IN THE HIGH COURT OF SOUTH AFRICA

(GAUTENG DIVISION, PRETORIA)

Case no:

In the matter between

SOUTH DURBAN COMMUNITY ENVIRONMENTAL ALLIANCE	First Applicant
THE TRUSTEES OF THE GROUNDWORK TRUST	Second Applicant

and

MINISTER OF FORESTRY, FISHERIES AND THE ENVIRONMENT	First Respondent
CHIEF DIRECTOR: INTEGRATED ENVIRONMENTAL AUTHORISATIONS, DEPARTMENT OF ENVIRONMENTAL AFFAIRS	Second Respondent
ESKOM HOLDINGS SOC LTD	Third Respondent

FOUNDING AFFIDAVIT

I, the undersigned

DESMOND MATTHEW D'SA

do hereby make oath and say as follows:

1. I am the coordinator of the first applicant. I have held this position for 20 years. I am authorised to institute these proceedings, and to depose to this affidavit, on behalf of first applicant.

2. A resolution from the first applicant conferring authority upon me, together with a power of attorney in terms of which Cullinan and Associates Incorporated is appointed as first applicant's attorneys of record is annexed marked **FA 1**.

3. A confirmatory affidavit in name of Avena Ramesh Jacklin, the Climate and Energy Justice Campaign Manager of the second applicant will be filed together with this affidavit.

4. The facts set out below are true and correct and, unless the context indicates the contrary, fall within my personal knowledge.

5. Where I make legal submissions, I do so on the advice of the applicants' legal representatives.

INTRODUCTION

6. On 23 December 2019 the second respondent ("the Chief Director") granted an authorisation to the third respondent ("Eskom") authorising the construction of the Richards Bay Combined Cycle Power Plant ("the Power Plant").

7. The applicants ("SDCEA" and "groundWork") appealed this decision. However, on 13 October 2020 the first respondent ("the Minister") dismissed this appeal.

8. SDCEA and groundWork now institute this review seeking to have both decisions reviewed and set aside.

9. The primary grounds of review on which the Applicant rely are the following:

   9.1. First, the decisions are premised on an inadequate assessment of the climate change impacts posed by the Power Plant.

   9.2. Second, the decisions are premised on an inadequate assessment of the need and desirability of the Power Plant.

   9.3. Third, the decisions are premised on an inadequate consideration of the alternatives to the Power Plant.

   9.4. Fourth, the decisions are premised on an inadequate consideration of the cumulative environmental impacts of the Power Plant and its associated infrastructure.

   9.5. Fifth, the decisions are premised on an inadequate consideration of the impacts of the coastal activities involved in constructing and operating the Power Plant.

   9.6. Sixth, the decisions are premised on an inadequate public participation process that was procedurally unfair.

10. The legal basis and the relevant facts for each ground of review are set out the body of this affidavit.

11. This affidavit is structured as follows:

    11.1. One, the parties.

    11.2. Two, the proposed project.

    11.3. Three, the relevant statutory framework.

    11.4. Four, a chronology of relevant events.

    11.5. Five, the significance of climate change.

    11.6. Six, the working of an electricity grid.

    11.7. Seven, each of the applicants' grounds of review.

THE PARTIES

12. The first applicant is the South Durban Community Environmental Alliance. It is a non-profit association of persons and a non-governmental organisation. Its mission is to struggle for clean air, water and soil and for the alleviation of environmental racism and poverty. Its principal place of business is 18 Major Calvert Street, Austerville, Durban, KwaZulu Natal. A copy of the first applicant's constitution is annexed marked **FA 2**. It records that one of the first applicant's aims is to create a culture of environmental justice and sustainability.

13. The second applicant is the trustees for the groundWork Trust, specifically each of the following persons in their capacities as trustees:

13.1. Richard Michael Lyster;

13.2. Mepeni Patrick Kulati;

13.3. Faried Esack;

13.4. Judy Margaret Bell;

13.5. Mawande Mazibuko;

13.6. Angela Shirlee Conway; and

13.7. Frederick Johan Riekert.

14. GroundWork works for environmental justice and development, primarily in South Africa. Its principal place of business is 8 Gough Street, Pietermaritzburg, 3201. A copy of the trust deed for the groundWork trust is annexed marked **FA 3.** It records that the main objective of the trust is to *"promote increased, sustained and more effective society-driven environmental justice action".*

15. Copies of the relevant trustees' resolution and a power of attorney in terms of which Cullinan and Associates Incorporated is appointed as the Trust's attorneys of record, are annexed marked **FA 4**.

16. The applicants bring this application in their own interest, in the interests of their members, in the public interest in terms of section 38(1)(d) of the

Constitution (and section 32(d) of the NEMA) and in the interest of protecting the environment in terms of section 32(e) of NEMA.

17. The first respondent is the Minister of Forestry, Fisheries and the Environment, Barbara Creecy, in her official capacity. This application will be served on the Minister care of the State Attorney.

18. The second respondent is Chief Director: Integrated Environmental Authorisations, Department of Environmental Affairs with an address at 473 Steve Biko Street, Arcadia, Pretoria. These papers will be served on the second respondent's physical address and on the State Attorney in Pretoria.

19. The third respondent is Eskom Holdings SOC Ltd ("Eskom"), a state-owned enterprise incorporated in terms of the laws of South Africa with a registered address at Megawatt Park, 2 Maxwell Drive, Sunninghill, Johannesburg, 2146. A copy of the Companies and Intellectual Property Commission's certificate for Eskom, as available on Eskom's website, is annexed marked **FA 5**. Eskom is the applicant for the environmental authorisation for the Power Plant.

THE PROPOSED PROJECT

20. The proposed project is the development of the Richards Bay Combined Cycle Power Plant. It is a gas-to-power power plant which will have an installed generating capacity of 3000MW. It can be fuelled using gas or diesel. It is to be constructed in the Richards Bay Industrial Development Zone ("IDZ").

21. It is intended to fuel the Power Plant primarily with gas and only use diesel as a backup. Both of these fuels are fossil fuels and their combustion releases greenhouse gases ("GHGs") into the atmosphere which contribute to global warming and climate change.

22. Gas will be delivered to the Power Plant from a gas terminal at the Richards Bay Port and supplied to the Power Plant via a gas pipeline. Neither the terminal nor the pipeline have yet been built, and both are subject to separate environmental assessments. Furthermore, the source of the gas has not been determined. As I explain below, where and how the gas is extracted, transported, and stored will materially affect the volume of associated methane emissions and the extent to which the operation of the Power Plant would contribute to exacerbating global warming and climate change.

23. According to the Final Environmental Impact Assessment Report ("the Final EIR") prepared in respect of the Power Plant (relevant extracts of which are annexed marked **FA 6**), when it is burning gas the greenhouse gases emitted by the Power Plant will be equivalent to 0.37 tonnes of carbon dioxide (CO_{2e}) per Megawatt-hour (MWh) of electricity generated (see p. 214).

24. The Power Plant will require 2000-5000m^3 of water per day to generate steam used to drive turbines.

25. The Power Plant will be designed such that it can generate electricity for "base-load", "mid-merit" or "peaking" capacities. However, it is intended to provide mid-merit power supply to the electricity grid.

26. As explained below, the use of the terms "base-load", "mid-merit" or "peaking" to describe electricity generation capacity are becoming outdated and have little relevance to modern grids where variable renewable energy resources (e.g., wind and solar) and energy storage are used to meet reliability needs at least cost without falling neatly into these historical categories.

THE RELEVANT STATUTORY FRAMEWORK

The requirement to obtain an environmental authorisation

27. Section 24(2) of the National Environmental Management Act No. 107 of 1998 ("NEMA") empowers the Minister to identify activities which may not commence without an environmental authorisation.

28. The process through which an environmental authorisation is obtained is prescribed by the Environmental Impact Assessment Regulations, 2014 ("the EIA Regulations").

29. The activities which require an environmental authorisation are prescribed by Listing Notices 1 to 3 of the EIA Regulations.

30. The Power Plant involves conducting a number of activities listed in the Listing Notices. These are listed at page 77 of the Final EIR submitted by Eskom and Savannah in August 2019.

31. As a result, the Power Plant was required to undergo a Scoping and Environmental Impact Assessment process as set out by regulations 21 to 24 of the EIA Regulations.

Environmental authorisations for coastal activities

32. Section 63(1) of the National Environmental Management: Integrated Coastal Management Act No. 24 of 2008 ("NEM:ICMA") requires a competent authority to take account of specific factors when deciding whether or not to grant an environmental authorisation under NEMA for "coastal activities" (as defined in NEM:ICMA). I discuss this requirement in more detail below.

The broader framework of environmental law

33. The obligation to obtain an environmental authorisation is the implementation of the broader principles of environmental law. The most relevant of these are set out below.

34. Section 24 of the Constitution provides that:

> *Everyone has the right –*
>
> *(a) to an environment that is not harmful to their health or well-being; and*

(b) to have the environment protected for the benefit of present and future generations, through reasonable legislative and other means that –

(i) prevent pollution and ecological degradation;

(ii) promote conservation; and

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

35. NEMA was enacted to give effect to this constitutional right. Section 2 of NEMA contains a set of principles which serve as a general framework for environmental management and guide the interpretation and implementation of the Act.

36. The most relevant of these principles are:

36.1. Environmental management must place people and their needs at the forefront of its concern, and serve the physical, psychological, developmental, cultural and social interests equitably.

36.2. Development must be socially, environmentally and economically sustainable.

36.3. Pollution and degradation of the environment must be avoided or, where this cannot be done altogether, be minimised and remedied.

36.4. The exploitation of non-renewable resources must be responsible, equitable and take into account the depletion of that resource.

36.5. That a risk-averse and cautious approach should be applied which takes into account the limits of current knowledge about the consequences of decisions and actions.

36.6. Negative impacts on the environment and on people's environmental rights must be anticipated and prevented and where they cannot be altogether prevented the must be minimised and remedied.

36.7. The environment is held in the public trust for the people and the beneficial use of the environmental resources must serve the public interest and the environment must be protected as the people's common heritage.

36.8. The social, economic and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated, and decisions must be appropriate in the light of such consideration and assessment.

36.9. Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands and similar systems require specific attention in management and planning procedures.

37. Section 23 of NEMA sets out the objectives of the environmental authorisation framework. These include ensuring that the effects of activities receive adequate consideration before actions are taken in connection with them.

The requirements for an environmental impact assessment

38. Section 24 of NEMA provides that the potential environmental impact assessment of a listed activity must be assessed.

39. Section 24(4) provides that this must be done through a procedure which:

39.1. ensures the investigation of the potential impacts of the activity on the environment and the significance of those potential impacts;

39.2. includes an investigation of the potential impacts of the alternatives to the activity on the environment and the significance of those impacts;

39.3. includes an investigation of the mitigation measures to keep adverse consequences or impact to a minimum.

40. In terms of section 24O, when considering an application for an environmental authorisation the competent authority must take into account:

40.1. measures which may protect the environment from harm or prevent or mitigate any environmental impact;

40.2. the ability of the applicant to implement mitigation measures;

40.3. where appropriate, any feasible and reasonable alternatives to the activity, including feasible and reasonable modifications to the activity.

41. The Appendix 3 of the EIA Regulations provides that:

41.1. the environmental impacts of a proposed project must be set out in the environmental impact assessment report which must contain the information that is necessary for the competent authority to consider and come to a decision on the application, and must include the information specified in section 3 of Appendix 3;

41.2. one of the objectives of an environmental impact assessment process is to determine the nature, significance, extent, duration and probability of the impacts occurring to inform the identified preferred alternatives.

42. The requirement to assess the impact of an activity includes a requirement to assess the impact the activity will have on climate change. A climate change impact assessment must include a full life-cycle analysis of the direct and indirect emissions associated with the construction and operation of the facility This includes considering:

42.1. the extent to which the activity will contribute to climate change over its lifetime by quantifying the greenhouse gas emission during construction, operation, and decommissioning;

42.2. the resilience of the activity to climate change taking into account how climate change will impact of the activity including through factors such as water scarcity and extreme weather patterns; and

42.3. how the impacts identified in the first two considerations can be avoided, mitigated, or remedied.

CHRONOLOGY OF RELEVANT EVENTS

43. Eskom appointed Savannah Environmental (Pty) Ltd ("Savannah") to undertake the environmental impact assessment ("EIA") process in respect of the proposed Power Plant.

44. On 21 August 2017 Savannah published a first scoping report for the Power Plant. This report was open for public inspection until 20 September 2017.

45. Thereafter the final scoping report was submitted to the Department on 6 October 2017. The Department approved the Scoping Report on 20 November 2017.

46. The availability of the first and revised environmental impact reports were advertised in March and July 2019 respectively.

47. The review and public comment period for the environmental impact report was from 24 March 2019 to 26 April 2019.

48. The Final EIR was published in August 2019. Copies of the relevant extracts from the Final EIR this are annexed marked **FA 6**. A complete copy of the Final EIR (including its appendices) will be delivered in a separate file together with this affidavit.

49. On 23 December 2019, the Chief Director issued an environmental authorisation for the Power Plant ("the Initial Decision"). A copy of this environmental authorisation is annexed marked **FA 7**.

50. The applicants appealed the initial decision on 27 January 2020. A copy of the applicants' appeal is annexed marked **FA 8**.

51. On 13 October 2020 the Minister dismissed the applicants' appeal and confirmed the Initial Decision. A copy of the Minister's decision ("the Appeal Decision") is annexed marked **FA 9**.

THE SIGNIFICANCE OF CLIMATE CHANGE

52. There is no longer any doubt that climate change is caused by human activities and that global average warming above 1.5°C above pre-industrial levels will have profoundly harmful effects on humanity and the planet.

53. This is accepted by the United Nations, by the Intergovernmental Panel on Climate Change ("IPCC") (which is the international body for assessing the science related to climate change) and by the South African government.

54. In 2018 the IPCC prepared a Special Report on the impacts of global warming of 1.5°C above pre-industrial levels. The Summary for Policy Makers published alongside that report recorded that human activities are causing an increase in the Earth's temperature and this poses a risk to health, livelihood, food security and water supply. The relevant paragraphs read:

> *Human activities are estimated to have caused approximately 1.0°C of global warming above pre-industrial levels with a likely range of 0.8°C to 1.2°C. Global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate.*

and

> *Climate-related risk to health, livelihoods, food security, water supply, human security, and economic growth are projected to increase with global warming of 1.5°C and increase further with 2°C.*

55. The South African government accepts that: climate change is a measurable reality; South Africa is especially susceptible to climate change; and that climate change poses a substantial threat to the section 24 environmental right and NEMA principles. This is apparent from the documents set out below.

56. There is wide consensus that urgent action is necessary in the next decade to limit global warming to 1.5°C and that there is no atmospheric space left for new fossil-fuel emissions. In 2018, the IPCC found that to limit warming to 1.5°C, countries must reduce CO_2 emissions by 45% within the next decade and achieve net zero emissions around 2050 (executive summary, p. 12). Unfortunately, to date, the global community has fallen short of reaching this goal.

57. For this reason, it is not anticipated that any of the respondents will take issue with:

57.1. the existence of climate change;

57.2. that climate change is caused by human activity, principally through the emission of greenhouse gases (which includes both methane and carbon dioxide);

57.3. that this will cause harm to humanity and the planet; and

57.4. that urgent action is necessary to reduce emissions of greenhouse gases.

58. Accordingly, the applicants will not include substantive expert evidence on this points in this affidavit.

59. Nonetheless, for context, certain key facts which have been accepted by the South African government are set out below.

South Africa's international commitments

60. The most pertinent global agreement which aims to reduce global greenhouse gas emissions is the United Nations Framework Convention on Climate Change ("UNFCCC"), to which South Africa is a party.

61. South Africa is also a party to the Paris Agreement on climate change. This agreement:

61.1. recognises the need for an effective and progressive response to the urgent threat of climate change;

61.2. recognises the fundamental priority of safeguarding food security and ending hunger and the particular vulnerabilities of food production systems to the adverse impacts of climate change; and

61.3. aims to hold global average temperatures well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase

to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change.

62. As a party to the UNFCCC and the Paris Agreement, South Africa has agreed:

62.1. to collaborate with the other Parties to limit the increase in the global average temperature to well below 2°C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels;

62.2. to develop and present Nationally Determined Contributions ("NDCs") which set out the part that South Africa will play in the global effort to reach global peaking of greenhouse gas emissions as soon as possible (Paris Agreement, article 4); and

62.3. to formulate and communicate long-term low greenhouse gas emission development strategies.

63. In the same year that the Paris Agreement was signed, the 2030 Agenda for Sustainable Development was adopted by South Africa and 192 other countries, along with a set of 17 Sustainable Development Goals ("SDGs"), many of which are linked to climate change. In particular, SDG 13 is "Take urgent action to combat climate change and its impacts".

64. In 2018 South Africa submitted its Third National Communication under the United Nations Framework Convention on Climate Change. This submission recorded that:

> *Climate change is a measurable reality and South Africa is especially susceptible to its impacts.*
>
> and
>
> *South Africa falls within the Southern African region, which influences the country's climate change impacts and adaptation response. Countries within Southern Africa are vulnerable to climate change (DEA,2014b). Increased temperatures in central regions and general decrease in annual rainfall (across the Western Cape of South Africa and parts Zimbabwe, Mozambique and Zambia) will negatively influence the sustainable development goal of zero hunger in the region [...].*

65. In compliance with its obligations under the Paris Agreement, South Africa has submitted its first long-term low greenhouse gas emission development strategy to the UNFCCC. The strategy is dated February 2020 and is titled *South Africa's Low Emission Development Strategy 2050* ("SA-LEDS"). Among other matters SA-LEDS:

65.1. acknowledges the considerable threat that climate change poses to the country and its socio-economic development, particularly to impoverished communities, stating for example:

> *South Africa, like the rest of the world, is vulnerable to the impacts of climate change. In unmitigated greenhouse gas (GHG) emissions scenarios, warming of up to 5 to 8°C is projected over the interior of the country by the end of this century. Under a range of warming scenarios, drier conditions will be experienced in the west and south of the country and wetter conditions in the east. Rainfall patterns will become more variable and unpredictable.*
>
> *These changes will impact on water resources and food production, and increase the vulnerability of impoverished communities, amongst others. The South African government thus regards climate change as a considerable threat to the country and its socio-economic*

> *development. At the same time, if climate change is to be limited through limiting the growth in global GHG emissions, with South Africa contributing its fair share to emission reductions, there will be other implications for the country. As one of the top 20 global emitters, with a high dependency on fossil fuels, substantial emission cuts will be required. The rapid transition that will be required presents a potential risk to economic growth and sustainable development if not managed properly. (Executive Summary, p vii)*

65.2. articulates the following vision –

> *South Africa follows a low-carbon growth trajectory while making a fair contribution to the global effort to limit the average temperature increase, while ensuring a just transition and building of the country's resilience to climate change.*

65.3. recognises that South Africa has favourable conditions for generating electricity from wind and solar and has biomass opportunities, particularly on the East Coast, stating for example:

> *Across the country favourable conditions for wind power are found, and the high levels of solar irradiation make it ideal for solar power. Biomass opportunities are available, many of which are along the east coast which is tropical and characterised by large wood and sugar plantations. There is also some potential for small and micro scale hydropower (p. 9);*

65.4. records that gas plays a relatively minor role in electricity generation and its future role will largely be defined by the Gas Utilisation Master Plan that is still under development, stating for example:

> *Natural gas plays a relatively minor role in the primary energy supply. Local production is mainly from the Bredasdorp Basin, which lies offshore on the southern coastline. This basin supplies natural gas to PetroSA's Mossel Bay GTL facility. The bulk of the country's natural*

gas demand is, however, met through imports from Mozambique's Temane and Pande gas fields. The gas is imported via a high-pressure pipeline and supplied to Sasol and other industrial and commercial customers mainly within Gauteng Province. The finalisation of the Gas Utilisation Master Plan, which has been under development for a number of years, will help to provide policy certainty on the role that gas will play in the energy mix moving into the future;

65.5. records that the energy sector is by far the biggest contributor to GHG emissions in South Africa (for example on page 12 it records that the energy sector accounted for 79.5% of the total gross emissions for South Africa in 2015 and that the percentage contribution of this sector to overall emissions grew by 25% between 2000 and 2015);

65.6. commits South Africa to a goal of net zero carbon emissions by 2050, stating for example:

As indicated previously, a process is currently being undertaken by the National Planning Commission to develop a common vision for the country in 2050. The vision will be used to update SA-LEDS once released. In the development of this vision, South Africa will give due consideration to the IPCC Special Report on 1.5°C, which represents the latest available science regarding this goal. This report sheds new light on the global rate of emissions reductions required to keep warming to 1.5°C with no or low overshoot. While it is agreed that developed countries must take the lead in reducing emissions, in is also imperative that global totals not be exceeded, because developing countries will suffer most from the negative impacts of such a collective failure to limit global emissions. These challenges which the IPCC Special Report has presented so clearly to the international community will play a key role in setting our national goals. We thus commit to ultimately moving towards a goal of net zero carbon emissions by 2050, which will require various interventions to reduce

> *greenhouse gas emissions. This goal, how it will be achieved to ensure a just transition, and how the economic advantages of the transition will be maximised, will be formally communicated in future iterations of this strategy (p. 21); and*

65.7. accepts that South Africa must find a way of ensuring that GHG emissions decrease rapidly in order to reach the goal of carbon neutrality by 2050, stating for example:

> *It is clear that Parties must find a way to ensure that emissions over time decrease rapidly as part of a sustainable development pathway, consistent with the goal of carbon neutrality in the second half of this century (p. 43).*

66. South Africa's current NDC commits that national GHG emissions will peak from 2020-2025 in the range between 398 and 614 Mt CO_{2e}, and thereafter plateau and then decline from 2035.

67. The NDC acknowledges the necessity of keeping temperature increases well below 2°C or even below 1.5°C "in light of emerging science, noting that a global average temperature increase of 2°C translates to up to 4°C for South Africa by the end of the century" (p. 1, South Africa's Nationally Determined Contribution). The NDC also recognises that near zero GHG emissions are required by 2050.

68. State Parties must submit a new NDC every 5 years. The next contribution must be a "*progression beyond*" of the current NDC (Paris Agreement, article 4.3). Being a signatory entails progression, not regression, in relation to

climate mitigation and adaptation. Thus, South Africa's commitments under the Paris Agreement will only become stricter.

69. An updated draft NDC was approved by Cabinet for public consultation on 24 March 2021. The NDC commits South Africa to a low-emissions and a climate resilient future. The updated NDC will be deposited with the UNFCCC ahead of the 26th Conference of Parties in Glasgow, Scotland, in November 2021.

70. In this regard it is relevant to note that the commitments made by South Africa in its NDC fall far short of what is required to keep global warming to below 2°C, much less 1.5°C, and consequently future NDCs are likely to contain stronger commitments to reducing GHG emissions more quickly. The expert opinion of Dr Howarth filed with this affidavit, and discussed below, makes it clear that because of the methane emissions associated with the use of gas, the construction of new gas infrastructure is not compatible with achieving the goals of the Paris Agreement.

South Africa's climate change policy

71. In domestic policy, the South African government has accepted that climate change presents a serious and imminent threat to all South Africans. These recognitions are not a recent development.

72. On 19 October 2011, the South African government published its National Climate Change Response White Paper ("the White Paper"), which "*presents the South African government's vision for an effective climate*

change response and the long-term, just transition to a climate-resilient and lower carbon economy and society."

73. In the White Paper, the following is acknowledged:

> *[I]t is also recognised that South Africa is a relatively significant contributor to global climate change with significant GHG emission levels from its energy intensive, fossil-fuel powered economy. (p. 8)*
>
> ...
>
> *We therefore regard mitigation as a national priority. (p. 25)*
>
> ...
>
> *Currently available analyses indicate that, unchecked by climate mitigation action, South Africa's emissions could grow rapidly by as much as fourfold by 2050. The majority of South Africa's emissions arise from energy supply (electricity and liquid fuels) and use (mining, industry and transport), and mitigation actions with the largest emission reduction potential focus on these areas. (p. 26)*
>
> ...
>
> *Policy decisions on new infrastructure investments must consider climate change impacts to avoid the lock-in of emissions-intensive technologies into the future. However, in the short-term, due to the stock and stage in the economic lifecycle of existing infrastructure and plant, the most promising mitigation options are primarily energy efficiency and demand side management, coupled with increasing investment in a renewable energy programme in the electricity sector.*

74. South Africa's National Development Plan 2030, which was published in 2012 also recognised that climate change has an effect on South Africa. It noted:

> *Climate Change is already having an impact on South Africa. Over the last 50 years, there are clear signs of warming and increased and increased frequency of rainfall extremes. The number of hot days has increased in frequency, while the days with cooler temperatures have decreased in frequency. The sea level has risen around South Africa.*

75. The government has since formulated a number of policy commitments to address the impacts of climate change.

76. South Africa's National Climate Change Adaption Strategy (Version UE10, dated 13 November 2019.) ("NCCAS"), which was approved by Cabinet in August 2020, records (at p. 24) that:

> *South Africa is experiencing significant effects of climate change particularly as a result of increased temperatures and rainfall variability. The observed rate of warming has been 2 C per century or even higher – more than twice the global rate of temperature increase for the western parts and the northeast (DEA 2017, 72).*
>
> and, at page 17:
>
> *South Africa experiences a wide range of weather and climate related impacts that are projected to worsen with climate change. Some of these impacts include drought, severe storms, flooding, heat waves, and change in the distribution of disease.*

77. Both the White Paper and the NCCAS are grounded in the Constitution, particularly the section 24 environmental right.

<u>The impact of the Power Plant on climate change</u>

78. Given this context, it is important to note that:

78.1. The specialist climate change assessment (Appendix J to the Final EIR) ("the Climate Report") states the following at pages 14 to 15:

> *It is estimated that the annual carbon emissions from direct fuel combustion for the proposed Eskom CCPP project will be 4.6 million tonnes CO2e per year. Over the assumed 30 year lifetime of the plant this equates to the emission of tens to hundreds of millions of tonnes of CO2e into the atmosphere.*
>
> *In terms of South Africa's most recent greenhouse gas inventory, the annual emissions of the proposed CCPP power plant would account 0.85% when operated as a mid-merit plant. Should the plant however be operated as a baseload plant, it will contribute 1.69% to the national emissions each year.*
>
> ....
>
> *As the emissions from the proposed CCPP plant will significantly contribute to the national greenhouse gas inventory, the extent of the project's greenhouse emissions are considered to be very large (national). The duration of the impact of the greenhouse gas emissions is considered as effectively permanent as the greenhouse gas emissions produced are assumed to remain in the atmosphere for 100 years. As a single source, the proposed CCPP power plant's relatively large contribution to national emissions classify its impact as low . The combustion of natural gas will definitely produce carbon emissions and it is certain that these emissions will contribute to the onset of global climate change. From these parameters the significance score for the project is calculated to be high (>60). As the emitted greenhouse gases are assumed to remain in the atmosphere for such long durations the impact is effectively irreversible with the effects of climate change often resulting in the irreversible loss of resources."*

78.2. the Final EIR similarly records (at p. 214) that:

> *As the emissions of the [Power Plant] will significantly contribute to the national greenhouse gas inventory, the extent of the project's greenhouse gas emissions is*

considered to be very large (national). The duration of the impact of the greenhouse gas emissions is considered as effectively permanent as the greenhouse gas emissions will remain in the atmosphere for 100 years.

79. Elsewhere in this affidavit, I explain that despite this conclusion, the Climate Change Impact Assessment did not include a full life cycle analysis of the GHG associated with this Power Plant, and therefore, that the GHG emissions contribution of the Power Plant is likely to be even higher.

THE WORKINGS OF AN ELECTRICITY GRID

80. Below, I provide an explanation of: the elements which comprise an electricity grid; the different types of generation capacity; and the role played by renewable electricity generation sources.

81. I am not an expert on these facts. However, the applicants requested James Sherwood, Mark Dyson, and Sakhi Shah at the Rocky Mountain Institute ("RMI"), an independent, non-profit organization of experts on accelerating the clean energy transition based in the United States, to provide information in this regard. What I say below is drawn from RMI's input. RMI's full report is annexed marked **FA 10**. A confirmatory affidavit in the authors' names will be filed together with this affidavit.

82. As a general rule, an electricity grid is composed of :

82.1. generating stations which produce electrical power (these could be fossil fuel powered -such as power plants which burn coal or gas)

renewable energy powered - such as wind and solar) or nuclear powered;

82.2. energy storage which stores excess electricity generated and provides it when a there is a lack of generated electricity;

82.3. electrical substations which convert electricity into high voltage for long distance transmission or low voltage for distribution to consumers;

82.4. high voltage transmission lines which are used to carry electricity from generating stations over long distances; and

82.5. lower voltage distribution lines which are used to deliver power at a local level and to individual consumers.

83. As set out above, the Power Plant is intended to primarily provide "mid-merit" capacity. The terms "baseload", "mid-merit" and "peaking" have become outdated. However, they bear the following meanings.

83.1. "Baseload" refers to power plants which provide the power needed to meet the minimum level of demand on an electricity grid. This capacity is typically provided by power plants which cannot easily change their output and are generally only shut down for maintenance. Historically this capacity is usually provided by coal and nuclear fuelled power stations.

83.2. "Peaking" refers to power plants which are which are used only during periods of peak demand, such as hot summer afternoon when air conditioning demand is greatest. Historically this capacity is met by gas fuelled power plants or hydro-electric power plants.

83.3. "Mid-merit" refers to plants used to meet fluctuating levels of demand between the levels of baseload and peaking. Historically this capacity is provided by gas or diesel fuelled power plants, or hydro-electric power plants.

84. These terms are quickly becoming irrelevant in the 21st Century. This is principally because it has become possible, practical and cost effective to utilise renewable energy sources (principally wind and solar) together with energy storage technologies to provide the generation capacity which was previously described as "baseload", "peaking" and "mid-merit" capacity.

85. The RMI report provides examples of many such renewable energy projects. For example, the largest utility in Colorado, U.S. is retiring two of its largest "baseload" coal-fired power plants and replacing them directly with a combination of wind, solar, and storage projects. Similarly, Neoen and Tesla have shown through the Hornsdale Power Reserve in South Australia that large-scale batteries can economically play many of the same roles as "mid-merit" and "peaking generators," such as stabilizing the grid even in times of contingency on the renewables-dominated regional grid. The world's largest auction for renewables and storage took place in India in 2020 for 1.2 GW of capacity. The requirement was for energy during morning and evening hours

which is traditionally met by "mid-merit" generators. Successful bids comprised of renewables, battery storage, and pumped hydro storage.

1ST REVIEW GROUND: INADEQUATE CLIMATE CHANGE ASSESSMENT

86. As explained above, the environmental impact assessment for a carbon emitting project must include an assessment of:

86.1. the extent to which the activity will contribute to climate change over its lifetime by quantifying the greenhouse gas emission during construction, operation, and decommissioning, including

86.1.1. the GHG emissions arising from the extraction, transportation and combustion of gas for electricity;

86.1.2. the GHG emission during the decommissioning of the plant;

86.1.3. cumulative GHG emissions (i.e. the additive contribution of the project to pre-existing GHG emissions for South Africa).

86.2. 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);

86.3. the ways in which the project area will be impacted by climate change and the extent to which the project would aggravate these

impacts and affect the area's resilience or vulnerability to the effects of climate change as they intensify;

86.4. the resilience of the activity to climate change taking into account how climate change will impact of the activity its ability to operate optimally and efficiently for its full anticipated lifespan including through factors such as water scarcity and extreme weather patterns; and

86.5. how these impacts can be avoided, mitigated, or remedied.

87. The Final EIR includes a section entitled "Assessment of Impacts on Climate Change" (at p. 213). It also includes the specialist Climate Report.

88. However, the climate change assessment is deficient in four respects.

88.1. First, it failed to consider the use of renewable energy power plants as an alternative to the Power Plant.

88.2. Second, it failed to assess the full life cycle greenhouse gas emissions of the project including those which will be caused by the extraction of gas and its transport to the Power Plant.

88.3. Third, it inadequately assessed the climate change mitigation measures.

88.4. Fourth, it failed to assess the resilience of the Power Plant to climate change.

89. Each of these deficiencies is addressed in more detail below. They are particularly significant because the Initial Decision recorded that one of the key factors in this decision was that *"the Development of the Richards Bay CCPP will reduce Eskom's resource use and carbon footprint per Megawatt produced supporting South Africa's commitment towards a reduction in carbon emissions"*. If that is so, then the failure to conduct a proper climate change assessment must be a fatal flaw in the Final EIR and the decisions premised on it. This is a material omission because, as discussed below, the potential greenhouse gas emissions from the full life cycle of the project are significant and would be inconsistent with: South Africa's commitments under the Paris Agreement; its policy goals to rapidly and substantially reduce GHG emissions; and the principles embodied in section 2 of NEMA.

90. The Initial and Appeal Decision's grant of the authorisation for the Power Plant despite the deficiencies in the assessment of the climate change impacts render the requirement to assess climate impacts a meaningless box-ticking exercise.

91. The Final EIR did not adequately assess the climate change impacts of the Power Plant and the results of a proper assessment were not available to the Chief Director or the Minister when they took their decisions. Accordingly, both the Initial Decision and the Appeal Decision:

91.1. were taken because mandatory or material procedures or conditions prescribed by NEMA (and the EIA Regulations) were not complied with;

91.2. are premised on a material error of law.

91.3. were taken because relevant considerations were not taken into account;

91.4. were taken arbitrarily and capriciously.

91.5. were not rationally connected to the purpose for which they were taken;

91.6. were not rationally connected to the purpose of NEMA or the EIA Regulations;

91.7. were not rationally connected to the information before the Chief Director and the Minister;

91.8. were not rationally connected to the reasons provided by the Chief Director or the Minister; and

91.9. were so unreasonable that no reasonable administrator could have taken them.

92. Therefore the both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(d), 6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of the Promotion of Administrative Justice Act ("PAJA").

The failure to consider renewable alternatives to the Power Plant

93. Every application for an environmental authorisation must include, where applicable:

93.1. 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; and

93.2. an investigation of mitigation measures to keep adverse consequences or impacts to a minimum.

94. When assessing the climate change impacts of a proposed project, an applicant for an environmental authorisation is required to consider the environmental impacts of reasonable and feasible alternatives to the proposed project.

95. Eskom (and Savannah as the environmental assessment practitioners tasked with undertaking the environmental impact assessment process on behalf of Eskom) were required to assess the climate change impacts of using renewable energy power plants as an alternative to constructing and operating the Power Plant.

96. Eskom (and Savannah) did not investigate the climate change impacts of renewable energy alternatives, nor did they investigate whether renewable energy power plants would be a reasonable or feasible alternative to the Power Plant.

97. The potential alternatives to the Power Plant are addressed by the Final EIR under the heading "Project Overview" (which begins on p. 34). I annex an extract from the Final EIR marked **FA 6**).

98. At page 35 the Final EIR indicates that fundamental alternatives to the Power Plant were not considered because these were considered in the development of the Integrated Resource Plan. The relevant paragraph reads:

> *The fundamental energy generation alternatives were assessed and considered within the development of the IRP and the need for the development of gas / diesel generated energy has been defined. Therefore fundamental alternatives to the proposed project are not considered within this final EIA Report.*

99. The Climate Report also did not consider the use of renewable energy alternatives. The Climate Report only considered the four alternatives listed below.

99.1. Open cycle gas turbines. These are a different type of gas power plant.

99.2. The use of diesel fuel in a combined cycle gas turbine. This is a plant which is essentially the same as the Power Plant but uses diesel fuel instead of gas.

99.3. Coal fired power stations.

99.4. The use of biodiesel or biogas in the Power Plant.

99.5. The use of carbon capture and storage in the Power Plant.

100. Accordingly, it is clear that neither the Final EIR nor the Climate Report considered using renewable energy sources instead of the Power Plant, or how this would affect any climate impacts. Most notably, neither document gave any consideration to the use of wind turbines or photovoltaic solar power either of which could be used with or without power storage systems. This omission is particularly material in the light of the expert evidence provided by the RMI which:

100.1. confirms that the RMI authors agree with the conclusions in a study conducted by Meridian Economics and the Centre for Scientific and Industrial Research that the proposed 3.0 GW combined cycle gas power plant at Richards Bay is neither timely nor economically optimal (p. 9); that if it were commissioned within the next five years, it would come online as much as a decade prior to the planned need for any type of new CCGT capacity; and that South Africa would be better served by focusing on investment in infrastructure to enable a 21st century electricity system consisting largely of renewable energy sources (p.10);

100.2. establishes that renewable energy sources can be used to provide the generation capacity which the Power Plant is intended to provide (referred to in the Final EIR as "mid-merit" capacity);

100.3. points out that many leading global utilities are now using technologies such as wind, solar, and storage, to provide the same

sort of grid services that were provided by "baseload," "peaking," and "mid-merit" power plants in the 20th Century (p. 3); and

100.4. gives specific examples of this from India, Morocco, Chile, Thailand, Colorado, Indiana, Oklahoma, and North Dakota in the USA, and South Australia (pp. 3 to 4).

101. The only explanation the Final EIR provides for this is that these options were considered in the process of developing the relevant integrated resource plans that were available at the time that the Final EIR was published. However, I am advised that this explanation is bad in law. This is an issue for legal argument which will be addressed in due course.

102. In any case, the integrated resource plans which underly the decision to pursue the Power Plant do not contain an environmental impact assessment which would satisfy the requirements set out by NEMA. As such, neither document could warrant a deviation from the NEMA requirements. Nor did the 2010 IRP, which the Final EIR relied upon, consider renewable and storage alternatives, as these technologies were not viable when it was published. Copies of the Integrated Resource Plan for Electricity 2010 to 2030 (2013 update) and the Integrated Resource Plan 2019 are annexed marked **FA 11.1 and 11.2**.

103. I am advised that because neither the Final EIR nor the Climate Report considered whether renewable energy power plants were reasonable and feasible alternatives to the Power Plant, this ground of review stands

whether or not it is factually correct that using renewable energy power plants is a reasonable and feasible alternative to constructing and operating the Power Plant.

Failure to assess greenhouse gas emissions during extraction and transport

104. A climate change impact assessment is required to assess the GHG emissions associated with a proposed project. In the case of a power plant that includes the GHG emissions arising from the full life cycle of the project, including extraction, transportation, and combustion of the fuel to be used by the power plant.

105. The principal fuel to be used by the Power Plant is gas.

106. However, neither the Final EIR nor the Climate Report give any consideration to the GHG emissions which will be caused by the extraction and transport of the gas to be used by the Power Plant.

107. In fact, neither report makes any serious effort to even determine where the gas will be sourced.

108. Final EIR seems to indicate that gas could be sourced in Mozambique and piped to Richards Bay where a second pipeline will transport the gas from the Richards Bay Liquified Natural Gas Terminal to the Power Plant. It should be noted that neither pipeline has yet been constructed nor has the

gas terminal (see p. 72 of the Final EIR). As far as I am aware, none of those projects has yet received an environmental authorisation.

109. The relevant paragraph reads as follows:

> *Gas Supply: The Richards Bay Port has been identified as a potential supply source (via LNG terminal infrastructure at the port, or at any take-off point) by potential gas suppliers via a gas pipeline to the [Power Plant] by the Department of Energy for Gas and Gas-to-Power enablement. The environmental studies are currently underway to facilitate the gas to the power plants. The Richards Bay Area has therefore been identified by Eskom as an appropriate area for the development of a CCPP due to its location in relation to sources of gas close to the KZN province, e.g. Mozambique. Mozambique has sufficient natural gas to enable the available of natural gas to be piped to South Africa. Eskom will purchase LNG from potential suppliers once the connection to Richards Bay has been completed, or where other supplies become available. In order to enable the transport of the natural gas to the Power Plant a gas pipeline needs to be constructed from the supply point to the facility. This pipeline will be operated by a private gas supplier with who Eskom will enter into a gas supply agreement. Feasible options for the routing of this pipeline are being investigated by Transnet and Eskom, to be assessed as part of a separate EIA process.*

110. The Climate Report (at p. 6) records the following:

> *The proposed CCPP will be fuelled with piped natural gas or liquified natural gas (LNG). It intends to take advantage of the large natural gas discoveries in the Rovuma Basin in Mozambique. This reserve presents a reasonably priced regional gas resource that could be transported to the Richards Bay are via a pipeline or ship as LNG. This may support the government's objective to diversify South Africa's energy mix and stimulate new industry around the feedstock. It has been indicated that the plant will be*

fuelled with diesel, as a backup, when natural gas is unavailable.

111. Extracts of the relevant portions of the Final EIR and the Climate Report are annexed marked **FA 6**.

112. It should be noted that the authorisation for the Power Plant is subject to the following conditions:

112.1. Proof of the availability of liquid gas supply to the Power Plant.

112.2. Proof of Transnet SOC taking responsibility for the construction of the LNG facility and gas pipeline.

112.3. Diesel may only be used as a back up during emergency situations and for a maximum time of 8 hours.

113. Despite recognition that gas must be sourced from a distant location and transported to Richards Bay neither the Final EIR nor the Climate Report consider greenhouse gas emissions associated with the transport of the gas from its source to Richards Bay.

114. In particular neither report considers emissions:

114.1. caused by generating the power to propel the gas through any pipeline;

114.2. caused by leaks in any pipelines;

114.3. arising from the construction of any pipelines;

114.4. arising from generating the power needed to liquify the gas for ship borne transport;

114.5. arising from leaks or evaporative cooling during ship borne transport;

114.6. arising from fuel burnt by ships transporting liquid gas to Richards Bay.

115. In this regard, it should also be noted that the Rovuma basin is located on the border between Mozambique and Tanzania. As such, the blanket statement that gas reserves are "*close to the KZN province*" is clearly unwarranted.

116. It is also clear that neither report considered emissions arising during the extraction of the relevant gas. This deficiency is further exacerbated by the fact that under the heading: "Policy and Legislative Context" the Final EIR appears to contemplate the use of gas sourced from the Karoo Basin (at p. 53). Such gas can only be extracted via hydraulic fracturing, which produces significantly more GHG emissions than conventional extraction, including the release of unprocessed methane. Methane has a much higher impact on global warming than an equivalent amount of carbon dioxide: 86 times the impact on a 20-year timescale, which is the timescale most relevant for preventing run-away warming. The Final EIR makes no attempt to assess the impact of using gas sourced from the Karoo Basin nor does it provide any explanation for this failure.

117. These deficiencies appear to be the result of a deliberate decision. The Climate Report (at p. 9) records the following:

> *As with most fossil fuel based electricity generation, majority of the total greenhouse gas emissions calculated for the lifecycle of a combined cycle gas turbine can be attributed to the plant's direct combustion emissions. (Spath & Mann, 2000). The carbon footprint presented in this study thus focusses on the direct operations emissions from fuel combustion.*

118. This amounts to an intentional, clear, and express failure to comply with the requirement to assess the full lifecycle emissions of a power plant.

119. I am advised that because neither the Final EIR nor the Climate Report consider the GHG emissions caused by the extraction and transport of the gas to the Power Plant, this ground of review stands irrespective of the factual extent of such emissions.

120. Nonetheless, the Applicants have obtained expert opinion from Robert W. Howarth, Ph.D, who is the David R. Atkinson Professor of Ecology and Environmental Biology at Cornell University, in the United States of America. Dr Howarth's expert opinion is annexed in a report marked **FA 12**. In that report Dr Howarth summarizes the latest research on the greenhouse gas emissions of gas.

121. Significantly this research concludes that the GHG emissions of gas are greater than those of coal per unit of energy produced when evaluated in a 20-year timeframe, the period most relevant for climate change if humans are to avoid catastrophic run-away warming. The latest science on gas

suggests that the GHG footprint of gas is worse than that of either coal or oil, particularly when considered in this 20-year timescale.

122. The science summarized in Dr Howarth's report reveals the following.

122.1. Though gas emits less carbon dioxide at combustion per unit energy than coal, its upstream GHG emissions are more problematic for the climate, as it releases potent methane in leaks and venting throughout its lifecycle.

122.2. New research methodologies and technologies have revealed that, contrary to common wisdom of twenty years ago, methane leakage from the gas system negates the climate benefits of gas at its end use over coal or heavy fuel oil.

122.3. Researchers have been able to detect emissions across the lifecycle of gas ever more accurately given new methodologies and technologies (particularly "top-down" measurements using satellite and aerial assessments); these new studies have consistently shown that emissions from gas production are higher than were previously estimated using "bottom-up" facility-based measurements.

122.4. These new methodologies have found that on average, conservatively, a few percent of the gas produced through both conventional and unconventional methods are lost to the atmosphere as methane during the production process. More is also vented during the upstream gathering and processing stage.

122.5. Recent research using novel technologies has also revealed higher downstream methane emissions than previously estimated (i.e., in gas transmission, distribution, and end use).

122.6. The average lifecycle emissions of gas are growing globally because:

122.6.1. shale gas is growing as a percentage of all gas, and its production likely emits more methane and other greenhouse gases than conventional gas production; and

122.6.2. Liquified Natural Gas (LNG) markets are growing, and turning gas into a liquid for shipping requires large amount of gas to be burned, greatly increasing the gas's GHG emissions.

123. While it is unclear where gas will come from to feed the proposed Power Plant, the Final EIR suggest that candidates could include shale gas from the Karoo.

124. Methane emissions from shale gas are of particularly concern because:

124.1. methane (CH_4) is 86 times more potent than carbon dioxide (CO_2) on a 20-year timescale; and

124.2. global methane emissions are accelerating, and appear to be rising at the rate that would be predicted to result from the shale gas boom.

125. Dr Howarth's report also draws attention to the fact that the next 20 years are a critical time for reducing methane emissions given the very high risk of global runaway warming and climatic disruption and the intensity of methane's short-term radiative forcing, which could tip the planet into such runaway warming.

Inadequate assessment of mitigation measures

126. As set out above, a climate change assessment must assess how the greenhouse gas emissions from a proposed project can be mitigated and the ability of the applicant to implement those measures.

127. The Final EIR (at p. 215) and the Climate Report consider two options to mitigate the greenhouse gas emissions which will be caused by the Power Plant. They consider:

127.1. the use of biogas or biodiesel as a fuel; and

127.2. the use of carbon capture technologies.

128. However, neither report gives any consideration to the ability of Eskom to implement these mitigation measures. In particular neither report considers:

128.1. the cost or availability of biogas or biodiesel, and their source (which is a major determinant of the environmental impacts of using these fuels);

128.2. the emissions and other environmental impacts of manufacturing biogas or biodiesel:

128.3. the emissions that would be caused by transporting biogas or biodiesel to the Power Plant;

128.4. whether the Power Plant is able to use biogas or biodiesel as fuel;

128.5. the availability or cost of carbon capture and storage systems which, as the applicants pointed out in their appeal, are currently neither feasible nor cost effective, and consequently reliance on them is misplaced and speculative;

128.6. whether the design of the Power Plant is compatible with the use of carbon capture and carbon storage systems;

128.7. the greenhouse gas emissions of the Power Plant if a carbon capture and carbon storage system were to be implemented; or

128.8. what the environment impacts of implementing a carbon capture and carbon storage system would be. This is particularly notable because the proposed system would involve storing carbon in saline aquifers.

129. In respect of the compatibility of the Power Plant with biogas, biodiesel and carbon capture and storage it should be noted that:

129.1. the project description for the Power Plant (which begins at p. 21 of the Final EIR) makes no mention of biogas, biodiesel or carbon capture; and

129.2. the Climate Report indicates that the design of the Power Plant should take into account the mitigation measures so that they could be retrofitted. The relevant paragraph (which appears at p. 23) reads as follows:

> *The proposed project has options to mitigate its carbon emissions. These options include switching to alternative fuels such as biogas or biodiesel as well as carbon capture and storage. Implementing these technologies will enable the proposed power plant to greatly reduce is greenhouse gas emissions. As such it is advisable that the design of the project takes into account these options to enable the potential retrofit and implementation during the plant's operation phase. Such mitigation actions will help the proposed plant to take on a shared responsibility for climate change mitigation.*

130. This is a clear indication that the Power Plant's design, as authorised, does not cater for the use of biogas, biodiesel or carbon capture and storage. Neither the Final EIR nor the Climate Report provide any basis on which the Chief Director or the Minister could accept that the Power Plant was compatible with the use of biogas, biodiesel or carbon capture and storage.

131. In the light of the above it is clear the Final EIR did not adequately assess whether or not Eskom was capable of implementing the mitigation measures proposed for the Power Plant or the extent to which such measures could mitigate the Power Plant's climate change impacts.

Inadequate assessment of resilience to climate change

132. As set out above, a climate change impact assessment must consider the resilience of the propose project to climate change.

133. The Final EIR does not give any consideration to the effects that climate change will have on the Power Plant. On this basis alone, the Final EIR failed to conduct an adequate climate change assessment.

134. The Climate Report includes a section which purports to assess the effect of climate change on the Power Plant (see p. 21 of the Climate Report).

135. It is conducted in three paragraphs. It accepts that most of KwaZulu-Natal will experience extreme warming, that drought conditions may persist, and that water resources are essential to agricultural practices in the region. It then notes that if water resources are severely affected the Power Plant "*may even be impacted upon and may require alternative operational arrangement (sea water for cooling)*".

136. Despite this neither the Final EIR nor the Climate Change Report consider or assess:

136.1. whether the design of the Power Plant is compatible with the use of sea water for cooling;

136.2. what percentage of the Power Plant's water use is for cooling and what percentage is for other purposes, such a driving steam turbines; or

136.3. what the environmental impact of using sea water for cooling would be.

137. Furthermore, neither the Final EIR nor the Climate Report consider the extent to which the Power Plant and its operation (including its water use) will aggravate the impact of climate change on the local community. This failure is particularly notable because the Climate Report notes that the Power Plant is a heavy water user, that agriculture in the region is reliant on water, and that climate change is likely to cause reduced rainfall in the area.

138. In the circumstances, it is clear that the neither the Final EIR nor the Climate Report adequately assessed the resilience of the Power Plant to climate change or the extent to which the Power Plant will exacerbate the impact of climate change on its surrounding community.

2ND REVIEW GROUND: INADEQUATE CONSIDERATION OF NEED AND DESIRABILITY

139. Clause 2(b) of Appendix 3 to the EIA Regulations provides that one of the objectives of an environmental impact assessment is to describe the need and desirability of the proposed project.

140. Clause 3(f) requires an environmental impact assessment report to include a motivation of the need and desirability of the proposed project.

141. The Final EIR includes an assessment of the need and desirability of the Power Plant (at p. 64). However, this assessment is deficient in at least three respects.

141.1. First, it does not take into account that building the Power Plant is not consistent with any cost-optimized capacity expansion plan for South Africa.

141.2. Second, it does not give any consideration to the alternative option of using renewable energy power plants.

141.3. Third, it does not give any consideration to the availability of gas.

142. Each of these deficiencies are explained in more detail below.

143. As such, the Final EIR did not adequately assess the need and desirability of the Power Plant. Therefore, the results of such an assessment were not available to the Chief Director or the Minister when they took their decisions. Accordingly, both the Initial Decision and the Appeal Decision:

143.1. were taken because mandatory or material procedures or conditions prescribed by NEMA (and the EIA Regulations) were not complied with;

143.2. are premised on a material error of law;

143.3. were taken because relevant considerations were not taken into account.

143.4. were taken arbitrarily and capriciously;

143.5. were not rationally connected to the purpose for which they were taken;

143.6. were not rationally connected to the purpose of NEMA and the EIA Regulations;

143.7. were not rationally connected to the information before the Chief Director and the Minister;

143.8. were not rationally connected to the reasons provided by the Chief Director or the Minister;

143.9. were so unreasonable that no reasonable administrator could have taken them.

144. Therefore both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(d), 6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of PAJA.

The failure to consider the absence of need over the next decade

145. RMI's expert report above evaluated the scope and credibility of a study conducted by Meridian Economics and the Centre for Scientific and Industrial Research (the "CSIR/Meridian Report"), and applied the study's results to the proposed Power Plant. The CSIR/Meridian Report evaluates the optimal development of South Africa's electricity system, showing different pathways that both minimize customer costs and meet increasingly ambitious CO_2 emissions reduction scenarios.

146. A copy of the CSIR/Meridian Report is annexed marked **FA 13**.

147. The RMI report concluded that the CSIR/Meridian Report's methodology and content was scientifically sound. The RMI report further concluded that the proposed Richards Bay plant is neither timely nor economically optimal in the next decade. Specifically, RMI arrived at the following conclusions:

147.1. A least cost model for South Africa's electricity grid would be composed of 90% renewable capacity by 2050.

147.2. Such a grid would be complemented by small quantities of storage capacity and gas fuelled generation capacity.

147.3. Under this model, there is no need for new gas generation capacity within the next decade as peaking capacity can be provided by existing diesel fuelled generation capacity until then.

147.4. There is no need for new combined cycle gas capacity in the next decade, and no need for 3 GW of such capacity until 2041. Gas and peaking resources contribute just 1.1% of total electricity generation in 2025, and 2.4% by 2035.

147.5. South Africa would be better served by focusing on investment in infrastructure to enable a 21st century electricity system, which CSIR/Meridian's findings and global trends show to be largely renewable.

147.6. If the Richards Bay plant is commissioned within the next five years, it would come online as much as a decade prior to the economically optimal addition of any type of new non-peaking gas capacity. This

would mean that for a third or more of its operational life, it would represent an uneconomic and unnecessary addition to South Africa's electricity system. This cost would be passed on to South African tax payers.

147.7. The 2019 IRP used the same modelling software and would have come to the same conclusion, had the use of coal, hydro-electric power and gas power plants not been forced in by a policy adjustment.

148. In summary, the RMI report concludes: "Based on the study's results, we … emphasize that investing in the proposed gas-fired power plant at Richards Bay is more expensive for South African electricity customers and not required for reliable electricity generation.

149. Accordingly, it is a clear that a proper assessment of need and desirability would have concluded that the proposed plant is neither timely nor economically optimal in the next decade.

The failure to consider renewable alternatives

150. The Final EIR fails to give any consideration to the alternative options of using renewable energy power plants instead of the Power Plant. Whether or not a role intended to be filled by a fossil fuel burning power plant (such as the Power Plant) could a fulfilled by renewable energy power plants is clearly relevant to determining the need and desirability of the fossil fuel burning power plant. As described above and in RMI's expert report, many leading

global utilities have chosen renewable energy plus storage over gas-fired power plants as a replacement for coal-fired power because they are cheaper and can perform "mid-merit" and "baseload" functions.

151. Directing energy infrastructure investment into rapidly building renewables, transmission, and grid services instead of towards developing gas projects would also avoid lock-in to long term fuel cost commitments prematurely.

152. As such, the Final EIR did not assess the need and desirability of the Power Plant in the light of using renewable energy power plants as an alternative.

The failure to consider the location of the gas

153. The Final EIR does not assess the availability of gas for the Power Plant. It fails even to determine where such gas would be sourced and how it would be transported to the Power Plant. This issue is obviously critical to the feasibility of the Power Plant and to its cost effectiveness.

154. As set out above, whether the gas to be used is obtained via conventional extraction in Mozambique or from hydraulic fracturing in the Karoo will have a material impact on the greenhouse gas emissions associated with the extraction. Therefore, the location of the gas to be used is likely to have a material impact on the desirability of the Power Plant.

155. Similarly, the location of the gas to be used may have other material impacts on the desirability of the Power Plant. For example, if the intention is to obtain gas from Mozambique, those gas reserves are located in the Cabo

Delgado province. That province is the subject of a widely reported armed insurgency. This is likely to have a material impact on the availability of any gas reserves in this region.

156. In short, the failure to consider the location of the gas sources to be used by the Power Plant renders the need and desirability assessment fatally flawed. It is simply not possible to assess the desirability of the Power Plant without considering where its gas fuel will be sourced and the costs and environmental impacts associated with the extraction and transport of the gas from those sources.

3RD REVIEW GROUND: FAILURE TO CONSIDER ALTERNATIVES

157. Section 24O of NEMA requires an environmental impact assessment to consider all feasible and reasonable alternatives to the proposed project.

158. The Final EIR does not consider the use of renewable energy power plants as an alternative to the Power Plant, or make any attempt to determine whether such power plants would be reasonable and feasible alternatives to the Power Plant. It instead mistakenly asserts that it did not have to undertake such an analysis because these options were considered in the process of developing the relevant integrated resource plans at the time of the Final EIR's publication: an outdated 2010 integrated resource plan and a draft 2018 integrated resource plan. As mentioned, I am advised that this is a legally and factually implausible argument that will be addressed in subsequent legal submissions.

159. I am advised that because neither the Final EIR nor the Climate Report consider whether renewable energy power plants were reasonable and feasible alternatives to the Power Plant, this ground of review stands whether or not that is factually correct that using renewable energy power plants is a reasonable and feasible alternative to constructing and operating the Power Plant.

160. Nonetheless, as set out above, RMI has provided expert evidence which establishes that renewable energy sources can be used to provide the generation capacity which is described in the Final EIR as "mid-merit" capacity.

161. Therefore, results of such an assessment were not available to the Chief Director or the Minister when they took their decisions. Accordingly, both the Initial Decision and the Appeal Decision:

161.1. were taken because mandatory or material procedures or conditions prescribed by NEMA (and the EIA Regulations) were not complied with.

161.2. are premised on a material error of law;

161.3. were taken because relevant considerations were not taken into account;

161.4. were taken arbitrarily and capriciously;

161.5. were not rationally connected to the purpose for which they were taken;

161.6. were not rationally connected to the purpose of NEMA and the EIA Regulations;

161.7. were not rationally connected to the information before the Chief Director and the Minister;

161.8. were not rationally connected to the reasons provided by the Chief Director or the Minister; and

161.9. were so unreasonable that no reasonable administrator could have taken them.

162. Therefore the both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(d), 6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of PAJA.

4TH REVIEW GROUND: THE FAILURE TO CONSIDER CUMULATIVE IMPACTS OF THE POWER PLANT

163. The cumulative impacts of a project are the impacts of the project (together with the impacts associated with the project) which may become significant when added to the existing and reasonably foreseeable impacts eventuating from similar or diverse activities.

164. The Final EIR includes an assessment of the cumulative impacts of the Power Plant. However, this is inadequate on three scores.

164.1. First, the assessment of the cumulative impact on air quality fails to give any consideration to other projects in the vicinity of the Power Plant which contribute to air pollution.

164.2. Second, the Final EIR excluded an assessment of the pipeline from the liquid natural gas facility to the Power Plant and because this pipeline is an integral element of the Power Plant project, this renders the Final EIR inadequate.

164.3. Third, the assessment gives no consideration to the numerous other gas related projects proposed for the vicinity of the Power Plant.

165. Each of these inadequacies are addressed below. I am advised that the second point relates both to the cumulative impacts of the Power Plant and is a self-standing challenge to the adequacy of the scope of the Final EIR. Nonetheless, I address it here for the sake of convenience.

166. The effect of these above is that the Final EIR failed to assess all of the environmental impacts of the Power Plant and failed to assess the cumulative impacts of the Power Plant.

167. Therefore, results of such an assessment were not available to the Chief Director or the Minister when they took their decisions. Accordingly, both the Initial Decision and the Appeal Decision:

167.1. were taken because mandatory or material procedures or conditions prescribed by NEMA (and the EIA Regulations) were not complied with;

167.2. are premised on a material error of law;

167.3. were taken because relevant considerations were not taken into account;

167.4. were taken arbitrarily and capriciously;

167.5. were not rationally connected to the purpose for which they were taken;

167.6. were not rationally connected to the purpose of NEMA and the EIA Regulations;

167.7. were not rationally connected to the information before the Chief Director and the Minister;

167.8. were not rationally connected to the reasons provided by the Chief Director or the Minister; and

167.9. were so unreasonable that no reasonable administrator could have taken them.

168. Therefore the both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(d), 6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of PAJA.

169. I now turn to explain each of these inadequacies.

Cumulative impact on air quality

170. The Final EIR accepts (at p. 210) that the Power Plant will emit particulate and gaseous pollutants into the air and that this will, after mitigation, have a low impact on air quality. In particular, the Final EIR:

170.1. records (at p. 212) that the Power Plant will result in sulphur dioxide emissions which it assesses as being of medium significance;

170.2. records (at. p. 213) that the Power Plant will emit other pollutants (nitrogen oxide, volatile organic compounds, particulate matter and hydrogen sulphide) and assesses these as being of low significance.

171. The Final EIR (at p.210) records that the ambient air quality for the Richards Bay CBD and Brackenham stations did not comply with the relevant standard for particulate matter (PM_{10}) pollution. The non-compliance at Brakenham occurred in 2015 (see p. 39 of the Air Quality Report, relevant extracts of which are included in **FA 6**). The non-compliance at the Richards Bay CBD occurred in 2014, 2015, 2016 and 2017 (see p. 39 of the Air Quality Report).

172. In summarising the scoping phase for the Power Plant the Final EIR records (at p. 12) that the Mondi Richards Bay facility (a paper mill) is adjacent to the proposed site of the Power Plant and that another gas to power facility has been authorised for development in Phase 1F of the Richards Bay Industrial Zone.

173. The issue of the cumulative impact on air quality was squarely raised in the comments received during the scoping phase of the impact assessment process (see p. 92 of the Final EIR). In response to this concern the Final EIR records that the air quality specialist would assess the cumulative impact on air quality.

174. Despite this, the Final EIR does not consider the combined effect of the emissions from Power Plant and the Mondi paper mill. Accordingly, it did not adequately assess the cumulative impacts of the Power Plant.

175. Furthermore, the cumulative impact of the Power Plant on air quality also does not give any consideration to the South 32 Hillside Aluminium Smelter located in the area of the Power Plant. The smelter is a significant emitter of carbon, alumina fluorides, condensed hydrocarbons, carbon dioxide, carbon monoxide, gaseous fluorides and sulphur dioxides.

176. As a result, neither the Final EIR nor the Air Quality Report adequately assessed the cumulative impacts of the Power Plant on air quality.

The failure to consider the pipeline

177. It is clear from the Final EIR that the only proposed system to deliver gas to the Power Plant is the proposed pipeline to the Power Plant from the liquid natural gas terminal at the Richards Bay Port.

178. Accordingly, this pipeline is an integral part of the Power Plant and its environmental impacts should have been investigated as part of the Final

EIR. The decision to evaluate those impacts in a separate process is an artificial distinction which defeats the purpose of NEMA as well as the broader purposes of environmental law. As a result the Final EIR does not adequately assess the environmental impacts of the Power Plant.

179. At the very least, the impacts of the pipeline should have been considered as part of the cumulative impacts of the Power Plant. It was not, and this addressed further below.

The failure to consider other proposed projects in the vicinity of the Power Plant

180. There are numerous other projects proposed to be completed in the vicinity of the Power Plant. It is apparent from the Final EIR that at least the following projects are contemplated:

180.1. the liquid natural gas terminal to be constructed at the Richards Bay Port;

180.2. the pipeline connecting the Power Plant to the liquid natural gas terminal;

180.3. the pipeline which will deliver gas from Mozambique to Richards Bay; and

180.4. the gas to power plant which is to be constructed in Phase 1F of the Richards Bay Industrial Development Zone. (I understand that this

may be the plant referred to below which has been allocated permit no. DEA/EIA/0000190/2015.)

181. Furthermore, the applicants are also aware of the following gas related projects which are proposed (or have been authorised) for the vicinity of Richards Bay:

181.1. A 2100 MW combined cycle gas turbine for which Canopus Energy (Pty) Ltd applied for an environmental authorisation on 7 December 2016 which bears the permit no. DEA/EIA/0000547/2016.

181.2. A proposed gas to power plant in the Richards Bay IDZ which bears the permit no. DEA/EIA/0000190/2015 for which authorisation was sought on 18 November 2015.

181.3. A 2800 MW (or possibly 5400MW) liquid gas Nseleni Independent Floating Combined Cycle Gas Turbine Power Plant for which Anchor Energy (Pty) Ltd applied for authorisation on 5 November 2020 (depicted as "Nseleni Floating PP" in the map).

181.4. A proposed gas to electricity powership for which Karpowership SA (Pty) Ltd sought authorisation on 8 October 2020 and which bears the permit no. DEA/EIA/0001371/2020 (depicted as "Karpower" in the map).

181.5. A 400MW gas to electricity power plant for which authorisation was granted on 4 October 2016 under permit no. DEA/EIA/0000190/2015 (depicted as "RB Gas to PP" in the map).

181.6. A gas pipeline extension project for which Sasol Gas Ltd sought authorisation on 30 October 2012 and which bears the permit no. KZN/EIA/0000943/2012.

181.7. A 320MW liquid gas risk mitigation power plant on the property described as *"Remainder of Erf 1854 and Portion 2 of Erf 1854 (Alton, 8 lm south of RB)"* for which Phinda Power Producers (Pty) Ltd have sought authorisation (depicted as "320MW RMPP" in the map).

182. A map showing some of these gas projects in the vicinity of the proposed Power Plant is annexed marked **FA 14**.

183. The Final EIR gives no consideration to these projects, the impacts they will have on the environment, or cumulative effect of those impacts with each other and the impacts of the Power Plant.

184. Accordingly, the Final EIR did not adequately assess the cumulative impacts of the Power Plant.

5TH REVIEW GROUND: INADEQUATE CONSIDERATION OF IMPACTS OF COASTAL ACTIVITIES

185. Section 63(1) of NEM:ICMA requires a competent authority to take account of specific factors when deciding whether or not to grant an environmental authorisation under NEMA for "coastal activities" (as defined in that Act).

186. In section 1 of NEM:ICMA it is stated that:

"coastal activities" means activities listed or specified in terms of Chapter 5 of the National Environmental Management Act which take place—

(a) in the coastal zone; or

(b) outside the coastal zone but have or are likely to have a direct impact on the coastal zone;

187. The site on which it is proposed that the Power Plant be constructed is close to the coastal zone and includes wetlands that extend onto erf 5333 which is situated on the seaward side of the site. The pipeline that must be constructed to bring gas from the port to the Power Plant (and which should have been assessed as part of the EIA process for the Power Plant) will have to traverse areas within the coastal zone in order to reach the Power Plant and the construction and operation of the Power Plant will have a direct impact on the coastal zone. Consequently, the construction and operation of the Power Plant will involve "coastal activities" and the decision-makers were required to take account of the factors referred to in section 63.

188. The relevant factors that the competent authority must take into account when deciding whether or not to grant an environmental authorisation for "coastal activities" include:

188.1. whether coastal public property, the coastal protection zone or coastal access land will be affected, and if so, the extent to which the proposed development or activity is consistent with the purpose for establishing and protecting those areas;

188.2. the estuarine management plans, coastal management programmes, coastal management lines and coastal management objectives applicable in the area;

188.3. the socio-economic impact if the activity is authorised and if it is not authorised;

188.4. the likely impact of coastal environmental processes on the proposed activity;

188.5. whether the development or activity—

188.5.1. is likely to cause irreversible or long-lasting adverse effects to any aspect of the coastal environment that cannot satisfactorily be mitigated;

188.5.2. is likely to be significantly damaged or prejudiced by dynamic coastal processes;

188.5.3. would substantially prejudice the achievement of any coastal management objective; or

188.5.4. would be contrary to the interests of the whole community; and

188.6. the objects of NEM:ICMA, where applicable.

189. The competent authority must also ensure that if an environmental authorisation is granted for coastal activities, the terms and conditions of the environmental authorisation are consistent with any applicable coastal

management programmes and promote the attainment of coastal management objectives in the area concerned (NEM:ICMA section 63(2)).

190. It clear from the Final EIR, the Initial Decision and the Appeal Decision that Savannah, Eskom, the Chief Director and the Minister all failed to appreciate that NEM:ICMA, and section 63 in particular, applied to the EIA process in respect of the Power Plant.

190.1. The Final EIR does not contain any reference to NEM:ICMA or to the specific considerations that the decision-maker must consider by virtue of section 63. In this regard I annex as part of **FA 6** the relevant portions of the Final EIR namely: section 6.5 on page 101 which discusses the legislation and guidelines that have informed the preparation of that report; Table 6.8 (pp. 102 to 117) which contains a review of the relevant environmental policies, legislation, guidelines and standards applicable to the Richards Bay CCP; Chapter 4 (pp. 43 to 63) which deals with the policies and legislation which Savannah has identified as being relevant to the project and the EIA process and chapter 6 (pp. 75 to 117) deals with their approach to undertaking the EIA..

190.2. Neither the Initial Decision nor the Appeal decision refer to NEM:ICMA, nor do they indicate that the decision-makers considered the specific considerations referred to in section 63.

191. Accordingly, both the Initial Decision and the Appeal Decision:

191.1. were taken without complying with mandatory or material procedures or conditions prescribed by NEM:ICMA;

191.2. were procedurally unfair;

191.3. are premised on a material error of law;

191.4. were taken because relevant considerations were not taken into account and irrelevant considerations were taken into account;

191.5. were taken arbitrarily and capriciously;

191.6. were not rationally connected to the purpose for which they were taken;

191.7. were not rationally connected to the purpose of NEM:ICMA, NEMA and the EIA Regulations;

191.8. were not rationally connected to the information before the Chief Director and the Minister;

191.9. were not rationally connected to the reasons provided by the Chief Director or the Minister;

191.10. were so unreasonable that no reasonable administrator could have taken them.

192. Therefore the both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b), 6(2)(c), 6(2)(d),

6(2)(e)(iii), 6(2)(e)(vi), 6(2)(f)(ii)(aa), 6(2)(f)(ii)(bb), 6(2)(f)(ii)(cc), 6(2)(f)(ii)(dd), and 6(2)(h) of PAJA.

6TH REVIEW GROUND: INADEQUATE PUBLIC PARTICIPATION

193. As I set out above, decisions on applications for environmental authorisation must give effect to the NEMA principles. This includes the following principle which underlies public participation in environmental decision making:

> *The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.*

194. Section 24(4)(a)(v) of NEMA requires that EIA processes provide interested and affected parties ("I&APs") with a reasonable opportunity to participate in participation procedures.

195. Regulation 41(2) of the EIA Regulations requires that a person conducting a public participation process must take into account any relevant guidelines applicable to public participation, as contemplated by section 24J of NEMA. The regulation further requires that all potential I&APs must be given notice of a proposed application, in the manners set out therein.

196. In 2017, the Public Participation Guideline in terms of the National Environmental Management Act, 1998 Environmental Impact Assessment

Regulations ("the PP Guideline") was issued by the then Department of Environmental Affairs. The purpose of the PP Guideline is described (at p. 6) as follows:

> *"This guideline has been developed in order to assist the proponents or applicants, registered interested and affected parties (RI&APs) and environmental assessment practitioners (EAPs) to understand what is required of them and how to comprehensively undertake a PPP. ... It further provides information on the characteristics of a vigorous and inclusive PPP."*

197. The PP Guideline contains the following pertinent guidance for public participation in EIA processes:

197.1. the level of public participation must be at a minimum informed by the characteristics of the potentially affected parties (p. 8);

197.2. the type of method used must be an effective method of communication, and advertisements must be placed in newspapers that will easily reach the intended audiences considering jurisdictions and boundaries within which the proposal or application falls and or will have an impact or interest (p. 9);

197.3. the person conducting the PP must exercise discretion and ensure that the language used allows for the facilitation of a PPP where all potential and registered I&APs are provided with a reasonable opportunity to comment on an application and participate without unnecessary difficulty during the PPP (p. 9);

197.4. the nature and state of potential and registered I&APs or public sensitivity of the project should determine which PP mechanisms are most appropriate to use (p.9);

197.5. mechanisms for engagement or notification processes must suitably allow for engagement of all I&APs that may be illiterate or disabled or who may have any other disadvantage (p. 9); and

197.6. appropriate participation measures can be put in place to deal with range of cultural and language requirements of I&APs, and the language used by I&APs must be taken into account when serving a notice and when selecting a newspaper; (p. 10).

198. The PP Guideline sets out a number of examples of mechanisms to facilitate the participation of rural or historically disadvantaged communities or people with special needs, including announcing the public participation process on a local radio station in a local language, at an appropriate time (p.10).

199. The Final EIR recognises (at p. 169) that isiZulu is the most common language in South Africa, KwaZulu-Natal and the City of uMhlathuze Municipality Within the jurisdiction of the Municipality, according to the EIA Report, 79% of the population are isiZulu speaking.

200. It further describes the region as including "traditional areas", which the Final EIR describes as "cultivation in these areas is made up of small-scale agricultural units cultivating vegetables and small areas of sugar cane with

groups of houses and kraals located relatively evenly throughout the area" (at p. 163).

201. The Final EIR includes a section entitled "Public Involvement and Consultation" (at p. 94) which corresponds with Appendices C1 to C8 of supporting documentation. However, the public participation process is deficient because it failed to provide for the effective or appropriate participation of all potential I&APs, in at least the following respects:

201.1. the notice board displayed on the site did not display information in other appropriate local languages, namely, isiZulu;

201.2. the advertisment process and the availability of reports for public comment were advertised in newspapers "The Mercury", "Rapport", "Sunday Times" and "Zululand Observer", but no advertisements (or notices) were placed in any local isiZulu newspapers, and consequently, the advertisement could not easily reach potential interested and affected parties who were not English or Afrikaans speaking persons;

201.3. no radio stations, and in particular, no isiZulu radio stations were utilised to inform the public of the application;

201.4. there is no evidence of consultation with local communities or communities in "traditional areas", despite the wide impact of the proposed Power Plant; and

201.5. there is no evidence that the participation of vulnerable and disadvantaged persons was ensured.

202. As such, the EIA process did not provide for adequate, appropriate, effective and reasonable opportunity for public participation. Accordingly, both the Initial Decision and the Appeal Decision:

202.1. were taken because mandatory or material procedures or conditions prescribed by NEMA (and the EIA Regulations) were not complied with; and

202.2. were procedurally unfair.

203. Therefore both the Initial Decision and the Appeal Decision stand to be reviewed and set aside in terms of sections 6(2)(b) and 6(2)(c).

CONCLUSION

204. In this light of the above, the applicants have shown that both the Initial Decision and the Appeal Decision stand to be reviewed and set aside.

205. According, the applicants are entitled to the relief sought in the notice of motion.

WHEREFORE the applicants pray for an order in terms of the notice of motion.

MATTHEW DESMOND D'SA

I hereby certify that the deponent has declared that he knows and understands the contents of this Affidavit and that to the best of his knowledge and belief it is the truth, which Affidavit has been signed to and affirmed to before me at DURBAN on this the 8th day of APRIL 2021.

COMMISSIONER OF OATHS

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