural vegetation."* 2. The biodiversity study includes the requirement for rehabilitation of any areas affected by construction which would not be required during operation. Objective 13 of Section 6 of the EMPr includes the specifications for appropriate rehabilitation of

NO.	COMMENT	RAISED BY	RESPONSE
			disturbed areas such that residual environmental impacts are remediated or curtailed. 3. The biodiversity specialist has recommended that a pre-construction walk-through be undertaken of the site. The EMPr includes the following specification in **Section 6.1, Objective 2:** "*Prior to vegetation clearance, the development footprint and the 200 m of adjoining areas must be scanned for the presence of any protected flora species by a suitably qualified Botanist/Ecologist.*"
	Quantitative Risk Assessment Report 3. The report details that some events identified on site have risks beyond the site boundary, hence mitigation measures must be implemented by ensuring competent designs, compliance with statutory requirements and guidelines.		The comment is noted. The mitigation measures recommended have been included within the EMPr for the project (refer to **Objective 5 of Section 8.1** of the EMPr).
4.	In reference to the Electronic Communications Act no. 36 of 2005. No **UNDERGROUND** telecommunication infrastructure owned by Telkom SA SOC Ltd is affected. Approval of the proposed is valid for six months. If construction has not yet commenced within this time period then the file must be resubmitted for approval. Any changes and deviations from the original planning during construction must be immediately communicated to this office.	Rishi Rampershad Wayleave Officer Network Engineering and Build OpenServe	The confirmation that no underground telecommunication infrastructure owned by Telkom SA SOC Ltd would be affected by the proposed development is acknowledged. Details of the approval process are noted and have been provided to the applicant.

NO.	COMMENT	RAISED BY	RESPONSE
	 1. ***Customer Topo Map included in Appendix C8***		
5.	Based on the information provided in the report the proposed site is located within the Richards Bay Industrial Development Zone, Phase	Portia Makitla Case Officer	The confirmation of information provided in the EIA Report is acknowledged and no further response is required.

NO.	COMMENT	RAISED BY	RESPONSE
	1F. The site is designated for noxious industry such as the proposed gas to power plant. It is also noted that the Richards Bay Industrial Development Zone received environmental Authorisation, which includes the development of two of the wetland areas. However, the remaining third wetland is not in a position in the landscape to be affected by the development.	DFFE: Biodiversity Conservation Directorate Letter: 22 July 2022	
	The study area includes wetlands and medium sensitivity vegetation (Maputaland Wooded Grassland) within the project site. The site has been determined to have a moderate Ecological Importance. Many of the anticipated project-specific impacts during the construction and operational phases can be successfully mitigated to moderate, low, and minor levels of significance, and are thus considered acceptable.		The Directorate's comment that the successful mitigation measures proposed where the impacts during construction and operation phases would be low, are acceptable is acknowledged.
	It is the Directorate's view that with stringent mitigation measures the proposed development will not pose significant impacts. Therefore, the proposed development is supported.		The support of the development by the Directorate is noted. No response is required.
	NB: The Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; BCAdmin@environment.gov.za for attention of Mr. Seoka Lekota.		Public Participation Process documents have been submitted as required DFFE: Biodiversity Conservation which enabled the Directorate to submit written comments on the EIA Report. Refer to **Appendix C7: Comments Received** where the written comments from the Directorate have been included and captured in this C&RR.
6.	**Comments based on proposed development** a) The KwaZulu-Natal Department of Economic Development, Tourism and Environmental Affairs (the Department) has reviewed the draft Environmental Impact Assessment Report dated June 2022 and accepts the specialist studies that have been undertaken, the mitigation measures that have been suggested by the aforesaid report to minimize the level of impact of the proposed development to the surrounding environment, the public participation process conducted on the proposed development together with the Environmental authorization that was issued on 27 September 2016; for the	Felicia Mdamba Environmental Manager KZN DEDTEA Letter: 25 July 2022	

NO.	COMMENT	RAISED BY	RESPONSE
	construction of the Richards Bay Industrial Development Zone Phase 1F; However; the Environmental Assessment Practitioner (EAP) is requested to take note of the following comments: The Department would have loved to know more details about the source of gas which will serve as fuel to the proposed development, the environment that will be traversed by the pipeline transporting the liquefied natural gas to the proposed development site; the level of impact of the gas pipeline to the natural environment. However the draft Environmental Impact Assessment Report dated June 2022 has indicated that this activity will be undertaken separately to the current EIA process of the Phakwe Richards Bay Gas Power 3 CCPP.		As documented in final EIA Report and as presented at the KSW which was attended by Officials from KZN DEDTEA, in which it was reported that the gas pipeline project is a separate process and does not form part of this application.
	i. The recommendations of **all the undertaken specialist studies must be strictly adhered** to during the implementation of the Phakwe Richards Bay Gas Power 3 CCPP;		i. The recommendations of all specialist studies have been included within the project EMPr. Once approved, the EMPr becomes legally binding and must be implemented.
	ii. The conceptual wetland plan developed for the Richards Bay Industrial Development Zone Phase 1F by Royal Haskoning, DHV, 2015 must be adhered to during the implementation of the Phakwe Richards Bay Gas Power 3 CCPP;		ii. This requirement is recommended by the Aquatic Ecologist and has been included within the project EMPr (**Section 6.1**).
	iii. The Department has noted with concerns that the proposed development will utilize large quantities of the municipal water during its operation whereas some communities within uMhlathuze local municipality are struggling with supply of potable water, as such the EAP is advised to come up with water saving techniques/strategies which could decrease the water demand of the proposed power plant, during its operation or else explore other alternative water sources.		iii. The design engineer would be required to determine water saving techniques/strategies which could decrease the water demand of the proposed power plant and to investigate alternative water sources. This requirement has been included within the project EMPr (**Section 6.1**).
	iv. The Department appreciates that the access road off the Alumina Alley road in Alton to the proposed site, will be		The comment is noted. No response is required.

NO.	COMMENT	RAISED BY	RESPONSE
	upgraded as part of the proposed development, to cater for the construction vehicles and abnormal vehicles during the project implementation; furthermore the department would also appreciate if the proposed development could look at ways of addressing the current situation of the degraded roads in Alton, Richards Bay;		
	v. The EAP is also requested to include in the final Environmental Impact Assessment Report to be submitted to the competent authority (Department of Forestry, Fisheries and Environment), the comment and response table which should show all the comments that have been provided by the project stakeholders to-date and the EAPs responses to the comments in accordance with Appendix 1, h (iii) of the Environmental Impact Assessment (EIA) Regulations, 2014 as amended.		A Comments and Responses Report has been included in **Appendix C9** of the Final EIA Report. This includes all comments received during the EIA process and responses provided.
	vi. Further to the above, the Department trust that the principles of sustainable development will apply during the implementation of the proposed development to ensure the benefit of future generation.		The principles of sustainable development will apply during the implementation of the proposed development to ensure the benefit of future generation. Appropriate avoidance and mitigation strategies will be implemented to minimise impacts on the environment as far as possible.
7.	Further to our comment letter submitted on 22 July, herewith please find comments relating to air quality management specifically for due consideration: **Air Quality Management** 1. The proposed mitigation measures for PM exceedances during construction and decommissioning stages have to be adhered to.	Nontsundu Ndonga Deputy Municipal Manager: City Development City of uMhlathuze Letter: 27 July 2022	**<u>Response from Air Quality specialist (Airshed Planning Professionals)</u>** Requirements for mitigation measures for the construction phase are noted and the inclusion of the mitigation measures into the EMPr were recommended in Section 10 of the AQIA.
	2. The applicant must investigate mitigation measures on the simulated 1 hour NO_2 exceedances during startups as outlined on pages 81-82 as these are of great concern, especially considering areas that might be impacted during such startups.		**<u>Response from Air Quality specialist (Airshed Planning Professionals)</u>** The requirement for minimization and/or mitigation of startup emissions is noted and recommended in the impact rating tables

NO.	COMMENT	RAISED BY	RESPONSE
			(Section 9) and recommended management and mitigation measures (Section 10) of the AQIA.

1.2. Key Stakeholders and Interested & Affected Parties

NO.	COMMENT	RAISED BY	RESPONSE
1.	On the 23rd of June at 5pm, a public meeting was supposed to be held by Savannah Environmental with regards to the above-mentioned gas to power plant development. It was to be held at 5pm at the ZCBF grounds in Richards Bay. At around 2:30pm on the day of the meeting, we got notified that the meeting will be cancelled due to load shedding at the venue from 4ph-6pm. You mentioned in your correspondence that the presentation that was supposed to be presented at this meeting will be emailed to us. 3. We as the South Durban Community environmental Alliance (SDCEA) would like to know if this meeting will be rescheduled? How will the public be notified of further public meetings to be hosted.	Tanica Naidoo Just Energy Transition & Environmental Justice Project Officer SDCEA Letter: 24 June 2022	No requests were received from I&APs or community members to reschedule the Public Meeting that could not be held due to unscheduled loadshedding. All parties who registered to attend this meeting were informed of the meeting cancellation via email as a fore-warning that there would be no electricity and invited to attend the poster session, which one of SDCEA's members who had registered for the public meeting duly attended. The Savannah Environmental project team were at the venue until after 5pm in order to receive any such requests should parties arrive at the meeting in response to the newspaper advert in the Zululand Observer. No attendees arrived.
2.	4. We submit comments on the following overarching issues: • Need and desirability • Alternatives analysis • Climate change impacts • Socio-economic impacts • Gas Supply **4.1. The EIAR's Stated Need And Desirability For The Project Is Misguided**	Avena Jacklin Climate and Energy Justice Campaign Manager groundWork Letter: 22 July 2022	As detailed in Chapter 4 of the EIA Report, the need for a diversification of the technology mix for power generation has been considered at a national level

NO.	COMMENT	RAISED BY	RESPONSE
	4.1.1. The EIAR asserts that the overarching objective for the Phakwe CCPP is to be capable of operating across a wide variety of dispatch profiles, from baseload to mid-merit.[1] The EIAR further asserts that the Phakwe CCPP is being developed in direct response to the IRP 2019 purported allocation for 3000 MW of new gas generation technology to meet demand growth up to 2030.[2] Finally, the EIAR suggests that gas is "critical" as a transition fuel for a net-zero grid, including for enabling the uptake of renewable energy.[3] None of these assertions are supporting by the best-available science or evidence, and cannot justify the need for building this massive, costly, and polluting project.		when considering energy planning for the country. The fundamental energy generation alternatives were assessed and considered within the development of the IRP and the need for the development of both gas generated energy and highly flexible generation capacity to support the uptake of renewables as part of the energy mix has been defined. As detailed in Chapter 2 of the EIA Report, gas is considered a transition fuel globally and it provides the flexibility necessary to run a system like South Africa has in a cost-effective manner. It is cleaner than other fossil fuels. Therefore, the IRP 2019 provides for the development of 3000MW of new capacity from gas to power projects. The extent of the gas contained in the draft IRP is within the imposed emissions reduction trajectory committed to by the country. As detailed in the IRP 2019, the transition of the energy mix must still include the use of non-renewable energy fuel resources in order to allow for the development of the renewable energy sector and the associated infrastructure, as well as enable the establishment of energy developments that can fill the gaps in terms of supply considering the use of renewable energy. Without allowing the transition of energy technologies and energy fuel resources, the path to a lower carbon economy may be severely constrained (i.e. not socially just and sensitive to the potential impact on jobs and local economies) as the gaps created from the decommissioning of coal-based technology and power facilities, without catering for the required energy supply through the use of better technology during the transition process, might be too large to overcome. Gas is considered to play a vital role in this transition. The impacts of gas on air quality and climate change are acknowledged at policy level and government has recognised the potential for Green Hydrogen generation as an alternative fuel source. As stated previously, PRBGP3 intends on utilising a mix of LNG and Hydrogen (scaling up from 20%) as soon as sources of Hydrogen become available.

[1] EIAR at 45.
[2] EIAR at 45-46.
[3] EIAR at 47, 147

NO.	COMMENT	RAISED BY	RESPONSE
			As a result of the identified role of gas to energy technologies as part of the just energy transition detailed above, fundamental alternatives to the proposed project, including that of alternative energy development options, were not considered within the EIA report.
	4.1.2. The stated need for the project is unreasonable and arbitrary, particularly because the proposed project does not align with the 2019 IRP, and because the EIA fails to consider best-available science and evidence when assessing whether renewable energy or other alternatives could provide "baseload" supply.[4]		The promulgated IRP 2010–2030 identifies the preferred generation technologies required to meet expected demand growth up to 2030. It incorporates government objectives such as affordable electricity, reduced greenhouse gas (GHG) emissions, reduced water consumption, diversified electricity generation sources, localisation and regional development. In terms of the technology mix, 3000MW is allocated to gas to power technology up until 2030. The need for new gas to power generation has therefore been identified and assessed by government at a national scale considering the national energy requirements as well as international commitments in terms of addressing climate change issues.
	4.1.3. The proposed project—a 2,000-MW gas to power plant which would operate nearly around-the- clock—does not align with South Africa's energy goals outlined in the 2019 IRP.[5] The IRP underscores that "low gas utilization [of 3000 MW] . . . will not likely justify the development of new gas infrastructure and power plants predicated on such sub-optimal volumes of gas."[6] Instead, "[c]onsideration must be given to the conversion of the diesel-powered peakers on the east coast of South Africa, as this is taken to be the first location for gas importation infrastructure and associated gas to power plants."[7] The EIAR conveniently does not mention or discuss these recommendations in the 2019 IRP.		The outcome of this consideration in the IRP 2019 is "*Decision 7: To support the development of gas infrastructure and in addition to the new gas to power capacity in Table 5* ***[own emphasis]****, convert existing diesel-fired power plants (Peakers) to gas.*" Therefore, the plan includes the development of new gas to power capacity in addition to the conversion of existing diesel-fired power plants (Peakers) to gas.

[4] Thomas at 41-42
[5] See Republic of South Africa Energy Department, Integrated Resource Plan (IRP2019), Government Gazette (18 October 2019), p. 47 (detailing the federal government's plan to phase out coal as an energy source in South Africa).
[6] See id. (emphasis added).
[7] IRP 2019, at 47.

NO.	COMMENT	RAISED BY	RESPONSE
	This is likely because the Phakwe CCPP, which is a mid-merit to baseload power plant, does not align with the RIP's 2019 findings.		
	4.1.4. We note that gas has been supported by business (NBI and BUSA) in its initial contribution to the Presidential Climate Commission in June 2021. This followed the narrative developed in the gas roadmap, which sees the power sector providing 'anchor demand' for gas and thus supporting construction of the infrastructure to get gas to non-power users. However, recent modelling and reports by Meridian Economics, CSIR, Rocky Mountain Institute, and others have clarified that these recommendations do not hold water. The best available science and evidence clearly show that no gas power is necessary in South Africa well into the next decade, if at all, beyond a small amount for peaker use.[8]		As stated in Chapter 4 of the EIA Report, Electricity generating alternatives have been addressed as part of the IRP 2010 – 2030. In this regard, the need for a diversification of the technology mix for power generation has been considered at national policy level. As a result of the identified role of gas to energy technologies as part of the just energy transition, fundamental alternatives to the proposed project, including that of alternative energy development options, were not considered within the EIA report. The cited article by Yawitch and Lucas Chaumontet of 06 June 2022 in the Business Day states (refer to Appendix C9i): "*Lastly, under all scenarios, gas is required in limited volumes and for a limited period of time with a flexible and short payback liquefied natural gas (LNG) infrastructure (for example, floating storage) to balance and enable a larger and faster scale-up of renewables, as well as the competitive decarbonisation of other sectors, with a plan to replace gas with batteries (for short-term power balancing) and green hydrogen (for system balancing), sustainable sources of carbon (for feedstock substitution) and direct electrification (for industrial process heat) as soon as cost parity can be achieved with these green alternatives.*" The proposed PRBGP3 includes the inclusion of Hydrogen as a fuel source in the future and is therefore in line with this plan to replace gas as the primary fuel source.
	4.1.5. A June 2022 report by Meridian Economics concludes that the capacity factor for peaking plant should be between 3% and 5%, providing very little gas demand. This puts in		As stated in Chapter 5 of the EIA Report, the promulgated IRP 2010–2030 identifies the preferred generation technologies required to meet expected demand growth up to 2030. It incorporates government objectives such as

[8] See, e.g., Joanne Yawitch and Lucas Chaumontet, It all hinges on renewables: the urgent energy transformation SA needs to get right, Business Live, 6 June 2022.

NO.	COMMENT	RAISED BY	RESPONSE
	question the role for any gas whatsoever since building the infrastructure for small gas-to-power will not be economic unless 'anchor demand' comes from other non-power sectors. It thus inverts and then voids the gas roadmap narrative.[9] These conclusions are supported by a previous study by CSIR and Meridian, and validated by the Rocky Mountain Institute (RMI). A July 2020 assessment by Meridian Economics and CSIR of the South African electric power system shows clearly that the least-cost scenario for the grid involves rapidly building large amounts of wind and solar generation in the near term.[10] Gas plants are added to the grid to improve flexibility, but until the mid- 2030's the only need is for "peaking" capacity that is used very infrequently (~2% of its availability). Until then, diesel can continue to be used by existing generators to meet reliability needs during limited hours of peak electricity demand. This least-cost pathway avoids building expensive gas infrastructure unless and until the need arises and is economically justified, avoiding locking-in to long-term fuel cost commitments prematurely. The Meridian study's least-cost pathway also shows battery and pumped hydro storage being built to provide flexibility during hours when there is low renewable generation.		affordable electricity, reduced greenhouse gas (GHG) emissions, reduced water consumption, diversified electricity generation sources, localisation and regional development. In terms of the technology mix, 3000MW is allocated to gas to power technology up until 2030. The need for new gas to power generation has therefore been identified and assessed by government at a national scale considering the national energy requirements as well as international commitments in terms of addressing climate change issues. The updated IRP 2019 further reconfirmed the allocation of 3000MW of gas to power technology up until 2030 as contained in IRP 2010 - 2030. The Phakwe Richards Bay Gas Power 3 CCPP is being developed in direct response to this new generation capacity requirement. The implementation of the proposed project therefore has the potential to contribute positively towards the identified need at a national level, while simultaneously contributing to job creation and socio-economic development. A report by The National Business Initiative (NBI) (undated) defines 10 key findings associated with the future of the power sector when considering the need for decarbonisation. To reach net-zero by 2050, South Africa would need to speed up deployment of renewable energy capacity; at least 4GW of renewables will need to be installed every year – roughly ten times the current pace of new-build. Natural gas as a transition fuel will be critical in this journey – initially growing as an enabler to the integration of wind and solar into the power system at scale, gas will then be gradually replaced by other technologies to reach net-zero emissions[12]. The development of the Phakwe Richards Bay Gas Power 3 CCPP is identified as a mechanism for securing additional power generation capacity as part of

[9] Adam Roff, Celeste Renaud, Rian Brand, Lonwabo Mgoduso, Grové Steyn, Emily Tyler, Hot air about gas: An Economic Analysis of the Scope and Role for Gas Fired Power Generation in South Africa, Meridian Economic, June 2022.
[10] 10 Adam Roff et al., A Vital Ambition: Determining the Cost of Additional CO2 Emission Mitigation in the South African Electricity System at p. 69 (July 2020).
[12] Just Transition and Climate Pathways Study for South Africa: Decarbonising South Africa's power system. The National Business Initiative (NBI).

NO.	COMMENT	RAISED BY	RESPONSE
	Building new coal, nuclear, or hydro is not in line with a least-cost optimization due to high costs. Coal plants are operated at low levels and gradually closed. RMI has also reviewed and validated these findings.[11]		the Gas IPP programme. Furthermore, gas-fired and combined cycle power plants may also be regarded as a key technology to improve power production to meet demand, and for decarbonisation, as it reduces the carbon footprint of electricity compared with coal and oil-fired power plants. It may also complement the implementation of renewable energy sources, as it balances power supply from renewable sources and stabilises electricity grids.[13] Arguments that pause should be placed on any gas-to-power development until at least 2030 are noted, given the analysis that gas supply to balance higher penetration levels of variable renewable electricity will be unnecessary until 2035 (IISD, 2022), and that there is a move away from gas to the use of green hydrogen. As stated previously, it is the intention of the developer to use of natural gas (liquid or gas forms), or a mixture of Natural gas and Hydrogen (in a proportion scaling up from 20% H2) as fuel source. Recently green hydrogen, produced with renewable sources such as wind and solar energy, is getting a more prominent place in global policy thinking to limit global warming in the context of the Paris agreement. This has been accelerated in the wake of current global political and economic policies not achieving the agreed climate targets. At present, industry is already using large quantities of hydrogen, but this mainly produced from natural gas. Replacement with green hydrogen and expansion to more end-user segments contributes significantly to the (deep) decarbonisation of otherwise hard-to-decarbonise markets. South Africa is well-positioned to become a major player of green hydrogen in the world. The country has abundant land available and in combination with excellent potential solar and wind resources this could provide a solid base to produce one of the lowest cost green hydrogen in the world. South Africa's world class renewable energy resources also allows a highly competitive

[11] Available upon request.
[13] Gas key as South Africa transitions to clean energy. https://www.engineeringnews.co.za/article/gas-key-as-south-africa-transitions-to-clean-energy-2021-10-27

NO.	COMMENT	RAISED BY	RESPONSE
			production cost of H2 below 1.60 $/kg by 2030, putting South Africa as potentially one of the largest global exporters of green H2 and green fuels. The Energy Sector Economic Recovery Strategy released by Business for South Africa (2020) has highlighted the need for alignment of the energy sector, with a combined solution for electricity, gas, and liquid fuels. A number of constraints are identified, which if addressed could facilitate the energy sector playing a dual role in driving South Africa's economic recovery, primarily as a catalyst for growth in the economy but also as a driver of direct and indirect jobs.
	4.1.6. The Phakwe CCPP is also economically undesirable. Because South Africa does not need new combined cycle gas capacity until at least the mid-2030s, that alone renders the proposed project uneconomical. That aside, Meridian recent report notes that gas prices remain volatile and unpredictable, leading to high electricity costs for consumers.[14] Large-scale gas generation have additional hidden costs including carbon taxes, border adjustments (as all fuel costs associated with a facility such at the proposed one require fuel imports and selling generated fuel exported would be subject to foreign tariffs and carbon taxing), and inflation—whereas renewables are generally only subject to inflation costs.[15]		The timeframe for implementation of the project will be driven by government's plans for the energy sector and timing of the gas-to-power procurement plan. In addition, the economic desirability of gas to power as part of the energy mix for the country will be determined by government as an initial step in deciding if a Determination for gas to plants is issued and an RFP process is launched. This will also be considered in any updates to the IRP, which are required to be made on a regular basis. Should there be a gas to power Determination, the economic feasibility of the project will be evaluated during the bid process for the relevant Procurement Process, as the conditions of the Procurement process may determine the feasibility of the project. The economic feasibility will be evaluated first by the developer, and then by lenders (to evaluate if the project is bankable) and finally by the entity evaluating the bids.
	4.1.7. There is also a material risk that the plant becomes more expensive to continue operating than new clean energy resources are to build, well before its anticipated end-of-life. The global benchmark costs of new solar, wind, and battery costs have fallen faster than expected for over a decade, and analysis in other countries has shown that		The applicant is aware of the economic costs associated with the procurement of natural gas. As stated in the EIA report, the intention of the applicant is to include Hydrogen as a fuel source for the operation of the facility. South Africa is well-positioned to become a major player of green hydrogen in the world. The country has abundant land available and in combination with

[14] Roff *et al* at 40.
[15] *See* Roff et al at 40-41; see also id. at 41, Fig. 12.

NO.	COMMENT	RAISED BY	RESPONSE
	continued advancement in these technologies – even at a much slower rate of change than experienced since 2010 – will allow combinations of new wind, solar, and storage projects to undercut the operating costs of existing gas-fired generation by the mid-2030s, leading to early retirement for gas capacity and significant financial losses.		excellent potential solar and wind resources this could provide a solid base to produce one of the lowest cost green hydrogen in the world. South Africa's world class renewable energy resources also allows a highly competitive production cost of H2 below 1.60 $/kg by 2030, putting South Africa as potentially one of the largest global exporters of green H2 and green fuels. It is therefore the applicant's expectation that this would eventually happen, i.e. when the green hydrogen becomes available, the plant would be ready for usage at the required volume. As the fuel would be locally produced, it would be more economically affordable.
	4.1.8. Nor does the power crisis provide any justification for this project. In a separate report, Meridian Economics show that resolving the energy crisis by 2024-26 requires a suite of measures centred on building new renewables fast. In their telling, those measures do include building some additional thermal peaking plant as 'insurance' against late delivery on other measures. But not a 2000MW mid-merit or baseload CCPP plant. In other words, one would hope not to use any gas at all and diesel is the more practical option given existing infrastructure.[16] Given limited capacity in the sector and in government, it would be better to focus on energy conservation and early delivery of the core measures.		The capacity of the project which will be implemented will be driven by government's plans for the energy sector and timing of the gas-to-power procurement plan, including considerations regarding technologies required to support the implementation of renewable energy. The reference to the use of diesel instead of natural gas by the stakeholder is surprising considering that this fuel source would have higher impacts on local air quality and greenhouse gas emissions. This is considered less desirable from an environmental impacts perspective and the use of such fuels is specifically excluded from the scope of this project.
	4.2. The EIAR's Failure to Assess the Use of Renewable Energy Alternatives Is a Fatal Flaw. 4.2.1. The EIAR did not consider alternatives to the CCPP because it asserts that such "fundamental energy generation alternatives were assessed and considered within the development of the IRP [2019] and the need for the		As detailed in Chapter 4 of the EIA Report, the need for a diversification of the technology mix for power generation has been considered at a national level when considering energy planning for the country. The fundamental energy generation alternatives were assessed and considered within the development of the IRP and the need for the development of both gas generated energy and highly flexible generation capacity to support the uptake of renewables as part of the energy mix has been defined. As detailed in Chapter 2 of the EIA

[16] Grové Steyn, Dr Peter Klein, Adam Roff, Celeste Renaud, Lonwabo Mgoduso and Rian Brand, Resolving the power crisis Part B: An achievable game plan to end load shedding, Meridian Economics, June 2022.

NO.	COMMENT	RAISED BY	RESPONSE
	development of both gas generated energy and highly flexible generation capacity to support eh uptake of renewables as part of the energy mix has been defined".[17] Both reasons are misguided and cannot be relied upon to comply with the required alternatives assessment under the EIA regulations.[18] This flawed reasoning 1) again mischaracterizes the findings within the 2019 IRP, 2) fails to acknowledge the viability of renewable energy technologies, which present the least-cost energy option for South Africa.		Report, gas is considered a transition fuel globally and it provides the flexibility necessary to run a system like South Africa has in a cost-effective manner. It is cleaner than other fossil fuels. Therefore, the IRP 2019 provides for the development of 3000MW of new capacity from gas to power projects. The extent of the gas contained in the draft IRP is within the imposed emissions reduction trajectory committed to by the country. As detailed in the IRP 2019, the transition of the energy mix must still include the use of non-renewable energy fuel resources in order to allow for the development of the renewable energy sector and the associated infrastructure, as well as enable the establishment of energy developments that can fill the gaps in terms of supply considering the use of renewable energy. Without allowing the transition of energy technologies and energy fuel resources, the path to a lower carbon economy may be severely constrained (i.e. not socially just and sensitive to the potential impact on jobs and local economies) as the gaps created from the decommissioning of coal-based technology and power facilities, without catering for the required energy supply through the use of better technology during the transition process, might be too large to overcome. Gas is considered to play a vital role in this transition. The impacts of gas on air quality and climate change are acknowledged at policy level and government has recognised the potential for Green Hydrogen generation as an alternative fuel source. As stated previously, PRBGP3 intends on utilising a mix of LNG and Hydrogen (scaling up from 20%) as soon as sources of Hydrogen become available. As a result of the identified role of gas to energy technologies as part of the just energy transition detailed above, fundamental alternatives to the proposed project, including that of alternative energy development options such as renewable energy options, were not considered within the EIA report.

[17] EIAR at 41
[18] Republic of South Africa Department of Environmental Affairs, National Environmental Management Act, 1998 – Environmental Impact Assessment Regulations, 2014 (4 December 2014), app'x I

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	4.2.2. Concepts such as "baseload" and "mid-merit" are evolving and losing relevance. Generation plants have historically been characterized as "baseload", "peaking", and "mid-merit". We define these terms below, but then explain how they are antiquated, do not address actual electricity system values or services in a modern grid, and do not correspond with economic or reliability considerations. • **"Baseload" power plants:** Historically, coal and nuclear were seen as essential to supply electricity since there were few alternatives. These plants tend to run at maximum levels, generally only shut down for maintenance and do not change their output quickly. The term "baseload" refers to the minimum level of demand on an electrical grid, and this demand was generally met using coal or nuclear energy, hence these power plants were referred to as "baseload plants". • **"Peaking" power plants:** Peaking generators are those that are needed and/or used only during periods of peak demand, when there is much higher demand than usual. For example, peaking plants often run on hot summer afternoons when air conditioning demand is greatest. This type of seasonal peak load has historically been met with gas and hydro plants, which were either more expensive or have less energy availability than coal and nuclear plants. More recently, energy storage technologies including batteries have		As detailed in the IRP 2019, the transition of the energy mix must still include the use of non-renewable energy fuel resources in order to allow for the development of the renewable energy sector and the associated infrastructure, as well as enable the establishment of energy developments that can fill the gaps in terms of supply considering the use of renewable energy. Without allowing the transition of energy technologies and energy fuel resources, the path to a lower carbon economy may be severely constrained (i.e. not socially just and sensitive to the potential impact on jobs and local economies) as the gaps created from the decommissioning of coal-based technology and power facilities, without catering for the required energy supply through the use of better technology during the transition process, might be too large to overcome. Gas is considered to play a vital role in this transition. The impacts of gas on air quality and climate change are acknowledged at policy level and government has recognised the potential for Green Hydrogen generation as an alternative fuel source. PRBGP3 intends on utilising a mix of LNG and Hydrogen (scaling up from 20%) as soon as sources of Hydrogen become available.

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	effectively competed with gas plants to provide peaking power in many global power markets. • **"Mid-merit" power plants:** To meet fluctuating levels of electricity demand throughout the day and over the course of the year, between the levels at which "baseload" and "peaking" plants tend to operate, utilities have historically used "mid-merit" plants (e.g., gas, diesel or hydro plants) which can easily adjust their output to match changing demand. Though useful in characterizing the grid operations and planning paradigms for 20th Century electricity systems, these terms are rapidly losing relevance in modern grids where emerging technology, especially variable renewable energy resources (e.g., wind and solar) as well as energy storage, are proving their ability to meet reliability needs at least cost without falling neatly into these historical categories of resources. For example, even in the United States where gas is available at near-record low global prices in 2021, both utilities in traditionally regulated territories as well as private investors in restructured markets [19] are using modern planning studies to determine that emerging technologies like wind, solar, and storage can be lower-cost solutions than traditional power plants.[20] Moreover, battery storage is increasingly filling in energy gaps and alleviating risks of gas lock-in.[21]		

[19] M. Keleher et al. Clean Energy Is Canceling Gas Plants, RMI, (2020), https://rmi.org/clean-energy-is-canceling-gas-plants/.

[20] See L. Schwisberg et al, How to Build Clean Energy Portfolios, RMI, Chapter 3, (2020), https://rmi.org/how-to-build-ceps/; see also M. Keleher et al, Clean Energy Is Canceling Gas Plants, RMI, (2020), https://rmi.org/clean-energy-is-canceling-gas-plants/.

[21] Roff et al. at 50, 57

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	Geographically dispersed renewable generation can provide consistent energy production to meet base load requirements and can also be curtailed to meet fluctuating demand levels. Energy storage can also be used to accommodate fluctuating demand and to meet peak loads.		
	4.2.3. Renewables can increasingly provide services that have historically been met by fossil plants. Many leading global utilities have shifted in their approach to resource planning, and in doing so have found that emerging technologies, and specifically wind, solar, and storage, can provide the same sort of grid services that were provided by "baseload," "peaking," and "mid-merit" power plants in the 20th Century: • The world's largest auction for renewables and storage took place in India in 2020 for 1.2 GW of capacity. The requirement was for energy during morning and evening hours, which is traditionally met by "mid-merit" generators. Successful bids comprised of renewables, battery storage, and pumped hydro storage. One of the bids by ReNew Power set a world record for the lowest priced renewables plus battery storage capacity, with this and other recent renewable tenders being cheaper than energy from coal in Indica. • A 350 MW pumped hydro storage plant in Morocco is being constructed and plans to be completed in 2022. It will be coupled with existing wind generation to meet demand during peak hours, otherwise provided by "peaker" plants.11		The fundamental energy generation alternatives were assessed and considered within the development of the IRP and the need for the development of gas / diesel generated energy has been defined. Therefore, fundamental alternatives to the proposed project, including that of renewable energy development, were not considered within the EIA report. As detailed in the IRP 2019, the transition of the energy mix must still include the use of non-renewable energy fuel resources in order to allow for the development of the renewable energy sector and the associated infrastructure, as well as enable the establishment of energy developments that can fill the gaps in terms of supply considering the use of renewable energy. Without allowing the transition of energy technologies and energy fuel resources, the path to a lower carbon economy may be severely constrained (i.e. not socially just and sensitive to the potential impact on jobs and local economies) as the gaps created from the decommissioning of coal-based technology and power facilities, without catering for the required energy supply through the use of better technology during the transition process, might be too large to overcome. Gas is considered to play a vital role in this transition. The impacts of gas on air quality and climate change are acknowledged at policy level and government has recognised the potential for Green Hydrogen generation as an alternative fuel source. PRBGP3 intends on utilising a mix of LNG and Hydrogen (scaling up from 20%) as soon as sources of Hydrogen become available.

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	• In the Atacama Desert in Chile, the planned Valhalla project will use a 600 MW solar PV farm coupled with a 300 MW pumped hydro storage plant to provide continuous power to meet load, avoiding building a "baseload" plant.12 • In Thailand, the 500 MW Lam Ta Khong pumped hydro storage facility built in 2004 replaced older peaker plants which ran on oil, to provide energy during periods of high demand.13 • In Colorado, USA, the largest utility in the state (Xcel Energy) is retiring two of its largest coal-fired power plants14, without direct replacement with new gas-fired power plants. Instead, the utility is replacing these "baseload" plants with a combination of wind, solar, and storage projects, marrying the low-cost energy from wind and solar with flexibility from batteries and the remaining coal and gas fleet to provide both "baseload" and "mid-merit" electricity. • In Indiana, USA, one of the state's largest utilities (NIPSCO), is similarly prioritizing15 a transition plan for all of its coal plants, seeking to replace them with very low-cost wind and solar energy, and avoiding any investment in new gas-fired generation. This plan is anticipated to save the utility's customers USD $4 billion over the lifetime of the renewable projects, relative to continued reliance on coal or investment in new gas-fired power plants. • In Oklahoma, USA, a large utility has signed a contract16 for a new power plant that includes wind, solar, and storage technologies at a single site, and will provide power to the utility's customers at a price		

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	considerably lower than alternative investment in "peaking" or "mid-merit" gas-fired generation, while maintaining reliability. • In North Dakota, USA, a major utility will cease operations of an 1,100 MW coal-fired power plant, replacing its "baseload" power output with electricity from new wind and solar projects17, relying on other existing gas plants as well as a new long-duration energy storage project to balance wind and solar variability. • In South Australia, Neoen and Tesla have shown with the Hornsdale Power Reserve18 that large-scale batteries can economically play many of the same roles as "mid-merit" and "peaking" generators, helping to provide critical grid stability services even in times of contingency on the renewables- dominated regional grid. There is ample support for following this trend away from large gas plants, like the Phakwe CCPP.		
	4.3. The Climate Change Impact Assessment Is Inadequate. The Climate Change Impact Assessment (CCIA) for the Phakwe CCPP shows that the project will result in significant emissions of almost 5 million tonnes of CO2e annually. Yet the CCIA makes light of these emissions, attempting to paint a rosy picture of the overall climate impacts of the project by suggesting that these emissions would be counterbalanced by the plant's role on the grid replacing coal and enabling renewables. Scrutiny of the assessment reveals several significant flaws that have resulted in the CCIA's underestimation of the overall greenhouse gas emissions from the project, and unjustified		**Response from CCIA specialist (Promethium Carbon)** The CCIA report presents an analysis of the potential impacts that this project could have on the decarbonization of South Africa's electricity grid. It is not offered as a calculation of what emissions will be avoided by the implementation of the project, as there are too many unknowns in the development of the national grid in the near future to do such calculations. The analysis provided should therefore be seen as indicative of the contribution that the project can make. As a part of this report what is calculated is the

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	confidence that the project will result in so-called 'avoided emissions.' These flaws are detailed below: 4.3.1. The CCIA makes unsubstantiated claims about avoided emissions grounded in misinterpreted and outdated research. The CCIA concludes that the project will avoid 236 million tCO2e 'through the displacement of the coal baseline,' and 'could avoid 556 million tons through increasing the ability of the Eskom grid to accept intermittent renewable energy over the lifetime of the project.[22] These 'avoided emissions' calculations are then used to assert: 'The positive impact of the project on climate change…far outweighs the contribution of the project to national GHG inventory.[23] However, the assumptions underlying this key conclusion are unsubstantiated or based on misinterpretations of outdated work that has since been updated and would have been available at the time of drafting of the CCIA. Below, we document the unsubstantiated assumptions and misinterpretations throughout the CCI.		lifetime emissions of the project based on the assumption that the project will operate and emit emissions at its designed life. The basis for the assumptions were rooted in the scenario analysis as indicated in the IRP 2016 for 2050 considering the displacement of coal and promotion of RE into the grid with gas providing a means to supplement the decrease of coal by power generation technology such as gas to power- this helps facilitate the inclusion of increased amounts of intermittent renewable energy technologies. The CSIR report also makes use of the same information within the IRP 2016 report and therefore the assumptions that form the basis of the CCIA are not baseless.
	i. The 'theoretical maximum for a renewables-based grid is 70%, with the remainder being gas-to-power technologies (30%).'		**Response from CCIA specialist (Promethium Carbon)** Figure 38 in Wright et al shows that, in the least cost scenario for 2050, solar plus wind produces 70% (solar 21% and wind 49%) of the energy. Although the peaking (2%) and gas (10%) only supply 12% in total, the balance is made up of legacy coal and nuclear plants. The assumption that all of the non-RE

[22] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP, at i, (2022).*
[23] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP, at ii, (2022).*

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	This conclusion is supposedly based on 2017 comments from CSIR on the proposed IRP update from 2016.[24] There are several problems with this interpretation of CSIR's work. First, the CSIR authors do not state that 70% is a 'theoretical maximum,' for renewables on the grid in their comments, and it is unclear what the justification is for this maximum's inclusion in the CCIA's avoided emissions scenario. More problematically, CSIR's comments do not suggest that gas-to- power would make up the remaining 30% of power on the grid in this high-renewables scenario. While CSIR's least-cost scenario includes a greater role for gas than in the current power mix (10% of energy produced), this scenario, which they say will have 75% renewable energy by 2050, also includes roles for hydro and pumped storage, unspecified peaking technology (which could be batteries, for example), and 11% remaining coal-based electricity production.[25] These CSIR comments, which were not published as a formal report, are already quite outdated, and responded to an old version of the IRP. CSIR has since published several more relevant analyses with updated modelling that the CCIA should have instead relied upon. In particular, as we discuss above, CSIR's 2020 report, 'A Vital Ambition,' published in collaboration with Meridian Economics, shows that baseload levels of gas to firm up high renewables concentration on the grid would not need to be considered until the late 2030s, when major coal capacity will		technologies are gas (as was made in the CCIA), is a conservative approach that will lead to an underestimation of the amount of avoided emission. The peaking technology is specified as "gas fired peaking capacity" on page 77 of the report. Note that the report does not consider batteries as peaking capacity, but rather as a storage technology. Note that the CSIR work was published as a formal report with reference 20170331-CSIR-EC-ESPO-REP-DOE-1.1A Rev 1.1. It is available at: https://www.csir.co.za/sites/default/files/Documents/20170331CSIR_EC_DOE.pdf Note that the 2020 CSIR report "A Vital Ambition" provides for an optimum renewable energy capacity mix by 2050 of 34.5% solar and 34.5% wind energy (a total of 69% intermittent renewable energy) (page 17) with the balance having a high component of gas (both OCGT and CCGT). Note that the avoided emission calculation will underestimate the avoided emissions if the assumption is made that all of the non-RE technologies on the grid are actually gas fired technologies. Note that the Meridian report "Hot Air About AGs" was published after the publication of this CCIA.

[24] J.G. Wright,, J. Calitz, & R. van Heerden, *Formal comments on the South African Integrated Resources Plan (IRP) Update Assumptions, Bas Case and Observations 2016, CSIR Energy Centre, (2017),* https://researchspace.csir.co.za/dspace/bitstream/handle/10204/9627/Wright_18803_2017.pdf?sequence=1&isAllowed=y.

[25] J.G. Wright,, J. Calitz, & R. van Heerden, *Formal comments on the South African Integrated Resources Plan (IRP) Update Assumptions, Bas Case and Observations 2016, CSIR Energy Centre, (2017),* https://researchspace.csir.co.za/dspace/bitstream/handle/10204/9627/Wright_18803_2017.pdf?sequence=1&isAllowed=y.

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	have come offline.[26] As mentioned, Meridian reiterated this point in its 2022 report, 'Hot Air About Gas,[27] emphasizing that there is no reason for large-scale gas power plants like the Phakwe plant to be considered until that time, and that there may well be far cheaper and less carbon intensive alternatives to gas by then. As detailed in the alternatives section, large-scale gas plants like the Phakwe CCPP risk locking in greenhouse gas emissions across the lifetime of the plant and potentially beyond, if new gas infrastructure developed to support the plant must be paid off.		
	ii. The Phakwe Richards Bay CCPP would fit within South Africa's 2019 IRP The CCIA states: 'It is expected that the introduction of the proposed Phakwe Richards Bay Gas Power 3 CCPP to South Africa's electricity generation fleet will not have an impact on the energy mix used for electricity generation stipulated in the IRP. Thus, this CCIA does not consider any rebound emissions.[28] This statement suggests that the 2000 MW CCPP aligns with South Africa's IRP and would thus produce no emissions additional to the business-as-usual emissions that would result from adherence to the IRP. However, this conclusion is patently false, as the IRP, in agreement with Meridian's 'Hot Air' report, states that new gas-to-power capacity should come only from the conversion of 'existing diesel-fired power plants (Peakers) to gas.[29] A 2000MW single CCPP running 67% of the time, as assumed in the Phakwe CCIA, is quite distinct from gas peakers across the country running		**Response from CCIA specialist (Promethium Carbon)** The basis for the assumptions were rooted in the scenario analysis as indicated in the IRP 2016 for 2050 considering the displacement of coal and promotion of RE into the grid with gas providing a means to supplement the decrease of coal by power generation technology such as gas to power- this helps facilitate the inclusion of increased amounts of intermittent renewable energy technologies. The CSIR report also makes use of the same information within the IRP 2016 report and therefore the assumptions that form the basis of the CCIA are not baseless. **Response from CCIA specialist (Promethium Carbon)** Rebound effects are defined as an increase in emissions caused by consequential or unrelated effects of the solution avoiding the emissions. These effects are often unintended and often relate to difficult to predict behavioural changes that are either a direct or

[26] A. Roff et al., *A Vital Ambition: Determining the cost of additional CO2 emission mitigation in the South African electricity system*, Meridian Economics with CSIR Energy Centre, (2020), https://meridianeconomics.co.za/wp-content/uploads/2020/07/Ambition.pdf.
[27] A. Roff et al. *Hot Air About Gas: An economic analysis of the scope and role for gas-fired power generation in South* Africa, Meridian Economics, (2022), https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf.
[28] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 9, (2022).
[29] Department of Energy, *Integrated Resource Plan 2019, at 47, (2019)*, http://www.energy.gov.za/IRP/2019/IRP-2019.pdf.

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	at 'a 12% average load factor,' which is the role for gas proposed in the IRP.[30] The Phakwe CCPP would have a completely different role on the grid than those peakers, and therefore it cannot be assumed, as it is in the CCIA, that the project 'would not have an impact on the energy mix for electricity generation stipulated in the IRP' and not generate additional emissions.[31]		longer-term effect of the newly introduced solution.[32] The Framework on which this CCIA was based considers rebound emissions, conservative assumptions, and general sense checks, while always considering the most conservative approach. It defines rebound effects as an "increase in business-as-usual emissions occurring as result of the [project's] implementation.
	iii. A 2000 MW CCPP today would enable renewables expansion on the South African grid. The CCIA repeatedly states that the CCPP would enable 'the increased uptake of renewables on the grid.[33] However, the assumption within the CCIA that the plant would run 67% of the time suggests that the CCPP is, again, not planned for operation as the kind of low capacity factor peaking plant (running at 3-5% of the time) needed to enable variable renewables, but rather would be used in a baseload capacity.[34] The CCIA undertakes no modelling to show how the 2000MW facility in particular would enable renewables, building instead on its misinterpretations of the outdated CSIR's outdated 2017 comments to conclude that by enabling renewables the plant would contribute to avoided emissions of '793 000 ktCO2e across the lifetime of the project.[35] As noted above, it is quite possible that a plant of this size run as baseload would instead crowd out renewables and therefore		**Response from CCIA specialist (Promethium Carbon)** Due to marginal cost of production of RE is zero, and the marginal cost of gas fired power is equivalent to the gas combusted plus the maintenance proportion. The economic decision would be to dispatch renewables first.

[30] Department of Energy, *Integrated Resource Plan 2019*, at 47, (2019), http://www.energy.gov.za/IRP/2019/IRP-2019.pdf. Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 18, (2022)

[31] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 9, (2022)

[32] Stephens, A. & Thieme, V., 2019, Towards >60Gigatonnes of Climate Innovations: Module 2. The Avoided Emissions Framework, Missions Innovation.

[33] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 38, (2022)

[34] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 18, (2022)

[35] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 38, (2022). Moreover, we note that the CCIA claims there would be avoided emissions in full from year one, long before a 70% renewable grid would be in place. Hence, the numbers are inflated even the CCIA's other assumptions were accepted.

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	increase overall emissions on the grid not only through its lifecycle emissions, but also through this additional crowding-out effect.		
	iv. The Phakwe CCPP would necessarily replace coal power production A recurring assumption of the CCIA is that the Phakwe CCPP would replace coal-fired power generation. This assertion appears repeatedly throughout the document, including in the assertion that 'avoided emissions can be achieved because…natural gas is a less intensive fuel than coal.[36] However, there is no clear statement of the source of this assumption. To the contrary, the CCIA also admits that this conclusion 'is not offered as a calculation of what emissions will be avoided by the implementation of the project, as there are too many unknowns in the development of the national grid in the near future to do such a calculation.[37] One could just as easily assume that the CCPP generation would simply be added atop current coal generation, rather than replacing it, and indeed could be crowding out even cleaner generation and/or storage, such as pumped hydro and batteries, that could play a similar role at a lower cost over their lifetimes. However, despite this, the assumption that the gas plant will be replacing coal-fired generation is used to calculate avoided emissions from the project.[38]		**Response from CCIA specialist (Promethium Carbon)** "An ambitious pathway creates a sufficient supply of energy-capacity issues are resolved with OCGT's (a minuscule fraction of all energy generated <1%) and storage. Coal-off-by-2040 is achieved with the same ambitious pathway, however, coal energy is swapped for CCGT gas after 2040"[39]
	4.3.2. The CCIA's claims about alternative fuels are unrealistic and misleading		**Response from CCIA specialist (Promethium Carbon)** This comment is addressed below as per the individual subsections (points i – iii).

[36] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 9, (2022)
[37] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 9, (2022)
[38] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 38, (2022)
[39] A. Roff et al., A Vital Ambition: Determining the cost of additional CO2 emission mitigation in the South African electricity system, Meridian Economics with CSIR Energy Centre, (2020), https://meridianeconomics.co.za/wp-content/uploads/2020/07/Ambition.pdf.

NO.	COMMENT	RAISED BY	RESPONSE
	The only climate change mitigation measure proposed in the CCIA is the 'option to switch to renewable gaseous fuels to supplement/replace the use of natural gas.[40] The CCIA makes reference to green hydrogen, biogas, biomethane and 'other fuels that are generated from renewable resources,' for this 'renewable fuel' role.[41] However, claims about the viability of replacement of fossil gas in the future with renewable fuels, and the suggestion that emissions would be reduced to zero if renewable fuels were used to fully power the CCPP, are inaccurate for several reasons, as detailed below.		
	i. Green hydrogen and biofuels are cost prohibitive First, green hydrogen and all the biofuel sources referenced in the climate mitigation section of the CCIA are currently entirely cost prohibitive and likely will be for several more years at minimum. While they may become cost-effective eventually, it is by no means safe to assume that this switch will take place in the lifetime of the gas plant. Moreover, new turbines, or at minimum retrofitted turbines, would be required to run the plant on hydrogen or biofuels, raising the overall cost of the plant and its electricity significantly.		**Response from CCIA specialist (Promethium Carbon)** Green hydrogen has been included based on information received from the project developer. According to the final scoping report the facility will be operated with natural gas or a mixture of natural gas and hydrogen. There is planned inclusion of green hydrogen in the fuel mix with natural gas and may eventually reach zero emissions when the percentage of green hydrogen reaches 100%, replacing completely the natural gas. This planned inclusion will contribute to a reduction in GHG emissions which has the potential to prevent locking in of GHG emissions of the gas power plants. Further analysis into green hydrogen and biofuels costing was not included because Promethium Carbon are not experts in the prohibitive costs of green hydrogen and biofuels.
	ii. Using green hydrogen to run a gas plant is inefficient Using green hydrogen to run a gas plant is highly inefficient. Rather than using large quantities of renewables to turn water into H2 via electrolysis, which would then be shipped at great cost to		**Response from CCIA specialist (Promethium Carbon)** The proposed scope of work entails a climate change impact assessment within the context of the Thabametsi case ruling. In this ruling the judge defined a climate change impact assessment report as containing three parts:

[40] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 51, (2022)
[41] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 51, (2022)

NO.	COMMENT	RAISED BY	RESPONSE
	a gas plant for burning, it would make much more sense to use the renewables for electricity production directly.[42] With the costs of renewables and storage technologies falling, it is very unlikely that a highly inefficient gas plant run on green hydrogen could compete with electricity from a combination of renewables and storage in the future. Green hydrogen should instead be saved for harder to abate sectors like high-heat industrial processes.[43]		An assessment of the extent to which a proposed (project) will contribute to climate change over its lifetime by quantifying its GHG emissions during construction, operation and decommissioning. The resilience of the (project) to climate change, taking into account how climate change will impact on its operation, through factors such as rising temperatures, diminishing water supply, and extreme weather patterns; and how these impacts may be avoided, mitigated, or remedied. However, an analysis of different RE fuel types in differing scenarios was outside the scope of this assessment.
	iii. Both biofuels and green hydrogen produce additional emissions across their lifecycles On page 51 of the CCIA, there is a graph showing that 100% uptake of 'renewable fuel' at the CCPP would result in zero emissions. This is misleading, as all forms of 'renewable fuels' have associated emissions. Hydrogen itself is a secondary greenhouse gas, meaning that fugitive emissions of hydrogen across the lifecycle of the gas, just like methane, will accelerate climate change.[44] The combustion of hydrogen in the types of turbines that would be used in the CCPP releases NOx,[45] which is also a potent greenhouse gas – 273 times more potent than CO2 at a 100-year timescale.[46]		**Response from CCIA specialist (Promethium Carbon)** Hydrogen is not a greenhouse gas, only N_2O is a GHG and can be mitigated with technology that has not been specified. This study is indicative to illustrate the principle and it is offered only as a sensitivity.

[42] S. Saadat and S. Gersen, *Reclaiming Hydrogen for a Renewable Future: Distinguishing Fossil Fuel Industry Spin from Zero- Emission Solutions*, Earthjustice, at 16-17, (2021), https://earthjustice.org/features/green-hydrogen-renewable-zero-emission
[43] S. Saadat and S. Gersen, *Reclaiming Hydrogen for a Renewable Future: Distinguishing Fossil Fuel Industry Spin from Zero- Emission Solutions*, Earthjustice, at 16-17, (2021), https://earthjustice.org/features/green-hydrogen-renewable-zero-emission
[44] N. Warwick et al., *Atmospheric implications of increased hydrogen use*, (2022), https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1067144/atmospheric- implications-of-increased-hydrogen-use.pdf.
[45] S. Saadat and S. Gersen, *Reclaiming Hydrogen for a Renewable Future: Distinguishing Fossil Fuel Industry Spin from Zero- Emission Solutions*, Earthjustice, at 18, (2021), https://earthjustice.org/features/green-hydrogen-renewable-zero-emission.
[46] EPA, *Understanding Global Warming Potentials*, (2022), https://www.epa.gov/ghgemissions/understanding-global-warming- potentials.

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	Biofuels, meanwhile, have also been shown in some cases to drive land use change that results in greater greenhouse gas emissions than fossil fuel use, meaning that their supposed benefits in a narrow view are undermined by considering the full lifecycle of the fuel and its indirect effects on land, soils, and other vegetation.[47] These biofuels generally compete with other uses of the land, including food production. While biomethane captured from waste may be less emissions-intensive, it is unlikely to be produced, captured, and transported in the consistent quantities necessary to run the turbines at the gas plant. Thus, the assumption that hydrogen or biofuels would present viable zero-emissions mitigation strategies for the CCPP is dubious at best.		**Response from CCIA specialist (Promethium Carbon)** Biofuels have a potential to extend and diversify South Africa's energy supply, thus reducing dependence on imported fuels and pollution levels[48]. The increased land requirements to produce biofuels in South Africa will have to be balanced within the emerging bioeconomy[49] as the demand for land to produce food, timber and fibre continues to increase.[50] Biofuels were considered as an alternative in this CCIA to mitigate the GHG emissions from LNG. We do however note that a comprehensive cost benefit analysis was not conducted for the use of biofuels with the proposed project.
	4.3.3. The CCIA uses outdated gas leakage and venting assumptions The CCIA quantification of emissions is based on the use of fossil gas, primarily composed of methane. The CCIA's calculations show that GHG emissions from the operational phase will be 7.87 Mt a year and 236 Mt over the predicted 30-year lifespan of the plant, as shown in Table 1 below. This includes very significant emissions from upstream fuel and energy use in extracting, liquifying, transporting and regasifying the gas, as well as upstream 'fugitive emissions'– leaking or venting gas – from both national emissions (those release in South Africa) and those released beyond South Africa's borders. In the sections that follow we detail deficiencies in the assumptions used for these		**Response from CCIA specialist (Promethium Carbon)** South Africa is an IPCC member country and as such applies the 2006 IPCC Guidelines for National GHG Inventories, as referenced in the *Technical Guidelines for Monitoring, Reporting and Verification of Greenhouse Gas Emissions by Industry*[59]. As such the IPCC is the most relevant review of the data.

[47] Timothy Searchinger *et al., Use of U.S. Croplands for Biofuels Increases Greenhouse Gases Through Emissions from Land-Use Change*, 319, Science, 1238–1240 (2008), https://www.science.org/doi/10.1126/science.1151861.
[48] Pradhan, A and Mbohwa, C. 2014. Development of Biofuels in South Africa: Challenges and Opportunities. 39: 1089 – 1100.
[49] Raghu S, Spencer JL, Davis AS, Wiedenmann RN. Ecological consideration in the sustainable development of terrestrial biofuel crops. Curr Opin Environ Sustain. 2011;3:15-23. doi:10.1016/j.cosust.2010.2010.11.005. doi:10.1016/j.cosust.2010.11.005
[50] Junginger M, Faaij A, Rosillo-Calle F, Wood J. The growing role of biofuels - Opportunities, challenges and pitfalls. Intern Sugar J. 2006;108:618-629.
[59] Department of Environmental Affairs, April 2017, Technical Guidelines for Monitoring, Reporting and Verification of GHG Emissions by Industry. Version No: TG-2016.1. Pretoria, South Africa.

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	calculations that lead the CCIA to underestimate lifecycle emissions. i. The CCIA uses conservative estimates of upstream methane venting and leakage The CCIA calculates fugitive emissions following the IPCC's 2019 emission factors.[51] It acknowledges research that shows that such emissions 'have been significantly underestimated' but argues that these reports are a minority and that the IPCC takes account of them.[52] However, fugitive methane emissions have only recently been subject to intensified critical scrutiny, using new technologies including satellites, drones, airplanes, and special imaging tools.[53] Many of the papers using these technologies at scale have been published since the 2019 IPCC update[54], leading the IEA to conclude that governments have been universally underestimating these emissions.[55] The IPCC update was based on papers published at least several months before the reports publication, including from industry and state agencies with an interest in such underestimation, and cannot take account of the most recent work. The IEA's conclusion that countries are universally underrepresenting emissions in their official estimates,[56] and the concentration of new research on methane leaks in North		

[51] IPCC 2019, *2019 refinement to the 2006 IPCC guideline for national greenhouse gas inventories*, Vol.2, Ch.4.
[52] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 21, (2022).
[53] Jonathan Mingle, *Methane Detectives: Can a Wave of New Technology Slash Natural Gas Leaks?*, Yale E360, (2019), https://e360.yale.edu/features/methane-detectives-can-a-wave-of-new-technology-slash-natural-gas-leaks.
[54] E.g., Jeffrey S. Rutherford et al., *Closing the methane gap in US oil and natural gas production emissions inventories*, 12, Nat Commun, 4715 (2021), https://www.nature.com/articles/s41467-021-25017-4; Katlyn MacKay et al., Methane emissions from upstream oil and gas production in Canada are underestimated, 11, Sci Rep, 8041 (2021), https://www.nature.com/articles/s41598-021-87610-3.
[55] International Energy Agency, *Global Methane Tracker 2022- Overview*, https://www.iea.org/reports/global-methane-tracker- 2022/overview.
[56] International Energy Agency, *Global Methane Tracker 2022- Overview*, https://www.iea.org/reports/global-methane-tracker- 2022/overview.

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	America, is also relevant for the CCIA's decision to use 'emission factors that represent the global pool of natural gas sources, rather than a specific source.[57] While this makes sense in theory, the dearth of quality research on leakage in most countries will most likely lead to underestimates of leakage when using global reporting averages. The CCIA further notes that increased heat under climate change will lead to increased leaks as heat surpasses equipment thresholds.[58] This will be compounded by ageing equipment. Nonetheless, the CCIA fugitive methane leakage quantifications does not attempt to account for these increasing leaks over time.		
	ii. The CCIA does not consider the most relevant 20-year global warming potential of methane Methane (CH4) is an extremely powerful but relatively short-lived GHG. After a decade or so, it breaks down to CO2 and water (H2O). Its impact as a greenhouse gas is therefore different over different time horizons. Conventionally, a 100-year time horizon has been used, and the 100-year global warming potential for a tonne of CH4 is 29.8 times more than a tonne of CO2. This is the measure used in the Phakwe CCIA. On a 20- year time horizon, however, the impact of CH4 is about 82.5 times greater than CO2.[60]		**Response from CCIA specialist (Promethium Carbon)** South Africa is an IPCC member country and as such applies the 2006 IPCC Guidelines for National GHG Inventories, as referenced in the *Technical Guidelines for Monitoring, Reporting and Verification of Greenhouse Gas Emissions by Industry*[61]. As such the IPCC is the most relevant review of the data. It is important that the CCIA aligns with national legislation[62] and guidance. The *Technical Guidelines* make use of the 100 years' time horizon. Until such guidelines are updated to use the 20 years' time horizon, the CCIA must reference the 100 years' time horizon.

[57] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 21, (2022).
[58] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 42, (2022).
[60] Forster, P., T. Storelvmo, K. Armour, W. Collins, J.-L. Dufresne, D. Frame, D.J. Lunt, T. Mauritsen, M.D. Palmer, M. Watanabe, M. Wild, and H. Zhang, 2021:The Earth's Energy Budget, Climate Feedbacks, and Climate Sensitivity. In Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 1017, doi:10.1017/9781009157896.009, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter07.pdf.
[61] Department of Environmental Affairs, April 2017, Technical Guidelines for Monitoring, Reporting and Verification of GHG Emissions by Industry. Version No: TG-2016.1. Pretoria, South Africa.
[62] Department of Forestry, Fisheries, and the Environment. 2020. Amendments to the National Greenhouse Gas Emission Reporting Regulations. Pretoria, South Africa.

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	Given that the 1.5℃ 'carbon budget' is nearly spent, that the 2℃ budget is also fast closing, and that the risk of triggering natural feedbacks that lead to runaway climate change escalates between 1.5 and 2℃, the short-term impact of greenhouse gases is critical. Hence, the 20-year global warming potential for methane is more relevant than the 100-year global warming potential.		"As greenhouse gases vary in their radiative activity, and in their atmospheric residence time, converting emissions into CO2e allows the integrated effect of emissions of the various gases to be compared. In order to comply with international reporting obligations under the UNFCCC, South Africa has chosen to present emissions for each of the major greenhouse gases as carbon dioxide equivalents (CO2e) using the 100-year global warming potentials (GWPs) contained in the IPCC Second Assessment Report (SAR) (IPCC, 1996) (Table 1.1). It should be noted that this is a change from the previous inventory which made use of the GWPs in the IPCC Third Assessment Report (TAR) (IPCC, 2011). This change was implemented in order to comply with the UNFCCC requirements. Readers should therefore not compare the values provided in this inventory with the previous inventory but rather use the trends in this NIR to track changes from 2000 to 2015."
	4.3.4. Project emissions are high, and nearly double if including international emissions and using a 20-year global warming potential For the CCIA's formal emissions quantification, only national emissions are counted, leaving out the greater part of upstream emissions that take place abroad or en route to South Africa. Hence, Phakwe's direct and indirect operational emissions are given as 4.98 Mt/y and 149 Mt over the lifespan.[63] Projects with emissions of 1.5 to 15 MtCO2e/y are considered in South Africa to have a high climate impact. Projects with emissions over 15 MtCO2e/y are categorized as having a very high impact. Phakwe is thus assessed to have a high climate impact. In the table below, we list Phakwe's direct and indirect operational emissions as quantified by the CCIA. International		**Response from CCIA specialist (Promethium Carbon)** South Africa is an IPCC member country and as such applies the 2006 IPCC Guidelines for National GHG Inventories, as referenced in the *Technical Guidelines for Monitoring, Reporting and Verification of Greenhouse Gas Emissions by Industry*[64]. As such the IPCC is the most relevant review of the data. It is important that the CCIA aligns with national legislation[65] and guidance. The *Technical Guidelines* make use of the 100 years' time horizon. Until such guidelines are updated to use the 20 years' time horizon, the CCIA must reference the 100 years' time horizon.

[63] **No footnote details in original letter**
[64] Department of Environmental Affairs, April 2017, Technical Guidelines for Monitoring, Reporting and Verification of GHG Emissions by Industry. Version No: TG-2016.1. Pretoria, South Africa.
[65] Department of Forestry, Fisheries, and the Environment. 2020. Amendments to the National Greenhouse Gas Emission Reporting Regulations. Pretoria, South Africa.

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	emissions are in italics. We have added the final two columns to recalculate fugitive emissions of methane on the 20- year horizon. This assessment shows that inclusion of international emissions and use of the 20-year global warming potential for methane nearly doubles the emissions annually (from 4.98 MtCO2e/y to 9.63MtCO2e/y) and over the lifetime of the project (from 149.25 MtCO2e/y to 288.69 MtCO2e/y). These underestimations through the manipulation of assumptions are fatal flaws in the CCIA. **Table 1: Phakwe operational emissions (Mt CO_2e)** Category / Source / Annual / Lifespan (30 yrs) / CH_4 20y GWP, Annual / CH_4 20y GWP, Lifespan (30 yrs) Direct emissions / Burning fossil gas / 4.74 / 142 / / Indirect emissions / Fuel & energy emissions of suppliers / *2.13* / *64* / / Indirect emissions / Fugitive emissions (national) / 0.242 / 7.25 / 0.67 / 20.08 Indirect emissions / Fugitive emissions (international) / *0.755* / *22.60* / *2.09* / *62.60* Total indirect national and international emissions / / 3.13 / 93.85 / 4.89 / 146.68 Total national direct and indirect emissions / / 4.98 / 149.25 / 5,41 / 162,08 Total national and international direct and indirect emissions / / 7.87 / 235.85 / 9.63 / 288.69 NB: 20-year GWP for methane used is 29.8; 100-year GWP for methane used is 82.5		
	4.3.5. The EIA relies on outdated climate studies The EIA relies on an outdated Intergovernmental Panel on Climate Change ("IPCC") data from its Fifth Assessment Report ("AR5"), whereas the most recent Sixth Assessment Report ("AR6") emphasizes that the world is far worse off than previously predicted and underscores limiting the implementation of new fossil fuel projects and increasing investment in renewables.[66]		**Response from CCIA specialist (Promethium Carbon)** This has been updated in the CCIA report (**Appendix I** of the EIA Report).
	4.3.6. Vulnerability to climate change		**Response from CCIA specialist (Promethium Carbon)**

[66] Shukla et al, Summary for Policymakers: Report on Mitigation of Climate Change, IPCC (2022), Secs. B.7 and B.7.2.

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	The CCIA notes climate risks relating to rising heat and humidity, heat stress for workers, and rainfall – floods and drought – but it finds 'no significant risk factors' and calls for no adjustments to account for these impacts.[67] This is a significant underestimation of risk.		It was assumed by this CCIA that physical climate risks and impacts have been included in the baseline of the project design.
	i. Floods and cyclones The CCIA notes that increased flooding and tropical cyclones can be expected in the future.[68] The implications can be judged in relation to the 2022 floods, and cyclones Domoina and Idai. The 2022 April floods dropped 230mm over four days on Richards Bay, with 120mm falling on the night of 11 April. Reports mention gale force winds (i.e. between 50 and 100 km/h) but the focus is on flooding. In uMhlathuze Municipality 22 homes were destroyed and many more were damaged. Roads were also damaged.[69] Durban took the brunt of the storm with over 300mm falling in 24 hours at Virginia Airport and winds gusting at 70 km/h at the port.[70] Across KZN, about 450 people died and more were missing, 40,000 were displaced and 12,000 homes were completely destroyed.[71] Roads and bridges were swept away, particularly in black townships, and water and sewage pipes were broken. In 1984, Domoina, classified as a severe tropical storm, moved south down the Mozambique channel. Peak windspeeds reached 100 km/h before the storm made landfall in Mozambique. It weakened as it moved inland, pushed up against		**Response from CCIA specialist (Promethium Carbon)** The CCIA references directly: "*Furthermore, tropical cyclones and wind speeds are likely to increase globally. These climatic changes increase the possibility of irreversible changes in the way the planet, and in turn, human societies and economies will function… Climate change projections have also indicated that the east coast of South Africa may experience tropical cyclones. Severe tropical cyclones made landfall on the east coast of South Africa in the past. Under projected climate change conditions, these hazards along the east coast are likely to become more vulnerable to tropical cyclones in the future*[75]*… in the past there have been tropical cyclone events present in Mozambique, i.e., Cyclone Idai, which fortunately did not migrate South. However, if such movements do occur in the future, the project should consider the risk of floods on operations and project site*." Further to this, current climate models are not able to accurately predict extreme weather events.

[67] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 53, (2022).
[68] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 40, 33, and 10, (2022).
[69] T. Head, *City of uMhlathuze sources provincial and national funding for storm repairs*, (21 April, 2022), https://zululandobserver.co.za/268433/city-of-umhlathuze-sources-provincial-and-national-funding-for-storm-repairs/.
[70] Lyse Comins, *KZN FLOODS: 20 dead, Durban port operations, logistics come to grinding halt*, Freight News, 12 April 2022.
[71] Relief Web, *South Africa: Floods and Landslides - Apr 2022*, https://reliefweb.int/disaster/fl-2022-000201-zaf at 8 July 2022.
[75] Green, A.N., Cooper, J,A,G, Louriero, C., Hahn, A., and Zabel, M., 2021: Stormier mid-Holocene southwest Indian ocean due to poleward trending tropical cyclones, Natural Geoscience, 15, 60-66.

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	the eastern escarpment and then turned to move back out to sea with the eye passing over St Lucia. The storm dropped over 900mm at Pigs Peak in Swaziland before turning south along the escarpment to produce massive flooding in the Usuthu, Pongolo and Mfolozi catchments. The Zululand coast from Richards Bay north experienced intense rainfall with St Lucia recording 548mm in one day and 700mm over three days.[72] Across the three countries, 242 people died. In 2019, Cyclone Idai developed as a category 3 to 4 cyclone in the Mozambique Channel off Beira. Windspeeds were 195 km/h gusting up to 280 km/h but weakening to 177 km/h when it made landfall in Beira on 15 March 2019. It brought a 4.5 metre storm surge and 660mm rain over five days. More than 1,000 people were killed in Mozambique and Zimbabwe and about 300,000 were left without shelter as their homes were partially or wholly destroyed.[73] Climate scientists have warned that tropical cyclones are moving further south as the oceans heat up. Francois Engelbrecht of the Wits Climatology Global Change Institution comments on 'the possibility of a category 3 or 4 hurricane making landfall at Maputo or Richards Bay or moving into the Limpopo river valley.' He adds, 'I don't think we are prepared at all for that kind of event.[74] The CCIA does not anticipate it or propose strategies to prepare for this kind of severe weather.		
	ii. Drought, heat, fire		**Response from CCIA specialist (Promethium Carbon)**

[72] Z Kovàcs, D Du Plessis, P Bracher, P Dunn, G Mallory, 1985, *Documentation of the 1984 Domoina Floods*, Department of Water Affairs.
[73] JBA Risk Management, *Cyclone Idai causes extensive flooding across Mozambique, Malawi, and Zimbabwe*, (2022), https://www.jbarisk.com/flood-services/event-response/cyclone-idai.
[74] Carol Paton, A Day Zero in Gauteng is SA's most serious immediate climate risk, Business Live, 19 August 2021. See also Jennifer Fitchett, *Climate change has already hit southern Africa. Here's how we know*. The Conversation, 24 October 2021.

NO.	COMMENT	RAISED BY	RESPONSE
	The CCIA says that Richards Bay will become hotter, with more extreme hot days, and likely dryer overall with increased drought and fire risk.[76] Hot weather will increase power demand and water demand including at the plant. Drought will reduce water supply. The CCIA merely asserts that the water allocation from uMhlathuze is sufficient for the plant's substantial water demand.[77] The CCIA states says that the 2013-2017 drought resulted in level 4 water restrictions affecting industry, communities and agriculture, but does not acknowledge that such droughts, likely to increase and be exacerbated by El Niño, may affect the plant.[78]		As per the Scoping Report[79], The Phakwe Richards Bay Gas Power 3 CCPP will consume up to 1 130 000 m3 of water per annum at base load and 755 000 m3 per annum at mid-merit. The volume of water required will be dependent on the final design of the facility as well as on the technology. The volume of water required will be supplied via the Richards Bay IDZ water supply network that has an allocation from the uMhlathuze Municipality Water Works. Predicted water stress and seasonal variability for Richards Bay was assessed using the World Resources Institute's Aqueduct tool.
	iii. Social vulnerability The CCIA's description of the ways that climate change affects local populations is cursory and fails to consider the particular role of the plant in exacerbating the vulnerabilities amplified by climate change. The industrial development of Richards Bay and the surrounding countryside has already destabilised local communities. This process is ongoing and still marked by violence and conflict. It gives rise to a volatile social order which increases vulnerability to climate impacts even as global heating winds up the social stresses. The gas plant would add to these stresses. In addition, as noted in the alternatives section, the uneconomical nature of the gas plant mean that electricity will be more expensive for local populations than it would be if it were to come from more economical renewables. These higher costs, passed on to consumers, will stress these populations, particularly as they are more dependent on electricity as ever with rising heat		**Response from CCIA specialist (Promethium Carbon)** The CCIA covers social contexts considering the province, district, and local municipal context in terms of population, access to education, poverty, inequality, and basic services. This is also linked to the vulnerability and the ability of the local population to cope with the impacts of climate change. Further analysis into social vulnerability should be covered by the Social Impact Study.

[76] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 33-34, (2022).
[77] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 41, (2022).
[78] Promethium Carbon, *Specialist Climate Change Impact Assessment, Phakwe Richards Bay Gas to Power 3 CCPP*, at 41, (2022).
[79] Savannah Environmental. January 2022. Scoping Report for the Phakwe Richards Bay Gas Power 3 Combined Cycle Power Plant, Richards Bay, KwaZulu Natal.

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	necessitating air conditioning. The CCIA says nothing of these interacting stresses.		
	4.4. Socio-Economic Impact 4.4.1. Economic impacts The EIA report claims that economic impacts are wholly good: security of electricity supply; increased national and local investment and GDP and hence also taxes; increased local jobs and skills development. The security of supply issue is discussed above. In short, CCGT is not called for. Investment, GDP growth and jobs can be, and invariably are, claimed for any project whatever. However, the investment in gas comes at the cost of investments in renewables which gives better returns on all these indicators. The Phakwe economic assessment uses an Input-Output Multiplier Model to calculate impacts. For jobs, it claims 600 direct jobs during 3 year construction period, 1,267 indirect jobs and 621 induced jobs; followed by 60 direct jobs during operation, 53 indirect and 44 induced jobs. The direct jobs are presumably given by the project. The numbers for indirect jobs (in companies that supply the plant), and induced jobs (from local spending by employees) are generated by the model and may be taken with a pinch of salt. Skills development is narrowly focused on how to run a gas plant. Meridan Economics June 2022 report shows that high demand gas plants come at a price premium of about 40% relative to equivalent renewable capacity backed by low demand OCGT		**<u>Response from SEIA specialist (Urban Econ)</u>** 1. The comment made is correct in that the Phakwe CCGPP investment project will have a positive economic impact in the local economy during the construction and operational phases. The project will contribute to increased national and local investment, GDP and hence also taxes; increased local jobs and skills development. The project will also contribute towards securing electricity supply. 2. The economic impact assessment does not consider the security of supply. 3. The comment is correct in that the economic impacts of the project have been determined by means of an Input / Output model. The Input-Output model is recognized as an accepted economic tool that captures the direct and indirect economic impacts on the economic system. It measures the impacts in terms of additional GVA, production, income and employment that will be generated in the economy because of the investment. 4. Given the nature of the plant and its expected operational life, the focus is on skills development in line with the operations over the life of the proposed plant. Additional opportunities for skills development are likely to emerge as indirect impacts of the project. The comment is correct in that the economic assessment does not speculate on the nature of such additional skills development opportunities which are likely to be realized. 5. The assessment does not consider other (renewable) energy generation projects as alternative as no such projects have been proposed. It falls

NO.	COMMENT	RAISED BY	RESPONSE
	or storage. It will thus add to the cost of electricity. At the Nersa hearings into Eskom's tariff applications since 2009, opposition to price hikes is common to all sectors from big industry to local business to community. For community, it should be recalled that some 60% of South Africans are poor and already have to choose between food and the means to cook it. Further, many of those in the next income band (60-80%) are vulnerable to being tipped into poverty. This contradicts the Phakwe economic impact assessment which asserts that the project will improve energy efficiency and therefore the international competitiveness of industry and hence contribute to the balance of trade.[80] Somewhat oddly, the assessment ignores the rather more direct impact of importing capital equipment or gas. For imported plant, it says that benefits accrue to the exporting country and are excluded from the assessment. It does not discuss gas imports at all but merely cuts and pastes from the now very dated IRP 2019 which notes, without discussion, a 'gas supply and foreign exchange risk', but assumes that short term gas imports will be replaced by local and regional gas resources – as if regional gas (from Mozambique) is not also imported. Thus, the assessment ignores the foreign debt, balance of trade and currency exchange implications of the project. The volatility of gas prices, coupled with the volatility of the Rand, adds a dimension of uncertainty and the risk will be imposed on the public, not the project. Both the price and the physical supply of gas will also be subject to geo-political shocks as the Europeans		outside the scope of this economic impact assessment to consider alternative options that have not been identified. 6. The poor communities of South Africa suffer the most because of their low-income levels and high unemployment levels. The proposed project will contribute to employment creation and improving the supply of electricity in the country. Thus, it will partly contribute to greater economic stability and employment creation, enabling poor communities to better afford food and the means to cook it. The electricity output of the proposed project feeds into the national grid and does not, by itself, determine the price of electricity in the country. 7. The economic impact assessment is correct in that the Phakwe project will contribute to improving the supply of electricity and thereby the international competitiveness of industry and contribute to improving the balance of payments. 8. South Africa experiences a shortage of electricity and there is a need for additional sources of energy to reduce the pressure on the national grid and to reduce the cost impacts of loadshedding on the economy and people. The negative economic impacts of loadshedding are well documented and it is within this context that this project is considered. In July 2022, President Cyril Ramaphosa introduced new emergency measures to deal with South Africa's electricity crisis due to a shortage of energy supply in the country. Some of these measures include: • A complete scrapping of licensing requirements for private energy projects that feed into the electricity grid. • Eskom will start to buy electricity from existing independent power producers.

[80] P.46. There is no real evidence given for this claim but it presumably reflects the results of input-output modelling described in the methodology.

NO.	COMMENT	RAISED BY	RESPONSE
	have learnt following Russia's arbitrary and unconscionable invasion of Ukraine.		• A National Energy Crisis Committee has been established and brings together all the departments and entities involved in the provision of electricity. • A secure supply of electricity is necessary for the economy to be competitive. 9. Due to the energy crisis facing South Africa, the Presidency and the Department of Minerals Resources and Energy have been reducing the cost and ease of purchase of alternative energy sources. In addition to sourcing renewable energy sources, the South African government has indicated support for gas powered plants to deal with the energy crisis. 10. The economic assessment report correctly excluded the impact of imports as illustrated under section 6 (Economic Impact Assessment) of the report. It also correctly does not take the impact of gas imports into account. 11. The study focusses on the Phakwe project and the local economy impact that it will have. It does not cover within the scope of this assessment foreign debt, balance of trade and currency exchange implications of the project. Nor does it deal with the volatility of the Rand. Those are financial risk considerations that the developer will consider. The economic impact assessment does not consider geo-political shocks as the Europeans have learnt following Russia's arbitrary and unconscionable invasion of Ukraine.
	4.4.2. Social impact The social impact study is very thin and occasionally risible. For example, it suggests that local mental health may improve because people will not be stressed by loadshedding. This is entirely speculative. People living next to Eskom's existing power stations are not spared loadshedding.		**Response from SEIA specialist (Urban Econ)** 1. The local community and businesses are in support of the Phakwe Power Plant due to the new investment and employment opportunities to be created. 2. The comment is correct in that the assessment considers new employment opportunities as having a positive social and economic impact. The job

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	As may be expected, it sees the jobs having a positive social impact. Construction jobs are likely to peak at around 1,300 with an average of 600 over three years. It says this is likely to create a very minor 'demographic impact' as most of the workers will be local and the project is not big enough to make a material difference. So the EIA does not expect a big influx of men looking for work and it sees no gender impact. There is no discussion of where in uMhlathuze workers will come from or if they will be bussed in and out daily. Nor does the EIA consider the effects of a short term windfall of employment, mostly of men, or of what follows as the jobs dry up. Such considerations might require a close look at how people live in Richards Bay. In this assessment, however, the social is reduced to an entirely abstract set of indicators: demographics, education, employment etc. This covers over a long history of dispossession driven by the industrial development of Richards Bay itself and the surrounding mines and timber plantations and extreme levels of violence and conflict linked with local political control of patronage – notably in relation to contracts and jobs.67 Of this, there is no mention.		seekers are expected to come mainly from the greater uMhlathuze and King Cetshwayo Municipalities, but also from across the province and country depending on the skills required and employed contract companies (Section 6.1.4). A suggestion has been made in the report for a preference in employment to be given to the local people of uMhlathuze as this may be beneficial in reducing factors such as crime in the local area (Section 5.3 and Section 6.2.4). Very short-term impacts of persons looking for work is likely to take place. 3. The assessment takes into account that the proposed plant falls within an industrial estate of Richards Bay to which people already travel daily. It has not been determined whether the workers will be "bussed in" or whether they will come to work on their own accord. The workers are likely to mainly come from the local areas such as uMhlathuze but also from further afield. It is not possible at this point in time to identify the specific areas from where the workers will be drawn and, in fact, employed.
	4.5. Gas supply The viability of the project depends on the gas supply by pipeline from an LNG regassification plant in the port. This plant figures in a strategic environmental assessment (SEA) commissioned by the port authority. It will also be subject to an EIA. The pipeline will also need a separate EIA. The viability of this investment in turn will depend on the offtake of gas from Phakwe and other projects.		The project is complex and depends on several factors together with timelines. One of these factors is that the gas supply needs to be determined, i.e. a supplier is needed and also the suppliers need confirmation that there is an off-taker to take the gas. All the projects need to be synchronised in time, but these projects are driven by different stakeholders as one part cannot be responsible for everything. In terms of this particular project, the procurement process for gas to power to be issued by government will determine the timeframe for project implementation. Following the bid, the project would need to be selected as a preferred bidder and would need to reach financial close before construction can start. This process could take up to three years meaning that

NO.	COMMENT	RAISED BY	RESPONSE
			the power plant would be operational only around 2026. It is expected that this 3 – 4-year period would coincide the time period that the government / Transnet port authority will also take to complete their assessment and studies for the establishment of a terminal in the port, and for the construction of that terminal. This means that the port timeframe needs to align with the gas suppliers/producers. Transnet has already issued a request for proposals for a terminal in Richards Bay port and was expected that an RFP for the construction of such terminals will be issued in July 2022. if there is no pipeline to bring gas to the site, the project could not proceed to financial close, and construction would not be completed. We are in initial stages of the process and going ahead with the assumption that the government and different stakeholders are doing all the correct steps to create the conditions where the plant would be viable and have access to the required gas.
3.	The South Durban Community Environmental Alliance ("SDCEA") is a non-governmental organisation representing 21 community and environmental organisations concerned with environmental justice and sustainable development in South Durban, Richards Bay and KwaZulu-Natal. SDCEA represents vulnerable and disadvantaged persons whose lives and livelihoods depend on the protection of the coastal ecosystems of KwaZulu-Natal, in the vicinity of Durban. Its members include the following institutions: a. BioWatch b. City of Love Ministries c. Poor Flat Dwellers Association d. Airport Farmers Association e. Merebank Ratepayers Association f. Silverglen Civics g. Anti-Pollution Watchdogs h. KZN Subsistence Fisherfolk Forum j. Christ the King Church j. Earthlife Africa k. Athlone Park Residence Association l. Merebank Civic Committee m. Bluff Ridge Conservancy n. Urban Futures Centre o. Chatsworth Civics p. Active Citizens Movement q. Ubunye Bamahostela r. Wentworth Development Forum s. Clairwood Social Forum t. Clairwood Ratepayers Association u. Treasure Beach Environmental	Desmond D'Sa Coordinator and Tanica Naidoo Project Officer SDCEA Letter: 22 July 2022	The information as provided regarding the background to the SDCEA is acknowledged and appreciate the service that the organisation provides to various Associations / Forums etc., and it is believed that information regarding the Phakwe Richards Bay Gas Power 3 CCPP has been shared with their members and community members.

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	Legislative Context **a)** Our legislative framework on Section 24 of the Constitution and codified in the National Environmental Management Act, emphasises the duty of the state to protect the environment and to ensure when authorising potentially polluting activities, that an environment is not created that will be detrimental to our health and wellbeing. Members of the public living in the vicinity of the proposed power plant will suffer from an environment that is harmful to their health and wellbeing due to the localised impacts of the proposed power plant. Further, the contribution of new fossil fuel electricity generation will increase greenhouse gas emissions and exacerbate climate change. The impacts of climate change are already depriving South Africans of their right to an environment not detrimental to our health and wellbeing, as the current water crisis in Nelson Mandela Bay and recent flooding in KwaZulu-Natal clearly demonstrate. Therefore, approving new power generation projects reliant on fossil fuels, including gas, undermines this constitutionally protected right. The question that a decision-maker must answer is whether the stated need and desirability of the activity justifies the risks.		The purpose of the EIA process is to assess the potential impacts associated with the project and present the findings, together with inputs form the public, to the Competent Authority (DFFE in this case) for decision-making. The EIA for the proposed project includes an assessment of impacts on air quality, human health, noise and climate change, amongst others. From the specialist studies undertaken, the following is concluded: *As a result of the nature of the proposed project and the location of the proposed development site in relation to sensitive receptors, impacts in this regard are expected to be limited. Positive socio-economic impacts of the project, including employment and skills development opportunities as well as the supply of reliable electricity to the grid, are expected at a regional and national level.* *The project is expected to have a high impact on climate change. The inclusion of the Phakwe Richards Bay Gas Power 3 CCPP onto the grid could, however, contribute to a potential net reduction in GHG emissions. The total avoided emissions are 236 million tCO_2e over the lifetime of the project through the displacement of the coal baseline. This represents 3% of the South African carbon budget associated with NDC low emission pathway. In addition to this, there is a possibility that the project could avoid 556 million tons through increasing the ability of the Eskom grid to accept intermittent renewable energy over the lifetime of the project. This represents 7.2% of the carbon budget.*
	b) It is submitted below that not only must the regulator now reject any fossil fuel source for future energy, given the severity of the climate catastrophe, but also that insufficient information about negative environmental impacts is placed before the regulator to apply the best environmental practice and to make this decision, in a manner compliant with the regulatory scheme. This duty requires an assessment of the likely pollution levels, the impact		The purpose of the EIA process is to assess the potential impacts associated with the project and present the findings, together with inputs form the public, to the Competent Authority (DFFE in this case) for decision-making. The EIA for the proposed project includes an assessment of impacts on air quality, human health, noise and climate change, amongst others. These studies are undertaken in accordance with relevant Regulations and guidelines.

NO.	COMMENT	RAISED BY	RESPONSE
	(including socio-economic cost) that such pollution would have on the immediate environment, and whether there are other methods or activities that achieve what the project hopes to achieve, without these potential risks. The EIA fails to analyse these issues so as to enable the decision-maker to make a decision that is compliant. The basis of this legal argument is as follows:		
	c) NEMA Section 23, which seeks to promote the application of appropriate environmental management tools in order to ensure the integrated environmental management of activities, requires that impacts on the environment are identified with a view to minimising negative impacts, maximizing benefits, and promoting compliance with the principles of environmental management set out in section 2.		The principles of NEMA and the requirement of the Competent Authority to consider these in decision-making is noted and acknowledged. The purpose of the EIA undertaken for the project is to provide the authority with an assessment of the potential impacts and comments received from the public such that an informed decision can be made.
	d) Relevant to the NEMA principles applicable to the granting of the environmental authorisation is principle 2(4)(a)(iii): consideration of factors so that pollution and degradation of the environment are avoided or where they cannot be avoided altogether, are minimised and remedied.		
	e) Principle 2(4)(b) requires that the best practicable environmental option must be applied.		
	f) Principle 2(4) (c) requires that the principle of environmental justice be applied to a decision of this nature.		
	g) It follows that in granting the environmental authorisation under NEMA the decision-maker must not only ensure that there is compliance with prevailing legislation. It must also seek to understand the level of impact that activity could have on the surrounding environment and communities, establish the cost thereof and then determine whether there is sufficient need and desirability to take on such risk using the best practicable environmental option.		
	A Combined Cycle (CC) Gas to Power Plant		

NO.	COMMENT	RAISED BY	RESPONSE
	A gas-fired power plant is a type of fossil fuel power station in which chemical energy stored in natural gas, which is mainly methane, is converted successively into: thermal energy, mechanical energy and, finally, electrical energy. Natural gas power stations generate almost a quarter of world electricity and a significant part of global greenhouse gas emissions and thus climate change. How is electricity generated using gas? Gas is a fossil fuel which can be used to generate electricity. By burning gas, we create heat which powers a turbine. The rotation of this turbine spins a generator which creates electricity. As hot combustion gas expands through the turbine, it spins the rotating blades. The rotating blades perform a dual function: they drive the compressor to draw more pressurized air into the combustion section, and they spin a generator to produce electricity. A high efficiency, natural gas-fired combined-cycle power plant might consume about 7000 Btus of gas to produce one kilowatt-hour of electricity. That would be about 7 cubic feet of natural gas. It would therefore take about 7000 cubic feet of gas to produce one megawatt-hour. However, according to an analysis of the South African electrical grid, gas supply is not theoretically required until at least 2035, if ever. In recent years, either the risks linked with gas have increased or our awareness of the present concerns has grown. As a result, establishing a substantial gas-to-power infrastructure today may have significant negative consequences for South Africa. The reason for this is that gas investment can be predicted to result in higher consumer costs, just transition issues for labor, and losses for investors. These hazards, together with a global trend toward decarbonization, as well as cost decreases for renewable energy provisions such as wind, solar, and battery storage, constitute a foreseeable risk for gas investment for the state and its citizens. Given the dangers, developing the electricity supply sector necessitates an		The information provided by the stakeholder on a CCPP is acknowledged. The impacts associated with this proposed technology for the proposed project within Phase 1F of the RB IDZ, including those on air quality, human health and climate change have been assessed in the EIA undertaken for the project. From the specialist studies undertaken, the following is concluded: *As a result of the nature of the proposed project and the location of the proposed development site in relation to sensitive receptors, impacts in this regard are expected to be limited. Positive socio-economic impacts of the project, including employment and skills development opportunities as well as the supply of reliable electricity to the grid, are expected at a regional and national level.* *The project is expected to have a high impact on climate change. The inclusion of the Phakwe Richards Bay Gas Power 3 CCPP onto the grid could, however, contribute to a potential net reduction in GHG emissions. The total avoided emissions are 236 million tCO_2e over the lifetime of the project through the displacement of the coal baseline. This represents 3% of the South African carbon budget associated with NDC low emission pathway. In addition to this, there is a possibility that the project could avoid 556 million tons through increasing the ability of the Eskom grid to accept intermittent renewable energy over the lifetime of the project. This represents 7.2% of the carbon budget.* All information, including all comments received during the process, is presented to the DFFE for review and decision-making.

NO.	COMMENT	RAISED BY	RESPONSE
	understanding of the existing risks connected with gas, as well as the necessity of mitigating such risks through the construction of an electricity system that is reliant on inexpensive and easily available bulk supply. Renewable energy, such as wind and solar, is the most cost-effective source of bulk supply. Furthermore, in a future system based on fully developed renewables and storage, flexible and dispatchable generators such as gas turbines will be required—if at all—only on very rare occasions. Furthermore, GHG emissions will diminish the carbon budget in the energy sector, resulting in South Africa failing to satisfy its climate change obligations, putting the country at further danger of trade levies or restrictions on any domstic exports to the global north. Gas to power plants are non-renewable fuel-limited and will run out and it produces carbon dioxide and sulphur dioxide, major contributors to climate change. A combined-cycle power plant uses both a gas and a steam turbine together to produce up to 50% more electricity from the same fuel than a traditional simple-cycle plant. It is an is an assembly of heat engines that work in tandem from the same source of heat, converting it into mechanical energy. On land, when used to make electricity the most common type is called a combined cycle gas turbine plant. Waste heat from a gas turbine is routed to the nearby steam turbine, which generates extra power. The primary disadvantage of multiple stage combined cycle power plant is that the number of steam turbines, condensers and condensate systems and perhaps the cooling towers and circulating water systems increases to match the number of gas turbines. Gas turbine power plant require a special type of cooling system or method. The lifetime of gas turbine power plants are less. Layout of		

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	this plant is more complex than that of a diesel plant. Gas turbine plants are more dangerous or riskier than diesel plants. The external health damage costs of the combined cycle natural gas-fired power plant of Qom were investigated via the simplified impact pathway approach. Emitted particulate matter (PM10) and gaseous pollutants (NOx, CO, and SO2) from the power plant stack were measured. The health effects and related costs were estimated by QUERI model from AirPacts according to the emissions, source and stack parameters, pollutant depletion velocities, exposure-response functions, local and regional population density, and detailed meteorological data. The results showed that the main health effect was assigned to the nitrate as restricted activity days (RAD) with 25,240 days/year. For all pollutants, the maximum health damage costs were related to the long-term mortality (49 %), restricted activity days (27 %), and chronic bronchitis (21 %). The annual health damage costs were approximately 4.76 million US$, with the cost being 0.096 US per kWh of generating electricity. Although the health damage costs of gas-fired power plant were lower than those of other heavy fuels, it seems essential to consider the health and environmental damages and focus on the emission control strategies, particularly in site selection for the new power plants and expanding the current ones.		
	Emissions From Combined Cycle Gas Turbine The environmental impact assessment is carried out considering the power plant working continuously, and neglecting the transient contribution (start-up (cold/warm/hot start-up), shut down, load change, inclement weather and power surges which cause the plant to trip hence unexpected flaring), this approach is seen to be highly conservative according to table 4.3, this in itself could also be misleading since, on one hand, it can be interpreted as an		**Response from Air Quality specialist (Airshed Planning Professionals)** Monitoring requirements are recommended / discussed in Section 10.2 of the AQIA. A summary of annualized emissions for the source groups, including the back-up generator and turbine startup, have been added to Section 3 of the AQIA.

NO.	COMMENT	RAISED BY	RESPONSE
	overestimated pollutant mass emitted during the real normal operating hours (since actually, the annual fired hours are less and the power plant's operator maintain a safety margin on the emission threshold during normal operation), and, on the other hand, it doesn't consider the transients at all, potentially underestimating the associated emissions. There is no mention of how dispersion of the emissions will have far-reaching impacts North or South. Nowhere does the application indicate how will monitoring be done to address this problem beyond your fence line and how will incidents of this nature be dealt with. Impacts on the health of local communities will be far more devasting, and according to this application there is no evidence that this was factored in to any assessment and has been down played. Therefore, looking at Table 4:3 this is further explained: **Table 4.3 – Atmospheric pollutant emission rates for the project (Emission Factors)** • Fails to consider what these emission rates would be annually. • Under the "**type of emissions column**" there is no indication of what a set of **routine emissions** looks like? Over how many days will this "**routine emissions**" situation possibly occur and under what circumstances would this like occur. • As above under the "**type of emissions column**" there is no indication of what **intermittent Emissions** look like or what type of situations contribute to "b". • Lastly under the "**type of emissions column**" there is no warning of what is to be expected **under emergency** only situations. Due to the lack of this critical information how can we take these emission factors seriously because they do not reflect worst case		Table 4-3 summarises the National Dustfall Regulations. However, in Section 3 (Table 3-4 – Table 3-8, inclusive) the emission conditions (for example stack height, diameter, flue gas exit temperature and velocity); emission rates and concentrations; and the emission hours and the "type of emissions"; as well as the basis for emission rates. All turbine emissions are considered to be continuous during operation (and are therefore not in the categories routine, intermittent or under emergency conditions) and are qualified by the previous column ("Emission hours"). Start-up and shut-down emissions are discussed in Section 3.4 and were based on a conservative estimate of daily start-up of 30 minute duration. The conditions for use of back-up generator have been explained in more detail and the emissions have been estimated and included in Section 3.4.

NO.	COMMENT	RAISED BY	RESPONSE
	scenario. Worst case scenarios give people an indication of what to expect in emergencies, what to do when being exposed to toxic chemicals and must be accompanied with practical steps for communities to follow for example people should not to leave their homes if a plume of pollutants is blowing in the direction of their community (also taking into consideration wind direction that can move pollutants anywhere in a matter of seconds). This relevant information is lacking and must be declared up front and not after the fact. Furthermore, critical information lacking in this impact assessment is: emissions during start-up and shutdown.		
	Impacts of Methane 'Natural gas' has long been advertised by the fossil fuel industry as clean, green, and an answer to our climate woes. But gas is a fossil fuel and we see right through the greenwashing. Wikipedia defines fossil gas or liquid Natural Gas (LNG) as "A natural gas (predominantly methane, CH4, with some mixture of ethane, C2H6) that has been cooled down to liquid form for ease and safety of non-pressurized storage or transport. It takes up about 1/600th the volume of natural gas in the gaseous state (at standard conditions for temperature and pressure). LNG is odourless, colourless, non-toxic, and u. Hazards include flammability after vaporization into a gaseous state, freezing, and asphyxia. Natural gas has long been considered by many to be a "bridge fuel," a safer, cleaner alternative to coal and oil, and an incremental step to reduce the greenhouse gas (GHG) emissions that are driving climate change. It is true that, compared with coal, burning gas emits		The Climate Change Impact Assessment (Appendix I of the EIA Report) considers the impacts of Greenhouse Gas Emissions associated with the project. As detailed in the report, GHGs are defined as follows: *"Greenhouse gasses (GHGs) are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the Earth's surface, the atmosphere itself and by clouds. This property causes the greenhouse effect. The Kyoto Protocol deals with the following greenhouses gases, carbon dioxide (CO2), nitrous oxide (N2O), methane (CH4), Sulphur hexafluoride (SF6), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs)."* The CCIA states the following regarding the methodology used in the impact assessment: *"The fugitive emissions were calculated using emission factors published by the IPCC in their 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2, Chapter 4. These emission factors are generated by the IPCC by gathering available data and scientific literature,*

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	just half as much carbon dioxide, the GHG that is the primary driver of climate change. However, gas extraction, processing, and transport also emits GHGs, including large amounts of methane from leaks and intentional releases at wells, pipelines, storage, and processing facilities. Methane, which is the principal component of gas, does not persist in the atmosphere as long as carbon dioxide, but its climate impact is more than 80 times stronger in the short-term (20-year) time frame and 28 times stronger over the long-term (100-year) time frame; it is the second-biggest driver of climate change. Gas production systems are already the second-largest emitters of methane in the country. Methane is a fast-acting greenhouse gas with enormous short-term impacts on climate. It leaks at every stage of the natural gas production and transportation process. Methane leakage may make natural gas as bad as coal, but it's not the reason gas has no future. While gas itself is less carbon-intensive than coal, if enough methane leaks during its production, its greenhouse gas advantages are wiped out. Methane in general is marketed as "clean" fossil fuels, but this is a relative term and applies only when comparing the combustion emissions of methane to the combustion of coal, a notorious polluter. This fossil gas growth is incompatible with a healthy climate. In order to achieve the Paris Agreement goal of keeping warming under 1.5 degrees Celsius – a goal scientists warn must be achieved to avoid the worst impacts of the climate crisis – gas production and consumption must drop by u worldwide over the next decade. Yet in a vicious cycle, increasing gas exports promotes new gas production, and new gas production drives an expansion of gas exports. The concentration of methane in our atmosphere is steadily increasing, reaching record-high levels in 2019 that were nearly 15		*including literature on natural gas handling. We are aware that there have been reports which claim that methane emissions from natural gas systems have been significantly underestimated. However, these reports constitute a minority and have been taken into account by the IPCC. Thus, it is our expert judgment that the IPCC values are a good representation of existing natural gas technologies and fully represent the fugitive emissions of methane from natural gas systems."* **Response from Air Quality specialist (Airshed Planning Professionals)** The hazards associated with methane (natural gas) leaks are noted and are to be assessed in the Major Hazard Installation assessment that will be prepared for the project, with specifics relating to the potential emergency events for the project and how they would be avoided. Regular maintenance, control and emergency prevention for the facility will thus be incorporated in the operational health and safety programme implemented during operation.

NO.	COMMENT	RAISED BY	RESPONSE
	percent higher than in the 1980s. Methane persists in the atmosphere for less time than carbon dioxide but traps much more heat. That's why it has a stronger climate impact in the near-term, 20-year time frame than over the 100-year period that is used in most life-cycle assessments, climate modelling, and goal setting. However, the IPCC has concluded that we have only a few decades to rapidly reduce GHG emissions and limit global warming; emissions need to be cut by more than 75 percent in the next two decades and reach net-zero by mid-century. This makes LNG exports and, indeed, the continued and potentially increased use of gas, a more immediate—and less appreciated— climate threat than is indicated by simply comparing carbon dioxide emissions from gas combustion with those of other fuels or by using life-cycle assessments of GHG emissions that use the 100-year time frame. A report suggests that wind and solar farms in South Africa are now 57% cheaper than combined-cycle gas plants for bulk electricity supply, while three-hour battery storage was 30% cheaper than simple cycle gas plants for covering peak power demand (when calculated on the Levelised Cost of Energy Analysis metric).		
	Air Emission Impacts We require to know if a cumulative air quality assessment has been done for the current gas to power plants already implemented in Richards Bay. This is to ensure proper fence line monitoring of all the chemical emissions. We also require the assessment of the increase in the number of vehicle emissions from the development of gas to power plants, both land and sea transportation. We also require the current and proposed cumulative emissions, storage tanks, effluent and sludge dams, onsite traffic, fugitive leaks (facility-wide), in-stack monitoring, and flaring emissions. They need to assess what the worst-		**Response from Air Quality specialist (Airshed Planning Professionals)** The stakeholder's concern regarding cumulative impact of gas-to-power plants in Richards Bay is noted. The uncertainty regarding how to account for all plants for which environmental authorization has been sought is discussed in Section 8 of the AQIA, including those facilities that have already been authorized and those for which sufficient information could be sourced from the public domain. When included in the original assessment, the combined impact of storage tanks, effluent dams, vehicle exhaust and entrainment emissions have been included in the current cumulative assessment. As far as the author is aware,

NO.	COMMENT	RAISED BY	RESPONSE
	case scenario is and the risk assessment approach to be done not just on the fence line community but on the inside of the plant.		flaring is not considered for any of the gas-to-power facilities proposed for Richards Bay. In-stack monitoring (at least annually) will be a requirement of the atmospheric emissions licenses that all the proposed and authorized gas to power facilities will require to operate. These emissions are considered to be the largest proportion at all facilities and were included in all original assessments. The emissions and impact associated with LNG (or LPG in the case of other proposed facilities) import and/or distribution from the Port of Richards Bay is specifically excluded from the scope of work for the current application and therefore from the cumulative assessment. The AQIA followed the Regulations Regarding Air Dispersion Modelling (Government Gazette No. 37804 vol. 589; 11 July 2014) to simulate **ambient** air quality. NEM:AQA (Act No. 39 of 2004) defines **ambient** air to exclude air regulate under the Occupational Health and Safety Act (Act 85 of 1993), typically applied within the facility boundary. The AQIA assessed compliance with the National Ambient Air Quality Standards outside the facility boundary. Emissions from the relatively tall turbine stacks (60 m), from which the largest emissions will be released, are more likely to impact off-site than on-site.
	Safety and Security Threats What are the evacuation and control plans in case of an emergency, explosion or unforeseen weather event? We also require a functional emergency plan with mitigation measures for all these extreme weather scenarios, and must also include alternative routes, and safety zones. What communication methods will you have to let people know in the event of an emergency and at what radius will there be an evacuation?		As a result of the risk assessment study conducted for the proposed PRBGP3 facility in Richards Bay, a number of events were found to have risks beyond the site boundary. These risks could be mitigated to acceptable levels, as shown in the Quantitative Risk Assessment report (**Appendix N** of the EIA Report). Specifications relating to the implementation of appropriate emergency response plans, are included in Objective 5 of Section 8.1 of the EMPr for the facility (Appendix O of the EIA Report).

NO.	COMMENT	RAISED BY	RESPONSE
	In the case of an explosion of a certain part of the plant, what is your first layer of protection, and what is the next step of protection to prevent other parts from exploding?		
	Social Enhancement Study A social enhancement study needs to be done and this project will affect both the livelihoods of people in communities and in businesses.		**<u>Response from SEIA specialist (Urban Econ)</u>** The suggestion of a social enhancement study is supported and included as a recommendation to the Socio-Economic Impact Assessment Report (**Appendix L** of the Final EIA Report), and has been included in the project EMPr (**Section 6.1**).
	Health Study A comprehensive pre-health study needs to be done as this will have serious health impacts on the people in Richards Bay and in the surrounding areas. A risk assessment of the worst case scenario needs to be done on the senseline and beyond. A risk assessment on all the routes, equipment, pipelines, vehicles and machinery is needed as there are homes, businesses and malls in close proximity to the proposed development.		A Human Health Risk Assessment and Rapid Appraisal Health Impact Assessment have been undertaken for the project (refer to **Appendix H** for the EIA Report).
	Public Participation There has been 1 public meeting that was supposed to be held in June, but due to loadshedding, it was cancelled. There has been no other public meetings after this, besides a poster viewing. The meeting was only advertised in the local newspaper, but many people do not have access to it. No requests were received from I&APs or community members to reschedule the Public Meeting that had to be cancelled due to unscheduled loadshedding. All parties who registered to attend this meeting were informed of the meeting cancellation via email and invited to attend the poster session, which one of our members duly attended. The Savannah Environmental project team were at the venue until after 5pm in order to receive any such requests should parties arrive at the meeting in response to		A number of meetings were held during the 45-day review period for the EIA Report, including: » Focus group meetings: Virtual focus group meetings were held with commenting and key government departments, stakeholders and landowners during the 45-day review and comment period of the EIA Report. The purpose of these focus group meetings is to provide an overview and key summary of the findings of the EIA studies in order to facilitate comments on the EIA process, and EIA Report and specialist studies, as well as to record any issues or concerns raised by the attendees stakeholders during these meetings regarding the project. The meeting notes minutes of these meetings are included in the final EIA Report as **Appendix C8**.

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	the newspaper advert in the Zululand Observer. No attendees arrived. How do you plan on broadening your reach to include the people that will be affected, such as fishermen, land owners, business owners, rural communities and all people in Richards Bay and its surroundings?		» Key Stakeholder Workshop: A Key Stakeholder Workshop was held with Officials from all Government Departments and representatives from various Companies and Organisations on the project database during the 45-day review and comment period of the EIA Report. The purpose of the Key Stakeholder Workshop was to provide an overview and key summary of the findings of the EIA studies in order to facilitate comments on the EIA process, EIA Report and specialist studies, as well as to record any issues or concerns raised by the attendees during the Key Stakeholder Workshop regarding the project. The workshop notes are included in the final EIA Report as **Appendix C8**. A member of SDCEA attended this Key Stakeholder Workshop. » An information session was held at Pelican Hall, Buscom Centre, Zululand Chamber of Business Forum Community Park, Guldengracht, Alton, Richards Bay on Thursday, 23 June 2022 at 15h00. The Information Session included a poster display from 15h00 to 17h00. The information session, followed by a public meeting was planned to be held but could not be held due to unscheduled loadshedding and a lack of back-up power. The project team was informed on short notice (i.e. morning of the public meeting) of the unscheduled loadshedding. Those I&APs who registered their attendance at the public meeting (as requested in the EIA Report notification and public meeting invitation letter dated **03 June 2022** and in the newspaper advert in accordance to the COVID-19 Regulations in place at the time) were contacted telephonically to inform them of the unscheduled loadshedding and the cancellation of the public meeting, and they were requested to attend the poster session. A member of SDCEA attended the poster session (refer to **Appendix C8** for noted of the information session, including the attendance register). Where the registered I&AP could not be reached telephonically a WhatsApp was sent to them (refer to **Appendix C6** of the final EIA Report). The project team stayed at the venue until 17h30 such that, in the event that should a community member arrive as a result of the advertisements in the two local

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			newspapers, the project information could be conveyed to them in printed form. No community member/s arrived at the venue. » In order to ensure that community members received information regarding the proposed project, the relevant Ward Councillors were contacted and information provided to them regarding the project. This included a summary of the findings of the assessment in English and Zulu. During this consultation process, they were also requested to disseminate the information to the applicable Ward Committee Members, Rate Payers Associations and any interested stakeholders such as education institutions. Proof of correspondence with the Ward councillors and the distribution of the information is included in Appendix C6 of this report. As the SDCEA has stated that they represent communities within the Durban and Richards Bay areas, it is expected that they would have informed their members and community members they represent of the proposed development and urged them to register on the project database to be part of the consultation process, attend the meetings scheduled and submit comments on the EIA Report, executing their right to comment on the EIA Report once registered.
	Alternatives It is required by law to investigate alternatives. We need an investigation done on environmentally-friendly, renewable alternatives. This is critical in order for people to weigh their options. All information to alternatives, such as costs, job creation, environmental and health impacts is needed.		As detailed in Chapter 4 of the EIA Report, the need for a diversification of the technology mix for power generation has been considered at a national level when considering energy planning for the country. The fundamental energy generation alternatives were assessed and considered within the development of the IRP and the need for the development of both gas generated energy and highly flexible generation capacity to support the uptake of renewables as part of the energy mix has been defined. As detailed in Chapter 2 of the EIA Report, gas is considered a transition fuel globally and it provides the flexibility necessary to run a system like South Africa has in a cost-effective manner. It is cleaner than other fossil fuels. Therefore, the IRP 2019 provides for the development of 3000MW of new capacity from gas to power projects. The

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			extent of the gas contained in the draft IRP is within the imposed emissions reduction trajectory committed to by the country. As detailed in the IRP 2019, the transition of the energy mix must still include the use of non-renewable energy fuel resources in order to allow for the development of the renewable energy sector and the associated infrastructure, as well as enable the establishment of energy developments that can fill the gaps in terms of supply considering the use of renewable energy. Without allowing the transition of energy technologies and energy fuel resources, the path to a lower carbon economy may be severely constrained (i.e. not socially just and sensitive to the potential impact on jobs and local economies) as the gaps created from the decommissioning of coal-based technology and power facilities, without catering for the required energy supply through the use of better technology during the transition process, might be too large to overcome. Gas is considered to play a vital role in this transition. The impacts of gas on air quality and climate change are acknowledged at policy level and government has recognised the potential for Green Hydrogen generation as an alternative fuel source. As stated previously, PRBGP3 intends on utilising a mix of LNG and Hydrogen (scaling up from 20%) as soon as sources of Hydrogen become available. As a result of the identified role of gas to energy technologies as part of the just energy transition detailed above, fundamental alternatives to the proposed project, including that of alternative energy development options such as renewable energy options, were not considered within the EIA report.
	Emergency Preparedness and Response Plan What is the Emergency Preparedness and Response Plan for the operation phase? What is the emergency preparedness and response activities offsite? There needs to be an assessment done measuring the cumulative impact of the Combined Cycle Gas to		As a result of the risk assessment study conducted for the proposed PRBGP3 facility in Richards Bay, a number of events were found to have risks beyond the site boundary. These risks could be mitigated to acceptable levels, as shown in the Quantitative Risk Assessment report (**Appendix N** of the EIA Report). Specifications relating to the implementation of appropriate emergency

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	power plant together with all surrounding industries, chemical plants risk assessments. Site-specific risks: • Identification of areas where accidents and emergency situations may occur • Consideration of flood risks • Identification of communities and individuals that may be impacted and have a dedicated line for complaints • Establishment of response procedures • Provision of equipment and resources • Designation of responsibilities • Communication with workers and the public • Training of safety workers, emergency response personal, fence line communities on dedicated warning signals and the associated plan of evacuation Collaborate with the potentially affected communities and local government agencies in their preparation to respond effectively to emergency situations. Phakwe gas to power plant must provide appropriate information to potentially affected communities and relevant government agencies. The emergency preparedness and response activities must be periodically reviewed and revised.		response plans, are included in Objective 5 of Section 8.1 of the EMPr for the facility (Appendix O of the EIA Report). The requirement to collaborate with potentially affected communities and local government agencies in the preparation to respond effectively to emergency situations has been included within Section 6.1 of the EMPr.
	Climate Change Impacts and Failure to Consider Renewable Energy Alternatives The EIAR claims that the project will have a positive impact on climate change with respect to avoided emissions from coal power generation and the increase of the grid to accept intermittent renewable energy. Both claims are misguided and ignore the findings of current climate science and economic policy research.		**<u>Response from Climate Change specialist (Promethium)</u>** With regards to the Meridian Vital Ambition Report under the Optimized Mitigation Scenario with new generation capacity no new coal, hydro or nuclear is included for the cost optimal scenario and instead includes gas and storage to provide for flexibility and reserve capacity as coal retires. Gas OCGT will supply on average 30 GW across 2, 3 and 3.5 GT carbon Budget scenarios (pg 35/58)

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	First, the EIAR's climate change assessment presents a false dichotomy between coal power generation and gas power generation without providing adequate analysis of the most economical and practical alternative source of power generation—renewable energy. This is the same false dichotomy on which the National Development Plan and 2019 Integrated Resources Plan (IRP) rest. As a recent report from Meridian Economics indicates, these policies pit only coal against gas while ignoring renewable energy alternatives, which have seen unprecedented cost reductions since the 2012 NDP (on which the 2019 IRP is based) was released. As the report states, "The assumption that gas-fired power generation would replace coal ignores the fact that other technology combinations are now better at replacing coal-fired power than gas, and it is against these technologies that gas-fired generation should actually be compared."[81] The result of the EIAR and CCIA embracing this false dichotomy is that renewable energy alternatives were not considered. The EIA Regulations require that the positive and negative impacts of the proposed activity and alternatives on the environment and on the community that may be affected, including an analysis of economic impacts (EIA Regulations, Appendix 3, Regulation 3(1)(h)(vii)). The EIAR and CCIA fail to assess the negative impacts of gas as compared with renewable energy alternatives as required by law. While the EIAR echoes gas proponents in claiming that gas is preferable to coal due to lower CO2 emissions, when all greenhouse gases are considered, it can be little or no better than coal. Methane has a global warming potential around 85 times that of carbon dioxide over a 20-year period, and it can escape into the atmosphere		

As the order of the Footnotes cannot be changed – the Footnote numbering continues from that as per groundWork footnotes above

[81] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), page 1, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf

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	along the gas value chain (extraction, phase transitions, transportation, and storage).[82] When studied over a 20-year period, a full supply chain study in 2019 indicated that energy produced from gas could have comparable or worse GHG emissions than power produced from coal.[83] Therefore when making climate change investment decisions, gas-to-power should not be compared to coal; instead, it should be compared to alternatives such as renewables plus storage, which can provide a similar function to gas during the coal phase-out. These non-fossil fuel-based resources emit substantially fewer GHG emissions during their entire life cycle, and several are also more cost effective.[84] If investments in these technologies are delayed or substituted by gas investments, the cumulative GHG emissions from these gas pathways may be larger than those from non-gas pathways. Second, the EIAR claims that the project will have a positive impact by enabling more renewables to come onto the grid. This claim rests on a misguided assumption that renewables are unreliable and that gas is needed as a support fuel. As a recent report from Meridian Economics states, "It is necessary to debunk the myth that wind and solar resources require support from high-utilisation flexible capacity in order to maintain security of supply."[85] The need for existing flexible dispatchable resources in order to maintain security electricity supply could be provided by the coal power that is already online and that there is little or no requirement for combined-cycle gas technology as		

[82] Myhre, G., Shindell, D. Bréon, F.-M., Collins, W., Fuglestvedt, J., Huang, J., Koch, D., Lamarque, J.-F., Lee, D., Mendoza, B., Nakajima, T., Robock, A., Stephens, G., Takemura, T., & Zhang, H. (2013). Anthropogenic and natural radiative forcing. In T. F. Stocker, D. Qin, G.-K. Plattner, M. Tignor, S. K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex & P. M. Midgley (Eds.).Climate change 2013: The physical science basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, pp. 659–740. Cambridge University Press.
[83] Roman-White, S., Rai, S., Littlefield, J., Cooney, G., & Skone, T. J. (2019). Life cycle greenhouse gas perspective on exporting liquefied natural gas from the United States: 2019 update. National Energy Technology Laboratory. https://www.energy.gov/sites/prod/files/2019/09/ f66/2019%20NETL%20LCA-GHG%20Report.pdf
[84] United Nations Economic Commission for Europe. (2021). Life cycle assessment of electricity generation options. https://unece.org/sites/default/files/2021-10/LCA-2.pdf
[85] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 46-47, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf

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	long as coal capacity continues to exist on the system.[86] Under even the most ambitious coal retirement scenarios for South Africa, this is well into the late 2030s—at which point it is likely that the already rapidly progressing technology improvements in storage technology will render any need for such flexible dispatch unnecessary.[87] The only potential role for gas that is currently considered economical is to provide low-utilisation peaking capacity after all coal-fired power is removed from South Africa's grid.[88] As indicated, this minor role for gas will only exist well after 2030 and will likely cease to exist at all with improvements in storage technology, but even if such a role does in fact exist, diesel can provide this peaking capacity with negligible economic and environmental impacts relative to gas.[89] Thirdly, there is increasing international pressure to move away from gas due to climate change impacts. According to the International Energy Agency, "no new investments in oil, gas, and coal" are permitted beginning in 2021 in order to reduce global warming to 1.5°C.[90] According to their Net Zero by 2050 report, "much of the liquefied natural gas... liquefaction facilities presently under development or in the planned stage are also unnecessary.[91] Given the international consensus (including Costa Rica, Belize, Denmark, New Zealand, France, Spain, Portugal, Ireland, and Greenland), there is an increasing need to avert a climatic disaster. This pressure will be		

[86] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 46-47, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[87] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 46-47, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[88] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 46-47, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[89] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 46-47, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[90] Harvey, F. (2021). No new oil, gas or coal development if world is to reach net zero by 2050, says world energy body. The Guardian. https://www.theguardian.com/environment/2021/ may/18/no-new-investment-in-fossil-fuels-demands-top-energy-economist;
[91] International Energy Agency. (2021). Net zero by 2050–A roadmap for the global energy sector. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c-10b13d840027/ NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf

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	heightened by the European Union's implementation of a Carbon Border Adjustment Mechanism beginning in 2023. This is a levy on imports into the European Union depending on the quantity of carbon emissions caused by their production, and it encourages the use of electricity sources that emit less carbon than gas-to-power. Should South Africa lock itself in to gas to power projects, it does so to its own detriment.		
	Need and Desirability of a Combined Cycle Power Plant One of the primary objectives of the environmental assessment process is to describe the need and desirability of the proposed activity (EIA Regulations, Appendix 3, Regulation 2(b)). As such, an environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, including a motivation for the need and desirability of the proposed development (EIA Regulations, Appendix 3, Regulation 3(1)(f)). The EIAR states that the 2019 Integrated Resource Plan (IRP) includes the allocation of 3,000MW of new gas capacity by 2030. The need and desirability analysis also relies heavily on a presumption that South Africa will require significant amounts of gas as part of its energy mix as soon as 2030. As indicated in the comments above, the only economical role for gas to play in South Africa's energy mix is as a source of flexible peaking power, and this role will only be necessary in the late 2030s—if ever. In addition to the 2019 IRP's factually incorrect assumption that gas power will be needed or economically practicable prior to 2030, the EIAR and CCIA's reliance on the 2019 IRP is flawed in two key respects. First, reliance on the 2019 Integrated Resource Plan (IRP) does not excuse the EAP from undertaking a thorough need and desirability analysis, including consideration of climate change. Second, the IRP does not indicate a need for		The need for the project at a national level has been determined by government. As detailed in Chapter 5 of the EIA report, this includes consideration of a number of policies, including the Integrated Energy Plan (IEP) and the Integrated Resource Plan (IRP). The concerns around impacts on climate change are acknowledged in the report, and details of the intentions of the applicant to utilise Hydrogen as a fuel source in the facility once available are detailed. The following is stated in the report regarding the need and desirability of the project (**Chapter 5**): *"The Phakwe Richards Bay Gas Power 3 CCPP is proposed in response to a national government initiative, namely the requirement for the diversification of power generation technology within the IRP 2019 (as detailed within Chapter 2). The overarching objective for the gas to power facility is to be capable of operating across a wide variety of dispatch profiles, from base load to mid-merit and providing ancillary services to aid grid stability. The need and desirability of the project from a national perspective can largely be assimilated from the project's alignment with national government policies, plans and programmes which have relevance to energy planning and production (as discussed in detail in **Chapter 2**).* *The promulgated IRP 2010–2030 identifies the preferred generation technologies required to meet expected demand growth up to 2030. It incorporates*

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	significant gas power generation by 2030, and the 3000MW of gas power generation that is called for under the 2019 IRP is already far surpassed by the over 14000MW of proposed gas power generation projects current authorised or in the environmental authorisation application process. First, while the EIAR states that the extent of gas contained in the IRP is within the imposed emissions trajectory for the country, it fails to address whether the allocation of gas fits with the emissions reductions required by South Africa's 2021 nationally determined contribution, made pursuant to the Paris Agreement. As the High Court in Earthlife Johannesburg v Minister of Environment and Others stated with respect to a decision-maker's reliance on the IRP in rendering a decision on an application for environmental authorisation: *"Policy instruments developed by the Department of Energy cannot alter the requirements of environmental legislation for relevant climate change factors to be considered."*[92] The need and desirability analysis as presented in the EIAR relies on the supposed need for gas power set forth in the 2019 IRP instead of establishing need and desirability for gas power based on the climate change factors that must be considered by law. The 2019 IRP bases its analysis on the National Development Plan (NDP), but South African's carbon space has significantly narrowed since the NDP was drafted. South Africa's current NDC commitments and net zero aspirations have led to a finite carbon space—the upper bound of which is now 50% lower than the upper bound of the range		*government objectives such as affordable electricity, reduced greenhouse gas (GHG) emissions, reduced water consumption, diversified electricity generation sources, localisation and regional development. In terms of the technology mix, 3000MW is allocated to gas to power technology up until 2030. The need for new gas to power generation has therefore been identified and assessed by government at a national scale considering the national energy requirements as well as international commitments in terms of addressing climate change issues.* *The updated IRP 2019 further reconfirmed the allocation of 3000MW of gas to power technology up until 2030 as contained in IRP 2010 - 2030. The Phakwe Richards Bay Gas Power 3 CCPP is being developed in direct response to this new generation capacity requirement. The implementation of the proposed project therefore has the potential to contribute positively towards the identified need at a national level, while simultaneously contributing to job creation and socio-economic development.* *The Gas Utilisation Master Plan (GUMP) was created to assist in achieving the objectives of the IRP by driving the development of the gas-to-power industry in South Africa. According to the GUMP, the social economic advantages of establishing a large gas-to-power industry include job creation (during construction and operation), industrial development, the potential to use imported liquified natural gas (LNG) instead of diesel, and a source of cheaper energy. South Africa's gas-to-energy development plan spans 30 years, in which gas supply is envisaged to include local indigenous supply as well as imports through pipelines and by ship. The proposed project supports the implementation of GUMP as the facility intends to use natural gas and/or a mixtures of natural gas and hydrogen.*

[92] Earthlife Johannesburg and Another v. Minister of Energy and Others 2017 2 All SA 519 (GP), para. 97.

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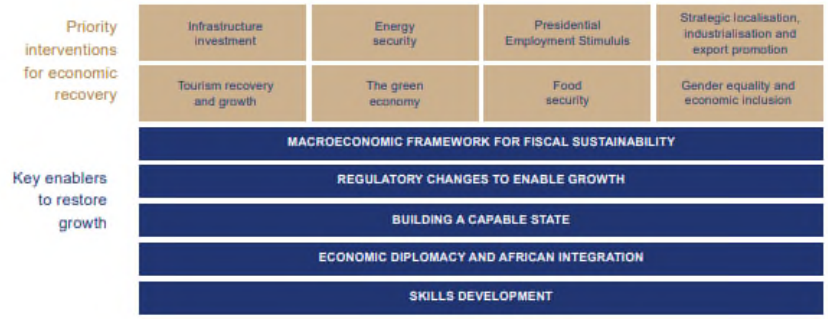
	envisaged as acceptable at the time of the NDP's drafting.[93] Therefore, it is not sufficient for the EAP to rely on the 2019 IRP in stating that the construction and operation of the Phakwe facility will comply with South Africa's carbon emissions limits. The climate change assessment must include an up-to-date analysis of the project's compliance with current international climate commitments, and this analysis must situate the project's emissions in the context of the numerous other proposed gas-to-power facilities currently authorised or applying for authorisation. If the individual emissions of the Phakwe project or the cumulative impact of these gas-to-power projects on climate change renders them undesirable, the Phakwe development should not be authorised. Second, though its inclusion of gas in the energy mix defies current scientific and economic analysis, even the 2019 IRP fails to support the necessity or desirability of this project in light of the numerous existing gas power applications which have already received authorisation or are in the process of applying for authorisation. The 2019 IRP, which is rooted in an outdated and scientifically and economically unsound understanding of the necessity for any gas in the energy mix,[94] only projects the collective contribution of gas and diesel to the 2030 energy mix to be 1.3% combined.[95] The EIAR fails to mention the fact that, though only 3,000MW of new gas power capacity are allocated under the 2019 IRP, over 14,000 MW of gas power capacity have received environmental authorsation or are in currently applying for environmental authorisation as of March 2022.[96] There is clearly no		*In addition to the policy considerations detailed above, Government has prioritised post COVID-19 turnaround plans and has compiled an Economic Reconstruction and Recovery Plan which was presented to Parliament in October 2020. According to this plan, the economic recovery will rely on a massive investment in infrastructure, including in energy, telecommunications, ports and rail. The core elements of the Economic Reconstruction and Recovery Plan are as follows:* 1. *Priority interventions for economic recovery: the plan sets out eight priority interventions that will ignite South Africa's recovery and reconstruction effort. These are the flagship initiatives that all of society will rally around to build a new economy (**Figure 5.1**).*  ***Figure 5.1:*** *Core elements of the Economic Reconstruction and Recovery Plan (source: Building*

[93] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 2-3, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[94] Meridian Economics, Hot Air About Gas: An Economic Analysis of the Scope and Role for Gas-Fired Power Generation in South Africa (2022), pages 2-3, https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[95] 2019 Integrated Resource Plan, page 42.
[96] International Institute for Sustainable Development. 2022. "Gas Pressure: Exploring the case for gas fired power in South Africa". IISD Report, at page 4 see https://www.iisd.org/systems/files/2022-03/south-africa-no-need-for-gas.pdf

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	need for the Phawke project to move forward if the amount of new gas power capacity allocated by the 2019 IRP is already being met nearly five times over by existing gas-to-power proposals. This over-saturation of gas-to-power plants will have significant negative economic consequences. According to a report by the International Institute for Sustainable Development[97], the 14,000 MW of proposed gas-to-power projects is comparable to 36% of Eskom's nominal coal fleet capacity or 2.8 times the operating utility wind and solar capacity. If the 9,500 MW of onshore gas plants, along with LNG import terminals and pipelines, were built near three ports, the construction costs could exceed ZAR 184 billion (USD 12.1 billion). This could expose the energy sector and consumers to negative outcomes such as future government subsidies or bailouts to keep an uncompetitive sector afloat, as well as costly lock-ins to gas infrastructure that will be vulnerable to reduced security of affordable gas supply and LNG price volatility. The project, if built, may be subject to the risk of becoming a stranded asset given the over allocation of existing gas to power facilities being constructed. Internationally, gas-to-power infrastructure is already being stranded.[98] For example, the Ministry of Power declared 60 percent (or 14.3 GW) of total gas-fired capacity in India to be stranded in 2015, and the State Bank of India suggested in 2019 that they would need to write down these assets. Climate Tracker believes that 31 percent of existing gas-fired capacity in the United States is already unprofitable, and that all of the anticipated 28.1 GW of new		*a new economy - Highlights of the Reconstruction and Recovery Plan, Presidency of the Republic of South Africa)* 2. *Enabling conditions for growth: these are the growth-enhancing reforms and other preconditions for an inclusive, competitive and growing economy.* 3. *Macroeconomic framework: economic reconstruction and recovery requires careful mobilisation of resources to ensure fiscal sustainability.* 4. *Institutional arrangements: the plan focuses on execution, and is supported by enhanced institutional arrangements to ensure implementation and accountability.* *The plan recognises energy security as the most important prerequisite for the recovery agenda and states that renewed investment in a diversified energy mix can be achieved within a short time horizon, while alleviating a crippling energy crisis and facilitating a necessary transition to a less carbon-intensive economy. One of the key commitments of the plan is therefore to implement the IRP 2019 without delay to provide a substantial increase in the contribution of renewable energy sources by 2030, alongside other sources including battery storage, gas and clean coal. To reach net-zero by 2050, South Africa would need to speed up deployment of renewable energy capacity; at least 4GW of renewables will need to be installed every year – roughly ten times the current pace of new-build. Natural gas as a transition fuel will be critical in this journey – initially growing as an enabler to the integration of wind and solar into the power system at scale, gas will then be gradually replaced by other technologies to reach net-zero emissions[100].*

[97] International Institute for Sustainable Development. 2022. "Gas Pressure: Exploring the case for gas fired power in South Africa". IISD Report, at page 4 see https://www.iisd.org/systems/files/2022-03/south-africa-no-need-for-gas.pdf
[98] Muttitt, G., Sharma, S., Mostafa, M., Kühne, K., Doukas, A., Gerasimchuk, I., & Roth, J. (2021). Step off the Gas: International public finance, natural gas and clean alternatives in the Global South. International Institute for Sustainable Development. https://www.iisd.org/ publications/natural-gas-finance-clean-alternatives-global-sout
[100] Just Transition and Climate Pathways Study for South Africa: Decarbonising South Africa's power system. The National Business Initiative (NBI).

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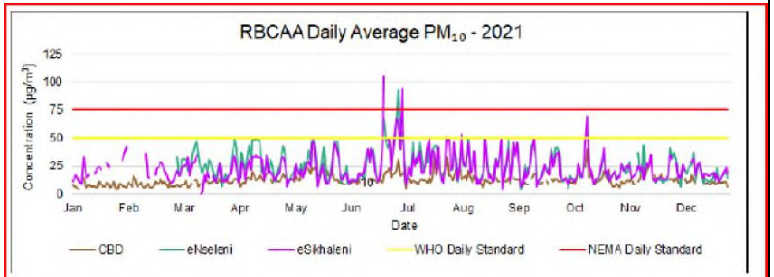
	gas capacity in deregulated grid areas will fail to recoup their initial investment.[99] The Climate Tracker project finance modeling yields a clear recommendation for both Europe and the United States: "constructing new gas plants is ill-advised and will result in projects that are unlikely to provide returns on investment in most countries." If these global North trends are replicated in South Africa, prospective gas generators and associated infrastructure may become stranded before reaching a break-even position. Due to the considerable period it takes for these types of developments to be developed and operational, the state will incur more losses as a result of stranding occurring considerably earlier in project time. This again warrants the consideration of whether the project is needed and desirable. It is argued that it is not so.		*The development of the Phakwe Richards Bay Gas Power 3 CCPP is identified as a mechanism for securing additional power generation capacity as part of the Gas IPP programme. Furthermore, gas-fired and combined cycle power plants may also be regarded as a key technology to improve power production to meet demand, and for decarbonisation, as it reduces the carbon footprint of electricity compared with coal and oil-fired power plants. It may also complement the implementation of renewable energy sources, as it balances power supply from renewable sources and stabilises electricity grids.*[101] *Arguments that pause should be placed on any gas-to-power development until at least 2030 are noted, given the analysis that gas supply to balance higher penetration levels of variable renewable electricity will be unnecessary until 2035 (IISD, 2022), and that there is a move away from gas to the use of green hydrogen. As stated previously, it is the intention of the developer to use of natural gas (liquid or gas forms), or a mixture of Natural gas and Hydrogen (in a proportion scaling up from 20% H2) as fuel source. Recently green hydrogen, produced with renewable sources such as wind and solar energy, is getting a more prominent place in global policy thinking to limit global warming in the context of the Paris agreement. This has been accelerated in the wake of current global political and economic policies not achieving the agreed climate targets. At present, industry is already using large quantities of hydrogen, but this mainly produced from natural gas. Replacement with green hydrogen and expansion to more end-user segments contributes significantly to the (deep) decarbonisation of otherwise hard-to-decarbonise markets.* *South Africa is well-positioned to become a major player of green hydrogen in the world. The country has abundant land available and in combination with excellent potential solar and wind resources this could provide a solid base to produce one of the lowest cost green hydrogen in the world. South Africa's*

[99] Sims, J., von der Neyen, C., D'souza, D., Chau, L., González-Jiménez, N., & Sani, L. (2021). Put gas on standby. Carbon Tracker. https://carbontracker.org/reports/put-gas-on-standby/
[101] Gas key as South Africa transitions to clean energy. https://www.engineeringnews.co.za/article/gas-key-as-south-africa-transitions-to-clean-energy-2021-10-27

NO.	COMMENT	RAISED BY	RESPONSE
			world class renewable energy resources also allows a highly competitive production cost of H2 below 1.60 $/kg by 2030, putting South Africa as potentially one of the largest global exporters of green H2 and green fuels. *The Energy Sector Economic Recovery Strategy released by Business for South Africa (2020) has highlighted the need for alignment of the energy sector, with a combined solution for electricity, gas, and liquid fuels. A number of constraints are identified, which if addressed could facilitate the energy sector playing a dual role in driving South Africa's economic recovery, primarily as a catalyst for growth in the economy but also as a driver of direct and indirect jobs.* *The need for new power generation from gas has therefore been identified and assessed by Government at a national scale considering the national energy requirements. The Phakwe Richards Bay Gas Power 3 CCPP is proposed in specific response to these identified needs. As a result, the need and desirability of the project from a national perspective can largely be assimilated from the project's alignment with national. Considering the above, it can be concluded that the implementation of the proposed project has the potential to contribute positively towards the identified need at a national level (as detailed in the various government policies, plans, and programmes which have relevance to energy planning and production, as discussed in Chapter 2), while simultaneously contributing to job creation and socio-economic development."*
5.	**APPENDIX C9 - COMMENTS AND RESPONSES REPORT** It is noted that the comments submitted by the RBCAA, on 14th December 2021, on the Scoping Report have **NOT** been <u>included</u> in the Comments & Responses Report (Appendix C9), and as such the RBCAA has not had sight of responses.	Sandy Camminga Chairman EIA Committee RBCAA	This omission has been noted and the comments dated 13 December 2021, and received on 14 December 2021, have been included in this C&RR under **Point 2:** the Scoping Phase index and responses have been provided. A copy of this C&RR will be made available to the RBCAA.
	APPENDIX C7 - COMMENTS RECEIVED		

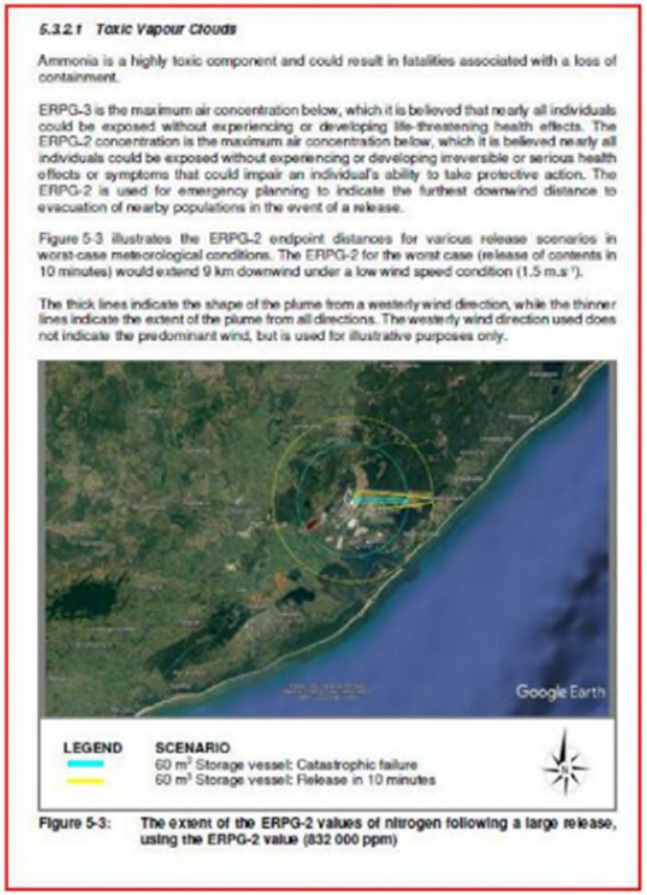
NO.	COMMENT	RAISED BY	RESPONSE
	It is noted that the comments submitted by the RBCAA, on 14th December 2021, on the Scoping Report have **NOT** been <u>included</u> in the Comments Received report (Appendix C9), and as such the RBCAA has not had sight of responses. The RBCAA's comments which are attached as APPENDIX A, appear not to have been considered.	Letter: 25 July 2022	The omission of the inclusion of the RBCAA letter dated 13 December 2021 has been noted and rectified. The letter has been included in **Appendix C7: Comments Received** under the Scoping Phase.
	AIR QUALITY IMPACT ASSESSMENT It should be noted, and report corrected, that Tata Steel no longer exists. The facility is now known as Richards Bay Alloys **1.** It is noted that, the assessment of **Malodourous Compounds** from the retention ponds has been highlighted as a limitation by the Specialist due to insufficient information being available regarding the water quality.		**<u>Response from Air Quality specialist (Airshed Planning Professionals)</u>** References to Tata Steel have been amended as requested. The stakeholder's concern about the limitation is noted.
	2. Diesel Generator: The Specialist states that "*emissions for the back-up diesel powered generator was not estimated since the generator will only be used for cold start-ups and based on the conservative operational cycles (described above) the use of the generator would be limited and for short periods of time*. If the plant operates 16 hours a day to meet mid-merit demand, then this would equate to a cold start-up every day (365 days), and given that the stack release heights are only 18m the impacts may be significant.		**<u>Response from Air Quality specialist (Airshed Planning Professionals)</u>** The diesel generator will not be used for cold startup everyday – they will only be required when there is a grid blackout (not rotational blackouts / loadshedding) or when access to draw from the national grid is not allowed. The terminology 'cold start' has been refined along with the addition of short-term and annual emission rate estimates for the generator. The expected impact of the back-up generator has been qualitatively contextualized relative to the continuous operation of the gas turbines based on quantified emissions (Section 3.4). The turbine stack release height of 18 m mentioned in Section 3.4 has been corrected to 60 m. All modelling conducted at 60 m release height.
	3. Sensitive Receptors: The AQIA has not identified the schools located at the ZCBF as sensitive Receptors, namely, Litte Junior,		**<u>Response from Air Quality specialist (Airshed Planning Professionals)</u>**

NO.	COMMENT	RAISED BY	RESPONSE
	Batesda Primary and Batesda High School. This issue was raised by Ms Strachan, from the City of uMhlathuze, in her comments on the Scoping Report, to which the EAP responded that schools within a 2-3km radius would be included, and that the Specialist would be informed.		Locations for the Little Junior and Betesda Independent School (catering for Grades R – 7) were found during a desktop investigation. Batesda High School was not found. The impacts at these schools have been extracted from the model and included in the receptor and results tables. Text descriptions have been updated appropriately.
	4. RBCAA Felixton Data: The statement on page 50, Section 5.3.6, states that there was no PM10 data available for Felixton for 2021 due to a faulty analyser. This is not entirely correct. *5.3.6 RBCAA Felixton Station* There were no exceedances of the short-term or long-term NAAQS for any of the pollutants measured at the RBCAA Felixton Station for the period 2016 to 2021, although one exceedance of the daily PM_{10} NAAQ limit value occurred in 2018 (Table 5-9). SO_2 appears has higher concentrations occurring just after midday (Figure 5-15). The PM_{10} appears to have higher concentrations occurring in the afternoons and during winter and the beginning of spring (Figure 5-15). There was no PM_{10} data available for 2021 due to repairs required to the analyser pump (AIMS, 2021). The PM10 analyser was faulty and out of service from Jan – March 2021. From April 2021 the PM10 E-Sampler was converted to monitor PM2.5 for which there is data available. The AQIA does not include the PM2.5 data for Felixton. There were Fifteen (15) measured exceedances of the $PM_{2.5}$ Daily NEMA Standard (40 µg/m^3) recorded at Felixton during 2021.		**Response from Air Quality specialist (Airshed Planning Professionals)** The text describing the Felixton station data has been updated with the correct description of the PM_{10} and $PM_{2.5}$ measurement devices and data availability. The $PM_{2.5}$ data for 2021 was not includesdin the report as checks with the data sets reflected some inconsistencies. The discrepancies were pointed out to RBCAA and a data validation process was initiated. The text description provided by RBCAA regarding the number of exceedances was included in the text for the station in the AQIA report.
	5. RBCAA Esikhaleni and eNseleni Data; Table 5-7 shows zero (0) exceedances recorded at eNseleni during 2021. This is **not** correct. There was one (1) exceedance of PM_{10} Daily NEMA Standard (75 µg/m^3) recorded at the eNseleni station during 2021. Table 5-8 shows zero (0) PM10 exceedances recorded at Esikhaleni. This is not correct. There were two (2) exceedances of the PM_{10} Daily		**Response from Air Quality specialist (Airshed Planning Professionals)** Data was checked and the tables for Esikhaleni and eNseleni updated.

NO.	COMMENT	RAISED BY	RESPONSE
	NEMA Standard (75 µg/m³) recorded at the Esikhaleni station during 2021  *Figure 15: PM_{10} daily average concentrations.*		
	6. Start-Up NO2 Emissions: It is predicted that hourly NO2 concentrations associated with start-up could exceed the NAAQ limit concentrations at 15 receptors and 8 AQMS. Given that the plant is expected to have 365 start-ups a year the impacts are likely to be significant.		**Response from Air Quality specialist (Airshed Planning Professionals)** The stakeholder's concern is noted. The uncertainty regarding how the start-up emissions were assessed – and possibly over-estimated – are noted in Section 3.4 of the AQIA.
	7. Dispersion Maps: Dispersion maps have not been provided for the NO2 and PM10 simulations.		**Response from Air Quality specialist (Airshed Planning Professionals)** NO_2 isopleth (dispersion) plots are Figure 7-10 and Figure 7-11. PM_{10} isopleth (dispersion) plots are Figure 7-14 and Figure 7-15.
	8. Worst Case Scenario: The AQIA has not modelled the worst-case scenario.		**Response from Air Quality specialist (Airshed Planning Professionals)** The continuous operation – i.e. 24-hours a day; 7-days a week – of the gas to power plant at the MES limits for SO_2, NOx and PM is considered to be conservative and these impacts are presented in the AQIA report as receptor tables, timeseries, and dispersion isopleth plots.

NO.	COMMENT	RAISED BY	RESPONSE
			If the plant is running continuously, the frequency of start-ups (with or without initial power from the back-up generator) and resultant impact of those start-up events, will be reduced. We are of the opinion that that we have erred on the side of a conservative impact by considering continuous turbine operation and the impact of the start-up emissions at the closest receptors (which were also conservatively based on data from technical specifications for equivalently scoped equipment, since turbine design has not yet been finalized, along with dispersion modelling maximum short-term concentrations at the receptors).
	9. **Cumulative Impact Significance Rating:** The AQIA findings are that there will be non-compliances for NO2 and Particulates, with these being given a "Medium" significance rating. Exceeding the NAAQS should be rated as "Significant."		**Response from Air Quality specialist (Airshed Planning Professionals)** The cumulative impact rating was re-examined and the "Magnitude" score for NO_2 and PM was up-rated to 'high' (with a score of 8). This resulted in Significance of "**MEDIUM**" (score 45) for SO_2 and NO_2; and a significance of "**HIGH**" (score 64) for PM.
	10. **Simulated 2016 Baseline:** It warrants mentioning that the Baseline inventory is outdated and that this should be stated as a "limitation". There has been a significant increase in the handling of dusty products within Richards Bay. The Port is now open stockpiling and handling significant volumes of coal, most of which is transported by road. Alton has seen a proliferation of "unauthorized" open stockpiles storage facilities, mostly coal, which are having a catastrophic effect on small businesses and posing a significant risk to human health.		**Response from Air Quality specialist (Airshed Planning Professionals)** The baseline data used was the most recently available data. However, the stakeholder's concern is noted and the local insight regarding unauthorized open stockpiles has been added to the cumulative assessment discussion (Section 8).
	TRAFFIC IMPACT ASSESSMENT The RBCAA strongly disagrees with the Specialist's cumulative impact significance rating of "medium." The current traffic situation in Alton, and to the Port is catastrophic, requiring urgent mitigation. The collapse and ineffectiveness of Transnet Freight Rail has contributed directly to the significant increase in heavy vehicle		**Response from Traffic specialist (JG Afrika)** When rating the impact as 'medium', the study refers to the additional traffic impact the proposed development will cause on the external roads and not the overall traffic situation as such. Meaning, the traffic in the area might be high but not caused by this development.

NO.	COMMENT	RAISED BY	RESPONSE
	volumes within the City. Equally Transnet National Ports Authority cannot cope with the volumes of truck, and do not have sufficient truck staging capacity. The proposed Phakwe development within IDZ 1F is going to contribute to the current negative traffic impacts.		For example, if this development would have a significant impact on the roads due to very high trips during peak periods, which would result in the surrounding intersection to operate above capacity, the specialist would have rated the impact as 'high'.
	RISK ASSESSMENT Section 5.3.2.1 requires clarification. The text refers to AMMONIA, however the Figure description references NITROGEN.		**Response from Risk Assessment specialist (Riscom)** The error in the figure description has been corrected in the Quantitative Risk Assessment included in the Final EIA Report (**Appendix N**).

NO.	COMMENT	RAISED BY	RESPONSE
	 The Risk Assessment finds that the major risk for the proposed PRBGP3 is the ammonia storage.		

NO.	COMMENT	RAISED BY	RESPONSE
	Cumulative Risks: Phakwe Richards Bay Gas Power 3 is being proposed adjacent to an already Authorised Gas to Power Facility. Both facilities are MHI's. The cumulative risks associated with the development of these gas to power facilities adjacent to one another has **not** been assessed.  Figure 2-1: Proposed PRBGP3 location within the RBIDZ 1F		**Response from Risk Assessment specialist (Riscom)** As detailed in Section 7.2.5 of the Quantitative Risk Assessment (Appendix N of the final EIA Report), the risks of the site are dominated by the ammonia storage, and thus the cumulative impact will be identical to the ammonia storage. Information relating to the nearby installations of the Gas to Power facility, namely the chlor alkali facility and the Tata Alloys are both unknown, and thus not included in the cumulative area analysis.
	RAPID APPRAISAL HEALTH RISK ASESSMENT /HEALTH RISK ASSESSMENT: The Rapid Appraisal Health Impact Assessment (RAHIA) and Health Risk Assessment have only been undertaken for the proposed Phakwe facility. In the comments submitted by the RBCAA on the Scoping Report (see appendix A), the RBCAA requested that the RAHIA be undertaken for cumulative impacts and not based only on the emissions from the proposed Phakwe facility.		**Response from Health Risk Assessment specialist (Infotox)** A cumulative impact assessment, viewed as the sum of the current impact of air pollutants on health and of the impact subsequent to the proposed operation of the Phakwe facility, is included in the RAHIA report (**Appendix H3** of the Final EIA Report). The schools have been included as sensitive receptors for the calculation of health risks in the HHRA report (**Appendix H2** of the Final EIA Report), and have been included in the impact assessment in the RAHIA.

NO.	COMMENT	RAISED BY	RESPONSE
	The schools located at the ZCBF have not been identified as sensitive receptors.		
	RECOMMENDATIONS \ SHORTCOMINGS: **1.** The RBCAA must be provided with responses to the comments submitted by the Association on the Scoping Report and afforded the opportunity to respond.		Responses have been provided to the comments submitted by the RBCAA on the Scoping Report and are included in this C&RR under **Point 2: Comments Received During Scoping Report Review & Comment Period erroneously not included in the final Scoping Report.**
	2. Appendix C7 and C9 must be updated to include the RBCAA's comments.		**Appendix C7: Comments Received** and **Appendix C9: Comments & Responses Report** have been updated to include the RBCAA's comments.
	3. This application should not be considered until the proponent has provided sufficient information regarding water quality from the retention ponds, so that the Specialist is able to assess the impacts of malodorous compounds, and impacts of discharge.		The retention ponds are included in the initial conceptual design of the plant as an initial and temporary retention point for water that may have been in contact with the turbines and therefore may contain oil. The water in the retention ponds will be treated in the plant facilities. The solids (oil, etc) will be separated and managed accordingly. The treated water will be discharged into the Richard's Bay IDZ's wastewater system which is a dedicated effluent discharge pipeline used by existing industrial users in the area, and would need to comply with the quality level required by municipality. The retention ponds are only required to give time to the treatment plant to process the water. They will become empty after the treatment is finished and will remain empty until next time they are used. If the treatment plant is able to treat the water at the same speed it is produced, the retention ponds would not be required.
	4. Should the proposed development receive Authorisation, the Conditions of Approval should clearly state that NO diesel, heavy fuel oil or light fuel oil may be used during normal operations.		It is not the intention of the applicant to make use of diesel, heavy fuel oil or light fuel oil as a fuel source for the project. This recommendation has been included in **Section 10.4** of the EIA Report (Overall recommendations).
	5. The AQIA Report must be amended to include the assessment of the back-up diesel generator.		This comment has been addressed in Section 3 of the stakeholder's comments in this CRR.
	6. The AQIA Report must be updated to include the sensitive receptor schools located at the ZCBF.		This comment has been addressed in the final Air Quality Impact Assessment report included as **Appendix G** of the EIA Report.

NO.	COMMENT	RAISED BY	RESPONSE
	7. The AQIA Report must be updated to include the Dispersion maps for NO2 and PM.		Dispersion isopleth plots for NO_2 and PM were included in the draft AQIA report that was available for public review.
	8. The AQIA Report must be updated to include the modelling of the worst-case scenario. Dispersion maps must be presented.		The air quality specialist believes that the worst-case operational scenario has been presented in the report. The impact of start-ups and shut-downs have been discussed, with the start-up emissions quantified and potential impacts estimated.
	9. A **Site Specific** cumulative AQIA must be undertaken for IDZ 1F. A directive in this regard should be issued to the Richards Bay IDZ. The residential areas of Brackenham, Aquadene and Wildenweide are in close proximity, and directly downwind of IDZ 1F. This places these communities at significant risk.		**Response from Air Quality specialist (Airshed Planning Professionals)** The stakeholder's concern is noted. Cumulative assessment for the domain considered an assessment based on the most recent measured ambient data (across the monitoring network) as well as the recently available simulated baseline data. The amendment of the Atmospheric Impact Report regulations (Government Gazette No. 38633, No. R284 - 2 April 2015) states that assessments should take account of the prevailing ambient air concentrations. The Regulations Regarding Air Dispersion Modelling (Government Gazette No. 37804 vol. 589; 11 July 2014) note the uniqueness of each modelling situation but recommend applying maximum allowable emissions to dispersion modelling setup. Although a modelling approach was not followed in this assessment, the cumulative approach did consider the domain and receptor maxima for short and long-term averaging periods from measured concentrations and modelled assessments. A cumulative dispersion model setup for Phase 1F of the IDZ was outside of the scope of the AQIA, and a simulated baseline scenario from the recently completed Air Quality Management Plan could not be obtained. It is agreed that an updated, and authorized, dispersion model baseline for use in impact assessments should ideally be held by the Municipality (District or Metropolitan) or the Richards Bay Clean Air Association.
	10. A key finding of the AQIA is that; *"The impact of start-up on ambient NO2 concentrations was estimated and exceedances of the NAAQS could result at residential receptors, schools, and*		The reference to the findings of the AQIA is Noted. No response is required.

NO.	COMMENT	RAISED BY	RESPONSE
	medical facilities. The impacts can be reduced if the turbines reach Minimum Emission Standards in less than 30 minutes, and if the frequency of start-up events is reduced"		
	11. The TIA must be amended to include the assessment of cumulative traffic impacts.		Section 9 of the TIA includes consideration of cumulative impacts associated with the proposed project.
	12. The Richards Bay IDZ has a responsibility to quantify the impacts of developments, within IDZ 1F, on the Richards Bay road network and infrastructure. The TIA undertaken by the IDZ in 2013 must be updated.		The Richards Bay IDZ has a responsibility to quantify the impacts of developments, within IDZ 1F, on the Richards Bay road network and infrastructure is noted. The update of the TIA for the IDZ must be completed by the RB IDZ and not the Applicant for this project.
	13. The Risk Assessment must be amended to include the cumulative assessment of the proposed Phakwe Gas Power 3 facility, and the adjacent authorized Richards Bay Gas 2 Power facility.		**Response from Risk Assessment specialist (Riscom)** As detailed in Section 7.2.5 of the Quantitative Risk Assessment (Appendix N of the final EIA Report), the risks of the site are dominated by the ammonia storage, and thus the cumulative impact will be identical to the ammonia storage. Information relating to the nearby installations of the Gas to Power facility, namely the chlor alkali facility and the Tata Alloys are both unknown, and thus not included in the cumulative area analysis.
	14. The Rapid Appraisal Health Risk Assessment must be expanded on to include the assessment of cumulative health risks.		**Response from Health Risk Assessment specialist (Infotox)** A cumulative impact assessment, viewed as the sum of the current impact of air pollutants on health and of the impact subsequent to the proposed operation of the Phakwe facility, is included in the RAHIA report (**Appendix H3** of the Final EIA Report). The schools have been included as sensitive receptors for the calculation of health risks in the HHRA report (**Appendix H2** of the Final EIA Report), and have been included in the impact assessment in the RAHIA.
	15. Should the application receive Authorisation, membership of the RBCAA should be a Condition of Approval.		This recommendation has been included in **Section 10.4** of the EIA Report (Overall recommendations).
	CONCLUSION		The conclusion of the comments submitted is noted. No further response required.

NO.	COMMENT	RAISED BY	RESPONSE
	To assertion that the proposed facility will have a low contribution to baseline and therefore the development is acceptable is **not** supported. In contributing to the baseline, the proposed Phakwe facility will contribute to exceedances of the NAAQS, thereby contributing to poor air quality. The RBCAA supports the argument that *"any potential mitigation will require a co-ordinated response from all industrial (including agro-industry) contributors, local authorities and local community stakeholders to reduce domainwide emissions"*. **However**, this does not justify the acceptability of the proposed Phakwe development adding to the pollution load, irrespective of how low the percentage contribution might be. In view of the above, the RBCAA **cannot** support the development of the Phakwe Richards Bay Gas Power 3 Combined Cycle Power Plant as currently proposed. Thank you for affording the Richards Bay Clean Air Association (RBCAA) the opportunity to comment. The RBCAA reserves the right to provide further comment.		

1.3. Comments received after review and comment period

NO.	COMMENT	RAISED BY	RESPONSE
1.	On behalf of the South Durban Community Environmental Alliance, I would like to enquire again about the public meeting in June that was cancelled regarding the Phakwe Gas Power 3 development proposed for Richards Bay.	Tanica Naidoo Project Officer SDCEA	» The holding of a public meeting is not a legal requirement. Regulation 41(6) of the EIA Regulations of 2014, as amended states:

NO.	COMMENT	RAISED BY	RESPONSE
	The SDCEA represents the communities of Durban and Richards Bay, therefore we request for this public meeting to be rescheduled for another date. By law, a public participation meeting is required (we mentioned it in our EIA comments document that was submitted) when going through with an EIA. The community of Richards Bay did not want the meeting cancelled, it was cancelled due to loadshedding and the people of Richards Bay need a public participation meeting in order to know what is going on in their community. These are the people that will be directly affected by such a development so need to be properly informed. This meeting will need to be advertised better and would need to be able to reach all communities. Many communities do not have access to technology for emails or even access to the local newspaper. They will need to be properly notified.	E-mail: 03 August 2022	*When complying with this regulation, the person conducting the public participation process must ensure that:* *(a) information containing all relevant facts in respect of the application or proposed application is made available to potential interested and affected parties; and* *(b) participation by potential or registered interested and affected parties is facilitated in such a manner that all potential or registered interested and affected parties are provided with a reasonable opportunity to comment on the application or proposed application.* » As the stakeholder is aware, the meeting planned for 23 June 2022 could not be held due to unscheduled loadshedding and a lack of back-up power. The project team was informed on short notice (i.e. morning of the public meeting) of the unscheduled loadshedding. Those I&APs who registered their attendance at the public meeting (as requested in the EIA Report notification and public meeting invitation letter dated **03 June 2022** and in the newspaper advert in accordance to the COVID-19 Regulations in place at the time) were contacted telephonically to inform them of the unscheduled loadshedding and the cancellation of the public meeting as a fore-warning that there would be no electricity, and they were requested to attend the poster session. Where the registered I&AP could not be reached telephonically a WhatsApp was sent to them (refer to **Appendix C6** of the final EIA Report). A member of SDCEA, who had registered to attend the public meeting, attended the poster session (refer to **Appendix C8** for noted of the information session, including the attendance register). The project team stayed at the venue until 17h30 such that, in the event that should a

NO.	COMMENT	RAISED BY	RESPONSE
			community member arrive as a result of the advertisements in the two local newspapers, the project information could be conveyed to them in printed form. No community member/s arrived at the venue. » Two members of the community attended the information session and advised that they had seen the details of the project and the planned information session in the Zululand Observer. This is an indication that the advert was appropriately placed. In addition, the Eyethu Bay Watch in which the isiZulu advertisement was placed is a freely distributed newspaper. » In order to ensure that community members received information regarding the proposed project, the relevant Ward Councillors were contacted and information provided to them regarding the project. This included a summary of the findings of the assessment in English and Zulu. During this consultation process, they were also requested to disseminate the information to the applicable Ward Committee Members, Rate Payers Associations and any interested stakeholders such as education institutions. Proof of correspondence with the Ward councillors and the distribution of the information is included in Appendix C6 of this report. No request for a meeting or comments have been received from community members notified through these mechanisms. » As the SDCEA has stated that they represent communities within the Durban and Richards Bay areas, it is expected that they would have informed their members and community members they represent of the proposed development and urged them to register on the project database to be part of

NO.	COMMENT	RAISED BY	RESPONSE
			the consultation process, attend the meetings scheduled and submit comments on the EIA Report, executing their right to comment on the EIA Report once registered.

2. COMMENTS RECEIVED DURING SCOPING REPORT REVIEW & COMMENT PERIOD ERRONEOUSLY NOT INCLUDED IN FINAL SCOPING REPORT

NO.	COMMENT	RAISED BY	RESPONSE
1.	**SCOPING REPORT**: **1.** Alternative Site: An alternative site has not been considered. The RBCAA is of the opinion that the site next to Mondi RBIDZ 1D would be suitable for the following reasons; b) Currently earmarked for similarly sized Eskom plant – which is unlikely to proceed regardless of having environmental approval for generation and power evacuation. c) It is essentially the same technology, same landlord, similar environmental impacts and concerns, with no sensitive receptors (residential areas) in close proximity. Would it not be prudent for Phakwe to explore opportunities with Eskom to utilize this site?	Sandy Camminga Chairman EIA Committee RBCAA Letter: 13 December 2021	As detailed in the scoping report, no feasible alternative sites were identified for the proposed project. The proposed site was considered desirable from a technical perspective based on the following: » it being located within an Industrial Development Zone (RBIDZ Phase 1F) on land designated for noxious industry development; » it being appropriately sized (11.8ha) to accommodate a 2000MW CCPP and associated infrastructure (11ha); » it being a location with existing large heavy industries and is specifically targeting the attracting of additional heavy industries through the Richards Bay Industrial Development Zone (RBIDZ), which attraction of new industries has been hampered by the unavailability of power to support these planned developments.
	2. Fuel Supply: The fuel supply is stated as; "*A dedicated pipeline to connect into an on-site gas receiving and conditioning station will provide the natural gas or the mixture of natural gas and hydrogen. The pipeline will be connected to the proposed Transnet supply pipeline network of Richards Bay (the location of this network has not yet been confirmed), or it will extend directly to the regasification facilities within the Port of Richards Bay.*" There is currently no LNG or Regasification facility within the Port of Richards Bay, and no indication of any application for either.		As discussed at the Key Stakeholder Workshop held on 09 December 2021 at which the stakeholder was present, the source of fuel is not yet determined. The fuel source will be transported to the site via pipeline, the route of which is yet to be determined. The assessment of the pipeline will be undertaken through a separate process.

NO.	COMMENT	RAISED BY	RESPONSE
	So, the question remains, where is the fuel supply coming from and how will it be evacuated from the Port to the proposed Phakwe facility? The supply and evacuation of gas to the proposed facility should be assessed as part of this application so that the cumulative impacts of the proposed facility can be assessed.		
	3. Hydrogen: The EIA should assess the risks and impacts associated with hydrogen, specifically the increased risk of fire and explosion. • Where will the hydrogen be sourced? • Where will the hydrogen be stored? • At what point will the hydrogen be blended with the LNG? • What are the risks associated with the blending process? • Will an odorant (Mercaptan) be added to the hydrogen for leak detection purposes? If so, the storage and application must be assessed, as well as potential odour impacts and TRS emissions. • What leak detection systems will be implemented? The inclusion of hydrogen in the fuel mix is stated to lower carbon emissions of the power plant. This is only true if the hydrogen is produced by renewable energy resources (i.e., green hydrogen).		A Quantitative Risk Assessment was included in the Plan of Study for the EIA.
	4. Water Consumption \ Wastewater Discharge: **a) Consumption:** Water consumption (operations) given (SR p28) appear low (by an order of magnitude). For a CCGT plant of 2000MW (electrical output) running for 16 – 24 hours daily, and at energy efficiency of around 60 – 63% the water consumption would be 9 – 14 million m^3 per year, which is		a) The water consumption level for operations has been provided by the equipment supplier. The technology considered for the gas turbines is Dry Combustion, so no water injection is required during combustion, reducing the volume of water required in operations.

NO.	COMMENT	RAISED BY	RESPONSE
	understood to be potable (i.e. municipally treated water?). (Assumption: CCGT 780 litre/MWh water consumption; source: https://www.wartsila.com/energy/learn-more/technical-comparisons/combustion-engine-vs-gas-turbine-water-consumption) **b) Waste Water Discharge**: What are the environmental impacts associated with the discharge of heated waste water? Detailed information pertaining to the evacuation system\s should be provided. The footprint of the plant does not seem large enough for anything but forced evaporative cooling.		b) As detailed at the meeting held with the RB IDZ ERC on 08 December 2021 at which the stakeholder was present, the plant would produce wastewater as an output of the demineralisation plant on site and the washing of turbines, blow down, as well as oily water. The wastewater will be contaminated with heavy metals and need to be disposed of by a specialist contractor. The wastewater would be stored in a sump at each unit. Oily water will be collected from drains and would be sent to an oily water separator located on the site. Grey water from the separator would be discharged into the Richard's Bay IDZ's wastewater system which is a dedicated effluent discharge pipeline used by existing industrial users in the area, and not to the environment. However, prior to any discharge of grey water, it is important to check with the Richard's Bay IDZ that the correct oily water separator filter, as per the Richard's Bay IDZ, is purchased as it would ensure that grey water discharged into the Richard's Bay IDZ's system would not contaminate the wastewater system.
	5. Risk Assessment: This is not listed in the plan of study (Chapter 10). The facility will be an MHI and as such a Risk Assessment must be undertaken, which should include the assessment of the City's disaster management capacity.		A Quantitative Risk Assessment was included in the Plan of Study for the EIA.
	AIR QUALITY IMPACT ASSESSMENT: **Cumulative Impacts:** The EIA should include the floating gas to power plants as both are still active under appeal.		The EIA cumulative assessment will include consideration of the floating gas to power plants, where information in this regard is available.
	PM2.5: The RBCAA this year commenced monitoring of PM2.5 which is emerging as a pollutant of concern in the region, and should be included and modelled as part of the EIA cumulative impacts.		Consideration of impacts associated with particulates will be included in the assessment of impacts on air quality.
	Start-Ups: Emissions during start-ups must be quantified.		Emissions during start-ups will be quantified where possible.
	Fuel Source: AQIA should assess different scenarios using different fuel sources, i.e., LNG gas versus a blend of LNG and hydrogen, versus 100% hydrogen.		The air quality assessment includes consideration of impacts associated with the use of LNG as a fuel source and also impacts associated with fuel migration from natural gas to hydrogen gas.

NO.	COMMENT	RAISED BY	RESPONSE
	Rapid Appraisal Health Impact Assessment (RAHIA). Will the RAHIA to be undertaken by INFOTOX be undertaken for cumulative impacts and not based only on the emissions from the proposed Phakwe facility?		The RAHIA will be informed by the outcomes of the Air Quality Impact Assessment and will also consider cumulative impacts, viewed as the sum of the current impact of air pollutants on health and of the impact subsequent to the proposed operation of the Phakwe facility.

3. COMMENTS RECEIVED DURING SCOPING REPORT REVIEW & COMMENT PERIOD

3.1. Organs of State

NO.	COMMENT	RAISED BY	RESPONSE
6.	Please send me KMZ files of the development area and proposed grid connection. Please find attached Eskom general requirements for works at or near Eskom infrastructure and servitudes.	John Geeringh Senior Consultant Environmental Management Land and Rights Eskom Transmission Division E-mail: 12 November 2021	The .KMZ file for the power plant development was e-mailed to the stakeholder on 16 November 2021. It needs to be noted that the electrical facilities including the Eskom 275kV or 400kV GIS interface Substation, Underground 275kV or 400kV power cabling connecting Power Plant GIS substation and Eskom GIS Interface substation and an overhead 275kV or 400kV power line connecting the Eskom interface substation to the selected Eskom grid connection point will be subjected to a separate environmental authorisation application. The requirements as set out by Eskom Holdings SOC Ltd have been submitted to the applicant for attention.
	1. Eskom's rights and services must be acknowledged and respected at all times. 2. Eskom shall at all times retain unobstructed access to and egress from its servitudes. 3. Eskom's consent does not relieve the developer from obtaining the necessary statutory, land owner or municipal approvals. 4. Any cost incurred by Eskom as a result of non-compliance to any relevant environmental legislation will be charged to the developer. 5. If Eskom has to incur any expenditure in order to comply with statutory clearances or other regulations as a result of the developer's activities or because of the presence of his		

NO.	COMMENT	RAISED BY	RESPONSE
	equipment or installation within the servitude restriction area, the developer shall pay such costs to Eskom on demand. 6. The use of explosives of any type within 500 metres of Eskom's services shall only occur with Eskom's previous written permission. If such permission is granted the developer must give at least fourteen working days prior notice of the commencement of blasting. This allows time for arrangements to be made for supervision and/or precautionary instructions to be issued in terms of the blasting process. It is advisable to make application separately in this regard. 7. Changes in ground level may not infringe statutory ground to conductor clearances or statutory visibility clearances. After any changes in ground level, the surface shall be rehabilitated and stabilised so as to prevent erosion. The measures taken shall be to Eskom's satisfaction. 8. Eskom shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the servitude area by the developer, his/her agent, contractors, employees, successors in title, and assignees. The developer indemnifies Eskom against loss, claims or damages including claims pertaining to consequential damages by third parties and whether as a result of damage to or interruption of or interference with Eskom's services or apparatus or otherwise. Eskom will not be held responsible for damage to the developer's equipment. 9. No mechanical equipment, including mechanical excavators or high lifting machinery, shall be used in the vicinity of Eskom's apparatus and/or services, without prior written permission having been granted by Eskom. If such permission is granted the developer must give at least seven working days' notice prior to the commencement of work. This allows time for arrangements		

NO.	COMMENT	RAISED BY	RESPONSE
	to be made for supervision and/or precautionary instructions to be issued by the relevant Eskom Manager. Note: Where and electrical outage is required, at least fourteen work days are required to arrange it. 10. Eskom's rights and duties in the servitude shall be accepted as having prior right at all times and shall not be obstructed or interfered with. 11. Under no circumstances shall rubble, earth or other material be dumped within the servitude restriction area. The developer shall maintain the area concerned to Eskom's satisfaction. The developer shall be liable to Eskom for the cost of any remedial action which has to be carried out by Eskom. 12. The clearances between Eskom's live electrical equipment and the proposed construction work shall be observed as stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993). 13. Equipment shall be regarded electrically live and therefore dangerous at all times. 14. In spite of the restrictions stipulated by Regulation 15 of the Electrical Machinery Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), as an additional safety precaution, Eskom will not approve the erection of houses, or structures occupied or frequented by human beings, under the power lines or within the servitude restriction area. 15. Eskom may stipulate any additional requirements to highlight any possible exposure to Customers or Public to coming into contact or be exposed to any dangers of Eskom plant. 16. It is required of the developer to familiarise himself with all safety hazards related to Electrical plant. 17. Any third party servitudes encroaching on Eskom servitudes shall be registered against Eskom's title deed at the developer's own cost. If such a servitude is brought into being, its existence should		

NO.	COMMENT	RAISED BY	RESPONSE
	be endorsed on the Eskom servitude deed concerned, while the third party's servitude deed must also include the rights of the affected Eskom servitude.		
7.	**General:** (i) It is noted form the documentation submitted, and based on comments made during the FGM that the infrastructure for the supply of gas as well as the evacuation infrastructure is not part of this process and will be subject to another process. Also, no gas will be supplied via trucks to the site.	Brenda Strachan City of uMhlathuze Letter: 09 December 2021	Separate EA applications will be submitted for the gas supply pipeline and the evacuation of the electricity generated by the Phakwe RB G2P 3 power plant. It is confirmed that gas would not be trucked to the development site.
	(ii) Whereas the socio-economic benefits of the proposed development are well understood. It is understood that semi-skilled locals will benefit from employment opportunities during the construction phase. An indication is needed of benefits to semi-skilled locals during the operational phase as well. Furthermore, care must to taken to mitigate detrimental impacts on the existing developments, the environment and ensure no adverse impacts on the health of communities residing in the vicinity of the proposed development.		It is estimated that during the construction period the construction staff complement will be ~600 people, with peaks of staff higher, with employment opportunities being provided for the local community as far as possible. The labour required includes 90% low skilled and semi-skilled and a 10% of skilled and highly skilled workforce. Employees will not reside on the project site and will be accommodated in the Richards Bay area. An indication of benefits to semi-skilled locals during the operational phase will be addressed in the EIA phase. The majority of the environmental impacts are expected to occur during the construction phase with developments of this nature and mitigation measures to ensure negative impacts on health, including those associated with noise, are kept to the lowest / minimum possible. These impacts will be assessed and addressed in the EIA phase.
	(iii) A number of similar applications have been submitted in recent months within a 10km radius of Richards Bay. The complexity of these proposed developments warrants an integrated and cumulative assessment and engagements are needed with relevant government stakeholders. Impacts identified should		Similar applications within the study area will be considered and assessed as part of the cumulative impact assessment to be undertaken within the EIA Phase of the process. The EIA Report, including the cumulative impact assessment, will be provided to

NO.	COMMENT	RAISED BY	RESPONSE
	not be site specific; surrounding land use and environmental conditions needs to be considered and include climate change as gas to power projects are associated with methane gas emissions. As such, the Municipality reserves the right to amend our comments on the application in the event of being presented with further information.		stakeholders for review and comment once all studies have been completed.
	(iv) It is noted that various specialist investigations are preliminary and in some instances, based on desktop assessments, and that will require more detailed investigations during subsequent phases.		As the project is currently in the scoping phase, the specialists' investigations are desk-top based and/or preliminary assessments. Detailed assessments, including recommendations for mitigation measures, will be undertaken during the impact phase of the EIA process.
	More sectoral specific comments are provided herewith: **Air Quality:** (i) During the construction phase, there may be direct impact of elevated PM_{10} which may result in a non-compliance with NAAQS daily PM_{10} concentration. It should be noted that according to 2020 State of Air Report, PM is still the greatest national cause for concern in terms of air quality due to numerous pollution sources and climatic conditions being also a major factor.		Impacts related to elevated PM_{10} will be assessed in the Air Quality Impact Assessment during the EIA phase.
	(ii) It is noted that ***nuisance dustfall*** may also be elevated during construction phase. The project construction phase also has the potential to elevate ***ambient gaseous concentration*** that are detrimental to human health. (iii) It is recommended that mitigation measures are outlined and included in the process going forward to address the above.		Recommendations and mitigations related to nuisance dustfall and ambient gaseous concentrations during construction will be included in the Air Quality Impact Assessment during the EIA phase.
	(iv) ***Ambient air pollutant concentrations*** could be elevated during the operation phase that has a detrimental effect to the human health. It is also recommended that mitigation measures are outlined and included in the process going forward to address the above.		An assessment of potential human health impacts, based on the outcome of the Air Quality Impact Assessment, as well as recommendations and miitgations will be included as part of the EIA.

NO.	COMMENT	RAISED BY	RESPONSE
	(v) Furthermore, there are at least three schools located in close proximity (1,8 km South East) of the proposed development, i.e. Little Junior, Batesda Primary School and Batesda High School.		The schools which are approximately 2km and 3km (as the crow flies) from the proposed development sites will be included in the consultation process during the impact assessment phase of the EIA process. The locality and information of these schools has also been shared with the SIA and Air Quality specialists to inform the assessment of the possible impacts of the project during the impact phase of the EIA process.
	(vi) During the EIA process going forward, due attention should be given to cumulative impacts and the other industries, not just the 11 referenced in the Scoping Report, should be considered. The King Cetshwayo District AEL (Atmospheric Emission License) team should be consulted for assistance with a comprehensive list of industries around Richards Bay.		Similar applications within the study area for which data is available will be considered and assessed as part of the cumulative impact assessment to be undertaken within the EIA Phase of the process. The King Cetshwayo District Municipality AEL (Atmospheric Emission License) team will be consulted for assistance with a comprehensive list of industries around Richards Bay.
	Waste and Disaster Management: (i) It has to be clear which streams of waste are expected from this operation and the management thereof to curb water contamination, littering and illegal dumping has to be outlined.		Waste management streams and management measures will form part of the EIA Report and Environmental Management Programme to be developed in the EIA Phase of the process.
	(ii) The proposed development can be classified as an MHI (Major Hazardous Installation). More details are needed, specifically with regard to management thereof, disaster response preparedness etc. More information/control measures on the potential health risks associated with the operating of similar facilities elsewhere in the world to mitigate such potential health risks is requested.		A MHI Risk Assessment will be undertaken during the EIA Phase (refer to Chapter Measures for Emergency Preparedness will be further of the FSR) investigated during the EIA phase. An assessment of potential human health impacts, based on the outcome of the Air Quality Impact Assessment, will be included as part of the EIA.
	Transport: (i) The Traffic Impact Assessment (TIA) only considered the construction stage and not the normal operations phase and details are needed on traffic generation when the plant is operational. It also has to be confirmed conclusively how gas will be transported to the proposed development in the TIA.		A traffic impact assessment will be undertaken as part of the EIA Phase of the process and will consider all relevant phases of the project. Fuel will be supplied to the facility via dedicated gas pipeline (subject to a separate EA process). Therefore, no transportation of fuel will be undertaken for the operation of the facility.

NO.	COMMENT	RAISED BY	RESPONSE
	(ii) The load on the roads must be limited to standard axle loads. A trolley with additional axles must be used to distribute the load evenly to allowable axle loads.		Comment on axle loads is noted. This requirement has been provided to the traffic impact specialist for inclusion in the EIA Report.
	(iii) Any damages to infrastructure must be repaired by the developer. Before and after inspections must be arranged with the Municipality on the transport route to be taken		Comment on infrastructure damages is noted. This requirement has been provided to the traffic impact specialist for inclusion in the EIA Report.
	(iv) It has to be confirmed whether the developer will provide in the local power needs of the City as a priority and then feed into the national grid (Eskom).		Grid connection infrastructure and evacuation of electricity is subject to a separate EA process. It is however expected that the electricity generated by the PRBGP3 facility will feed into the national grid and not to the municipal grid.
	(v) Two routes to be used for the development are preferred, i.e. the R34 / Alumina Allee and R619 / Alumina Allee. The route options through the Richards Bay CBD/town are not supported.		Comment on preferred routes is noted. This requirement has been provided to the traffic impact specialist for inclusion in the EIA Report.
	(vi) Transportation of Abnormal Loads must not be done during peak times.		This requirement has been provided to the traffic impact specialist for inclusion in the EIA Report
	(vii) Authorization of route clearance must be obtained from Municipal Traffic Section, Roads Section and Traffic Signal Section.		This requirement has been provided to the traffic impact specialist for inclusion in the EIA Report
	(viii) It has to be confirmed whether the trip generation during normal operations will be in line with the original TIA estimations. If not, the influence on intersections with mitigating factors must be indicated.		Comment noted for inclusion in the TIA during the EIA phase.
	Biodiversity: Freshwater and Terrestrial: (i) Whereas freshwater and terrestrial scoping studies were undertaken it is noted that these were completed at a desk top level and that more functional/detailed assess-ments are to be undertaken.		Detailed Freshwater and Terrestrial Ecology Impact Assessment will be undertaken during the EIA phase of the process.
	(ii) It is also noted that a wetland offset strategy is proposed to identify and quantify the wetland offset target. The environmental authority has to be engaged on this matter in context of the Environmental Authorization obtained during		The wetlands that fell within the proposed development site have been infilled by the IDZ to release land for development. The wetland offset is to be implemented by the IDZ as per the requirements of their

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	September 2016 for the installation of bulk infrastructure at Richards Bay IDP Phase 1F.		EA for the IDZ Phase 1F. Confirmation of the status of the wetland offset targets will be investigated during the EIA phase.
	Land Use Management: (i) The property is zoned as Noxious Industry and the proposed land use is permissible as free entry (primary right). Compliance with all relevant legislation and policy frame-work is required, amongst others, the submission of building plans in line with National Building Regulations, Building Control Bylaw and uMhlathuze Green Building Guide-lines.		The comment has been noted and has been submitted to the applicant for consideration.
	(ii) By definition, "Industry-Noxious" means the use of any building, land or other premises to conduct an activity/ies that is/are deemed to be noxious, offensive or harmful or injurious to public health, safety or physical well-being including the production and bulk storage of gaseous and liquid fuels, as well as petrochemicals from crude oil, coal, gas or biomass and other trade in connection with the processing of by-products or petroleum refining. It is important to note that the above definition is reliant on outcomes of relevant legislation and frameworks such as the Occupational Health and Safety Act No.85 of 1993, as amended, the National Environmental Management Air Quality Act No.39 of 2004 as amended, the Explosives Act 2003, No. 15 of 2003, as amended etc.		The comment has been noted as part of the process. No further action required.
	Electrical: The submission of technical design drawings for consideration by the City Electrical Department are noted.		The information included in the Scoping Report is preliminary. Detailed design of the facility will be included in the EIA phase.
	Water Quality: (i) Discharge of effluent from Water Treatment Plant: Water quality status of the effluent will have to be shared with Water Quality Management Section of the Municipality in order to establish if there is a need for a discharge permit and the possibility of discharging into the Council sewer system. The comment is, amongst others, motivated by the presence of		It is proposed that use be mad of the existing IDZ infrastructure for any discharge of effluent. Confirmation from the IDZ to discharge brine into the IDZ stormwater system will be included in the EIA phase. Where necessary, the Water Quality Management Section of the Municipality will be consulted with to determine is a discharge permit is required.

NO.	COMMENT	RAISED BY	RESPONSE
	brine in the effluent and the adverse impacts the receiving environment will be prone to.		
	(ii) It is noted that brine discharge has an elevated water temperature with higher salinity': than oceanic wa-ter. Troublesome chemicals associated with brine discharge are copper and chlorine with the potential for chronic toxicity to aquatic biota for several km's around discharge points. Dirty water may not be permit-ted for release into the environment.		No discharge of water with elevated temperatures is proposed. The gas turbines are air-cooled, and the steam circuit is a closed-circuit. Effluent from the demineralization plant will be at ambient temperature.
	(iii) As such, the requirement and need for water quality monitoring and discharge into a closed system (Council sewer system) is emphasized.		Brine will be discharged into the existing IDZ stormwater system.
8.	This letter serves to inform you that the following information must be included to the Final Scoping Report: **a) <u>Listed Activities</u>** i) Please ensure that all relevant listed activities are applied for, are specific and can be linked to the development activity or infrastructure (including thresholds) as described in the project description. Only activities (and sub-activities) applicable to the development must be applied for and assessed. When including activities in the application form and Scoping Report, take note of the word OR in between the activities (sub-activities). Furthermore, kindly ensure that the latest listed activities, as amended in 2021, are applied for. ii) The project description must be expanded to include thresholds, footprints and capacities of the associated infrastructure, particularly those that trigger a listed activity. iii) It is imperative that the relevant authorities are continuously involved throughout the environmental impact assessment process, as the development property falls within geographically designated areas in terms of Listing Notice 3 Activities. Written comments must be obtained from the	Matlhodi Mogorosi Case Officer DFFE Letter: 10 December 2021	All relevant activities applied for in the application for an EA and included in the Scoping Report are relevant to the Phakwe RB G2P3 2000MW CCPP project as described in the project description. An amended application form is submitted with the final Scoping Report. Footprints and capacities are included in Section 4.2 and Table 4.1, as well as in the Table 7.2 pretaining to the tiggred listed activity. It can be confirmed that the latest version of the application form, dated April 2021, as available from the DFFE's website, has been used for this project. Proof of correspondence with the various stakeholders are is included as **Appendix C5** of the final Scoping Report, including attempts to obtain comments during the 30-day review and comment period of the Scoping Report.

NO.	COMMENT	RAISED BY	RESPONSE
	relevant authorities (or proof of consultation if no comments were received) and submitted to this Department. In addition, a graphical representation of the proposed development within the respective geographical areas must be provided. iv) If the activities applied for in the application form differ from those mentioned in the final SR, an amended application form must be submitted. Please note that the Department's application form template has been amended and can be downloaded from the following link https://www.environment.gov.za/documents/forms.		
	b) <u>Layout & Sensitivity Maps</u> i) Please provide a layout map which indicates the following: ➢ Positions of the proposed facility as well as all associated infrastructure; ➢ Permanent and temporary laydown area footprints; ➢ All supporting onsite infrastructure e.g. roads (existing and proposed); and ➢ All existing infrastructure on the site. ii) The above map must be overlain with a sensitivity map which indicates the following: ➢ The location of sensitive environmental features on site e.g. CBAs, NPEAS focus areas, heritage sites, wetlands, drainage lines etc. that will be affected; ➢ Buffer areas; and, ➢ All "no-go" areas. iii) Provide a map of the Richards Bay Gas Power 3 CCPP facility in relation to the existing electrical grid and gas pipeline infrastructure (the potential connection points and distances), to support the feasibility of the facility.		Locality, preliminary sensitivity, existing infrastructre, and cumulative maps are included in Appendix L of the Scoping Report. No Google maps have been used. A detailed layout map will be provided in the EIA phase based on the detailed design to be provided by the applicant. This will be overlain onto the environmental sensitivity map for the site. In addition, updated maps showing the Richards Bay Gas Power 3 CCPP facility in relation to the existing electrical grid and gas pipeline infrastructure as well as an updated cumulative map showing all similar developments will be provided in the EIA Report. Google maps will not be used.

NO.	COMMENT	RAISED BY	RESPONSE
	iv) A cumulative map showing the development in relation to similar neighbouring industrial/energy developments and air pollutant emitters must also be provided. v) Google maps will not be accepted.		
	c) <u>Alternatives</u> i) Design and layout alternatives must also be considered under the alternatives section of the SR.		A layout will be developed by the Project Proponent taking all identified environmental sensitivities into consideration. This will be included within the EIA Report. No design and layout alternatives have been identified at this stage.
	d) <u>Public Participation Process</u> i) Please ensure that all issues raised and comments received during the circulation of the SR from registered I&APs and organs of state which have jurisdiction in respect of the proposed activity are adequately addressed in the Final SR.		All issues raised and comments received during the 30-day review and comment period of the Scoping Report, including those OoS which have jurisdiction in respect of the proposed activity have been included and adequately addressed in this C&RR. This C&RR is included as **Appendix C9** of the final Scoping Report.
	ii) Proof of correspondence with the various stakeholders must be included in the Final SR. Should you be unable to obtain comments, proof must be submitted to the Department of the attempts that were made to obtain comments.		Proof of correspondence with the various stakeholders is included as **Appendix C5** and **C6** of the final Scoping Report. Attempts to obtain comments during the 30-day review and comment period of the Scoping Report has also been included in these appendices.
	iii) The final SR must provide evidence that all identified and relevant competent authorities have been given an opportunity to comment on the proposed development and SR, particularly, this Department's Climate Change; Air Quality, Biodiversity Conservation; and Protected Areas Directorates, the KwaZulu- Natal Department of Economic Development, Tourism and Environmental Affairs, the relevant Atmospheric Emissions Licence (AEL) Authority, the Department of Agriculture, Rural Development and Land Reform; Department of Water and Sanitation, Ezemvelo KZN Wildlife, AMAFA, SAHRA, SANRAL and the District and Local Municipalities.		All relevant competent authorities have been given an opportunity to comment on the proposed development, including the OoS as listed (refer to **Appendix C2**) of the final Scoping Report. Proof of correspondence with the various stakeholders is included as **Appendix C5** and **C6** of the final Scoping Report.

NO.	COMMENT	RAISED BY	RESPONSE
	iv) The Public Participation Process must be conducted in terms of the approved public participation plan and Regulation 39, 40 41, 42, 43 & 44 of the EIA Regulations 2014, as amended.		The Public Participation Process has been conducted in terms of Regulations 39, 40, 41, 42, 43 & 44 of the EIA Regulations 2014, as amended (GNR 326), as well as in accordance with the approved Public Participation Plan (**Appendix C1**) as follows: • **Project database:** A register of I&APs has been compiled and will be updated throughout the EIA process (**Appendix C2**). • **EIA & Public Participation process announcements:** o The BID, accompanied by a cover letter inviting I&APs to register on the project database, was distributed via email to identified I&APs and relevant OoS on 12 November 2021 (refer to **Appendices C4, C5 & C6** of the final Scoping Report). o An advertisement was placed in the Zululand Observer on Friday, 12 November 2021 (refer to **Appendix C3** of the final Scoping Report). o Site Notices announcing the EIA process were placed at visible points at the proposed development site in accordance with the requirements of the EIA Regulations on 10 November 2021 (refer to **Appendix C3** of the final Scoping Report). o Process Notices were placed at various public places in Richards Bay (refer to **Appendix C3** of the final Scoping Report). • **Scoping Report available for review and comment:** o Registered I&APs were notified of the availability of the Scoping Report for a 30-day review and comment period via e-mail on 12 November 2021 (refer to **Appendix C6** of the final Scoping Report). o Commenting authorities, municipal councillors and local and district municipalities which have jurisdiction in the area

NO.	COMMENT	RAISED BY	RESPONSE
			were requested to submit written comments on the Scoping Report via e-mail on 12 November 2021 (refer to **Appendix C5** of the final Scoping Report). o An advertisement was placed in the Zululand Observer on Friday, 12 November 2021 (refer to **Appendix C3** of the final Scoping Report). o The Scoping Report and Appendices were uploaded onto Savannah Environmental's website allowing I&APs and OoS to download the Scoping Report and Appendices. I&APs wanting to access the project information via this portal were required to register and receive a unique code (via an automated system) to access the report of interest. This step and the online portal support the EAP in maintaining a complete and accurate record and database of all parties who have interest in the project (and who choose to access the report via the online portal), in line with the requirements of the Regulations. • **Attempt to obtain comments on the Scoping Report:** An e-mail to all registered I&APs and OoS as a reminder of the availability of the Scoping Report for review and comment was sent on 06 December 2021 (refer to **Appendices C5 & C6** of the final Scoping Report). • **Various Meetings** were held during the 30-day review and comment period of the Scoping Report (refer to **Appendix C7** of the final Scoping Report for the meeting notes): o A vitual FGM was held with Officials from King Chetshwayo DM & City of uMhlathuze LM on 25 November 2021 o A virtual FGM was held with Officials from KZN DEDTEA & Ezemvelo KZN on 25 November 2021 o Virtual Public Participation Process Meetings were scheduled for 30 November 2021 at 14h00 and 18h00. No attendees regsitered their attendance.

NO.	COMMENT	RAISED BY	RESPONSE
			o A virtual FGM was held with the RB IDZ Environmental Review Committee Members on 08 December 2021. o A virtual KSW was held on 09 December 2021 to which all OoS Officials and key stakeholder representatives were invited. • **Consultation:** Proof of consultation with I&APs and OoS throughout the EIA process to date is included in **Appendices C5 & C6** of the final Scoping Report. • **Comments & Responses Report:** All comments received to date have been captured in this C&RR which is attached to the final Scoping Report as **Appendix C9**.
	v) Proof of the newspaper advertisement must be included in the final SR.		The tearsheet of the advertisement placed is included in **Appendix C3** of the final Scoping Report.
	vi) A comments and response trail report (C&R) must be submitted with the final SR. The C&R report must incorporate all comments received (pre and post submission of draft SR) for this development. The C&R report must be a separate document from the main report and the format must be in the table format which reflects the details of the I&APs and date of comments received, actual comments received, and response provided. Please ensure that comments made by I&APs are comprehensively captured (copy verbatim if required) and responded to clearly and fully. Please note that a response such as "Noted" is not regarded as an adequate response to I&AP's comments.		All comments received to date have been captured in this C&RR which is attached as a separate document to the final Scoping Report (**Appendix C9**). Comments received have not been summarised for inclusion in the C&RR and have been captured verbatim. All comments havebeen responded to as applicable. No comment received has been responded to as "Noted".
	e) <u>Specialist Assessments</u> i) Specialist studies to be conducted must provide a detailed description of their methodology, as well as indicate the locations and descriptions of the development footprint, and all other associated infrastructures that they have assessed and are recommending for authorisations.		All specialist studies submitted as part of the final scoping report are final. Spoecialist reports to be included in the EIA Report will provide a detailed description of their methodology, as well as indicate the locations and descriptions of the development footprint, and all other associated infrastructures that they have assessed and are recommending for authorisations. Detailed/practical mitigation

NO.	COMMENT	RAISED BY	RESPONSE
			measures for implementation will be provided in the EIA phase reports.
	ii) The specialist studies must also provide a detailed description of all limitations to their studies. All specialist studies must be conducted in the right season and providing that as a limitation, will not be accepted.		All specialist studies provide a detailed description of limitations to their studies. More details will be provided where required in the EIA Phase reports.
	iii) Please note that the Department considers a 'no-go' area, as an area where no development of any infrastructure is allowed; therefore, no development of associated infrastructure including access roads is allowed in the 'no-go' areas.		No go areas identified in the Scoping Report are areas where no development of any infrastructure is allowed.
	iv) Should the specialist definition of 'no-go' area differ from the Department's definition; this must be clearly indicated. The specialist must also indicate the 'no-go' area's buffer if applicable.		The specialist's definition of 'no-go' area does not differ from the Department's.
	v) All specialist studies must be final, and provide detailed/practical mitigation measures for the preferred alternative and recommendations, and must not recommend further studies to be completed post EA.		The specialist studies included as part of the Scoping phase are final and include recommendations for further investigation in the EIA phase.
	vi) Should the appointed specialists specify contradicting recommendations, the EAP must clearly indicate the most reasonable recommendation and substantiate this with defendable reasons; and were necessary, include further expertise advice.		No contradicting recommendations were made by any of the specialists.

NO.	COMMENT	RAISED BY	RESPONSE
	vii) It is further brought to your attention that Procedures for the Assessment and Minimum Criteria for Reporting on identified Environmental Themes in terms of Sections 24(5)(a) and (h) and 44 of the National Environmental Management Act, 1998, when applying for Environmental Authorisation, which were promulgated in Government Notice No. 320 of 20 March 2020 (i.e. "the Protocols"), and in Government Notice No. 1150 of 30 October 2020 (i.e. protocols for terrestrial plant and animal species), have come into effect. Please note that specialist assessments must be conducted in accordance with these protocols. Please indicate whether the protocols were applied.		The requirements of GN 320 of March 2020 have been noted in the Scoping Report (refer to Section 7.6 of the Scoping Report). Specialist studies will be undertaken in accordance with the required protocols throughout the EIA process.
	viii) Please note that the protocols require certain specialists to be SACNASP registered. As such, the Specialist Declaration of Interest forms must also indicate the scientific organisation registration/member number and status of registration/membership for each specialist.		Specialist Declarations with scientific organisation registration/member number, where applicable, are included in Appendix O of the Scoping Report.
	ix) Please include a table in the report, summarising the specialist studies required by the Department's Screening Tool, a column indicating whether these studies were conducted or not, and a column with motivation for any studies not conducted. Not all of the studies identified by the screening tool have been included in Table 7.4 of the final SR (e.g., the Geotechnical Assessment, Hydrological Assessment, Air Quality Impact Assessment and Ambient Air Quality Impact Assessment).		The summary of the results from the Department's screening tool has been included in Section 7.6. A column has been added to indicate if the identified studies are being conducted. Where studies are not being undertaken a motivation has been included. A detailed description of the specialist studies which will be undertaken during the EIA phase is provided in the Plan of study (Chapter 10) of the Scoping Report.
	x) Please note that if any of the specialists' studies and requirements/protocols recommended in the Department's Screening Tool are not commissioned, motivation for such must be provided in the report, inclusive of the necessary site sensitivity verification reports and specialist compliance statements.		The summary of the results from the Department's screening tool has been included in Section 7.6. A column has been added to indicate if the identified studies are being conducted. Where studies are not being undertaken a motivation has been included.

NO.	COMMENT	RAISED BY	RESPONSE
	xi) The terms of reference for the Climate Change Impact Assessment must assess the impacts of the development on climate change and vice versa, and accordingly must consider both mitigation and adaptation measures to climate change.		A Climate Change Impact Assessment will be undertaken in the EIA Phase of the process, as detailed in the Plan of Study in Chapter 10 of the scoping report.
	xii) It is noted that a number of sensitive receptors occur within 3km of the proposed gas power plant. As such, please ensure that the major hazard risks of the facility are also assessed.		MHI Risk Assessment will be undertaken as part of the EIA Phase (refer to Chapter 10 of the FSR)
	f) <u>Cumulative Assessment</u> i) Should there be any other similar Gas to Power plants proposed within a 30km radius of the proposed development site, the cumulative impact assessment for all identified and assessed impacts must be refined to indicate the following: ➢ Identified cumulative impacts must be clearly defined, and where possible the size of the identified impact must be quantified and indicated, i.e., hectares of cumulatively transformed land. ➢ Detailed process flow and proof must be provided, to indicate how the specialist's recommendations, mitigation measures and conclusions from the various similar developments in the area were taken into consideration in the assessment of cumulative impacts and when the conclusion and mitigation measures were drafted for this project. ➢ The cumulative impacts significance rating must also inform the need and desirability of the proposed development. ➢ A cumulative impact environmental statement on whether the proposed development must proceed.		The need for assessment of cumulative Impacts was identified in Chapter 8 of the Scoping report. The assessment of cumulative impact for the EIA phase will consider projects within a 30km radius of the proposed development site. Identified cumulative impacts will be clearly defined, described and assessed in the Cumulative Impacts chapter of thre EIA Report. Where possible, the extent of the identified impacts will be quantified and indicated. The cumulative impacts significance rating will inform the need and desirability of the proposed development. A cumulative impact environmental statement on whether the proposed development can proceed will be included in the EIA Report.
	g) <u>Specific comments</u> i) The EAP must provide details of what the proposed facility will entail, including the associated infrastructure.		A detailed description of the proposed project and associated infrastructure is included Section 4.2 of the Scoping Report.

NO.	COMMENT	RAISED BY	RESPONSE
	ii) The EAP must provide details of the specific locations in the final SR, and not provide vague locations of the proposed developments. All associated infrastructure must be clearly indicated in the final SR and its associated layout plans.		Detailed descriptions of the the project location is provided in Table 1.1 of the Scoping Report. A prelminiary layout map, including all infrastucture is included in Appendix L.
	iii) Please provide evidence that the application for an air emissions licence has been submitted to the relevant AEL authority and that consultation with that authority has taken place, since the AEL process is to be run parallel to the EIA process. The AEL authority must have been given the opportunity to comment on the SR, including the terms of reference for the Air Quality Impact Assessment.		The AEL authority has been given an opportunity to comment on the Scoping Report. The AEL application will be submitted once the Atmospheric Impact Report has been compiled within the EIA Phase of the process.
	iv) Please provide an indication of what activities have already been authorised on the proposed Richards Bay Gas Power 3 CCPP site in terms of the Environmental Authorisation (EA) for the IDZ Phase 1F dated 27 September 2016 (DFFE Ref No.: 14/12/16/3/3/2/665), versus those being applied for in this application. Please confirm that the EA is still valid.		The listed acitivites applicable to the IDZ Phase 1F and the proposed project are included in Table 7.1 and Table 7.2 of the final Scoping Report respectively.
	v) Please ensure that landowner consent is provided with the final SR.		Landowner consent has been included as part of the amended application submitted with the FSR.
	vi) Ensure that the final SR includes confirmation of the availability of services from the relevant authorities.		Confirmation of availability of services is not available at this stage. This will be included in the EIA Report for the project.
	vii) Under the legislation and policy section of the SR, which discusses the National Environmental Management: Waste Act No 59 of 2008, please indicate whether the proposed development will require a Waste Management Licence.		A detailed review of legislative requirements, including the NEM:WA, applicable to the Phakwe Richards Bay Gas Power 3 CCPP will be included in the EIA phase. Based on the natire of the project, no waste management actvities are expected to be associated with the project and no Water Management License is expected to be reuqired.
	viii) It is noted that the electrical grid infrastructure and gas pipeline for the facility are to be applied for separately. These components should ideally be assessed holistically together with the gas power plant. The gas power plant, if approved, would therefore not be allowed to commence, without these		A separate process in terms of providing natural gas to the Richards Bay area is underway by Transnet. In addition, a number of factors regarding the DMRE procurement / specification process for gas-to-power facilities are currntly not known. It is therfore not possible at

NO.	COMMENT	RAISED BY	RESPONSE
	other authorisations also being in place. The applicant is advised to take this into consideration in the planning and timing of the project.		this stage to consider the gas pipeline infrastructure outside of the project site. In terms of the electrical grid infrastructure, discussions were held with Eskom who have indicated that they reuqire clarity as to which projects receive EAs prior to determining feasible grid connection points for these projects. Phakwe will therefore approach Eskom to initiate the process for the grid connection when a more defined route and grid connection point would be known.
	General You are further reminded to comply with Regulation 21(1) of the NEMA EIA Regulations 2014, as amended, which states that: *"If S&EIR must be applied to an application, the applicant must, within 44 days of receipt of the application by the competent authority, submit to the competent authority a scoping report which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority"* You are are further reminded that the final SR to be submitted to this Department must comply with all the requirements in terms of the scope of assessment and content of Scoping reports in accordance with Appendix 2 and Regulation 21(1) of the EIA Regulations 2014, as amended. Further note that in terms of Regulation 45 of the EIA Regulations 2014, as amended, this application will lapse if the applicant fails to meet any of the timeframes prescribed in terms of these Regulations, unless an extension has been granted in terms of Regulation 3(7).		The process undertaken for this project complies with Regulation 21(1) of the NEMA EIA Regulations 2014. The final Scoping Report complies with the requirements of Appendix 2 and Regulation 21(1) of the EIA Regulations 2014, as amended The final Scoping report will be submitted within the prescribed timeframe of the EIA Regulations. The applicant is aware of this requirement that no activity may commence prior to receipt of an Environmental Authorisation being granted by the Department.

NO.	COMMENT	RAISED BY	RESPONSE
	You are hereby reminded of Section 24F of the National Environmental Management Act, Act No. 107 of 1998, as amended, that no activity may commence prior to an Environmental Authorisation being granted by the Department.		
9.	The Directorate: Biodiversity Conservation has reviewed and evaluated the report and does not have any objections to the Draft Scoping Report & Plan of Study provided that all relevant National and Provincial biodiversity guidelines will be considered in the final report.	Aulicia Maifo & Portia Makitla Case Officer DFFE Biodiversity Conservation	It is noted that DFFE: Biodiversity Conservation has no objection on the Draft Scoping Report and Plan of Study.
	NB: The Public Participation Process documents related to Biodiversity EIA for review and queries should be submitted to the Directorate: Biodiversity Conservation at Email; BCAdmin@environment.gov.za for attention of Mr. Seoka Lekota.	Letter: 10 December 2021	Public Participation Process documents will be submitted as required DFFE: Biodiversity Conservation.
10.	**1. GENERAL** 1.1. The Provincial Department of Agriculture and Rural Development: Agricultural Resource Management, Land Use Regulatory Unit acknowledges the receipt of the above mentioned application. 1.2. The main objective of the application is to request Provincial Department of Agriculture and Rural Development to recommend, provide valuable inputs and comments on the proposed establishment of Richards Bay Gas Power 3, Combined Cycle Power Plant.	SB Thabede Acting Scientific Manager: Land Use Regulatory Unit KZN Dept of Agriculture and Rural Development Letter: 15 December 2021	The Department's general observation of the application is correct and noted and no further response / action is required.
	2. BACKGROUND 2.1. Phakwe Richards Bay Gas Power 3 (Pty) Ltd (PRBGP3) proposes the development of a combined cycle power plant with a capacity of up-to 2 000MW on various erven within the Richards Bay IDZ Phase 1F, Richards Bay. 2.2. The properties that will be affected by this proposed development are **ERF 16820, ERF 16819, ERF 1/16674 and Subdivision of ERF 17442**. The land where CCPP is proposed is currently zoned industrial and it is vacant.		The Department's summary of the background to the proposed development is correct and noted and no further response / action is required.

NO.	COMMENT	RAISED BY	RESPONSE
	2.3. The submitted report is trying to unpack the potential environmental impacts of their activities, early in the development process. Hence a comprehensive environmental specialist studies will be required and are in accordance with EIA Regulations as to provide competent authority with sufficient information in order to make an informed decision. 2.4. The proposed CCPP and associated infrastructure is in response to the provision for gas-to-power technology as part of the energy mix within the integrated Resources Plan (IRP), 2019 and is planned to be bid into future requirement processes to be initiated by the Department of Mineral Resources and Energy (DMRE). 2.5. It has been identified that the proposed project will have a potential impact on the environment so an Environmental Impact Assessment is required to be completed in support of an application for Environmental Authorisation prior to construction and operation of the project. 2.6. This is deemed important because South Africa needs to grow its energy supply to support economic expansion and in so doing, alleviate supply bottlenecks and supply- demand deficit. 2.7. The power plant will operate at mid-merit to baseload duty and will include the following main infrastructure; 2.7.1. Gas turbines for the generation of electricity through the use of natural gas or diesel. 2.7.2. HRSG to capture heat from high temperature exhaust gases to produce high temperature and high pressure dry steam to be utilised in the steam turbines. 2.7.3. Steam turbines for the generation of additional electricity through the use of dry steam generated by the HRSG. 2.7.4. Bypass stacks associated with each gas turbine. 2.7.5. Dirty water Retention dams and Clean water dams		

NO.	COMMENT	RAISED BY	RESPONSE
	2.7.6. Stormwater channels. 2.7.7. Waste Storage facility (general and hazardous). 2.7.8. Exhaust stacks for the discharge of combustion gases into the atmosphere. 2.7.9. A water treatment plant of potable water and the production of demineralised water (for steam generation). 2.7.10. Water pipelines and water tanks to transport and store water of both industrial quality and portable quality 2.7.11. Dry-cooled system consisting of air cooled condenser fans situated in fan banks. 2.7.12. Closed fi-fan coolers to cool lubrication oil for the gas and steam turbines. 2.7.13. A gas pipeline and a gas pipeline supply conditioning process facility for the conditioning and measuring of the natural gas prior being supplied to the gas and steam turbines. It must be noted however that the environmental permitting process for the gas pipeline construction and operation will be undertaken under a separate EIA process. 2.7.14. Diesel off-loading facility and storage tanks. 2.7.15. Ancillary infrastructure including • Roads (Access and internal) • Warehousing and buildings • Workshop building • Fire water pump building • Administration and control building • Ablution facilities • Storage facilities • Guard House • Fencing • Maintenance and cleaning area		

NO.	COMMENT	RAISED BY	RESPONSE
	• Operational and maintenance control centre 2.7.16. Electrical facilities including • Power evacuation including GCBs, GSU transformers, MV busbar, HV cabling and 1*275 kV or 400kV GIS Power Plant Substation • Generators and auxiliaries 2.7.17. Service infrastructure including • Stormwater channels • Water pipelines • Temporary work areas during construction phase. 2.8. As per submitted application no generation of gas inside power plant however it will be outsourced from overseas.		
	3. COMMENTS ON PROPOSAL 3.1. The proposed project will not directly affect agricultural lands but its impact might be huge in agricultural production in relation to expected emissions.		A Soils and Agricultural Assessment as well as an Air Quality Impact Assessment will be undertaken in the EIA phase to assess potential impact significance.
	3.2. As this is a new project over a vacant land; Land Use Regulatory Unit assume that there will be clearance of Natural vegetation.		Comment from KZN DA&RD acknowledged. No response required.
	3.3. It is clear that the proposed development is under Local Town Planning Scheme that is Zone 1F of the Richards Bay Industrial Development Zone but as per KZN Land Potential Categories the land is classed as Secondary agricultural land therefore every effort should be put in place to take care of it as per CARA regulations.		Comment from KZN DA&RD acknowledged. The requirements in terms of CARA will be detailed within the EIA Report and EMPr.
	3.4. It is recommended that the excavated furrows be back-filled and levelled proper in order to alleviate soil erosion.		Comment from KZN DA&RD acknowledged. This requirement will be included within the project EMPr.
	3.5. Vegetation clearing must be kept at minimum during site preparation and re-vegetation of disturbed areas after construction is highly recommended.		Management measures for clearance of vegetation and rehabilitation after construction will be included as part of the EMPr in the EIA phase.
	3.6. Proper mitigation measures should be put in place, mitigation measures must highlight how the project will avoid disturbance and pollution of agricultural natural resources.		Mitigation measures for the management of any signficant impacts identified will be provided in the Soils and Agricultural Assessment in the EIA phase.

NO.	COMMENT	RAISED BY	RESPONSE
	4. CONCLUSION Please be advised that the Provincial Department of Agriculture and Rural Development: Land Use Regulatory Component **has no objection** to the activity in principle. No objection is subject to • **Assurance that possible carbon emission is going to be eliminated.** • **Submission of air quality report** • **The applicant has a draft plan for mitigation measures pertaining demineralised water**		Comment from KZN DA&RD acknowledged. No response is required.

3.2. Interested and Affected Parties

NO.	COMMENT	RAISED BY	RESPONSE
1.	I noted the notice below in yesterday's Zululand Observer. Will this application replace the existing EIA approval for RGTP 2 (400 MW)? If not, is the plan to integrate the two power plants? See map below. 	Percy Langa SHEQ Manager RB IDZ E-mail: 12 November 2021	The PRBGP3 CCPP is a separate facility to the RGTP 2 (400 MW) project.
2.	We note that the document for public participation is password protected. This is not in line with public participation process, where documents should be widely accessible and examined by the public without any hinderance. Please remove the password protection so that the public can have access to the documents.	Michelle Koyama Attorney Centre for Environmental Rights Email: 06 December 2021	The registration of Interested and Affected Parties (I&APs) was undertaken according to the Public Participation Plan dated November 2021 as approved by the Department of Forestry, Fisheries and the Environment (DFFE) dated 11 November 2021. The approved plan is included in the Scoping Report, Appendix C1. The requirement for a person to register is in line with Regulation 43 of the EIA Regulations which refers to the right of registered parties to comment on the reports submitted as part of the application process. The need for parties to register is such that he/she discloses any direct

NO.	COMMENT	RAISED BY	RESPONSE
			business, financial, personal or other interest which that party may have in the approval or refusal of the application in accordance with Regulation 43(1). The Scoping Report and Appendices were uploaded onto Savannah Environmental's website allowing I&APs and OoS to download the Scoping Report and Appendices. Access to the reports was unrestricted. I&APs wanting to access the project information via this portal were required to register and receive a unique code (via an automated system) to access the report of interest. This step and the online portal support the EAP in maintaining a complete and accurate record and database of all parties who have interest in the project (and who choose to access the report via the online portal), in line with the requirements of the Regulations. Where parties were unable to access the documents online, these were made available via other appropriate means such as CD, Dropbox or WeTransfer.
3.	**Background** The SDCEA (South Durban Community Environmental Alliance) is an environmental justice organisation based in south Durban. It is made up of 19 affiliate organisations, and has been active since its formation in 1996. It is considered successful for many reasons. One of which is that it is a vocal and vigilant grouping in terms of lobbying, reporting and researching industrial incidents and accidents in this area. It contributes to the struggle against Environmental Racism for Environmental Justice and Environmental Health. The SDCEA hosts activities such as awareness campaigns, workshops, protests and meetings; to discuss any facets of environmental justice, including community health, unsustainable development, industrial pollution and disproportionate governmental representations.	Desmond Mathew D'Sa SDCEA Coordinator Letter: 13 December 2021	The background information provided by the SDCEA is herewith acknowledged. No further response or action is required.
	Documents		

NO.	COMMENT	RAISED BY	RESPONSE
	The documents provided online are only in English. The documents need to be available in isiZulu, so that the majority of communities in and around the area can understand and provide sound comment on the proposed project. The isiZulu documents need to be entirely accessible to the public, therefore hard copies will have to be distributed. Many community members do not have access to the internet therefore they cannot download the documents off the internet to make meaningful comment as data costs money which rural communities do not have given the current economic situation prevalent in the country at the moment. It is the responsibility of the paid independent consultants to ensure that all communities have access to the documents and COVID should not be used as an excuse to not have any hard copies distributed.		The need to have these technical documents translated into isiZulu is not a feasible request as various environmental and technical terminology is not available in isiZulu. Should a formal request for an Executive Summary of the Scoping Report in isiZulu have been received from the community or the relevant Ward Councillor or community representatives, Savannah Environmental would have made such a copy available on our website and depending on the size, it would have been sent via WhatsApp to the I&APs and/or made available in hard copy. No such request was received. Th predominant language in the area where the project is being proposed appears to be English. Throughout the process Savannah Environmental has made the relevant project information available to those I&APs who indicated their interest in the project. Where hard copies of a report were requested, Savannah Environmental provided these. Compliance with COVID-19 Regulations was ensured by the placement of sanitised printed documents into sealed envelopes prior to sending via courier.
	Meetings Engagement in the public participation process is also an obstacle as it is taking place online and the majority of interested and affected parties do not have access to data, computers or smartphones to engage meaningfully. Again, COVID cannot be used as a reason to not have any options for engagement with those who cannot be online.		The approved Public Participation Plan for the project makes provision for virtual meetings as well as for face-to-face meetings on request. No request for face-to-face meetings has been received to date. In addition, reports and other project documentation are available on the Savannah Environmental website and in hard copy on request. Where requested, hard copies have been made available. Further, all notifications and adverts include reference to the Savannah Environmental dedicated public participation mobile phone, and also to the "*please call me*" facility which allows any community member, I&AP or stakeholder to contact the public participation office and have their call returned should they not have any airtime or data available to make the call.

NO.	COMMENT	RAISED BY	RESPONSE
	Terms of Reference The terms of reference for the appointment of the specialists need to be made available to the public. It is crucial for us to know if these specialists and consultants are people of repute and credibility. We need to understand what process was in place in procurement to appoint these experts and consultants. How was this advertised! How many groups tendered for this project and short listed as communities are concerned with biasness and unfairness when no one follows due process and desk top studies are given as facts?		Details of the appointed specialist are included in the Scoping Report (refer to Chapter 1 and Appendix A of the Scoping Report). Specialist declarations signed by the specialist acknowledging their independence is included in Appendix O of the Scoping Report. Details of the terms of reference for the EIA phase studies are included in Chapter 10: Plan of Study for EIA, as well as in the specialist scoping reports contained in Appendix D to K. All this information was available as part of the Scoping Report provided for public review and comment.
	Research The research done as part of the socio-economic study is inadequate. We want to see evidence that this development will actually create jobs pass the construction phase and will benefit the community long term. Will training be provided to the community to upskill them to be employed? What level of real investment in the community is going to actually take place?		The aim of the scoping level studies was to identify potential issues associated with the project and detail the studies to be undertaken in the EIA Phase of the process. As detailed in the Plan of Study for EIA, a Socio-Economic Impact Assessment will be undertaken as part of the EIA Phase of the process. The Socio-economic assessment will include details of unskilled and skilled labour during the construction and operational phase and will assess the impacts and benefist associated therewith.
	Accidents, explosions, gas leaks and disaster management plans Richards Bay is already a development chemical cocktail. With the addition of this development the current risk increases exponentially. Where there are gas plants of any nature there is always great risk of accidents, and explosions. Several large pipeline failures in the past few years, leading to massive damage and even loss of life, have highlighted this risk. Pipelines can break open and leak. When this happens, the liquid or gas which leaks out can explode and cause fires. Or it could poison water, crops, land and air. When a person is near a leak from a pipeline, he or she may feel tiredness, dizziness, headaches, nausea and/or vomiting and difficult breathing. A person may lose consciousness, and could even die. Gas from leaking pipelines may over a long time even cause diseases like cancer and leukaemia. We demand		A Risk Assessment will be undertaken during the EIA phase (refer to Chapter 10 of the FSR). Measures for Emergency Preparedness will be further investigated during the EIA phase. An assessment of potential human health impacts, based on the outcome of the Air Quality Impact Assessment, will be included as part of the EIA.

NO.	COMMENT	RAISED BY	RESPONSE
	that a proper health study be conducted, there also needs to be a risk assessment done and a proper and adequate disaster management plan which must include a contingency plan.		
	Conclusion Gas power plants are not the energy infrastructure that South Africa needs if it wants to build a clean energy future. Gas plants and gas pipelines will simply add to climate change and commit the country to several more decades of destructive dependence on the oil and gas industry. The concept that natural gas offers a bridge to a low-carbon future is false. If South Africa wants to incorporate a Just Transition, then we need to move away completely from fossil fuels, because according to The International Panel on Climate Change, "there is only a dozen years for global warming to be kept to a maximum of 1.5C, beyond which even half a degree will significantly worsen the risks of drought, floods, extreme heat and poverty for hundreds of millions of people (2018). The recommendation is that there must be a transition to renewable energy which South Africa has a vast potential for. And although this development claims to be a move towards a just transition, as it starts off as an energy mix, that 'MAY' eventually reach zero emissions, there is no guarantee that it will reach 100% on green hydrogen as stated, and until then the effects of gas on the environment are far more detrimental than coal.		Just Energy Transition, as defined by SA Government and Eskom, considers a combination of renewable energy and gas to replace coal plants and help in the transition to lower (to zero) emissions. In this regard, gas power complements renewable plants in the future energy mix of South Africa, as such technology can provide energy to the grid at short notice when energy from renewable sources is not available. In addition, gas forms part of the energy technology mix included within the IRP 2019, and is also included within the Draft of National Infrastructure Plan for 2050 and of the CSIR extension of the IRP view to 2050 (mentioned in the NIP 2050).
	SDCEA is at the coal-face of the largest oil refinery complex in Africa. We have witnessed countless explosions, leaks and other pipeline accidents. For the sake of local air, water and land quality, and for future generations whose lives are threatened by the climate emergency, the developers and authorities owe South Africa far higher levels of consciousness about the risks of massive gas developments in this, the most unequal society on earth.		Comment noted, no further action required.

NO.	COMMENT	RAISED BY	RESPONSE
	Please note: We reserve the right to submit additional comments within 48 hours.		No additional comments were received. As the project is currently in the scoping phase, any further comments received will be included in the impact assessment phase of the EIA and responded to at that time.
4.	1. groundWork submits these comments on the Scoping Report (the "SR") of the proposed gas Power Combined Cycle Power Plant (the "project") located at the Richards Bay (KwaZulu Natal) Industrial Development Zone (the "IDZ").	Avena Jacklin Climate and Energy Justice Campaign Manager groundWork Letter: 13 December 2021	Comment noted, no further action required.
	2. groundWork has a particular interest and expertise in environmental justice issues, and a long- standing history of working with, and representing, the interests of historically disadvantaged communities within South Africa		
	3. Our concerns related to the Scoping Report (hereinafter the 'SR') and Specialist Reports fall into the following categories: 4. Need and consideration of alternatives 5. Costs 6. Climate change impacts 7. Air quality impacts 8. Marine impacts 9. Noise impacts 10. Socioeconomic impacts 11. Participation and landowner consent 12. Severe hazard risks 13. Risks of failure		
	4. Need and consideration of alternatives 4.1. A 2000MW gas plant is not needed. All our energy requirements can be met with a fast build out of new renewables, connected to the existing grid infrastructure, while building storage capacity and more grid infrastructure, according to Meridian Economics' final report *Accelerating renewable energy industrialisation in*		The IRP 2019 includes gas as part of the technology mix and is also included within the Draft of National Infrastructure Plan for 2050 and of the CSIR extension of the IRP view to 2050 (mentioned in the NIP 2050). Renewable Energy also comprises a significant part of the energy mix proposed for the country up to 2030. Just Energy Transition, as defined by SA Government and Eskom, considers a combination of renewable energy and gas to replace coal plants and help in the

NO.	COMMENT	RAISED BY	RESPONSE
	South Africa, 2020. This is not only the least cost pathway, but a cleaner, safer pathway that can create more and better jobs. What is glaringly lacking is the political commitment to renewable energy in South Africa.		transition to lower (to zero) emissions. In this regard, gas power complements renewable plants in the future energy mix of South Africa, as such technology can provide energy to the grid at short notice when energy from renewable sources is not available.
	4.2. Gas is resource heavy and suitable cleaner alternatives were not considered in the SR. Infinite resources such as the sun's radiation, wind and wave action are sustainable. South Africa averages more than 2500 hours of sunshine per year with average solar radiation levels of 4.5 to 6.5kW hours per square metre per day. The global solar radiation average is much higher compared with parts of the USA and Europe, making South Africa one of the most favourable countries for solar energy production in the world. The feedstock resource for gas and is finite and, worst of all, dependent on extremely high quantities of clean water throughout its lifecycle from extraction to production to combustion. This strain on water resources intensifies vulnerabilities such as displacement of communities, community livelihoods and works against water conservation and ecosystem strategies required to build climate resilience.		Alternatives to gas were considered by the DMRE in the compilation of the IRP2019 and by Government in compiling the NIP 2050. These studies and government documents have analysed the alternatives and defined which part of the energy mix every resource has to play and have determined that gas should form part of the technology mix. The proposed PRBGP3 project is aiming to fulfil part of the allocation provided for gas in the IRP2019. Renewable projects proposed by other IPPs are proposed in response to the allocation for wind and solar also defined in the IRP2019. The combined effort of all projects will produce the energy mix designed by government. In relation to use of water in the combustion of gas, the technology of gas turbines proposed for this project is Dry-combustion (resulting in a lower use of water), Air-cooled, (i.e. no water is used for cooling down turbines) and the Steam turbines are using a closed-circuit of water (steam is cooled down by air and not released to atmosphere). All of these technology aspects are proposed to reduce the use of water as much as possible. The applicant also considers that the Natural Gas is a commodity in the market. The project will purchase such a commodity and will not include NG extraction to production. Therefore, the potential water usage in these activities is not in the scope of the project and cannot be accountable to it. **Response by Jordi Fernandez, PRBGP3**
	4.3. The proposed project is not essential to the Just Transition. Gas is expensive, hazardous, destructive to people and		Just Energy Transition, as defined by SA Government and Eskom considers a combination of renewable and gas (one not exclusive of

NO.	COMMENT	RAISED BY	RESPONSE
	ecosystems and a climate change accelerator. Gas infrastructure plans do not fit into the goal of a just transition to a low carbon economy and it is not needed. There are better pathways to achieve a just transition. With the prioritisation of community driven and owned renewable energy systems, the energy trilemma of addressing energy sustainability, energy security and energy equality can be met, ensuring that we are well on our way to a fair and equitable just transition for all.		the other) to replace coal plants and help in the transition to lower (to zero) emissions. **Response by Jordi Fernandez, PRBGP3**
	4.4. It is a legal requirement that alternatives must be considered as a part of the Scoping process. In terms of alternatives, the Environmental Impact Assessment Regulations, 2014 require that it must address not only the location alternatives, but that it must consider alternatives in terms of the type, design, layout and technology of the activity, and different means of meeting the general purpose, including not implementing the activity.[102] Despite this there are only consideration of alternative sites, and there are no details of alternative technologies having been considered in terms of the alternatives to gas (type and technology). As will be indicated below, gas and the pipelines associated with it poses significant risk not only in terms of health, environment and climate change, but significant financial risk, as this project is proposed as a long-term gas project. Moreover, there are alternative renewables which are cost efficient with lower risk in terms of long-term energy procurement.		Alternatives considered for the projects are detailed in Chapter 4of the Scoping Report. Where no alternatives exist, motivation in this regard has been provided as required in terms of the EIA Regulations.
	4.5. The no-go option: The SR fails to consider the possibility that renewable alternative energy technologies with far fewer social and environmental impacts could be used to respond to this rising energy demand. It also fails to		Alternatives considered for the projects are detailed in Chapter 4 of the Scoping Report. Where no alternatives exist, motivation in this regard has been provided as required in terms of the EIA Regulations.

[102] EIA Regulations, 2014

NO.	COMMENT	RAISED BY	RESPONSE
	consider the cost savings that these alternatives would provide in comparison with the project option over ten to twenty years.		The no-go alternative will be assessed in detail in the EIA Phase of the process.
	4.6. The country's energy 'emergency' has been created through poor decision-making skewed towards fossil fuels development. Attempts to resolve the 'emergency' through additional fossil fuel investments, dependent on the whims of global energy markets, will dig a yet deeper hole and put a just transition to a low carbon economy further out of reach. Procuring gas power and building gas infrastructure is effectively locking in gas for a longer period than is required, crowding out space for ever cheaper and more reliable clean energy, and exacerbating the climate crisis.		Comments noted. No response is required on the political views and opinions of groundworks.
	4.7. According to the IRP, gas is not meant be considered as the main source of energy, but only compliment other sources. This will result in the hardwiring of expensive power at higher rates. Gas generators are expected to burn LNG for much longer periods of time which equates to huge throughput of gas in comparison to peaker plants, which run at less than 5% of the time to supplement the energy deficit. Other analyses, such as work published by Meridian Economics in 2020, reiterate the lack of need and desirability of gas-powered energy such as this 2000MW gas plant in terms of both cost and climate impacts, particularly in the time frames and with the contractual obligations of these projects.[103]		Alternatives to gas were considered by the DMRE in the compilation of the IRP2019 and by Government in compiling the NIP 2050. These studies and government documents have analysed the alternatives and defined which part of the energy mix every resource has to play and have determined that gas should form part of the technology mix. The proposed PRBGP3 project is aiming to fulfil part of the allocation provided for gas in the IRP2019. Renewable projects proposed by other IPPs are proposed in response to the allocation for wind and solar also defined in the IRP2019. The combined effort of all projects will produce the energy mix designed by government.
	4.8. The proposed project is not needed to provide 'baseload' to the South African grid. The rest of the world		This is not correct. Currently wind, solar and batteries cannot cover the baseline energy supply criteria. Currently, it is not economically viable

[103] A Roff et al., A Vital Ambition: Determining the cost of additional CO2 Emission Mitigation in the South African Electricity System, Meridian Economics with CSIR Energy Centre, (2020), https://meridianeconomics.co.za/wp-content/uploads/2020/07/Ambition.pdf.

NO.	COMMENT	RAISED BY	RESPONSE
	is moving into a different paradigm that makes this concept of baseload altogether obsolete. Utilities are increasingly abandoning this terminology and requirements for this kind of energy – requirements that, in today's world of ever-cheaper renewables and storage, were driving electricity prices unnecessarily upward for customers. Renewable energy projects, which include wind, solar and battery storage, will meet baseline criteria within shorter timeframes. Moreover, having a series of such projects would offer more reliable and resilient power to the grid.		to extend power supply with batteries the solar/wind production to cover 24 hours. Most renewables and battery projects worldwide consider batteries for only a period of 4 hours, to be economically viable. **Response by Jordi Fernandez, PRBGP3**
	4.9. The energy production of the project for the grid is not clear. Given the supposed criticality of this electricity for the grid, it would be important to clarify the actual energy production capacity of this plant.		The energy production capacity of the plant is as follows: With a nominal capacity of 2000MW, it is able to produce 2 000MWh for every hour of dispatch. The dispatch regime will be determined by the DRME procurement process. The plant is considered for a mid-merit (12-16 hours) to Baseload (24 hours) regime, and therefore daily energy production would be between 24 000-48 000 MWh. **Response by Jordi Fernandez, PRBGP3**
	4.10. The green hydrogen pathway proposed in the SR is vague and does not contain specified timelines, or consideration of technologies to be used, including conversion requirements from gas to hydrogen or cost implications indicating that it is in fact any kind of viable option. It is largely unproven and untested technology requiring a large build out of renewable energy to support it green hydrogen production in any case, as well as a large water resource input. The socio-economic		• According to the proposed OEM for the project, the turbines currently existing, and to be installed in the plant, are already able to function with a 20-30% mix of Hydrogen. • These turbines will be able to be adapted to upgrades in the technology, allowing a higher % of H2, until arriving eventually at 100%, with minimum changes in the turbines itself and minimum cost impact.

NO.	COMMENT	RAISED BY	RESPONSE
	impacts including high local content job creation over highly specialized jobs is not considered. It is not a solution to the South African energy problem as it does not assess the affordability of this technology to all South Africans, nor their access to energy using this technology, nor its ability to create local, safe, clean and sustainable jobs and livelihoods. To build a gas plant with the 'vision' to include to green hydrogen technologies without a concrete plan is nothing but an empty promise and should not mislead the public into thinking that this will in fact happen.		• As the plant will be designed from start to be able to operate using Hydrogen, no extra costs of adaptation during the operation phase will be required. • Production of Green Hydrogen in South Africa is considered a strategic initiative to move to a lower-carbon emissions economy, creating large number of employment (including high specialised ones) (70 000 jobs in 2030 and 370 000 in 2050 (IHS Markit)) and creating a large income for the country (0,2% yearly GDP increase, 3,6% by 2050 (IHS Markit)[104]). • The aim of the production of green hydrogen in South Africa is to be able to produce it at a price that will be competitive to any other gas (including Natural Gas), (estimated $1,5/kg on 2030 and $1/kg in 2050 (HIS Market)) with the additional saving in cost of reducing the carbon tax cost. • Water used in production of hydrogen will be mostly produced by desalination of sea water, thus not affecting potable water sources. The water estimated to produce H2 to supply for 1 year 26GW of generation capacity is 30% of the water used by Eskom (potable, not desalinated sea water in the coal power plants (Boston Group). • Being a national level program, the project cannot control or determine the timing of the availability of green hydrogen in large volumes and at a competitive price. The plan indicates, however, 1-1,5 Mtons of hydrogen of production for 2030 and 6 Mtons of hydrogen production in 2050 (Boston Consulting)[105]. • The project may contribute to the success of the Green Hydrogen plan by increasing the demand for that product. Mass production is the principal driver to reduce cost of production of Hydrogen.

[104] IHS Markit. Hydrogen and Renewable Gas Forum

[105] The Green Tech Opportunity in Hydrogen (2021) https://www.bcg.com/publications/2021/capturing-value-in-the-low-carbon-hydrogen-market

NO.	COMMENT	RAISED BY	RESPONSE
			Response by Jordi Fernandez, PRBGP3
	5. Costs 5.1. The proposed gas plant is not a least cost option. They are designed to be a short-term resource to fill a narrow gap in case of true emergencies, such as large amounts of critical power being knocked offline by a storm. The application of this technology for a long-term contract is quite distinct, and this lock-in will result in higher tariffs and less affordable and accessible energy – quite the opposite of what is intended for the social goals of these procurement processes.		The proposed gas plant is a component of the least cost option determined by Government in the IRP2019 for the mix of energy technologies up to 2030. The least cost option for the country cannot be achieved by an energy mix based purely on renewables only. **Response by Jordi Fernandez, PRBGP3**
	5.2. A far more cost-effective solution would be for the system operator to balance the system to bring on least-cost solar and wind during their production times and complement these in renewable trough production hours with flexible resources such as pumped storage and utility scale batteries. Gas leads to much higher electricity prices for all by favoring more expensive and volatile power systems, and therefore to less reliable power as customers, utilities, and governments cannot pay these high costs.[106]		
	5.3. Inadequate cost analysis of the project compared with other renewable energy options over the proposed operation period, including revenue and tax implications.[107] The cost of renewable energy generation will provide local content, as well as reduce the cost of energy over time.		The local content of the PRBGP3 project will be similar to or higher than renewable energy projects currently procured through the REIPPPP. In addition, the size of the installation, and its complexity will require a higher level of local employment during construction and operations than renewable energy projects. **Response by Jordi Fernandez. PRBGP3**

[106] See, for example, S. Nicholas, *Ghana: Reliance on LNG means increased fuel price risk and further una f fordable generation contracts.* IEEFA (March 30 2021), Available at: https://ieefa.org/ieefa-ghana-reliance-on-lng-means-increased-fuel-price-risk-and-further-unaffordable-generation-contracts/

[107] A Vital Ambition

NO.	COMMENT	RAISED BY	RESPONSE
	6. Climate change 6.1. The 2017 judgment in the case of Earthlife Africa Johannesburg v the Minister & Others ("**the Thabametsi case**") confirmed that a Climate Change Impact Assessment (CCIA) is a necessary component of an EIA for projects with climate impacts. In this case, the court acknowledged the need for a CCIA much broader than a mere assessment of anticipated emissions. It confirmed the need for a comprehensive assessment, which assesses, inter alia, the impacts of climate change on the project and the ways in which the project might aggravate the impacts of climate change in the area.[108] The Pretoria High Court concluded that "*[w]ithout a **full assessment** of the climate change impact of the project, there was no rational basis for the Chief Director to endorse these baseless assertions*" (emphasis added).[109]		A Climate Change Impact Assessment will be undertaken in the EIA Phase of the process, as detailed in the Plan of Study in Chapter 10 of the scoping report.
	6.2. A CCIA must analyse the following: • the indirect and full life-cycle emissions, these being the GHG emissions arising from extraction of gas; transportation of gas; construction of the plant, operation, and decommissioning; • cumulative emissions (the additive contribution of the project to pre-existing GHG emissions for South Africa); and • the environmental and social cost of the GHG emissions, that is, the contribution of the project's GHG emissions to South Africa's climate costs and impacts;		The Climate Change Impact Assessment will be undertaken in the EIA Phase of the process, as detailed in the Plan of Study in Chapter 10 of the scoping report. This assessment will consider the full life-cycle of the gas to power facility, including the extraction and transportation of gas. These will be determined using a an international standard which includes an estimation of the contribution of this in order to calculate the climate change contribution of the project. In addition, the Climate Change Impact Assessment will include an assessment of cumulative impacts the environmental and social cost of the GHG emissions, the ways in which the project area will be impacted by climate change and the extent to which the project would aggravate these impacts and the ways in which the effects of climate change will impact on the project itself.

[108] See para 44, Thabametsi judgment.

[109] Para 101, Thabametsi judgment. The "baseless assertions" to which reference is made are the statements in Thabametsi's EIR - on which the Chief Director relied exclusively - that the climate change impacts of the project were relatively small and low.

NO.	COMMENT	RAISED BY	RESPONSE
	• the ways in which the project area will be impacted by climate change and the extent to which the project would aggravate these impacts. In other words, the project's impacts on the area's climate resilience and ability to adapt to a changed climate. Given that this is a long-term and large-scale project, consideration must be given to the ways in which climate change will impact on the area and communities where the project will be based, and how the project's own impacts will affect the area's resilience or vulnerability to the effects of climate change as they intensify; and • the ways in which the effects of climate change will impact on the project itself, and its ability to operate optimally and efficiently for its full anticipated lifespan.		
	6.3. The SR fails to adequately address these impacts. Of particular concern are the following gaps: 6.3.1. Emissions from gas production, gathering, processing, initial transport, and LNG liquification are not considered in the emissions assessment. Given that a range of studies have shown that these upstream emissions, a result of methane leaks and venting, as well as the energy needed to transport and liquefy gas, make gas equivalent to or worse than coal for the climate, this omission is highly problematic.[110]		Upstream impacts will be considered within the Climate Change Impact Assessment during the EIA phase.
	6.3.2. The current primary exporters of LNG – Qatar, Australia, the United States, and Malaysia, are all over 10,000 km long distance from South Africa. There are not only many emissions generated by the		Mozambique will become a major exporter of Natural Gas, and therefore distances will be reduced (1 000-2 000km). In addition, local sources of Natural gas may be used when confirmed and available.

[110] S. Roman-White et al., Life cycle greenhouse gas perspective on exporting liquefied natural gas from the United States: 2019 update 54 (2019).

NO.	COMMENT	RAISED BY	RESPONSE
	ship to travel this distance, but large quantities of LNG boil off over this distance. Many LNG carriers vent much of this boiled off methane to the atmosphere to control pressure in the ship tanks.		**Response by Jordi Fernandez, PRBGP3**
	6.3.3. At minimum, the climate change assessments should compare emissions from the gas-to-power plant to both coal and renewables alternatives.		The Climate Change Impact Assessment will assess the impacts of the gas to power project, and will also include consideration of how this compares with the impacts associated with emissions from renewable energy projects and coal-fired power stations.
	6.3.4. The latest IPCC report concludes that methane has between 28 and 36 times the global warming potential of CO2 over a 100-year time scale. Given that this has been established since 2013 the study should rely on the 2007 IPCC Assessment Report's figures.[111] Moreover, there is good reason to use the 20-year global warming potential for methane, given the short-lived gas's contribution to warming that could unlock major climate tipping points in the next twenty years.[112]		The Climate Change Impact Assessment will use an internationally accepted approach to the study and will include consideration of the latest information available regarding potential impacts associated with the proposed project.
	6.3.5. Mitigation measures need to be proposed for the significant greenhouse gas impacts of these plants. Carbon offsets are notoriously inadequate at successfully offsetting fossil fuel emissions, with problems of faulty baselines, lack of additionality, impermanence, and leakage plaguing almost all forms of carbon offset projects.[113]		Pollution controls and mitigation measures for potentially significant impacts will be addressed during EIA phase.

[111] Intergovernmental Panel on Climate Change, Working Group 1, Chapter 8 - Anthropogenic and Natural Radiative Forcing, in Climate Change 2013 - The Physical Science Basis, Fifth Assessment Report of the IPCC 659-740 (5th ed. 2014), /core/books/climate-change-2013-the-physical-science-basis/ant hropogenic-and-natural-radiative-forcing/6 3EB10 57 C36890 FEAA4269F771336D4D.

[112] T. M. Lenton *et al.*, *Climate tipping points - too risky to bet against*, 575 Nature 592-595 (2019), http://www.nature.com/articles/d41586-019-03595-0 (last visited Apr 24,2020).

[113] C.f. M. Cames *et al., How additional is the Clean Development Mechanism?* Oko-Institute (2016), https://www.infras.ch/media/filer_public/11/0f/110fae5f-d1ff-4e8f-9f97-f83a34c86dd1/clean_dev_mechanism_en.pdf

NO.	COMMENT	RAISED BY	RESPONSE
	6.3.6. The increasing frequency of powerful coastal storms and their likely impact on these facilities[114] is not covered in the SR. The "protection" supposedly afforded by the bays is clearly insufficient in the face of a cyclone, for example.[115]		The Climate Change Impact Assessment will include an assessment of the impacts of climate change on the project itself.
	7. Air quality 7.1. The SR lacks adequate pollution controls.		Pollution controls and mitigation measures will be addressed during EIA phase.
	7.2. The location of the plant means that communities living closeby will be exposed to the emissions from the plant at all times that the predominant onshore wind is blowing, which is typically during the day and therefore exactly when these plants will be generating power.		Potential air quality impacts on identified sensitive receptors will be assessed in the Air Quality Impact Assessment to be undertaken in the EIA Phase of the process.
	7.3. While it is often assumed that the coastal location of these facilities will reduce their degradation of local air quality because of more breeze along the coast, these areas are also subject to strong inversion layers, particularly during June and July.[116] These inversions trap air pollutants so that they cannot disperse, severely degrading local air quality.		Prevailing climatic conditions and the associated inversion layer will be considered in the Air quality Impact Assessment to be undertaken in the EIA Phas of the process.
	7.4. In this context, the Atmospheric Impact Report has several glaring flaws: 7.4.1. Air toxics emitted by natural gas combustion in the plants, including carcinogenic formaldehyde and		The proposed project is currently in the Scoping phase and only a scoping-level report has been provided at this stage. The purpose of the scoping phase and report is to identify and describe potential sensitivities, issues, potential fatal flaws and to determine the Plan of Study intended for the EIA phase. A comprehensive Air Quality Impact Assessment will be undertaken in the EIA Phase of the process, as

[114] E.L. Molua *et al.*, *Economic vulnerability to tropical storms on the southeastern coast of Africa*, 12 Jamba (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7669996/.

[115] J. Fitchett, *Southern Africa must brace itself for more tropical cyclones in future*, The Conversation, 2018, http://theconversation.com/southern-africa-must-brace-itself-for-more-tropical-cyclones-in-future-103641.

[116] H. Tularam *et al.*, *Harbor and Intra-City Drivers of Air Pollution: Findings from a Land Use Regression Model, Durban, South Africa*, 17 Int J Environ Res Public Health (2020), https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7432936/.

NO.	COMMENT	RAISED BY	RESPONSE
	acetaldehyde[117], are not evaluated or quantified in the Report. 7.4.2. Toxic volatile organic compounds (VOCs) emitted by natural gas leaks, likely to occur in one or multiple parts of the chain of gas connections between the plants and the mainland, also go unmentioned in the Report. 7.4.3. Hazardous secondary pollutant formation as a result of NOx, SO2, and VOC emissions from the plant, particularly ground-level ozone, is also not evaluated in the report. 7.4.4. The CALPUFF models used do not include emissions from other proposed facilities within the Richard's Bay port and surrounding area, but rather add the plant's emissions only to current air quality monitoring data, thereby leaving out critical cumulative impacts of emissions from other industrial activity in the future (e.g. Mondi, other gas plants and fuel storage tanks) 7.4.5. The report therefore fails to assess the worst-case scenario adequately, in which these cumulative emissions are emitted on a day when a temperature inversion prevents dispersion of these hazardous pollutants.		detailed in the Plan of Study in Chapter 10 of the scoping report. This study will establish an emissions inventory by referring to NMES and emission factors for combustion processes and fugitive dust (construction). Atmospheric dispersion simulations for the baseline, incremental, and cumulative scenarios using the CALPUFF atmospheric dispersion model will be done taking a worst-case scenario approach.
	7.5. The risks of an explosion resulting from the plant in busy and economically important port areas are not to be taken lightly, nor are the air quality impacts that would follow such an explosion. Nonetheless, these scenarios are not considered in the air quality assessment reports.		A MHI Risk Assessment will be undertaken during the EIA Phase (refer to Chapter Measures for Emergency Preparedness will be further of the FSR) investigated during the EIA phase.

[117] A.R.B. Pereira *et al. Experimental evaluation of CO, NOx, formaldehyde and acetaldehyde emission rates in a combustion chamber with OEC under acoustic excitation,* Energy Reports (2019), https://www.sciencedirect.com/science/article/pii/S2352484719301556

NO.	COMMENT	RAISED BY	RESPONSE
	7.6. While the SR makes reference to the decision not to use Heavy Fuel Oil (HFO) in these dual- fuel engines, it also references impacts of HFO use, leaving doubt about the claim that HFO will not be used such as in the event that LNG is not available. Air quality and climate impacts would be even greater in the case of the use of HFO.		The proposed plant will be operated on natural gas or a mixture of natural gas and hydrogen. HFO will not be utilised. There is no reference to HFO as a fuel source in the Scoping Report.
	7.7. These engines require constant rotating maintenance. Without this, they will run much less efficiently and emit more pollutants per MW of power. Direct, continuous emissions monitoring both on stacks and at the border (typically called "fenceline monitoring") of the plant should be required, both to assess standard emissions levels, and to detect any anomalies in emissions.		Proper preventive and regular maintenance is planned for the plant to secure the optimal and efficient running of the plant. **Response by Jordi Fernandez, PRBGP3**
	8. Marine Ecology Impacts 8.1. There is no information on the source and discharge points of water, quantities of water required and permissions required for the usage of water within the IDZ.		No water will be abstracted for the project. Water is to be provided by the IDZ from their already approved allocation (Confirmation of services is to be provided in the EIA phase). Effluent from the plant will be discharged into the IDZ stormwater system and not into the marine environment.
	8.2. There is no information on the temperature of the water to be discharged into the receiving environment, both from the plant and storage facility, and the LNG carrier supplying the plant.		LNG carriers are not part of the scope of this Scoping Report. No discharge of water with elevated temperatures is proposed. The gas turbines are air-cooled and the steam circuit is a closed-circuit. Effluent from the demineralisation plant will be at ambient temperature and will be discharged into the IDZ stormwater system and not to the environment. **Response by Jordi Fernandez, PRBGP3**
	8.3. The impacts of waste and discharge of water from the generators and cooling of the generators has not been adequately assessed and only modelling was used to determine the effects of discharge of heated water on the receiving environment. Nor how it will be monitored and reported during operations in South African ports.		LNG carriers are not part of the scope of this Scoping Report. No discharge of water with elevated temperatures is proposed. The gas turbines are air-cooled and the steam circuit is a closed-circuit. Effluent from the demineralisation plant will be at ambient temperature and will be discharged into the IDZ stormwater system and not to the environment.

NO.	COMMENT	RAISED BY	RESPONSE
			Response by Jordi Fernandez, PRBGP3
	8.4. The Marine Ecology Impact Assessments screen out a series of important impacts that a regularly visiting LNG carrier, is likely to have on the local marine environment in the port over the duration of the project.		An LNG carrier within the marine environment is not applicable to the proposed project. No Marine Ecology Impact Assessment is therefore required.
	8.5. Dredging activities, piling and impacts on water flow for the installation of pipelines, transmission lines and storage facilities are not adequately described or addressed.		Dredging activities, piling and the installation of pipelines, transmission lines and storage facilities is not applicable to the proposed project.
	8.6. Plant and vessel management practices, oil spill contingency plans and other relevant considerations for operating within the port and IDZ are not adequately addressed		Vessel management and operation within the port is not applicable to the proposed project. Measures for Emergency Preparedness applicable to the proposed project will be further investigated during the EIA phase
	8.7. The risk of an LNG or gas spill to local marine life is not addressed. Research suggests that methane not only dissipates into the atmosphere, but can also dissolve in water, changing the chemistry and affecting marine life[118].		The proposed project is not located in the marine environment. The project is situated in the IDZ Phase 1F.
	9. Noise 9.1. There is no information provided on actual noise levels of similar operations in South Africa or other parts of the world, including the CCPP and servicing LNG vessel. No mitigation options are considered for the benefit of workers. And cumulative noise impacts of the IDZ are not considered		The process is currently in the scoping phase and only scoping-level studies aimed at identifying potential issues and impacts are presented in the Scoping Report. A Noise Impact Assessment will be undertaken as part of the EIA phase of the process and will consider the Sound Power Emission details of a selected generator, assess the potential impacts including cumulative impacts, and provide potential mitigation measures (if required). As an LNG vessel is not part of the project, no assessment of impacts associated with servicing of LNG vessels will be undertaken
	9.2. Underwater noise studies are not suggested in the noise assessments for the inland and marine environments,		The proposed project is not located in the marine environment. The project is situated in the IDZ Phase 1F. Underwater noise studies are not relevant to the project. Noise impacts on identified sensitive

[118] S. B. Joye *et al., Magnitude and oxidation potential of hydrocarbon gases released from the BP oil well blowout*, 4 Nature Geoscience 160-164 (2011), Ittas://www.nature.com/articles/ngeo 1067.

NO.	COMMENT	RAISED BY	RESPONSE
	despite the significant impacts that this noise has on many species, and marine mammals in particular.		receptors in the vicinity of the site will be in the Noise Impact Assessment in the EIA phase.
	10. Socio-economic impacts 10.1. The costs of this energy relative to renewable sources over the operating time-frame is not considered in the Socio-Economic study.		Comment noted. The comment has been provided to the specialist for consideration in the Socio-Economic Impact Assessment as part of the EIA phase.
	10.2. Half of the jobs associated with the project are expected to be short term site establishment construction jobs, while the long-term production ones are high-skilled positions likely to be filled by foreigners. The precise job numbers in the socio-economic impact assessments are not provided. The renewable energy sector with local content creates, not just more jobs, but decent jobs. The International Labour Organisation (ILO) in a recent brief 'Green jobs and renewable energy: low carbon, high employment' stated that renewable energy has a demonstrated job creation effect. And that energy created through solar photovoltaic cells, for example, have a higher number of jobs created per unit of energy than energy produced through fossil fuels. The positive job creation effect of renewable energy is the result of longer and more diverse supply chains, higher labour intensity, and increased net profit margins, while providing the benefit of less hazardous working conditions.		The process is currently in the scoping phase and only scoping-level studies aimed at identifying potential issues and impacts are presented in the Scoping Report. An assessment of the impacts and benefits of the project, including those associated with job creation will be provided in the EIA phase of the process. At this stage, it is expected that employment opportunities to local community members will be available during the construction phase of the project. It is estimated that during the construction period the construction staff complement will be ~600 people, with peaks of staff higher, with employment opportunities being provided for the local community as far as possible. The labour required includes 90% low skilled and semi-skilled and a 10% of skilled and highly skilled workforce. During operation the proposed facility will create approximately 60 permanent employment positions that will be retained for the 20-year life of the project. The permanent employment positions will include highly skilled, skilled and semi-skilled positions.
	10.3. Gas on the other hand requires a limited number of highly specialised jobs throughout its lifecycle, subject to market volatility		The operation of the plant will include opportunities for unskilled, low skilled and highly skilled labour. The proportion of high skilled labour will be high as most of the operation functions of the plant and a lot of the maintenance functions require specialisation and skills. More details in this regard will be provided in the EIA phase of the process.
	10.4. There are also several communities that can be potentially harmed from the power plant, including		The proposed project is located within the Richards Bay IDZ Phase 1F, and is not within the marine environment or in areas used for farming.

NO.	COMMENT	RAISED BY	RESPONSE
	fishing and farming communities. Land use changes to gas operations will impact on subsistence fishers, recreational fishers, and fishers that depend on fishing for their livelihoods. The socio-economic impacts assessment must comprehensively assess the potential risks and costs of the power plant to these and other local communities that subsist on natural resources nearby to the project site.		The Socio-Economic Impacts Assessment will include an assessment of the potential risks and costs of the power plant to affected other local communities and sensitive receptors. Affected communities and stakeholders will be further consulted in the EIA phase of the study through both the Socio-Economic Impacts Assessment and the public participation process.
	11. Public participation 11.1. Online Scoping Report documentation was password protected, preventing people from accessing and assessing the documentation. This issue was raised with Savannah Environmental on previous occasions and they chose to dismiss our concerns and continue to password protect documentation that is meant to be in the public domain and with impacts to the public.		The registration of Interested and Affected Parties (I&APs) was undertaken according to the Public Participation Plan dated November 2021 as approved by the Department of Forestry, Fisheries and the Environment (DFFE) dated 11 November 2021. The approved plan is included in the Scoping Report, Appendix C1. The requirement for a person to register is in line with Regulation 43 of the EIA Regulations which refers to the right of registered parties to comment on the reports submitted as part of the application process. The need for parties to register is such that he/she discloses any direct business, financial, personal or other interest which that party may have in the approval or refusal of the application in accordance with Regulation 43(1). The Scoping Report and Appendices were uploaded onto Savannah Environmental's website allowing I&APs and OoS to download the Scoping Report and Appendices. Access to the reports was unrestricted. I&APs wanting to access the project information via this portal were required to register and receive a unique code (via an automated system) to access the report of interest. This step and the online portal support the EAP in maintaining a complete and accurate record and database of all parties who have interest in the project (and who choose to access the report via the online portal), in line with the requirements of the Regulations. Where parties were

NO.	COMMENT	RAISED BY	RESPONSE
			unable to access the documents online, these were made available via other appropriate means such as CD, Dropbox or WeTransfer.
	11.2. Public participation has not been sufficient, and information related to the project has not been easily accessible to affected communities. The tribal authorities and communities of Dube and Mkhwanazi near the Richard's Bay port were not identified as potentially impacted communities and were not notified or included in the public participation processes.		The project is not located within the Richard's Bay port. It is located within the RBIDZ Phase 1F. The communities Dube and Mkhwanazi are located approximately 20km+ from the proposed development and would therefore not have an impact on the residents residing in these communities. Tribal authorities have been notified through the OoS consultation process e.g. KZN COGTA. At the time the Scoping Report was released, the information and contact details of the newly elected Ward Councillor (Ward 2) was not yet available to be shared. Consultation was however undertaken with the relevant environmental committee within municipality. Consultation with the Ward Councillor and the Ward Committee Members, which include the suburbs of Wild en Weide will be held during the impact assessment phase of the EIA process.
	11.3. Informal settlements and land users that include market gardeners in the affected areas have not been notified or included in the list of potentially affected parties. The market gardeners that work their gardens along the canal in Richard's Bay for example have not been notified and included in the decision-making process.		The site is located in the industrial area of Phase 1F of the RBIDZ. The areas surrounding the site are also zones for industrial purposes. No informal farmers / gardeners have been identified during the scoping phase of the EIA. Any occupiers or land users identified through the ongoing consultation process in the impact assessment phase of the process will however be provided with the relevant project details and an opportunity to comment on the project.
	11.4. Fisher communities, and especially subsistence fishers that are dependent on the oceans for their livelihoods and food security were not notified and made aware of the proposed development.		The project site is located in-land and would not have any impact on ocean-based activities or communities resident along the coastal line.
	11.5. Adequate notice must be given to reach out to people in the affected areas. Public participation is a two-way process and should allow for engagement and		To date, the project has been advertised in the local press and on site, and interested parties have been invited to register and comment on

NO.	COMMENT	RAISED BY	RESPONSE
	understanding of the impacts of the proposed developments. The pandemic should not be used to fast track development while excluding and restricting people's ability to participate. It is violating people's right as public trustees to the environment and their role in maintaining a healthy and vibrant democracy.		the proposed project. Communities are consulted through the relevant ward Councillor and community representatives
	11.6. Many communities were also excluded from any online and digital consultation as they are unable to afford the technology and data to access this information.		The approved Public Participation Plan for the project makes provision for virtual meetings as well as for face-to-face meetings on request. No requests for face-to-face meetings have been received to date. In addition, reports and other project documentation are available on the Savannah Environmental website and in hard copy on request. Where requested, hard copies have been made available. Further, all notifications and adverts include reference to the Savannah Environmental dedicated public participation mobile phone, and also to the "*please call me*" facility which allows any community member, I&AP or stakeholder to contact the public participation office and have their call returned should they not have any airtime or data available to make the call.
	11.7. The landowner consent documentation for sites were missing and we seek confirmation of the plant's compliance in relation to conducting the environmental impact assessments with the correct authorising bodies and their representatives.		Th landowner consent has been submitted to the DFFE together with the final Scoping Report.
	12. Explosion Risks 12.1. LNG carriers and Storage Regasification Units (SRUs) are essentially hazardous bombs, composed of huge quantities of latent energy. The dangers of having these directly beside an active port and IDZ that contains many other fuel sources, chemicals storage and stores fertilizers, are significant, and cannot be underestimated. These risks come from:		The infrastructure of the proposed Phakwe Richards Bay Gas Power 3 does not include LNG carriers and Storage Regasification Units. This is therefore not applicable to this project.

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	12.1.1. Accidents 12.1.2. Severe storms, which are also poised to become more common with climate change 12.1.3. Terrorism 12.2. There is very little consideration of these possibilities within the SR, however, or assessment of what such an explosion would mean for workers or communities.		
	13. Risks of failure: 13.1. The company does not have a track record of running for long periods and it is largely unproven technology. Attempting to shore up a national grid on the back of technology that has not been proven for the purpose for which it is intended, and which is dependent on global gas markets over that period questions the consistent provision of this power. 13.2. An LNG fuel disruption during the operational period may result in ships being either inoperable or granted "emergency" exemptions that enable Heavy Fuel Oil (HFO). There is no indication of how will fuel usage be monitored, reported and regulated. 13.3. Risk of one line being affected 13.4. Risk of plant failure – no track record		CCPP technology is proven technology internationally. South Africa has several operating gas facilities. Although these are operated as Open Cycle systems, the technology proposed is not significantly different. There are no ships associated with the project. Therefore, issues relating to these are not applicable. Phakwe Group, the applicant for the PRBGP3 project, is a 100% black-owned South Africa group of companies. The company has been an important player in the Energy Sector in South Africa for several years, and intends to diversify the energy mix of its portfolio, including Gas-to-Power plants. The current portfolio of energy assets of Phakwe Group includes 1 Wind Farm and 8 Solar PV plants.
	In conclusion, the proposed 2000MW gas plant does not fit into the presidential commitment to a just transition towards a low carbon, inclusive, climate change resilient economy and society. It is not the best technology available, but rather, it is expensive, dangerous, exclusionary and will lock South Africa into gas which will increase our carbon and greenhouse gas emissions and fast track the effects of climate change. The gas plant is not needed. There are better alternatives that will meet our electricity demand are cleaner, safer, cost effective, inclusive and will improve our		The Integrated Resource Plan (IRP) 2019 includes the requirements for gas to form part of the energy mix to support the introduction of renewable energy into the technology mix. Just Energy Transition, as defined by SA Government and Eskom, considers a combination of renewable energy and gas to replace coal plants and help in the transition to lower (to zero) emissions. In this regard, gas power complements renewable plants in the future energy mix of South Africa, as such technology can provide energy to the grid at short notice when energy from renewable sources is not available.

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	climate resilience in the just transition. These alternatives were not considered in the Scoping Report.		The Need and Desirability of the project will be addressed further in the EIA phase.