

The Honourable Minister Barbara Creecy
Minister of Environment, Forestry and Fisheries
By email: mndamase@environment.gov.za
fshaik@environment.gov.za

For attention:

Mokete Rakgogo
Director: Appeals and Legal Review, Department of Environmental Affairs
By email: Appealsdirector@environment.gov.za
mrakgogo@environment.gov.za

Copied to:

Milicent Solomons
Department of Environment, Forestry and Fisheries
Acting Chief Director: Integrated Environmental Authorisations
By email: MSolomons@environment.gov.za

Deidre Herbst
Eskom Holdings SOC Ltd
By email: Deidre.herbst@eskom.co.za

DEA Ref: 14/12/16/3/3/2/1123
27 January 2020

Dear Minister

APPEAL IN TERMS OF S43 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT OF THE ENVIRONMENTAL AUTHORISATION ISSUED TO ESKOM HOLDINGS SOC LTD FOR THE PROPOSED RICHARDS BAY COMBINED CYCLE POWER PLANT AND ASSOCIATED INFRASTRUCTURE – AUTHORISATION NO 14/12/16/3/3/2/1123

1. We address you as groundWork and South Durban Community Environmental Alliance (SDCEA), the appellants in relation to the above matter.
2. This is an appeal to the Honourable Minister of Environment, Forestry and Fisheries, directed at the Director: Appeals and Legal Review of the Department of Environment, Forestry and Fisheries (DEFF), to set aside the above environmental authorisation with reference number 14/12/16/3/3/2/1123 issued by the Acting Chief Director, to Eskom Holdings SOC Ltd ("Eskom") on 23 December 2019.

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3. In terms of regulation 4(2)(a) of the National Environmental Management National Appeal Regulations, 2014 ("the Appeal Regulations"), an appeal submission must be submitted in writing in the form obtainable from the appeal administrator, and must be accompanied by: a statement setting out the grounds of appeal; supporting documentation which is referred to in the Appeal submission; and a statement by the appellant to confirm compliance with regulation 4(1) of the Appeal Regulations – which is the requirement that an appellant submit an appeal to the appeal administrator, and a copy to the applicant, any registered interested and affected party (I&AP) and organ of state with an interest in the matter within 20 days from the date that the notification of the authorisation was sent to I&APs by the applicant.
4. Notification of the environmental authorisation was sent to I&APs on 7 January 2020.
5. We enclose and hereby submit the following:
 - a. groundWork's detailed Appeal submissions (grounds of appeal) marked Annexure A;
 - b. the supporting documentation in respect of our clients' Appeal submissions, marked Annexure A1. Please note that, in order to limit the volume of the Appeal, we have not attached all of the supporting documents to which we refer in the Appeal. Where possible, we have inserted links to the documents as footnotes. Should any of these documents be required, kindly let us know, and we will make them available;
 - c. the DEFF's prescribed appeal response form containing the grounds of appeal; and
 - d. the DEFF's appeal questionnaire.
6. In compliance with regulation 4(2)(iii) read with regulation 4(1) of the Appeal Regulations, we hereby confirm that:
 - a. this letter, with the attached Appeal submissions and supporting documentation, is copied – and will be sent simultaneously – to the Acting Chief Director (the first respondent in this Appeal) and to Eskom Holdings SOC Ltd (the Applicant and second respondent in this Appeal), within the prescribed 20 day timeframe;
 - b. because the application materials do not include the contact details of the I&APs and organs of state with an interest in the matter, we are unable to fully comply with the regulation 4(1) requirement. We request that Eskom forward the appeal to the relevant I&APs and organs of state or provide us with their contact information; and
 - c. this Appeal is submitted within the 20 day timeframe in regulation 4(1).
7. Kindly confirm receipt of this letter and the enclosed annexures comprising the Appeal.
8. Should you have any queries in relation to this Appeal, or require any additional information, please let us know.
9. Kindly also keep us updated on the progress of the Appeal.

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Yours faithfully



GROUNDWORK

per:

Robby Mokgalaka

Direct email: robs@groundwork.org.za



GROUNDWORK

per:

Avena Jacklin

Direct email: avena@groundwork.org.za



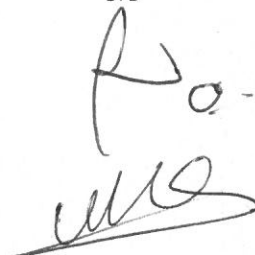
SOUTH DURBAN COMMUNITY ENVIRONMENTAL ALLIANCE

per:

Desmond D'Sa

Direct email: desmond@sdceango.co.za

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X447, Pretoria, 0001, Environment House, 473 Steve Biko Road, Pretoria, 0002

Email: Appealsdirector@environment.gov.za

APPEAL RESPONSE REPORT

PROJECT NAME/TITLE: RICHARDS BAY COMBINED CYCLE POWER PLANT (CCPP) AND ASSOCIATED INFRASTRUCTURE NEAR RICHARDS BAY, KWAZULU-NATAL PROVINCE

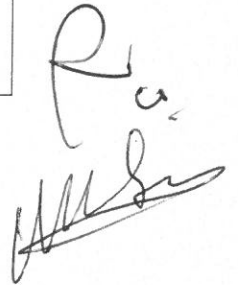
PROJECT LOCATION: WITHIN WARD 26 OF THE CITY OF UMHLATHUZE LOCAL MUNICIPALITY, KING CETHSWAYO DISTRICT MUNICIPALITY, KWAZULU NATAL PROVINCE

PROJECT REFERENCE NUMBER: 14/12/16/3/3/2/1123

DATE PROJECT/ACTIVITY AUTHORISED: 23 DECEMBER 2019

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DETAILS OF THE APPELLANT	DETAILS OF THE APPLICANT
Name of appellant: GROUNDWORK and SOUTH DURBAN COMMUNITY ENVIRONMENTAL ALLIANCE (SDCEA)	Name of applicant: ESKOM HOLDINGS SOC LTD
Appellant's representative (if applicable):	Applicant's representative (if applicable):
Postal address: groundWork PO Box 2375 Pietermaritzburg 3200 South Africa SDCEA 18 Major Calvert Street Austerville, Durban, KwaZulu Natal 4052 South Africa	Postal Address: PO Box 1091
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Telephone number: groundWork: +27 33 342 5662 SDCEA: +2731 461 1991	Telephone number: (011) 800 3501		
Fax Number:	Fax number: (086) 660 6092		
GROUNDS OF APPEAL		RESPONDING STATEMENT	COMMENT BY THE DEPARTMENT / DMR
<p><u>Ground 1: Failure to accurately consider alternatives to the Project, including the no-go option</u></p> <p>1. Section 24(4)(b)(i) NEMA states that an EIA must include an "investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity".</p> <p>2. Section 24O of NEMA also requires that the competent authority consider "where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment."</p> <p>3. The 2017 EIA Regulations similarly define "alternatives" as "different means of meeting the general purpose and requirements of [an] activity, which may include alternatives to the . . . type</p>			

<p>of activity to be undertaken" or the "technology to be used in the activity."¹</p>	<p>4. As mentioned, Eskom's main motivation for the mid-merit Richards Bay CCPP is to have a generation centre in KwaZulu-Natal province to reduce transmission losses from power plants supplying the province. In addition, Eskom wants to move away from coal-power generation to gas in order to reduce its carbon footprint, overall water use, and to diversify the energy mix within the country.²</p> <p>5. Renewable energy options could likely meet all of these requirements. As explained below, improvements in storage technologies have enabled renewable energy to perform a load following function, such as providing mid-merit power.³ In light of the urgent need to address climate change in South Africa and globally, and South Africa's climate change commitments, Eskom's failure to consider such options is a fatal flaw.</p> <p>5.1. A recent study concluded that solar-plus-storage could compete with mid-merit natural gas combined cycle power plants both technically and financially.⁴ The study highlighted that solar-plus-storage "contributes to a company's renewable portfolio standard and</p>
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¹ Government Gazette No. 40772, Government Notice No. 326 (7 April 2017).

² EIA at 1, 63-65.

³ See, e.g., Oil Change International, Burning the Gas 'Bridge Fuel' Myth: Why Gas is Not Clean, Cheap, or Necessary at 15, available at http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth_web-FINAL.pdf ("Batteries can be co-located with utility-scale wind and solar plants, storing excess power when sunshine and wind are abundant, and effectively allowing a proportion of a wind and solar plant's capacity to be dispatchable.")

⁴ Matt Beers et al., Solar + Storage as a Mid-Merit, Utility-Scale Generating Asset (2019), available at https://info.fluenceenergy.com/hubfs/Collateral/White%20paper_TepperFluenceS+SasMid-Merit_final.pdf.

<p>state-level energy storage targets," "offers flexible operational configurations," and "allows these facilities to bid heavily into ancillary service markets."⁵</p>	<p>5.2. Moreover, renewable energy plus storage power plants already provide mid-merit power at a competitive price. For example:</p> <p>5.2.1. Fueled by a 100 MW/129 MWh Tesla Powerpack system, the aim of South Australia's Hornsdale Power Reserve is to "facilitate integration of renewable energy in the State and assist in preventing load-shedding events."⁶ The Hornsdale system "can dispatch large amounts of power quickly and reliably."⁷</p> <p>5.2.2. In September 2019, the Los Angeles Department of Water and Power's Board of Commissioners voted to approve the Eland Solar & Storage Center (Eland), a 400 MW solar power plant with 300 MW/1,200 megawatt-hours of energy storage.⁸ Eland will use 8-minute energy to provide "fully dispatchable power under control of the Los Angeles Department of Water & Power to meet</p>
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⁵ Id.

⁶ Hornsdale Power Reserve: Overview, <https://hornsdalepowerreserve.com.au/overview/>.

⁷ Id.

⁸ Julian Spector, *Massive Solar-Battery Plant Wins Approval in L.A., Overcoming Union Concerns*, Green Tech Media (10 September 2019), <https://www.greentechmedia.com/articles/read/massive-solar-battery-plant-wins-approval-in-l-a-overcoming-union-concerns>.

	<p>customer demand with reliable cost-effective power," a capability that only large fossil fuel plants traditionally had.⁹ With a 60 percent capacity factor, the plant will be "able to power California for a big portion of the day and eat into peak load."¹⁰ The combined solar and storage is cheaper than gas-generated electricity in California.¹¹</p> <p>5.2.3. Similarly, AES Corporation launched the Lawai Solar and Energy Storage Project in Kauai, Hawaii, early last year.¹² Lawai can provide up to 20 MW for five hours.¹³ Its storage capacity of 100 MWh also allows it to "operate more like a baseload plant, delivering a lower amount of power for more hours through the night until the sun comes back up."¹⁴</p> <p>6. In addition to providing mid-merit power, adding renewable energy with storage to South Africa's electricity grid would help the government achieve its greenhouse gas reduction goals, and fulfil its constitutional obligations to protect against human rights impacts from air pollution and</p>
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⁹ T&D World, *Glendale Water and Power Enters Into Agreement To Purchase Solar And Battery Energy Storage* (23 December 2019), <https://www.tdworld.com/grid-innovations/generation-and-renewables/article/21119189/glendale-water-and-power-enters-into-agreement-to-purchase-solar-and-battery-energy-storage>.

¹⁰ See *Massive Solar-Battery Plant Wins Approval in L.A.*

¹¹ Sammy Roth, *Los Angeles OKs a deal for record-cheap solar power and battery storage*, Los Angeles Times (10 September 2019), <https://www.latimes.com/environment/story/2019-09-10/ladwp-votes-on-eland-solar-contract>.

¹² Julian Spector, *AES Completes Record-Breaking Solar and Battery Plant on Kauai*, Green Tech Media (08 January 2019), <https://www.greentechmedia.com/articles/read/aes-completes-its-record-breaking-solar-and-battery-plant-on-kauai>.

¹³ *Id.*

¹⁴ *Id.*



<p>climate change, much more so than natural gas and would also enable the further development of renewable energy resources.</p>	
<p>7. Renewable energy also uses far less water than gas.</p> <p>7.1. The EIR states that between 2,000-5,000m³/day of water is required for the operation of the CCPP.¹⁵</p> <p>7.2. By comparison, renewable energy like solar and wind generation do not require water for energy conversion. Water is used to wash panels and blades when needed.¹⁶ For example, a 2019 study comparing the lifecycle water withdrawals for different energy sources, including natural gas combined cycle, wind, and solar, found that “if renewable electricity generation replaces coal generation, the water consumption savings will be even greater than the transition to natural gas . . . , while water withdrawals will be negligible compared to those of coal and natural gas.”¹⁷</p> <p>8. Finally, renewable energy with battery storage systems are cost-competitive with natural gas.</p>	

¹⁵ EIA at 32.

¹⁶ Andrew J. Kondash et al., *Quantification of the water-use reduction associated with the transition from coal to natural gas in the US electricity sector*, Environmental Research Letters (4 December 2019), available at <https://iopscience.iop.org/article/10.1088/1748-9326/ab4d71>.

¹⁷ *Id.*

<p>8.1. According to data from the International Renewable Energy Agency (IRENA), the global weighted-average levelised cost of electricity (LCOE) of utility-scale solar PV fell from USD 0.371/kWh in 2010 to USD0.085/kWh by 2018, a 77% reduction in cost.¹⁸ By comparison, in 2019, the cost of electricity generated by a new gas plant ranged from \$0.05/kWh to over \$0.15/kWh.¹⁹</p>	
<p>8.2. Renewable energy plus storage are expected to become cheaper than gas-generated electricity in the near future – this is without consideration of external costs.</p>	
<p>8.2.1. One study found that <i>"Natural gas plants that move forward are at high risk of becoming stranded assets, and as early as 2021, some existing power plants could be more expensive to continue operating than least-cost CEP alternatives, depending on gas prices."</i>²⁰</p>	
<p>8.2.2. Construction of the CCPP power plant is expected to take approximately 36 to 48 months,²¹ by which time operating the plant may cost more than relying on renewable energy plus storage.</p>	

¹⁸ International Renewable Energy Agency (2019), *Renewable Power Generation Costs in 2018* at 21, available at https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/May/IRENA_Renewable-Power-Generations-Costs-in-2018.pdf.

¹⁹ Dominic Dudley, *Renewable Energy Costs Take Another Tumble, Making Fossil Fuels Look More Expensive Than Ever* (29 May 2019), available at <https://www.forbes.com/sites/dominicdudley/2019/05/29/renewable-energy-costs-tumble/#129c8898e8ce>.

²⁰ C. Bloch et al., *Breakthrough Batteries: Powering the Era of Clean Electrification* at 7, Rocky Mountain Institute.

²¹ EIA at 31.

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<p>9. In summary, the First Respondent's decision to grant the environmental authorisation without considering viable, cost-competitive renewable energy alternatives is inconsistent with NEMA, the EIA Regulations, and the Constitution.</p>	
<p><u>Ground 2: The proposed CCPP power plant is neither necessary nor desirable</u></p> <p>10. Regulation 18 of the EIA Regulations requires a competent authority, in considering an application for an environmental authorisation, to have regard to the need and desirability of the undertaking of the proposed activity.</p> <p>11. Section 2 of Appendix 3 to the EIA Regulations also states that the objective of the EIA process is to "<i>describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report</i>".</p> <p>12. As mentioned, the CCPP is neither necessary nor desirable, particularly when cleaner energy alternatives can address South Africa's generation capacity needs. As discussed above, renewable energy with storage technology is a viable, cost-competitive alternative to natural gas, and can better accomplish the stated needs of the Richards Bay CCPP. Eskom should have considered this alternative as meeting the alleged need and desirability for the CCPP.</p>	

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<p>13. In addition, and while not determinative of the First Respondent's decision, the recently published 2019 IRP may not support construction of a new gas power plant. The alleged need and desirability for the proposed CCPP power plant, as set out in the EIA, are based on the 2018 IRP draft, which provides for 8100 MW of new gas or diesel, while the 2019 IRP allocated only 3000 MW of new gas.²² Importantly, the 2019 IRP found that that an additional gas capacity of 3000 MW would not likely justify the development of new gas power plants. The 2019 IRP states that "low gas utilization [of 3000 MW] . . . will not likely justify the development of new gas infrastructure and power plants predicated on such sub-optimal volumes of gas."²³ Instead, "[c]onsideration must . . . be given to the conversion of the diesel-powered peakers on the east coast of South Africa, as this is taken to be the first location for gas importation infrastructure and associated gas to power plants."²⁴ While we submit that no gas power is necessary to meet the energy needs of the country, the 2019 IRP serves as a strong indication that any proposed reliance on gas should be seriously reconsidered, and lock-in to big gas infrastructure should be avoided.</p>	<p>14. Third, because renewable energy may soon become cheaper than gas, moving forward with natural gas at this time opens up the risk that gas-related infrastructure will soon become</p>
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²² EIA at 49.

²³ IRP 2019 at 47.

²⁴ *Id.*

<p>stranded assets as renewable energy and storage technologies become more cost-competitive.²⁵ This further calls into question the need and desirability of the CCPP.</p> <p>15. In summary, the Acting Chief Director's decision to grant the environmental authorisation without critically re-evaluating the need for the CCPP power plant in light of advancements in renewable technology and the IRP 2019's reduced gas-to-power allocation is a fatal flaw.</p>		
<p><u>Ground 3: Failure to adequately consider the climate change impacts of the Project</u></p> <p>The CCIA is deficient in that key climate considerations were not assessed</p> <p>16. A climate change impact assessment (CCIA) must assess the following:</p> <p>16.1. the impacts of the project's greenhouse gas (GHG) emissions, including an assessment of:</p> <p>16.1.1. the indirect and full life-cycle emissions, these being the GHG emissions arising from extraction; transportation; construction of the plant and decommissioning;</p> <p>16.1.2. cumulative emissions (i.e. the additive contribution of the project to pre-existing</p>		

²⁵ C. Bloch et al., *Breakthrough Batteries: Powering the Era of Clean Electrification* at 7, Rocky Mountain Institute.

GHG emissions for South Africa); and	<p>16.1.3. the environmental and social cost of the GHG emissions i.e. the contribution of the project's GHG emissions to South Africa's climate costs and impacts;</p> <p>16.2. the ways in which the project area will be impacted by climate change and the extent to which the project would aggravate these impacts. In other words, the project's impacts on the area's climate resilience and ability to adapt to a changed climate. Given that this is a long-term and large-scale project, consideration must be given to the ways in which climate change will impact on the area and communities where the project will be based, and how the project's own impacts will affect the area's resilience or vulnerability to the effects of climate change as they intensify; and</p> <p>16.3. the ways in which the effects of climate change will impact on the project itself, and its ability to operate optimally and efficiently for its full anticipated lifespan.</p> <p>17. The 2017 judgment in the case of <i>Earthlife Africa Johannesburg v the Minister & Others</i> ("the Thabametsi case") confirmed that a CCIA is a necessary component of an EIA for projects with climate impacts. In this case, the court acknowledged the need for a CCIA much broader than a mere assessment of anticipated emissions. It confirmed the need for a comprehensive assessment, which assesses, <i>inter alia</i>, the impacts of climate change on the project and the</p>
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<p>ways in which the project might aggravate the impacts of climate change in the area.²⁶ The Pretoria High Court concluded that “[w]ithout a full assessment of the climate change impact of the project, there was no rational basis for the Chief Director to endorse these baseless assertions” (emphasis added).²⁷</p>	<p>18. The following are some of the deficiencies in the CCIA for this project:</p> <p>18.1. The CCIA does not consider the full lifecycle emissions of the Project - including from methane leakages, the pipeline supplying gas from the port, the plant construction and decommissioning.</p> <p>18.1.1. The CCIA states that only the direct operational emissions from fuel combustion are considered.²⁸ This is far too narrow to constitute an acceptable assessment of the Project’s full GHG emissions and climate impacts.</p> <p>18.1.2. Gas-fired generation, in particular, has significant upstream GHG emissions, as the extraction and transportation of gas to generation plants, <i>inter alia</i>, result in substantial emissions.</p>
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²⁶ See para 44, Thabametsi judgment.

²⁷ Para 101, Thabametsi judgment. The “baseless assertions” to which reference is made are the statements in Thabametsi’s EIR - on which the Chief Director relied exclusively - that the climate change impacts of the project were relatively small and low.

²⁸ Pg, Climate Change Assessment.

	<p>18.1.3. The CCIA confirms the significant global warming potential of methane (a primary component of natural gas) and acknowledges that “any leaks of natural gas prior to combustion could result in increased carbon emissions without any electricity generation”.²⁹ Methane (CH₄) leakage from extraction, transport, and storage of natural gas (particularly from pipelines and well heads) is often considerable, thus hindering any perceived advantage in terms of GHG emission reductions, when gas is properly compared to other electricity sources, including coal. Yet the CCIA contains no assessment of the risks and probability of such leaks occurring or the potential impacts of this.</p> <p>18.1.4. This is a material deficiency.</p> <p>18.2. The CCIA looks at technology option costs but it does not assess or even mention the external social cost of the project’s GHG emissions – a further material omission.</p> <p>18.2.1. The section 2 NEMA principle that the ‘polluter’ must ‘pay’ for damage and/or environmental degradation,³⁰ requires that the costs of the GHG emissions be quantified, as well as the provisions of section 28 of NEMA, which places a</p>
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²⁹ P23, Climate Change Assessment.

³⁰ S2(4)(p), NEMA states that “costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.”



<p>duty on anyone who "causes, has caused or may cause significant pollution or degradation of the environment ... to minimise and rectify such pollution or degradation of the environment,"³¹ with measures including remedying the harm caused.</p> <p>18.2.2. The Interagency Working Group on the Social Cost of Greenhouse Gases (IWG) in the USA has attributed global amounts in scope and applicability, representing the costs of global climate impacts.³² This is a widely used method for calculating the cost of projects' GHG emissions.</p> <p>18.2.3. Experts in the USA are now of the view that even the IWG figures do not fully account for the true social costs of GHG emissions – as they fail to consider additional factors such as climate damages on long-term GDP; the effect of emissions on ocean acidification and warming;³³ or the thawing of permafrost.³⁴ In other words the true social costs of GHG emissions are</p>	
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³¹ Section 28(1) read with 28(3)(f), NEMA.

³² The social cost of carbon, as determined by the IWG, is a consensus of the estimate of the social cost of carbon as calculated by three proprietary models: FUND, DICE, and PAGE, as described in the Technical Support Document available at https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf (p5):

"We rely on three integrated assessment models (IAMS) commonly used to estimate the SCC: the FUND, DICE, and PAGE models. These models are frequently cited in the peer-reviewed literature and used in the IPCC assessment. Each model is given equal weight in the SCC values developed through this process, bearing in mind their different limitations."

³³ See Talberth, John, and Ernie Niemi. (2017) "Ocean Acidification and Warming: The economic toll and implications for the social cost of carbon."

³⁴ See González-Eguino, M., & Neumann, M. B. (2016). Significant implications of permafrost thawing for climate change control. *Climatic Change*, 136(2), 381-388.

	<p>significantly higher than initially estimated – and the methodology for calculating emissions under the social cost of carbon is still likely to produce a conservative cost estimate.</p> <p>18.2.4. Essentially, calculating the external costs of the CCPP's GHG emissions would, in all likelihood show that, if the plant had to absorb the external costs of its GHG emissions, it would not be financially feasible to operate. It would also mean that consumers would ultimately have to pay much higher costs for gas-based electricity in South Africa.</p> <p>18.3. The CCIA refers to biomass fuel-switching and carbon capture and storage as possible technology options to mitigate the project's GHG emissions, yet these technology options themselves have not been assessed as part of the project EIA.</p> <p>18.4. The CCIA has not assessed how predicted climate change effects on the environment and society will be aggravated by the project's impacts.</p> <p>18.4.1. The CCIA briefly touches upon the local climate change impacts for Richards Bay, stating that <i>"the Long Term Adaptation Scenarios predict that as a consequence of climate change, drought conditions ... may persist in future. It is projected that the Pongola-Umzimkulu hydrological zone, which covers most</i></p>
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<p>of KwaZulu-Natal is likely to experience extreme warming beyond the natural temperature variability. It will also see reductions in rainfall, particularly in the autumn and winter month (sic)" ³⁵ This is severely lacking in the necessary detail that is required for a comprehensive CCIA.</p>	
<p>18.4.2. There appears to be no modelling or scientific climate impact projections and/or scenarios for the area over any particular duration.</p>	
<p>18.4.3. Importantly the CCIA has not sought, at all, to assess how the project would impact upon the area's evident vulnerability to climate change and the necessary local climate adaptation and resilience of the surrounding environment and communities. The CCIA makes mention of reduced rainfall and increased temperatures for the area but fails to assess or even consider how the project would exacerbate the surrounding environment and communities' vulnerability and exposure to these impacts.</p>	
<p>18.5. The CCIA has not adequately assessed the potential risk and impacts of climate change to the project itself.</p>	
<p>18.5.1. It states that "if water resources are severely affected the proposed CCPP plant</p>	

³⁵ P21, Climate Change Assessment.

<p>may even be impacted upon and may require alternative operational arrangements”³⁶</p>	<p>18.5.2. Despite acknowledging the existence of potential severe impacts for the future operation and feasibility of the plant, no deeper assessment is made into the likelihood and risks of this occurring; and/or measures to address the climate impacts, such as a critical water shortage – which could result in the abandonment and termination of the project.</p> <p>18.5.3. This is a fundamental oversight.</p> <p>19. The CCIA is thus materially deficient in many respects.</p> <p>20. The CCIA is incorrect in stating that it is “impossible to link the emissions from the power station to any particular climate change effects.”³⁷ The science of attributing climate impacts to particular GHG emission sources is well-established and accepted.³⁸</p> <p>21. All of the above-listed impacts, which are not considered in the CCIA, needed to be assessed</p>
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³⁶ P21, Climate Change Assessment.

³⁷ Climate Change Assessment at 15.

³⁸ See, for example, <https://www.politico.com/agenda/story/2019/10/22/attribution-science-fossil-fuels-climate-change-001290> and refer to the work of the Climate Accountability Institute <https://climateaccountability.org/>.

<p>and considered by the First Appellant, before a decision could have been made to authorise the project. The Thabametsi case confirms this.</p> <p>22. As the above impacts were not assessed in the CCIA, the Chief Director could not have adequately considered them in making her decision. On this basis, the requirements of section 24(4) and 24O of NEMA, and regulation 18 of the NEMA EIA Regulations, have not been met.</p> <p>Conclusions of CCIA are not reasonable and necessary considerations were not taken into account by the decision-maker</p> <p>23. The CCIA errs in several respects in relation to the climate impacts that it does assess, and the conclusions that it draws. To elaborate:</p> <p>23.1. the CCIA confirms that the project would produce significant quantities of GHG emissions annually (4.6 million tonnes CO₂e), that <i>"the impact of these emissions is considered as high due to the impact on the national inventory from a single source"</i> and that <i>"the extent of the impact is global and the duration is considered as permanent"</i>.³⁹</p> <p>23.2. the CCIA refers to options to mitigate these high impacts, relying solely upon mitigation measures, namely fuel-switching and carbon capture and storage (CCS) – neither of</p>	
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³⁹ P23, Climate Change Impact Assessment.

<p>which are likely to be feasible or sufficient means to mitigate the high GHG emissions, in any event, they have not been assessed as part of the project design in the EIA;</p>	<p>23.3. the CCIA seeks to balance and justify the high impact of the project's emissions with the allegation that the impacts can be mitigated (yet no basis is provided to confirm that this is in fact correct) and that the plant would enable the uptake of renewable energy (but fails to assess alternative options, with less impacts, which would also enable the uptake of renewable energy); and</p> <p>23.4. it incorrectly concludes that <i>"the proposed CCPP power plant is the best technology option, and it will not materially result in any direct local climate change impacts, subject to the implementation of appropriate mitigation measures."</i>⁴⁰</p> <p>24. The CCIA's conclusion that the high climate impacts could be justified is arbitrary and incorrect for the following reasons:</p> <p>24.1. There are no adequate mitigation measures to substantially and effectively mitigate the full scope of the project's high GHG emissions and climate impacts.</p> <p>24.1.1. It is highly unlikely that CCS would be feasible, and certainly not cost effective.</p>
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⁴⁰ P24, Climate Change Impact Assessment.

	<p>Not only is CCS currently not proven to be workable in any locations in South Africa, but also on a global scale, there is no evidence that it is a reliable mitigation measure - “[Carbon dioxide removal] deployed at scale is <i>unproven, and reliance on such technology is a major risk in the ability to limit warming to 1.5°C</i>”⁴¹ The CCIA’s reliance on CCS as a mitigation measure is speculative at best.</p> <p>24.1.2. Any achievable reductions from fuel-switching would still not be sufficient or substantial (particularly if lifecycle emissions from biomass i.e. land clearing, are taken into account).</p> <p>24.1.3. To the best of our knowledge, neither biomass fuel-switching nor CCS have been incorporated into the design of the project as assessed – their impacts have thus not been assessed as part of the project, and it cannot be assumed that they will be built-in to the project on time and with the necessary licences and authorisations required – as they are not within the scope of the authorisation. As such, it must be assumed that the project would proceed without these measures.</p>
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⁴¹ J. Rogelj et al., Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development. 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* at 96 (2018).

	<p>24.2. The CCIA arbitrarily concludes that the project is the best technology option without having considered renewable energy with storage as an alternative.</p> <p>24.3. In light of the substantial evidence of irreversible climate impacts should temperature increases exceed 1.5 degrees Celsius, and the urgent need to abandon fossil fuels in the energy sector in order to ensure the 1.5 °C mark is not exceeded, the high GHG emissions could not be regarded as outweighing any alleged benefits, particularly given the existence of alternative options – with substantially fewer GHG emission and climate impacts (see first ground of review in this regard).</p> <p>25. In relying on the above incorrect CCIA conclusions in reaching her decision, the First Respondent failed to meet the section 24O NEMA requirement to adequately take into account, <i>inter alia</i>: any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused; measures that may be taken to protect the environment from harm as a result of the activity which is the subject of the application; and to prevent, control, abate or mitigate any pollution, substantially detrimental environmental impacts or environmental degradation; and the ability of the applicant to implement mitigation measures and to comply with any conditions subject to which the application may be granted.</p> <p>26. Furthermore, in relying on the CCIA's conclusion in making her decision to authorise the project,</p>
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<p>the First Respondent made a decision, which is unreasonable.</p>	<p>27. Given South Africa's extreme vulnerability to the impacts of climate change – as confirmed in its own climate change response policy⁴² - arguably any decision to lock the country in to more harmful GHG emissions (particularly for a project that is not needed) would be in direct contravention of the state's Constitutional obligations to protect the rights of the people of South Africa, and the duty of care embodied in section 28 of NEMA.</p> <p>28.. Already South Africa is falling behind on its global and Constitutional obligations to address climate change, with commitments that fall outside the fair share range; and are not consistent with the Paris Agreement 2 degrees Celsius target – let alone the 1.5 degree benchmark set by the IPCC. On the country's present emissions trajectory (if all government targets were in the same range as South Africa's), warming (at a global average) would reach between 3 and 4 degrees Celsius.⁴³ This would be even more for South Africa, as its Nationally Determined Contribution confirms that even a global average temperature increase of 2°C translates to up to 4°C for South Africa by the end of the century.</p> <p>29. Clearly any government decisions that would allow new significant sources of GHG emissions</p>
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⁴² P8, National Climate Change Response White Paper 2011, at https://www.environment.gov.za/sites/default/files/legislations/national_climatechange_response_whitepaper.pdf.
⁴³ <https://climateactiontracker.org/countries/south-africa/>.

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<p>(such as the present project) are tantamount to severe negligence and are in flagrant violation of the rights to, <i>inter alia</i>, life,⁴⁴ human dignity,⁴⁵ to have the environment protected for the benefit of present and future generations, as enshrined in South Africa's Constitution.⁴⁶</p>		
<p><u>Ground 4: Failure to adequately assess and consider the cumulative impacts of the Project</u></p> <p>30. Section 24O of NEMA instructs the competent authority to "take into account all relevant factors, which may include (i) any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused."</p> <p>31. Section 28 of NEMA also provides that:</p> <p style="padding-left: 40px;"><i>"Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment."</i></p> <p>32. The NEMA EIA Regulations, Appendix 3 section 3(j)(i), requires that "an environmental impact</p>		

⁴⁴ Section 11.

⁴⁵ Section 10.

⁴⁶ Section 24.



	<p>assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include each identified potentially significant impact and risk, including (i) cumulative impacts....”</p> <p>33. Contrary to NEMA, the 2017 EIA Regulations, and section 24 of the Constitution, the Acting Director granted the environmental authorisation even though the EIA did not consider emissions and cumulative health risk from all polluting sources in Richards Bay.</p> <p>34. The EIA did not account for the cumulative air quality impacts.</p> <p>34.1. Richards Bay is home to several other polluting industrial developments including the Mondi pulp mill—the biggest pulp factory in South Africa—and South32’s Hillside aluminium smelter.⁴⁷ The smelter emits solid particulates such as carbon, alumina, fluorides, and condensed hydrocarbons, carbon dioxide, carbon monoxide, gaseous fluorides, and sulphur dioxide.⁴⁸</p> <p>34.2. The EIA does not discuss how facilities like the mill and smelter contribute to the existing air pollution in Richards Bay. With regards to emissions from the Mondi factory, the EIA</p>
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⁴⁷ EIA at 248.

⁴⁸ <https://www.environment.co.za/environmental-issues/richards-bay-faqs.html>.

	<p>provides only that "[t]he potential impact stated by the environmental manager of Mondi is the odorous gases that may be a nuisance to the CCPP employees."⁴⁹</p> <p>34.3. Instead of analysing the cumulative impact of all sources in the area as required, the EIR concludes that "[n]o cumulative impacts were identified for air quality". Although acknowledging that "[i]ncreased ambient concentrations of [SO₂, NO_x, VOCs, PM and H₂S] may result in negative human health impacts," the EIR provides that "it is improbable that the facility would approach the emission limits" if it "normally operates at emissions rates approximating those calculated for natural gas, which is inherently very low in sulfur."⁵⁰ This analysis neither provides a quantitative assessment of the plant's own contributions to the baseline air pollution in Richards Bay nor assesses the impact of those emissions in combination with pollution from surrounding sources.</p> <p>35. The EIA did not adequately consider the public health impacts of the CCPP's emissions on the air quality in Richards Bay.</p> <p>35.1. The Air Quality Assessment Report concludes that the "No-Go" option—where the plant is not constructed—"would result in ambient air pollutant concentrations like the existing baseline," which includes exceedances of the NAAQS:</p>
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⁴⁹ EIA at 250.

⁵⁰ EIA at 255.

	<p>35.1.1.1. <i>"The baseline assessment highlighted occasional short-term SO₂ exceedances and one annual exceedance of the PM₁₀ NAAQS in the last four years. Increased ambient concentrations of fine particulates and gaseous pollutants may result in negative human health impacts. Impacts are likely across the Richards Bay airshed, with a hot spot area for PM₁₀ located near the coal handling port."</i>⁵¹</p> <p>35.2. Despite acknowledging "impacts on the quality of public health due to emissions from the operating Richards Bay CCPP, combined with existing plant," the EIA concludes that "the positive impacts outweigh the negative impacts from a socio-economic perspective."⁵²</p> <p>35.3. Given that the baseline ambient air pollution in Richards Bay already exceeds the NAAQS, the EIA should have evaluated the cumulative health impacts on surrounding communities from existing pollution and the CCPP power plant's future emissions. Without such an analysis, the EIA's conclusion that the positive impacts of the plant outweigh its negative impacts is invalid.</p> <p>36. In summary, the Acting Chief Director's decision to grant the environmental authorisation for the</p>
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⁵¹ Air Quality Assessment Report at 66.

⁵² EIA at 12.



<p>CCPP without consideration of cumulative air quality and health impacts is flawed and inconsistent with NEMA and the 2017 EIA Regulations. Moving forward with the plant without proper regard to its impact on public health also violates nearby communities' constitutional right to an environment that is not harmful to health or well-being.</p>		
<p><u>Ground 5: Authorisation of the Project in the absence of material information and impact assessments attached to the Authorisation</u></p> <p>37. The First Respondent authorised the Project in the absence of material information and impact assessments attached to the Authorisation and, in doing so, failed to comply with section 24O (the requirement that the competent authority take into account any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused) and section 24E NEMA, which requires that, "[e]very environmental authorisation must as a minimum ensure that— (a) adequate provision is made for the ongoing management and monitoring of the impacts of the activity on the environment throughout the life cycle of the activity".</p> <p>38. The First Respondent authorised the project without key substantive technical studies and investigations having been completed. This includes the following:</p> <p>38.1. a comprehensive climate change impact analysis that complies with all of the requirements described above;</p>		

<p>38.2. an comprehensive assessment of climate change mitigation measures, including their cost, potential design, and feasibility;</p> <p>38.3. a final Wetland Offset Plan (condition 36 of the authorisation); and</p> <p>38.4. a cumulative impacts study that assesses other major emitters in the area.</p> <p>39. These studies and investigations cover material information that the First Respondent must have reviewed and considered prior to making an informed decision regarding the Project. Without these studies, the First Respondent could not have taken into account all the pollution, environmental impacts or environmental degradation likely to be caused by the Project. Yet the outcomes of these studies can have no bearing on the First Respondent's decision to grant or refuse the Environmental Authorisation. In addition, I&APs cannot comment on these potential impacts if they are considered after Authorisation is granted.</p>	
<p><u>Ground 6: Decision to issue the Authorise contravenes NEMA Principles, the Constitution and PAJA</u></p> <p>40. Section 33 of the Constitution recognises that everyone has the right to administrative action that is lawful, reasonable and procedurally fair. PAJA seeks to give effect to this right.</p> <p>41. The Acting Chief Director's decision to grant the environmental authorisation for the CCPP</p>	

<p>constitutes an administrative action.</p>	<p>42. Section 6(2) of PAJA provides that a court or tribunal has the power to judicially review administrative action if, <i>inter alia</i>:</p> <p>42.1. irrelevant considerations were taken into account or relevant considerations were not considered;</p> <p>42.2. the action itself contravenes a law or is not authorised by an empowering provision;</p> <p>42.3. the action itself is not rationally connected to the information before the administrator; and</p> <p>42.4. the exercise of the power or the performance of the function authorised by the empowering provision, in pursuance of which administrative action was purportedly taken, is so unreasonable that no reasonable person could have so exercised the power or performed the function.</p> <p>Irrelevant considerations were taken into account or relevant considerations were not considered⁵³</p> <p>43. As already mentioned, it is submitted that the Acting Chief Director failed to take into account a number of relevant considerations such as:</p>
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⁵³ Section 6(2)(e)(iii) PAJA.

<p>43.1. Renewable energy alternatives to the project;</p> <p>43.2. the cumulative impacts of the project and other developments in the region;</p> <p>43.3. the climate change impacts of the project; and</p> <p>43.4. the health impacts of the project.</p>		
<p>44. Moreover, it is Appellants' understanding that fence-line communities who depend on fishing in the area, and whose livelihoods would be impacted by the development, were not consulted. This is a major oversight and procedural injustice.</p>		
<p>The action itself contravenes a law or is not authorised by an empowering provision⁵⁴</p>		
<p>45. As already demonstrated above, the decision to grant the environmental authorisation is in direct contravention of a number of provisions of NEMA, the EIA Regulations, as well as section 24 of the Constitution.</p>		
<p>The action itself is not rationally connected to the information before the administrator⁵⁵</p>		
<p>46. The EIA indicates that existing air pollution in Richards Bay has resulted in exceedances of the NAAQS, even without the addition of a large gas plant.</p>		

⁵⁴ Section 6(2)(f)(i) PAJA.

⁵⁵ Section 6(2)(f)(ii)(bb) PAJA.

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<p>47. Furthermore, the Reasons for Decision show no attempt by the Acting Chief Director to critically assess the mitigation measures proposed in the EIR or consider alternatives to gas-generated electricity in reducing South Africa's carbon footprint. This is particularly the case for the mitigation measures proposed to address climate change impacts.</p>	
<p>48. In granting the environmental authorisation, the First Respondent demonstrates that she failed to give adequate consideration to the above information, as well as other relevant considerations, in the revised EIR. As a result, this decision is not rationally connected to the information that was before the First Respondent.</p>	
<p>The exercise of the power or the performance of the function authorised by the empowering provision, in pursuance of which administrative action was purportedly taken, is so unreasonable that no reasonable person could have so exercised the power or performed the function⁵⁶</p>	
<p>49. In the circumstances, it is submitted that the decision to grant the environmental authorisation is unreasonable for the reasons stated in the grounds above, including that it:</p>	
<p>49.1. fails to assess viable, and cost effective renewable alternatives that are less polluting,</p>	

⁵⁶ Section 6(2)(h) PAJA.

<p>use less water, and have a much smaller carbon footprint;</p> <p>49.2. fails to recognise cumulative impacts on air quality from the project and neighbouring developments;</p> <p>49.3. fails to assess and take into account health impacts from increased pollutant levels;</p> <p>49.4. fails to apply the principles and provisions of NEMA and to give recognition to the duty to uphold the constitutional right to an environment not harmful to health or well-being;⁵⁷ and</p> <p>49.5. authorises the CCPP despite acknowledging existing non-compliance with the NAAQS.</p>		
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⁵⁷ Section 24 of the Constitution of the Republic of South Africa 108 of 1996.

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

APPEAL QUESTIONNAIRE

An electronic copy of this questionnaire may be obtained from:

Mr Z Hassam at telephone: 012 399 9356 or e-mail:

AppealsDirectorate@environment.gov.za

Once completed, this document must be forwarded to:

E-mail: AppealsDirectorate@environment.gov.za

Physical Address: Department of Environmental Affairs, 473 Steve Biko Road,
Environment House, Arcadia, Pretoria; 0002

Appellants' contact information:

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(SDCEA)

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Email: robs@groundwork.org.za
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desmond@sdceango.co.za

Project information:

Project name: Construction of the Richards Bay Combined Cycle Power Plant and associated infrastructure within the City of uMhlathuze Local Municipality in KwaZulu Natal Province

Authorisation register number as on environmental authorisation:
14/12/16/3/3/2/1123

Authorisation date as on environmental authorisation: 23 December 2019

IMPORTANT! Please note:

- *The decision of the department is reflected in the letter of authorisation or rejection. The conditions of approval are contained in the environmental authorisation document, attached to the authorisation letter.*
- *The appeal must be accompanied by all relevant supporting documents or copies of these that are certified as true by a commissioner of oaths.*
- *The grounds of your appeal and the facts upon which they rest must be set out. You should formulate your objections or concerns as averments and not as questions about the project. Please therefore refrain from material or remarks that do not contribute to the merits of your appeal.*
- *To assist in this regard, the following questions are listed as a guideline only – more space may be used if necessary:*

-
1. Are you lodging this appeal as an individual or on behalf of a community/organisation?

Individual	Community/ organisation
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This appeal is being lodged by the appellant organisations on their own behalf. The signatories to this questionnaire are duly mandated and authorised to represent the respective appellant organisations.

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2. Is your appeal based on factors associated with the process that was followed by the applicant in obtaining authorisation?

Yes	No
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Please provide reasons:

See generally Grounds of Appeal.

3. Is your appeal based on factors associated with environmental impacts not taken into account by the department in refusing or authorising the application?

Yes	No
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Please provide reasons:

See generally Grounds of Appeal.

4. Would you agree to the activity proceeding if your concerns can be addressed by rectifying the process or mitigating or eliminating the impacts of the activity?

Yes	No
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Please provide reasons:

Due to existing Air Quality Standard violations and the urgent need for South Africa to reduce its greenhouse gas emissions, the Appellants would only agree to the Project proceeding if it does not rely on harmful fossil fuels or biofuels to generate electricity.

5. Are you fundamentally opposed to any development activity on the site?

Yes	No
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Please provide reasons:

The Appellants would not be opposed to a renewable (solar or wind) energy facility on the site on condition that it does not negatively impact on the local biodiversity or people.

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6. Do you have an objection in principle against the development?

Yes	No
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Please provide reasons:

See generally Grounds of Appeal.

7. Does your appeal contain any new information that was not submitted to the environmental consultant or department prior to the department's consideration of the application?

Yes	No
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If the answer above is yes, please explain why it should be considered by the Minister and why it was not made available to the environmental consultant or department during the application process.

New information related to the Appellants' analysis of the natural gas allocation in the IRP 2019 was not previously made available to the department because the IRP 2019 was not published until October of 2019—after the final EIA comment period had ended. Additional relevant information on clean renewable energy has also been provided in response to the Acting Chief Director's uncritical acceptance of Eskom's infeasible mitigation measures and justification for a new gas plant. The Minister should consider this new information because it is crucial to her determination of whether the Acting Chief Director's decision to grant the environmental authorisation contravened the law including South Africa's Constitution, the National Environmental Management Act, the 2017 Environmental Impact Assessment Regulations, and the Promotion of Administrative Justice Act.

8. **DECLARATION:**

I declare that the contents of this submission are to the best of my knowledge the truth and I regard this declaration as binding on my conscience.





Robby Mokgalaka
Coal Campaign Manager
groundWork



Avena Jacklin
Climate and Energy Justice Campaign Manager
groundWork



Desmond D'Sa
Coordinator
South Durban Community Environmental Alliance

APPELLANTS

DATE: 27 January 2020



"ANNEXURE A"

GROUNDWORK

First Appellant

SOUTH DURBAN COMMUNITY

ENVIRONMENTAL ALLIANCE

Second Appellant

CHIEF DIRECTOR: INTEGRATED ENVIRONMENTAL

AUTHORISATIONS, DEPARTMENT OF

ENVIRONMENT, FORESTRY AND FISHERIES

First Respondent

ESKOM HOLDINGS SOC LTD

Second Respondent

APPEAL PURSUANT TO SECTION 43(2) OF THE NATIONAL ENVIRONMENTAL
MANAGEMENT ACT, 1998 AGAINST ENVIRONMENTAL AUTHORISATION
GRANTED TO ESKOM HOLDINGS SOC LTD IN DECEMBER 2019

INTRODUCTION

1. This is an appeal to the Honourable Minister of Environment, Forestry and Fisheries ("**the Appeal**" to "**the Minister**"), directed at the Director: Appeals and Legal Review of the Department of Environment, Forestry and Fisheries (DEFF), to set aside the decision of the Acting Chief Director: Integrated Environmental Authorisations of the DEFF (as "**the First Respondent**") dated 23 December 2019 to grant an integrated environmental authorisation ("**the Authorisation**") to Eskom Holdings SOC LTD ("**Eskom**", "**the Applicant**" and "**the Second Respondent**").
2. The Authorisation, with reference number 14/12/16/3/3/2/1123, was granted in terms of regulation 25 of the National Environmental Management Act, 1998 (NEMA)

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Environmental Impact Assessment Regulations, 2014 as amended ("**EIA Regulations**")¹ and permits the Applicant to undertake various listed activities in connection with the establishment of Richards Bay Combined Cycle Power Plant ("**Richards Bay CCPP**") within Ward 26 of uMhlathuze Local Municipality, King Cetshwayo District Municipality, KwaZulu Natal Province ("**the Project**").

3. The Appellants were provided with the Authorisation and the notification email dated 7 January 2020 ("**the Notification**").
4. The Appeal is lodged in terms of section 43(1) of NEMA, which provides that "*any person may appeal to the Minister against the decision taken by any person acting under a power delegated by the Minister under [NEMA] or a specific environmental management act*", read with the NEMA National Appeal Regulations, 2014² ("**the Appeal Regulations**"), which provide for the submission of an appeal within 20 days from the date that the notification of the decision for an application for environmental authorisation was sent to the registered interested and affected parties (**I&APs**) by the Applicant.³
5. In accordance with the requirements of Regulation 4(2)(a) of the Appeal Regulations:
 - 5.1. this Appeal is submitted in writing in the form obtained from the Appeal Administrator, and accompanied by this more detailed appeal document, being a statement setting out the grounds of appeal ("**the Grounds of Appeal**"). The Appellants are entitled to also submit these more detailed Grounds of Appeal as the Appeal submission. This submission must be taken into account by the Minister in making a decision on the Appeal;
 - 5.2. to the extent possible, the Appeal is accompanied by relevant supporting documentation which is referred to in this Appeal submission - attached as Annexure A1 (to avoid burdening the papers the Appellants have not attached

¹ GN R 982 with Listing Notices GNR 983, 984 and 985 GG 38282 of 4 December 2014.

² GN R 993 GG 38303 of 8 December 2014.

³ Regulation 4(1)(a) NEMA National Appeal Regulations, 2014.

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all the supporting documentation, but have provided links to online sources and can make hard copies available if required); and

- 5.3. we confirm, in compliance with Regulation 4(1) of the Appeal Regulations, that this Appeal is submitted within 20 days from the date of notification to I&APs to the Appeal Administrator. A copy of the Appeal will be provided to the Applicant and to those registered I&APs, and organs of state with an interest in the matter, insofar as possible and within time and cost constraints. The statement regarding compliance with Regulation 4(1) is contained in the cover letter to which these Grounds of Appeal are attached. In any event, we confirm compliance with Regulation 4(1).
6. Pursuant to NEMA section 43(7), an appeal under section 43 "*suspends an environmental authorisation, exemption, directive, or any other decision made in terms of [NEMA] or any other specific environmental management Act, or any provision or condition attached thereto.*" We thus confirm that the Authorisation is hereby suspended.
7. The Appellants submit that the Appeal should succeed and the Authorisation granted to the Second Respondent by the First Respondent should be set aside because the First Respondent's decision to authorise the Project is unlawful in that it fails to comply with, *inter alia*, NEMA, for the reasons detailed below.
8. The Appellants further submit that there are grounds for judicial review under the Promotion of Administrative Justice Act, 2000 ("**PAJA**") because the Authorisation comprises administrative action that *inter alia*:
- 8.1. is unconstitutional or unlawful;⁴
- 8.2. was taken because of the consideration of irrelevant considerations and the failure to consider relevant considerations;⁵

⁴ PAJA section 6(2)(d), (f)(i) and (i).

⁵ PAJA section 6(e)(iii).



8.3. is not rationally connected to the information before the First Respondent in making the Authorisation or to the reasons provided by the First Respondent for the Authorisation;⁶ and

8.4. is so unreasonable that no reasonable person could have granted it.⁷

9. The Appellants submit that the process provided for in the Appeal Regulations, in particular the requirement to submit an appeal in 20 days of the notification, severely prejudices the Appellants and infringes on their rights to a fair process. The Appellants continue to assert that the unreasonably short timeframes and onerous notification requirements of regulation 4(1), among others, render the Appeal Regulations a violation of the rights to just administrative action,⁸ and are thus unconstitutional.

SUMMARY OF GROUNDS OF APPEAL

10. The Grounds of Appeal are set out in more detail in the section titled "Grounds of Appeal" below.

11. In brief, the Appellants submit that the decision to grant the Authorisation should be set aside by the Minister because the Environmental Impact Report ("EIR") failed to comply with NEMA in various respects; and the First Respondent's decision to grant the Authorisation contravenes various provisions of NEMA, including the National Environmental Management Principles (section 2 of NEMA) ("**NEMA Principles**"), in that:

11.1. the EIR and First Respondent have failed to accurately consider alternatives to the Project, including the no-go option, as required by section 24O(1)(b)(iv)

⁶ PAJA section 6(f)(ii)(cc) and (dd).

⁷ PAJA section 6(h).

⁸ S33 of the Constitution of RSA, 1996.

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NEMA, or to follow the precautionary principle as required by section 2 of NEMA;

- 11.2. the need and desirability of the Project has not been established, as required by regulation 18 of the EIA Regulations read with regulation 23(3) and Appendix 3 to the EIA Regulations;
- 11.3. the EIR and the First Respondent failed to adequately consider the climate change impacts of the Project, and therefore have failed to meet the requirements of, *inter alia*, section 24O(1) NEMA⁹ to account for all relevant factors,¹⁰ in particular those regarding the pollution, environmental impacts or environmental degradation "*likely to be caused if the application is approved*",¹¹ as well as any guidelines, departmental policies, and environmental management instruments and any other information in the possession of the competent authority relevant to the Application.¹² This is also in contravention of the NEMA requirement to ensure that the activity's potential environmental impacts are properly assessed;¹³
- 11.4. the EIR and First Respondent have failed to adequately assess and consider the cumulative impacts of the Project, as required by the NEMA EIA Regulations, Appendix 3 section 3(j)(i);
- 11.5. the First Respondent authorised the Project in the absence of material information and impact assessments, with only vague conditions attached to the Authorisation and, in doing so, failed to comply with section 24O (the requirement that the competent authority take into account any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused) and section 24E NEMA, which requires that "[e]very environmental authorisation must as a minimum ensure that—
(a) adequate provision is made for the ongoing management and monitoring

⁹ NEMA section 24O(1)(a).

¹⁰ NEMA section 24O1(b).

¹¹ NEMA section 24O1(b)(i).

¹² NEMA section 24O1(b)(viii).

¹³ NEMA section 24(4)(a)(iv).

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of the impacts of the activity on the environment throughout the life cycle of the activity"; and

11.6. In authorising the Project, the First Respondent failed to consider and/or give effect to: the NEMA Principles, including the precautionary principle¹⁴ and the principle that requires development to be environmentally, socially and economically sustainable;¹⁵ and the Constitutional rights to an environment that is not harmful to health or wellbeing – as enshrined in section 24 of the Constitution of the Republic of South Africa, 1996 ("**the Constitution**"). The decision to issue the Authorisation and the reasons provided therefor are, furthermore irrational and unreasonable, and thus in contravention of PAJA.

12. The contraventions of the requirements summarised above are addressed in detail in this Appeal.

PARTIES

13. The First Appellant is groundWork,¹⁶ an environmental justice and non-profit organisation that works with South and Southern African communities on environmental justice and human rights issues focusing on coal, climate and energy justice, waste and environmental health. groundWork works with a number of community groups throughout South Africa, including: the Vaal Environmental Justice Alliance; South Durban Community Environmental Alliance; Mfuleni Community Environmental Justice Organisation; South African Waste Pickers' Association; and Highveld Environmental Justice Network. groundWork is a registered I&AP in respect of the application process for the Authorisation.

14. The Second Appellant is the South Durban Community Environmental Alliance (SDCEA),¹⁷ a non-profit, environmental justice organisation based in south Durban. It was formed in 1996 and is made up of 16 affiliate organisations. SDCEA helps

¹⁴ S 2(4)(a)(vii), NEMA.

¹⁵ S 2(3), NEMA.

¹⁶ See <https://www.groundwork.org.za/>.

¹⁷ See <https://sdcea.co.za/>.

create awareness in the south Durban community around the health issues that confront the community members on a daily basis, and to fight to improve air quality within the broader KwaZulu-Natal area.

15. The Appellants have legal standing to bring the Appeal not only in terms of section 43 of NEMA, but also to enforce environmental laws (including "*a principle contained in Chapter 1, or of any provision of a specific environmental management Act, or of any other statutory provision concerned with the protection of the environment or the use of natural resources*")¹⁸ in terms of NEMA section 32, in that they *inter alia* act: "*(c) in the interest of or on behalf of a group or class of persons whose interests are affected; (d) in the public interest; and (e) in the interest of protecting the environment.*"¹⁹
16. The First Respondent is the Acting Chief Director: Integrated Environmental Authorisations, cited in her official capacity as the signatory of the Authorisation.
17. The Second Respondent is Eskom, South Africa's state-owned utility, which is the Applicant and holder of the Environmental Authorisation.

BACKGROUND

Background and Description of the Project

18. Eskom proposes to develop the 3000 MW Richards Bay CCPP to "reduce transmission losses from generation facilities supplying KwaZulu-Natal, by having a generation centre in the KwaZulu-Natal Province."²⁰ The CCPP will be operated on natural gas as its main fuel source and primarily as a mid-merit power plant, which is a power plant that adjusts its power output as demand for electricity fluctuates throughout the day.²¹

¹⁸ NEMA section 32(1).

¹⁹ NEMA section 33(1)(c)-(d).

²⁰ EIR, p.1.

²¹ EIR, pp. 22-23.

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19. The EIR states that Eskom's main motivation for the project is to move away from coal-power generation in order to reduce its carbon footprint and to diversify the energy mix within the country.²² The EIR also refers to the 2010 IRP and Draft 2018 IRP as support for building new gas power plants. The 2010 IRP envisioned approximately 8 GW of new coal and the Draft 2018 IRP called for 8.1 GW of new gas by the end of 2030.²³ In October 2019 a revised IRP was promulgated, which provides for substantially less gas capacity (3000 MW), but this is addressed in further detail below.

The Environmental Impact Assessment process

20. The Scoping Report for the project was accepted by the DEFF on 20 November 2017.
21. An EIR was undertaken and made available for public comment on 24 March 2019. Because the Applicant changed the site layout, Eskom prepared a revised EIR and made it available for comment from 24 July to 26 August 2019.
22. groundWork submitted comments to the EIR on 26 August 2019, attached as Annexure **A1**. groundWork's comments raised a number of concerns and objections related to the proposed project.
23. The main objections and concerns raised in groundWork's EIR comments, were:
- 23.1. that the EIR failed to adequately assess cumulative impacts from existing developments in Richards Bay;
- 23.2. that the EIR's proposed wetland offset plan would not adequately protect against environmental harm from the CCPP power plant;
- 23.3. that the EIR did not adequately assess the impacts of the CCPP power plant on water resources;

²² EIR, pp. 63-64.

²³ EIR, p. 65.

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- 23.4. that the EIR failed to quantify how the electricity generated by the CCPP power plant would be cheap and affordable to the community, as it alleged;
 - 23.5. that the EIR failed to assess the public health impacts on surrounding communities;
 - 23.6. that the construction of the CCPP power plant was inconsistent with South Africa's constitutional duty and commitments to reduce its greenhouse gas emissions;
 - 23.7. that the EIR did not specify how the CCPP power plant would be financed; and
 - 23.8. that the EIR failed to indicate the source of the natural gas intended to be used at the plant.
24. All of the concerns and objections set out in the above comments still remain and have not been addressed. Therefore, they also constitute part of this appeal.

The Environmental Authorisation

25. The decision to grant the Authorisation was made by the First Respondent, Ms Milicent Solomons, Acting Chief Director: Integrated Environmental Authorisations, Department of Environment, Forestry and Fisheries in terms of NEMA and the EIA Regulations, 2014 on 23 December 2019.
26. The Reasons for the Decision are set out in Annexure 1 to the Authorisation. The findings made by the DEFF are stated as the following:
- 26.1. *"The identification and assessment of impacts are detailed in the EIAR dated August 2019 and sufficient assessment of the key identified issues and impacts have been completed";*

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26.2. *"the procedure followed for impact assessment is adequate for the decision-making process";*

26.3. *"the proposed mitigation of impacts identified and assessed adequately curtails the identified impacts"; and*

26.4. *"The EMPr proposed mitigation measures for the pre-construction, construction and rehabilitation phases of the development and were included in the EIAr. The EMPr will be implemented to manage the identified environmental impacts during the construction phase."*²⁴

27. For the reasons set out below, all of these findings are disputed.

GROUNDS OF APPEAL

28. The Grounds of Appeal, as summarised above (beginning at paragraph 10) are set out below.

Ground 1: Failure to accurately consider alternatives to the Project, including the no-go option

29. Section 24(4)(b)(i) NEMA states that an EIA must include an *"investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential consequences or impacts, including the option of not implementing the activity"*.

30. Section 24O of NEMA also requires that the competent authority consider *"where appropriate, any feasible and reasonable alternatives to the activity which is the subject of the application and any feasible and reasonable modifications or changes to the activity that may minimise harm to the environment."*

²⁴ P27, Environmental Authorisation.

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31. The 2017 EIA Regulations similarly define “alternatives” as “*different means of meeting the general purpose and requirements of [an] activity, which may include alternatives to the . . . type of activity to be undertaken*” or the “*technology to be used in the activity.*”²⁵
32. As mentioned, Eskom’s main motivation for the mid-merit Richards Bay CCPP is to have a generation centre in KwaZulu-Natal province to reduce transmission losses from power plants supplying the province. In addition, Eskom wants to move away from coal-power generation to gas in order to reduce its carbon footprint, overall water use, and to diversify the energy mix within the country.²⁶
33. Renewable energy options could likely meet all of these requirements. As explained below, improvements in storage technologies have enabled renewable energy to perform a load following function, such as providing mid-merit power.²⁷ In light of the urgent need to address climate change in South Africa and globally, and South Africa’s climate change commitments, Eskom’s failure to consider such options is a fatal flaw.
- 33.1. A recent study concluded that solar-plus-storage could compete with mid-merit natural gas combined cycle power plants both technically and financially.²⁸ The study highlighted that solar-plus-storage “*contributes to a company’s renewable portfolio standard and state-level energy storage targets,*” “*offers flexible operational configurations,*” and “*allows these facilities to bid heavily into ancillary service markets.*”²⁹

²⁵ Government Gazette No. 40772, Government Notice No. 326 (7 April 2017).

²⁶ EIA at 1, 63-65.

²⁷ See, e.g., Oil Change International, Burning the Gas ‘Bridge Fuel’ Myth: Why Gas is Not Clean, Cheap, or Necessary at 15, available at http://priceofoil.org/content/uploads/2019/05/gasBridgeMyth_web-FINAL.pdf (“Batteries can be co-located with utility-scale wind and solar plants, storing excess power when sunshine and wind are abundant, and effectively allowing a proportion of a wind and solar plant’s capacity to be dispatchable.”)

²⁸ Matt Beers et al., *Solar + Storage as a Mid-Merit, Utility-Scale Generating Asset* (2019), available at https://info.fluenceenergy.com/hubfs/Collateral/White%20paper_TepperFluenceS+SasMid-Merit_final.pdf.

²⁹ *Id.*

33.2. Moreover, renewable energy plus storage power plants already provide mid-merit power at a competitive price. For example:

33.2.1. Fueled by a 100 MW/129 MWh Tesla Powerpack system, the aim of South Australia's Hornsdale Power Reserve is to *"facilitate integration of renewable energy in the State and assist in preventing load-shedding events."*³⁰ The Hornsdale system *"can dispatch large amounts of power quickly and reliably."*³¹

33.2.2. In September 2019, the Los Angeles Department of Water and Power's Board of Commissioners voted to approve the Eland Solar & Storage Center (Eland), a 400 MW solar power plant with 300 MW/1,200 megawatt-hours of energy storage.³² Eland will use 8-minute energy to provide *"fully dispatchable power under control of the Los Angeles Department of Water & Power to meet customer demand with reliable cost-effective power,"* a capability that only large fossil fuel plants traditionally had.³³ With a 60 percent capacity factor, the plant will be *"able to power California for a big portion of the day and eat into peak load."*³⁴ The combined solar and storage is cheaper than gas-generated electricity in California.³⁵

33.2.3. Similarly, AES Corporation launched the Lawai Solar and Energy Storage Project in Kauai, Hawaii, early last year.³⁶ Lawai can

³⁰ *Hornsdale Power Reserve: Overview*, <https://hornsdalepowerreserve.com.au/overview/>.

³¹ *Id.*

³² Julian Spector, *Massive Solar-Battery Plant Wins Approval in L.A., Overcoming Union Concerns*, Green Tech Media (10 September 2019), <https://www.greentechmedia.com/articles/read/massive-solar-battery-plant-wins-approval-in-l-a-overcoming-union-concerns>.

³³ T&D World, *Glendale Water and Power Enters Into Agreement To Purchase Solar And Battery Energy Storage* (23 December 2019), <https://www.tdworld.com/grid-innovations/generation-and-renewables/article/21119189/glendale-water-and-power-enters-into-agreement-to-purchase-solar-and-battery-energy-storage>.

³⁴ *See Massive Solar-Battery Plant Wins Approval in L.A.*

³⁵ Sammy Roth, *Los Angeles OKs a deal for record-cheap solar power and battery storage*, Los Angeles Times (10 September 2019), <https://www.latimes.com/environment/story/2019-09-10/ladwp-votes-on-eland-solar-contract>.

³⁶ Julian Spector, *AES Completes Record-Breaking Solar and Battery Plant on Kauai*, Green Tech Media (08 January 2019), <https://www.greentechmedia.com/articles/read/aes-completes-its-record-breaking-solar-and-battery-plant-on-kauai>.

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provide up to 20 MW for five hours.³⁷ Its storage capacity of 100 MWh also allows it to *"operate more like a baseload plant, delivering a lower amount of power for more hours through the night until the sun comes back up."*³⁸

34. In addition to providing mid-merit power, adding renewable energy with storage to South Africa's electricity grid would help the government achieve its greenhouse gas reduction goals, and fulfil its constitutional obligations to protect against human rights impacts from air pollution and climate change, much more so than natural gas and would also enable the further development of renewable energy resources.
35. Renewable energy also uses far less water than gas.
 - 35.1. The EIR states that between 2,000-5,000m³/day of water is required for the operation of the CCPP.³⁹
 - 35.2. By comparison, renewable energy like solar and wind generation do not require water for energy conversion. Water is used to wash panels and blades when needed.⁴⁰ For example, a 2019 study comparing the lifecycle water withdrawals for different energy sources, including natural gas combined cycle, wind, and solar, found that *"if renewable electricity generation replaces coal generation, the water consumption savings will be even greater than the transition to natural gas . . . , while water withdrawals will be negligible compared to those of coal and natural gas."*⁴¹
36. Finally, renewable energy with battery storage systems are cost-competitive with natural gas.

³⁷ *Id.*

³⁸ *Id.*

³⁹ EIA at 32.

⁴⁰ Andrew J. Kondash et al., *Quantification of the water-use reduction associated with the transition from coal to natural gas in the US electricity sector*, Environmental Research Letters (4 December 2019), available at <https://iopscience.iop.org/article/10.1088/1748-9326/ab4d71>.

⁴¹ *Id.*

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36.1. According to data from the International Renewable Energy Agency (IRENA), the global weighted-average levelised cost of electricity (LCOE) of utility-scale solar PV fell from USD 0.371/kWh in 2010 to USD0.085/kWh by 2018, a 77% reduction in cost.⁴² By comparison, in 2019, the cost of electricity generated by a new gas plant ranged from \$0.05/kWh to over \$0.15/kWh.⁴³

36.2. Renewable energy plus storage are expected to become cheaper than gas-generated electricity in the near future – this is without consideration of external costs.

36.2.1. One study found that *“Natural gas plants that move forward are at high risk of becoming stranded assets, and as early as 2021, some existing power plants could be more expensive to continue operating than least-cost CEP alternatives, depending on gas prices.”*⁴⁴

36.2.2. Construction of the CCPP power plant is expected to take approximately 36 to 48 months,⁴⁵ by which time operating the plant may cost more than relying on renewable energy plus storage.

37. In summary, the First Respondent's decision to grant the environmental authorisation without considering viable, cost-competitive renewable energy alternatives is inconsistent with NEMA, the EIA Regulations, and the Constitution.

Ground 2: The proposed CCPP power plant is neither necessary nor desirable

⁴² International Renewable Energy Agency (2019), *Renewable Power Generation Costs in 2018* at 21, available at https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/May/IRENA_Renewable-Power-Generations-Costs-in-2018.pdf.

⁴³ Dominic Dudley, *Renewable Energy Costs Take Another Tumble, Making Fossil Fuels Look More Expensive Than Ever* (29 May 2019), available at <https://www.forbes.com/sites/dominicdudley/2019/05/29/renewable-energy-costs-tumble/#129c8898e8ce>.

⁴⁴ C. Bloch et al., *Breakthrough Batteries: Powering the Era of Clean Electrification* at 7, Rocky Mountain Institute.

⁴⁵ EIA at 31.

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38. Regulation 18 of the EIA Regulations requires a competent authority, in considering an application for an environmental authorisation, to have regard to the need and desirability of the undertaking of the proposed activity.
39. Section 2 of Appendix 3 to the EIA Regulations also states that the objective of the EIA process is to *"describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site as contemplated in the accepted scoping report"*.
40. As mentioned, the CCPP is neither necessary nor desirable, particularly when cleaner energy alternatives can address South Africa's generation capacity needs. As discussed above, renewable energy with storage technology is a viable, cost-competitive alternative to natural gas, and can better accomplish the stated needs of the Richards Bay CCPP. Eskom should have considered this alternative as meeting the alleged need and desirability for the CCPP.
41. In addition, and while not determinative of the First Respondent's decision, the recently published 2019 IRP may not support construction of a new gas power plant. The alleged need and desirability for the proposed CCPP power plant, as set out in the EIA, are based on the 2018 IRP draft, which provides for 8100 MW of new gas or diesel, while the 2019 IRP allocated only 3000 MW of new gas.⁴⁶ Importantly, the 2019 IRP found that that an additional gas capacity of 3000 MW would not likely justify the development of new gas power plants. The 2019 IRP states that *"low gas utilization [of 3000 MW] . . . will not likely justify the development of new gas infrastructure and power plants predicated on such sub-optimal volumes of gas."*⁴⁷ Instead, *"[c]onsideration must . . . be given to the conversion of the diesel-powered peakers on the east coast of South Africa, as this is taken to be the first location for gas importation infrastructure and associated gas to power plants."*⁴⁸ While we submit that no gas power is necessary to meet the energy needs of the country, the 2019 IRP serves as a

⁴⁶ EIA at 49.

⁴⁷ IRP 2019 at 47.

⁴⁸ *Id.*



strong indication that any proposed reliance on gas should be seriously reconsidered, and lock-in to big gas infrastructure should be avoided.

42. Third, because renewable energy may soon become cheaper than gas, moving forward with natural gas at this time opens up the risk that gas-related infrastructure will soon become stranded assets as renewable energy and storage technologies become more cost-competitive.⁴⁹ This further calls into question the need and desirability of the CCPP.
43. In summary, the Acting Chief Director's decision to grant the environmental authorisation without critically re-evaluating the need for the CCPP power plant in light of advancements in renewable technology and the IRP 2019's reduced gas-to-power allocation is a fatal flaw.

Ground 3: Failure to adequately consider the climate change impacts of the Project

The CCIA is deficient in that key climate considerations were not assessed

44. A climate change impact assessment (**CCIA**) must assess the following:
 - 44.1. the impacts of the project's greenhouse gas (**GHG**) emissions, including an assessment of:
 - 44.1.1. the indirect and full life-cycle emissions, these being the GHG emissions arising from extraction; transportation; construction of the plant and decommissioning;
 - 44.1.2. cumulative emissions (i.e. the additive contribution of the project to pre-existing GHG emissions for South Africa); and

⁴⁹ C. Bloch *et al.*, *Breakthrough Batteries: Powering the Era of Clean Electrification* at 7, Rocky Mountain Institute.

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- 44.1.3. the environmental and social cost of the GHG emissions i.e. the contribution of the project's GHG emissions to South Africa's climate costs and impacts;
- 44.2. the ways in which the project area will be impacted by climate change and the extent to which the project would aggravate these impacts. In other words, the project's impacts on the area's climate resilience and ability to adapt to a changed climate. Given that this is a long-term and large-scale project, consideration must be given to the ways in which climate change will impact on the area and communities where the project will be based, and how the project's own impacts will affect the area's resilience or vulnerability to the effects of climate change as they intensify; and
- 44.3. the ways in which the effects of climate change will impact on the project itself, and its ability to operate optimally and efficiently for its full anticipated lifespan.
45. The 2017 judgment in the case of *Earthlife Africa Johannesburg v the Minister & Others* ("the **Thabametsi case**") confirmed that a CCIA is a necessary component of an EIA for projects with climate impacts. In this case, the court acknowledged the need for a CCIA much broader than a mere assessment of anticipated emissions. It confirmed the need for a comprehensive assessment, which assesses, *inter alia*, the impacts of climate change on the project and the ways in which the project might aggravate the impacts of climate change in the area.⁵⁰ The Pretoria High Court concluded that "[w]ithout a **full assessment** of the climate change impact of the project, there was no rational basis for the Chief Director to endorse these baseless assertions" (emphasis added).⁵¹
46. The following are some of the deficiencies in the CCIA for this project:

⁵⁰ See para 44, Thabametsi judgment.

⁵¹ Para 101, Thabametsi judgment. The "baseless assertions" to which reference is made are the statements in Thabametsi's EIR - on which the Chief Director relied exclusively - that the climate change impacts of the project were relatively small and low.

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46.1. The CCIA does not consider the full lifecycle emissions of the Project - including from methane leakages, the pipeline supplying gas from the port, the plant construction and decommissioning.

46.1.1. The CCIA states that only the direct operational emissions from fuel combustion are considered.⁵² This is far too narrow to constitute an acceptable assessment of the Project's full GHG emissions and climate impacts.

46.1.2. Gas-fired generation, in particular, has significant upstream GHG emissions, as the extraction and transportation of gas to generation plants, *inter alia*, result in substantial emissions.

46.1.3. The CCIA confirms the significant global warming potential of methane (a primary component of natural gas) and acknowledges that "*any leaks of natural gas prior to combustion could result in increased carbon emissions without any electricity generation*".⁵³ Methane (CH₄) leakage from extraction, transport, and storage of natural gas (particularly from pipelines and well heads) is often considerable, thus hindering any perceived advantage in terms of GHG emission reductions, when gas is properly compared to other electricity sources, including coal. Yet the CCIA contains no assessment of the risks and probability of such leaks occurring or the potential impacts of this.

46.1.4. This is a material deficiency.

46.2. The CCIA looks at technology option costs but it does not assess or even mention the external social cost of the project's GHG emissions – a further material omission.

⁵² P9, Climate Change Assessment.

⁵³ P23, Climate Change Assessment.

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- 46.2.1. The section 2 NEMA principle that the 'polluter' must 'pay' for damage and/or environmental degradation,⁵⁴ requires that the costs of the GHG emissions be quantified, as well as the provisions of section 28 of NEMA, which places a duty on anyone who "*causes, has caused or may cause significant pollution or degradation of the environment ... to minimise and rectify such pollution or degradation of the environment*,"⁵⁵ with measures including remedying the harm caused.
- 46.2.2. The Interagency Working Group on the Social Cost of Greenhouse Gases (**IWG**) in the USA has attributed global amounts in scope and applicability, representing the costs of global climate impacts.⁵⁶ This is a widely used method for calculating the cost of projects' GHG emissions.
- 46.2.3. Experts in the USA are now of the view that even the IWG figures do not fully account for the true social costs of GHG emissions – as they fail to consider additional factors such as climate damages on long-term GDP; the effect of emissions on ocean acidification and warming;⁵⁷ or the thawing of permafrost.⁵⁸ In other words the true social costs of GHG emissions are significantly higher than initially estimated – and the methodology for calculating emissions under the social cost of carbon is still likely to produce a conservative cost estimate.

⁵⁴ S2(4)(p), NEMA states that "*costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.*"

⁵⁵ Section 28(1) read with 28(3)(f), NEMA.

⁵⁶ The social cost of carbon, as determined by the IWG, is a consensus of the estimate of the social cost of carbon as calculated by three proprietary models: FUND, DICE, and PAGE, as described in the Technical Support Document available at https://www.epa.gov/sites/production/files/2016-12/documents/scc_tsd_2010.pdf (p5):

"We rely on three integrated assessment models (IAMs) commonly used to estimate the SCC: the FUND, DICE, and PAGE models. These models are frequently cited in the peer-reviewed literature and used in the IPCC assessment. Each model is given equal weight in the SCC values developed through this process, bearing in mind their different limitations."

⁵⁷ See Talberth, John, and Ernie Niemi. (2017) "Ocean Acidification and Warming: The economic toll and implications for the social cost of carbon."

⁵⁸ See González-Eguino, M., & Neumann, M. B. (2016). Significant implications of permafrost thawing for climate change control. *Climatic Change*, 136(2), 381-388.

- 46.2.4. Essentially, calculating the external costs of the CCPP's GHG emissions would, in all likelihood show that, if the plant had to absorb the external costs of its GHG emissions, it would not be financially feasible to operate. It would also mean that consumers would ultimately have to pay much higher costs for gas-based electricity in South Africa.
- 46.3. The CCIA refers to biomass fuel-switching and carbon capture and storage as possible technology options to mitigate the project's GHG emissions, yet these technology options themselves have not been assessed as part of the project EIA.
- 46.4. The CCIA has not assessed how predicted climate change effects on the environment and society will be aggravated by the project's impacts.
- 46.4.1. The CCIA briefly touches upon the local climate change impacts for Richards Bay, stating that *"the Long Term Adaptation Scenarios predict that as a consequence of climate change, drought conditions ... may persist in future. It is projected that the Pongola-Umzimkulu hydrological zone, which covers most of KwaZulu-Natal is likely to experience extreme warming beyond the natural temperature variability. It will also see reductions in rainfall, particularly in the autumn and winter month (sic)".*⁵⁹ This is severely lacking in the necessary detail that is required for a comprehensive CCIA.
- 46.4.2. There appears to be no modelling or scientific climate impact projections and/or scenarios for the area over any particular duration.

⁵⁹ P21, Climate Change Assessment.

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46.4.3. Importantly the CCIA has not sought, at all, to assess how the project would impact upon the area's evident vulnerability to climate change and the necessary local climate adaptation and resilience of the surrounding environment and communities. The CCIA makes mention of reduced rainfall and increased temperatures for the area but fails to assess or even consider how the project would exacerbate the surrounding environment and communities' vulnerability and exposure to these impacts.

46.5. The CCIA has not adequately assessed the potential risk and impacts of climate change to the project itself.

46.5.1. It states that *"if water resources are severely affected the proposed CCP plant may even be impacted upon and may require alternative operational arrangements"*.⁶⁰

46.5.2. Despite acknowledging the existence of potential severe impacts for the future operation and feasibility of the plant, no deeper assessment is made into the likelihood and risks of this occurring; and/or measures to address the climate impacts, such as a critical water shortage – which could result in the abandonment and termination of the project.

46.5.3. This is a fundamental oversight.

47. The CCIA is thus materially deficient in many respects.

48. The CCIA is incorrect in stating that it is *"impossible to link the emissions from the power station to any particular climate change effects."*⁶¹ The science of attributing

⁶⁰ P21, Climate Change Assessment.

⁶¹ Climate Change Assessment at 15.

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climate impacts to particular GHG emission sources is well-established and accepted.⁶²

49. All of the above-listed impacts, which are not considered in the CCIA, needed to be assessed and considered by the First Appellant, **before** a decision could have been made to authorise the project. The Thabametsi case confirms this.
50. As the above impacts were not assessed in the CCIA, the Chief Director could not have adequately considered them in making her decision. On this basis, the requirements of section 24(4) and 24O of NEMA, and regulation 18 of the NEMA EIA Regulations, have not been met.

Conclusions of CCIA are not reasonable and necessary considerations were not taken into account by the decision-maker

51. The CCIA errs in several respects in relation to the climate impacts that it does assess, and the conclusions that it draws. To elaborate:
 - 51.1. the CCIA confirms that the project would produce significant quantities of GHG emissions annually (4.6 million tonnes CO₂e), that *"the impact of these emissions is considered as high due to the impact on the national inventory from a single source"* and that *"the extent of the impact is global and the duration is considered as permanent"*.⁶³
 - 51.2. the CCIA refers to options to mitigate these high impacts, relying solely upon mitigation measures, namely fuel-switching and carbon capture and storage (CCS) – neither of which are likely to be feasible or sufficient means to mitigate the high GHG emissions, in any event, they have not been assessed as part of the project design in the EIA;

⁶² See, for example, <https://www.politico.com/agenda/story/2019/10/22/attribution-science-fossil-fuels-climate-change-001290> and refer to the work of the Climate Accountability Institute <https://climateaccountability.org/>.

⁶³ P23, Climate Change Impact Assessment.

51.3. the CCIA seeks to balance and justify the high impact of the project's emissions with the allegation that the impacts can be mitigated (yet no basis is provided to confirm that this is in fact correct) and that the plant would enable the uptake of renewable energy (but fails to assess alternative options, with less impacts, which would also enable the uptake of renewable energy); and

51.4. it incorrectly concludes that *"the proposed CCPP power plant is the best technology option, and it will not materially result in any direct local climate change impacts, subject to the implementation of appropriate mitigation measures."*⁶⁴

52. The CCIA's conclusion that the high climate impacts could be justified is arbitrary and incorrect for the following reasons:

52.1. There are no adequate mitigation measures to substantially and effectively mitigate the full scope of the project's high GHG emissions and climate impacts.

52.1.1. It is highly unlikely that CCS would be feasible, and certainly not cost effective. Not only is CCS currently not proven to be workable in any locations in South Africa, but also on a global scale, there is no evidence that it is a reliable mitigation measure - "[Carbon dioxide removal] deployed at scale is unproven, and reliance on such technology is a major risk in the ability to limit warming to 1.5°C".⁶⁵ The CCIA's reliance on CCS as a mitigation measure is speculative at best.

⁶⁴ P24, Climate Change Impact Assessment.

⁶⁵ J. Rogelj *et al.*, Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development. 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* at 96 (2018).

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- 52.1.2. Any achievable reductions from fuel-switching would still not be sufficient or substantial (particularly if lifecycle emissions from biomass i.e. land clearing, are taken into account).
- 52.1.3. To the best of our knowledge, neither biomass fuel-switching nor CCS have been incorporated into the design of the project as assessed – their impacts have thus not been assessed as part of the project, and it cannot be assumed that they will be built-in to the project on time and with the necessary licences and authorisations required – as they are not within the scope of the authorisation. As such, it must be assumed that the project would proceed without these measures.
- 52.2. The CCIA arbitrarily concludes that the project is the best technology option without having considered renewable energy with storage as an alternative.
- 52.3. In light of the substantial evidence of irreversible climate impacts should temperature increases exceed 1.5 degrees Celsius, and the urgent need to abandon fossil fuels in the energy sector in order to ensure the 1.5 °C mark is not exceeded, the high GHG emissions could not be regarded as outweighing any alleged benefits, particularly given the existence of alternative options – with substantially fewer GHG emission and climate impacts (see first ground of review in this regard).
53. In relying on the above incorrect CCIA conclusions in reaching her decision, the First Respondent failed to meet the section 24O NEMA requirement to adequately take into account, *inter alia*: any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused; measures that may be taken to protect the environment from harm as a result of the activity which is the subject of the application; and to prevent, control, abate or mitigate any pollution, substantially detrimental environmental impacts or environmental degradation; and the ability of the applicant to implement mitigation measures and to comply with any conditions subject to which the application may be granted.

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54. Furthermore, in relying on the CCIA's conclusion in making her decision to authorise the project, the First Respondent made a decision, which is unreasonable.
55. Given South Africa's extreme vulnerability to the impacts of climate change – as confirmed in its own climate change response policy⁶⁶ - arguably any decision to lock the country in to more harmful GHG emissions (particularly for a project that is not needed) would be in direct contravention of the state's Constitutional obligations to protect the rights of the people of South Africa, and the duty of care embodied in section 28 of NEMA.
56. Already South Africa is falling behind on its global and Constitutional obligations to address climate change, with commitments that fall outside the fair share range; and are not consistent with the Paris Agreement 2 degrees Celsius target – let alone the 1.5 degree benchmark set by the IPCC. On the country's present emissions trajectory (if all government targets were in the same range as South Africa's), warming (at a global average) would reach between 3 and 4 degrees Celsius.⁶⁷ This would be even more for South Africa, as its Nationally Determined Contribution confirms that even a global average temperature increase of 2°C translates to up to 4°C for South Africa by the end of the century.
57. Clearly any government decisions that would allow new significant sources of GHG emissions (such as the present project) are tantamount to severe negligence and are in flagrant violation of the rights to, *inter alia*, life,⁶⁸ human dignity,⁶⁹ to have the environment protected for the benefit of present and future generations, as enshrined in South Africa's Constitution.⁷⁰

Ground 4: Failure to adequately assess and consider the cumulative impacts of the Project

⁶⁶ P8, National Climate Change Response White Paper 2011, at https://www.environment.gov.za/sites/default/files/legislations/national_climatechange_response_whit_epaper.pdf.

⁶⁷ <https://climateactiontracker.org/countries/south-africa/>.

⁶⁸ Section 11.

⁶⁹ Section 10.

⁷⁰ Section 24.

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58. Section 24O of NEMA instructs the competent authority to “take into account all relevant factors, which may include (i) any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused.”

59. Section 28 of NEMA also provides that:

“Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.”

60. The NEMA EIA Regulations, Appendix 3 section 3(j)(i), requires that “an environmental impact assessment report must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include each identified potentially significant impact and risk, including (i) cumulative impacts...”.

61. Contrary to NEMA, the 2017 EIA Regulations, and section 24 of the Constitution, the Acting Director granted the environmental authorisation even though the EIA did not consider emissions and cumulative health risk from all polluting sources in Richards Bay.

62. The EIA did not account for the cumulative air quality impacts.

62.1. Richards Bay is home to several other polluting industrial developments including the Mondi pulp mill—the biggest pulp factory in South Africa—and South32’s Hillside aluminium smelter.⁷¹ The smelter emits solid particulates such as carbon, alumina, fluorides, and condensed

⁷¹ EIA at 248.

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hydrocarbons, carbon dioxide, carbon monoxide, gaseous fluorides, and sulphur dioxide.⁷²

62.2. The EIA does not discuss how facilities like the mill and smelter contribute to the existing air pollution in Richards Bay. With regards to emissions from the Mondi factory, the EIA provides only that “[t]he potential impact stated by the environmental manager of Mondi is the odorous gases that may be a nuisance to the CCPP employees.”⁷³

62.3. Instead of analysing the cumulative impact of all sources in the area as required, the EIR concludes that “[n]o cumulative impacts were identified for air quality”. Although acknowledging that “[i]ncreased ambient concentrations of [SO₂, NO_x, VOCs, PM and H₂S] may result in negative human health impacts,” the EIR provides that “it is improbable that the facility would approach the emission limits” if it “normally operates at emissions rates approximating those calculated for natural gas, which is inherently very low in sulfur.”⁷⁴ This analysis neither provides a quantitative assessment of the plant’s own contributions to the baseline air pollution in Richards Bay nor assesses the impact of those emissions in combination with pollution from surrounding sources.

63. The EIA did not adequately consider the public health impacts of the CCPP’s emissions on the air quality in Richards Bay.

63.1. The Air Quality Assessment Report concludes that the “No-Go” option—where the plant is not constructed—“would result in ambient air pollutant concentrations like the existing baseline,” which includes exceedances of the NAAQS:

63.1.1. “The baseline assessment highlighted occasional short-term SO₂ exceedances and one annual exceedance of the PM₁₀ NAAQS in

⁷² <https://www.environment.co.za/environmental-issues/richards-bay-faqs.html>.

⁷³ EIA at 250.

⁷⁴ EIA at 255.



the last four years. Increased ambient concentrations of fine particulates and gaseous pollutants may result in negative human health impacts. Impacts are likely across the Richards Bay airshed, with a hot spot area for PM₁₀ located near the coal handling port.”⁷⁵

63.2. Despite acknowledging “*impacts on the quality of public health due to emissions from the operating Richards Bay CCPP, combined with existing plant,*” the EIA concludes that “*the positive impacts outweigh the negative impacts from a socio-economic perspective.*”⁷⁶

63.3. Given that the baseline ambient air pollution in Richards Bay already exceeds the NAAQS, the EIA should have evaluated the cumulative health impacts on surrounding communities from existing pollution and the CCPP power plant’s future emissions. Without such an analysis, the EIA’s conclusion that the positive impacts of the plant outweigh its negative impacts is invalid.

64. In summary, the Acting Chief Director’s decision to grant the environmental authorisation for the CCPP without consideration of cumulative air quality and health impacts is flawed and inconsistent with NEMA and the 2017 EIA Regulations. Moving forward with the plant without proper regard to its impact on public health also violates nearby communities’ constitutional right to an environment that is not harmful to health or well-being.

Ground 5: Authorisation of the Project in the absence of material information and impact assessments attached to the Authorisation

65. The First Respondent authorised the Project in the absence of material information and impact assessments attached to the Authorisation and, in doing so, failed to comply with section 24O (the requirement that the competent

⁷⁵ Air Quality Assessment Report at 66.

⁷⁶ EIA at 12.

authority take into account any pollution, environmental impacts or environmental degradation likely to be caused if the application is approved or refused) and section 24E NEMA, which requires that, "[e]very environmental authorisation must as a minimum ensure that— (a) adequate provision is made for the ongoing management and monitoring of the impacts of the activity on the environment throughout the life cycle of the activity".

66. The First Respondent authorised the project without key substantive technical studies and investigations having been completed. This includes the following:
 - 66.1. a comprehensive climate change impact analysis that complies with all of the requirements described above;
 - 66.2. an comprehensive assessment of climate change mitigation measures, including their cost, potential design, and feasibility;
 - 66.3. a final Wetland Offset Plan (condition 36 of the authorisation); and
 - 66.4. a cumulative impacts study that assesses other major emitters in the area.
67. These studies and investigations cover material information that the First Respondent must have reviewed and considered **prior** to making an informed decision regarding the Project. **Without these studies, the First Respondent could not have taken into account all the pollution, environmental impacts or environmental degradation likely to be caused by the Project.** Yet the outcomes of these studies can have no bearing on the First Respondent's decision to grant or refuse the Environmental Authorisation. In addition, I&APs cannot comment on these potential impacts if they are considered after Authorisation is granted.

Ground 6: Decision to issue the Authorise contravenes NEMA Principles, the Constitution and PAJA



68. Section 33 of the Constitution recognises that everyone has the right to administrative action that is lawful, reasonable and procedurally fair. PAJA seeks to give effect to this right.
69. The Acting Chief Director's decision to grant the environmental authorisation for the CCPP constitutes an administrative action.
70. Section 6(2) of PAJA provides that a court or tribunal has the power to judicially review administrative action if, *inter alia*:
- 70.1. irrelevant considerations were taken into account or relevant considerations were not considered;
 - 70.2. the action itself contravenes a law or is not authorised by an empowering provision;
 - 70.3. the action itself is not rationally connected to the information before the administrator; and
 - 70.4. the exercise of the power or the performance of the function authorised by the empowering provision, in pursuance of which administrative action was purportedly taken, is so unreasonable that no reasonable person could have so exercised the power or performed the function.

Irrelevant considerations were taken into account or relevant considerations were not considered⁷⁷

71. As already mentioned, it is submitted that the Acting Chief Director failed to take into account a number of relevant considerations such as:
- 71.1. Renewable energy alternatives to the project;
 - 71.2. the cumulative impacts of the project and other developments in the region;
 - 71.3. the climate change impacts of the project; and
 - 71.4. the health impacts of the project.

⁷⁷ Section 6(2)(e)(iii) PAJA.

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72. Moreover, it is Appellants' understanding that fence-line communities who depend on fishing in the area, and whose livelihoods would be impacted by the development, were not consulted. This is a major oversight and procedural injustice.

The action itself contravenes a law or is not authorised by an empowering provision⁷⁸

73. As already demonstrated above, the decision to grant the environmental authorisation is in direct contravention of a number of provisions of NEMA, the EIA Regulations, as well as section 24 of the Constitution.

The action itself is not rationally connected to the information before the administrator⁷⁹

74. The EIA indicates that existing air pollution in Richards Bay has resulted in exceedances of the NAAQS, even without the addition of a large gas plant.
75. Furthermore, the Reasons for Decision show no attempt by the Acting Chief Director to critically assess the mitigation measures proposed in the EIR or consider alternatives to gas-generated electricity in reducing South Africa's carbon footprint. This is particularly the case for the mitigation measures proposed to address climate change impacts.
76. In granting the environmental authorisation, the First Respondent demonstrates that she failed to give adequate consideration to the above information, as well as other relevant considerations, in the revised EIR. As a result, this decision is not rationally connected to the information that was before the First Respondent.

⁷⁸ Section 6(2)(f)(i) PAJA.

⁷⁹ Section 6(2)(f)(ii)(bb) PAJA.

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The exercise of the power or the performance of the function authorised by the empowering provision, in pursuance of which administrative action was purportedly taken, is so unreasonable that no reasonable person could have so exercised the power or performed the function⁸⁰

77. In the circumstances, it is submitted that the decision to grant the environmental authorisation is unreasonable for the reasons stated in the grounds above, including that it:

- 77.1. fails to assess viable, and cost effective renewable alternatives that are less polluting, use less water, and have a much smaller carbon footprint;
- 77.2. fails to recognise cumulative impacts on air quality from the project and neighbouring developments;
- 77.3. fails to assess and take into account health impacts from increased pollutant levels;
- 77.4. fails to apply the principles and provisions of NEMA and to give recognition to the duty to uphold the constitutional right to an environment not harmful to health or well-being;⁸¹ and
- 77.5. authorises the CCPP despite acknowledging existing non-compliance with the NAAQS.

CONCLUSION

78. The First Respondent's decision to authorise the Project is unlawful, in that it failed to comply with, *inter alia*, the Constitution and NEMA as outlined in the Grounds of Appeal set out above.
79. For all of these reasons, the Appellants submit that the Appeal should succeed and that the Authorisation granted to the Second Respondent by the First Respondent should be set aside.

⁸⁰ Section 6(2)(h) PAJA.

⁸¹ Section 24 of the Constitution of the Republic of South Africa 108 of 1996.



DATED at Pietermaritzburg on this the 27th day of JANUARY 2020.

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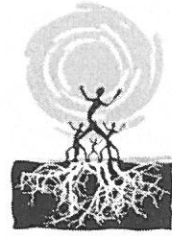
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Project Name: Richards Bay Combined Cycle

Power Plant (CCPP) and

Associated Infrastructure near

Richards Bay

DEA Ref. No: 14/12/16/3/3/2/1123

Dear Sirs and Mesdames

Comments on the Revised EIAR for the proposed Richards Bay Combined Cycle Power Plant project, KwaZulu-Natal Province, by Eskom (Pty) Ltd:

Revised Environmental Impact Assessment Report; Environmental Management Programme; Waste Management Licence Application Report; and Atmospheric Emission Licence Application

Introduction

We make these submissions on behalf of groundWork. groundWork is a non-profit environmental justice service and developmental organization working primarily in Southern Africa in the areas of Climate & Energy Justice, Coal, Environmental Health, Global Green and Healthy Hospitals, and Waste.

Trustees: Thuli Makama, Joy Kistnasamy, Farid Esack, Patrick Kulati, Sandile Ndawonde, Richard Lyster, Jon White

 **Friends of the Earth International**
Member for South Africa





groundWork is the South African member of Health Care Without Harm and Friends of the Earth International.

Below, we elaborate on a few of the deficiencies in the Revised Environmental Impact Assessment report (Revised EIAR).

1. Failure to adequately assess cumulative impacts

"The preceding impact assessment chapter has reported on the assessment of the impacts associated with the RB CCPP **only**, not taking into account similar surrounding developments from a cumulative perspective. This chapter therefore considers the potential cumulative impacts associated with the development of the project."

¹The lack of adequate assessment of cumulative impacts in consideration of other existing activities in the area. Richards Bay is the home of other polluting processing plants such as Foskor Phosphoric acid and Phosphate processing plant, Mondi wood processing plant, and Aluminium smelter, "*Hillside Aluminium uses the Hall-Hérout process and Pechiney Technology (AP-30 electrolytic pots) to produce aluminium from alumina by electrolysis. The major emissions which are contained, treated and monitored are:-*

Solid Particulates: These include carbon, alumina (aluminium oxide), fluorides and condensed hydrocarbons.

Carbon Dioxide and Carbon Monoxide: These gases are generated during the electrolysis process as the carbon in the anode reacts with oxygen in the molten electrolytic liquid.

Gaseous Fluorides: These have evaporated from the molten electrolytic liquid.

Sulphur Dioxide: Sulphur dioxide is generated during the anode oxidation (as above) and during the baking of the anodes before they are used in the pots."²

2. The construction of the RB CCPP project in the area already occupied by polluting industries will exacerbate the pollution problem. According to the report, 'The cumulative water resource impacts, considering the

¹ Assessment of Potential Cumulative Impacts p248

² <https://www.environment.co.za/environmental-issues/richards-bay-faqs.html>

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*development of RB CCPP within the surrounding area will be of High significance. However, a wetland offset plan (**Appendix E**) has been compiled in consultation with the local conservation authority (Ezemvelo KZN Wildlife). The wetland offset plan offers a long-term conservation solution to conserve other wetlands in the region through offsetting the significant residual impacts to wetlands on the project site.'*³

3. The lands targeted to be used to offset the lost wetlands were already existing wetlands. It is questionable how a lost wetland could be offset with another one that is already existing. This clearly shows that a wetland cannot be offset. The targeted land for construction of the project would be a lost wetland with no replacement.

Market

4. Offsets are internationally defined as market-based instruments. The DEA discussion paper implies that offsets may also be non-market (we will call them 'direct offsets') but does not distinguish between them.
5. Market-based offsets subordinate nature – and ultimately the biosphere as a whole - to the law of value determined by the market since "it is only through this that nature can be 'valued' and thus efficiently managed and allocated". Effectively, this is handing power to the market. This power will be increasingly remote and indifferent to ecological values as tradable offsets and offset derivatives may be traded on global securities markets.
6. Direct offsets – where a specified offset is required as a condition of project approval and is not to be traded or sold – do not necessarily escape market power. Rather, that power may be expressed by the unequal market value of what is damaged and what is preserved, and by the impermanence of the latter when market values change.

³ P 255

Rev. 1/2011



7. Further, offsets are supposed to be based on equivalent ecological values which can then be exchanged 'like for like' as if the place has no consequence. The calculation of such equivalences is not only reductive and generally specious, but also a necessary precursor to trading. Direct offsets may therefore facilitate the development of markets even if they are excluded. Assuming that ecological functions do acquire market value, it may be anticipated that business lobbies will emerge to convert non-tradable to tradable assets.

A unique context?

8. It is argued that South African context makes the prospects for offsetting different to other locations. We agree. We think that the risks exposed elsewhere are magnified and multiplied in the local context. This is because regulatory capacity is weak and economic power is highly concentrated within the minerals-energy complex (MEC). Hence, handing power to the market hands more power to the MEC which is noted for its disdain for anything perceived as an impediment to profits – including environmental or social ethics and legal prohibitions.
9. We think the challenge is to strengthen existing regulatory capacity and planning processes rather than taking on new and more complex regulatory tasks in a context where the regulator is already disempowered by being made to play by market rules.

The poor record of offsets

10. The argument that South Africa is different also side-steps the problem that there is no real evidence that offsets work. To the contrary, they have a dismal record. Carbon offsets are associated with dispossession in southern countries and the pervasive 'gaming of the system' or outright corruption. It has served as a subsidy to big polluters without reducing emissions.

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11. Australia is often cited as demonstrating biodiversity offset benefits. However, Dr Philip Gibbons and Professor Jochen Zeil of the Australian National University comment on the irony that "conserving our biodiversity is becoming dependent on its destruction". They conclude that government is using offsets to save money "at the expense of threatened species".
12. And while there is no evidence that they do work, there is evidence that they don't. Friends of the Earth and FERN⁴ cite several case studies from the UK, Europe and Australia.
13. The record in South Africa appears even worse. Projects such as the Vele mine offset agreement with CoAL confirm our comments about regulatory capacity above. This is made worse by the inclination for secrecy and the exclusion of civil society from the relevant committees.

Polluter pays

14. It is also argued that offsets are a way of making the polluter pay. We think that the end result of giving power to the market, is that the polluter will conjure up an additional profit paid for by the public – as is the case with carbon offsetting.

Options

15. At the DEA's offset workshop, civil society organisations called for a moratorium on offsetting.
16. The facilitator repeatedly suggested that this would imply that all development must stop. In so far as much of what is called development profits the rich at the cost of poor people and the environment, this is not a bad idea. The suggestion, however, is a

⁴ FoE and FERN, *Case studies of biodiversity offsetting: voices from the ground*, 2 June 2014.



decoy since most environmental authorisations, thus far, have been issued without offsets. We are concerned that offsets will become routine and will be routinely abused as the numbers increase exponentially but monitoring and enforcement capacity does not.

17. At present, there is no register and no knowing how many authorisations do include offsets. Moreover, the workshop was told that some – also an unknown number - are negotiated in secret. We strongly support the proposal that existing offsets should be registered and made public.
18. As groundWork, we wish to go beyond the civil society call for an end to all offsets. We believe that the resources of the state should rather go into strengthening the regulatory and spatial planning processes.
19. At the workshop, there was a call to distinguish different kinds of offset according to the ecological and regulatory context:
20. It was generally agreed that the air offsets will not work. Those proposed by Eskom and Sasol are viewed as a way of shifting blame onto communities. There is no comparison in the scale of emissions from industrial and domestic sources and it was argued that interventions to reduce domestic emissions are a responsibility of government and should not depend on offsets. It is particularly galling that government has failed to address domestic emissions in any meaningful way but, over the last decade, has tried to do it on the cheap with the risible Basa programme.
21. Water and wetland offsets were also seen as problematic. The Sasol water offset, for example, was seen as a resource grab justified by fixing leaks in Emfuleni while wetland offsets seem to have a short shelf life with no effective monitoring.
22. Several participants had a more favourable view of bio-diversity offsets arguing that there is potential for good offset projects. We are concerned that there may be a very wide gap between potential and realisation. Beyond that, we believe these good projects should be

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done anyway – just as the Emfuleni leaks should be fixed anyway – and not left to the lottery of offsets.

23. The remaining justification for offsets is that none of these things happen anyway because government doesn't or can't do its job. But if it can't do its job, it won't manage offsets either. In that case, future offsets will be much like past offsets – like the wetland destroyed by the mine that used it to offset an earlier development.
24. We believe that government needs to strengthen its primary regulatory and planning capacity rather than trying to offset them. Spatial planning is particularly important for biodiversity and healthy wetlands and rivers which can provide clean water. We think that the rigorous application of the environment right in the Bill of Rights to all planning and processes will provide a more coherent approach for good projects and give better results all round than offsets.

Summary of concerns:

25. The use of offsets inverts the mitigation hierarchy. Offsets will always be preferred to mitigation measures if they are cheaper (e.g. Eskom and Sasol's air quality offset proposals). Hence, there will be pressure to cut costs of the offset.
26. Offsets are used to justify the unjustifiable: projects that should be rejected are permitted on the basis of offset proposals; illegal practices (e.g. exceedance of minimum emission standards) are permitted on the basis of offsets.
27. Regulatory capacity is inadequate to the task and provides no oversight. The assumption that offsetting compensates for weak regulatory and planning capacity is false. To the contrary, it exacerbates it.

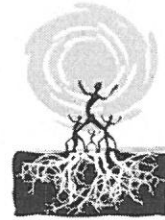
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28. Offsets will tempt government to abandon responsibilities rather than build capacity to meet them – thus playing into the arms of the business lobby (next item).
29. Offsets will call forth a business lobby for weak regulation of a new market in offset buying and selling on the argument that the market will be more 'efficient' than regulation – that is efficient in money terms, not biodiversity terms but proponents will elide the difference. In the UK, business proponents are lobbying against government establishing a central registry of offsets – which will prevent any national overview and inhibit evaluation.⁵
30. Destruction from the original project is certain, benefits of the offset are not – indeed, some offsets may themselves be destructive. Offsets usher in the commodification and financialization of nature.
31. If there is real money involved (as proponents hope) big capital will move in. Offset providers will not be restricted to small and ethical biodiversity practitioners. It will be profit driven.
32. Offsets will not be maintained if profits or securities (bought and sold globally) decline, offset providers are bankrupted or property values favour different land-use. In the UK, business proponents are already arguing for time limited offsets to avoid 'sterilising' land – meaning removing it from the market. In this context, it is striking that what is economically sterile is ecologically fecund and vice versa.
33. The use of offsets will depend on a series of false equivalences – between what is destroyed and what is preserved and between ecological and money values. (How many chameleons are worth a hawk and what's the price?)

⁵ Sian Sullivan and Mike Hannis, *Nets and frames, losses and gains: Value struggles in engagements with biodiversity offsetting in England*, Leverhulme Centre for the Study of Value, University of Manchester, June 2014.

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34. Offsetting will mask the fact that habitat and species loss is irreplaceable. 'No net loss' is merely an advertising slogan.
35. Calculation of offsets and equivalences will depend on reductive simplifications of complex ecological systems.
36. This will start with delimiting the supposed area of impact: e.g. focusing on a wetland and its immediate surrounds and excluding cumulative impacts on the catchment. (Note: this is already common practice in EIAs so it is very likely to be transferred to offsets.)
37. People may be removed for the original project (e.g. to make way for mines) and then again for the offset itself. This may be because people lose jobs with the change of land-use (already observed on the change from farms to game farms and the eviction of farmworkers) or because people who used land and natural resources in the offset area are excluded from doing so (as is likely in former Bantustan areas).
38. People will lose access to natural areas and resources turned over to development and offset at distant locations.
39. Within specific catchments or airsheds, the offsets may be overwhelmed by the accumulation of destructive activities – e.g. acid mine drainage ruins wetlands preserved as offsets to the mining projects; air quality offsets fall far short of the scale and geographic spread of industrial pollution (e.g. the Eskom and Sasol proposed offsets).

Excessive Water Consumption

40. According to this EIA report, the proposed RB CCPP project will require an excessive amount of water to operate. 'For the Operations of the



Power Plants, the volumes of water required is between 2000 - 5000m³/day to be provided by the municipality'⁶

41. The country is susceptible to drought owing to climate change. KwaZulu-Natal suffered a crippling drought throughout 2015 and 2016, leaving farms, town and rural areas with JoJo tanks as the only source of water. The project will require a whopping 2millions to 5millions litres of water per day for operation. This is so unacceptable because community people would surely be deprived of water to some extent when it is hit by drought as they will be competing with the power plant. The report does not disclose where the water would be fetched from. The disclosure of the water source is significant in order to establish who else is depending on that particular water source and whether or not the source would be able to supply all those who depend on it and even during the drought seasons.

Since the country often experience drought, the report does not provide any guarantee that during that time it would not use water which is supposed to be provided to communities in desperate need.⁷

Failure to guarantee cheap and affordable electricity to community

42. The report states that the facility would supply cheap and affordable electricity. *'There are on-going collaborations with the Department of Energy to ensure that the province of KwaZulu-Natal contribute significantly to the diversification of the energy mix and supply of clean and affordable electricity.'*⁸

⁶ p31

⁷ <https://www.ecr.co.za/news/news/protestors-block-jozini-roads-water-woes-continue>
http://www.umhlathuze.gov.za/index.php?option=com_content&view=article&id=89:water-users-urged-to-serve-as-drought-continues&catid=30&Itemid=385
[www.umhlathuze.gov.za > index.php > media-manager > news-updates](http://www.umhlathuze.gov.za/index.php/media-manager/news-updates)

⁸ p5

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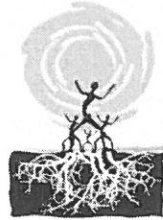
43. The report does not afford any guarantee that the communities at least located adjacent to facility would benefit from this cheap and affordable electricity. The report should quantify how the electricity would be cheap and affordable to the community, not industries. Furthermore, the report should develop a commitment document (to the effect of cheap and affordable electricity) which is signed by both the community and the facility for future reference, or else this promise would be nothing but one of those talk shops to elicit support to the project.

Wetland Delineation

44. In your report it is stated that, *'The proposed project will result in the loss of wetland area, and the subsequent loss of ecological services. This loss is the key consideration for the impact assessment, with the loss of wetland area unavoidable. No mitigation is possible for the loss of wetlands, and a wetlands offset plan is therefore required. A wetland offset plan (**Appendix E**) has been compiled in consultation with the local conservation authority (Ezemvelo KZN Wildlife). The wetland offset plan offers a long term conservation solution to conserve other wetlands in the region through offsetting the high residual impacts to wetlands on the project site.'*⁹
45. Wetlands are biologically diverse ecosystems that provide a habitat for many **important** species; act as buffers against coastal storms, and naturally filter water by breaking down harmful pollutants. One of the most significant role of wetlands in the ecosystem is that they are natural water purification system and can never be replaced.
46. There is nothing in the Draft EIA Report of this project illustrating how the offset of the wetlands are going to be carried out and offset the wetlands that are going to be destroyed for the project. So the report has to explain and be convincing that the offset plans for this valuable

⁹ Potential Impacts on Wetlands p175

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resource can be legally accepted and are in line with the objectives pursued by the regulatory laws.

47. It is important that the offset plans be substantially equivalent or greater to the loss of the wetlands on the site. The offset plans of wetlands should be justifiable in law as to why this significant water resource should be degraded and why the law should allow the loss to happen.

Public health impacts study on surrounding communities.

48. The Report makes a general comment that the public health impacts would be minimal goes on to claim that that on balance the social benefits outweigh the potential public health impacts. We submit that this is over-simplistic and in the context of our greatest existential threat from climate change the EIA report fails in that it does not undertake a full health risk assessment to determine the public health risks posed by climate change which are elaborated in the section below. We submit that this is an even greater threat to development and will in fact result in maldevelopment of the communities that this EIA report purports will benefit from such a facility.
49. In fact the EIA report does not adequately determine the public health impacts from an additional industrial installation in Richards Bay in general - where the ambient air quality is generally in exceedance of our National Ambient Air Quality regulations.
50. For this reason we submit that a dedicated Health Impact Assessment by a qualified public health professional taking into account the cumulative health risk from the existing industrial facilities in the Greater Richards Bay area is required at a minimum to determine the potential cumulative health impacts on the surrounding communities from the existing and potential pollution emissions from the proposed facility.
51. There has to be a health study done on the type of pollution impacts onto the communities, i.e. the types of diseases they are going to suffer

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and who is going to carry the costs of taking care of them. The findings of such health study should be communicated to those who would be potentially affected.

Climate Change impacts (local and regional)

52. All fossil fuel-fired electric power plants, including CCPPs, emit greenhouse gases (GHGs) at different levels, making them the main contributor to climate change. As the CCPPs burn natural gas, their emission rates are lower compared to other fossil fuels. While natural gas produces less carbon dioxide and other dangerous air pollutants per energy unit than coal, these plants carry their own environmental and health risks, especially when they operate in areas that are already suffering under disproportionate and unfair pollution burdens.
53. The carbon intensity of this plant will be 4.6 million tonnes CO₂e and will make a significant contribution to the SA GHG inventory. There is simply no more carbon budget left for an additional fossil fuel emitting electricity plant considering the availability and price of renewable energy.
54. We also emphasise, in light of the growing body of research, and increasing evidence of the dire impacts of climate change – particularly on South Africa – that taking urgent and effective steps to substantially reduce the country's GHG emissions without delay is a legal obligation on the state – including National Treasury - and a Constitutional imperative.
55. A landmark report released on 8 October 2018 by the United Nations Intergovernmental Panel on Climate Change¹⁰ (IPCC) on Global Warming of 1.5 °C ("the IPCC Report"), confirms, inter alia, that:

¹⁰ Intergovernmental Panel on **Climate Change (IPCC)** on 8 October 2018



56. human activities have already caused approximately 1.0°C of global warming above pre-industrial levels, resulting in increased natural disasters, droughts, and rising sea levels;
57. the risks of allowing temperature increases to reach even 1.5 degrees Celsius are dire (the Paris Agreement currently sets the target at 2 °C);
58. limiting global warming to 1.5°C would require “rapid and far-reaching” transitions in land, energy, industry, buildings, transport, and cities; and
59. global net human-caused emissions of carbon dioxide (CO₂) must fall by about 45 percent from 2010 levels by 2030, reaching ‘net zero’ around 2050.
60. The IPCC report essentially confirms that drastic GHG emission reductions are needed, and these are needed urgently. The IPCC envisages a 60-80% reduction in the use of coal and fossil fuels in the energy sector by 2030 and negligible use of coal and fossil fuels by 2050.
61. The IPCC report emphasises the following climate change impacts to southern Africa:
62. “At 1.5°C, a robust signal of precipitation reduction is found over the Limpopo basin and smaller areas of the Zambezi basin, in Zambia, as well as in parts of Western Cape, in South Africa, while an increase is projected over central and western South Africa as well as in southern Namibia (Section 3.3.4)”.
63. The IPCC report also includes Southern Africa as one of the “hot spots of change” when comparing a global warming of 1.5°C and 2° C. It states:
64. “The southern African region is projected to be a climate change hot spot in terms of both hot extremes (Figures 3.5 and 3.6) and drying (Figure 3.12). Indeed, temperatures have been rising in the subtropical regions of southern Africa at approximately twice the global rate over

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the last five decades (Engelbrecht et al., 2015). Associated elevated warming of the regional land-based hot extremes has occurred (Section 3.3; Seneviratne et al., 2016). Increases in the number of hot nights as well as longer and more frequent heat waves are projected even if the global temperature increase is constrained to 1.5°C (high confidence), with further increase at 2°C of global warming and beyond (high confidence) (Weber et al., 2018)

65. Moreover, the region is likely to become generally drier with reduced water availability under low mitigation (Niang et al., 2014; Engelbrecht et al., 2015; Karl et al., 2015; James et al., 2017), with this particular risk also prominent under 2°C of global warming and even 1.5°C of warming (Gerten et al., 2013). Risks are significantly reduced, however, under 1.5°C of global warming (Schleussner et al., 2016b). There are consistent and statistically significant projected increases in risks of increased meteorological drought in southern Africa at 2°C vs 1.5°C of warming (medium confidence). Despite the general rainfall reductions projected for southern Africa, daily rainfall intensities are expected to increase over much of the region (medium confidence), and increasingly so with further amounts of global warming. There is medium confidence that livestock in southern Africa will experience increased water stress under both 1.5°C and 2°C of global warming, with negative economic consequences (e.g., Boone et al., 2017). The region is also projected to experience reduced maize, sorghum and cocoa cropping area suitability as well as yield losses under 1.5°C of warming, with further decreases towards 2°C of warming (World Bank, 2013). Generally, there is high confidence that vulnerability to decreases in water and food availability is reduced at 1.5°C versus 2°C for southern Africa (Betts et al., 2018), whilst at 2°C these are expected to be higher (Lehner et al., 2017; Betts et al., 2018; Byers et al., 2018; Rosenzweig et al., 2018) (high confidence)" (emphasis added).
66. What the IPCC report makes clear is that aiming for a 2° C temperature increase, as per the Paris Agreement, is not sufficient to protect people and the planet from irreversible harm. South Africa's own Nationally Determined Contribution (NDC) notes that a global average temperature increase of 2°C translates to up to 4°C for South Africa by

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the end of the century. South Africa is not even on track to meeting the (now confirmed inadequate) 2°C target, with its current NDC ambitions being rated as highly insufficient by Climate Action Tracker.

67. South Africa's own Climate Change Response White Paper states that: "even under emission scenarios that are more conservative than current international emission trends, it has been predicted that by mid-century the South African coast will warm by around 1 to 2°C and the interior by around 2 to 3°C. By 2100, warming is projected to reach around 3 to 4°C along the coast, and 6 to 7°C in the interior. With such temperature increases, life as we know it will change completely: parts of the country will be much drier and increased evaporation will ensure an overall decrease in water availability. This will significantly affect human health, agriculture, other water-intensive economic sectors such as the mining and electricity-generation sectors as well as the environment in general. Increased occurrence and severity of veld and forest fires; extreme weather events; and floods and droughts will also have significant impacts" (emphasis added).
68. Evidently much more needs to be done by the state to firstly, ensure that the people of South Africa are protected from the impacts of climate change and the country's GHG emissions reduced and, secondly, to ensure that the country's international climate commitments are adequate and honoured.
69. The recent Dutch case of the State of the Netherlands v the Urgenda Foundation¹¹, demonstrates the obligations of the state to protect its people from the impacts of climate change. In the judgment handed down on 9 October 2018 the court confirmed that the state was acting unlawfully, and in contravention of the duty of care by failing to pursue a more ambitious GHG emission reduction plan. The court held, inter alia, that: "the State has a positive obligation to protect the lives of citizens within its jurisdiction This obligation applies to all activities, public and non-public, which could endanger the rights protected ... ,

¹¹ [2015] HAZA C/09/00456689 (June 24, 2015); aff'd (Oct. 9, 2018) (District Court of the Hague, and The Hague Court of Appeal (on appeal))

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and certainly in the face of industrial activities which by their very nature are dangerous" (emphasis added);

70. "the Court believes that it is appropriate to speak of a real threat of dangerous climate change, resulting in the serious risk that the current generation of citizens will be confronted with loss of life and/or a disruption of family life.[T]he State has a duty to protect against this real threat" (emphasis added); and "up till now the State has done too little to prevent a dangerous climate change and is doing too little to catch up, or at least in the short term (up to end-2020). Targets for 2030 and beyond do not take away from the fact that a dangerous situation is imminent, which requires interventions being taken now. In addition to the risks in that context, the social costs also come into play. The later actions are taken to reduce, the quicker the available carbon budget will diminish, which in turn would require taking considerably more ambitious measures at a later stage...., to eventually achieve the desired level of 95% reduction by 2050"(emphasis added).

71. *Negative impacts on air quality can be expected during the construction of the RB CCPP due to release of particulate and gaseous pollutants. This impact was rated to have a potentially low impact (after mitigation). During the operation phase, negative impacts as a result of sulphur dioxide emissions, and other atmospheric pollutants due to the RB CCPP can be expected; and were assessed to be of medium to Low significance (after mitigation), respectively.*¹²

72. Eskom, just like any other polluting industry, has a responsibility to reduce ambient air pollution. RB CCPP need not to contribute to any pollutions levels in the Richards Bay area, not even anywhere else.

73. Section 24 of the Constitution¹³ and section 28 of the National Environmental Management Act, 1998 (NEMA)¹⁴ impose the same

¹² Assessment of Impact on Air Quality'p165

¹³ Act No. 108 of 1996

¹⁴ No. 107 of 1998



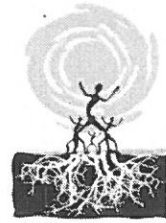
duty of care and obligation on the state to take reasonable measures to protect the people of South Africa from harmful impacts to their health and/or wellbeing and to protect the people and future generations from the irreversible impacts of climate change. In line with the above, we confirm that adopting effective and adequate climate change mitigation measures is in fact a legal – and Constitutional - obligation on the state. Simply adhering to inadequate targets, making provision for carbon offsets and otherwise imposing loose and ineffectual regulations, which are unlikely to give rise to a meaningful reduction of GHG emissions, does not, in any way, discharge the state's Constitutional duties to implement proper GHG emission reduction measures to protect the people of South Africa from the impacts of climate change, or its international commitments.

Costs of the Project

74. There is lack of information about the costs of the project. Eskom is currently having an estimated R 248 billion in debts. The question is, who is carry the costs of the project? Is Eskom expecting the taxpayers' money to bail them out again? This is a very important information to be included in this report for the public to know whether or not the costs would be incurred by the public and what does this mean regarding the inflation rate.

Source of the natural gas

75. The document does not indicate where the natural gas intended to be used in the project comes from. This failure of disclosure for the source of the gas does not give us confidence that the gas provider does not cause environmental destruction. The document should disclose this information so that the public can make an informed decision that they are benefitting or approving the project which is indirectly causing environmental harm elsewhere and to some community.



76. Kindly keep us updated.

Yours sincerely

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