

**IN THE HIGH COURT OF SOUTH AFRICA
(WESTERN CAPE DIVISION, CAPE TOWN)**

Case No: **23619** /2024

In the matter between:

AUKOTOWA FISHERIES PRIMARY CO-OPERATIVE LIMITED First Applicant

THE GREEN CONNECTION NPC Second Applicant

NATURAL JUSTICE Third Applicant

and

**DIRECTOR-GENERAL: DEPARTMENT OF MINERAL AND
PETROLEUM RESOURCES** First Respondent

**MINISTER OF FORESTRY, FISHERIES AND
THE ENVIRONMENT** Second Respondent

TOTAL ENERGIES EP SOUTH AFRICA S.A.S. Third Respondent

NOTICE OF MOTION

BE PLEASED TO TAKE NOTICE that the above-named Applicants intend to make application to this Honourable Court in terms of Rule 53, on a date to be arranged with the Registrar, for an order in the following terms:

1. Reviewing and setting aside the following decisions:
 - 1.1 The decision taken by the first respondent on 23 October 2023 ("the first decision") to grant an environmental authorisation in terms of regulation 23 of

the Environmental Impact Assessment Regulations 2014 (GN R. 982 of 4 December 2014), read with section 24 of the National Environmental Management Act 107 of 1998 ("NEMA"), for the Proposed Exploration Well Drilling in Block Deep Water Orange Basin Off the West Coast of South Africa ("the proposed activities").

- 1.2 the decision taken by the second respondent in terms of section 43(6) of NEMA to dismiss the appeals by the applicants against the first decision and to issue an amended environmental authorisation for the proposed activities ("the second decision").
2. Substituting the first decision and the second decision with an order refusing the environmental authorisation.
3. That the costs of this application be paid by the first and second respondent, alternatively by the first, second and third respondent jointly and severally, in the event of the third respondent opposing such relief.
4. Granting the Applicants such further and/or alternative relief as is this Honourable Court deems fit.

TAKE NOTICE FURTHER that in terms of Rule 53(1)(b) the first respondent and the second respondent are required within 15 days of receipt of the notice of motion to dispatch to the Registrar of this Honourable Court the record of the proceedings sought to be reviewed and set aside, together with such reasons as they are required by law or desire to give, and to notify the applicants that it has done so;

TAKE NOTICE FURTHER that the applicants may, within 10 days of receipt of the record from the Registrar, by delivery of a notice and accompanying affidavit or affidavits, amend, add to or vary the terms of their notice of motion and supplement their founding papers in terms of Rule 53(4).

TAKE NOTICE FURTHER that any opposing respondent may, within 30 days after the expiry of the time referred to in Rule 53(4), deliver any affidavits it may desire in answer to the allegations made by the Applicants.

TAKE NOTICE FURTHER that the Applicants have appointed **CHENNELLS ALBERTYN** of 44 Alexander Street, Stellenbosch and **care of** 18A Greenwich Road, Rondebosch, Cape Town as the address at which it will accept notice and service of all process in these proceedings.

TAKE NOTICE FURTHER that such respondents as are intent on opposing the relief set out above: may within 15 five days of receipt of the notice of motion notify the Applicants' attorneys in writing that they intend to oppose the application and in such notice to appoint an address referred to in Rule 6(5)(b) at which it/they will accept notice and service of all documents in these proceedings; and within 30 days' of such date deliver any affidavits they may desire in answer to the allegations made by the Applicants.

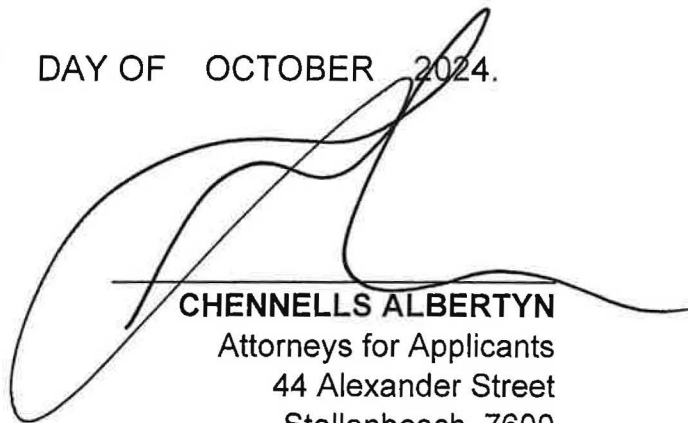
BE PLEASED TO TAKE NOTICE FURTHER that the affidavits of **JOHANNES WALTER STEENKAMP, PRIYANKA NAIDOO, DELME CUPIDO** and **GILLIAN HAMILTON** will be used in support hereof.

TAKE NOTICE FURTHER that if any of the respondents intend opposing the relief sought in this notice of motion, they are required:

- (i) To notify the applicants' attorney in writing within five (5) days of service of this application; and
- (ii) Within fifteen (15) days after they have so given notice of their intention to oppose the application, to file their answering affidavits, if any.

If no such notice of intention be given, the application will be made on a date to be allocated by the Registrar of the above Honourable Court at 10h00.

DATED AT CAPE TOWN THIS 31ST DAY OF OCTOBER 2024.



CHENNELLS ALBERTYN

Attorneys for Applicants

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Stellenbosch, 7600

(Ref: **F Bester/cvdv/12252FB**)

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C/O CHENNELLS ALBERTYN

18A Greenwich Grove

Station Road

RONDEBOSCH

TO: **THE REGISTRAR**
HIGH COURT
CAPE TOWN

**AND TO: DIRECTOR-GENERAL: DEPARTMENT OF MINERAL
AND PETROLEUM RESOURCES**

First Respondent
Environmental House
Corner Steve Biko and Soutpansberg Street
Arcadia
Pretoria.

AND CARE OF:

The State Attorney Pretoria,
316 Thabo Sehume Street
Pretoria Central
Pretoria, 0001

AND CARE OF:

The State Attorney Cape Town
Floor 4
Liberty Life Centre
22 Long Street
Cape Town, 8001

**AND TO: MINISTER OF FORESTRY, FISHERIES AND
THE ENVIRONMENT**

Second Respondent
Environmental House
Corner Steve Biko and Soutpansberg Street
Arcadia
Pretoria.

AND CARE OF:

The State Attorney Pretoria,
316 Thabo Sehume Street
Pretoria Central
Pretoria, 0001

AND CARE OF:

The State Attorney Cape Town
Floor 4
Liberty Life Centre
22 Long Street
Cape Town, 8001

AND TO: TOTAL ENERGIES EP SOUTH AFRICA S.A.S.

Third Respondent
3rd Floor, Tygervally Chambers 2
27 Willie van Schoor Avenue
Bellville

AND

Tygerpoort Building
7 Mispel Road
Bellville

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**MINISTER OF FORESTRY, FISHERIES AND
THE ENVIRONMENT** Second Respondent

TOTAL ENERGIES EP SOUTH AFRICA S.A.S. Third Respondent

FOUNDING AFFIDAVIT

I, the undersigned,

JOHANNES WALTER STEENKAMP

do hereby make oath and state:

1. I am an adult small-scale fisherman and the Chairperson of the AUKOTOWA FISHERIES PRIMARY CO-OPERATIVE LIMITED ("Aukotowa"), Registration Number: 2018/005127/24) with registered address at DAFF Building, Beach



Road, Port Nolloth, 8280 and doing business from Joos Engelbrecht Street, Port Nolloth, 8280. I am duly authorised to bring this application and to depose to this founding affidavit on behalf of the applicant. A resolution to this effect is attached to this affidavit as "**JWS1**".

2. The facts contained in this affidavit are within my personal knowledge unless it appears otherwise and are, to the best of my belief, true and correct.
3. I attach confirmatory affidavits deposed to by Priyanka Naidoo, on behalf of the second applicant, and Delme Cupido, on behalf of the third applicant confirming the content of my affidavit as "**JSW2**" and "**JSW3**".
4. Where I make legal submissions in this affidavit, I do so on the advice of my legal representatives, whose advice I believe to be correct.

INTRODUCTION

5. Aukotowa is a co-operative of 64 small-scale fishers, established in 2018. All of our members are generational fishers residing in Port Nolloth, a coastal town in the Northern Cape.
6. Port Nolloth, like many small towns in South Africa, is stricken by poverty. The town started as a railway junction for the copper-mining industry, and was later a site for diamond mining, but today serves mainly as a fishing village, and for small-scale diamond recovery.
7. Our heritage of fishing is a definitive part of our culture and the culture of this region. Despite the long association between the local community and subsistence fishing, I do not remember a time when we were able to partake



in this activity free of exclusionary regulation or environmental encroachments. Under apartheid, fishing quotas were available only to white people. After the transition to democracy, it was almost impossible to obtain fishing rights as a person without means, they were available only to commercial fishers and people who could afford to pay the application fees.

8. We were eventually able to obtain some recognition of traditional fishing rights following the adoption of the "Policy for the Small-Scale Fisheries Sector in South Africa". This was the product of a long, litigious struggle with the Government.

9. The background to the policy is described in its introduction as follows:

"This policy aims to provide redress and recognition to the rights of Small Scale fisher communities in South Africa previously marginalised and discriminated against in terms of racially exclusionary laws and policies, individualised permit-based systems of resource allocation and insensitive impositions of conservation-driven regulation."

10. This policy took many years to develop and resulted in amendments to the Marine Living Resources Act, 18 of 1998 in 2014. Despite the progressive policy and official legal recognition of small-scale fishing rights, this has not stopped the steady marginalisation of West Coast fishers by commercial fishing and the development of other industries along our coastline.

11. Each of our 64 members now depend on their catch as their livelihood. Because of this, we have a deep appreciation for the ocean.

12. In recent years we have seen a decline in our fish stocks and changes in their migration patterns. We need to go further out to sea in our small roeiboete (row boats) which is a safety risk for us. We believe that these changes are

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due to climate change. We have seen the behaviour of large marine mammals such as whales become more aggressive. There has also been a change in the fishing seasons and migration of fish. When I fished with my father almost 36 years ago, we would return home with a huge catch and today this is rare.

13. The fishers of the West Coast have always travelled extensively up and down the West Coast to 'chase the fish' and enable our livelihoods, which provides food security for our communities. In general, we travel between 20-30 kilometres offshore to catch snoek during the season which usually runs from March-September. Due to changes in the climate and ocean, which we have seen as fishers, sometimes the season is longer and can stretch from the end of February to December.

14. I relay these facts as the background to our interest in this case. Aukotowa is extremely concerned about the degradation of the oceans and our local coastline, which is at the heart of so much of our history and culture and is also now the source of our livelihoods.

PARTIES

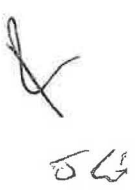
15. The first applicant is the AUKOTOWA FISHERIES PRIMARY CO-OPERATIVE LIMITED, a company duly incorporated in accordance with the company laws of South Africa with registration number 2018/005127/24 and having its principal place of business at DAFF Building, Beach Road, Port Nolloth, 8280.

16. The second applicant is THE GREEN CONNECTION NPC, a non-profit company incorporated in terms of the laws of South Africa with registration no.

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2021/773490/08 and having its registered address at Unit B1 Clareview Business Park, 236 Imam Haron Road, Claremont, Cape Town ("Green Connection").

17. The third applicant is NATURAL JUSTICE a voluntary association established with the object of providing legal support to indigenous and local communities. Natural Justice is a duly registered Nonprofit Organisation in terms of the laws of South Africa under registration no. 057-611-NPO and having its principal place of business at 6th Floor, Mercantile Buildings, 63 Hout Street, Cape Town ("Natural Justice").
18. The Green Connection and Natural Justice are both organisations whose object is to promote sustainable development by empowering people to participate in decision-making about their environment. The applicants bring this application in their own interest and in the public interest in terms of section 38(1)(c) of the Constitution.
19. The first respondent is the DIRECTOR-GENERAL: DEPARTMENT OF MINERAL AND PETROLEUM RESOURCES ("the DG") with address at Environmental House, Corner Steve Biko and Soutpansberg Street, Arcadia, Pretoria. This application will be served on the DG's physical address and on the State Attorney, Pretoria, at 316 Thabo Sehume Street, Pretoria Central, Pretoria, 0001, and the State Attorney, Cape Town, at Floor 4, Liberty Life Centre, 22 Long Street, Cape Town, 8001.
20. The second respondent is the MINISTER OF FORESTRY FISHERIES, AND THE ENVIRONMENT ("the Minister") in his official capacity. This application



will be served on the Minister at Environmental House, corner Steve Biko and Soutpansberg Street, Arcadia, Pretoria, and care of the State Attorney, Pretoria, at 316 Thabo Sehume Street, Pretoria Central, Pretoria, 0001, and the State Attorney, Cape Town, at Floor 4, Liberty Life Centre, 22 Long Street, Cape Town, 8001.

21. The third respondent is TOTAL ENERGIES EP SOUTH AFRICA S.A.S ("Total"), a private company incorporated in terms of the laws of South Africa with registration number (2013/082354/10) and registered address at 3rd Floor, Tygervalley Chambers Two, 27 Willie Van Schoor Avenue, Bellville, Western Cape, 7530 with place of business at Tygerpoort Building, 7 Mispel Road, Bellville.

OVERVIEW OF THE APPLICATION

22. This is an application for the review and setting aside of:
- 22.1. the decision taken by the DG on 23 October 2023 to grant an environmental authorisation to Total in terms of section 24O of the National Environmental Management Act, 107 of 1998 ("NEMA") ("the DG's decision").
- 22.2. the decision taken by the Minister in terms of section 43(6) of NEMA to dismiss appeals by all three applicants against the DG's decision ("the Minister's decision").
23. When dealing generally with both decisions, I will refer to them as "the decisions". I will refer to the DG and the Minister collectively as "the decision-makers".
24. The environmental authorisation relates to petroleum exploration activities

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- that Total proposes to conduct in the Deep-Water Orange Basin ("the project area"), approximately 200 kilometres off the west coast of South Africa.
25. Total was granted an exploration right over the area in 2019 in terms of section 79 of the Mineral and Petroleum Resources Development Act ("the MPRDA"). The exploration right authorises Total to conduct exploration operations to determine whether any oil or gas deposits are located on the project area.
26. If during this process Total discovers an oil or gas reserve large enough to justify commercial production, it has an exclusive entitlement in terms of the MPRDA to apply for and be awarded a production right in respect of that discovery.¹ When dealing with the project in its totality (i.e. exploration and production) I will refer to it as "the project".
27. The exploration work programme in respect of which the environmental authorisation was granted involves the drilling of up to nine exploration wells at depths of up to 3100 metres ("the exploration activities").
28. Pursuant to the application for environmental authorisation, the exploration activities were subject to an environmental impact assessment in terms of the EIA Regulations, 2014 ("EIA Regulations").
29. The Applicants contend that the process to assess and authorise the exploration activities was irrational and fatally flawed.
30. While the applicants rely on the certain specific deficits in the process and the

¹ MPRDA, section 82.

reasoning of the two decision-makers, the principal contention is that the decision-makers have wholly failed to engage the key inquiry required in terms of NEMA – do the benefits of the proposal outweigh its environmental costs?

31. The decision-makers failed to reach this question, because they adopted an irrational approach which compared the long-term benefits of producing gas or oil on the project area against the short-lived effects of exploration (assuming no oil spills), while explicitly declining to include production impacts in the evaluation. Consequently, contrary to NEMA, the process and the decision-makers did not address:
 - 31.1. the justifiability of the project from an environmental perspective (“need and desirability”);
 - 31.2. the ecological consequences of the project across its lifetime; and
 - 31.3. the climate change impacts of the project across its lifetime.
32. The applicants also contend that the process and the decision-makers failed to adequately assess the oil spill risk and the socio-economic impact of *the exploration activities* specifically, as required by NEMA.
33. The upshot of this flawed process is that Total has been permitted to embark upon a long-term, capital-intensive project that is at odds with stated Government priorities and may have a significant unexamined ecological impact.
34. The remainder of this affidavit is structured as follows:
 - 34.1. First, I provide an overview of the relevant legal framework.

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- 34.2. Second, I set out the history of the decisions, including the environmental impact assessment process conducted in respect of the exploration activities under NEMA. I make submissions regarding the relationship between the exploration and production phases of a petroleum project.
- 34.3. Third, I define the broader context of the proposed exploration activities.
- 34.4. Fourth, I make some observations concerning the relationship between exploration and production.
- 34.5. Fifth, I address the ecological impact of the project.
- 34.6. Sixth, I deal with each of the applicants' review grounds in turn.

RELEVANT LAW AND POLICY

- 35. There are three areas of law and policy that bear upon these decisions. They are:
 - 35.1. The framework for environmental management and issuing of environmental authorisations under NEMA and the Environmental Impact Assessment Regulations, 2014 ("the EIA Regulations").
 - 35.2. The legislative framework for energy planning in South Africa under the National Energy Act,
 - 35.3. The law and policy framework relating to climate change.
- 36. I deal with each in turn.

NEMA and the Environmental Impact Assessment Regulations

37. NEMA provides the framework for environmental management in South Africa. It is one of the laws enacted to give effect to section 24(b) of the Constitution, which provides that South Africans have the right to “reasonable legislative measures” that “prevent pollution and ecological degradation” and “secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development”.
38. In accordance with the power in section 24(2) of NEMA whereby the Minister may identify activities that may not commence without environmental approval, the Minister has listed and published the following activities relevant to this review application –
- 38.1. Any activity, including the operation of that activity, which requires an exploration right in terms of section 79 of the Mineral and Petroleum Resources Development Act.
- 38.2. Any activity, including the operation of that activity, which requires a production right in terms of section 83 of the Mineral and Petroleum Resources Development Act.
39. Accordingly, a listed activity may not be commenced with unless environmental approval from the Competent Authority had been sought and obtained. In the case of mineral and petroleum activities, the Competent Authority is the Minister responsible for mineral resources. The procedure for applications for environmental authorisations is governed by the Environmental Impact Assessment Regulations, 2014 (“the EIA

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Regulations”).

40. An application for environmental approval is made to the Competent Authority as contemplated in chapter 5 of NEMA and chapter 4 of the EIA Regulations.
41. The substantive matters to be considered by the Competent Authority involve a careful exercise of discretion.
42. NEMA and the EIA Regulations list multiple principles and factors which must be taken into account by the Competent Authority when deciding the EIA application. These include -
 - 42.1. principles of environmental management in section 2 of NEMA;
 - 42.2. general objectives of Integrated Environmental Management in section 23 of NEMA;
 - 42.3. minimum requirements set out in section 24(4) of NEMA; and
 - 42.4. criteria in section 24O of NEMA and in regulation 18 of the EIA Regulations.
43. While section 2 of NEMA enumerates several principles of environmental management, a key principle is that environmental management is to “place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interest equitably” (section 2(2)).
44. When development is pursued, which serves the needs of people, it must take place in a manner that is “socially, environmentally and economically sustainable” (section 2(3)). In other words, it must be sustainable development.



45. Other relevant principles are that:
- 45.1. that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied (section 2(4)(a)(ii));
 - 45.2. environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option;
 - 45.3. environmental justice must be pursued so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (section 2(4)(c));
 - 45.4. 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 (section 2(4)(j));
 - 45.5. the environment is held in public trust for the people, the beneficial use of environmental resources must serve the public interest and the environment must be protected as the people's common heritage ((section 2(4)(o)).
46. Sustainable development entails development taking place within ecological limits which the environment is able to sustain, while serving the public interest

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in promoting justifiable social and economic development. This is the “triple bottom line” where the three considerations of environment, social and economic considerations constitute sustainable development.

47. It is in this context that regulation 18 of the EIA Regulations requires that the Competent Authority must have regard to the “need and desirability” of the activity, together with the considerations in sections 24O and 24(4) of NEMA when deciding upon an application for environmental approval. The Need and Desirability guideline states that, in considering the questions related to sustainable development, when deciding upon an application for environmental approval “it must be decided which alternatives represent the ‘most practicable environmental option’”. NEMA defines the “best practicable environmental option” as that which “provides the most benefit and causes the least damage to the environment as a whole, at a cost acceptable to society, in the long-term as well as in the short-term.”
48. Section 2(4)(a) of NEMA states that sustainable development “requires the consideration of all relevant factors” including that negative impacts of development on the environment must be anticipated and prevented and if they cannot be prevented, they must be minimized and remedied (section 2(4)(a)(i)(ii)).
49. The above is similarly reflected in section 24O, which requires the Competent Authority, when deciding upon an application for environmental approval to take into account “all relevant factors”, including –
- 49.1. environmental impacts likely to be caused if the EIA application is granted or



refused;

- 49.2. measures that may be taken to protect the environment from harm that may result from the activity;
- 49.3. measures that may be taken to prevent, control, abate or mitigate substantially detrimental environmental impacts or environmental degradation;
- 49.4. where appropriate, any feasible and reasonable alternatives to the activity;
- 49.5. information contained in the application form, reports, comments, representations and other documents submitted in terms of NEMA to the MEC or Competent Authority in connection with the application for environmental approval.

50. The EIA Regulations were made with the purpose to –

“regulate the procedure and criteria as contemplated in Chapter 5 of [NEMA] relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimize environmental impacts, and for matters pertaining thereto.” (Regulation 2)

51. An assessment of impacts is to be conducted to form part of the EIA application process. In the circumstances of Total's application for the exploration activities, the assessment was required to take the form of a “scoping and environmental impact assessment” as contemplated in part 3 of chapter 4 of the EIA Regulations.

52. In terms of regulation 23(1)(a), read with regulation 23(3), an environmental impact assessment report, inclusive of specialist reports, must be submitted to the Competent Authority and must contain the information set out in Appendix 3 to the EIA Regulations.
53. In terms of item 2 of Appendix 3, the purpose of an environmental impact assessment is *inter alia* to:
- 53.1. determine the policy and legislative context within which the activity is located and document how the proposed activity complies with and responds to the policy and legislative context;
 - 53.2. describe the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the development footprint on the approved site; and
 - 53.3. determine the nature, significance, consequence, extent, duration and probability of the impacts occurring to inform identified preferred alternatives; and the degree to which these impacts can be reversed, may cause irreplaceable loss of resources, and can be avoided, managed or mitigated.
54. An environmental impact assessment report must accordingly contain (amongst other things):
- 54.1. a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context (item 3(3)(e); and


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- 54.2. a full description of the process undertaken to identify, assess and rank the impacts the activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity, including an assessment of each identified potentially significant impact and risk, including cumulative impacts; the nature, significance and consequences of the impact and risk; the extent and duration of the impact and risk; the probability of the impact and risk occurring; the degree to which the impact and risk can be reversed; the degree to which the impact and risk may cause irreplaceable loss of resources; and the degree to which the impact and risk can be mitigated (item 3(3)(j)).

Energy planning

55. The overarching legislation for energy governance in South Africa is the National Energy Act, 34 of 2008.
56. The objects of the National Energy Act, as set out in the preamble, include “to ensure that diverse energy resources are available in sustainable quantities and at affordable prices, to the South African economy in support of economic growth”.
57. Section 6 of the Act mandates the Minister responsible for Energy to develop, review and publish an “*integrated energy plan*” for South Africa. In terms of section 6(e), the integrated energy plan must “take account of plans relating to transport, electricity, petroleum, water, trade, macro-economy energy infrastructure development, housing, air quality management, greenhouse

gas mitigation within the energy sector and integrated development plans of local and provincial authorities.” (my underlining)

58. The Electricity Regulation Act, 4 of 2006 establishes a national regulatory framework for the electricity supply industry and provides for matters related to electricity planning.
59. The types of new generating capacity that are brought online by the responsible organs of State is determined by the Energy Minister in terms of section 34 of the Electricity Regulation Act.
60. The integrated resource plan is a planning instrument provided for by the Electricity Regulation Act and the Electricity Regulations on New Generation Capacity to guide determinations made by the Minister and to direct how new generating capacity must be added to the electricity system.
61. The current iteration of the integrated resource plan is the Integrated Resource Plan 2019 (“**the IRP 2019**”).

Climate change law and policy

62. Petroleum projects such as the one proposed for the project area have the potential to generate significant quantities of greenhouse gases (“GHGs”) over their lifetime. They accordingly implicate domestic law and policy relating to climate change. I will outline the relevant statutory and policy framework below. Before I do so, it is necessary to explain the global context in which it arises, in terms of both science and law.
63. The phenomenon of “*climate change*” is explained in the National Climate

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Change Response White Paper, 2011 as follows:

"... an ongoing trend of changes in the earth's general weather conditions as a result of an average rise in the temperature of the earth's surface often referred to as global warming. This rise in the average global temperature is due, primarily, to the increased concentration of gases known as greenhouse gases in the atmosphere that are emitted by human activities. These gases intensify a natural phenomenon called the "greenhouse effect" by forming an insulating layer in the atmosphere that reduces the amount of the sun's heat that radiates back into space and therefore has the effect of making the earth warmer... GHGs are emitted from, and are reabsorbed by, a variety of natural sources, but the rate at which human economies and societies are emitting these gases far exceeds the capacity of natural ecosystems to reabsorb them. Increased industrial activity since the mid-18th century has led to a rapid increase in the atmospheric concentration of GHGs such as carbon dioxide, methane and nitrous oxide, in large part due to the burning of fossil fuels derived from oil, coal and natural gas." (pg 8)

64. Authoritative statements on climate change as a scientific phenomenon are produced periodically by the Intergovernmental Panel on Climate Change ("IPCC").
65. The IPCC is a body established by the United Nations to (among other things), produce reports on the latest scientific findings related to climate change. The work of the IPCC is performed by scientists nominated by 195 Member States. It produces a comprehensive evaluation of developments in climate science every five to seven years in the form of assessment reports. It is currently in its sixth assessment report cycle (AR6), having produced a series of reports in 2021 and 2022.

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66. Based on the contents on the AR6 reports, it is reasonable to say that there is broad scientific consensus on the following essential positions:
- 66.1. The average global temperature of earth has already warmed by approximately 1.1°C above pre-industrial levels (the period before 1850) as a result of increased GHG emissions.
- 66.2. At a point between 1.5°C and 2°C warming, there is a risk that rising temperatures will activate what are referred to as “tipping points”. A tipping point is a critical threshold beyond which the climate system will be irreversibly altered. The activation of multiple tipping points may lead to a feedback mechanism that sees global warming increase very rapidly. This is often referred to as “runaway climate change”.
- 66.3. The expected consequences of runaway climate change would include significant sea-level rise, widespread species extinction, severe disruptions to agriculture, and large-scale displacement of human populations.
- 66.4. If warming is to be kept below 1.5°C, global GHG emissions need to reach net zero by around 2050.
67. I have assumed based on certain submissions made by Total in its responding statement to the appeals that it agrees that action to mitigate climate change is necessary and that it will not place these issues in dispute in this application. I therefore will not adduce any material to substantiate these statements but reserve the right to do so should this become necessary.
68. Formal efforts by the global community to address concerns related to climate

change in international law date back to the adoption of the United Nations Framework Convention on Climate Change (“UNFCCC”) in 1992.

69. The object of the UNFCCC was to "stabilise greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system". All 197 member states of the UN, including South Africa, are parties to the Convention.
70. The UNFCCC requires that an annual “conference of the parties” is convened. The most significant instrument adopted under the UNFCCC was negotiated and drafted at the 21st conference of the parties – the “Paris Agreement”. It has been ratified by 194 states, including South Africa.
71. The Paris Agreement records that the parties will endeavour to “hold the increase in the global average temperature to well below 2°C above pre-industrial levels” and “[pursue] efforts to limit the temperature increase to 1.5°C above pre-industrial levels” (art. 2). It binds the parties “to undertake and communicate ambitious efforts” in this regard (art. 3).
72. To this end, each of the parties is required (among other things) to communicate a “nationally determined contribution” (“NDC”) on a five yearly basis, recording the reduction in GHG emissions that it intends to achieve (art. 4(2)).
- 72.1. Each successive NDC must be “a progression beyond” its predecessor and reflect that State’s “highest possible ambition” (art. 4(3)).
- 72.2. Each of the parties must strive to formulate and communicate long-term low

GHG emission development strategies (art. 4(19)).

73. South Africa's domestic law and policy relating to climate change is directed toward ensuring that we make our fair contribution to the global effort to reduce GHG emissions in terms of the Paris Agreement.
74. South Africa's most recent NDC was submitted to the UNFCCC in 2021 ("the NDC 2021"). It undertakes that national emissions of carbon dioxide equivalent CO₂-eq will peak between 2020 and 2025 in a range from 398 to 510 megatons ("Mt") of CO₂-eq, and thereafter plateau and decline.
75. To place this commitment in context, the National Greenhouse Gas Inventory Report published by the Department of Environmental Affairs in 2015 indicates that South Africa's total gross GHG emissions (excluding forestry and other land use) increased by 23% between 2000 and 2015, rising from 439 Mt CO₂e to 541 Mt CO₂-eq. Forestry is treated as a "CO₂ sink" and reduced gross emissions by 5% in 2015. Accounting for this effect, South Africa's net GHG emissions in 2015 were 512 Mt CO₂-eq. A subsequent National Greenhouse Gas Inventory Report published in 2023 showed that net GHG emissions had declined to 442 million tonnes in 2020
76. (For clarity, I point out that CO₂-eq is a standard unit used to express the climate impact of a given greenhouse gas; this is necessary because some gases trap more heat in the atmosphere than others).
77. A strategy for achieving the targets recorded in the NDC 2021 has been laid out in South Africa's Low Emissions Development Strategy 2050 ("LEDs 2050").

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78. The point of departure in LEDS 2050 is the following “vision statement”:

“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.”

79. The strategy focuses on four key sectors, namely, (i) energy; (ii) industry; (iii) agriculture, forestry and land use, and (iv) waste. The focus on the energy sector is clearly explicable on the basis that it is the largest contributor to GHG emissions in South Africa. As is observed in LEDS 2050, South Africa is one of the top 20 global emitters and has a high dependence on fossil fuels (pg 1) and the energy sector accounted for 79.5% of the total gross emissions for South Africa in 2015 (pg 12).

80. Broadly stated, the LEDS 2050 lays down sector specific interventions as well as “cross-cutting measures to support low-carbon development”. The specific interventions for the energy sector are addressed in section 4.1. It is explained in the introduction to this section that:

“Energy supply is the mandate of the Department of Mineral Resources and Energy. Decarbonisation of energy supply will largely be driven through the Integrated Energy Plan, the Integrated Resource Plan and the Industrial Biofuels Strategy, issued by the Department of Energy, the predecessor of this Department.”

81. The integrated energy plan and the integrated resource plan are thus considered the primary instruments for decarbonising the energy sector. This is clear from the following statements made further on in the section:

“The IEP update with a clear trajectory for the energy sector is critical to

guiding overall energy planning for the country, including in the context of this document to support a just transition away from fossil fuels towards a low carbon future.” (pg 22)

“The Integrated Resource Plan (IRP) guides the evolution of the South African electricity supply sector, in that it identifies the preferred electricity generation technologies to be built to meet projected electricity demand. It thus provides a mechanism for Government to drive the diversification of the country’s electricity generation mix and promote the use of renewable energy and other low-carbon technologies.” (pg 23)

“The 2019 IRP is based on the current articulation of the PPD trajectory. Future updates to the IRP will need to take into account any future modifications to the emissions trajectory. In this way electricity supply planning will be aligned with the country’s increasing national ambition.” (pg 26)

82. The following passage is of relevance:

“On the one hand, rapid implementation must begin in all areas where pathways to achieving the Paris Goals are already clear (such as investments in renewable energy power generation, solar water heaters, etc) while on the other, steps taken will need to enable future action at scale, as much as (or perhaps more than) drive immediate emissions reductions.”

83. The envisaged “cross-cutting measures” are dealt with in section 4.6 (from pg 39). The following four measures are identified:

- 83.1. a carbon tax;
- 83.2. sectoral emissions targets;
- 83.3. carbon budgets; and

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- 83.4. phasing out of fossil fuel subsidies.
84. Of particular relevance for present purposes are measures 1 to 3. Taken together, these measures envisage a regime in which all commercial actors in South Africa (including Total) will be required to operate with limits upon the GHGs that they can freely emit and will in addition be subject to a tax on their emissions.
85. The statutory framework necessary to implement this regime is now in place in the form of the Carbon Tax Act, 15 of 2019 and the Climate Change Act, 22 of 2024. Although neither of these Acts are currently being implemented, their implementation in due course can be regarded as an inevitability as the Government is constitutionally bound to give effect to the enactments of the legislature.
86. The Climate Change Act provides that the Minister of Environmental Affairs must list categories of GHGs and activities that emit such GHGs (section 26). Listed emitters will be assigned a carbon budget in terms of section 27 of the Act. The carbon budgets so assigned will correspond to the "sectoral emissions targets" determined in terms of section 25. Sectoral emissions targets will in turn be aligned to "the national greenhouse gas emissions trajectory" set in terms of section 24. The national greenhouse gas emissions trajectory is a greenhouse gas emissions reduction objective specified by the Minister in conformity with South Africa's international obligations and the principles and objectives of the Climate Change Act.
87. The Carbon Tax Act provides for a tax levied on GHG emissions and sets out

the mechanisms for the calculation of this tax.

EIA PROCESS AND DECISIONS

88. On 7 November 2022, TEEPSA lodged an application with the DG, who is the Competent Authority, in terms of the EIA Regulations, for Environmental Authorisation for, *inter alia*, the proposed exploration drilling of 10 wells in the project area, which is described as being located "roughly between Port Nolloth and Hondeklip Bay offshore, approximately 188 km from the coast at its closest point and 340 km at its furthest, in water depths between 750 m and 3100 m".

89. It is noted in the final environmental impact assessment report that:

"[the project area] is primarily located within the Benguela Current with the northeast portion infringing on the Bottom Poleward Current. The southern African West Coast is strongly influenced by the Benguela Current. A major feature of the Benguela Current is coastal upwelling and the consequent high nutrient supply to surface waters leads to high biological production and large fish stocks."

90. TEEPSA appointed SLR Consulting (South Africa) (Pty) Limited as the Environmental Assessment Practitioners ("EAP") to undertake the environmental impact assessment process for the Environmental Authorisation application.

91. On 7 July 2023, the EAP submitted the Final Environmental Impact Assessment Report prepared in respect of the exploration activities ("the FEIR") to the Department of Mineral Resources and Energy. A copy of the FEIR is attached marked "JWS4".

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92. The FEIR included the following technical or specialist studies:

92.1. Drilling discharges model;

92.2. Oil spill modelling;

92.3. Underwater noise modelling;

92.4. Marine Ecology Impact Assessment;

92.5. Fisheries Impact Assessment;

92.6. Socio-economic Impact Assessment;

92.7. Cultural Heritage Impact Assessment;

92.8. Climate Change and Air Emissions Impact Assessment.

93. Of these, the Oil Spill Modelling Report ("OSM Report"), the Socio-economic Impact Assessment ("SEIA Report") and the Climate Change and Air Emissions Impact Assessment ("the CCIA") are relevant to issues in this case. They are attached as "**JWS5**", "**JWS6**" and "**JWS7**" respectively.

94. Neither the FEIR nor any of the specialist reports assessed the production phase impacts of the project. It was treated as a separate project, outside of the scope of the assessment.

95. The FEIR identified a variety of environmental impacts associated with the exploration activities. Of these impacts, the most significant related to a scenario described as "a well blow-out". The FEIR describes this event as follows:

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“Offshore drilling operations carry an inherent risk of oil entering the marine environment as a consequence of an unplanned oil spill event. The greatest environmental threat from offshore drilling operations, although unlikely, is the risk of a major spill of crude oil/condensate occurring from a well blowout. A blowout is the uncontrolled release of crude oil and/or natural gas from a well after pressure control systems have failed.” (pg 439)

96. The geographic extent of an oil spill resulting from a well blow-out was assessed by means of a modelling exercise. The results are shown at page 444 to 447 of the FEIR. As appears from these images, the reach of an oil spill would be significant, entering both international and Namibian waters.
97. The FEIR assessed the impact of a well blow-out as “very high” (before mitigation) in respect of marine ecology, marine commercial fishing, coastal and nearshore users and intangible cultural heritage and remain “very high” in all cases except for commercial fishing (on account of the availability of insurance compensation).²
98. On 23 October 2023, the DG issued an Environmental Authorisation permitting Total to undertake the exploration activities (“the EA”). A copy of the decision is attached marked “**JWS8**”.
99. On 14 November 2023, Aukotowa submitted an appeal against the decision to grant the EA. A copy of this appeal is attached marked “**JWS9**”. Green Connection and Natural Justice also submitted a joint appeal against the decision the same day. A copy of this appeal is attached marked “**JWS10**”.

² FEIR, pg 473.

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Various interested and affected parties also submitted appeals.

100. Many of the appeals raised matters related to the production phase of the project.
101. The Minister dismissed all the appeals in an Appeal Decision dated 24 April 2024 and received on 6 May 2024. A copy of the decision is attached marked “JWS11”.
102. The Minister declined to deal with any grounds of appeal related to the production phase of the project based on the following reasoning:

“... a number of appellants conflate the scope of the EA granted to the applicant (which is for the drilling of exploration wells in the area of interest) with activities of extraction for purposes of production and consumption. I deem it necessary to point out that to undertake exploration, an applicant requires an exploration right under the MPRDA and an environmental authorisation in terms of listed activity 18 in Listing Notice 2. Production activities require a production right and an environmental authorisation under listed activity 20 in Listing Notice 2. The Listing Notice 2 of the EIA Regulations requires a separate authorisation for these two activities which are regarded as distinct from each other.”

BROADER CONTEXT OF THE PROJECT

103. The extent of the exploration and production activity in South Africa’s exclusive economic zone is relevant in so far as it has a bearing on the question of need and desirability and cumulative impact, as will shortly become clear.
104. I attach hereto as “JWS12” a hub map provided by the Petroleum Agency of South Africa (“PASA”) showing these operations. As can be seen from this

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image, approximately 90% of the ocean acreage comprising South Africa's exclusive economic zone is subject to an exploration right.

105. Although there is very little publicly available information about the magnitude of the oil and/or gas reserves thought to be located in this area, a report emanating from the stakeholder engagement styled "Operation Phakisa" gives some indication.

106. Operation Phakisa was an initiative of the Presidency. Its purpose is explained on the dedicated Operation Phakisa website (www.operationphakisa.gov.za) as being to "fast track the implementation of development solutions on critical development issues." Phakisa literally means "hurry up" in Sesotho.

107. According to the website, the "methodology" for the process was the following:

"The methodology consists of eight sequential steps. It focusses on bringing key stakeholders from the public and private sectors, academia as well as civil society organisations together to collaborate in detailed problem analysis, priority setting, intervention planning and delivery. These collaboration sessions are called laboratories (labs). The results of the labs are detailed (3 foot) plans with ambitious targets as well as public commitment on the implementation of the plans by all stakeholders."

108. One such lab was designated "Offshore Oil and Gas exploration". I refer to it simply as "the lab".

109. The Presidency has released a report recording the outcomes of the lab entitled "Unlocking the economic potential of South Africa's oceans" ("the Phakisa report"). A copy of the Phakisa report is attached marked "JWS13".

110. As appears from page 1 of the Phakisa report, the theoretical target that the lab sought to “unlock” was 30 exploration wells in ten years. The following statement appears at page 10 of the report:

“South Africa has possible in-place resources of ~9 bn barrels of oil and ~60 Tcf of gas offshore, but uncertainty is high.”

RELATIONSHIP BETWEEN EXPLORATION AND PRODUCTION

111. The relationship between the exploration and production phases of a petroleum project is relevant because the EAP and the decision-makers declined to engage with any material or concerns related to production on the project area on the basis that exploration and production are separate and unrelated activities.
112. While it is so that a distinct environmental authorisation is required for an exploration right holder to progress from exploration to production, these phases are not separate undertakings, as a matter of both law and fact.
113. Drilling offshore exploration wells is a risky and incredibly expensive enterprise. Oil companies do not engage in this activity in order to collect information for policymakers. They do so because they want to locate and extract oil or gas resources.
114. This vested interest is recognised and protected to a degree by the MPRDA:
- 114.1. According to the preamble of the MPRDA, one of its objects is “reaffirming the State’s commitment to guaranteeing security of tenure in respect of prospecting and mining operations”.

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- 114.2. This is repeated in section 2(g), which provides that one of the objects of the MPRDA is “to provide for security of tenure in respect of prospecting, exploration and mining and production operations.”
- 114.3. An exploration right holder's entitlement to produce any oil or gas resource that it discovers is guaranteed by section 82(1)(a), which provides, “the holder of an exploration right has the exclusive right to apply for and be granted a production right in respect of the petroleum area in question.”
115. The requirement that an exploration right holder first obtain an Environmental Authorisation before progressing to production was introduced relatively recently by the Mineral and Petroleum Resources Development Amendment Act, 49 of 2008. These amendments were enacted to give effect to the “One Environmental Management System” which *inter alia* requires that environmental management of minerals and petroleum operations be in terms of NEMA.
116. In April 2024, the legislature passed the Upstream Petroleum Resources and Development Bill, 2021 (“the UPRDA”). Once brought into operation by the President, this Bill will govern exploration and production operations in place of chapter 6 of the MPRDA.
117. The UPRDA enhances security of tenure for right holders by introducing a composite “petroleum right” encompassing both exploration and production. Although the holder of a petroleum right is still required to obtain an Environmental Authorisation to progress to the production phase of a project, its rights in respect of the project are secured.

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118. In relation to the present issue, the drafting history of the UPRDA is significant.
119. The UPRDB has its genesis in “Operation Phakisa”.
120. One of the critical interventions necessary to achieve this target was referred to as a “legislative [intervention] to affirm investor confidence, clarity and stability must be provided on the full legislative, contractual and regulatory package”.
121. The necessity of this intervention is clarified on the same page under the heading “context”:

“Oil and gas exploration requires significant investments, particularly in South Africa’s deep-water offshore environment where a single exploration well can cost over USD 150 mn. To achieve 30 exploration wells in the next 10 years, investments in the range of USD 3-5 bn are needed. Given that exploration success rates are below 15%, investors see these opportunities as risky.”

122. The nature of the “stability” that the stakeholders envisaged is clarified at page 167 of the Phakisa report, where it is stated “[t]o drill a well, there is a need for clarity and stability of terms that apply to the lifetime of the project”.
123. Presumably the UPRDA is the legislative measure contemplated in the report.

ECOLOGICAL IMPACT OF AN OIL SPILL

124. The applicants reasonably hold that the impact of an oil spill is significantly underestimated in the FEIR. Moreover, despite the very substantial potential impact of such an event, it is deemed acceptable in the FEIR on the unsubstantiated basis that it is “highly unlikely” (this latter issue is dealt with

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further in connection with the third ground of review).

125. In support of the view that the FEIR does not accurately present the potential impact of an oil spill, the applicants rely on expert evidence of Professor Annalisa Bracco and Dr Jean Harris.
126. Professor Bracco is a Professor in Ocean and Climate and Associate Chair for research and co-Director of the Ocean Science and Engineering Graduate Programme at the Georgia Institute of Technology. Professor Bracco has prepared a report reviewing the modelling work presented in the OSM Report and concludes that the findings of the OSM Report are “not representative of the actual risks posed by the proposed drilling”.
127. Dr Jean Harris is a marine scientist and the Executive Director of WildOceans, an organisation focused on biodiversity protection and building socio-ecological resilience in Southern Africa. Dr Harris has identified deficits in the environmental impact assessment relating particularly to the impacts of an oil spill on marine protected areas and hake, anchovy and pilchard spawning areas.
128. The expert affidavits of Professor Bracco and Dr Harris will be filed in due course and by no later than the filing of the supplementary founding affidavit.

OSM Report

129. The nature and reach of a potential oil spill resulting from the exploration activities was estimated by means of a modelling exercise. The methodology and results of this modelling exercise are explained in the OSM Report.
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130. The aim of the modelling was to determine the “possible fates and trajectories” of an oil spill (page 12). Threshold levels were specified for surface oil thickness, shoreline oiling and pollution of the water column (at page 43) to define the conditions in which the model would recognise the effects of an oil spill as being present.
131. The modelling was undertaken using the “Oil Spill Contingency and Response” (“OSCAR”) application. OSCAR is a modelling tool used to simulate ocean dynamics (currents, temperature etc.) in order to predict how independent particles making up an oil slick will interact with the environment. The data used to run the modelling was purchased from SAT-OCEAN. In this regard, the OSM Report explains that:

“SAT-OCEAN has developed innovative and exclusive technologies combining in-situ data, satellite sea surface temperature, wind and altimetric data, allowing to generate 3D ocean currents and winds anywhere in the world. In effect, coupled inverse/direct modelling approaches combined with the data allow to measure these quantities from space with very high spatial (1/32°) and temporal resolutions (3-hour output time step) over the model emprise. To validate this data, comparisons were made between SAT-OCEAN wind modelled results and on-site wind measurements.”

132. Spill scenarios are modelled in respect of two notional release points, in four seasons. The output is the result of both stochastic and deterministic simulations. In simple terms, a stochastic simulation is a statistical calculation based on the results of many sets of similar deterministic simulations using the same weathering model. It is explained as follows in the FEIR (at page 441):

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"The stochastic simulation is a statistical calculation based on the results of many sets of similar deterministic simulations using the same weathering model. The results from each individual simulation making up the stochastic scenario are combined to produce statistics on oil slick distribution probabilities, in time and space, that are translated on statistical maps. The main result is a map showing the probability of contamination above defined threshold values, for sea surface and shoreline compartments. The probabilities are given as percentages of the total number of simulations (in the current study 72 simulations for Season 1 and 90 simulations for Season 2 to 4). For example, a probability of 50% implies that an area was impacted during the studied period for half of the number of simulations in the stochastic scenario. These probability plots DO NOT depict the extent of a single spill."

133. This is a contrast to a deterministic simulation which studies the trajectory of an individual oil slick at a defined moment in the past and uses the associated wind and current data (usually the worst-case scenario identified in the stochastic simulation) (see page 441 of the FEIR).

134. The OSM Report concludes among other things that:

134.1. *"The layer with high probability of Water Column contamination is 2 m to 42 or 62 m below the surface depending on the season due to surface oil getting dispersed (low probabilities below this layer until the deep contaminated layers). The deep layer contaminated by the oil is between 1082 m to 1162 m below the surface for the Release Point 1 and between 762 m to 842 m below the surface for the Release Point 2, but with a limited lateral extension for both points (16.9 km maximum). Vema and Tripp seamounts shallowest points are deep enough not to be impacted by the oil in the water column."*

134.2. *"The only period with oil reaching the shore is during Season 3 for Release Point 2, with only 5 out of 90 simulations with a coastal impact (for a simulation starting in June 2021). The drift towards the coast is due to north-*

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eastward current events in June 2021, associated with unusually northward propagating circumpolar low-pressure systems. For the rest of the year, west to north westerly currents and south to south-easterly winds dominate, keeping the spill away from the coast for both Release Points. The coastal area potentially impacted by oil (with probabilities of 5% maximum) is located in the Northern Cape Province of South Africa, 30 km south of the Groen River to 165 km South of the South African-Namibian border, with a maximum of 836 tons of oil reaching the shore considering a simulation with capping only, i.e.: no surface response and Subsea Dispersant Injection Kit (SSDI)."

135. Professor Bracco's observations on the modelling methodology are summarised below:

135.1. There is presently no good data available for deep ocean currents at depths below 50 metres in this region. This means that there was no direct validation of the output of the model (i.e. check the results against real world conditions) because this cannot be done directly. A comparison of currently available datasets modelled for the region between Elands Bay and St Helena Bay reveals a marked variation in the estimates of ocean current variability and the strength of current at depth.

135.2. The way that data is assimilated in the SAT-OCEAN means that it is very useful for global or large-scale analysis, but is limiting in studies that must account for the behaviour of oil particles at high horizontal resolution, i.e. at scales of less than 5 kilometres, especially in the vicinity of coastlines. Accordingly, the true extent of shoreline oiling may have been underestimated.

135.3. With respect to vertical component, "it is likely that the SAT-OCEAN

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application underestimates ocean current strength and variability, especially in deep regions of the ocean and especially when steep transitions in bathymetry occur” due to the fact that it operates at a very low vertical resolution. Both of these conditions are present at the proposed locations.

135.4. The model produces unrealistic trajectories for the oil slick. Having regard to the resolution of the model and the ocean dynamics in the relevant area (which are characterized by pronounced fronts, eddies and recirculation) the projected oil slick trajectories are significantly more well-defined than would be expected, indicating that the model has not effectively accounted for these dynamics.

136. Professor Bracco also makes the observation that:

“It is not realistic to assume only a deep plume and a surface plume as the model does. Multiple plumes across the water column will form, as in the case of the Deepwater Horizon blowout. Multiple subsurface plumes, will complicate the application of dispersants and will therefore increase the environmental impact.” (the plume refers to the oil “cloud” of oil that spreads out from the spill source).

137. Given this observation, it is significant that There is no evaluation about the potential ecological impact of oil and dispersants on the marine protected areas that surround the proposed drilling sites.

138. In consequence of the flaws identified by Professor Bracco, there can be no certainty as to the reach of an oil spill, which means that its true impact could not have been fully understood. Among other things, it is uncertain what impact an oil spill would have on both shorelines and the marine protected areas that

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coincide with the project area.

Impact on hake, anchovy and pilchard spawning grounds

139. Dr Harris has furnished a brief report regarding the unexamined implications of an oil spill for spawning grounds. The following is a summary of her observations:

- 139.1. No consideration has been given to the overlap of potential oil spill trajectories with nursery and recruitment grounds of anchovy, sardine and hake during peak spawning and recruitment periods. "Recruitment" in this context refers to young fish surviving and growing to a size where they can join the adult population.
- 139.2. A model to address first-order direct impacts of oil on each fishery through hydrocarbon-induced egg and larval mortality should be undertaken.
- 139.3. The movement of spilled oil overlapping with the Orange Shelf Edge marine protected area is a concern in view of the pristine nature of the seabed, protection of endemic and threatened species and the potential impacts on the hake fishery.

GROUND FOR REVIEW

FIRST GROUND: FLAWED ASSESSMENT OF NEED AND DESIRABILITY

140. The applicants contend that the decision-makers have failed to conduct the need and desirability evaluation required by regulation 18 of the EIA Regulations.

141. More particularly, the fact that the decision-makers assessed the need and

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desirability of Total's application by comparing the notional benefits of production with the calculated environmental risks and impacts of exploration wholly subverted the purpose of regulation 18 and produced an irrational conclusion.

142. A lawful and rational evaluation would have considered the relative costs and benefits of the proposal across the lifetime of the project.

143. These contentions are substantiated below as follows:

143.1. First, I will first explain the analysis that the EAP and the decision-makers were required to engage for purposes of the need and desirability inquiry.

143.2. Second, I will outline the evaluation that was in fact undertaken as well as its deficiencies.

143.3. Third, I will make submissions on how the need and desirability assessment should have been conducted in the context of the application for environmental authorisation of the exploration activities.

Need and desirability properly construed

144. Regulation 18 of the EIA Regulations provides that:

"When considering an application the competent authority must have regard to section 24O and 24 (4) of the Act, the need for and desirability of the undertaking of the proposed activity, the requirements of these Regulations, any protocol or minimum information requirements relevant to the application as identified and gazetted by the Minister in a government notice or any relevant guideline published in terms of section 24J of the Act."

145. This assessment of “need and desirability” is fundamental to an environmental impact assessment process. It is the point of departure for the essential inquiry that must be undertaken by the competent authority in terms of NEMA, namely, are the adverse environmental impacts of the proposed activity justifiable in light of the positive socio-economic impacts? Or put differently, does the proposal represent “*the best practicable environmental option*”?
146. The Department of Environmental Affairs has published a *Guideline on Need and Desirability* (“**the Guideline**”) to guide this evaluation in applications for environmental authorisation. This is an “implementation guideline” contemplated in section 24J of NEMA and accordingly its contents are a relevant factor in the decision-making process in terms of section 24O(1)(b)(viii).
147. According to the Guideline, the notion of “need and desirability” flows from the concept of sustainable development, which is guaranteed in section 24(b)(iii) of the Constitution and foundational to the system of environmental management provided in NEMA.
148. The need and desirability inquiry is a tool to ensure that sustainable development is promoted in individual applications for Environmental Authorisation. Its purpose is to determine whether the proposed activity serves a broader societal purpose, such that any adverse environmental impacts are justified. This notion is captured in the Guideline as follows:

“Ultimately development must not exceed ecological limits in order to secure ecological integrity, while the proposed actions of individuals must be measured against the short-term and long-term public interest in order