APPENDIX K2 – Copies of Comments Received on the Draft EIA Report

forestry, fisheries
& the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

[redacted]

DFFE Reference: 14/12/16/3/3/2/2799
Enquiries: Ms Matlhodi Mogorosi
Telephone: ([redacted] **E-mail:** [redacted]

Mr. Donovan Henning
Nemai Consulting (Pty) Ltd
PO Box 1673
SUNNINGHILL
2157

Telephone Number: (011) 781 1730
Cellphone Number: (082) 891 0604
Email Address: donavanh@nemai.co.za

PER MAIL / E-MAIL

Dear Mr Henning

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT FOR THE PROPOSED DEVELOPMENT OF THE 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, WITHIN THE CITY OF UMHLATHUZE LOCAL MUNICIPALITY IN THE KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL PROVINCE

The Application for Environmental Authorisation and Draft Environmental Impact Assessment Report (EIAr) dated July 2026 and received by the Department on 05 March 2026 and 05 August 2026, respectively, refer.

This letter serves to inform you that the following information must be included in the final EIAr:

(a) Specific Comments

(i) Recommendations provided by specialist reports must be considered and used to inform the layout.
(ii) Please ensure that all mitigation recommendations are in line with applicable and most recent guidelines.
(iii) The final EIAr must provide the technical details for the proposed facility in a table format as well as their description and/or dimensions.
(iv) Please ensure that all softcopy maps are clear and legible.

2030 NDP

A NATION THAT WORKS FOR ALL

Batho pele – putting people first

Departement van Bosbou, Visserye en die Omgewing • Department of Forestry, Fisheries and the Environment • UmNyango wezamaHlathi, zokuThiya neBhoduluko • iSebe lezamaHlathi, ezokuLoba noKusingqongileyo • Umnyango Wezamahlathi, Ezokudoba Nezemvelo • Kgoro ya Dithokgwa, Boreahlapi le Tikologo • Lefapha la Meru, Botshwasi ba ditlhapi le Tikoloho • Lefapha la Dikgwa, Ditlhapi le Tikologo • Litiko Letemahlatsi, Tinhlanti Netendzawo • Muhasho wa zwa Vhusima-madaka, Vhureakhovhe na Mupo • Ndzawulo ya Swihlahla, Vunjoveri na Mbango. The processing of personal information by the Department of Forestry, Fisheries and the Environment is done lawfully and not excessively for the purpose of processing in compliance with the POPI Act, any codes of conduct issued by the Information Regulator in terms of the POPI Act, and/or relevant legislation providing appropriate security safeguards for the processing of personal information of others.

(v) Please ensure that the final EIAr complies with the requirements of Appendix 3 of the NEMA EIA Regulations, 2014, as amended.

(b) Listed Activities

(i) 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.

(ii) If the activities applied for in the application form differ from those mentioned in the final EIAr, an amended application form must be submitted.

(iii) 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 and Sensitive Areas indicated in Listing Notice 3 are fully assessed in the EIAr.

(iv) The final EIAr must provide an assessment of the impacts and mitigation measures for each of the listed activities applied for.

(v) Please ensure that an application form is submitted with the final EIAr.

(c) Layout & Sensitivity Maps

The final EIAr must include the following:

(i) A copy of the final preferred layout map. All available biodiversity information must be used in the finalisation of the layout map. Existing infrastructure must be used as far as possible e.g. roads. The layout map must indicate the following:

- Clear indication of the location and envisioned area for the proposed 750MW Combined Cycle Gas Turbine Power Plant and all other associated infrastructure should be mapped at an appropriate scale;
- Positions of the proposed power plant as well as all other associated infrastructure associated with the proposed development;
- Permanent laydown area footprint;
- Wetlands, drainage lines, rivers, streams, and water crossing of roads and cables indicating the type of bridging structures that will be used;
- The location of sensitive environmental features on-site e.g., CBAs, heritage sites, wetlands, drainage lines etc. that will be affected by the facility and its associated infrastructure;
- Powerlines;
- Substation(s) and/or transformer(s) sites including their entire footprint;
- Location of access and service roads;
- All existing infrastructure on the site, especially railway lines (if any) and roads;
- Buffer areas;
- Buildings, including accommodation; and
- All “no-go” areas.

(ii) A sensitivity map indicating environmentally sensitive areas and features identified during the assessment process e.g., CBAs, heritage sites, wetlands, drainage lines, etc. that will be affected by the proposed facility, and associated infrastructure must be provided.

(iii) Please ensure that buffer zones that may be recommended by the specialists are illustrated on the maps and the layout map must be overlain by all the sensitivities.

(iv) It must be emphasised that the final EIAr must include a layout map which adheres to specialist recommendations as well as the identified no-go areas must be included.
(v) Kindly ensure that the legend in the layout map clearly specifies the development footprint.

(d) Public Participation Process

(i) 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, KwaZulu-Natal Amafa and Research Institute, the South African National Roads Agency Limited (SANRAL), Transnet, the Richards Bay Industrial Development Zone (RBIDZ), Eskom, the City of uMhlathuze Local 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: Directorate: Biodiversity and Conservation ([redacted]), Climate Change, and Air Quality (Ricca Marowe: [redacted]).
(ii) 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 Regulations 39, 40, 41, 42, 43 & 44 of the EIA Regulations 2014, as amended.
(iii) 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.
(iv) 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 that 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 final Scoping Report dated **01 June 2026**.
(v) Please include the period for when the public participation period occurred i.e. when was the draft EIAr circulated for comment.

(e) Specialist Assessments

(i) 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.
(ii) Should the specialist definition of a '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.
(iii) 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.

(iv) 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.

(v) You are reminded that 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.

(vi) 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 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 note further that the protocols require the specialists to be registered with SACNASP.

(vii) 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 (where the Protocols provide for such) must be provided.

(viii) Kindly ensure that the final EIAr includes the Site Verification Report and Compliance Statements (where applicable) as required by the relevant themes.

(f) <u>Cumulative Assessment:</u>

(i) 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.
- 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

<u>General</u>

Please ensure that the final EIAr includes the period for which the Environmental Authorisation is required and the date on which the activity will be concluded as per Appendix 3 of the NEMA EIA Regulations, 2014, as amended.

You are further reminded to comply with Regulation 23(1)(a) of the NEMA EIA Regulations, 2014, as amended, which states that: "The applicant must within 106 days of the acceptance of the scoping report, or, where regulation 21(2) applies, within 106 days of the date of receipt of the application by the competent authority, submit to the competent authority – (a) an environmental impact assessment report inclusive of any specialist reports, an EMPr, a closure plan in the case of a closure activity and where the application is a mining application, the plans, report and calculations contemplated in the Financial Provisioning Regulations, which must have 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".

Should there be significant changes or new information that has been added to the EIAr or EMPr which changes or information was not contained in the reports or plans consulted on during the initial public participation process, you are required to comply with Regulation 23(1)(b) of the NEMA EIA Regulations, 2014, as amended, which states: *"The applicant must within 106 days of the acceptance of the scoping report, or, where regulation 21(2) applies, within 106 days of the date of receipt of the application by the competent authority, submit to the competent authority – (b) a notification in writing that the documents contemplated in subregulation 1(a) will be submitted within 156 days of acceptance of the scoping report by the competent authority or where regulation 21(2) applies, within 156 days of receipt of the application by the competent authority, as significant changes have been made or significant new information has been added to the documents, which changes or information was not contained in the original documents consulted on during the initial public participation process contemplated in subregulation (1)(a), and that the revised documents contemplated in subregulation 1(a) will be subjected to another public participation process of at least 30 days".*

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.

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.

Yours sincerely



Dr Sabelo Malaza
Chief Director: Integrated Environmental Authorisations
Department of Forestry, Fisheries and the Environment
Signed by: Ms Sindiswa Dlomo
Designation: Deputy Director: National Integrated Authorisation Projects
Date: 10 September 2026

cc:	Bavumile Skhosana	Mabasa Energy and Fuels (Pty) Ltd	E-mail: [redacted]
	Muziwandile Mdamba	KwaZulu-Natal Department of Economic Development, Tourism & Environmental Affairs	E-mail: [redacted]
	Brenda Strachan	City of uMhlathuze Local Municipality	E-mail: [redacted]

RBCAA
RICHARDS BAY CLEAN AIR ASSOCIATION
[redacted]
Tel: [redacted] or [redacted]
E-mail: [redacted] Web Site: www.rbcaa.org.za

09 September 2026

NEMAI Consulting
147 Bram Fisher Drive
Ferndale
2194

Attention: Donavan Henning DonavanH@nemai.co.za

Dear Mr Henning

DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT
MABASA ENERGY AND FUELS (PTY) LTD
PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY

The Richards Bay Clean Air Association (RBCAA) has reviewed the Draft Environmental Impact Assessment Report (DEIAR) prepared by NEMAI Consulting, dated July 2026 and make submission as follows;

ATMOSPHERIC IMPACT REPORT (Amended September 2026)

Emissions Inventory

1. **Nitrogen Oxides;** Section 4.2 states the control technology is *"still to be confirmed if indeed this is deemed necessary"*, and Table 4-4 reads that abatement equipment and control technology still needs *"To be confirmed".*

   The report claims that the fuel is clean as it contains *"no sulphur and has very low particulate content",* but says nothing about NOx, which is the pollutant this plant will actually emit in quantity.

   No information or assessment is presented on best available technology.

   Recommendation:
   a) Confirm the abatement technology prior to authorisation.
   b) AEL limits should be set at best available technology rather than minimum emission standard.

2. **Start-up, Shutdown and Upset Conditions;** Section 5.3 states that the emissions and emission profiles for these have been excluded from this assessment because *"Information is not available at this early stage."*

Registration Number 96/13031/08
Directors: Ms. C. Webb (Managing Director), Ms. S. Camminga, Mr. A. Roberts,
Mr. S. Shezi, Ms. S. Ndaki, Mr. F. Schmidt, Ms. L. Molebale, Ms. V. Ndlovu, Ms. M. Odayar, Mr. S. Mdamba

Two **qualitative** scenarios have been included in the amended AIR, neither of which has been modelled;

- **Emergency Shutdown**
- **Black-Start scenario:** Page 79 of the report states that *"maintenance requirements are likely to happen every three years and could take up to a week."*

This statement indicates a level of uncertainty regarding frequency and duration.

Recommendation:
(a) Quantify start-up shutdown, bypass and maintenance emissions
(b) Quantify the emergency shutdown and black start scenarios
(c) Specialist studies should be final and not leave gaps that require further assessments to be undertaken post authorisation.

3. **Fugitive Emissions;** Section 5.4 states that fugitive emissions have not been assessed because *"fugitive emissions are not expected to arise".*

Fugitive emissions and mercaptan odour are dismissed by assertion rather than assessed — a point the RBCAA raised in April and which remains unanswered.

What abatement equipment is proposed to mitigate escaping methane gas in the event of incomplete combustion?

4. **Fine particulate matter (PM2.5) and volatile organic compounds (VOCs);** Have not been assessed despite the requirement as per the report's own terms of reference.

This is a significant omission, especially the exclusion of PM2.5 which has been recorded by the RBCAA to have exceeded the daily NAAQS;

- 2021 – 2024: Sixty five (65) exceedances of the Daily NAAQS
- 2025: Thirty five (35) exceedances of the 24-hour NAAQS – 18 of which were recorded at the Brackenham station.

Recommendation:
Update the AIR top include the assessment of PM2.5 and VOCs

5. **Exclusion of emissions from bulk storage and handling of coal and ore;** The report states that *"emissions resulting from these facilities are **not** estimated in this assessment for cumulative assessment."*

This has effectively excluded emissions from Transnet Port Terminals, Grindrod and Eyamakhosi, which handle large volumes of dust generating cargos.

It is the view of the RBCAA that this deems the air quality cumulative assessment fatally flawed**.**

Baseline Air Quality

1. **Sulphur Dioxide (SO2);** The RBCAA acknowledges the amended AIR has replaced SAAQIS data with validated RBCAA data as requested in our April submission; however this was not carried into the assessment.

The baseline now reflects significantly higher baseline SO2 at Harbour West, however no impact score was re-derived.

Ambient SO2 is still described as *"low…with occasional exceedances of the 1-hour NAAQS"*

The RBCAA strongly disagrees with the above conclusion.

RBCAA data for Harbour West for the period 2021 – 2025 recorded the following number of exceedances at Harbour West;

- One Hundred and Twenty Three **(123)** exceedances of the 1-hour NAAQS.
- Ninety Seven **(97)** exceedances of the 24-hour NAAQS

Recommendation:

(a) Correct the reference to "Harbour" to read Harbour West as was requested by the RBCAA in April 2026 and committed to in the Comment & Responses report but not implemented.

(b) Baseline assumptions to be re-assessed to align with the actual measured data..

2. **Nitrogen Dioxide (NO_2);** There is no NO_2 baseline and none is proposed. The Executive Summary correctly states that monitoring data *"is not available for NO2 in Richards Bay"* — but then then concludes that the project's NO_2 contribution is *"highly unlikely to result in elevated concentrations or further exceedances"* of a standard whose current baseline is unknown.

   NO_2 is the pollutant of principal concern. The cumulative model predicts a 1-hour maximum of 273 µg/m³ — 136% of the standard — with no measurement anywhere against which to test it, and no monitoring is proposed as a condition of authorisation.

   Recommendation:

   (a) Set up an NO_2 ambient monitoring station, funded by the applicant and integrated into the RBCAA network, prior to commissioning of the facility.

   (b) In-stack monitoring.

   With four or more gas-to-power projects proposed in this airshed, simply noting the absence of baseline data is no longer tenable.

3. **Particulates (PM10);** It is noted that the data set differs from that for SO2 in that PM is assessed for the period 2021 – 2024 and not 2025.

   The PM10 "regional background" of more than 20 µg/m³, which is used to attribute measured particulate matter to background rather than to local sources, comes from an outdated study whose record ends in 2017.

   The report's own Table 6-3 shows the annual mean at CBD increasing from 12.5 µg/m³ in 2021 to 26.4 µg/m³ in 2024, a trend that is not discussed.

   The report references **one** exceedance of the 24-hour NAAQS but does not report the following exceedances;

   - 2021 – 2024: Sixty eight **(68)** exceedances of the 24-hour NAAQS
   - 2025: Four **(4)** exceedances of the 24-hour NAAQS.

   Recommendation:

   (a) Derive the current regional background from the current data set and not from a record ending in 2017.

   (b) Baseline assumptions to be re-assessed to align with actual measured data.

4. **The modelled meteorology does not match the baseline, and the regional background comes from a study ending in 2017;** The ambient baseline in the amended AIR now runs to 2025 for SO2 and to 2024 for PM10 and PM2.5, however the modelling did not move.

   Section 6.2.2 states that the meteorological field is built from 2021, 2022 and 2023, and Figure 6-2 is a 2010–2014 wind rose. The gap between the period the baseline describes and the period the model represents has widened from nothing to two years. No wind rose or summary of the modelled field is shown anywhere.

Recommendation:
Re-run the dispersion model using met data for the period that aligns with ambient baseline period.

Dispersion Modelling

1. **There is no modelled scenario without the project, so its actual contribution is not calculated;** The four modelled scenarios are the project alone in simple cycle, the project alone in combined cycle, the project plus industry, and the project plus industry plus approved projects. There is no run of the model for existing sources on their own.

   Without one, the difference the project makes at any location cannot be calculated. The central conclusion that the project's contribution is small has no arithmetic behind it..

   Recommendation:
   (a) Add an existing-sources-only scenario and an existing-plus-approved-sources-only scenario.
   (b) Report the proposed project's increment at locations where a limit value is exceeded, and at every sensitive receptor.

2. **No results are given at any school, clinic or residential area;** There is still no table of predicted concentrations for Aquadene, Brackenham, Wildenweide, Veldenvlei, Birdswood or Arboretum, nor for any of the schools, clinics and old age homes the report itself maps as highly sensitive.

   The Comments and Responses Report nonetheless states that the increment was assessed *"explicitly at the sensitive receptors"* and refuses to provide tables: *"We don't see that the inclusion of receptor based tables will add any further value."*

   The sensitive receptors are still plotted as unnamed symbols and no concentration can be read at any of them.

   Recommendation:
   Include a table of predicted concentrations at each named residential area and each mapped sensitive receptor for the various scenarios.

3. **The isopleth maps show where a standard is exceeded but still not by how much;**
   The magnitude is still not visible. There is no colour scale; the contour interval is still unstated and irregular.

   Figure 6-13 is contoured at 30, 52, 62, 98 and 125 µg/m³ on one map and at 90 and 115 µg/m³ on the other; the red contour is unlabelled and appears in no legend; the highest contour drawn is far below the reported maximum of 315 µg/m³.

   Recommendation:
   (a) Provide isopleth maps with a stated and regular contour interval, a filled colour scale, the standard drawn as a distinct labelled contour entered in the legend, and state the scenario definition in every figure caption.

4. **Sulphur dioxide;** It appears that sulphur dioxide has been modelled at rates far in **excess** of what is achievable.

5. **Cumulative Proposed Projects - RBGP2;** is named in the Executive Summary as one of the cumulative projects but does not appear in the modelling tables.

   The omission of this project from the cumulative assessment would deem the air quality assessment flawed.

Results and Impact Rating

1. **The proposed projects contribution to the standards is understated;** Section 7.2.2.1 sets the severity score on the basis that the project's maximum concentrations are "less than 0.03%" of the SO2 standard, "0.001%" for NO2 and "0.005%" for PM10.

   Calculated from Table 6-8: The proposed project will contribute; SO2 8.5% (annual), 29.8% (24-hour) and 31.4% (1-hour); NO2 1.1% and 5.5%; PM10 0.3% and 1.2%.

   A project contributing up to 30% of the 24-hour SO2 limit value, in an airshed where that standard is exceeded cannot be considered insignificant.

   Recommendation:
   Correct the percentages and rescore severity on the corrected result.

2. **Cumulative exceedances scored as "almost never";** For the cumulative scenarios the frequency of impact is still scored 1, "almost never/almost impossible", on the reasoning that it is unlikely all industries emit at their limits simultaneously. The amended report states repeatedly that the cumulative scenarios are "hypothetical". This single score is what keeps the cumulative impact out of the high category.

   The amended baseline records that the 24-hour SO2 standard was exceeded at Harbour in 2022 (10 exceedances against 4 permitted), the 24-hour PM10 standard at CBD in 2024 (5 against 4) and the 24-hour PM2.5 standard at Brackenham in 2024 (6 against 4).

   Exceedances in this airshed are measured, not hypothetical.

   Recommendation:
   Rescore the frequency of impact for the cumulative scenarios against the measured exceedance record, and revise the significance rating accordingly.

3. **Air Quality Impact Scores (Table 7-12);** The cumulative impacts have been allocated a MEDIUM impact rating. This does not align with Section 7.2.2.3 which states that the severity or magnitude of impacts for SO2, NO2 and PM10 is predicted to be HIGH (Score = 8).

   Recommendation:
   Correct Table 7-12 to reflect cumulative impacts as having a HIGH significance rating.

Power Generation

1. **Emergency Generators - Inconsistency in the fuel source;** Page 11 and 21 of the report state that "Emergency **diesel** generators are required in the event of a grid failure…"

   This contradicts the statement on page 79 of the AIR which states "The emergency generators will use **natural gas**."

   Recommendation:
   (a) Confirm fuel source
   (b) Confirm that assessment was based on diesel (Worst case scenario)
   (c) Model worst case scenario

Air Pollutants and Health Implications

1. **National Ambient Air Quality Standards;** While South African standards are legally defined as being "health-based", they lag behind international best practices. For this reason the RBCAA has adopted and reports against World Health Organisation guidelines.

   It is the view of the RBCAA that health impacts should be assed against WHO guidelines.

2. **Synergistic Health Effects (PM and SO2);** When inhaled together their combined negative impact on human health is greater than their individual impact.

   The pollution load in Richards Bay warrants at the very least a qualitative assessment.

Mitigation, Monitoring and Conditions

1. **The specialist proposes no conditions of authorisation and no monitoring;** Table A-1 (Prescribed contents of the Specialist Reports) states *"No conditions"* against both the conditions for inclusion in the environmental authorisation and the monitoring requirements for the management programme.

   Section 9 defers the requirements to the AEL — a licence that has not been applied for — and lists only four generic reporting items, proposing no ambient monitoring, no continuous emission monitoring.

   For a 750 MW combustion plant in an airshed with measured non-compliances for two pollutants, a specialist study that proposes nothing is not a defensible output

2. **Abatement /Emission Reduction Interventions;** The report concludes that *"further emission reduction interventions are deemed to be unnecessary considering the low impact of the proposed project on air quality".*

   Section 4.2 further states that appliances, abatement equipment and control technology are still *"To be confirmed".*

   Recommendation:
   Withdraw the finding that abatement is unnecessary until a best available technology assessment has been done.

3. **No offset, and no assessment of whether the airshed has any capacity left;** The report presents measured baseline non-compliance with the 24-hour SO2, PM10 and PM2.5, predicts cumulative exceedances and adds four more gas-to-power projects to the same domain — then proposes no offset, no trading and no condition.

   Where a new source is proposed into a non-compliant airshed, what is to be removed to make room for it should be the first question.

   Recommendation:
   Assess whether the Richards Bay airshed has capacity for the proposed loading. Where it does not, require an emission offset as a condition of authorisation.

Process and Regulatory Compliance

1. **The report records that no comments were received;** The compliance table answers the requirement for *"a summary and copies of any comments received during any consultation process and where applicable all responses thereto"* with *"Not received".*

   The RBCAA submitted written comments on the air quality assessment on 2 April 2026, with the air quality specialist having responded to relevant comments in the Comments and Responses Report

   The amended AIR does not record that the report has been amended and re-issued , nor why and what changed.

Recommendation:

Record and respond to the RBCAA's April 2026 comments in the Atmospheric Impact Report itself, as the regulations require.

2. **Declaration of Accuracy by the Applicant;** It is noted that the Declaration of Accuracy of Information required to be signed by the Applicant, Mabasa Energy and Fuel, names uMoya-NILU Consulting as the enterprise and is signed by the specialist.

   It is not understood how a specialist can take accountability for the accuracy of the applicant's information.

   In our view it represents a conflict of interest for the air quality specialist to be named as the "duly authorised" representative of the applicant while conducting an independent air quality assessment.

   Recommendation:
   Provide the applicant's declaration of accuracy in the prescribed form.

GENERAL

1. **List of Tables; Page xi –** Table 6-2 – 6-5 headings not corrected following amendments and three new Tables 6-6 to 6-8 are not referenced at all.
2. **Compliance Table – Site Visit;** The site visit is recorded as "not applicable" although the terms of reference state that *"site visit is required".*
3. **Data Sets:** The Executive Summary states different data sets for SO2 (2021 -2025) and PM10 (2021-2024).

CONCLUSION

The RBCAA remains of the opinion that cumulative impacts from developments within IDZ 1F, especially MHI facilities, will place the residential communities of Aquadene, Brackenham and Wildenweide at risk.

There are substantive **gaps** relating to the assessment of air quality impacts, including what the RBCAA deems to be a fatally flawed cumulative assessment of dust generating bulk handling and storage facilities.

These deficiencies should be addressed prior to the application being considered for authorisation.

Thank you for affording the RBCAA the opportuinity to comment.

The RBCAA reserves the right to amend and/or provide further comment.

Yours sincerely ,



S CAMMINGA
CHAIRPERSON EIA COMMITTEE

[redacted]
SUNNINGHILL
2157

147 Bram Fischer Drive
Ferndale
2194

Tel: (011) 781 1730
Fax: [redacted]
Email: donavanh@nemai.co.za

Proposed 750MW Combined Cycle Gas Turbine Power Plant in Richards Bay, City of uMhlathuze Local Municipality, King Cetshwayo District Municipality, Kwazulu-Natal

COMMENT SHEET – Draft Environmental Impact Assessment Report

Official use	Date received:	Our reference:	Status:

1) GENERAL INFORMATION

Name of organisation (if applicable)	ZULULAND DEEP SEA ANGLING ASSOCIATION
Name & Surname	PAIGE DU PREEZ
[redacted]	SAME AS BELOW
[redacted]	45 ANGLERS ROD, MEERENSEE KWA-ZULU NATAL, 3901
Telephone No.	
Mobile No.	[redacted]
Email Address	[redacted]
Manner in which the report was accessed (e.g. project website, library, etc.):	WEBSITE

Signature PAIGE DU PREEZ

Date [redacted]

2) COMMENTS

(Note - additional pages may be included if the space provided is insufficient)

Comment 1: Absence of a dedicated estuarine and marine ecological assessment
Relevant material: Draft EIA sections 11 and 15.2; Figure 45; Appendix E3 (Freshwater Ecosystem Assessment)
ZDSAA comment: The report records that the site is approximately 2.6 km south of the Estuarine Functional Zone of the Richards Bay Estuary and expressly recognises the estuary as an important regional ecological receptor that could be indirectly affected. The site also lies within the Richards Bay groundwater-fed estuary Strategic Water Source Area. However, the specialist work stops at freshwater/wetland and hydrology assessment. It does not assess estuarine or marine water quality, estuarine habitat, nursery function, fish assemblages, marine food webs, fisheries resources, or the consequences of contaminant transport to the estuary and coastal waters.

Comment 2: Contradictory description of the wastewater discharge route
Relevant material: Draft EIA sections 9.5.5.6-9.5.5.11, 9.5.11.20-9.5.11.21 and 13.19; Appendix K (CRR), comment 136
ZDSAA comment: Sections 9.5.5.6 and 9.5.5.11 state that treated oily and neutralised wastewater will pass to a monitoring sump and then the RBIDZ sewer. By contrast, section 9.5.11.21 states that oily effluent may be discharged to the stormwater drainage system via the monitoring basin. The CRR repeats that process wastewater will be tested before discharge to 'the municipal sewer or the storm water system' in response to an earlier concern about effects on communal fisherfolk and marine life. These are materially different receiving pathways. A stormwater discharge could enter the canal and downstream system, while a sewer discharge depends on municipal treatment capacity, acceptance criteria, bypass risk and the final destination of treated effluent. The CRR therefore confirms, rather than resolves, the uncertainty.

Comment 3: Baseline water-quality evidence is insufficient and uses unsuitable benchmarks
Relevant material: Appendix E7 sections 5 and 9; Appendix E3 baseline discussion; Appendix E16 (Geotechnical Assessment); Appendix I section 8.2
ZDSAA comment: The hydrology assessment relies on three canal samples (upstream, midstream and downstream) collected during a single site visit and compares results primarily with drinking/domestic-use target ranges. Appendix E3 states that no surface water was present during its assessment and no in-situ water-quality measurements were recorded. A single snapshot cannot characterise seasonal, tidal, first-flush or industrial variability, and domestic-use criteria do not demonstrate protection of aquatic and estuarine biota.

Comment 4: Accidental releases, firewater and emergency response require a source-to-sea consequence assessment
Relevant material: Draft EIA sections 9.5.5, 13.18-13.20 and 15.2; Appendices E13, E16 and I (including the ERAP)
ZDSAA comment: The plant would store and handle diesel, oils, acids, caustic, sodium hypochlorite/biocides and high-pressure natural gas. Appendix E16 confirms highly permeable sandy soils, a shallow perched water table and the Zululand coastal aquifer, creating credible subsurface as well as surface pathways for off-site contamination. The quantitative risk assessment primarily addresses human fatality and major-hazard contours. The ERAP provides generic notification to relevant authorities and neighbouring facilities but does not identify downstream fishing organisations, closure protocols or marine ecological response. Neither document quantifies ecological consequences to the estuary or operational implications for boating and fishing after a spill, fire, explosion or contaminated firewater release.

Comment 5: The Draft EMPr does not translate estuarine and fisheries risks into enforceable controls
Relevant material: Appendix I (Draft EMPr), especially sections 8.2, 12, 13.3.4-13.3.6 and the Emergency Response Action Plan
ZDSAA comment: The EMPr acknowledges that impacts to freshwater resources may affect inflows into the Richards Bay and adjacent uMhlathuze estuaries and that the Richards Bay Estuary

could be indirectly affected. Nevertheless, its operational controls remain focused on the site, canal, groundwater and wetlands. Wastewater controls require only compliance with unspecified 'applicable discharge requirements'; cooling-tower blowdown has no stated flow or pollutant limits; wastewater infrastructure is inspected monthly; and there are no estuarine/marine objectives, receptors, monitoring sites, biological indicators or fisheries incident procedures. The emergency provisions use discretionary language such as 'where required' and 'relevant authorities' without a named source-to-sea notification and response chain.

5. Conclusion

ZDSAA's concern is not that every land-based industrial project will necessarily cause a marine impact, but that this project has identifiable hydrological, infrastructural and operational links to the Richards Bay Estuary, coastal aquifer and Port of Richards Bay. Those links must be assessed directly rather than assumed to be insignificant because the plant footprint is inland.

Until the requested studies, reconciliations and enforceable controls are provided, the conclusion that impacts relevant to estuarine and marine resources will be acceptable is premature. ZDSAA accordingly requests a substantive response to each numbered comment in the Comments and Responses Report and an opportunity to review the material additions before the competent authority makes a decision.

Signed for and on behalf of ZDSAA

Name: Paige Du Preez

Capacity: Environmental Officer

Date: 07 September 2026

groundWork
Environmental justice action
NPO number: 045-235-NPO
P.O. Box 2375, Pietermaritzburg, 3200, South Africa • 8 Gough Road, Pietermaritzburg, 3201, South Africa
Tel +27 33 342 5662 • www.groundwork.org.za

Donavan Henning

Nemai Consulting (Pty) Ltd
Environmental Assessment Practitioner for
Mabasa Energy and Fuels (Pty) Ltd
By email: donavanh@nemai.co.za

Our ref: 750MW/RB/JC
Date: 7 September 2026

Dear Mr Henning

COMMENT ON PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

1. groundWork is a non-profit environmental justice organisation that supports communities in South and Southern Africa on issues relating to coal, climate, energy, waste and environmental health, and is a registered interested and affected party (I&AP) in this matter.

2. We support and endorse the comments made by South Durban Community Environmental Alliance (SDCEA) on the Draft Environmental Impact Report (DEIR) for the proposed 750MW Combined Cycle Gas Turbine (CCGT) Power Plant in Richards Bay (the "Project"), prepared by Nemai Consulting on behalf of Mabasa Energy and Fuels (Pty) Ltd.

3. We re-affirm our registeration as an interested and affected parties (I&APs) in terms of the EIA Regulations and wish to participate in all subsequent stages of this environmental assessment process.

4. Thank you for your consideration of our submission on the environmental impact report for the proposed project. We look forward to further engagement.

Yours faithfully

Yegeshni Moodley (on behalf of groundWork)
Senior campaign manager: Climate and Energy Justice
Direct email: [redacted]

Trustees: Angela Conway (Chair), Johan Riekert, Richard Lyster, Sibongile Mtungwa

Friends of the Earth International

10 Nuttall Rd, Observatory, 7925
Cape Town, South Africa
info@masifundise.org.za
Tel: +27 21 6854549
NPO Number: 058-202 REG Number: IT159/2004

www.masifundise.org.za

07 September 2026

For Attention:

Nemai Consulting (Pty) Ltd Environmental Assessment Practitioner for Mabasa Energy and Fuels (Pty) Ltd

Attention: Donavan Henning

Per email: donavanh@nemai.co.za

Dear Mr Henning

RE: COMMENT ON PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL, REF:14/12/16/3/3/2/2799

INTRODUCTION

1. Masifundise Development Trust, submits these comments on the Draft Environmental Impact Assessment Report ("Draft EIA") for the proposed 750MW Combined Cycle Gas Turbine ("CCGT") Power Plant in Richards Bay (the "Project"), prepared by Nemai Consulting (Pty) Ltd on behalf of Mabasa Energy and Fuels (Pty) Ltd.
2. Masifundise works to advance the rights and interests of small-scale fishing communities in South Africa, including their livelihoods, food security, cultural practices and sustainable access to marine resources.
3. We have reviewed the Draft EIA and the comments previously submitted during the Scoping phase by other Interested and Affected Parties, including groundWork and the South Durban Community Environmental Alliance (SDCEA).
4. We support and note the concerns raised in those submissions, particularly regarding cumulative impacts, climate change, water resources, the broader gas-to-power development context and meaningful public participation. However, our submission

focuses specifically on the implications of the proposed Project for **sm**all-scale fishing communities (KwaSokhulu and eMphembeni), fishing livelihoods, food security and access to marine resources.

5. We consider these issues particularly important because the Draft EIA itself identifies small-scale and subsistence fishers as potentially vulnerable to cumulative environmental pressures and recognises potential links between environmental degradation, marine productivity, access to safe harvesting areas, fish stocks, catches, livelihoods and food security.
6. Our concern is therefore not simply whether small-scale fishers are mentioned in the Draft EIA, but whether the information and specialist assessments are sufficiently detailed to enable the competent authority to understand the Project's actual and potential impacts on fishing-dependent communities and to make an informed decision.
7. We accordingly request that the matters set out below be addressed before the EIA is finalised and submitted for decision.

SMALL-SCALE FISHERIES REMAIN INADEQUATELY ASSESSED IN THE SOCIO-ECONOMIC BASELINE

8. The Draft SEIA refers to small-scale and subsistence fishers in several parts of the assessment. It states, for example, that fisheries-dependent households may be particularly vulnerable where declining marine ecosystem health reduces fish stocks and catches and that small-scale and subsistence fishers may be affected where environmental quality and ecosystem pressures influence marine productivity and access to safe harvesting areas.
9. These acknowledgements are important. However, the assessment does not appear to provide a sufficiently detailed fisheries baseline against which these potential impacts can be evaluated.
10. A proper assessment should identify, at minimum:

11.1 the small-scale fishing communities using the Richards Bay coastal and marine environment;

11.2 the locations of fishing grounds, landing sites and access points;

11.3 the types of fishing undertaken and fishing methods used;

11.4 the species and marine resources targeted;

11.5 seasonal patterns in fishing activity;

11.6 the number and characteristics of households that depend on fishing;

11.7 the contribution of fishing to household income and subsistence;

11.8 the contribution of fishing to household food and nutritional security;

11.9 the role of fishing in local informal economic activity, including sale, exchange and distribution of catches; and

11.10 existing restrictions, hazards or other pressures affecting access to fishing areas.

THE EIA ACKNOWLEDGES IMPACT PATHWAYS TO FISHERS BUT DOES NOT ADEQUATELY ASSESS THEM

15. The Draft SEIA makes an important connection between environmental degradation, marine ecosystem health, fish stocks, catches, livelihoods and food security.
16. It further recognises that small-scale and subsistence fishers may be affected by deteriorating environmental quality and ecosystem pressures that influence marine productivity and access to safe harvesting areas.
17. This is consistent with our previous concern that an environmental impact does not need to overlap physically with a fishing ground in order to become a significant socio-economic impact.
18. For a fishing-dependent household, a reduction in the quality, safety or accessibility of fishing areas may translate into:

18.1 reduced catches;

18.2 reduced income;

18.3 increased travel distances and costs;

18.4 reduced time available for fishing;

18.5 increased exposure to unsafe conditions;

18.6 reduced availability of fish for household consumption; and

18.7 increased dependence on more expensive sources of food.

19. The final EIA should therefore provide a clear impact pathway linking each relevant environmental impact to its potential consequences for fishing livelihoods and food security.
20. This should not be left at the level of a general statement that environmental degradation "may" affect fishers.

21. The assessment should identify which project activities could cause these effects, the mechanisms through which the effects could occur, the communities potentially affected, and the significance and duration of those effects.

CUMULATIVE INDUSTRIAL PRESSURES AND THE "SPATIAL SQUEEZE" ON FISHERS

22. Richards Bay is an extensively industrialised and port-dominated coastal environment.
23. Small-scale fishing communities must therefore be understood within an already constrained coastal and marine environment rather than against an undeveloped baseline.
24. Existing and proposed pressures include port activities, industrial development, shipping and marine traffic, infrastructure, environmental degradation, safety restrictions, conservation measures and other development projects.
25. The Draft SEIA itself acknowledges that the proposed plant forms part of a wider cluster of gas-to-power and gas infrastructure developments around Richards Bay. It also acknowledges that cumulative impacts arise from the combined effects of gas-to-power facilities, LNG infrastructure, pipelines and existing heavy industry.
26. The Draft SEIA further recognises that cumulative environmental pressures may affect small-scale and subsistence fishers through impacts on marine productivity and access to safe harvesting areas.
27. However, the assessment does not adequately translate this recognition into a spatial assessment of fishing access.
28. The relevant question is not simply whether the proposed plant occupies a fishing ground.
29. The relevant question is whether the Project, together with associated infrastructure and other existing and reasonably foreseeable developments, contributes to a progressive reduction in the areas where small-scale fishers can safely and practically access marine resources.
30. This may be understood as a cumulative "spatial squeeze" on fishing communities.
31. We therefore request that the final EIA include a spatial assessment showing, as far as reasonably possible:

31.1 existing fishing areas;

31.2 fishing access points and routes;

31.3 existing exclusion or restricted areas;

31.4 port-related restrictions and safety zones;

31.5 existing industrial and infrastructure footprints;

31.6 proposed gas infrastructure and associated exclusion areas;

31.7 reasonably foreseeable developments; and

31.8 the remaining accessible areas available to small-scale fishers.

32. This assessment is necessary to determine whether the Project adds to an existing cumulative loss of access, even if the plant's direct physical footprint does not overlap with fishing grounds.

MARINE AND WATER-QUALITY IMPACTS MUST BE CONNECTED TO FISHING LIVELIHOODS

33. The Draft EIA indicates that alternative cooling arrangements are being considered and that water use, wastewater quality, quantities and discharge options are to be addressed.
34. These matters are directly relevant to small-scale fishing communities.
35. The final EIA must clearly identify:

36.1 the source, volume and quality of water required during construction and operation;

36.2 the volume and characteristics of wastewater generated;

36.3 all proposed wastewater treatment processes;

36.4 the proposed location and method of discharge;

36.5 the pollutants or other substances potentially present in the discharge;

36.6 the potential effects of discharge on receiving water resources and marine ecosystems;

36.7 the potential effects of temperature changes, where relevant;

36.8 the potential effects on aquatic organisms and marine productivity; and

36.9 the potential consequences for fishing areas and fishing-dependent communities.

37. It is not sufficient to conclude that wastewater will be managed in accordance with applicable requirements without demonstrating what the receiving environment will experience and what this means for fishing livelihoods.
38. The assessment should specifically consider the relationship between water quality, aquatic ecosystem health, fish resources and human use of those resources.
39. Where uncertainty remains regarding the effect of proposed discharges on marine resources, the precautionary approach should be applied and appropriate monitoring and enforceable mitigation measures should be specified.

CUMULATIVE AIR QUALITY IMPACTS AND SMALL-SCALE FISHERS

40. The Draft SEIA acknowledges that Richards Bay is already subject to emissions from multiple industrial sources and that the cumulative emissions burden may have implications for environmental quality, health, livelihoods and food security.
41. It specifically identifies small-scale and subsistence fishers as a vulnerable group in the context of cumulative environmental pressures.
42. We welcome this recognition, but the implications for fishers require further consideration.
43. Small-scale fishing is physically demanding work. Air pollution can therefore affect fishing-dependent households not only through general community health impacts but also through their ability to undertake livelihood activities.
44. In addition, cumulative air pollution should not be assessed only at residential receptors. The assessment should consider people who spend substantial periods working in and around the harbour and coastal environment.
45. The final EIA should therefore explain how the cumulative air-quality assessment relates to fishing communities and fishing activity, including whether exposure may affect the health, productivity and livelihood resilience of fishers.
46. This issue should also be considered together with the Community Health Impact Assessment and the cumulative assessment of existing industrial emissions.

CLIMATE CHANGE IMPACTS ON FISHING COMMUNITIES

47. Climate change is not an abstract or distant issue for coastal fishing communities.
48. Changes in marine and coastal conditions may affect the distribution and abundance of fish, marine productivity, fishing conditions, extreme weather exposure, coastal erosion, access to fishing areas and the resilience of fishing-dependent households.
49. The Draft SEIA recognises that climate change and environmental stressors may interact with existing socio-economic vulnerabilities and threaten fish stocks and food security.
50. The final EIA should therefore assess climate change not only as a risk to the proposed power plant but also as a cumulative risk to the communities that depend on the marine environment.
51. The Climate Change Impact Assessment should clearly address:

51.1 the Project's lifetime greenhouse-gas emissions;

51.2 the contribution of the Project to cumulative climate change;

51.3 the climate-related vulnerabilities of coastal and fishing-dependent communities;

51.4 the interaction between climate change, marine ecosystem pressures and fishing livelihoods;

51.5 the implications of climate-related changes for access to fishing areas; and

51.6 Whether the long operational life of the Project is compatible with the need to reduce climate-related vulnerability and environmental pressure.

52. The assessment should also consider cumulative gas infrastructure and other reasonably foreseeable developments in Richards Bay rather than assessing the proposed plant in isolation.

CUMULATIVE IMPACTS OF THE BROADER GAS-TO-POWER DEVELOPMENT

53. We reiterate the concerns raised during the Scoping phase regarding the treatment of the Project as a stand-alone power plant.
54. The Draft SEIA itself recognises that the plant forms part of a wider cluster of gas-to-power and gas infrastructure projects in Richards Bay.
55. The cumulative assessment must therefore adequately consider the broader development context, including LNG import and storage infrastructure, pipelines, gas hubs, associated electricity infrastructure and other reasonably foreseeable gas-to-power developments.
56. This is particularly important for fishing communities because cumulative impacts may arise not only from emissions from the power plant but from the combined footprint and operation of the wider gas infrastructure system.
57. These impacts may include:

57.1 additional port and marine traffic;

57.2 restrictions on access to marine areas;

57.3 construction disturbance;

57.4 increased industrial activity;

57.5 air emissions;

57.6 water demand;

57.7 wastewater and stormwater risks;

57.8 emergency and major-hazard risks;

57.9 noise and lighting;

57.10 additional pressure on coastal and marine ecosystems; and

57.11 cumulative climate impacts.

58. The final EIA should explain how these combined pressures have been assessed from the perspective of small-scale fishing communities.

MEANINGFUL ENGAGEMENT WITH SMALL-SCALE FISHERS

59. During the Scoping phase, it was indicated that engagement with small-scale fishers would take place during the EIA phase.
60. The Draft Comments and Responses Report records that the Plan of Study was updated to provide for engagement with small-scale fishers and other vulnerable groups.
61. We therefore request a clear account of how this commitment was implemented.
62. The final EIA should identify:

62.1 which fishing communities were consulted;

62.2 which fishing organisations or representatives participated;

62.3 when and where consultations took place;

62.4 what methods were used to engage fishers;

62.5 whether consultations were undertaken in isiZulu where appropriate;

62.6 whether fishers were provided with sufficient information to understand the potential environmental and socio-economic consequences of the Project;

62.7 what concerns were raised by fishers;

62.8 what local and traditional knowledge was obtained; and

62.9 how that information was incorporated into the specialist assessments.

63. In particular, the EIA should not merely record that fishers were identified as a vulnerable group. It should demonstrate that affected fishers were actually given an opportunity to contribute information about their livelihoods and the marine environment.
64. Local knowledge is particularly important for identifying fishing grounds, seasonal fishing patterns, access routes, changes in marine resources and areas of cultural or livelihood importance that may not be captured in desktop datasets.
65. Where such engagement has not occurred, we request that a focused engagement process with affected small-scale fishers be undertaken before the EIA is finalised.

FOOD SECURITY AND LIVELIHOOD IMPACTS REQUIRE GREATER WEIGHT

66. Fishing is not simply an economic activity.
67. For fishing-dependent households, marine resources can contribute simultaneously to household income, food security, nutrition, cultural identity and community resilience.
68. Consequently, an impact on fishing resources or access can have consequences beyond the loss of income.
69. Reduced catches may increase household expenditure on alternative sources of protein and reduce the ability of households to meet other basic needs.
70. The final EIA should therefore assess fishing impacts through both a livelihood and food-security lens.
71. The assessment should consider:

71.1 dependence on self-consumed catches;

71.2 income derived from fishing and related activities;

71.3 the availability and affordability of alternative food sources;

71.4 the vulnerability of low-income fishing households;

71.5 the potential for cumulative environmental pressures to reduce household resilience; and

71.6 the distribution of these impacts among particularly vulnerable households.

CONCLUSION

81. Masifundise Development Trust appreciate the opportunity to comment on the Draft EIA.
82. We recognise the importance of employment, energy security and economic development. However, these objectives must be considered alongside the rights, livelihoods, food security and environmental interests of communities that depend upon the marine environment.
83. We welcome the fact that the Draft EIA expressly recognises small-scale and subsistence fishers as potentially vulnerable to cumulative environmental pressures. However, the assessment remains insufficiently detailed to demonstrate that the potential consequences for fishing communities have been properly understood.
84. In particular, the Draft EIA acknowledges that environmental degradation may affect marine productivity, fish stocks, catches, access to safe harvesting areas, livelihoods and food security. These acknowledgements should now be translated into a properly evidenced and community-informed assessment.
85. We therefore request that the final EIA:

1. Strengthen the fisheries socio-economic baseline, including identification of fishing communities, fishing areas, access points, fishing practices, target species, seasonal patterns, household dependence and food-security contributions.

2. Demonstrate meaningful engagement with affected small-scale fishers, including how local and traditional knowledge was incorporated into the assessment.

3. Undertake a spatial cumulative assessment of fishing access, including existing restrictions and the combined effects of existing, proposed and reasonably foreseeable developments.

4. Clearly assess the pathway between environmental impacts and fishing livelihoods, including the potential effects of water quality, wastewater, stormwater, pollution, marine ecosystem degradation and other environmental changes.

5. Assess cumulative water and marine impacts, including water abstraction, wastewater generation and discharge, and potential consequences for aquatic and marine productivity.

6. Strengthen the climate change assessment from a fishing-community perspective, including the interaction between project emissions, climate change, marine ecosystem pressures and fishing-dependent livelihoods.

7. Ensure that the cumulative assessment properly considers the broader gas-to-power development context, including LNG infrastructure, pipelines and other associated infrastructure and reasonably foreseeable developments.

8. Properly account for food-security impacts, recognising that fishing contributes not only to income but also to household nutrition, subsistence and resilience.

Yours faithfully,

Ayanda Madlala
Project Officer
Masifundise Development Trust
[redacted]

Boitumelo Mngomezulu
Research Officer
Masifundise Development Trust
[redacted]

Enquiries: reg@umhlathuze.gov.za
Telephone: 035 907 5000
Fax: 035 907 5444/5/6/7
Toll Free No: 0800 222 827

City Development

Physical Address:
5 Mark Strasse Civic Centre
Private Bag X1004
Richards Bay, 3900

Your ref:

Our file ref:

Contact: Estelle Naidoo [redacted]

In response to DMS No.: 1840216

Date: 07 September 2026

ATTENTION: Donavan Henning
EMAIL: donavanh@nemai.co.za

P. O. Box 1673
SUNNINGHILL
2157

Dear Sir,

COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY.

The City of uMhlathuze has reviewed the Draft Environmental Impact Assessment for the Proposed 750MW Combined Cycle Gas Turbine Power Plant in Richards Bay, City of uMhlathuze Local Municipality, in respect of the above application. We accordingly submit the following:

GENERAL COMMENTS

- Reference is made to the City's letter dated 7 April 2026, wherein a number of comments were raised. It is important to note that some of the matters raised in the aforementioned correspondence remain outstanding. The applicant is therefore requested to provide a comprehensive response to each of the comments raised.
- It is noted that the infilling of wetlands has been accounted for in the Environmental Authorisation obtained by RBIDZ. However, further clarification is required regarding the extent and nature of the wetland infilling, in terms of the Water Use License. Further clarification is needed regarding specific License conditions.
- The draft report makes reference to sensitive receptors. However, from the perspective of local government, it is important to note that a number of potentially sensitive receptors, particularly healthcare and educational facilities, do not appear to have been adequately identified. The applicant is requested to review the assessment and ensure that all relevant sensitive receptors within the surrounding area are identified and appropriately considered.
- The applicant is requested to undertake the assessment within the broader context of the surrounding environment. In particular, consideration must be given to the cumulative impacts associated with existing, approved and proposed industrial activities in the surrounding area.
- The report indicates that the visual impact of the proposed development is considered to be low. However, given the development's close proximity to residential areas, the applicant is requested to reconsider the potential visual impact on surrounding receptors and incorporate appropriate mitigation measures. Where practicable, natural features (such as trees) may be used to reduce the visual impact.
- The applicant is requested to submit the Stormwater Management Plan to the City for review and comment. The plan should adequately demonstrate how stormwater will be managed during both the construction and operational phases and how potential impacts on surrounding properties, wetlands, watercourses and municipal infrastructure will be mitigated.
- The applicant is requested to contact Mr Jaco Schutte at [redacted] regarding Transport Planning matters.

Please be advised that the above does not constitute any commitment from the Municipality to enter into a servitude or lease agreements over its land in relation to the proposal and a separate process has to followed in respect of the aforementioned. Also, the Municipality has no obligation/responsibility in relation to offsets that are/may be required in response to this project/proposal.

You are welcome to direct further queries regarding the above to Ms. Estelle Naidoo from the Office of the Deputy City Manager: City Development on Tel: [redacted]; or email: [redacted]

Yours faithfully

MTHOKOZISI MHLONGO Pr Pln A/2743/2018
DEPUTY CITY MANAGER: CITY DEVELOPMENT
DMS 1847076/FX

Enquiries: reg@umhlathuze.gov.za
Telephone: 035 907 5000
Fax: 035 907 5444/5/6/7
Toll Free No: 0800 222 827

Physical Address:
5 Mark Strasse Civic Centre
Private Bag X1004
Richards Bay, 3900

Your ref:

Our file ref: 15/1/17/4/2

In response to DMS No.: 1814242

Contact: E Naidoo ([redacted])

Date: 7 April 2026

Delivered Electronically Via Email: donavanh@nemai.co.za
ATTENTION: Mr D Henning

PO BOX 1673
Sunninghill
2157

Dear Sir

COMMENTS ON DRAFT SCOPING REPORT FOR THE PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY LOCATED IN THE UMHLATHUZE LOCAL MUNICIPALITY

The City of uMhlathuze has reviewed the Draft Scoping report for the proposed 750MW Combined Cycle Gas Turbine Power Plant, received on 5 March 2026. We accordingly submit the following comments for your attention.

1. FIRE AND SAFETY

- The Fire layout plans must be in accordance with SANS 10400 T 2024.
- The Fire Department must approve the Plans.
- Adherence to SANS 10087 and 10089 is required as there will be presence of both diesel and flammable gases.
- The services of fire engineers for the rational design of fire systems on the site is strongly encouraged.
- A Disaster Management Plan is required for approval by the City of uMhlathuze Disaster Management Chief.

2. SPATIAL PLANNING

- Spatial Planning has no objections to the proposed project as the project area is located within the Richards Bay Industrial Development Zone (RBIDZ) Phase 1F.

3. LAND USE MANAGEMENT

- Erf 16673, Alton, is zoned as Noxious Industry and is located within Phase 1F of the RBIDZ. The proposed activity is a permitted use under this zoning,
- The applicant is requested to submit building plans to the City of uMhlathuze Municipality for approval.
- Please note that any new servitudes with a width of 15 m (or greater) constitutes a change in Land Use and will require Municipal consent.
- The draft report makes reference to the Land Use Management Scheme, the applicant is informed that a revision was undertaken in 2025. You are therefore reminded to include the most recent version of the Land Use Scheme as part of the Assessment.

4. ENVIRONMENTAL PLANNING

- The report briefly mentions storage of water with a capacity of 50 000m³. The applicant is advised to consult the Department of Water and Sanitation regarding compliance with Section 21(b) of the National Water Act and the Dam Safety Regulations.
- The applicant is requested to disclose the capacity of the back-up generators in the Scoping Report.
- The Report suggests that Stormwater Management principles will be applied during construction and operation. The applicant is advised to develop a Stormwater Management Plan stipulating Site Specific conditions to ensure there is controlled drainage.
- It has been noted that a Cumulative Impact Assessment will be conducted during the Scoping phase of the project. The applicant is advised to not only consider impacts emanating from the proposed project but to also consider surrounding industries.

5. AIR QUALITY MANAGEMENT

- Air Quality Management has no objection to the proposed project subject to compliance with the National Dust Control Regulations, 2026 and Section 28 of the National Environmental Management Act 107 of 1998 (NEMA).
- The applicant is requested to ensure that emissions are kept at minimum during the operational phase of the project.

You are welcome to direct further queries regarding the above to Ms. Estelle Naidoo from the Office of the Deputy City Manager: City Development on Tel: [redacted] or email: [redacted]

Yours faithfully

MR MTHOKOZISI MHLONGO Pr Pln A/2743/2018
DEPUTY CITY MANAGER: CITY DEVELOPMENT
DMS 1788339/EEN

Lakeview Terraces, Penny Ln,
Richards Bay, 3900
Tel: +27 31-003-5526
Fax: +27 31-468-1257
www.sdcea.co.za

South Durban Community Environmental Alliance

SUBMISSION ON THE PROPOSED 750 MW COMBINED CYCLE GAS TURBINE POWER PLANT – RICHARDS BAY.

Applicant: Mabasa Energy and Fuels (Pty) Ltd.
Project: Proposed 750 MW Combined Cycle Gas Turbine (CCGT) Power Plant
Location: Richards Bay, KwaZulu-Natal
DFFE Reference: 14/12/16/3/3/2/2799
Submission by: South Durban Community Environmental Alliance (SDCEA)
Date: 7 September 2026

Dear Sir/Madam,

INTRODUCTION

The South Durban Community Environmental Alliance (SDCEA) welcomes the opportunity to comment on the draft environmental impact assessment (EIA) report for the Proposed 750 MW Combined Cycle Gas Turbine (CCGT) Power Plant by Mabasa Energy and Fuels (Pty) Ltd in Richards Bay.

We acknowledge that the draft EIA has undertaken a range of specialist assessments, including climate change, air quality, freshwater ecosystems, terrestrial biodiversity, hydrology, health, socio-economic impacts, noise, traffic and quantitative risk. The report also acknowledges that Richards Bay is an already highly industrialised area experiencing cumulative environmental pressures.

However, SDCEA has significant concerns regarding whether the assessment has adequately demonstrated that the proposed development can be accommodated within the existing environmental and social carrying capacity of Richards Bay[1].

Our concerns are particularly focused on cumulative air pollution, climate change and greenhouse gas emissions, water security, alternatives, biodiversity and wetlands, flood risk, hazardous materials, health impacts, and the reliance on future mitigation rather than demonstrating that these impacts are acceptable before authorisation.

The EIA should not assess the proposed plant in isolation from the already heavily industrialised Richards Bay airshed and the numerous existing, authorised and proposed industrial, gas and power developments in the area.

[1] DEIAR, pg. 198.

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

CUMULATIVE AIR QUALITY IMPACTS ARE A MAJOR CONCERN

This is one of our most significant concerns. The draft EIA acknowledges that Richards Bay already experiences elevated air pollution. The air quality assessment records that monitoring data from 2021–2023 showed numerous exceedances of the 1-hour and 24-hour so_2 national ambient air quality standards (NAAQS). It also acknowledges that 2021–2023 monitoring data for NO_2 and CO were unavailable.[2]

Despite this existing pollution burden, the cumulative modelling predicts exceedances of the NAAQS when the proposed Mabasa plant is assessed together with existing and future industrial sources.

The EIA's Scenario 3 predicts exceedances for SO_2, NO_2 and PM_{10}, while Scenario 4, which includes approved future projects, also predicts exceedances of these pollutants. the cumulative impact is nevertheless rated as *"medium*".[3]

The modelled figures are particularly concerning:

- Scenario 3 SO_2: 52.5 µg/m³ annual, 243 µg/m³ 24-hour and 682 µg/m³ 1-hour
- Scenario 4 SO_2: 59.2 µg/m³ annual, 315 µg/m³ 24-hour and 695 µg/m³ 1-hour
- Scenario 3 NO_2: 21.2 µg/m³ annual and 273 µg/m³ 1-hour
- Scenario 4 NO_2: 21.9 µg/m³ annual and 273 µg/m³ 1-hour
- Scenario 3 and 4 PM_{10}: 189 µg/m³ 24-hour, compared with a stated NAAQS of 75 µg/m³.[4]

SDCEA is concerned that the existence of a relatively small incremental contribution from Mabasa does not mean that the additional pollution is environmentally acceptable.

In an already degraded airshed, the appropriate question is not simply whether Mabasa is the largest contributor, but whether any additional pollution load can reasonably be accommodated without worsening cumulative exposure and environmental health risks. The EIA itself states that the cumulative assessment raises an "important flag" for air quality management in Richards Bay.[5]

SDCEA requests:

1. That the cumulative air quality impacts be reassessed using the most current available ambient monitoring data.
2. That the absence of recent no_2 monitoring data be addressed before a decision is made.
3. That the EIA identify the actual communities, schools, residences, workers and other sensitive receptors potentially exposed to cumulative pollution.

[2] DEIAR, pg. 197

[3] DEIAR. Pg. 198

[4] DEIAR. Pg.106

[5] DEIAR. Section 12.5.4.5

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

4. That the applicant demonstrate how additional emissions can be accommodated within the airshed without compromising existing communities.
5. That ambient air quality monitoring be established independently of the applicant, including community-accessible monitoring and transparent publication of results.
6. That additional emission reduction measures be considered rather than the conclusion that further interventions are unnecessary.

THE CONCLUSION THAT FURTHER AIR-QUALITY MITIGATION IS "UNNECESSARY" IS NOT CONVINCING

We are particularly concerned by the conclusion that further emission reduction interventions are considered unnecessary because the project's individual contribution is low.[6]

This conclusion appears difficult to reconcile with the same assessment's finding that:

- Richards Bay already experiences SO_2 exceedances;
- cumulative scenarios exceed the NAAQS for SO_2, NO_2 and PM_{10};
- future industrial developments will add further emissions; and
- the community health assessment identifies cumulative air pollution and respiratory health as major pathways of concern.

The Community Health Impact assessment states that the plant is being introduced into an environment already experiencing industrial air pollution, transport-related exposure, noise, socio-economic inequality and finite health-system capacity.[7] It further identifies respiratory health and air-quality exposure as among the highest-significance pathways.[8]

We submit that the mitigation hierarchy must be applied more rigorously. Compliance with an Atmospheric Emission Licence should not be treated as sufficient evidence that cumulative health impacts are acceptable.

THE AQIA SHOULD INCLUDE ADDITIONAL RICHARDS BAY MONITORING DATA

groundWork's April 2026 comments on the Draft Scoping Report for Mabasa recommended that the Plan of Study require that **"**[r]ecent municipal and RBCAA monitoring data for NO_2, SO_2, PM_{10}, $PM_{2.5}$ and ozone be used to characterise baseline conditions, explicitly acknowledging where concentrations already meet or exceed the World Health Organization (WHO) 2021 Air Quality Guidelines."

[6] DEIAR. Section 13.10.3, Pg.266

[7] DEIAR. Section 12.11.5.2

[8] DEIAR. Pg. 154.

The EAP states in Appendix K Comments and Responses Report that "Monitoring data in Richards Bay will be reassessed and where possible parameters that were not included such as PM2.5 and ozone will be included in finalizing the AIR. NAAQS and WHO 2022 guidelines will also be brought in." [9]

The Mabasa AQIA of July 2026[10] did not do these things, though such information is readily available, and other proposed power plants are using such data and comparisons in their AQIA assessments. The AQIA and Final EIAR must be revised accordingly before the air impacts can be adequately evaluated.

NAAQS ARE NOT SUFFICIENT TO PROTECT HUMAN HEALTH

The NAAQS were established to protect health, but they are based on grossly out-of-date science, as they have not changed since 2009 and 2012. The finding of the Pictor AQIA on this subject is notable: "WHO AQG are developed based on the latest scientific studies linking air quality to health outcomes. The comparison focuses on NO2, PM10, PM2.5, and SO2 AQGs *which are notably lower than current NAAQS."*[11] (emphasis added).

The Mabasa AQIA and forthcoming Health Impact Assessment should give a detailed and thorough assessment of the NAAQS compared with current science on the impacts of ambient air pollution. The NAAQS must be considered a floor, not a ceiling, and the proponent must take a precautionary approach towards protecting public health.

AMBIENT AIR QUALITY MEASUREMENTS, RATHER THAN SIMULATIONS, MUST BE USED IN BASELINE/BACKGROUND LEVELS FOR CUMULATIVE ASSESSMENT SCENARIOS

The revised AQIA must assess the extent to which the airshed reaches or exceeds the World Health Organization's Air Quality Guidelines for PM10, PM2.5, SO2, and NO2. According to the Pictor AQIA (2025), "ambient PM2.5 concentrations in 2023 were above the WHO AQGs at all AQMS within the RBCAA PM2.5 monitoring network in 2023".[12] It also found: "In reviewing available ambient air quality monitoring data, it was observed that concentrations of PM10, PM2.5, and SO2 in the Richards Bay area are already at or exceeding the World Health Organization's Air Quality Guidelines (WHO AQG), *signaling poor air quality*. This is particularly

[9] C&R at 37.

[10] uMoya-NILU (2026): Atmospheric Impact Report for the proposed Mabasa Energy and Fuels 750 MW Combined Cycle Power Plant in Richards Bay, Report No.: uMN157-24, July 2026 ("AQIA").

[11] Pictor AQIA, p.19.

[12] Pictor TPP AQIA (2025), p 40.

concerning as Richards Bay is designated for significant industrial development."[13] (emphasis added)

Satellite data indicate relatively high NO_2 values (30 ppb, or 30 µg/m^3) over and northeast of Richards Bay during the winter of 2021.[14] More recent satellite data may be available.

In the absence of recent NO2 monitoring data from the monitoring stations, the EAP should conduct measurements of NO2 at the project site and at sensitive receptors during times of year and weather conditions when concentrations are likely to be at their maximum.

CUMULATIVE ANALYSES (SCENARIOS 3 AND 4) SHOULD USE MEASURED BASELINES

groundWork's comments on the Draft Scoping Report argued that the models should include both Project-only and Project-plus background scenarios. The EAP's responded that "[t]he dispersion modelling in the AIR assessed the project […] with existing sources and with approved future sources. In so doing, the incremental contribution of the project was indeed assessed throughout the domain and explicitly at the sensitive receptors."[15] The AIR, however, failed to include several existing sources of air pollution, and likely severely underestimated pollution concentrations.

An AQIA for another proposed plant in the area (Pictor Thermal Power Station) included a similar modelling scenario that simulated 12 existing sources: all six of those modelled in Mabasa AQIA *plus* Collateral, Grindrod, Tata Steel, Tronox Sands Central Processing Complex, and RB Coal Terminal. That simulation was compared to measured baselines, revealing that the simulation remained 4 to 13 times lower than measured concentrations.[16] The Pictor AQIA therefore concluded:

> The baseline model *demonstrates a consistent underestimation of current NO2 levels*. This discrepancy echoes the earlier observation regarding PM2.5 concentrations and can likely be attributed to a similar cause i.e., the omission of vehicle emissions from the model.[17] (emphasis added)

and

[13] Pictor TPP AQIA, p. 49.

[14] Jury, Mark. (2024). Environmental conditions affecting air pollution dispersion over Richards Bay, South Africa. Clean Air Journal. 34. 10.17159/caj/2024/34/1.17581.

[15] C&R, p. 38.

[16] Soundscape, Pictor TPP AQIA (January 2025) at p. 33. Measured concentrations of annual average NO2 ranged between 6.9 and 13 ug/m3 at monitoring sites, while simulated current baseline at those sites ranged from only 0.29 to 2.8 ug/m3.

[17] *Id.* at p. 33.

> [T]he simulated baseline provides a reasonable estimate of current pollutant levels at AQMS stations located close to or directly downwind of industrial sources modelled. However, it *significantly underestimates concentrations at AQMS stations located further away*. This shortcoming is expected, given the limitations in the model's source term. As a result, the *simulated baseline is unlikely to provide an accurate estimate of background air quality near the Pictor Project and the broader Empangeni area*.[18] (emphasis added)

The Pictor AQIA showed simulations of baseline from industrial sources, even using many more sources than Mabasa AQIA, were roughly 6 to 20 times lower than measured annual averages at established monitoring stations. [19]

The Pictor AQIA therefore rejected the use of simulated baselines, and developed a new methodology based on measured average long-term concentrations,[20] stating

> It was however found that the simulated baseline does not provide an accurate estimate of background air quality near the Pictor Project and the broader Empangeni area. Instead of relying on the simulated baseline, average long-term pollutant concentrations measured at RBCAA and CoU AQMSs were used.[21] (emphasis added)

The Mabasa AQIA Scenario 3 is similarly unrealistic and unrepresentative of current air quality. The Mabasa AQIA states:

> Note that emission rates for the area source at facilities with AELs for the bulk storage and handling of coal and ore are not specified in the AELs. Emissions resulting from these facilities are not estimated in this assessment for the cumulative assessment. These are Transnet Port Terminals, Grindrod (Kusasa and Sea Munya Terminals) and the Richards Bay Coal Terminals. While this cumulative modelling exercise provides valuable insights, it must be remembered that the emission inventory that is used does not include all possible sources affecting ambient air quality in Richards Bay. *Notable omissions are emissions from other industrial*

[18] Pictor AQIA p. 49.

[19] Pictor AQIA, Table 24 at p. 33.

[20] Pictor AQIA p. 47.

[21] Pictor AQIA, p. v.

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

sources, from motor vehicles and shipping, from the handling and storage of coal and other ores, and those from agricultural burning.[22] (emphasis added)

The Pictor AQIA also modeled a future baseline using emissions of 12 existing industries plus six planned industries. In contrast, it appears that Mabasa Scenario 4 did not include emissions of existing industries, or proposed facilities, such as Pictor TPP. Accordingly, Mabasa's Scenarios 3 and 4 are insufficient for decision makers and local interested and affected parties to understand the current and future air quality context of this project.

MAXIMUM POLLUTION CONTROL FOR NO2 SHOULD NOT BE OPTIONAL FOR NEW GAS PLANTS IN AN AIRSHED ALREADY PERIODICALLY EXCEEDING WHO GUIDELINE FOR ANNUAL AVERAGE NO2

NO2 measured at the Brackenham monitoring station has already reached 13 ug/m3 annual average between 2021 and 2023.[23] This exceeds the 2021 WHO guideline of 10ug/m3.

The Richards Bay Clean Air Association air quality monitoring network no longer monitors NO2.[24] Thus higher concentrations of NO2 may already exist in the airshed compared to three or more years ago.

New gas plants in the airshed must require maximum NO2 control from dry low NOX burners plus selective catalytic reduction. The revised AQIA and EIAR must assess the maximum possible NO2 mitigation technologies for the Mabasa plant.

THE REVISED AQIA MUST MODEL COLD START-UPS, INCLUDING ASSESSMENT OF WORST-CASE SCENARIO CONCENTRATIONS AT SENSITIVE RECEPTORS

NO2 rates can be up to 15 times higher during cold start-up of gas turbines, and up to 9.3 times higher during shut down, for a period of about 1 hour.[25] In the Pictor AQIA, the scenario with the upper range of cold start up emissions resulted in a 1-hr NO2 concentration of 90.6 ug/m3[26], which is 45% of the relevant NAAQS. (According to the World Bank Group and International

[22] Mabasa AQIA at p. 34.

[23] Pictor TPPP 2025 st Table 24, page 33.

[24] See, e.g. Richards Bay Clean Air Association Monthly Report, May 2026, at www.rbcaa.org.za Monthly Reports. The 2025 annual report

[25] Pictor AQIA, p. 34, citing Gonzalez-Sanchez and Prchlik 2018 and Obaid et al 2017.

[26] Pictor AQIA at 73.

Finance Corporation, new projects should not contribute more than 25% of an ambient air guideline.[27]

Volatile Organic Compounds (VOCS)

VOCs from gas plants, including formaldehyde and benzene, are carcinogenic and toxic, even at extremely low exposures. The revised AQIA must model VOCs, including results for 1-hr maximum, 24-hr as well as annual average concentrations. The Pictor AQIA, which modelled VOCs from the plant reaching 0.439 ug/m3 24-hour average, serves as a useful reference.[28]

Given there may be several new gas-fired power plants and other industries in the Richards Bay airshed in the future, along with increased vehicle and ship traffic, future monitoring of VOCs is critical. The revised AQIA should recommend how to improve ambient air monitoring infrastructure and reporting in the airshed to address public concerns about VOCs and their health risks.

THE REVISED AQIA MUST ASSESS CONTINUOUS EMISSIONS MONITORING IN AN AIRSHED POISED TO HAVE WORSENING AIR QUALITY WITH INDUSTRIAL DEVELOPMENT

New gas to power plants in the Richards Bay airshed should use continuous emissions monitoring, and make these data publicly available expeditiously. The Pictor AQIA supports this position, stating that "[a]lthough it is not a requirement under section 21 of NEM: AQA, continuous emission testing (CEM) is recommended to ensure continuous compliance with MES, effectiveness of emission abatement systems and to address the concerns of interested and affected parties."[29] The Air Quality Specialist should review this issue in the revised AQIA.

CLIMATE CHANGE: THE PROJECT REPRESENTS A SUBSTANTIAL LONG-TERM FOSSIL-FUEL COMMITMENT

We have serious concerns regarding the climate implications of authorising a new large-scale fossil-fuel power plant. The climate change impact assessment (CCIA) acknowledges that the project will result in a net increase in greenhouse gas emissions over its operational life and contribute cumulatively to atmospheric GHG concentrations.[30]

More importantly, the assessment estimates approximately 4.6 million tonnes CO_2e per year from the project. The report states that this would represent approximately 1.1% of South Africa's 2030

[27] World Bank Group/International Finance Corporation, General Environmental, Health and Safety Guidelines (2007), https://www.ifc.org/content/dam/ifc/doc/2000/2007-general-ehs-guidelines-en.pdf at 4.

[28] Pictor AQIA at 70.

[29] Pictor AQIA, p. 75.

[30] DEIAR. Section 13.27.3.1

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

upper NDC target limit and approximately 1.4% of the 2035 lower-limit trajectory.[31] This cannot reasonably be characterised as an insignificant environmental impact, as the report acknowledges that: "*the project remains a fossil-fuel-based development" and* acknowledges that its avoided-emission scenarios are illustrative and do not demonstrate guaranteed or directly attributable emission reductions.[32]

SDCEA therefore rejects any implication that the project should be considered environmentally acceptable from a climate perspective, and as discussed below, we dispute the contention in the DEIAR and the Climate Change Impact Assessment (CCIA) that gas produces fewer emissions than coal.

The appropriate assessment must ask whether constructing a new 750MW fossil-fuel facility is consistent with South Africa's long-term emissions trajectory, international climate commitments and transition objectives over the full approximately 25-year operating life.

The report itself states that the project will intensify cumulative climate impacts and that the majority of lifecycle emissions arise during operation.[33]

FAILURE TO ADEQUATELY CONSIDER THE CURRENT CLIMATE EMERGENCY

The CCIA fails to adequately account for the urgency and scale of the current climate crisis. In particular, the CCIA does not sufficiently consider the remaining global carbon budget, the latest climate projections, the increasingly narrow pathway for limiting global warming, or the scale of emissions reductions required to avoid severe and potentially irreversible climate impacts.

This is a significant deficiency in the assessment of the proposed development. The global carbon budget is an important tool for determining the amount of additional greenhouse gas emissions that can be released while retaining a reasonable prospect of limiting global warming to a specified temperature threshold, including the 1.5°C temperature goal under the Paris Agreement. It therefore provides an important basis for assessing whether proposed developments are compatible with the urgent emissions reductions required to address climate change.

The CCIA should accordingly have assessed the proposed development within the context of the rapidly diminishing global carbon budget and the need for immediate and substantial reductions in greenhouse gas emissions. It is not sufficient to assess the project's climate impacts in isolation or merely against existing regulatory requirements. The assessment must also consider whether the project is consistent with South Africa's climate commitments and the increasingly constrained global pathway for limiting warming.

The urgency of this issue is reinforced by the latest scientific and international assessments, which indicate that the world is approaching the 1.5°C threshold at an unprecedented rate.

[31] DEIAR. Section 13.9.1.1.5

[32] DEIAR. Section 12.4.2 – Objectives of the Study.

[33] DEIAR. Pg. 114

The world has already nearly exceeded 1.5°C of global average temperature increase, and if existing global policies continue, the world is currently on track for 2.8°C of warming by 2100.[34] A report published by UNEP just this week found that "global action to cut greenhouse gas emissions has not been fast enough to avoid global warming crossing 1.5°C above pre-industrial levels in the next few years. … Even an optimistic scenario of current government pledges (full implementation of all national climate plans plus meeting additional net-zero targets) puts expected peak temperature rise at 1.8°C."[35]

UNEP's most recent predictions related to surpassing 1.5°C of global average temperature increase is also consistent with recent modelling of the world's remaining carbon budget. The carbon budget is "the total net amount of carbon dioxide (CO_2) that can still be emitted by human activities while limiting global warming to a specified level" like 1.5°C or 2°C relative to pre-industrial temperatures.[36] A recent study by M. Forster et al[37] shows that the global carbon budget for a 50% chance of not exceeding 1.5°C is 88 billion tonnes of CO_2 and 538 billion tonnes of CO_2 for an 83% chance of not exceeding 2°C. This means that there is less than three years left before the carbon budget is surpassed, consistent with UNEP's findings. In other words, there is little room left to maneuver.

The CCIA and DEIAR must adequately and appropriately consider the climate impacts of the project, including cumulative climate impacts, taking into account this emergency and the urgent and substantial action necessary to avoid drastic harm to the climate system.

Against this background, the CCIA should have provided a clear and evidence-based assessment of:

- the remaining global carbon budget and the implications of allocating additional emissions to the proposed development;
- consistency of the project with the 1.5°C temperature goal and South Africa's climate commitments;
- whether the proposed development could result in carbon lock-in and prolong dependence on fossil-fuel infrastructure;
- the project's compatibility with South Africa's transition towards a lower-carbon and climate-resilient economy; and

[34] United Nations Environment Programme, *Emissions Gap Report 2025* (2025), p. 37, https://wedocs.unep.org/rest/api/core/bitstreams/4830e1a8-14c0-44a5-a066-cdd2ba5b3e10/content.

[35] United Nations Environment Programme (2026). Limiting Overshoot: Navigating exceedance of 1.5°C and pathways towards return. Nairobi. https://doi.org/10.59117/20.500.11822/49857.

[36] Intergovernmental Panel on Climate Change, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (2021) (**IPCC 2021**), Chapter 5, p. 777, https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter05.pdf.

[37] M. Forster et al, "Indicators of Global Climate Change 2025: Annual Update of Key Indicators of the State of the Climate System and Human Influence," 18 *Earth System Science Data Discussions* 6 (11 June 2026), https://doi.org/10.5194/essd-18-3889-2026).

- the cumulative greenhouse gas emissions of this project alongside other existing and proposed developments in the Richards Bay industrial and energy landscape and throughout South Africa.

The absence of this information is a material shortcoming. Given the scale and long operational lifespan of the proposed development, its climate implications cannot be treated as a secondary or peripheral consideration. The CCIA should demonstrate, using the best available climate science and evidence, whether the project remains environmentally sustainable and justifiable within the context of the current climate emergency and the need for rapid emissions reductions.

SDCEA therefore submits that the climate assessment is inadequate unless it properly considers the project's contribution to cumulative greenhouse gas emissions, the rapidly diminishing global carbon budget, the latest climate science, and the urgent need to align development decisions with the objectives of climate mitigation and a just transition."[38]

FAILURE TO CONSIDER SOUTH AFRICA'S INTERNATIONAL CLIMATE OBLIGATIONS

The CCIA fails to acknowledge and consider recent international law developments related to climate change that place stringent due diligence obligations on South Africa to reduce its greenhouse gas emissions.

In S*ustaining the Wild Coast NPC and Others v Minister of Mineral Resources and Energy and Others* [2026] ZACC 33 (Case CCT 194/24), the Constitutional Court affirmed that "[c]limate change, by its nature, transcends borders" and that "it is a collective concern of all."[39] The court emphasised that "[t]here have been significant developments at the international level around climate change concerns that impact on our approach at the national level to these issues, particularly the intersection between the environment and development," and that "[i]t follows that the content and scope of the state's obligations under section 24 must be understood within the broader framework of international law."

The Constitutional Court explicitly referred to the recent opinion of the International Court of Justice's Advisory Opinion on the Obligations of States in respect to Climate Change,[40] noting that it is an authoritative interpretation of binding treaty and customary international law that forms "part of an emerging and coherent body of jurisprudence reflecting what can properly be described as a global reckoning with the legal and anthropological implications of climate change."[41]

The ICJ recognises that States have a binding legal obligation under the UNFCCC, its subsequent protocols and agreements including the Paris Agreement, and customary international law, to prevent significant environmental harm arising from climate change. The obligation to prevent

---

[38] United Nations Environment Programme (2026). Limiting Overshoot: Navigating exceedance of 1.5°C and pathways towards return. Nairobi. https://doi.org/10.59117/20.500.11822/49857.

[39] S*ustaining the Wild Coast, paras 20-21.*

[40] International Court of Justice, Obligations of States in respect of Climate Change (Advisory Opinion), 2025 ICJ Rep. 187 (ICJ Advisory Opinion).

[41] S*ustaining the Wild Coast, para. 22*

significant environmental harm requires "stringent" due diligence, considering that climate change "poses a quintessentially universal risk to all States"[42] and "because of the seriousness of the threat."[43]

The due diligence standard demands that States "**use all the means** at [their] disposal in order to avoid activities which take place in [their] territory, or in any area under its jurisdiction, causing significant damage to the environment of another State."[44] In relation to climate change, "such appropriate rules and measures include, but are not limited to, regulatory mitigation mechanisms that are designed to achieve the **deep, rapid, and sustained reductions of [greenhouse gas] emissions that are necessary for the prevention of significant harm to the climate system**."[45]

The obligation to act with due diligence is tied to alignment with 1.5°C. As the ICJ acknowledges, 1.5°C of temperature rise above pre-industrial levels is the "agreed primary temperature goal for limiting the global average temperature increase"[46] and preventing "dangerous anthropogenic interference with the climate system;"[47] and that temperature goal is also the benchmark which informs the due diligence required under customary law to prevent significant environmental harm.[48]

In light of the climate emergency, it is even more urgent that States follow the obligations set out in the ICJ's Advisory Opinion and take the deep cuts necessary to avoid exceedance of the 1.5°C temperature target. As the UNEP report recommends:

> **Immediate cuts to greenhouse gases are needed**. Rapid and sustained mitigation within this decade is both necessary and feasible across all sectors and GHGs to hold warming well below 2°C and as close to 1.5°C as possible by the end of the century. This requires reaching global net-zero CO_2 emissions in the 2050s, alongside deep reductions in other gases, especially in methane from fossil fuels, agriculture and waste.[49]

[42] ICJ Advisory Opinion, para. 137.

[43] ICJ Advisory Opinion, paras. 138, 246.

[44] ICJ Advisory Opinion, para. 281 (citing International Court of Justice, *Case Concerning Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgement, 20 April 2010, para. 101, https://www.icj-cij.org/sites/default/files/case-related/135/135-20100420-JUD-01-00-EN.pdf) (emphasis added).

[45] ICJ Advisory Opinion, para. 282 (emphasis added).

[46] ICJ Advisory Opinion, paras. 224, 246, 314.

[47] *See* Section 4.1; ICJ Advisory Opinion, para. 117 (internal citation omitted).

[48] ICJ Advisory Opinion, para. 314 ("compliance in full and in good faith by a State with the climate change treaties … suggests that this State substantially complies with the general customary duties to prevent significant environmental harm and to co-operate").

[49] UNEP 2026, p. 48.

The ICJ clarifies that due diligence includes State responsibility for acts of third parties within the State's control. This means that States "must regulate the conduct of public and private operators within the States' jurisdiction or control and be accompanied by effective enforcement and monitoring mechanisms to ensure their implementation."[50]

The ICJ explains that a State that "does not exercise due diligence in the performance of its primary obligation to prevent significant harm to the environment, including to the climate system, commits an internationally wrongful act entailing its responsibility", or commits a violation in the case of human rights.[51] The ICJ emphasises that "responsibility is incurred if the State **fails to take all measures which were within its power** to prevent the significant harm."[52]

As the Constitutional Court explains in summarising the ICJ Opinion:

> Accordingly, decisions must be taken within a framework of heightened diligence, informed by scientific knowledge, international commitments and the foreseeable impacts of emissions on present and future generations.
>
> This convergence reflects a moment in international law in which climate change has moved from the margins of environmental diplomacy to the centre of legal accountability. **Decisions implicating our environment demand justification, diligence and coherence in state conduct**.[53]

The ICJ decision read together with the Constitutional Court's decision in *Sustaining the Wild Coast* has several implications for the competent authority's consideration of the proposed project. This includes that the project should be assessed in terms of its cumulative climate impacts alongside the dozens of other proposed gas projects in South Africa, and that the cumulative climate impacts should be assessed against the remaining global carbon budget to keep temperatures below 1.5°C. Each of these issues is discussed in turn.

Notably, the DEIAR does not discuss the ICJ Advisory Opinion, and it was published before the *Sustaining the Wild Coast* decision. However, both of these decisions are available to the Competent Authority.

FAILURE TO CONSIDER CUMULATIVE CLIMATE IMPACTS

The 2014 EIA Regulations, made under NEMA s 24(5), regulate the preparation, evaluation, submission, processing and decision on environmental-authorisation applications. The definition of "cumulative impact" is deliberately functional: it includes the past, current and reasonably foreseeable future impact of an activity, considered with impacts of activities associated with it,

[50] ICJ Advisory Opinion, para. 282.

[51] ICJ Advisory Opinion, para. 409.

[52] ICJ Advisory Opinion, para. 409 (emphasis added).

[53] S*ustaining the Wild Coast, para. 23.*

which may become significant when added to existing and reasonably foreseeable impacts from similar or diverse activities.[54] Appendix 3 items 2(c), 2(d), 2(f), 3(1)(i) and 3(1)(j) require cumulative, lifecycle, significance, mitigation, residual-risk and uncertainty analysis.[55] The language does not confine cumulative impact to emissions physically released inside the fence line.

Importantly, the ICJ in its Advisory Opinion on climate change also acknowledges that climate change is caused by the "cumulative effect of different acts undertaken by various States and by private actors subject to their respective jurisdiction or control, even if it is difficult in such situations to identify a specific share of responsibility of any particular State."[56] As such, States must assess the possible cumulative effects of their acts and the planned activities under their jurisdiction or control.[57] Quoting ITLOS, the ICJ explains that activities undertaken by States or within a State's jurisdiction or control "may not be environmentally significant if taken in isolation, … [but] they may produce significant effects if evaluated in interaction with other activities."[58] Similarly, the European Court of Human Rights noted that Norway would breach its human rights obligations through "any assessment of [greenhouse gas] emissions, project by project, that would disregard the cumulative [greenhouse gas] emissions of all those [oil and gas] projects combined." [59]

Here, the CCIA deliberately excluded cumulative impacts outside the fence line of the project. The CCIA explains:

> The CCIA does not seek to quantify or model the cumulative emissions of other existing or future industrial activities, electricity generation facilities, or unrelated third-party developments in the Richards Bay region or elsewhere. Such an approach is neither methodologically appropriate nor feasible in the context of climate change, given that emissions are global whose impacts are not confined to local or regional spatial boundaries.
>
> The assessment of broader, system-wide cumulative emissions and regional emissions trajectories falls within the mandate of the competent authority, which is best placed to consider project-level emissions information alongside national GHG inventories, sectoral pathways, energy planning instruments, and South Africa's international climate commitments.

[54] EIA Regulations, Regulation 1 (definition of "cumulative impact").

[55] EIA Regulations, Appendix 3 items 2(c), 2(d), 2(f), 3(1)(i), 3(1)(j) and 3(1)(p).

[56] ICJ Advisory Opinion, para. 276.

[57] ICJ Advisory Opinion, para. 276.

[58] ICJ Advisory Opinion, para. 276 (citing ITLOS Advisory Opinion, para. 365).

[59] European Court of Human Rights, *Case of Greenpeace Nordic and Others v. Norway*, Application No. 34068/21, Judgment, 28 October 2025 (*Greenpeace Nordic and Others v. Norway*), para. 336, https://hudoc.echr.coe.int/eng?i=001-245561.

> Accordingly, even where access to national or sectoral emissions reporting platforms may be available, this CCIA limits its scope to assessing the Project's contribution to global emissions, considered in relation to South Africa's national climate goals, emissions trajectories, and international commitments.
>
> **The evaluation of how individual projects collectively align with national emissions pathways and climate commitments falls within the mandate of the competent authority**, which is uniquely positioned to consider project-level emissions information alongside national GHG inventories, sectoral budgets, energy planning instruments, and South Africa's obligations under international climate agreements.[60]

In other words, the CCIA did not undertake a cumulative climate impacts assessment of the proposed project alongside other proposed gas power projects in Richards Bay or South Africa because it determined that, among other things, it would not be methodologically feasible, and the CCIA made clear that such an assessment is the responsibility of the competent authority. As an example of what should have been assessed, the IRP makes provision for 18,250 MW of installed capacity, while the South African government has already approved the Environmental Impact Assessments (EIAs) (including the Climate Change Impact Assessments (CCIAs)) for 14 gas power plants. If all of these are built, these plants would represent a total of 23,247.3 MW installed capacity, a difference of 4,997.3 MW from the IRP.

We submit that the CCIA could have analysed the potential cumulative climate impacts of this build-out; regardless, considering the legal precedents set out above, the competent authority must assess and take into consideration the full cumulative impacts of the country's intended gas build out against South Africa's legal obligations.

Fortunately, and contrary to the position of the CCIA, such a cumulative impact assessment is not only possible, but it has also been done.

We attach an August 2026 report prepared by Dr Brett Cohen, Enuity Consulting, and Dr Jasmin Cooper, Department of Civil and Environmental Engineering, Imperial College London for the Centre for Environmental Rights that quantifies the greenhouse gas emissions that would be associated with the buildout of 18,250MW of new gas power as envisioned in South Africa Integrated Resource Plan (IRP). The report assesses emissions from both the power plant and across the full gas supply chain, including from production to consumption and both within and outside of South Africa. It models the IRP build-out emissions from 2025 to 2050, drawing extensively on publicly available information on the 14 gas plants that have already received Environmental Impact Assessment (EIA) approval.

The report also explores the impacts of assumptions around the Global Warming Potential (GWP) of methane. Emissions calculated using both GWP100, which is used in South Africa's GHG inventory and NDC and in the GHG Protocol, and GWP20, are presented. GWP20 is included to

[60] CCIA, section 4 (emphasis added).

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

better reflect near-term warming risks and the urgency of remaining within the 1.5°C carbon budget, given methane's shorter atmospheric lifetime and higher short-term radiative forcing. These shorter-term considerations are often ignored when considering climate change impacts of fossil fuel projects, although they are assessed in the CCIA. Cohen and Cooper explain that while combustion emissions are largely insensitive to GWP, since gas is almost entirely converted to CO_2 on burning, a large proportion of the upstream emissions are fugitive and vented methane emissions, so switching from GWP100 to GWP20 roughly doubles total upstream CO_2e emissions.[61]

The report found that under the IRP scenario, the build-out of gas plants would result in nearly 800 million tonnes of additional CO2 emissions by 2050, and almost double that if full life-cycle emissions are taken into account using GWP20 (1,542,617,000 tonnes), or 1,170,685,000 tonnes using GWP100. These emissions totals incorporate modest “central” upstream gas leakage scenarios: higher leakage rates could result in total emissions of several times these figures when using GWP20. The results demonstrate that under the IRP scenario, non-territorial emissions contribute 22 – 53% of the plants’ total lifecycle emissions under GWP100 and 27 – 73% of the plants’ total lifecycle emissions under GWP20, depending on the case considered.

To put the emissions into the context of South Africa’s climate commitments, the second NDC commits to remaining within a range of 320 and 380 $MtCO_2e$ in 2035.[62] In 2035 the direct gas plant emissions alone are on the order of 24.7 $MtCO_2e$ in the IRP case, accounting for 6.5% of the upper bound NDC commitment and 7.7% of the lower bound NDC commitment. If accounting for the full-life cycle cumulative emissions outlined in the preceding paragraph, the implications for South Africa’s climate commitments become even more stark.

Even more critical, is to put these emissions into the context of the remaining global carbon budget for meeting 1.5°C outlined in the preceding section. As Cohen and Cooper emphasise:

> “The continued and growing upstream and combustion emissions from new gas fired electricity plants in South Africa as proposed in the IRP, and as reflected in the EIAs already approved for gas plants across the country, are inconsistent with the climate obligations set out in the ICJ 2025 advisory opinion, which requires States to act with stringent due diligence to use all means at its disposal to prevent significant harm to the climate system, which includes aligning its actions with a global pathway that limits warming to 1.5°C. Implementing the IRP’s gas build plan would lock the electricity sector into an emissions trajectory characterised by ongoing emissions for long after the 1.5°C budget is depleted.”[63]

[61] Cohen and Cooper report, p. ii.

[62] Cohen and Cooper Report, p. 18.

[63] Cohen and Cooper Report, p. 20.

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

In summary, the CCIA and DEIAR's avoidance of presenting data on cumulative climate impacts of all the currently proposed gas projects is a fatal flaw, and the competent authority cannot ignore the cumulative emissions of these gas plants combined in light of the current climate emergency.

THE CCIA'S ESTIMATES OF SCOPE 3 EMISSIONS SHOULD BE GROUND TRUTHED AGAINST SATELLITE DATA

The CCIA underestimates the Scope 3 emissions of the project by failing to ground truth fugitive emissions data against satellite data.

The CCIA uses data from Algeria and the U.S. to estimate upstream fuel supply emissions.[64] This is commonly referred to as bottom-up emissions data. Cohen and Cooper explain that methods to identify and measure methane emissions fall into two categories: top-down and bottom-up. Top-down methods use methane concentrations in the atmosphere, measured via satellites or aerial surveys by plane or drone, to estimate emissions in an area which can be linked to specific emission sources. Bottom-up methods measure emissions at the source (valve, flare vent etc.). Differences between the approaches will result in differences in emission estimates.

Cohen and Cooper note that some notable research using top-down satellite and aerial technologies over the last few years has shown bottom-up approaches, particularly those comprising national emissions inventories, often significantly underestimate emissions.[65]

The CCIA should have verified its upstream emissions data by also checking against top-down data.

THE CCIA'S CLAIMS AROUND AVOIDED EMISSIONS ARE NOT SUPPORTED BY EVIDENCE

The CCIA makes two substantial claims related to avoided emissions that it then used to reduce the overall emissions of the project: 1) the project will result in the displacement of coal-fired electricity generation and 2) higher renewable energy penetration is supported by dispatchable gas-fired generation, resulting in additional displacement of coal-fired generation during periods of low renewable output.[66] Using these assumptions, the CCIA claims the project would result in avoided emissions, including over 60 million tonnes of CO_2 avoided from the burning of coal over

[64] CCIA, section 5.2.1.

[65] Cohen and Cooper, p. 11. See, e.g., Sherwin et al (2024), "US oil and gas system emissions from nearly one million aerial site measurements" ("Sherwin"), Nature, 627, 328–334, https://doi.org/10.1038/s41586-024-07117-5; Srikanth et al (2026), "Democratizing life cycle assessment by developing a streamlined model of greenhouse gas emissions from US natural gas supply chains," Cell Reports Sustainability, 3(1), 100554, https://www.sciencedirect.com/science/article/pii/S2949790625002502; MethaneSAT (2024), "First look at a system wide view" ("MethaneSAT First Look"), Environmental Defense Fund, https://www.methanesat.org/project-updates/first-look-system-wide-view.

[66] CCIA, section 6.5.1.

the life of the project and about 219 million tonnes of CO2 avoided through the increased uptake of renewable energy.[67] The CCIA presents no evidence supporting these claims.

With respect to the first point, the CCIA misses the mark, because when including adequately ground-truthed fugitive emissions data for gas leakage, the emissions of gas can exceed in some cases the emissions of coal, particularly under a GWP20 scenario. Indeed, Cohen and Cooper found this to be the case with their modeling. They explain:

> "A comparison was made between coal and gas emissions to explore the claims that gas is preferred as a transition fuel away from coal. Direct combustion intensity was found to be 0.36- 0.39 tCO_2e/MWh, which is significantly lower than the current average of coal, around 1.14 tCO_2e/MWh. However, including upstream emissions raises total gas emissions to between 0.48 and 0.94 tCO_2e/MWh using GWP100, and to between 0.53 and 1.7 tCO_2e/MWh under GWP20. The GWP20 High Case thus exceeds coal's emissions intensity. The difference between coal and gas combustion emissions will also decline as older coal power stations, which produce more CO_2 per unit of energy, are retired."

These findings explicitly contradict the claims in the CCIA.

With respect to the second point about enabling higher renewable energy penetration, again the CCIA presents no supporting evidence. Indeed, without the major uptake of gas envisioned in the IRP, there is substantial reason to believe that renewable energy deployment could proceed more rapidly. Moreover, this is what is required to avoid climate disaster. UNEP in its recent report recommended that to give the world its best chance of keeping within 1.5, "[a]ccelerating the renewable energy revolution is crucial."[68] The report emphasizes: "On the supply side, limited-overshoot scenarios suggest scaling renewables to 60–70 per cent of global electricity generation by 2030, supported by grid expansion, storage and demand flexibility."[69]

THE ALTERNATIVES ASSESSMENT IS A MAJOR SHORTCOMING

SDCEA is particularly concerned about the treatment of alternatives. The EIA states that energy-generation alternatives were not considered relevant because the applicant intends to participate in a gas procurement programme and therefore considers the technology and fuel type to be determined by the procurement programme rather than being a discretionary choice.[70]

The above is problematic. An EIA should not effectively start with the conclusion that gas is the required technology and then assess how to make that technology environmentally acceptable.

[67] CCIA, Table 14.

[68] UNEP 2026, p. 50.

[69] UNEP 2026, p. 50.

[70] DEIAR. Pg. 106

The purpose of alternatives analysis is precisely to determine whether there are less environmentally damaging ways of achieving the stated objective.

The report itself acknowledges that renewable energy was considered but dismissed as not being a direct substitute for dispatchable generation without substantial additional storage and transmission infrastructure.[71]

SDCEA therefore requests a proper comparative assessment of combinations such as, renewable generation and battery storage/other storage, grid strengthening, hybrid generation systems, smaller flexible generation capacity, alternative locations and alternatives that reduce dependence on imported LNG.

Location alternatives are also insufficiently assessed. The EIA expressly states that no alternative sites were formally considered or comparatively assessed, because the applicant regards erf 16673 as the only practically available and strategically appropriate location.[72]

SDCEA does not consider "availability of the site" to be sufficient justification for concluding that it is the environmentally preferred location.

FAILURE TO ASSESS REASONABLE AND FEASIBLE ENERGY ALTERNATIVES

The DEIAR states that “alternatives to energy generation technology are not relevant to this Project” because the Applicant intends to bid under the Gas Independent Power Producers Procurement Programme (GASIPPPP) and because the project’s proposed technology and fuel type are said to be functions of the procurement programme rather than discretionary choices open to comparative assessment in the EIA.[73] This is the central flaw in the alternatives analysis.

The DEIAR conflates the Applicant’s commercial preference with the legal purpose of an alternatives assessment. The relevant question is not simply what project the Applicant wishes to build or under which procurement programme it hopes to bid. Rather, the EIA must examine whether the underlying objective relied upon to justify the project can reasonably and feasibly be achieved through alternatives that would avoid or reduce environmental and social harm. The Applicant’s intention to participate in a GASIPPPP does not relieve either the Applicant or the EAP of their obligations under NEMA and the EIA Regulations to identify, assess and compare reasonable and feasible alternatives.

The DEIAR’s reliance on national planning documents does not cure this defect. Chapter 10 recites the gas allocations in successive iterations of the Integrated Resource Plan and the history of the GASIPPPP, and treats those policy choices as establishing the need for this particular project and technology.[74] But the existence of a national allocation for gas generation does not

[71] DEIAR. Section 13.9.1.1

[72] DEIAR. Pg.114

[73] DEIAR at 114.

[74] DEIAR at 112-114, 120.

itself establish that this 750 MW project, at this location, is the preferred alternative after comparison of its site-specific social, environmental, technical and economic implications with other reasonable and feasible means of meeting the asserted need.

The DEIAR acknowledges that projected electricity demand growth has attracted informed criticism, notes that grid electricity sales have declined since 2011, and recognises a risk of overinvestment if actual demand growth falls below the assumptions in the IRP.[75] Yet it does not carry that uncertainty into the alternatives analysis. It does not assess whether the asserted need is better met through a different combination, scale or timing of resources, nor whether another portfolio could supply the relevant capacity, energy, flexibility or ancillary services with lower environmental and social costs.

Although the DEIAR identifies a range of alternative technologies and fuel pathways, it still fails to undertake a meaningful comparative assessment of several reasonable and feasible alternatives. In particular, the DEIAR contains no comparative assessment of, among other things:

- renewable energy generation combined with battery energy storage;
- hybrid portfolios comprising solar photovoltaic generation, wind generation and storage;
- geographically diversified renewable energy portfolios designed to reduce variability;
- demand-side management and energy-efficiency measures;
- other lower-carbon sources of dispatchable capacity or system services;
- transmission, interconnection and grid-strengthening measures;
- a smaller or phased portfolio of resources matched to demonstrated demand; or
- combinations of these alternatives.

The omission is not remedied by describing gas generation as dispatchable or as supporting variable renewable energy. If the project is justified on the basis that it will provide capacity, flexibility, reserve margin, ancillary services or support for renewable generation, the EIA must identify those services with sufficient precision and compare reasonable and feasible alternatives capable of providing them. The DEIAR does not quantify the claimed system need or compare the proposed plant against alternative portfolios on a common service, cost and impact basis. In the absence of such an assessment, it is not possible to determine whether the Project represents the least damaging means of providing the asserted system benefits.

Although the DEIAR discusses several alternative technologies, it does not provide the comparative assessment contemplated by the EIA Regulations. The DEIAR does not compare the identified alternatives in terms of lifecycle greenhouse gas emissions, climate impacts, water consumption, biodiversity impacts, air quality impacts, cumulative impacts, land requirements, socio-economic implications, implementation costs, fuel-price exposure, infrastructure

[75] DEIAR at 112-113.

dependencies or stranded-asset risk. This omission is particularly significant given the substantial differences that may exist between the proposed LNG-fuelled power station and alternative technologies in terms of lifecycle greenhouse gas emissions, water consumption, biodiversity impacts, cumulative effects and long-term economic risks. Where climate impacts constitute a material consideration in the environmental-authorisation process, a comparative assessment of alternatives is necessary to determine whether equivalent energy or system services can be delivered with materially lower environmental costs. Nor does the DEIAR provide any transparent methodology, comparative matrix, ranking exercise or decision-making framework through which decision-makers can evaluate competing alternatives. Instead, the DEIAR proceeds from a brief narrative discussion of alternatives directly to the conclusion that LNG-fuelled CCGT technology is the preferred option.[76]

This deficiency is illustrated by the treatment of renewable energy alternatives. The DEIAR acknowledges renewable energy technologies, including solar photovoltaic generation, wind generation and battery storage systems, but rejects them on the basis that they would require additional storage and transmission infrastructure to provide a level of dispatchability comparable to the proposed Project.[77] However, the DEIAR does not quantify those requirements, compare them against the infrastructure requirements associated with the proposed Project and its LNG supply chain, or assess their relative environmental, social and climate implications. Similar conclusory reasoning is applied to nuclear power, alternative fuel options and alternative gas technologies.[78] The result is a series of assertions regarding feasibility rather than an evidence-based comparative assessment of alternatives.

This omission is particularly significant because the project would operate as a 500 MW simple-cycle or 750 MW combined-cycle facility on a twenty-four-hour, seven-day basis, and is described as capable of base-load operation.[79] A plant designed and financed to operate at substantial utilisation over a period of 25 to 30 years may have materially different system and climate implications from flexible resources built to address limited periods of residual demand. Those implications should have informed both the identification of alternatives and their comparative assessment. These considerations are particularly significant because a gas-fired power station designed to operate for several decades may lock in substantial greenhouse gas emissions, fuel-supply infrastructure and system dependencies that would not necessarily arise under alternative resource portfolios.

The DEIAR therefore does not demonstrate that the proposed gas-fired power station is the most sustainable, least damaging or otherwise preferred means of achieving the project's stated objectives. While the DEIAR ultimately identifies and discusses certain alternative technologies,

[76] DEIAR, s13.9.1.1.4.

[77] DEIAR, s13.9.1.1.4; CCIA s 6.1.7.1.

[78] DEIAR, s 13.9.1.1.4; CCIA ss 6.1.7.2-6.1.7.5.

[79] DEIAR at 62, 68-69.

it does not undertake the comparative assessment required to demonstrate that LNG-fueled CCGT technology is environmentally preferable to other reasonable and feasible alternatives.

FAILURE TO ASSESS ALTERNATIVE LOCATIONS

The DEIAR similarly fails to undertake a meaningful assessment of alternative locations. It expressly states that the project's siting was not based on an independently commissioned multi-site comparative assessment and that "no alternative sites were formally considered or comparatively assessed as part of this EIA." Instead, the report provides reasons why Erf 16673 site is advantageous to the Applicant, including its industrial zoning, access to services, proximity to planned port-based gas infrastructure, institutional support from the RBIDZ and low elevation.[80]

Those considerations may be relevant to the assessment, but a justification for the preferred site is not a comparative assessment of location alternatives. The EIA identifies no alternative sites, compares no development footprints, evaluates no relative environmental sensitivities and explains no reasoned process by which alternatives were screened out. It therefore provides no basis for concluding that the preferred site presents the lowest overall environmental and social harm among reasonable and feasible locations.

The omission is particularly concerning because the DEIAR identifies material sensitivities at or near the site. It records very high terrestrial biodiversity sensitivity, CBA Irreplaceable areas, Endangered Maputaland Wooded Grassland, aquatic sensitivity and wetland-related constraints. [81] These findings should have triggered a genuine comparison of feasible alternative sites or footprints, including other potentially available industrial parcels within the RBIDZ, rather than a conclusion that the preferred site is the only practicably available location based predominantly on commercial and logistical considerations.

FAILURE TO ASSESS ALTERNATIVE PROJECT SCALES

The DEIAR does not meaningfully assess alternatives to the proposed scale of development. It states that the project size is based on a 750 MW power purchase agreement and turbine availability, while acknowledging that the final generating capability could exceed 750 MW and may be as high as 900 MW.[82]

The report does not compare smaller capacity options, phased capacity additions, alternative turbine configurations or a scale matched to demonstrated system demand. Nor does it compare the environmental consequences of different capacities, including greenhouse gas emissions, air emissions, water use, fuel demand, infrastructure requirements and cumulative impacts. The

[80] DEIAR at 114-115.

[81] DEIAR at 141, 143-151.

[82] DEIAR at 116.

section therefore explains the Applicant's preferred commercial and equipment configuration but does not establish, through comparative assessment, that the proposed scale is the preferred environmental option.

FUEL ALTERNATIVES HAVE NOT BEEN PROPERLY ASSESSED

The fuel-type section states that natural gas is the "cleanest best available technology option" for base-load hydrocarbon generation and therefore "no fuel alternatives were considered."[83] This is a conclusion, not a comparative assessment.

The analysis defines the relevant choice as one among hydrocarbon fuels and thereby excludes fundamentally different means of producing electricity. It does not compare the project's proposed use of imported liquefied natural gas with lower-carbon alternatives capable of providing the asserted electricity services. It also does not compare the full lifecycle impacts and infrastructure dependencies associated with the proposed fuel pathway. The possibility of future hydrogen blending does not remedy this omission, particularly where the availability, timing, source and environmental implications of hydrogen are not established in the alternatives analysis.

INADEQUATE ASSESSMENT OF COOLING ALTERNATIVES

Cooling technology is the one component for which the DEIAR provides a more substantive comparison. It considers direct seawater cooling, wet cooling and dry air-cooled cooling, and quantifies major differences between wet and dry cooling. The comparison shows total water consumption of approximately 21,415,000 L/day for the wet-cooled case and 415,000 L/day for the dry-cooled case.[84]

The report nevertheless leaves the choice between wet and dry cooling unresolved for the feasibility-study stage, notwithstanding the magnitude of the water-use difference and acknowledged uncertainty concerning the final water source and bulk-supply arrangements. It focuses on the modest efficiency and emissions-per-MWh advantage of wet cooling but does not provide an integrated comparison of water availability, drought and climate risk, effluent generation, chemical use, ecological effects, noise, footprint, cost and emissions sufficient to establish the preferred environmental option.[85]

The need for a reasoned selection is reinforced by the report's acknowledgement that the RBIDZ cannot satisfy the wet-cooled project's 21,000 cubic metres per day clarified-water requirement under current plans without bulk-water infrastructure upgrades.[86] The final EIA should not defer

[83] DEIAR at 115-116.

[84] DEIAR at 117-120.

[85] DEIAR at 119.

[86] DEIAR at 74.

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

this environmentally material choice to later design. It should identify and justify the preferred cooling technology through the comparative assessment required by NEMA and the EIA Regulations, and the environmental authorization should define the assessed and authorised option.

THE NO-GO ALTERNATIVE IS NOT OBJECTIVELY CONSIDERED

The assessment of the no-go alternative is also inadequate. Although the DEIAR briefly acknowledges that the no-go option would avoid impacts associated with water use, effluent, air emissions, noise and traffic, the analysis focuses predominantly on the asserted disadvantages of not proceeding, including forgone generation capacity, employment, investment, support for the RBIDZ, development of the gas value chain and potential tariff benefits from greater throughput at the Zululand Energy Terminal.[87]

The report does not give equivalent consideration to the positive implications of the no-go alternative, including avoided greenhouse gas emissions, avoided local air-pollution and health burdens, avoided water demand and effluent, avoided biodiversity and wetland impacts, avoided cumulative impacts in Richards Bay, and preservation of the opportunity to meet electricity needs through lower-impact alternatives. It also does not evaluate the potential avoidance of long-term fuel-price, infrastructure, climate-transition and stranded-asset risks.

The assertion that the no-go alternative would merely cause the same need to be met by another project or at another location is unsupported by a comparative analysis. It assumes both the need and the technology-neutral equivalence of the alternative project while failing to assess whether the need could be avoided, reduced, deferred or met through a different portfolio with lower impacts. The no-go assessment therefore does not provide the balanced comparison of positive and negative implications required by NEMA and the EIA Regulations.[88]

WATER DEMAND IS A SERIOUS ENVIRONMENTAL AND RESOURCE CONSTRAINT

In the report it acknowledges that wet cooling produces substantially higher water consumption and effluent, while dry cooling could reduce water demand from approximately *21.4 million litres/day to approximately 415,000 litres/day.*[89]

As discussed in the Alternatives section, the DEAIR does not address whether the facility would be wet- or dry-cooled (using air-cooled condensers), deferring the decision to the Feasibility Study

[87] DEIAR at 120.

[88] DEIAR at 120.

[89] DEIAR. Pg. 118

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

phase.[90] According to the DEAIR, the wet-cooled case would require an additional 21,000,000 l/day of cooling-water makeup compared with the dry-cooled case.[91]

The DEAIR acknowledges that there is currently insufficient water supply from the Richards Bay Industrial Development Zone (RBIDZ) to meet the additional wet-cooled option operational requirement of 21,000,000 L/day.[92] Although the DEIAR states that "[t]he RBIDZ [Richards Bay Industrial Development Zone] has, however, informed the Project that it would be possible to execute bulk water infrastructure upgrades in order to supply the volume of clarified water required by the water-cooled case,"[93] the DEIAR does not make clear the source of new water sources, be it groundwater or surface water[94], or if water use in terms of the National Water Act (NWA) Section 21(a) (taking water from a water resource) would be triggered.

Importantly, the DEIAR does not make clear if the possibility of new water supply from the RBIDZ is explicitly considered with other authorized or proposed heavy water use facilities in the industrial zone, namely other potentially water-cooled power generation facilities and metals processing facilities. For instance, two additional proposed combined cycle gas power plants that are approximately 5.5 km from the project (Eskom Richards Bay CCGPP 3000 MW) and 10 km (Pictor Thermal Power Plant) would require up to 65,880,000 L/day[95] and 36,296,000 L/day[96] of water, respectively, if they were to be water-cooled.

Households within Richards Bay are stressed for adequate water services and access, with recent reports of widespread water supply failures and deteriorating municipal services[97,98]. The Department of Water and Sanitation predicted in their 2021 update to the Water Reconciliation Strategy for Richards Bay and Surrounding Towns (“DWS Water Reconciliation Strategy Report”)

---

[90] DEAIR at 119.

[91] DEAIR at 73, Table 13: Proposed Plant’s water requirements (Water-cooled case).

[92] DEAIR at 74.

[93] DEAIR at 74.

[94] The DEAIR notes a range of potential sources: *“[p]ossible water sources being considered are the bulk clarified water provided by RBIDZ, boreholes, or possibly sea water. Due to the volumes required the use of potable water from UUW would be excessive and is not considered*,” DEAIR at 116.

Sea water as an option is deemed unlikely: “*[d]irect sea water cooling requires large volumes of sea water passing through the condenser and is not suitable in this case as the power plant is located too far from the sea and it is not practical to get these volumes of sea water to the power plant,*” DEAIR at 117.

[95] *SRK Consulting: 627972: Eskom Richards Bay CCGPP Draft Scoping Report* at 54, Table 3-9: Dry and wet cooling water requirements during operation, pp. 54.

[96] Exigent Engineering Consultants CC, Proposed Pictor Thermal Power Plant on Portion 1 of Erf 15665 and Associated Infrastructure on Various Properties in Richards Bay, Umhlathuze Local Municipality, King Cetshwayo District Municipality, KwaZulu-Natal Province, Environmental Impact Assessment Report , Table 4-17. Water consumption with wet and dry cooling systems, pg. 116.

[97] Priya Govender, *Richards Bay Residents Threaten Legal Action Over Coal Dust and Collapsing Water Services*, WE NEWS (Aug. 16, 2026), https://we-news.com/za/richards-bay-residents-threaten-legal-action-over-coal-dust-and-collapsing-water-services.

[98] *Residents Carry the Weight of Three-Month Water Crisis in uMhlathuze*, South Africa Today, 17 February 2026.

that “the existing water resources of the Mhlathize system are not sufficient to provide the users with their water at the required level of assurance from the year 2021 onwards.”[99] Despite current insufficiencies in water resources, The DWS Water Reconciliation Strategy Report predicts that the combined urban and industrial water requirements would more than double from 49.88 million m3/year in 2018 to 111.84 million m3/year by 2045.[100]

The EIA should evaluate the two cooling options for Mabasa CCPP considering water access as a potential health and safety risk associated with the cumulative impacts of the project. As part of the Social Impact Assessment, the EIA should have considered the impacts of Mabasa CCPP's water use under the wet- and dry-cooling cases in addition to the impacts of cumulative water demand from proposed facilities in the RBIDZ and surrounding area.

We then request in the final report there must be clearly identify and commit to the final cooling technology and demonstrate:

- a secure and legally authorised water supply;
- availability of water without compromising existing users;
- cumulative demand from other industrial projects;
- climate-related water scarcity;
- wastewater and cooling-tower blowdown management;
- water recycling/reuse opportunities; and
- the environmental consequences of the chosen cooling system.

No authorisation should be granted on the basis of unresolved water-supply arrangements.

FLOODING, STORMWATER AND WATERCOURSE RISKS REQUIRE GREATER ATTENTION

In the hydrology assessment it identifies an important site-specific concern, that the canal poses a flooding risk to the plant and associated infrastructure, particularly around wetland areas. The assessment states that the 1:100-year flood line should be regarded as an avoidance/buffer area.[101]

In the project it is expected to substantially transform the site through extensive industrial infrastructure and hard surfaces.

[99] Department of Water and Sanitation (DWS), Implementation and Maintenance of the Water Reconciliation Strategy for Richards Bay and Surrounding Towns: Updated Reconciliation Strategy (Final), Report No. P WMA 04/W100/00/9218/7 (March 2021), pg. 13.

[100] *Id.*

[101] DEIAR. Section 12.10.3.1

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

SDCEA's main concern would be around the increased stormwater runoff, the flooding, the erosion, the contaminated stormwater and the impacts on downstream watercourses. The chemical and hydrocarbon mobilisation during flood events and the climate-change-related increases in extreme rainfall.

The climate assessment itself identifies flooding and extreme weather as relevant risks to the project.[102]

We would like to know in the final report, will it show all permanent infrastructure will avoid the 1:100-year floodline and that detailed stormwater and flood-management designs are approved before construction.

BIODIVERSITY AND THE TREATMENT OF PREVIOUSLY AUTHORISED WETLAND INFILLING

In the Screening Tool, it identifies the entire project area as being within a very high terrestrial biodiversity sensitivity area, including the threatened Maputaland Wooded Grassland ecosystem, a Critical Biodiversity Area – Irreplaceable, and a Priority Focus Area under NPAES.[103] The report notes that vegetation clearance and wetland infilling were previously authorised under the RBIDZ Phase 1F authorisation and that the current EIA therefore does not reassess the acceptability of that previous transformation.[104]

We recognise the distinction between the current application and historical authorisations. however, previous authorisation should not be treated as evidence that the resulting cumulative environmental loss is acceptable.

The cumulative assessment needed to consider, the historic wetland loss, the current habitat condition, the remaining ecological functionality, the cumulative industrial transformation, the loss of ecological services, the stormwater and flood attenuation, the biodiversity connectivity and whether additional development further reduces ecological resilience.

HEALTH IMPACTS SHOULD NOT BE REDUCED TO "MANAGEABLE" IMPACTS

In the Community Health Impact assessment what is important to note is that it confirms that the project is entering an environment already under significant environmental stress. The assessment identifies cumulative exposure as the central health concern and identifies respiratory health, social determinants, traffic safety and health-system pressure among the highest-significance pathways[105]. It goes on to mention that the cumulative NCD risks associated with air pollution, particulate matter, industrial noise, heat exposure and socio-economic vulnerability.[106]

[102] DEIAR. Section C – Project Location.

[103] DEIAR. Section 11.10.4.3.

[104] DEIAR. Pg. vii

[105] DEIAR. Pg.154

[106] DEIAR. Pg. 225

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum

Our main concern is that in the report it is repeatedly reduces these risks through the application of mitigation measures without adequately addressing whether the receiving environment itself has sufficient capacity to accommodate another major emission source. A community should not have to absorb progressively increasing pollution simply because each individual new project makes a relatively small contribution.

SDCEA would like to ask for a comprehensive community health and environmental monitoring programme, including the ambient air quality, the respiratory health indicators, the community complaints, $PM_{2.5}$, PM_{10}, NO_2 and SO_2, the occupational exposure, the traffic-related risks and transparent reporting of monitoring results.

HAZARDOUS MATERIALS AND POLLUTION RISKS

The proposed plant will involve the storage and handling of significant quantities of hazardous substances. IN the report it identifies, among others to note like natural gas, possible diesel backup fuel, approximately 200 m³ of transformer oil, hydrochloric acid, caustic soda, ammonia, phosphate, sodium hypochlorite, hydrogen, nitrogen and carbon dioxide.[107]

The report gives us two possible diesel tanks of approximately 6,500 m³ each should backup diesel be required.[108] In the report it acknowledges the possibility of groundwater contamination because of the site's highly permeable soils and shallow perched groundwater, particularly in relation to fuels, oils, chemicals and wastewater.[109] What this does is that it creates a significant pollution-risk pathway.

What we would like to see in the final report is that it should provide a clear emergency pollution-prevention and response framework covering, the groundwater contamination, major spills, the firewater contamination, chemical releases, the diesel releases, transformer oil releases, the flooding of hazardous-material storage areas, gas leaks, any cumulative emergency response, community notification and if any remediation responsibilities and financial liability.

TRAFFIC AND INDUSTRIAL INFRASTRUCTURE

In the report it acknowledges an increased construction traffic, abnormal loads, heavy vehicles and increased interaction between construction vehicles and existing road users.[110] Richards Bay already functions as a major industrial and port logistics area. Therefore, traffic should not be assessed only as an individual project impact but as a cumulative assessment should be considered with the proposed project together with the RBIDZ development, the port expansion, the LNG infrastructure, other gas-to-power facilities, hazardous-material transport and the existing heavy industrial and freight traffic.

[107] DEIAR, Pg.101-102.

[108] DEIAR. Section 9.6.1.16

[109] DEIAR. Section 13.11.1

[110] DEIAR. Section 13.23 – Traffic.

CUMULATIVE IMPACTS MUST BE THE CENTRAL DECISION-MAKING ISSUE

In the draft report it mentions numerous existing and future industrial projects within the surrounding area. These include existing heavy industry, authorised gas-to-power projects and additional proposed power-generation projects.[111]

The report identifies cumulative impacts relating to air emissions, GHG emissions, industrialisation, habitat transformation, water demand, traffic, noise, hazardous materials and THE socio-economic impacts.[112]

This demonstrates that the environmental question cannot be "*is the Mabasa project acceptable on its own?"*

It should have been*: "Can Richards Bay's already stressed environmental and social systems accommodate another 750 MW fossil-fuel power plant in addition to existing, authorised and foreseeable developments?"*

SDCEA submits that this question has not been answered adequately.

SOCIO-ECONOMIC BENEFITS SHOULD NOT OVERRIDE ENVIRONMENTAL RISKS

SDCEA acknowledges that the project may generate employment, investment and electricity-generation benefits. However, in the report it mentions that operational employment will be relatively limited and that the specialised nature of the plant means some employment and procurement benefits may accrue outside the immediate area. The report estimates approximately 50 local personnel during commissioning and operation, with around 300 highly trained operations and maintenance professionals potentially graduating over 25 years.[113]

Therefore, projected economic benefits should not be used to minimise long-term environmental and health impacts. The people who bear the environmental costs must also meaningfully benefit from the project. If the project proceeds, binding local procurement, employment, skills development, environmental monitoring and community-benefit commitments should form part of the authorisation conditions.

CONCLUSION

SDCEA recognises the need for reliable electricity generation and sustainable economic development. However, energy security and economic development must not be pursued at the expense of the environmental rights, health and well-being of communities already living within one of South Africa's major industrial areas.

[111] DEIAR. Section 13.27.2 – 13.27.2.1

[112] DEIAR. Section 13.27.4

[113] DEIAR. Section 13.21.1.2.3

The Draft EIA itself demonstrates that Richards Bay is an environmentally stressed receiving environment. The proposed project would introduce an additional large-scale source of atmospheric emissions and greenhouse gases, as well as increased water demand, traffic, hazardous materials and industrial activity. Of particular concern is that the report identifies cumulative exceedances of air-quality standards, significant climate-related emissions and substantial water requirements, while several critical aspects of the project and its potential impacts remain unresolved.

In light of these concerns, SDCEA respectfully requests that the identified shortcomings, information gaps and uncertainties be adequately addressed before the environmental authorisation process proceeds. This should include the preparation of a substantially revised final assessment and where necessary, additional specialist investigations, site-specific monitoring and robust modelling to ensure that the project's potential direct, indirect and cumulative impacts are properly understood and assessed.

A decision on the project should be based on complete, reliable and sufficiently site-specific information, particularly given the already stressed environmental conditions in the Richards Bay area.

END

SDCEA Members
Austerville Clinic Committee
Christ the King Church
Clairwood Ratepayers Association
Earthlife Africa

P.O. Box 211150
Buff, 4036
Kwazulu-Natal, South Africa

SDCEA Members
Isipingo Ratepayers Association
Merebank Clinic Committee
Silverglen Civic Association
Treasure Beach Environmental Forum



EMISSIONS FROM GAS FIRED POWER IN SOUTH AFRICA

Prepared for: Centre for Environmental Rights (CER)

Dr Brett Cohen, Enuity Consulting, [redacted] Tel: [redacted]
Dr Jasmin Cooper, Department of Civil and Environmental Engineering
Imperial College London, London, via Imperial Consultants [redacted]

August 2026

EXECUTIVE SUMMARY

Gas is a fossil fuel used in applications including power generation and industrial processes. Gas gives rise to potentially substantial greenhouse gas emissions not only during its combustion and use, but also along its entire supply chain - from extraction, processing, liquefaction, shipping, regasification, storage and transmission.

South Africa's Integrated Resource Plan (IRP) makes provision for 18,250 MW of new gas fired power capacity between now and 2042. This report quantifies the greenhouse gas emissions that the IRP build-out could produce, both at the power plant and across the full gas supply chain, and compares emissions against an alternative least-cost gas build-out, under a range of modelling assumptions.

Scenario 1 (IRP Build) tracks the IRP build-out emissions from 2025 to 2050, drawing extensively on publicly available information on the 14 gas plants that have already received Environmental Impact Assessment (EIA) approval. Scenario 2 (Least-Cost Build) draws on Meridian Economics' least-cost electricity system modelling (Central/inflexible case), in which gas plays a materially smaller role, largely as dispatchable backup to renewables rather than as baseload capacity. As expected, the build-out rate and direct and upstream emissions in Scenario 2 are significantly lower than in Scenario 1, reflecting that least-cost electricity supply requires only a fraction of the gas build specified in the IRP.

The analysis splits upstream emissions into territorial emissions – namely, those that occur within South Africa – and non-territorial emissions which occur in countries exporting gas to South Africa and during LNG transport. Only territorial emissions are counted in the national GHG inventory and NDC, but non-territorial emissions are critical to consider because of their influence on global temperature outcomes.

The report considers a range of upstream values rather than a single value, as the origins of the gas imports are uncertain, and there is wide variance in reported emission rates for gas production and transport in countries modelled as potentially exporting gas as LNG to South Africa (USA, Qatar and Russia). This variance reflects differences between countries, but also between measurement methods: top-down (satellite/aerial) measurement studies consistently show higher emissions than bottom-up inventory-based methods in the countries included in the analysis. A Low, Central and High Case for each country were included in the analysis to reflect these uncertainties.

The report also explores the impacts of assumptions around the Global Warming Potential (GWP) of methane. Emissions calculated using both GWP100, which is used in South Africa's GHG inventory and NDC and in the GHG Protocol, and GWP20, are presented. GWP20 is included to better reflect near-term warming risks and the urgency of remaining within the 1.5°C carbon budget, given methane's shorter atmospheric lifetime and higher short-term radiative forcing. These shorter-term considerations are often ignored when considering climate change impacts of fossil fuel projects. While combustion emissions are largely insensitive to GWP, since gas is almost entirely converted to CO_2 on burning, a large proportion of the upstream emissions are fugitive and vented methane emissions, so switching from GWP100 to GWP20 roughly doubles total upstream CO_2e emissions.

The results demonstrate that under the IRP scenario, non-territorial emissions contribute 22 – 53% of the plants' total lifecycle emissions under GWP100 and 27 – 73% of the plants' total lifecycle emissions under GWP20, depending on the case considered. In the Central Case, non-territorial emissions are roughly equivalent in magnitude to territorial emissions. Excluding non-territorial emissions from planning and decision-making thus substantially understates the true climate impact of a gas build-out.

A comparison was made between coal and gas emissions to explore the claims that gas is preferred as a transition fuel away from coal. Direct combustion intensity was found to be 0.36 - 0.39 tCO_2e/MWh, which is significantly lower than the current average of coal, around 1.14 tCO_2e/MWh. However, including upstream emissions raises total gas emissions to between 0.48 and 0.94 tCO_2e/MWh using GWP100, and to between 0.53 and 1.7 tCO_2e/MWh under GWP20. The GWP20 High Case thus exceeds coal's emissions intensity. The difference between coal and gas combustion emissions will also decline as older coal power stations, which produce more CO_2 per unit of energy, are retired.

The projected gas emissions demonstrated in this analysis are difficult to reconcile with the current national policy trajectory and the country's international commitments. The International Court of Justice (ICJ) 2025 advisory opinion establishes 1.5°C as the legally-recognised temperature goal under the Paris Agreement and customary international law. The ICJ further emphasised that States must act with stringent due diligence to use all means at their disposal to prevent significant harm to the climate system, which includes aligning their actions with a global pathway that limits warming to 1.5°C. Multiple recent assessments suggest the remaining global carbon budget for a 50% chance of holding to 1.5°C could be exhausted within three to four years post-2025 – in other words, before the first IRP gas plants would even begin operating.[1] Looking at its national policy trajectory, by 2035, direct combustion emissions from the IRP gas build alone are projected to be on the order of 24.7 $MtCO_2e$/year, representing 6.5 to 7.7% of the 2035 NDC budget (320 to 380 $MtCO_2e$),[2] with emissions still rising after that point as more plants come online. Given typical plant operating lives of 20 years or more, committing to the IRP-scale build risks locking in emissions well past 2050, which is counter to the country's net-zero target and constrains its ambition achievable in future NDCs. It also creates stranded-asset risk as global and domestic decarbonisation pressure increases.

In light of its global obligations and national commitments around climate change, as well as the need to manage electricity costs, South Africa should be making all efforts to build a power system with a declining emissions trajectory, and avoid long term lock-in to expensive, emissions intensive infrastructure. Extensive gas expansion risks crowding out rapid renewable deployment and exposing the country to stranded assets. Decision-makers must prioritise full lifecycle emissions accounting using realistic emissions data and consider both GWP20 and GWP100 in decision making for the power system.

---

[1] P. M. Forster et al., "Indicators of Global Climate Change 2025: Annual Update of Key Indicators of the State of the Climate System and Human Influence," 18 *Earth System Science Data Discussions* 6 (11 June 2026), https://doi.org/10.5194/essd-18-3889-2026).

[2] Republic of South Africa (2025), South Africa's Second Nationally Determined Contribution under the Paris Agreement ("**NDC**"), submitted to the UNFCCC, October 2025, at p. 18. https://unfccc.int/sites/default/files/2025-10/South%20Africa%27s%20second%20Nationally%20Determined%20Contribution_2025.pdf.

TABLE OF CONTENTS

Executive Summary ii
1 Introduction 1
1.1 Electricity supply and gas in South Africa 1
1.2 South Africa's climate obligations 3
1.3 Report structure 4
2 Emissions sources considered in the study 4
3 Methodology 5
3.1 Scenario 1: IRP Build 6
3.2 Scenario 2: Least-cost build 7
3.3 Calculation methodologies 8
3.3.1 Electricity generation and gas requirements (Scenario 1 only) 8
3.3.2 Combustion emissions (Scenario 1 and 2) 8
3.3.3 Upstream emissions (Scenarios 1 and 2) 9
3.4 Global Warming Potential (GWP) 14
4 Results and Discussion 15
5 Conclusions 19
Appendix A: Modelled build plans for IRP Scenario 22
Appendix B: Plant Data 23
Appendix C: Methane emissions modelling 24

LIST OF FIGURES

Figure 1: Upstream Gas Supply Chain 5

Figure 2: Total emissions under the two scenarios..... 16

Figure 3: Non-territorial versus territorial emissions (Scenario 1)..... 17

Figure 4: Sensitivity of Scenario 1 emissions trajectory to assumptions about capacity factor (Central Case)..... 18

LIST OF TABLES

Table 1: IRP 2025 gas plant build-out..... 6

Table 2: Projected LNG exports..... 10

Table 3: Methane emissions and gas consumed across the supply chain..... 13

Table 4: GWPs from the IPCC Fifth Assessment Reports..... 15

1 INTRODUCTION

This report was commissioned by the Centre for Environmental Rights (CER) to explore the greenhouse gas emissions implications of a build-out of new gas fired[3] power infrastructure in South Africa. The study sought to answer four specific questions:

- What are the upstream (territorial and non-territorial) and power plant combustion emissions associated with a build-out of gas generation infrastructure in line with the specifications of the South African government's current electricity infrastructure plan -- the Integrated Resource Plan (IRP) – using the information about gas plants that have already received Environmental Impact Assessment (EIA) approvals?
- What are the upstream and direct combustion emissions associated with the gas generation build-out that is derived from a least-cost electricity model?
- How do assumptions regarding the Global Warming Potential (GWP) of methane affect the results?
- How do these findings relate to South Africa's obligations to address climate change, in terms of the 2025 International Court of Justice (ICJ) judgment on climate change obligations, the remaining global carbon budget, and the country's international climate commitments expressed in terms of the Nationally Determined Contribution (NDC) and net zero targets?

1.1 ELECTRICITY SUPPLY AND GAS IN SOUTH AFRICA

Historically, South Africa's electricity demand has largely been met by generation from coal fired power stations, leading to the country having one of the most greenhouse gas-intensive electricity supply systems in the world.[4] The mining and burning of coal has negative local environmental and health impacts, including those linked to water and local air pollutants.[5]

Many of the existing coal fired power stations are reaching a point where they will no longer be economically and technically viable to operate. Alternative generation infrastructure must be built to both replace retiring coal stations and meet growing demand. The government's current electricity infrastructure plan, as presented in the IRP, proposes a large-scale build-out of gas fired power stations to meet these needs.[6] The latest IRP makes provision for 18,250 megawatts (MW) of new gas power generation infrastructure to be built between 2029 and 2042.[7]

---

[3] This report primarily uses the term "gas" to describe the fossil fuel that is a mix of gaseous hydrocarbons, primarily methane, used to generate electricity. This product is also commonly referred to as "natural gas". Where relevant, the acronym LNG is used to refer to the liquified form of this fossil methane gas.

[4] Ember (2025), Global Electricity Review 2025, Ember. https://ember-energy.org/latest-insights/global-electricity-review-2025/

[5] Holland, M. (2017), Health Impacts of Coal Fired Power Plants in South Africa, report commissioned by groundWork. https://cer.org.za/wp-content/uploads/2017/04/Annexure-Health-impacts-of-coal-fired-generation-in-South-Africa-310317.pdf

[6] Department of Electricity and Energy (DEE) South Africa (2025), Integrated Resource Plan 2025 ("**IRP**"), Government Gazette No. 53596, Notice 6767, 28 October 2025, Table 1 (Proposed Balanced Plan) at p. 31; see also Section 5.1 (The Proposed Balanced Plan), pp. 30–32. https://www.gov.za/sites/default/files/gcis_document/202510/53596gon6767.pdf

[7] IRP 2025, Table 1 (Proposed Balanced Plan) at p. 31; see also Section 5.1 (The Proposed Balanced Plan), pp. 30–32. https://www.gov.za/sites/default/files/gcis_document/202510/53596gon6767.pdf.

While recent modelling studies do suggest a potential limited role for gas in a future low cost and carbon constrained energy system, to complement renewables during times of constrained renewable output (as discussed further below) and high electricity demand, the extent of the IRP's proposed gas build-out is significantly higher than gas needs requirements in these other studies.[8] Gas is a fossil fuel that contributes to global greenhouse gas emissions not only when burned at power stations, but also through upstream activities such as extraction, processing, and transport, where emissions result from methane leaks (fugitive emissions), releases (venting), and blowouts, as well as gas flaring.

Variable renewables, including solar and wind, currently produce more affordable power than fossil alternatives with no operational phase emissions.[9] Variable renewable generation does, however, require complementary supply during periods of low generation and high demand, which can be provided by flexible fossil-fuel-burning plants, pumped storage, geothermal, hydropower, or batteries, amongst other technologies. Batteries can be charged when there is excess renewable power and then drawn down when required. Historically, battery storage was more expensive than gas as a way to back up renewables, but the price of batteries has dropped at an unprecedented rate, making batteries in combination with variable renewable power cheaper than gas in certain contexts.[10]

The purpose of gas fired power stations in the electricity mix determines the type of gas technology constructed[11], volumes of gas required, and gas contracting considerations. The IRP does not specify the purpose or preferred technology for the entire new gas build programme, although it does note that the addition of 6 GW of combined cycle gas turbine (CCGT) capacity is 'critical' to make up for the decommissioning of dispatchable coal plants by 2030.[12] This might indicate that a significant proportion of new gas build will be CCGT for near-constant use ("baseload"). This assumption is further supported by an announcement by the Minister of Energy and Electricity that gas utilisation rates should be increased to 50% or above to create sufficient anchor demand to support broader industrial gas usage across the economy.[13]

---

[8] Meridian Economics (2025), Technical Modelling Deck: Coal Flexibilisation ("**Meridian Modelling Deck**"), Meridian Economics. https://meridianeconomics.co.za/wp-content/uploads/2025/10/Technical-modelling-deck-Coal-flexibilisation.pdf.; Presidential Climate Commission (PCC) South Africa (2021), Net Zero CO_2 Emission Pathways for South Africa (**"PCC Net Zero Pathways"**), PCC Publications. https://www.climatecommission.org.za/publications/net-zero-co2-emission-pathways-for-south-africa.

[9] Lazard (2025), Levelized Cost of Energy+ (LCOE+), 18th edition, June 2025. https://www.lazard.com/media/uounhon4/lazards-lcoeplus-june-2025.pdf

[10] BloombergNEF (2024), "Lithium-Ion Battery Pack Prices See Largest Drop Since 2017, Falling to $115 per Kilowatt-Hour" ("**BNEF Battery Prices**"), BloombergNEF, 10 December 2024. https://about.bnef.com/insights/commodities/lithium-ion-battery-pack-prices-see-largest-drop-since-2017-falling-to-115-per-kilowatt-hour-bloombergnef/

[11] The two broad types of gas technology options are Open Cycle Gas Turbines (OCGT) and Combined Cycle Gas Turbines (CCGT). CCGTs have higher efficiencies than OCGT, but only when used in continuous or mid-merit operation. OCGTs are less efficient but can start and ramp quickly, making them preferred for short, flexible operation.

[12] IRP (2025), Section 6.1 (Case for Gas CCGT) at p. 35.

[13] Creamer, T. (2025), "Ramokgopa announces big increase in gas-to-power load factor to 50%-plus," Engineering News, 5 May 2025. https://www.engineeringnews.co.za/article/ramokgopa-announces-big-increase-in-gas-to-power-load-factor-to-50-plus-2025-05-05

South Africa does not produce its own gas, although it does have significant resources off the South-Western coast.[14] These resources are expensive and difficult to access, making the trajectory for large-scale domestic gas supply unclear.[15] Should the country pursue utilisation of gas for power generation, it would thus likely need to source liquefied natural gas (LNG) on global markets, and build the necessary landing and storage infrastructure, as well as pipeline infrastructure for gas transport to any power plants that are built inland.[16] The volatility of global gas pricing, the high cost of gas, as well as significant infrastructure investment costs to transport gas will be key determinants of the cost of electricity generation from gas in South Africa. [17]

1.2 SOUTH AFRICA'S CLIMATE OBLIGATIONS

In July 2025 the International Court of Justice (ICJ) published its advisory opinion on climate change obligations and concluded that 1.5°C has become the scientifically-based consensus temperature target under the Paris Agreement.[18] The Court determined the "1.5°C threshold to be the parties' agreed primary temperature goal for limiting the global average temperature increase" under international law.[19] The ICJ also clarified that States must act with stringent due diligence to use all means at its disposal to prevent significant harm to the climate system.[20] In relation to climate change, "such appropriate rules and measures include, but are not limited to, regulatory mitigation mechanisms that are designed to achieve the deep, rapid, and sustained reductions of [greenhouse gas] emissions that are necessary for the prevention of significant harm to the climate system."[21]

An extremely narrow window remains to take the extensive action required to reduce emissions to keep global average temperatures within the 1.5°C target. The IPCC Sixth Assessment (AR6) Working Group I report from 2021 estimated that from the start of 2020 the remaining global carbon budget (cumulative emissions that can be emitted globally) for a 50% chance of limiting warming to 1.5°C was 500 Gt CO_2.[22] In 2025, over 150 climate scientists, including many IPCC co-authors, suggested that the remaining budget could be used up within three or four years.[23] The global carbon budget for 1.5°C will therefore be depleted before the first gas plants proposed in the IRP begin to operate. The IPCC also emphasises that "[r]isks

[14] International Trade Administration (2025), "South Africa Energy: Brulpadda and Luiperd Gas Discoveries" ("**ITA Gas Discoveries**"), U.S. Department of Commerce Market Intelligence. https://www.trade.gov/market-intelligence/south-africa-energy-brulpadda-and-luiperd-gas-discoveries
[15] ITA Gas Discoveries (2025).
[16] Roff, A., et al (2022), "Hot Air About Gas: An economic analysis of the scope and role for gas-fired power generation in South Africa" ("**Hot Air About Gas**"), Meridian Economics. https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf
[17] Hot Air About Gas (2022).
[18] International Court of Justice (2025), Obligations of States in respect of Climate Change, ICJ Advisory Opinion, 23 July 2025 ("**ICJ Advisory Opinion**") (accessed 14 August 2025). https://www.icj-cij.org/case/187/advisory-opinions
[19] ICJ Advisory Opinion (2025), at para. 224.
[20] ICJ Advisory Opinion, at para. 281.
[21] ICJ Advisory Opinion, at para. 282.
[22] Intergovernmental Panel on Climate Change (IPCC) (2021), Climate Change 2021: The Physical Science Basis, Summary for Policymakers, Working Group I Contribution to the Sixth Assessment Report (AR6), p. 29. https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf
[23] See, e.g. Forster et al, (2025), Indicators of Global Climate Change 2024: annual update of key indicators of the state of the climate system and human influence, Earth System Science Data 17, https://essd.copernicus.org/articles/17/2641/2025/ at Table 8; see also Friedlingstein et al (2025) Global Carbon Budget 2025, Earth System Science Data, https://essd.copernicus.org/preprints/essd-2025-659/essd-2025-659.pdf at p. 8.

and projected adverse impacts and related losses and damages from climate change will escalate with every increment of global warming."[24]

In response to the global climate challenge, South Africa has submitted its second Nationally Determined Contribution (NDC) to the UNFCCC.[25] The second NDC illustrates a declining emissions trajectory to 2035, with the expectation that future NDCs must demonstrate even more ambitious emissions reductions over time.[26] While this trajectory is not aligned with the global imperative to cease emissions in the very near term to remain within the 1.5°C carbon budget, various modelling studies, such as that of the Presidential Climate Commission's net zero pathways study, have suggested that a steady rather than immediate decline in emissions needs to be pursued to avoid untenable negative economic impact.[27]

Countries in transition, including South Africa, must honour their global mitigation obligations while ensuring the availability of affordable and reliable electricity to support their economies and societies. As steady a decline as possible in emissions in the power sector requires the country to avoid emissions that are not essential to securing electricity supply. This means South Africa must avoid becoming locked into emissions from gas infrastructure that is operated on an ongoing basis and at high utilisation levels to recover upfront investment.

1.3 REPORT STRUCTURE

This report is structured as follows. Firstly, the emissions sources considered in the study are described (Section 2). Section 3 then presents the methodology followed in the study, and provides an overview of the scenarios and sensitivities considered, data sources, and calculations. Section 4 presents the results and a discussion thereof, followed by a brief conclusion in Section 5.

2 EMISSIONS SOURCES CONSIDERED IN THE STUDY

The emissions footprint of gas fired power is not limited to the emissions from gas combustion at the power station, but also includes value chain emissions associated with the production and transport of gas, otherwise known as upstream emissions. Upstream emissions for gas imported as LNG, the most likely source of gas for South Africa, include:

- Production of the gas at the gas well
- Processing
- Pipeline transport to a port
- Liquefaction[28]
- Shipping
- Regasification

[24] IPCC (2023) Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, p. 15, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.
[25] NDC (2025), at p. 1.
[26] NDC (2025), at p. 2 and pp. 34–35.
[27] PCC Net Zero Pathways (2021).
[28] For efficient long-distance transport, gas is typically liquified at the export port and regasified at the import port. Both steps incur an energy penalty and generate methane emissions from leaks and venting.

- Storage
- Transmission or piping to where it is used[29]

Upstream value chain production stages are split into territorial and non-territorial emissions as shown in Figure 1. Only territorial emissions are currently included in South Africa's greenhouse gas inventory and NDC calculations in line with current global practice.[30] Non-territorial emissions, however, must be considered to understand the potential impacts of gas fired power and other uses of gas on global efforts to limit planetary temperature increases.[31]

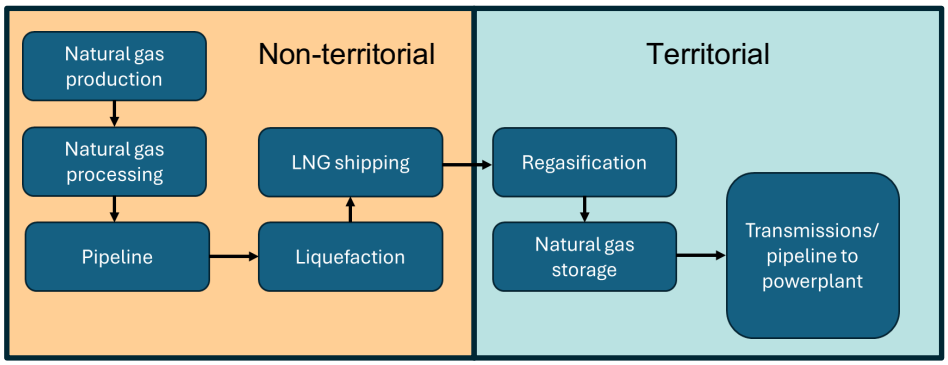


Figure 1: Upstream Gas Supply Chain

Another source of emissions associated with gas fired power is plant construction, and includes diesel used on site and for transport, on-site electricity, and embodied emissions in materials, such as steel and cement.

Together the upstream, combustion and construction emissions are considered as the lifecycle emissions of gas fired power. Construction emissions have, however, been found to account for less than 1% of emissions (per kWh of electricity generated).[32] Given their small contribution, construction emissions are not considered further in this study.

3 METHODOLOGY

This study explores two scenarios for gas power generation infrastructure development in South Africa. In summary:

- **Scenario 1: IRP Build.** Emissions associated with the IRP 2025 gas power build plan, based on information from the gas power generation plants that had received Environmental Impact Assessment (EIA) approvals from government as of 2025.

[29] Transmission is used here to refer to high pressure gas line transport of compressed natural gas from the landing port to the plants not located at the coast.
[30] IPCC (2006), 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 1: General Guidance and Reporting, IGES, Japan. https://www.ipcc-nggip.iges.or.jp/public/2006gl
[31] As indicated above, Richards Bay GTP 2 indicates that Liquified Petroleum Gas (LPG) rather than gas would be used as a fuel, with the potential to convert to gas in the future. In the absence of other information, and given it represents a relatively minor contributor to the total, the same upstream emissions were used for LPG as for gas.
[32] See, e.g., O'Donoughue, P., et al (2014), "Life Cycle Greenhouse Gas Emissions of Electricity Generated from Conventionally Produced Natural Gas: Systematic Review and Harmonization," *Journal of Industrial Ecology*, Vol. 18, No. 1, pp. 125–144. https://doi.org/10.1111/jiec.12084

- **Scenario 2: Least-Cost Build.** Emissions from pursuing a least-cost gas build-out.

Further details on each of the scenarios is presented in the following sections.

3.1 SCENARIO 1: IRP BUILD

The IRP makes provision for 18,250 MW of installed capacity, following the build plan shown in Table 1.[33] The South African government has already approved the Environmental Impact Assessments (EIAs) (including the Climate Change Impact Assessments (CCIAs)) for 14 gas power plants.[34] If all of these are built, these plants would represent a total of 23,247.3 MW of installed capacity, a difference of 4,997.3 MW.

Table 1: IRP 2025 gas plant build-out

Year	Gas - IPP Programme (MW)	Year	Gas - IPP Programme (MW)
2029	3000 (to be built by Eskom)	2036	1250
2030	3000	2037	1500
2031		2038	1250
2032	1250	2039	1250
2033	1250	2040	1250
2034	1250	2041	500
2035	1000	2042	500

The plants that have received approvals for their EIAs are:

- Eskom RB CCPP
- Phakwe
- Nselini Floating Power Plant
- Karpowerships Richards Bay
- Khanyazwe Flexpower
- Kelvin
- Saldanha Steel
- RB GtP 2
- Total Mulilo
- Phinda
- Schoongezicht
- Pictor
- Assegai
- Zosma

Scenario 1 simulates the projected annual emissions associated with the IRP gas build plan by mapping the approved plants on to the IRP plan as closely as possible. A hypothetical commencement date for individual plants was used to provide an approximate alignment with the IRP build (see Appendix A for the assumed plant roll out). It is not possible to match the IRP build plan exactly given differences in unit sizes between the different plants and the IRP, and as a consequence the build plan modelled here exceeds the IRP in some years and is below the IRP in others, ultimately exceeding the IRP by 297.3 MW. This differential is not considered material in the context of what this study sets out to explore.

[33] IRP (2025), Table 1 (Proposed Balanced Plan) at p. 31.
[34] The final EIA, CCIA, and authorization for each plant was provided to the authors by the Centre for Environmental Rights.

To account for the IRP having a lower total capacity than the approved, certain plants were notionally excluded from the analysis. Although EIAs for floating generation plants to be constructed by Karpowership have been approved, these projects are considered less likely to go ahead, so were excluded.[35] Pictor and Zosma were also excluded – for no specific reason except to make the EIA-approved megawatts align more closely with the proposed IRP gas build.

In the analysis, the distinct phases of both the Saldanha Steel and Total Mulilo projects were treated as separate plants, given the proposal in their EIAs to build each of these projects in two phases with different technologies in each phase.

For each of the plants, data was extracted from the EIAs and CCIAs to allow for calculation of projected gas demand. These data included installed capacity (MW), percentage utilisation, and efficiency of conversion of gas to electricity. Information on the life of the plants was also obtained. This information was then used to calculate the projected emissions which are used further in this study. All data collected is included in Appendix B. A sensitivity was also conducted on the impact of assumptions about capacity factor on emissions.

Projected future emissions from the individual gas plants are also included in most of the EIAs and the CCIAs. Cross-checks were performed between the emissions calculated here, and those reported in the EIAs and CCIAs to highlight any discrepancies. The reported emissions data was found to be similar to that calculated by the authors of this report (within acceptable errors due to slightly different assumptions) for all plants except for the Kelvin gas plant. For that plant the reported emissions are almost 20% lower those calculated using projected gas combustion and associated emissions factors. It is not known whether this is a calculation error or if some of the underlying plant parameters had been changed without data being carried forward into the calculations. The emissions calculated here (higher than those in the EIA) were used in this analysis.

3.2 SCENARIO 2: LEAST-COST BUILD

Scenario 2 projects the emissions from gas fired power that might be seen in an electricity system where gas is largely used as a backup to renewables, with only limited utilisation of gas as so-called “baseload” power. This scenario was developed by drawing upon modelling work done by Meridian Economics.[36] Meridian presents the amount of gas, expressed in PJ, required in the electricity grid under several least-cost optimisation scenarios, with the scenarios being shaped by both global assumptions (which determine electricity demand, carbon tax, fuel costs, technology costs, and coal fleet EAF) and the degree to which the existing coal fired power stations are operated under flexible conditions. Meridian’s Central[37]/ “inflexible” case – that is, the case in which coal stations are not flexibilised - is used here,

[35] See, e.g., BusinessTech (2025), "Game over for R200 billion power ships in South Africa," BusinessTech, 31 July 2025. https://businesstech.co.za/news/energy/833688/game-over-for-r200-billion-power-ships-in-south-africa/

[36] Meridian Modelling Deck (2025).

[37] Meridian Modelling Deck (2025). Quote from study: "The Central scenario represents the balanced view of economic and energy system trends. Moderate to high demand growth coincides with steadily declining technology costs for renewable energy and storage. Fuel prices normalise around historical averages, while moderate decarbonisation appetite enables a moderate carbon price. Improved coal availability and maintenance practices lift the fleet EAF to approximately 60%."

given that the flexibilisation of coal power stations is still in the early stages of exploration in South Africa.[38]

3.3 CALCULATION METHODOLOGIES

The direct emissions for Scenario 1 (IRP Build) are calculated based on the annual electricity generated, the gas requirement for generating this electricity, and the emissions associated with combustion of the gas. For Scenario 2 (Least Cost Build), the gas demand is provided directly in the source study, and so the calculation only requires conversion of gas combustion to emissions. Upstream emissions are calculated for both Scenarios.

3.3.1 Electricity generation and gas requirements (Scenario 1 only)

For Scenario 1, annual electricity generated by the plant, in megawatt hours (MWh), is calculated as follows:

$$\text{Electricity generated (MWh)} = \text{Installed capacity (MW)} * \text{Capacity factor} * 8{,}760$$

Where 8,760 represents the number of hours in a year. The installed capacity and capacity factor are both taken from project CCIAs, with a sensitivity to assumptions about capacity factor being included in the results.

The efficiency of conversion is then used to calculate the TJ of gas required to generate that electricity:

$$\text{Gas utilisation (TJ)} = \frac{\text{Electricity generation}}{\text{Efficiency}} * 0.0036$$

The conversion factor of 0.0036 is used to convert MWh of gas to terajoules (TJ).

3.3.2 Combustion emissions (Scenario 1 and 2)

Combustion emissions are calculated by multiplying gas utilisation in TJ by a standard emissions factor, which represents the tonnes of emissions in CO_2e per TJ of gas burned. There is some variance in the literature on the emissions factor for gas, and the CCIAs for the various plants use different data sources. To standardise the calculations in this analysis, an emissions factor of 56.1 tCO_2/TJ, 0.001 tCH_4/TJ and 0.0001 tN_2O/TJ gas[39] from the IPCC 2006 Guidelines for National Greenhouse Gas Inventories[40] was used.

The formula used in the calculation is thus:

$$\text{Annual GHG emissions } (tCO_2e) = \text{Annual gas utilisation (TJ)} * (56.1 + 0.001 * GWP_{CH4} + 0.0001 * GWP_{N2O})$$

It is noted that the CCIA for Richards Bay GTP 2 indicates that Liquified Petroleum Gas (LPG) rather than methane gas would be used as a fuel, with the potential to convert to methane gas

[38] See, e.g., Eskom (2025), Public notice for stakeholder comment on Eskom coal flexibilisation studies. https://www.eskom.co.za/wp-content/uploads/2026/02/Eskom-MES-exemp-flexibilisation-studies-Oct-25.pdf

[39] To obtain this number, the global warming potentials from the IPCC Fifth Assessment Report (AR5) was applied to the small volumes of methane and nitrous oxide released during combustion of gas. AR5 is used in South Africa's current GHG inventory.

[40] Intergovernmental Panel on Climate Change (IPCC) (2006), 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 2: Energy ("**IPCC Guidelines Vol 2**"), IPCC National Greenhouse Gas Inventories Programme. https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol2.html

in the future. The emissions factor for LPG was used for this plant, which is given as 63.15 tCO_2e/TJ in the IPCC Guidelines.[41]

3.3.3 Upstream emissions (Scenarios 1 and 2)

Upstream methane emissions arise from gas venting, incomplete burning of gas and fugitive emissions (unintentional methane leaks) throughout the gas supply chain, while upstream CO_2 emissions occur when gas is burned during flaring or to provide heat or power required for gas production or processing.

Two key factors have the greatest influence over upstream emissions: the quantity of gas sourced from different exporting countries to South Africa, and the emissions profiles of those exporters.

Sources of gas imported to South Africa

Potential future sources of gas for import to South Africa were identified by collating information on current production and markets, and projections of export growth by large gas producers (see Box).

Box: Future gas imports to South Africa

Gas represents a small percentage of South Africa's energy supply (2.5% in 2023).[42] National production is negligible, and so nearly all gas consumed is imported.[43] Mozambique is the only country exporting gas to South Africa (via pipeline), but pipeline exports are expected to cease by mid-2027 as gas fields are depleted.[44] If gas demand were to grow, South Africa would source the gas from outside the country, very likely in the form of liquefied natural gas (LNG).[45]

In 2024, 34 countries exported LNG onto global markets, with the United States of America (USA), Qatar and Australia being the biggest exporters.[46,47] By 2050 the USA is expected to remain the largest LNG exporter and Qatar is also expected to grow export capacity[48,49]. Russia is the second largest gas producing country, was the fourth biggest LNG exporter in the world in 2024, and has been looking to diversify their export destinations following the invasion of the Ukraine and geopolitical tensions with Europe.[49,50]

It is assumed in this study South Africa will in future source its gas from the USA, Qatar and Russia with the proportions of imports to South Africa reflecting the total market share on global and regional markets (Table 2). Australia is not considered, as the main market for Australian LNG is in Asia where

[41] IPCC Guidelines Vol 2 (2006), Chapter 2 (Stationary Combustion), Table 2.2, pp. 2.16–2.17.
[42] International Energy Agency (IEA) (n.d.), South Africa: Natural Gas Country Overview ("**IEA SA Gas Overview**"), IEA Data & Statistics (accessed 9 July 2026). https://www.iea.org/countries/south-africa/natural-gas
[43] IEA SA Gas Overview (n.d.).
[44] Moore South Africa (2024), "Navigating South Africa's Gas Transition: Key Considerations," Moore Global Insights, September 2024. https://www.moore-southafrica.com/navigating-south-africas-gas-transition-key-considerations-for-2027-and-beyond/
[45] Hot Air About Gas (2022).
[46] International Gas Union (IGU) (2025), 2025 World LNG Report ("**World LNG Report**"), IGU Publications. https://www.igu.org/igu-reports/2025-world-lng-report
[47] Energy Institute (EI) (2024), Statistical Review of World Energy, Energy Institute. https://www.energyinst.org/statistical-review
[48] Gas Exporting Countries Forum (GECF) (2024), GECF Global Gas Outlook 2050, GECF Reports. https://www.gecf.org/Publications-Data/Global-Gas-Outlook-2050
[49] Institute for Energy Economics and Financial Analysis (IEEFA) (2024), Global LNG Outlook 2024–2028, IEEFA Research. https://ieefa.org/resources/global-lng-outlook-2024-2028

gas prices are commonly amongst the highest in the world and would likely be higher than in Africa.[50] While it is recognised that future LNG might also come from producers within the African continent, such as Mozambique and Nigeria, no top-down emissions measurement data was found to verify state-reported emissions data. The latter was considered too uncertain to use in this study.

Table 2: Projected LNG exports

Country	Projected 2050 total global LNG exports	Percentage of LNG imports to South Africa
USA	182 Mt	53%
Qatar	170 Mt	40%
Russia	125 Mt	7%

It is noted that the projected level of imports from the United States to South Africa modelled in this study are higher than the figure proposed as part of trade talks with the United States in May 2025, of 75,000 and 100,000 TJ per annum.[51]

Upstream methane and combustion emissions profiles

As indicated previously, upstream emissions originate from two sources: methane emissions resulting from handling and processing of the gas (venting, flaring and fugitives), and CO_2 from burning some of the gas in flaring and to recover energy for processing.

Upstream methane emissions were estimated using the method from Cooper et al,[52] and are calculated by multiplying the percentage methane emissions and gas consumed at each stage of the supply chain by the volume of gas processed at each stage (see Appendix C for further details on the methodology).

Data used to quantify upstream methane emissions are subject to various uncertainties, linked to methodological considerations. Methods to identify and measure methane emissions fall into two categories: top-down and bottom-up. [53] Top-down methods use methane concentrations in the atmosphere, measured via satellites or aerial surveys by plane or drone, to estimate emissions in an area which can be linked to specific emission sources. Bottom-up methods measure emissions at the source (valve, flare vent etc.). Differences between the approaches will result in differences in emission estimates. Some notable research using top-down satellite and aerial technologies over the last few years has shown bottom-up approaches, particularly those comprising national emissions inventories, often significantly

[50] World LNG Report (2025).
[51] Reuters (2025), "South Africa proposes buying US LNG as seeks trade deal," Engineering News, 27 May 2025. https://www.engineeringnews.co.za/article/south-africa-proposes-buying-us-lng-as-seeks-trade-deal-2025-05-27
[52] Cooper, J., Balcombe, P., and Hawkes, A. (2021), "The quantification of methane emissions and assessment of emissions data for the largest natural gas supply chains," *Journal of Cleaner Production*, Vol. 320, 128856. https://www.sciencedirect.com/science/article/abs/pii/S0959652621030523
[53] Cooper, J., Dubey, L., and Hawkes, A. (2022), "Methane detection and quantification in the upstream oil and gas sector: the role of satellites in emissions detection, reconciling and reporting," *Environmental Science: Atmospheres*, Vol. 2, No. 1, pp. 9–23. https://pubs.rsc.org/en/content/articlehtml/2021/ea/d1ea00046b

underestimate emissions.[54] A range in methane emissions is applied in this study, to take into account the uncertainty in emissions and to represent variations in methane management practices in the LNG supply chain. A central, low, and high estimate were derived for each country, with the central representing a sector average, the low scenario representing the case where methane abatement and management are good, the high representing a scenario where methane emissions management is poor. Note that the central is not an average of the low and high estimates but a central value reported in the literature collected,[56-64] which represents standard operating conditions in the natural gas sector. In the literature collected, the central value as presented in the reports [56-64] were applied unless otherwise specified (see below).

The values applied for the ranges were derived directly from literature (academic and industry measurement-based studies and national emission inventories), with the exception of the low estimate for LNG shipping (see bullet point below). The data was collected from academic journal publications and other scientific studies and reports, prioritising top-down studies wherever available, as follows.

- **USA:** Sherwin et al[55]
- **Qatar:** Chen et al[56]
- **Russia:** MethaneSAT[57] for the central and high emissions rate and Gazprom[58] for the low estimate
- **Liquefaction and regasification:** Mukherjee et al[59]
- **Fugitive emissions from LNG shipping:** Balcombe et al[60] and Carbon Limits.[61] Note for the low methane emissions scenario an emission rate of 0%, which represents a case where all gas is regasified and no venting or fugitives occur, is assumed.
- **Gas storage in South Africa:** USA Environmental Protection Agency (EPA)[62] data was used due to the fact that South Africa currently has limited large scale gas storage

[54] See, e.g., Sherwin et al (2024), "US oil and gas system emissions from nearly one million aerial site measurements" ("**Sherwin**"), *Nature*, 627, 328–334, https://doi.org/10.1038/s41586-024-07117-5; Srikanth et al (2026), "Democratizing life cycle assessment by developing a streamlined model of greenhouse gas emissions from US natural gas supply chains," *Cell Reports Sustainability*, 3(1), 100554, https://www.sciencedirect.com/science/article/pii/S2949790625002502; MethaneSAT (2024), "First look at a system wide view" ("M**ethaneSAT First Look**"), *Environmental Defense Fund*, https://www.methanesat.org/project-updates/first-look-system-wide-view

[55] Sherwin (2024).

[56] Chen, Z. et al (2023), "Satellite quantification of methane emissions and oil–gas methane intensities from individual countries in the Middle East and North Africa: implications for climate action," *Atmospheric Chemistry and Physics*, Vol. 23, Issue 10, pp. 5945–5967. https://acp.copernicus.org/articles/23/5945/2023/

[57] MethaneSAT First Look (2024).

[58] PJSC Gazprom (2022), "Section 5.2: GHG Emissions Management," Gazprom Group's Social Impact Report 2022. https://sustainability.gazpromreport.ru/en/2022/5-environmental-protection/52-ghg-emissions-management/

[59] Mukherjee, M., et al (2025), "Greenhouse gas emissions from the US liquefied natural gas operations and shipping through process model based life cycle assessment," *Communications Earth & Environment*, Vol. 6, Article No. 16. https://www.nature.com/articles/s43247-024-01988-2

[60] Balcombe, P., Heggo, D. A., & Harrison, M. (2022), "Total Methane and CO2 Emissions from Liquefied Natural Gas Carrier Ships: The First Primary Measurements," *Environmental Science & Technology*, Vol. 56, Issue 13, pp. 9638–9648. https://pubs.acs.org/doi/full/10.1021/acs.est.2c01383

[61] Carbon Limits / Clean Air Task Force (2021), Methane Emissions from LNG: Best Practices, Clean Air Task Force (CATF) Report. https://cdn.catf.us/wp-content/uploads/2021/09/21091747/LNG-Methane-best-practice-29-Sept-2021.pdf

[62] US Environmental Protection Agency (2024), Natural Gas and Petroleum Systems in the GHG Inventory: Additional Information on the 1990–2022 GHG Inventory, US EPA. https://www.epa.gov/ghgemissions/natural-gas-and-petroleum-systems-ghg-inventory-additional-information-1990-2022-ghg

capacity outside of Sasol and so does not report emissions for gas storage. EPA figures come from data published by industry, consultants, academia, government agencies and environmental organisations.[63]

- **Transmission of gas in South Africa to the gas power plant:** South Africa's GHG emissions inventory[64].

Methane emissions are converted into equivalent gas emissions by assuming gas is 82% methane (by volume)[35] and LNG is 93.4% methane (by volume).[35] The density of methane is assumed to be 0.68 kg/m^3 while the density of gas is assumed to be 0.67 kg/m^3.[65]

The volume of gas processed at each supply chain stage is needed to estimate both the methane emissions and the emissions from burning the gas in flaring and energy recovery. The volume of gas reduces slightly across the supply chain due to gas being flared and consumed internally by processes and activities. Information on gas consumption and gas flaring along the supply chain was obtained from two detailed lifecycle emissions reports by Exergia[66] and thinkstep[67,68], noting that availability of data for such gas losses is limited. It is assumed that all methane combusted is converted to CO_2, and an emissions factor of 56.15 tonnes of CO_2e per TJ gas is used in the calculations. This is to avoid double counting of methane emissions, as the methane emission factors applied (Table 3) include methane from flaring and internal consumption for heat and power. It is acknowledged that gas flaring efficiencies have been found in many circumstances to be lower than the industry assumed 98%.[69] However, it is not possible to extract the contribution of flaring from the methane emissions data applied in this work, thus it was not possible to apply ranges to flaring efficiencies in this study.

The resulting methane emissions and gas consumed across the supply chain are shown in Table 3. The gas throughput per supply chain stage (Figure 1) is calculated using the gas consumption data, but when methane emissions are large, as is the case for Russia (central

[63] Note that independent studies of gas storage facilities are limited, and in the absence of such data, EPA data were assumed to be reasonable.
[64] Department of Forestry, Fisheries and the Environment (DFFE) South Africa (2025), 9th National Greenhouse Gas Inventory Report for the Republic of South Africa (2000–2022) ("**GHG Inventory**"), Government Gazette No. 52067, Notice 5850.
https://www.dffe.gov.za/sites/default/files/legislations/nemaq_nggireportt_g52067gon5850.pdf
[65] American Petroleum Institute (2021), Compendium of Greenhouse Gas Emissions Methodologies for the Natural Gas and Oil Industry, 4th Edition, API Technical Report.
https://www.api.org/~/media/files/policy/esg/ghg/2021-api-ghg-compendium-110921.pdf
[66] Exergia, COWI, & E3M Lab (2015), Study on Actual GHG Data for Diesel, Petrol, Kerosene and Natural Gas, Final Report prepared for the European Commission Directorate-General for Energy.
https://energy.ec.europa.eu/publications/study-actual-ghg-data-diesel-petrol-kerosene-and-natural-gas_en
[67] thinkstep/Sphera (2019), Life Cycle GHG Emission Study on the Use of LNG as Marine Fuel, Final Report commissioned by SEA-LNG and SGMF (v1.0). https://sea-lng.org/wp-content/uploads/2020/06/19-04-10_ts-SEA-LNG-and-SGMF-GHG-Analysis-of-LNG_Full_Report_v1.0.pdf
[68] Exergia are a consultancy who specialise in energy, the environment, climate change and water resources and produced the report used in this study for the European Commission. thinkstep (now Sphera) are a consultancy and provider of environmental sustainability and life cycle assessment services. Their report used in this study was produced for the Natural and Bio Gas Vehicle Association (NVGA) Europe.
[69] International Energy Agency (IEA) (2021), Flaring Emissions, IEA Tracking Report, https://www.iea.org/reports/flaring-emissions; Allen, D. T., et al. (2016), "Carbon dioxide, methane and black carbon emissions from upstream oil and gas flaring in the United States," *Current Opinion in Chemical Engineering*, Vol. 13, pp. 119–123, https://doi.org/10.1016/j.coche.2016.08.014

and high) and USA (high) the methane emissions were also factored in. This is because when methane emissions are low (less than around 1.5%) the impact on the gas throughput is small.

When methane losses are high (4.18%) the gas lost is roughly double that when losses are low (1.7%). In other words, higher methane loss rates mean more gas is lost before it ever reaches processing.

Table 3: Methane emissions and gas consumed across the supply chain
(The central value is given first, followed by the low and high estimates in brackets. For gas processing, methane emissions for Qatar and Russia were aggregated under gas production in the data collected and it was not possible to split the emissions between production and processing.)

	Methane emissions as a percentage of gas processed in each supply chain step (venting, incomplete combustion and fugitives)	Percentage gas consumed ("losses") per supply chain step
Gas production		
USA	1.41% (0.34-4.18%)	1.7%
Qatar	0.0022% (0.0015-0.0029%)	1.7%
Russia	4.70% (0.05-14.70%)	3.4%
Gas processing		
USA	0.17% (0.03-3.99%)	1.7%
Qatar	(Included in Gas production)	1.7%
Russia	(Included in Gas production)	0%
Pipeline to liquefaction plant		
All countries	0.000074% (0.000052-0.000077%)	1.5%
Liquefaction		
All countries	0.49% (0.33-0.66%)	10.6%
LNG shipping		
All countries	0.10% (0-0.20%)	8.7%
Regasification		
South Africa	0.010% (0.009-0.012%)	7.1%
Storage		
South Africa	0.15% (0.14-0.19%)	0%
Pipeline to power plant		
South Africa	0.14% (0.03-0.25%)	4.1%

The assumption employed here that emissions are constant throughout the modelling period is recognised to be an extreme simplification. Over time, reductions in emissions could be seen in countries that effectively implement emission reduction measures as pledged. However, at the time of writing, Russia is not a signatory to the Global Methane Pledge while the USA has backtracked on environmental commitments; withdrew from the Paris Agreement in 2025; and has seen methane regulations loosening under the Trump Administration.[70] This

[70] Global Methane Pledge (n.d.), Global Methane Pledge participant list, Climate and Clean Air Coalition Secretariat (accessed 14 July 2026), https://www.globalmethanepledge.org/; Executive Order 14162 of January 20, 2025, "Putting America First in International Environmental Agreements," The White House, https://www.whitehouse.gov/presidential-actions/2025/01/putting-america-first-in-international-environmental-

suggests upstream emissions linked to gas imported from some sources could also increase. The assumption of constant emissions is thus made in the absence of knowledge of how the future could unfold.

3.4 GLOBAL WARMING POTENTIAL (GWP)

GWP is a measure of the cumulative warming effect of 1 ton of a greenhouse gas over a given period of time, relative to the emission of 1 ton of CO_2. The higher the GWP, the more the greenhouse gas warms the earth compared to CO_2 over that time period. GWP is commonly expressed over a 20-year and 100-year time period (Table 4). Each of these provides different insights:

The 100-year GWP (GWP100) is widely used in emissions reporting, and is that used in South Africa's national greenhouse gas inventory and in the development of the Nationally Determined Contribution (NDC).[71] It is also the default used in corporate reporting against guidelines including the widely-used GHG Protocol.[72] This metric has been used historically to offer a balance between the long-term warming effects of CO_2 with those of the shorter lived GHGs like methane, thus providing an insight into the implications of greenhouse gas emissions over the long-term.

The 20-year GWP (GWP20) gives greater weight to the warming impacts of greenhouse gases that have a shorter residence time in the atmosphere but a higher warming potential than CO_2 over their shorter lifetimes. Expressing CO_2 equivalence using GWP20 is thus better suited to understanding the near-term warming impacts of emissions, the risks of breaching the critical 1.5°C temperature target in the short term, and what is needed to avoid irreversible climate tipping points. Tipping points are, according to the IPCC, "critical thresholds in a system that, when exceeded, can lead to a significant change in the state of the system, often with an understanding that the change is irreversible."[73] These global tipping points include those in systems like thawing of land permafrost or melting of the Greenland and West Antarctic ice sheets, which scientists project would occur at about 1.5°C global warming.[74] While neither GWP perfectly represents the complex reality of the links between emissions and climate change, there is robust argument in the literature for considering both GWP20 and GWP100 in technology assessments and long-term decarbonisation assessments, rather than the traditional GWP100 alone, to avoid inappropriate policy responses that miss short-term implications.[75] Using GWP20 is particularly relevant for assessing the risks associated

agreements/; Harvard Law School Environmental & Energy Law Program (2025), "EPA VOC and Methane Standards for Oil and Gas Facilities," Regulatory Tracker, https://eelp.law.harvard.edu/tracker/epa-voc-and-methane-standards-for-oil-and-gas-facilities-2/

[71] GHG Inventory (2025); and NDC (2025), at p. 31.

[72] GHG Protocol (2013), Required Greenhouse Gases in Inventories: Accounting and Reporting Standard Amendment, World Resources Institute (WRI) & World Business Council for Sustainable Development (WBCSD), February 2013. https://ghgprotocol.org/sites/default/files/2022-12/Required%20gases%20and%20GWP%20values_0.pdf

[73] Hoegh-Guldberg et al. 2018: Impacts of 1.5ºC Global Warming on Natural and Human Systems. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty, section 3.5.5, https://www.ipcc.ch/sr15/.

[74] Global Tipping Point Report 2025, p.24, https://global-tipping-points.org/.

[75] Bryenton, R. W., et al (2024), "Is methane the 'climate culprit'? The dangers of using imprecise, long-term GWP for methane to address the climate emergency," *arXiv Preprint*, arXiv:2409.06212.

with locking in new gas infrastructure, whose emissions will occur over the period in which deep near-term reductions are needed to prevent harm to the climate system. For each of the scenarios in this report, therefore, results are presented for both GWP20 and GWP100, to recognise the criticality of considering the short-term impacts of methane on warming in decision- and policy-making around new power infrastructure.

Table 4: GWPs from the IPCC Fifth Assessment Reports[76]

	AR5	
Gas	**100-year**	**20-year**
Methane	28	84

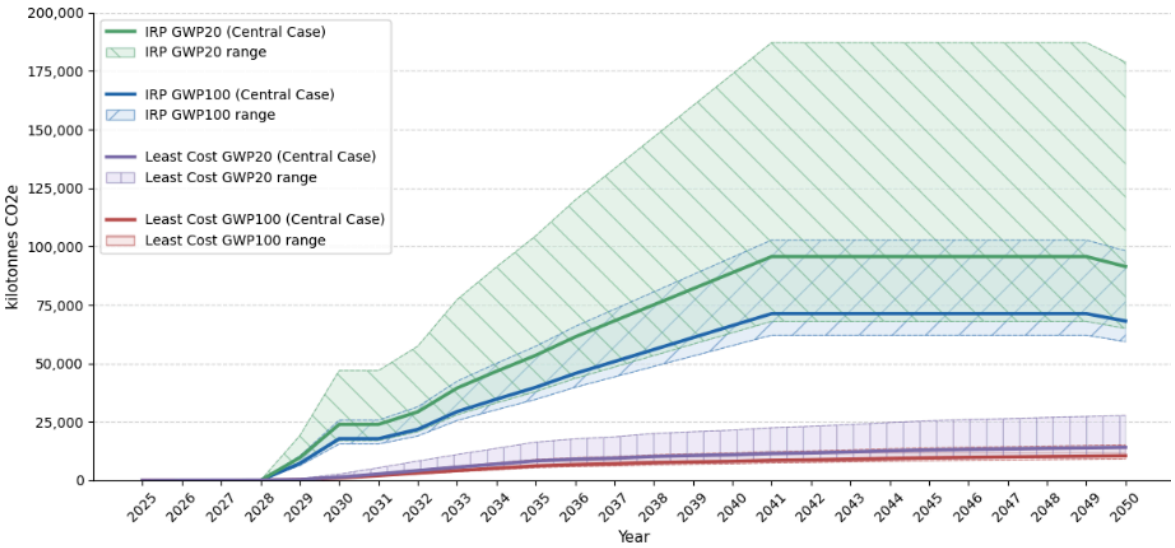
It is noted that as gas is almost fully converted to CO_2 during combustion in a gas power plant, assumptions regarding GWP largely affect upstream rather than on-site combustion emissions.

4 RESULTS AND DISCUSSION

The total emissions, including both upstream and combustion emissions, for both Scenario 1 (IRP Build) and 2 (Least-Cost Build) are shown in Figure 2 for GWP20 and GWP100. The solid lines represent the Central Case, while the top and bottom of the shaded areas show the High and Low Cases.

https://doi.org/10.48550/arXiv.2409.06212; Balcombe, P., et al (2018), "Methane emissions: choosing the right climate metric and time horizon," *Environmental Science: Processes & Impacts*, Vol. 20, No. 10, pp. 1323–1339. https://pubmed.ncbi.nlm.nih.gov/30255177/; Roberts, M., Ries, R., & Gomes da Silva, V. (2025), "Net-zero on the horizon: comparing global warming potential impacts across different time horizons," *IOP Conference Series: Earth and Environmental Science*, Vol. 1554, 012111. https://iopscience.iop.org/article/10.1088/1755-1315/1554/1/012111/pdf

[76] GWPs from the Fifth Assessment Report (AR5) are used in this study, to align with those used in South Africa's latest inventory and NDC. A sensitivity analysis (not reported on here) shows limited material impact on the findings when using the more recent AR6 instead of AR5.



Cumulative total emissions to 2050 (kilotonnes CO2e)			
	Low Case	Central Case	High Case
IRP20	1,104,953	1,554,879	3,041,451
IRP100	1,008,447	1,158,422	1,669,601
Least Cost 20	149,275	209,998	411,720
Least Cost 100	136,231	156,472	225,410

Figure 2: Total emissions under the two scenarios

In Scenario 1, direct combustion emissions rise steadily as gas plants are built in the period to 2042, the last year included in the IRP build plan. The decline just before 2050 is seen as plants start to be closed at the end of their service lives, as per the schedule in Appendix B.

Emissions in Scenario 2 are significantly lower than Scenario 1, reflecting that least cost electricity supply needs a fraction of the gas build and operation indicated in the IRP. The slow increase in emissions in Scenario 2 is assumed to be due to an increasing demand for gas for backup for renewables as the penetration of renewables into the grid increases over time. This is a role that could also be increasingly played by batteries, given the dramatic decline in battery prices seen in recent years, suggesting that there may be an even lower requirement for gas in the system if planned properly and kept responsive to the rapidly evolving power supply landscape.[77]

The uncertainty range is observed to be significant, particularly for the IRP scenario, driven by high variability in upstream emissions across different gas supply countries. This range is wider when using GWP20, as the bulk of methane emissions occur upstream, so applying a higher global warming potential amplifies the uncertainty.

Figure 3 illustrates the scale of non-territorial relative to territorial emissions. A single line is shown for the territorial emissions, as the GWP has negligible impact on territorial emissions because, as indicated previously, these are almost entirely CO_2. When applying GWP20, non-territorial emissions are observed to be potentially significantly higher than the territorial emissions in the upper ranges of the uncertainty band, with the central scenario indicating

[77] BNEF Battery Prices (2024).

non-territorial emissions to be almost equivalent to territorial emissions. When applying GWP100, non-territorial emissions exceed territorial emissions only at the upper end of the uncertainty band. Nevertheless, they are not insignificant.

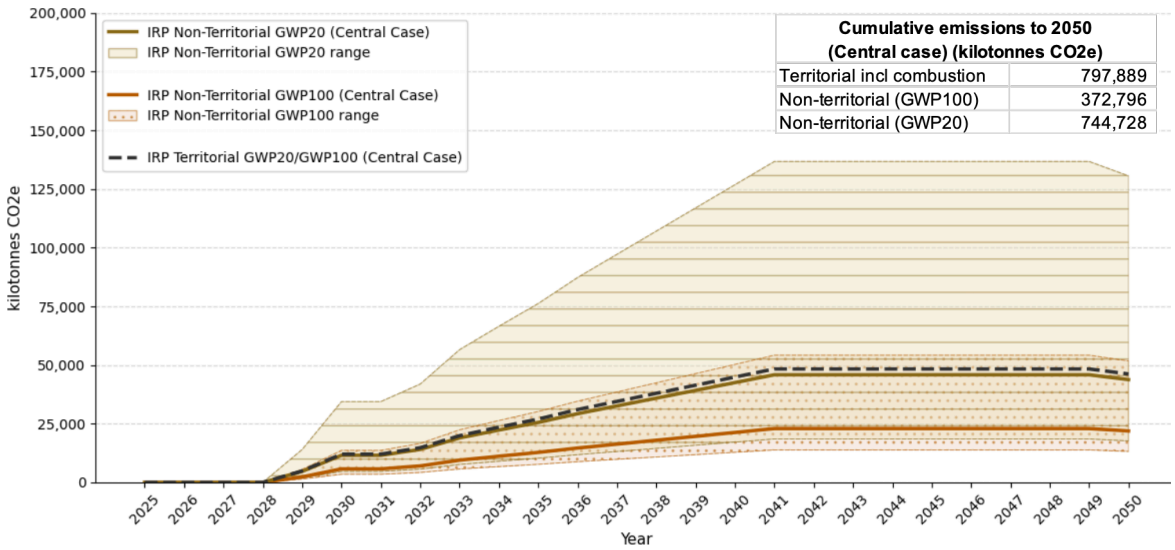


Figure 3: Non-territorial versus territorial emissions (Scenario 1)

Between 22% and 53% of total emissions are non-territorial when applying GWP100 (depending on the case considered), while when applying GWP20 between 27% and 73% of total emissions are non-territorial.

Transmission emissions (those associated with pipeline transport of gas to inland gas power stations) in Scenario 1 (IRP Build) are noted to be a relatively small contributor – in part because only four of the proposed gas fired power station sites are inland. As a result, only between 3% and 7% of the total emissions in the IRP Scenario are upstream territorial emissions. For the analysis, it was assumed that in Scenario 2 (Least-Cost Build) plants were to be built at the coast. Even if some of these plants are built inland, the contribution of transmission would remain relatively small as a percentage of total project lifecycle emissions.

One of the key parameters that determines the contribution of a gas fired power plant to emissions is the plant's capacity factor. The capacity factor represents the electricity the plant produces relative to its theoretical maximum output if run constantly. The results presented above use capacity factor assumptions as provided in the plant EIAs/CCIAs. In practice, plants may end up operating at higher or lower capacity factors, and vary for a given plant over time. A sensitivity analysis was conducted to show the impact of capacity factor assumptions on total emissions (upstream plus combustion emissions). For the sensitivity, two capacity factor scenarios were tested: a Low Case (CCGT at 40%, OCGT at 5%) and a High Case (CCGT at 60%, OCGT at 15%). This range was chosen as a plausible operating range for new gas

plants in a system, based on a number of literature sources.[78,79] These were compared against the capacity factors reported in the plant CCIAs and EIAs. The results are shown in Figure 4.

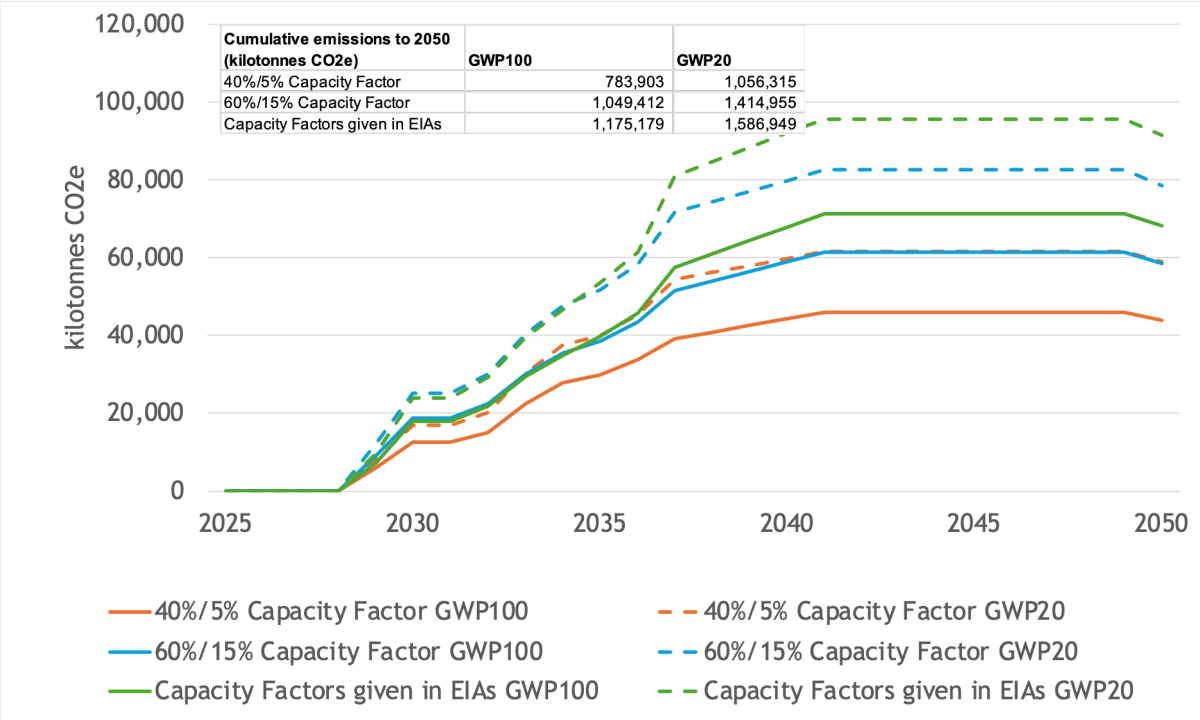


Figure 4: Sensitivity of Scenario 1 emissions trajectory to assumptions about capacity factor (Central Case)

Finally, to put the emissions into the context of South Africa's climate commitments, the second NDC commits to remaining within a range of 320 and 380 $MtCO_2e$ in 2035.[80] In 2035 the direct gas plant emissions alone are on the order of 24.7 $MtCO_2e$ in the IRP case, accounting for 6.5% of the upper bound NDC commitment and 7.7% of the lower bound NDC commitment. As annual emissions continue to rise after 2035 as more plants are built, the emissions trajectory will be misaligned with future NDCs, which will need to demonstrate more ambitious reductions and move the country towards meeting its commitments to a net zero mid-century target.

[78] Thurber and Landford (2022), "Should lower-income countries build open cycle or combined cycle gas turbines?". https://energyforgrowth.org/wp-content/uploads/2022/03/Should-lower-income-countries-build-open-cycle-or-combined-cycle-gas-turbines_-1-2.pdf suggests that "the average capacity factor of CCGTs in the US is 60%, California has a lower figure of around 40%". These values were used for CCGTs.

[79] US EPA (2023), "U.S. simple-cycle natural gas turbines operated at record highs in summer 2022". https://www.eia.gov/todayinenergy/detail.php?id=55680 suggests OCGT utilization in the US to fit within the range of around 7 to 17%, sometimes exceeding 20%. Clean Energy Group (2025), New Power Plant Data show another year of racial and economic inequities". https://www.cleanegroup.org/new-power-plant-data-inequities/ suggests peaker plants in the US to run as low on average 5.3% of the time. These two sources were used to frame the OCGT utilization sensitivity.

[80] NDC (2025), at p. 18.

Box: Comparing Life Cycle emissions from gas to coal

Gas proponents often suggest that a large-scale gas build is desirable because gas fired power has lower emissions intensity than coal (emissions per unit of power sent out). The validity of the claim that emissions are lower, and the extent to which they are lower, does however depend on assumptions about both the levels of upstream emissions and the GWP used.

The direct emissions intensity (i.e. that associated with gas combustion only) calculated using the data above is found to be between 0.36 and 0.39 tonnes CO_2e/MWh over the entire period for Scenario 1, which is marginally higher than literature estimates.[81] When upstream territorial and non-territorial emissions are also included, however, this increases to between 0.55 and 0.65 tonnes CO_2e/MWh using a GWP100 in the Central Case. In the Low Case emissions are between 0.48 and 0.57 tonnes CO_2e/MWh and in the High Case between 0.8 and 0.94 tonnes CO_2e/MWh.

The picture changes when using GWP20. Here the Central Case shows emissions of between 0.75 and 0.87 tonnes CO_2e/MWh, the Low Case of between 0.53 and 0.62 tonnes CO_2e/MWh and the High Case of between 1.45 and 1.7 tonnes CO_2e/MWh

For comparison, the average direct emissions from coal fired power in South Africa are around 1.14 tonnes CO_2e/MWh, with upstream emissions being relatively small.[82,83] Having said that, the more efficient power stations have lower direct emissions so as older power stations retire this average will drop. For renewables, operating emissions are negligible, although there are lifecycle emissions associated with plant construction. One source suggests emissions from solar PV of 0.008 to 0.083 tonnes CO_2e/MWh, and onshore wind of 0.0078 and 0.016 tonnes CO_2e/MWh.[84]

Gas combustion emissions are thus lower than current coal emissions on a per MWh basis under all assumption sets considered in this report, with the exception of the High Case upstream emissions with a GWP20 assumption. Having said that, this does not automatically provide an unqualified "license to build" for gas fired power from a climate perspective, as gas emissions per MWh are by no means insignificant, contributing to a carbon intensive grid and upstream emissions, and are thus not a feasible option for achieving decarbonisation of the currently coal fired power system and achieving the necessary decline in the power system's emissions trajectory.

5 CONCLUSIONS

The study has quantified greenhouse gas emissions associated with gas fired power generation in South Africa, considering both combustion emissions and upstream emissions associated with gas imported from different locations. The total cumulative emissions from

[81] See, for example, Jacobs International Consultants (2023), Emissions Intensity of Power Plants. https://www.ema.gov.sg/content/dam/corporate/partnerships/consultations/emissions-standards-for-power-generation-units/consultation/EMA-Consultation-Annex-Emission-Standardsf-or-Power-Generation-Units.pdf.coredownload.pdf

[82] Calculated using data from Eskom's Integrated Report 2025, https://www.eskom.co.za/wp-content/uploads/2025/10/Eskom-integrated-report-2025.pdf

[83] Upstream emissions from coal combustion (associated largely with methane emissions released during mining) were estimated using data from the GHG inventory and were found to be negligible compared to combustion emissions. The report by Swaniti (2025) suggested that methane emissions could be 7 to 14 times higher than those reported in the inventory. Even so, although all emissions are important in tackling climate change, the contribution per MWh is considered negligible.

[84] United Nations Economic Commission for Europe (2021), Life Cycle Assessment of Electricity Generation Options, UNECE Technical Report. https://unece.org/sites/default/files/2021-11/LCA_final.pdf

gas power were demonstrated to depend on the number of projects that proceed; commissioning timelines; operating efficiency; sources of imported gas; and the operating capacity factor (mid-merit or as a backup to renewable energy).

In 2025 the ICJ judgement provided that 1.5°C has become the scientifically based consensus target under the Paris Agreement and under customary international law.[85] Evidence suggests that under current emissions, the remaining carbon budget to stay below this target will be depleted within three years.

The continued and growing upstream and combustion emissions from new gas fired electricity plants in South Africa as proposed in the IRP, and as reflected in the EIAs already approved for gas plants across the country, are inconsistent with the climate obligations set out in the ICJ 2025 advisory opinion, which requires States to act with stringent due diligence to use all means at its disposal to prevent significant harm to the climate system, which includes aligning its actions with a global pathway that limits warming to 1.5°C. Implementing the IRP's gas build plan would lock the electricity sector into an emissions trajectory characterised by ongoing emissions for long after the 1.5°C budget is depleted.

Building new gas capacity is thus not aligned with the country's obligation to make its contribution to remaining within the 1.5°C limit, including achieving deep, near-term emission reductions. As the world and South Africa become more ambitious on climate change there is also the risk that, with typical plant lives of 25 years or longer, stranded assets and negative impacts on the economy could result.

Even if emissions eventually plateau due to no further gas being added in later IRP iterations, South Africa could remain locked into operating this infrastructure well past 2050. The construction of gas plants is thus not aligned with South Africa's commitment to pursuing a net zero 2050 target and will make achieving increasingly more ambitious future NDCs more challenging.

The direct and upstream emissions in Scenario 2 (Least-Cost Build) are significantly lower than those in Scenario 1 (IRP Build). In Scenario 2 the gas system largely provides dispatchable power to support renewables, with only limited contribution to some mid-merit supply needs. While the modelling underpinning Scenario 2 suggests that some level of dispatchable resources, such as batteries or gas fired power is necessary in these renewables-heavy grids in the near term, it is critical that the country builds these resources incrementally, taking into account a comparative cost analysis over the full operating lifetime, to take advantage of continued cost declines in more climate-friendly technologies.

The study shows that direct combustion emissions represent only a part of gas power's overall emissions impact. Upstream methane emissions from fugitive emissions and venting, and CO_2 from gas combustion along the supply chain contribute a significant share of overall lifecycle emissions. The contribution of upstream emissions to lifecycle plant emissions varies based on a number of key data characteristics, including emission measurement technique and the source country of the gas.

[85] ICJ Advisory Opinion (2025)

In addition to including upstream emissions in decision making and planning for new power generation infrastructure, it is critical that both the 20-year and 100-year GWP of methane be considered. The need for considering GWP20 alongside the more commonly used GWP100 is due to methane's higher short-term radiative forcing. This radiative forcing increases the relative contribution of methane emissions to climate change that would occur within the years that are so critical for keeping warming under 1.5°C, heightening risks of reaching climate tipping points and generating positive warming feedback loops in the shorter term, which would further accelerate warming and make catastrophic outcomes more likely.

Using a 20-year GWP rather than a 100-year GWP nearly doubles upstream overall CO_2e emissions. Including upstream emissions and employing GWP20 significantly reduce the climate benefits that gas has over coal upon combustion, with gas emissions even exceeding those of coal under one of the sensitivities considered. This observation counters arguments made by proponents of gas-fired power that this option is preferred to coal from a GHG emissions perspective.

APPENDIX A: MODELLED BUILD PLANS FOR IRP SCENARIO

Plant name	Coastal/inland	Year of first operation (IRP)	MW
Eskom RB CCPP	Coastal	2029	3000
Phakwe	Coastal	2030	2000
Assegai	Coastal	2030	1000
Khanyazwe Flexpower	Inland	2032	1000
Saldanha Steel Phase 1	Coastal	2033	210
Saldanha Steel Phase 2	Coastal	2033	1317.3
Schoongezicht	Inland	2034	1200
Kelvin	Inland	2035	600
Total Mulilo Phase 1	Coastal	2035	200
Phinda	Coastal	2035	320
RB GtP 2	Coastal	2036	400
Total Mulilo Phase 2	Coastal	2036	800
Nselini Floating Power Plant	Coastal	Built over five years from 2037	6500
Zosma	Inland	Not used in IRP build as not required to make up total MW	900 OCGT Upgraded to 1350 CCGT
Karpowerships Richards Bay	Coastal		450
Pictor	Coastal		2000

Notes:

1. The total installed capacity included in the IRP scenario is 18,547.3 MW. This is 297.3 MW higher than the 18,250 MW included in the IRP itself. This difference is not considered material for the illustrative purposes for which this study has been developed.

2. For the IRP scenario, Nselini is assumed to come online over a period of 5 years, to fit in with the IRP build plan.

3. Saldanha Steel and Total Mulilo were each treated as two separate plants, given the proposal to build both of these projects in two distinct phases that would use different technologies.

4. Although EIAs for floating generation plants to be constructed by Karpowership have been approved, these projects are considered less likely to go ahead, so were excluded from the analysis to allow the scenario to better match the scale of the IRP buildout. Zosma and Pictor were also notionally excluded as their MW were not required to match IRP build, but this could equally well have been other plants that were excluded.

APPENDIX B: PLANT DATA

The Table below shows the plant data extracted from the CCIAs and EIAs used in the models.

Plant name	Coastal/inland	Lifetime (years)	Installed capacity (MW)	Type	Utilisation ("Capacity Factor")	Efficiency	Notes
Eskom RB CCPP	Coastal	25	3000	CCGT	48%	56%	
Phakwe	Coastal	30	2000	CCGT	66.7%	51%	
Nselini Floating Power Plant	Coastal	25	6500	CCGT	85%	61%	
Khanyazwe Flexpower	Inland	25	1000	ICE	65%	47.5%	The reports are not explicit on % utilised or efficiency, this number was deduced from other information provided.
Kelvin	Inland	20	600	CCGT	65%	60%	The emissions figures presented in the Kelvin CCIA appear to be incorrect. Calculated emissions were used in the study.
Saldanha Steel Phase 1	Coastal	30	210	OCGT/CCGT	96%	39.9%	
Saldanha Steel Phase 2	Coastal	30	1317.3	CCGT	96%	58.3%	
Karpowerships Richards Bay	Coastal	20	450	CCGT	69%		Efficiency is not provided but annual gas utilisation is used for calculations.
Richards Bay GtP 2	Coastal	32.5	400	OCGT	69%		EIAr says lifetime 25-40, so mid-point used. Efficiency is not provided but annual gas utilisation is used for calculations. LPG is used as the fuel here. It is noted that the latest CCIA suggests the plant will operate 16.5 hours per day for peaking/mid-merit, which is not considered efficient for an OCGT.
Total Mulilo Phase 1	Coastal	30	200	Reciprocating gas engines	80%	38.0%	
Total Mulilo Phase 2	Coastal	30	800	CCGT	80%	49.0%	
Phinda	Coastal	20	320	OCGT	69%	31%	Efficiency assumed as no data provided.
Schoongezicht	Inland	40	1200	CCGT	91.3%	60%	Technology choice not yet made but reports say CCGT "preferred".
Pictor	Coastal	40	2000	CCGT	91.3%	60%	
Assegai	Coastal	20	1000	CCGT	62.5%	55.50%	
Zosma - OCGT	Inland	1	900	OCGT	69%	31%	Efficiency and % utilisation assumed as no data provided. However this only runs for 1 year until CCGT retrofitted.
Zosma - CCGT	Inland	39	1350	CCGT	91.30%	60%	

APPENDIX C: METHANE EMISSIONS MODELLING

The methane emissions modelling is based on the model developed by Cooper et al 2021. In their model, methane emissions in kilotonnes methane are calculated by multiplying the gas throughput per supply (AF) chain stage by an emission factor (EF).

$$methane\ emissions\ =\ EF\ \times\ AF$$

The gas throughput per supply chain stage is quantified based on a fixed quantity of gas, in the case of this report is one tonne of LNG delivered in South Africa. Gas losses occur in all stages of the supply chain from internal energy demands such as power and heat, thus the volume of gas i.e. value of AF, in each supply chain stage changes. The gas throughput in the production stage is the highest and reduces along the supply chain as more losses occur, with the throughput in the final use or transmission stage being the lowest.

The EF per supply chain stage are multiplied by the AF to estimate the emissions per stage, which can then be summed to estimate the total methane emissions per supply chain, or divided by the total gas throughput to estimate the emissions intensity (kg methane emitted per kg natural gas produced).

Outlook

Amended AIR RE: Proposed 750MW Gas to Power Project in Richards Bay - Virtual Meeting Invitation

From Sandy Camminga | RBCAA <[redacted]>
Date Fri 28/08/2026 08:25
To Donavan Henning <DonavanH@nemai.co.za>
Cc Lance Coetzee <[redacted]>; Candice Webb <[redacted]>; Franz Schmidt <[redacted]>; Thobile Nkosi <[redacted]>

Good morning Donovan

The online engagement session highlighted substantive amendments that need to be made to the AIR pertaining to;

1. The use of deficient SAAQIS data instead of RBCAA data.
2. Dose Map plume/ isopleth representation
3. The significance rating of “Medium” which does not align with the fact that NAAQS are exceeded
4. Start-ups / Backup diesel scenarios not assessed/modelled

When can we expect to receive an amended AIR, given that comments are due on 7th September.

Kind regards,

Sandy Camminga | Director & Founder Member | **Richards Bay Clean Air Association** [NGO]
T: [redacted] | **C:** [redacted] | **E:** [redacted] | https://rbcaa.co.za

“PROMOTING AWARENESS AND UNDERSTANDING OF AIR QUALITY”

From: Sandy Camminga | RBCAA
Sent: Thursday, 27 August 2026 18:21
To: 'Donavan Henning' <DonavanH@nemai.co.za>
Subject: RE: Proposed 750MW Gas to Power Project in Richards Bay - Virtual Meeting Invitation

Evening Donovan

Thank you for the presentations.

Are the minutes of the session going to be made available before the deadline date for comment, if not may I please request a copy of the meeting recording?

Thank you.

Kind regards,

Sandy Camminga | Director & Founder Member | **Richards Bay Clean Air Association** [NGO]

T: [redacted] | **C:** [redacted] | **E:** [redacted] | https://rbcaa.co.za

"PROMOTING AWARENESS AND UNDERSTANDING OF AIR QUALITY"

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Thursday, 27 August 2026 15:56
To: Sinamile Zuma <[redacted]>; Nokwazi - SDCEA <[redacted]>; Zothile Mthombo <[redacted]>; Bavumile Skhosana <[redacted]>; Stephen Trickett <[redacted]>; 'Chris Marland' <[redacted]>; gerrie.klooster <[redacted]>; 'Charl Janse Van Rensburg' <[redacted]>; 'atham' <[redacted]>; [redacted]; Shannon Murray <[redacted]>; Robbie Louw <[redacted]>; Camden Nauschutz <[redacted]>; Kaylee van den Bosch <[redacted]>; HJ Swanepoel <[redacted]>; [redacted]; Candice Webb <[redacted]>; Sandy Camminga | RBCAA <[redacted]>; Lance Coetzee <[redacted]>; Franz Schmidt <[redacted]>; Thobile Nkosi <[redacted]>; Nathaniel Padayachee <[redacted]>; Percy Langa <[redacted]>
Subject: Re: Proposed 750MW Gas to Power Project in Richards Bay - Virtual Meeting Invitation

Dear All

Thank you for having attended the virtual meeting on 25 August 2026.

Please find attached copies of the presentations from the meeting.

The meeting recording is also available on request.

Regards
Donavan Henning
Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting
Tel : +27 11 781 1730
Fax : [redacted]
Mobile : +27 82 891 0604
Email : donavanh@nemai.co.za
Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa
Postal Address : PO Box 1673, Sunninghill, 2157

NEMAI CONSULTING

From: Donavan Henning
Sent: 20 August 2026 05:58
To: Sinamile Zuma <[redacted]>; Nokwazi - SDCEA <[redacted]>; Zothile Mthombo <[redacted]>; Bavumile Skhosana <[redacted]>; Stephen Trickett <[redacted]>; 'Chris Marland' <[redacted]>; gerrie.klooster <[redacted]>; 'Charl Janse Van Rensburg' <[redacted]>; 'atham'

<[redacted]>; [redacted] <[redacted]>; Shannon Murray <[redacted]>; Robbie Louw <[redacted]>; Camden Nauschutz <[redacted]>; Kaylee van den Bosch <[redacted]>; HJ Swanepoel <[redacted]>
Cc: [redacted] <[redacted]>; Candice Webb <[redacted]>; Sandy Camminga | RBCAA <[redacted]>; Lance Coetzee <[redacted]>; [redacted] <[redacted]>; Thobile Nkosi <[redacted]>; Nathaniel Padayachee <[redacted]>
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Virtual Meeting Invitation
When: 25 August 2026 11:00-13:00.
Where: Microsoft Teams Meeting

Dear All

The notification regarding the public review of the draft Environmental Impact Assessment (EIA) Report for the proposed development of a 750MW Combined Cycle Gas Turbine Power Plant in Richards Bay refers.

This serves to invite you to the virtual meeting to present the draft EIA Report.

Kindly note that only those parties that indicated their interest in attending the virtual meeting are receiving this invitation.

We look forward to engaging with you on 25 August 2026 from 11:00 to 13:00.

Regards

Donavan Henning

Nemai Consulting

Tel : +27 11 781 1730

Fax : [redacted]

Mobile : +27 82 891 0604

Email : donavanh@nemai.co.za

Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa

Postal Address : PO Box 1673, Sunninghill, 2157

Nemai Consulting

Microsoft Teams meeting

Join: https://teams.microsoft.com/meet/321828019435386?p=Kj4yCnIK0gBo5mtNAo

Meeting ID: 321 828 019 435 386

Passcode: pK2fc3QH

Need help? | System reference

Dial in by phone

[redacted],931977002# South Africa, Cape Town

Find a local number

Phone conference ID: [redacted]#

For organisers: Meeting options | Reset dial-in PIN

Disclaimer

Email Legal Notice: https://policy.rbcaa.org.za/

This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Khuliso KKP. Khomari <[redacted]>
Date Wed 26/08/2026 14:48
To Donavan Henning <DonavanH@nemai.co.za>
Cc MMatlala Rabothata <[redacted]>; Khuliso KKP. Khomari <[redacted]>; Mmule Makua <[redacted]>; BC Admin <[redacted]>

Dear Sir/Madam

RE: Department of Forestry Fisheries and the Environment Directorate: Biodiversity Conservation hereby acknowledge receipt of the invitation on the 5th of August 2026 for review and comment on the project mentioned in the subject line.

Kindly note that the project has been allocated to Ms M Rabothata and Ms Khuliso Khomari (Copied in this email).

Note, all Public Participation Process documents related to Biodiversity EIA review and Biodiversity EIA queries must be submitted to the Directorate: Biodiversity Conservation by email: [redacted] for attention of Mr Seoka Lekota.

Regards,
Ms Khuliso Khomari

Directorate: Biodiversity Conservation
Sub-Directorate: Policy Development Mainstreaming EIA
Email: [redacted]
Cell: [redacted]
Website: www.environment.gov.za
National Department of Forestry, Fisheries and the Environment
Environment House, 473 Steve Biko, Arcadia, Pretoria, 0083

forestry, fisheries & the environment
Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Wednesday, August 5, 2026 10:52 AM
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

NOTICE OF REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Notice is hereby given in terms of the following:

- The Environmental Impact Assessment (EIA) Regulations (Government Notice No. R. 982 of 4 December 2014, as amended) (the "EIA Regulations"), in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA); and
- The National Water Act (Act No. 36 of 1998) (NWA).

A. PROJECT OVERVIEW

Mabasa Energy and Fuels (Pty) Ltd (the "Applicant") intends to bid for the Gas Independent Power Producers Procurement Programme (GASIPPPP) Bid Window 1 and has proposed the development of a 750MW Combined Cycle Gas Turbine Power Plant (the "Plant") in Richards Bay. The earmarked site is located on Erf 16673 in Phase 1F of the Richards Bay Industrial Development Zone (RBIDZ), which falls within the City of uMhlathuze Local Municipality in KwaZulu-Natal.

The proposed Plant will comprise of the following key equipment:

- Two Class F, heavy-duty combustion turbines and generators;
- Two triple pressure reheat Heat Recovery Steam Generators (HRSGs);
- One condensing steam turbine and generator;
- One de-aerating surface condenser;
- One induced draft cooling tower or an Air-Cooled Condenser (fin-fan radiators);
- Balance of plant equipment consisting of pumps, heat exchangers, transformers, power electrics, storage, etc.;

- One integrated plant distribution control system; and
- 400kV Switchyard comprising of three x 15kV to 400kV step-up transformers and two auxiliary transformers.

B. ENVIRONMENTAL ASSESSMENTS

Nemai Consulting (Pty) Ltd was appointed as the Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Reporting Process in terms of the EIA Regulations to seek Environmental Authorisation for the Project in terms of NEMA. The Competent Authority to decide on this application is the Department of Forestry, Fisheries and the Environment (DFFE).

The Project will also require other environmental approvals, such as an Atmospheric Emission Licence (AEL) in terms of the NEM:AQA and authorisation of water uses in terms of the NWA.

C. REVIEW OF DRAFT EIA REPORT

The draft EIA Report will be available for public review from 6 August 2026 to 7 September 2026.

The draft EIA Report was made available as follows:

- Hardcopies were placed at the following libraries –
  - Richards Bay Library (2 Krugerrand Grove, Richards Bay);
  - Aquadene Public Library (4 Via Ammannia, Aquadene, Richards Bay);
  - Nseleni Library (next to Municipal Office in Ubhejane Street, Nseleni); and
  - Mzingazi Library (next to Mzingazi Primary School, Rbm Road, Meerensee).
- An electronic copy was uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

Written comments on the draft EIA Report need to be forwarded to the contact person below by 7 September 2026. The attached comment sheet may be used for this purpose.

D. PUBLIC MEETINGS TO PRESENT THE DRAFT EIA REPORT

The meetings that will be held to present the draft EIA Report are listed below.

	Date	Time	Venue
Virtual Meeting	25 August 2026 (Tuesday)	11:00 to 13:00	**Virtual Platform (MS Teams)** RSVP by 12 August 2026 should you wish to attend the virtual meeting. The registered participants.
Physical Public Meeting	26 August 2026 (Wednesday)	17:30 to 20:00	Pelican Hall at the Zululand Chamber of Commerce Community Park, Alton, Ri
Physical Community Meeting	27 August 2026 (Thursday)	09:00 to 11:30	Nseleni Community Hall.

An isiZulu translation of this notification is available upon request.

You are welcome to contact the EAP below if you have any queries.

Regards

Donavan Henning

Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting

Tel : +27 11 781 1730

Mobile : +27 82 891 0604

Email : donavanh@nemai.co.za

Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa

Postal Address : PO Box 1673, Sunninghill, 2157



This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Nathaniel Padayachee <[redacted]>
Date Mon 24/08/2026 15:14
To Donavan Henning <DonavanH@nemai.co.za>
Cc Tshivhangwaho Rambau <[redacted]>

Hello Don and yes you can include the second sentence of the earlier email below, **as well as** confirmation sought of the timelines for implementation i.e. when the water would be required for construction, and when required for full operations. Also confirmation on the quality of the water required (raw, or clarified, or potable), **noting again that the official request for the water would have to be from the developers to the CoU as they are the WSA.** Our queries as UUW were just to inform our timeous planning, as a bulk water service provider to the CoU.

Thank you & Regards

Nathaniel Padayachee Pr Tech Eng
Postgrad Dipl Busin Man (NQF 8) BTech Civ Eng (Water) MWISA

Planning Engineer__Planning Services (Infrastructure Development)

uMngeni-uThukela Water | Head Office (Pipeline House)
Tel: [redacted] Cell: [redacted]
E-Mail: [redacted] | Website: www.umngeni-uthukela.co.za



From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Monday, 24 August 2026 14:50
To: Nathaniel Padayachee <[redacted]>
Subject: Re: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

ALERT: This email is from an external source. Be cautious before clicking any link or attachment.

Hi Nathaniel

Thank you for the call earlier.

Let me know if you require any separate engagement with the project's technical team.

Do you want me to include your correspondence below in the EIA's Comments and Responses Report?

Regards
Donavan Henning
Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting
Tel : +27 11 781 1730
Fax : [redacted]
Mobile : +27 82 891 0604
Email : donavanh@nemai.co.za
Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa
Postal Address : PO Box 1673, Sunninghill, 2157

NEMAI CONSULTING

From: Nathaniel Padayachee <[redacted]>
Sent: Monday, August 24, 2026 10:44
To: Donavan Henning <DonavanH@nemai.co.za>
Subject: RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

Thank you Don for the email and the discussion.
The letter from RBIDZ (Append D) to Chris Marland is of interest as RBIDZ approve the 416kl/d and not the wet cooling which is 21 ML/d (as yet, as they RBIDZ don't have the pipe infrastructure)
I will discuss this with the Acting Area Manager of UUW for uMhlathuze area/region, Tshivha Rambau today

Thank you & Regards

Nathaniel Padayachee Pr Tech Eng
Postgrad Dipl Busin Man (NQF 8) BTech Civ Eng (Water) MWISA

Planning Engineer__Planning Services (Infrastructure Development)

uMngeni-uThukela Water | Head Office (Pipeline House)
Tel: [redacted] Cell: [redacted]
E-Mail: [redacted] | Website: www.umngeni-uthukela.co.za



From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Monday, 24 August 2026 10:21
To: Nathaniel Padayachee <[redacted]>
Subject: Fw: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

ALERT: This email is from an external source. Be cautious before clicking any link or attachment.

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: 05 August 2026 10:57
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

NOTICE OF REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Notice is hereby given in terms of the following:

- The Environmental Impact Assessment (EIA) Regulations (Government Notice No. R. 982 of 4 December 2014, as amended) (the "EIA Regulations"), in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA); and
- The National Water Act (Act No. 36 of 1998) (NWA).

A. PROJECT OVERVIEW

Mabasa Energy and Fuels (Pty) Ltd (the "Applicant") intends to bid for the Gas Independent Power Producers Procurement Programme (GASIPPPP) Bid Window 1 and has proposed the development of a 750MW Combined Cycle Gas Turbine Power Plant (the "Plant") in Richards Bay. The earmarked site is located on Erf 16673 in Phase 1F of the Richards Bay Industrial Development Zone (RBIDZ), which falls within the City of uMhlathuze Local Municipality in KwaZulu-Natal.

The proposed Plant will comprise of the following key equipment:

- Two Class F, heavy-duty combustion turbines and generators;
- Two triple pressure reheat Heat Recovery Steam Generators (HRSGs);
- One condensing steam turbine and generator;
- One de-aerating surface condenser;
- One induced draft cooling tower or an Air-Cooled Condenser (fin-fan radiators);
- Balance of plant equipment consisting of pumps, heat exchangers, transformers, power electrics, storage, etc.;
- One integrated plant distribution control system; and
- 400kV Switchyard comprising of three x 15kV to 400kV step-up transformers and two auxiliary transformers.

B. ENVIRONMENTAL ASSESSMENTS

Nemai Consulting (Pty) Ltd was appointed as the Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Reporting Process in terms of the EIA Regulations to seek Environmental Authorisation for the Project in terms of NEMA. The Competent Authority to decide on this application is the Department of Forestry, Fisheries and the Environment (DFFE).

The Project will also require other environmental approvals, such as an Atmospheric Emission Licence (AEL) in terms of the NEM:AQA and authorisation of water uses in terms of the NWA.

C. REVIEW OF DRAFT EIA REPORT

The draft EIA Report will be available for public review from 6 August 2026 to 7 September 2026.

The draft EIA Report was made available as follows:

- Hardcopies were placed at the following libraries –
  - Richards Bay Library (2 Krugerrand Grove, Richards Bay);
  - Aquadene Public Library (4 Via Ammannia, Aquadene, Richards Bay);
  - Nseleni Library (next to Municipal Office in Ubhejane Street, Nseleni); and
  - Mzingazi Library (next to Mzingazi Primary School, Rbm Road, Meerensee).
- An electronic copy was uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

Written comments on the draft EIA Report need to be forwarded to the contact person below by 7 September 2026. The attached comment sheet may be used for this purpose.

D. PUBLIC MEETINGS TO PRESENT THE DRAFT EIA REPORT

The meetings that will be held to present the draft EIA Report are listed below.

	Date	Time	Venue
Virtual Meeting	25 August 2026 (Tuesday)	11:00 to 13:00	**Virtual Platform (MS Teams)** RSVP by 12 August 2026 should you wish to attend the virtual meeting. The meetin participants.
Physical Public Meeting	26 August 2026 (Wednesday)	17:30 to 20:00	Pelican Hall at the Zululand Chamber of Commerce Community Park, Alton, Richards
Physical Community Meeting	27 August 2026 (Thursday)	09:00 to 11:30	Nseleni Community Hall.

An isiZulu translation of this notification is available upon request.

You are welcome to contact the EAP below if you have any queries.

Regards
Donavan Henning
Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting
Tel : +27 11 781 1730
Mobile : +27 82 891 0604
Email : donavanh@nemai.co.za
Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa
Postal Address : PO Box 1673, Sunninghill, 2157

Under the Protection of Personal Information Act, 04 of 2013 (“POPIA”), we have a general legal duty to protect information we process. uMngeni-uThukela Water and its subsidiaries (“Msinsi Holdings”) are committed to ensuring the security and protection of the personal information processed by the organisation, and to provide a compliant and consistent approach to data protection. The information contained in this email and any attachments thereto may be privileged or confidential and are only intended for the exclusive use and attention of the addressed recipient. uMngeni-uThukela Water does not accept any responsibility for any loss, destruction, corruption and interception, late arrival or tampering or interference with any information contained in this email or for its incorrect delivery or non-delivery or for its effect on the recipient’s electronic device. If this communication is not related to the business of uMngeni-uThukela Water, it is sent by the sender in his/her personal capacity and not on behalf of uMngeni-uThukela Water. If you have received this email by mistake, please delete same and advise the sender immediately. Should you have any questions related to our POPIA compliance, please contact uMngeni-uThukela Water ICT Helpdesk – [redacted]

Disclaimer
The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.
This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Under the Protection of Personal Information Act, 04 of 2013 (“POPIA”), we have a general legal duty to protect information we process. uMngeni-uThukela Water and its subsidiaries (“Msinsi Holdings”) are committed to ensuring the security and protection of the personal information processed by the organisation, and to provide a compliant and consistent approach to data protection. The information contained in this email and any attachments thereto may be privileged or confidential and are only intended for the exclusive use and attention of the addressed recipient. uMngeni-uThukela Water does not accept any responsibility for any loss, destruction, corruption and interception, late arrival or tampering or interference with any information contained in this email or for its incorrect delivery or non-delivery or for its effect on the recipient’s electronic device. If this communication is not related to the business of uMngeni-uThukela Water, it is sent by the sender in his/her personal capacity and not on behalf of uMngeni-uThukela Water. If you have received this email by mistake, please delete same and advise the sender immediately. Should you have any questions related to our POPIA compliance, please contact uMngeni-uThukela Water ICT Helpdesk – [redacted]

Disclaimer
The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.
This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Nathaniel Padayachee <[redacted]>
Date Mon 24/08/2026 10:46
To Donavan Henning <DonavanH@nemai.co.za>

Thank you Don for the email and the discussion.
The letter from RBIDZ (Append D) to Chris Marland is of interest as RBIDZ approve the 416kl/d and not the wet cooling which is 21 ML/d (as yet, as they RBIDZ don't have the pipe infrastructure)
I will discuss this with the Acting Area Manager of UUW for uMhlathuze area/region, Tshivha Rambau

Thank you & Regards

Nathaniel Padayachee Pr Tech Eng
Postgrad Dipl Busin Man (NQF 8) BTech Civ Eng (Water) MWISA

Planning Engineer__Planning Services (Infrastructure Development)

uMngeni-uThukela Water | Head Office (Pipeline House)
Tel: [redacted] Cell: [redacted]
E-Mail: [redacted] | Website: www.umngeni-uthukela.co.za



From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Monday, 24 August 2026 10:21
To: Nathaniel Padayachee <[redacted]>
Subject: Fw: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

ALERT: This email is from an external source. Be cautious before clicking any link or attachment.

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: 05 August 2026 10:57
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

NOTICE OF REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Notice is hereby given in terms of the following:

- The Environmental Impact Assessment (EIA) Regulations (Government Notice No. R. 982 of 4 December 2014, as amended) (the "EIA Regulations"), in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA); and
- The National Water Act (Act No. 36 of 1998) (NWA).

A. PROJECT OVERVIEW

Mabasa Energy and Fuels (Pty) Ltd (the "Applicant") intends to bid for the Gas Independent Power Producers Procurement Programme (GASIPPPP) Bid Window 1 and has proposed the development of a 750MW Combined Cycle Gas Turbine Power Plant (the "Plant") in Richards Bay. The earmarked site is located on Erf 16673 in Phase 1F of the Richards Bay Industrial Development Zone (RBIDZ), which falls within the City of uMhlathuze Local Municipality in KwaZulu-Natal.

The proposed Plant will comprise of the following key equipment:

- Two Class F, heavy-duty combustion turbines and generators;
- Two triple pressure reheat Heat Recovery Steam Generators (HRSGs);
- One condensing steam turbine and generator;
- One de-aerating surface condenser;
- One induced draft cooling tower or an Air-Cooled Condenser (fin-fan radiators);
- Balance of plant equipment consisting of pumps, heat exchangers, transformers, power electrics, storage, etc.;
- One integrated plant distribution control system; and

- 400kV Switchyard comprising of three x 15kV to 400kV step-up transformers and two auxiliary transformers.

B. ENVIRONMENTAL ASSESSMENTS

Nemai Consulting (Pty) Ltd was appointed as the Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Reporting Process in terms of the EIA Regulations to seek Environmental Authorisation for the Project in terms of NEMA. The Competent Authority to decide on this application is the Department of Forestry, Fisheries and the Environment (DFFE).

The Project will also require other environmental approvals, such as an Atmospheric Emission Licence (AEL) in terms of the NEM:AQA and authorisation of water uses in terms of the NWA.

C. REVIEW OF DRAFT EIA REPORT

The draft EIA Report will be available for public review from 6 August 2026 to 7 September 2026.

The draft EIA Report was made available as follows:
- Hardcopies were placed at the following libraries –
  - Richards Bay Library (2 Krugerrand Grove, Richards Bay);
  - Aquadene Public Library (4 Via Ammannia, Aquadene, Richards Bay);
  - Nseleni Library (next to Municipal Office in Ubhejane Street, Nseleni); and
  - Mzingazi Library (next to Mzingazi Primary School, Rbm Road, Meerensee).
- An electronic copy was uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

Written comments on the draft EIA Report need to be forwarded to the contact person below by 7 September 2026. The attached comment sheet may be used for this purpose.

D. PUBLIC MEETINGS TO PRESENT THE DRAFT EIA REPORT

The meetings that will be held to present the draft EIA Report are listed below.

	Date	Time	Venue
Virtual Meeting	25 August 2026 (Tuesday)	11:00 to 13:00	**Virtual Platform (MS Teams)** RSVP by 12 August 2026 should you wish to attend the virtual meeting. The meetin participants.
Physical Public Meeting	26 August 2026 (Wednesday)	17:30 to 20:00	Pelican Hall at the Zululand Chamber of Commerce Community Park, Alton, Richards
Physical Community Meeting	27 August 2026 (Thursday)	09:00 to 11:30	Nseleni Community Hall.

An isiZulu translation of this notification is available upon request.

You are welcome to contact the EAP below if you have any queries.

Regards
Donavan Henning
Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting
Tel : +27 11 781 1730
Mobile : +27 82 891 0604
Email : donavanh@nemai.co.za
Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa
Postal Address : PO Box 1673, Sunninghill, 2157

Under the Protection of Personal Information Act, 04 of 2013 ("POPIA"), we have a general legal duty to protect information we process. uMngeni-uThukela Water and its subsidiaries ("Msinsi Holdings") are committed to ensuring the security and protection of the personal information processed by the organisation, and to provide a compliant and consistent approach to data protection. The information contained in this email and any attachments thereto may be privileged or confidential and are only intended for the exclusive use and attention of the addressed recipient. uMngeni-uThukela Water does not accept any responsibility for any loss, destruction, corruption and interception, late arrival or tampering or interference with any information contained in this email or for its incorrect delivery or non-delivery or for its effect on the recipient's electronic device. If this communication is not related to the business of uMngeni-uThukela Water, it is sent by the sender in his/her personal capacity and not on behalf of uMngeni-uThukela Water. If you have received this email by mistake, please delete same and advise the sender immediately. Should you have any questions related to our POPIA compliance, please contact uMngeni-uThukela Water ICT Helpdesk – [redacted]

Disclaimer
The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.
This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Eskom

Mr Donavan Henning
Environmental Consultant
Nemai Consulting
PO Box 1673
SUNNINGHILL
2157

Date:
20th August 2026

Enquiries: Samantha Naicker

Tel +27 31 710 5183

Your Ref :
Our Ref : ER_INV_856/2026

Dear Mr Henning

ESKOM DISTRIBUTION COMMENTS:
PROPOSED 750MW GAS TO POWER PROJECT IN RICHARDS BAY - NOTIFICATION OF REVIEW OF DRAFT EIA REPORT, RICHARDS BAY NO.16673

Your emailed application dated 05th of August 2026.

We confirm that an investigation has been carried out with regard to the supply of electricity, as well as any encroachment into Eskom's Servitudes, in respect to the application as set out above.

Eskom Distribution does not raise an objection to the application, as our **GIS system** does not indicate any presence of Eskom Distribution infrastructure (132-kV, 88-kV, 33-kV, 22-kV and 11-kV overhead lines/underground cables) traversing the area depicted on the KMZ application files referenced "GAS INLET ESD VALVE SKID".

The application area is located within the Municipality's area of supply. Whilst on the ground, should you detect that there are overhead lines/underground cables in the area, kindly inform the Municipality and you will be advised accordingly.

Yours sincerely

p.p SNAICKER

SS Nsele

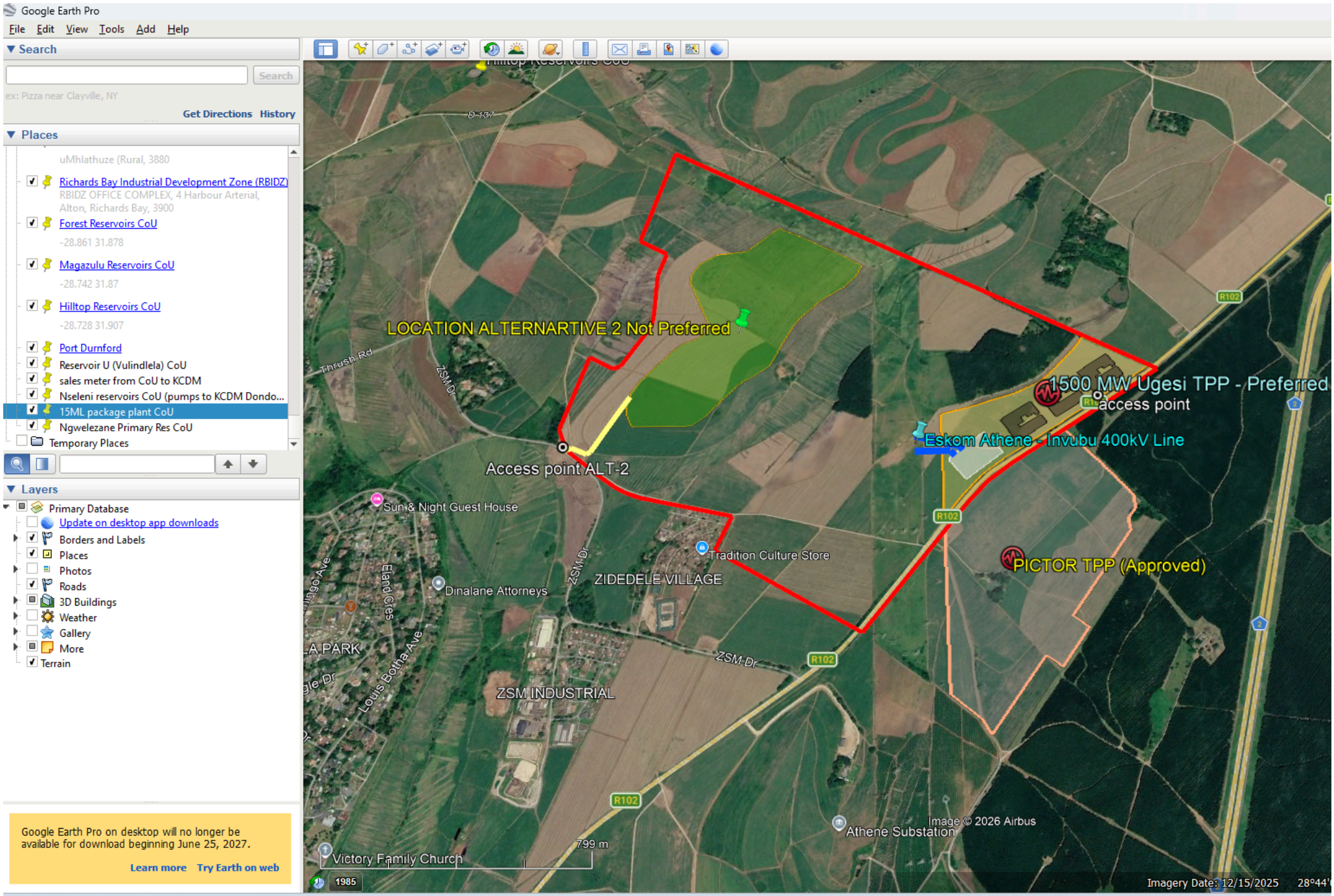
Lands and Rights Manager

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Nathaniel Padayachee <[redacted]>
Date Thu 20/08/2026 10:48
To Donavan Henning <DonavanH@nemai.co.za>

Thank you
Please can someone send me the google earth file (kml/kmz) for this 750 MW project asap?
Below is an example of Ugesi project kml/kmz which shows the project boundary etc. many thanks.



Thank you & Regards

Nathaniel Padayachee Pr Tech Eng
Postgrad Dipl Busin Man (NQF 8) BTech Civ Eng (Water) MWISA

Planning Engineer__Planning Services (Infrastructure Development)

uMngeni-uThukela Water | Head Office (Pipeline House)
Tel: [redacted] Cell: [redacted]
E-Mail: [redacted] | Website: www.umngeni-uthukela.co.za



From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Thursday, 20 August 2026 10:32
To: Nathaniel Padayachee <[redacted]>
Subject: Re: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

ALERT: This email is from an external source. Be cautious before clicking any link or attachment.

Hi Nathaniel

Thank you. I have forwarded the meeting invitation to you.

Regards
Donavan Henning
Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting
Tel : +27 11 781 1730
Fax : [redacted]
Mobile : +27 82 891 0604
Email : donavanh@nemai.co.za
Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa
Postal Address : PO Box 1673, Sunninghill, 2157

NEMAI CONSULTING

From: Nathaniel Padayachee <[redacted]>
Sent: 20 August 2026 09:17
To: Donavan Henning <DonavanH@nemai.co.za>
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

Good day

I wish to attend the online session on Tuesday 25 August @11h00.
Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

Thank you & Regards

Nathaniel Padayachee Pr Tech Eng
Postgrad Dipl Busin Man (NQF 8) BTech Civ Eng (Water) MWISA

Planning Engineer__Planning Services (Infrastructure Development)

uMngeni-uThukela Water | Head Office (Pipeline House)
Tel: [redacted] Cell: [redacted]
E-Mail: [redacted] | Website: www.umngeni-uthukela.co.za



Under the Protection of Personal Information Act, 04 of 2013 ("POPIA"), we have a general legal duty to protect information we process. uMngeni-uThukela Water and its subsidiaries ("Msinsi Holdings") are committed to ensuring the security and protection of the personal information processed by the organisation, and to provide a compliant and consistent approach to data protection. The information contained in this email and any attachments thereto may be privileged or confidential and are only intended for the exclusive use and attention of the addressed recipient. uMngeni-uThukela Water does not accept any responsibility for any loss, destruction, corruption and interception, late arrival or tampering or interference with any information contained in this email or for its incorrect delivery or non-delivery or for its effect on the recipient's electronic device. If this communication is not related to the business of uMngeni-uThukela Water, it is sent by the sender in his/her personal capacity and not on behalf of uMngeni-uThukela Water. If you have received this email by mistake, please delete same and advise the sender immediately. Should you have any questions related to our POPIA compliance, please contact uMngeni-uThukela Water ICT Helpdesk – [redacted]

Disclaimer
The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.
This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Under the Protection of Personal Information Act, 04 of 2013 ("POPIA"), we have a general legal duty to protect information we process. uMngeni-uThukela Water and its subsidiaries ("Msinsi Holdings") are committed to ensuring the security and protection of the personal information processed by the organisation, and to provide a compliant and consistent approach to data protection. The information contained in this email and any attachments thereto may be privileged or confidential and are only intended for the exclusive use and attention of the addressed recipient. uMngeni-uThukela Water does not accept any responsibility for any loss, destruction, corruption and interception, late arrival or tampering or interference with any information contained in this email or for its incorrect delivery or non-delivery or for its effect on the recipient's electronic device. If this communication is not related to the business of uMngeni-uThukela Water, it is sent by the sender in his/her personal capacity and not on behalf of uMngeni-uThukela Water. If you have received this email by mistake, please delete same and advise the sender immediately. Should you have any questions related to our POPIA compliance, please contact uMngeni-uThukela Water ICT Helpdesk – [redacted]

Disclaimer
The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by **Mimecast Ltd**, an innovator in Software as a Service (SaaS) for business. Providing a **safer** and **more useful** place for your human generated data. Specializing in; Security, archiving and compliance. To find out more Click Here.
This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

1. In Order for Eskom to comment / reply accurately, Eskom needs the applicant to send an application/ Cover Letter via email, addressed to the Lands & Rights Manager, Mr Siyabonga Nsele.

Your Cover Letter should include most of the following:

Full name of applicant:

Applicant's address:

Telephone: (code) (number)/Cellular Number

Full Property Description as per Title Deed

Registration Division:

Farm or Agricultural Holding:

Name:

Farm Number / Portion:

Name of Township:

Erf Number:

Job Ref No:

2. For most investigations/queries the following is necessary:

DETAILED SURVEY PLAN on reasonable scale in a digital file format ((KML, KMZ, DXF or DGN) correctly projected in WG indicating the following:

- **DGN files supplied to be as per Eskom Standard (Projected WG, Microstation V8;V8i)**

· Co-ordinates, in the format of degrees, minutes and one decimal of a second/Y, X co-ordinates indicating the position of the **proposed development and existing infrastructure.**

· The dimensions of the structure or object e.g. height, length, and width, as well as any other accessories such as storm water pipes etc.

· Cross sections of buildings with the dimensions accurate to 0,1 metres indicating cut/fill and final finished level.

· The distance from the nearest power line structure, distances relative to the centre line of the power line,

· Positions and heights of proposed stockpiles,

· North arrow.

· Relevant SG Diagrams

NB. Architectural plans will not be accepted.

1. ALL applications for Eskom KZN must be sent to [redacted] OR [redacted] without copying any individuals in Eskom to avoid duplication and /or confusion.

2. For Wayleaves/Queries/Investigation/ Comments, Please open the following attached document.

ESKOM REQUIREMENTS.pdf

3. For Blasting/Mining Applications Please open the following attached document to see Eskom's Requirements.

BLASTING APPLICATION FORM

4. For availability of supply or capacity queries, Eskom's Lands & Rights Department will obtain the necessary information from Eskom's Planning Department & reply accordingly.

5. Masts should be erected further than its fall distance from any Eskom infrastructure.

Mast_Eskom Condition.pdf

6. For Requests of Eskom's Spatial Data - Please send email to Eskom's ESIGIS Department:

Ms Mmbengeni Makungo on email [redacted]

7. A developer taking a new supply from Eskom, an increase of supply or line deviation is required to make an application to Eskom via the Eskom toll free number [redacted]. This application will be processed in terms of Eskom's standard customer connection tariffs, conditions and policies at the developers cost.

ESKOM LANDS & RIGHTS PLEDGES TO DO IT'S BEST TO DELIVER A QUALITY SERVICE TO ALL CUSTOMERS.

Kind Regards,

Siyabonga Nsele
Manager (Eskom - Land & Rights)
CentralEast Cluster
[redacted]

PLEASE NOTE:

- **IT CAN TAKE BETWEEN 14 TO 20 DAYS FOR ESKOM TO REPLY DEPENDING ON THE NATURE OF THE QUERY / INVESTIGATION.**

- **MISSING OR EXCLUSION OF ANY INFORMATION OR DATA REQUIRED BY ESKOM WILL DELAY ESKOM'S RESPONSE.**

- **ARCHITECTURAL PLANS THAT ARE NOT PROJECTED IN THE CORRECT WGS COORDINATE SYSTEM WILL NOT BE ACCEPTED BY ESKOM.**

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Samantha Naicker <[redacted]>
Date Mon 17/08/2026 13:19
To Donavan Henning <DonavanH@nemai.co.za>

2 attachments (861 KB)
ESKOM REQUIREMENTS.pdf; Eskom LR Application Requirements.docx;

Good day,

Kindly review the attached ESKOM application requirements, please send through your cover letter as well as a layout plan in one of the stipulated file formats (KMZ,KML,DXF or DGN).

Regards,

Samantha Naicker
Land & Rights Officer | KZN OU
Land Development | Distribution Division
Beehive Building, 25 Valley View Road, New Germany,3620
[redacted] | [redacted] | [redacted] | www.eskom.co.za

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Wednesday, 05 August 2026 10:56
Subject: [CAUTION:EXTERNAL EMAIL] Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

NOTICE OF REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Notice is hereby given in terms of the following:

- The Environmental Impact Assessment (EIA) Regulations (Government Notice No. R. 982 of 4 December 2014, as amended) (the "EIA Regulations"), in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA); and
- The National Water Act (Act No. 36 of 1998) (NWA).

A. PROJECT OVERVIEW

Mabasa Energy and Fuels (Pty) Ltd (the "Applicant") intends to bid for the Gas Independent Power Producers Procurement Programme (GASIPPPP) Bid Window 1 and has proposed the development of a 750MW Combined Cycle Gas Turbine Power Plant (the "Plant") in Richards Bay. The earmarked site is located on Erf 16673 in Phase 1F of the Richards Bay Industrial Development Zone (RBIDZ), which falls within the City of uMhlathuze Local Municipality in KwaZulu-Natal.

The proposed Plant will comprise of the following key equipment:

- Two Class F, heavy-duty combustion turbines and generators;
- Two triple pressure reheat Heat Recovery Steam Generators (HRSGs);
- One condensing steam turbine and generator;
- One de-aerating surface condenser;
- One induced draft cooling tower or an Air-Cooled Condenser (fin-fan radiators);
- Balance of plant equipment consisting of pumps, heat exchangers, transformers, power electrics, storage, etc.;
- One integrated plant distribution control system; and
- 400kV Switchyard comprising of three x 15kV to 400kV step-up transformers and two auxiliary transformers.

B. ENVIRONMENTAL ASSESSMENTS

Nemai Consulting (Pty) Ltd was appointed as the Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Reporting Process in terms of the EIA Regulations to seek Environmental Authorisation for the Project in terms of NEMA. The Competent Authority to decide on this application is the Department of Forestry, Fisheries and the Environment (DFFE).

The Project will also require other environmental approvals, such as an Atmospheric Emission Licence (AEL) in terms of the NEM:AQA and authorisation of water uses in terms of the NWA.

C. REVIEW OF DRAFT EIA REPORT

The draft EIA Report will be available for public review from 6 August 2026 to 7 September 2026.

The draft EIA Report was made available as follows:

- Hardcopies were placed at the following libraries –
  - Richards Bay Library (2 Krugerrand Grove, Richards Bay);
  - Aquadene Public Library (4 Via Ammannia, Aquadene, Richards Bay);
  - Nseleni Library (next to Municipal Office in Ubhejane Street, Nseleni); and
  - Mzingazi Library (next to Mzingazi Primary School, Rbm Road, Meerensee).
- An electronic copy was uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

Written comments on the draft EIA Report need to be forwarded to the contact person below by 7 September 2026. The attached comment sheet may be used for this purpose.

D. PUBLIC MEETINGS TO PRESENT THE DRAFT EIA REPORT

The meetings that will be held to present the draft EIA Report are listed below.

	Date	Time	Venue
Virtual Meeting	25 August 2026 (Tuesday)	11:00 to 13:00	**Virtual Platform (MS Teams)** RSVP by 12 August 2026 should you wish to attend the virtual meeting. The registered participants.
Physical Public Meeting	26 August 2026 (Wednesday)	17:30 to 20:00	Pelican Hall at the Zululand Chamber of Commerce Community Park, Alton, Ri
Physical Community Meeting	27 August 2026 (Thursday)	09:00 to 11:30	Nseleni Community Hall.

An isiZulu translation of this notification is available upon request.

You are welcome to contact the EAP below if you have any queries.

Regards

Donavan Henning

Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting

Tel : +27 11 781 1730

Mobile : +27 82 891 0604

Email : donavanh@nemai.co.za

Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa

Postal Address : PO Box 1673, Sunninghill, 2157



Disclaimer

NB: This Email and its contents are subject to the Eskom Holdings SOC Ltd EMAIL LEGAL NOTICE which can be viewed at https://www.eskom.co.za/about-eskom/email-legal-spam-disclaimer/

This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Shepherd Nkosi <[redacted]>
Date Wed [redacted]46
To Donavan Henning <DonavanH@nemai.co.za>

Dear Donavan,
We are pleased to confirm that we can provide the gas supply solution for this project.
Could you please advise on a suitable time for us to meet with the development team? We would welcome the opportunity to discuss how we can partner with you and contribute to delivering a successful solution for the project.
We look forward to your response.
Warm Regards

Shepherd Nkosi
MSc.Eng. (Electr) (UKZN) | PGdegree-GCBU (UniSQ) (Australia) |PGDip (Proj.Man.) (USB) | FSAIEE
Group Business Development

switchboard: [redacted] / direct: [redacted]
mobile: [redacted] / email: [redacted]
www.slgas.co.za

89 Richefond Circle, Ridgeside Office Park, Umhlanga Ridge, Umhlanga, KwaZulu-Natal, 4319,South Africa.
[redacted]
Gas Emergency Number: [redacted] / Whistle Blower Number: [redacted]

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Wednesday, 05 August 2026 10:58
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

NOTICE OF REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Notice is hereby given in terms of the following:

- The Environmental Impact Assessment (EIA) Regulations (Government Notice No. R. 982 of 4 December 2014, as amended) (the “EIA Regulations”), in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA); and
- The National Water Act (Act No. 36 of 1998) (NWA).

A. PROJECT OVERVIEW

Mabasa Energy and Fuels (Pty) Ltd (the “Applicant”) intends to bid for the Gas Independent Power Producers Procurement Programme (GASIPPPP) Bid Window 1 and has proposed the development of a 750MW Combined Cycle Gas Turbine Power Plant (the “Plant”) in Richards Bay. The earmarked site is located on Erf 16673 in Phase 1F of the Richards Bay Industrial Development Zone (RBIDZ), which falls within the City of uMhlathuze Local Municipality in KwaZulu-Natal.

The proposed Plant will comprise of the following key equipment:

- Two Class F, heavy-duty combustion turbines and generators;
- Two triple pressure reheat Heat Recovery Steam Generators (HRSGs);
- One condensing steam turbine and generator;
- One de-aerating surface condenser;
- One induced draft cooling tower or an Air-Cooled Condenser (fin-fan radiators);
- Balance of plant equipment consisting of pumps, heat exchangers, transformers, power electrics, storage, etc.;
- One integrated plant distribution control system; and
- 400kV Switchyard comprising of three x 15kV to 400kV step-up transformers and two auxiliary transformers.

B. ENVIRONMENTAL ASSESSMENTS

Nemai Consulting (Pty) Ltd was appointed as the Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Reporting Process in terms of the EIA Regulations to seek Environmental Authorisation for the Project in terms of NEMA. The Competent Authority to decide on this application is the Department of Forestry, Fisheries and the Environment (DFFE).

The Project will also require other environmental approvals, such as an Atmospheric Emission Licence (AEL) in terms of the NEM:AQA and authorisation of water uses in terms of the NWA.

C. REVIEW OF DRAFT EIA REPORT

The draft EIA Report will be available for public review from 6 August 2026 to 7 September 2026.

The draft EIA Report was made available as follows:

- Hardcopies were placed at the following libraries –
  - Richards Bay Library (2 Krugerrand Grove, Richards Bay);
  - Aquadene Public Library (4 Via Ammannia, Aquadene, Richards Bay);
  - Nseleni Library (next to Municipal Office in Ubhejane Street, Nseleni); and
  - Mzingazi Library (next to Mzingazi Primary School, Rbm Road, Meerensee).
- An electronic copy was uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

Written comments on the draft EIA Report need to be forwarded to the contact person below by 7 September 2026. The attached comment sheet may be used for this purpose.

D. PUBLIC MEETINGS TO PRESENT THE DRAFT EIA REPORT

The meetings that will be held to present the draft EIA Report are listed below.

	Date	Time	Venue
Virtual Meeting	25 August 2026 (Tuesday)	11:00 to 13:00	**Virtual Platform (MS Teams)** RSVP by 12 August 2026 should you wish to attend the virtual meeting. The registered participants.
Physical Public Meeting	26 August 2026 (Wednesday)	17:30 to 20:00	Pelican Hall at the Zululand Chamber of Commerce Community Park, Alton, Ri
Physical Community Meeting	27 August 2026 (Thursday)	09:00 to 11:30	Nseleni Community Hall.

An isiZulu translation of this notification is available upon request.

You are welcome to contact the EAP below if you have any queries.

Regards

Donavan Henning

Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting

Tel : +27 11 781 1730

Mobile : +27 82 891 0604

Email : donavanh@nemai.co.za

Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa

Postal Address : PO Box 1673, Sunninghill, 2157

Disclaimer

The information contained in this communication from the sender is confidential. It is intended solely for use by the recipient and others authorized to receive it. If you are not the recipient, you are hereby notified that any disclosure, copying, distribution or taking action in relation of the contents of this information is strictly prohibited and may be unlawful.

This email has been scanned for viruses and malware, and may have been automatically archived by Mimecast, a leader in email security and cyber resilience. Mimecast integrates email defenses with brand protection, security awareness training, web security, compliance and other essential capabilities. Mimecast helps protect large and small organizations from malicious activity, human error and technology failure; and to lead the movement toward building a more resilient world. To find out more, visit our website.

This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.

Outlook

RE: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

From Nokukhanya Khumalo <[redacted]>
Date Wed [redacted]16
To Donavan Henning <DonavanH@nemai.co.za>

Good morning

Are there any sections of this development located below the Maritime High Water mark?
If there are none, please contact Amafa KZN Heritage Institute in order to get their procedures on how to obtain statutory comments from them.

Kind Regards,
Nokukhanya Khumalo

From: Donavan Henning <DonavanH@nemai.co.za>
Sent: Wednesday, 05 August 2026 10:53
Subject: Proposed 750MW Gas to Power Project in Richards Bay - Notification of Review of Draft EIA Report

PROPOSED 750MW COMBINED CYCLE GAS TURBINE POWER PLANT IN RICHARDS BAY, CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETSHWAYO DISTRICT MUNICIPALITY, KWAZULU-NATAL

NOTICE OF REVIEW OF THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Notice is hereby given in terms of the following:

- The Environmental Impact Assessment (EIA) Regulations (Government Notice No. R. 982 of 4 December 2014, as amended) (the "EIA Regulations"), in terms of the National Environmental Management Act (Act No. 107 of 1998) (NEMA);
- The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM:AQA); and
- The National Water Act (Act No. 36 of 1998) (NWA).

A. PROJECT OVERVIEW

Mabasa Energy and Fuels (Pty) Ltd (the "Applicant") intends to bid for the Gas Independent Power Producers Procurement Programme (GASIPPPP) Bid Window 1 and has proposed the development of a 750MW Combined Cycle Gas Turbine Power Plant (the "Plant") in Richards Bay. The earmarked site is located on Erf 16673 in Phase 1F of the Richards Bay Industrial Development Zone (RBIDZ), which falls within the City of uMhlathuze Local Municipality in KwaZulu-Natal.

The proposed Plant will comprise of the following key equipment:

- Two Class F, heavy-duty combustion turbines and generators;
- Two triple pressure reheat Heat Recovery Steam Generators (HRSGs);
- One condensing steam turbine and generator;
- One de-aerating surface condenser;
- One induced draft cooling tower or an Air-Cooled Condenser (fin-fan radiators);
- Balance of plant equipment consisting of pumps, heat exchangers, transformers, power electrics, storage, etc.;
- One integrated plant distribution control system; and
- 400kV Switchyard comprising of three x 15kV to 400kV step-up transformers and two auxiliary transformers.

B. ENVIRONMENTAL ASSESSMENTS

Nemai Consulting (Pty) Ltd was appointed as the Environmental Assessment Practitioner (EAP) to undertake a Scoping and Environmental Impact Reporting Process in terms of the EIA Regulations to seek Environmental Authorisation for the Project in terms of NEMA. The Competent Authority to decide on this application is the Department of Forestry, Fisheries and the Environment (DFFE).

The Project will also require other environmental approvals, such as an Atmospheric Emission Licence (AEL) in terms of the NEM:AQA and authorisation of water uses in terms of the NWA.

C. REVIEW OF DRAFT EIA REPORT

The draft EIA Report will be available for public review from 6 August 2026 to 7 September 2026.

The draft EIA Report was made available as follows:

- Hardcopies were placed at the following libraries –
  - Richards Bay Library (2 Krugerrand Grove, Richards Bay);
  - Aquadene Public Library (4 Via Ammannia, Aquadene, Richards Bay);
  - Nseleni Library (next to Municipal Office in Ubhejane Street, Nseleni); and
  - Mzingazi Library (next to Mzingazi Primary School, Rbm Road, Meerensee).
- An electronic copy was uploaded to the following website, for downloading purposes: https://nemai.co.za/downloads/.

Written comments on the draft EIA Report need to be forwarded to the contact person below by 7 September 2026. The attached comment sheet may be used for this purpose.

D. PUBLIC MEETINGS TO PRESENT THE DRAFT EIA REPORT

The meetings that will be held to present the draft EIA Report are listed below.

	Date	Time	Venue
Virtual Meeting	25 August 2026 (Tuesday)	11:00 to 13:00	**Virtual Platform (MS Teams)** RSVP by 12 August 2026 should you wish to attend the virtual meeting. The registered participants.
Physical Public Meeting	26 August 2026 (Wednesday)	17:30 to 20:00	Pelican Hall at the Zululand Chamber of Commerce Community Park, Alton, Ri
Physical Community Meeting	27 August 2026 (Thursday)	09:00 to 11:30	Nseleni Community Hall.

An isiZulu translation of this notification is available upon request.

You are welcome to contact the EAP below if you have any queries.

Regards

Donavan Henning

Environmental Assessment Practitioner (EAPASA Registration No. 2020/1217)
Pr. Sci. Nat. Registration No. 400108/17

Nemai Consulting

Tel : +27 11 781 1730

Mobile : +27 82 891 0604

Email : donavanh@nemai.co.za

Address : 147 Bram Fischer Drive Ferndale, 2194, South Africa

Postal Address : PO Box 1673, Sunninghill, 2157

Nokukhanya Khumalo
Senior Heritage Officer: Development Applications Unit

T: [redacted]
M:
E: [redacted]
A: SAHRA, 111 Harrington Street, Cape Town, 8001, Western Cape, ZA
www.sahra.org.za

SAHRA EMAIL DISCLAIMER
SAHRA PRIVACY POLICY
SAHRA FRAUD HOTLINE This email originated outside of Nemai Consulting - please be careful that the sender is who they purport to be.