



forestry, fisheries
& the environment

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REPUBLIC OF SOUTH AFRICA

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APPEAL RESPONSE REPORT

PROJECT NAME/TITLE: PROPOSED EXPLORATION WELLDRIILLING IN BLOCK 5/6/7, SOUTH-WEST COAST, SOUTH AFRICA

PROJECT LOCATION: BLOCK 5/6/7, SOUTH-WEST COAST, SOUTH AFRICA

PROJECT REFERENCE NUMBER: TEEPSA 12/3/224

DATE PROJECT/ACTIVITY AUTHORISED: 17 April 2023

DATE NOTIFIED OF DECISION: 20 April 2023

DETAILS OF THE APPELLANT	DETAILS OF THE APPLICANT
Name of appellant: The Green Connection and Natural Justice	Name of applicant: TotalEnergies EP South Africa Block 567 (Pty) Ltd (TEEPSA),
Appellant's representative (if applicable): Green Connection: Liziwe McDaid Natural Justice: Melissa Groenink-Groves	Applicant's representative (if applicable): The Appeals Co-ordinator
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GROUNDS OF APPEAL	RESPONDING STATEMENT BY THE APPLICANT	COMMENTS BY THE DMRE/PASA
<u>INTRODUCTION</u>		

1. This is an appeal against an environmental authorisation granted by the Director General: Mineral and Petroleum Regulation on 17 April 2023 to TotalEnergies EP South Africa Block 567 (Pty) Ltd (“TEEPSA”) in respect of the proposed offshore exploration well drilling in Block 5/6/7 on the south-west coast of South Africa, located in an offshore location extending from between Cape Town and Cape Agulhas, approximately 60 km from the coast at its closest point and 170 km at its furthest, in water depths between 700 m and 3 200 m, off the south-west coast of South Africa. 2. This appeal is made jointly by Green Connection and Natural Justice. 2.1. Green Connection is a registered non-governmental organisation, that believes that economic growth and development, improvement of socio-economic status and conservation of natural resources can only take place within a commonly understood framework of sustainable development. The Green Connection aims to provide practical support to both the government and non-governmental/civil society sectors, which are an integral part of sustainable development. 2.2. Natural Justice: Lawyers for Communities and the Environment, a non-profit organisation specialising in environmental and human rights law in Africa – with a focus on the pursuit of social and environmental justice for local and indigenous communities. Natural Justice offers direct support to local and indigenous communities impacted by the ever-increasing demand for land and resources, through legal empowerment. 3. The Appellants have legal standing to bring the Appeal not only in terms of section 43 of the National Environmental Management Act, 107 of 1998 (“NEMA”), but also to enforce environmental laws in terms of section 32 of NEMA. The Appellants act in the interest of, or on behalf of, persons who, for practical reasons, are unable to institute such proceedings, including members of coastal communities who do not have the capacity or resources to do so, in the interests of coastal communities who are affected by the proposed seismic activities, in the public interest, and in the interest of protecting the environment, to further the objectives of section 24 of the Constitution of the Republic of South Africa, 1996 (“the Constitution”) and NEMA.		
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4. The Appellants contend that the Final Environmental and Social Impact Assessment Report (“ESIA”) was fatally flawed, for the reasons set out in this Appeal, and cannot serve as a lawful basis for granting an environmental authorisation. The authorisation granted by the Director-General: Mineral Regulation of the Department of Mineral Resources and Energy (“the decision-maker” or “the DG”) is therefore defective and should be set aside in this appeal. Environmental authorisation should be refused. 5. The Appellants made substantive written submissions during the environmental impact assessment (“EIA”) process to the environmental assessment practitioner. These written submissions contain the Appellants’ detailed comments on and objections to the application, and in turn inform the grounds for this appeal because the ESIA and related reports, specialist impact assessment reports and Environmental Management Programme (“EMPr”) did not deal with the issues raised in a meaningful manner or resolve the issues raised. 6. As set out more fully in the grounds of appeal below, the Appellants submit that the EIA process generally, and the information contained in the ESIA is found wanting in a number of respects, and the risks associated with this potential project, viewed holistically, are immense and unacceptable. Consequently, in the face of a gap in knowledge and understanding of the likely impacts and costs to the environment and people, the DG should have given effect to the precautionary principle, described as a risk averse and cautious approach in section 2(4)(a)(vii) of NEMA, by exercising caution and should have refused environmental authorisation to the Applicant.		
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<u> GROUNDS OF APPEAL</u> 7. The Appellants submit this appeal on the following grounds: 7.1. First Ground of Appeal: Failure to provide adequate reasons for the decision 7.2. Second Ground of Appeal: The exploration activities will result in unacceptable, significant impacts on the marine environment that cannot be effectively mitigated 7.3. Third Ground of Appeal: The risks to marine life and coastal communities associated with oil spills are unacceptable 7.3.1.The risks associated with oil spills are unacceptable 7.3.2.The proposed mitigation measures are insufficient to adequately mitigate against a major oil spill. 7.3.3.The ESIA fails to adequately assess the impacts from operational and minor spills 7.3.4.The ESIA fails to consider that Block 5/6/7 is in a hotspot of climate change-induced oceanic intensification 7.3.5.The ESIA fails to consider that extreme weather conditions under climate warming increase the risk of accidents and spills 7.4. Fourth Ground of Appeal: Failure to adequately assess noise impacts 7.4.1.The ESIA's Conclusion that VSP Acoustic Impacts will be Low is flawed 7.4.2.The ESIA's conclusion that drilling and vessel acoustic impacts will be Very Low is flawed 7.4.3.The ESIA fails to analyse impacts from displacement 7.4.4.The ESIA fails to apply the Precautionary Principle		
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7.4.5.The ESIA offers inadequate mitigation measures 7.5. Fifth Ground of Appeal: Failure to adequately assess socio-economic impacts 7.6. Sixth Ground of Appeal: Failure to consider relevant coastal management considerations or to comply with the National Environmental Management: Integrated Coastal Management Act 24 of 2008 7.7. Seventh Ground of Appeal: The ESIA fails to recognise and implement heightened legislative protections for the coastal environment 7.8. Eighth Ground of Appeal: The authorised activities are not needed or desirable 7.8.1.Failure to consider the negative impacts of the full lifecycle of oil and gas exploitation 7.8.2.Assumption of gas as a transition fuel 7.8.3.Failure to assess climate change implications 7.8.4.Failure to consider all relevant policies 7.8.5.Failure to consider alternatives 7.8.6.Failure to consider impacts on food security 7.9. Ninth Ground of Appeal: Failure to adequately assess the cultural impact of the project on fisheries and fisher communities in the Cultural Heritage Impact Assessment Report 7.10. Tenth Ground of Appeal: The public participation process did not achieve meaningful consultation 7.11. Eleventh Ground of Appeal: Failure to make the Oil Spill Contingency Plan and the Blowout Contingency Plan available for public comment is procedurally unfair 7.12. Twelfth Ground of Appeal: Failure to notify Namibian government or Convention bodies of transboundary impacts		
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7.13. Thirteenth Ground of Appeal: Failure to assess transboundary impacts 7.14. Fourteenth Ground of Appeal: PASA acted outside of its mandate 8. These grounds are set out in more detail below. 9. The Appellants request that the Honourable Minister upholds this appeal and exercises her discretion to refuse the environmental authorisation.		
<u>First Ground of Appeal: Failure to provide adequate reasons for the decision</u> 10. The reasons for the DG’s decision, as described in Appendix 1 of the Environmental Authorisation (“the EA”), sets out that the following were ‘key significant issues’ that resulted in the decision to approve TEEPSA’s application for environmental authorisation: 10.1. All fundamental and procedural issues prescribed in the applicable legislation have been satisfied. 10.2. Most of the potential impacts associated with normal drilling operations range from negligible to low significance with mitigation. The impact of unplanned events such as blow-out range from high to very high, however the occurrence of such events is very unlikely, and the holder has strategies in place to deal with such should it occur.		

10.3. The identification and assessment of potential impacts of the activity, including cumulative impacts, was adequately undertaken, and the proposed mitigation and management measures are aligned with potential impacts. 10.4. The motivation for the need and desirability of the proposed development is in line with the requirements of EIA regulations, 2014 and it addressed key issues raised in the needs and Desirability Guideline. 10.5. Project Alternatives: The site/location, timing/scheduling, design and technology, and no-go alternatives were identified and briefly assessed. However due to the nature of proposed activities no in-depth assessments were carried out. The holder has an existing exploration right over Block 5/6/7 and preferred location within the Block was selected based on its high likelihood of containing significant hydrocarbon reserves. The operations are scheduled to avoid the Austral Winter, where the likelihood of shoreline oiling for blow-out is highest. If the operations over this period, the spill response plan will be enhanced. The design and technology alternatives are dependent on the nature of the proposed activity, which requires specific method, material and paths that are suitable for the deepwater marine environment. These include a selected type of drilling unit, drilling fluid, leaving, or removing wellhead based on assessed risks and paths to be taken by the helicopter to avoid environmental sensitivities. The no-go alternative was not preferred due to the positive impacts that might be derived from undertaking the planned project. 10.6. The Public Participation Process (PPP) complied with chapter 6 of the EIA Regulations, 2014 and related guidelines. 11. The decision concludes as follows: <i>In view of the above, and having taken into consideration environmental management principles as set out in section 2 of NEMA, this Department is satisfied that the proposed activity will not be in conflict with the objectives of Integrated Environmental</i>		
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<i>Management set out in Chapter 5 of [NEMA] and will not result to any detrimental risks to the environment and public. The environmental authorisation is accordingly granted.</i> 12. These reasons, and the conclusion arising from these reasons are generic and unsubstantiated. The reasons are almost verbatim the same reasons provided by the DG in other oil and gas related applications, such as those contained in the Environmental Authorisations for Searcher Geodata UK Limited and TGS Geophysical Company UK Limited. The EA itself further fails to deal substantively with any of the main issues raised by the Appellants and other I&APs. 13. On the reasons provided, it is impossible to conclude that the DG took all relevant considerations into account, including the submissions made by the Appellants and other interested and affected parties. 14. To the contrary, it appears that the DG failed to consider all relevant information, given that the ESIA itself confirms impacts with very high significance in the event of an oil spill due to a blowout.		
<i>Second Ground of Appeal: The exploration activities will result in unacceptable, significant impacts on the marine environment that cannot be effectively mitigated</i> 15. The Appellants submit that the proposed seismic survey presents unacceptable risks of significant harm to the marine environment, which cannot be adequately mitigated through the mitigation measures proposed in the FBAR and the environmental authorisation. 16. We attach hereto as Annex B1, a report prepared by WildTrust marine scientists Dr Kendyl Wright, Dr Jennifer Olbers and Dr Jean Harris (“the WildTrust Report”), who conclude that in their expert view, that the exploration activities “pose a serious risk and threat to marine biodiversity and livelihoods of coastal communities along the coast of South Africa, that has not been fully articulated, rated and evaluated, and does not have effective mitigation measures in place for either a major blow-out, minor spills and operational spills. It is our recommendation that this Environmental Authorisation be set aside in the interests of nature and people. Furthermore, this authorisation flaunts the principles of the Global Biodiversity Framework adopted at the United		

Nationals Conference of parties in Montreal in December 2023, as well as the Paris Climate Agreement, both of which South Africa is signatory to.” 17. The contents of the WildTrust Report are wholly incorporated herein. 18. In particular, the WildTrust Report notes with concern the number of species identified in the ESIA which may be severely impacted by large, unplanned, minor and operational spills, particularly given the large number of species which are under severe threat of extinction and are protected due to their vulnerability. 19. We attach hereto as Annex B2 a map depicting the various offshore blocks based on data received from Petroleum Agency SA, in line with a Promotion of Access to Information Act, 2 of 2000, request submitted by the Legal Resources Centre on 12 October 2022. The compilation of data on Map was done by Power Shift Africa and the Fossil Fuel Atlas Project. Together with the need for comprehensive baseline information, there is a major need for a full assessment of the cumulative impacts of these various existing and proposed activities, without which we submit no decision should be made to authorise reconnaissance, exploration or production activities. For example, the Wildtrust Report notes that the cumulative impacts of noise, operational spills and other disturbances in the ocean will likely have major impacts for cetaceans, and that the costs of <u>repeated disruptions may accumulate over a long journey</u> (such as migration) and thus collectively have a major impact on the energy stores of the whales, with an unknown cost.¹ These impacts are not identified in the ESIA. 20. Unacceptable impacts resulting from oil spills and noise are described under separate appeal grounds below, and should be read together with this appeal ground. 21. We submit that the risk of unacceptable, significant impacts on the marine environment that cannot be effectively mitigated are too high to justify the DG’s decision to grant environmental authorisation for the proposed exploratory drilling.		
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¹ Page 4 of the WildTrust Report.

Third Ground of Appeal: <i>The risks to marine life and coastal communities associated with oil spills are unacceptable</i> <u>The risks associated with oil spills are unacceptable</u> 22. Exploratory well drilling can have devastating consequences. The ESIA itself identifies the impacts associated with a major oil spill, post-mitigation, as very high and high. The risk of a major oil spill cannot therefore be eliminated, and the impacts that are likely to occur in any such event cannot be prevented. 23. In the WildTrust Report, the scientists dispute the rating of the likelihood of occurrence of an oil spill as “unlikely” or low. Their expert view is that the probability of a major oil spill occurring is “moderate” taking into account the number of wells to be drilled (cumulative risk) and the challenging environment they are to be executed in, and as a consequence, the risk does not outweigh the reward.² 24. The Report refers to an independent oil spill model for South African waters developed by a team of local and international scientists, which presents results for a hypothetical 15-day blowout spill of light crude oil in the same location as Location 2. This study provides an independent and objective assessment of a similar spill scenario, based on a different oil spill model, using different environmental forcing inputs, and different ecological thresholds. It acknowledges that the models make different assumptions, but that the overall picture of high likelihood of ecological impact in the event of a blowout spill is common to both. 25. The risk of a catastrophic oil spill is highest at the exploratory drilling stage, and despite reassurances from regulators and companies, happen all too often. For example, the 2010 BP Deepwater Horizon was an exploratory well 1,500 metres deep that spilled 200 million gallons of oil into the Gulf of Mexico, with devastating impacts on ocean ecosystems, the livelihoods of coastal communities, and the tourism industry. The spill caused the massive killing of marine		
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² Page 1 of the WildTrust Report.

mammals³, fish⁴, and birds.⁵ The Gulf region experienced precipitous and long-term declines in fisheries and tourism revenue; in the 10 years after the spill, commercial and recreational fishing industries alone lost roughly 25,000 jobs and \$2.3 billion in industry output.⁶ 26. The Deepwater Horizon disaster is not anomalous. At least 711 offshore blowouts and/or well releases have occurred world-wide since 1955⁷, though this is certainly an underestimate given data gathering limitations and records, not to mention releases from abandoned wells. Other major well blowouts include the 126-million-gallon Ixtoc I exploratory well blowout in 1979 in the Gulf of Mexico, the Chevron Campos Basin well rupture in deep waters off the coast of Brazil in 2011, and the ongoing 19-year Taylor Energy spill, which continues to leak as much as 700 barrels (bbl) of oil each day into the Gulf of Mexico.⁸ 27. In many ways, the block 5/6/7 drilling presents even great risks than BP's Deepwater Horizon's operations in the Gulf of Mexico, as set out below. <i>Drilling in deep waters increases the risk of accidents and spills.</i> 28. As energy companies increasingly move to drilling in deeper waters globally⁹, they are creating even more risk of another catastrophic spill. Drilling in deeper waters raises the risk of accidents due to higher bottom water pressure as well as higher pressure within the oil and gas pockets. The		
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³ Lori H. Schwacke *et al.*, *Health of Common Bottlenose Dolphins (Tursiops truncatus) in Barataria Bay, Louisiana, Following the Deepwater Horizon Oil Spill*, 48, Environ. Sci. Technol., 93–103 (2014).

⁴ Cameron H. Ainsworth *et al.*, *Impacts of the Deepwater Horizon oil spill evaluated using an end-to-end ecosystem model*, 13, PLoS ONE, e0190840 (2018).

⁵ J. Christopher Haney, Harold J. Geiger & Jeffrey W. Short, *Bird mortality from the Deepwater Horizon oil spill. II. Carcass sampling and exposure probability in the coastal Gulf of Mexico*, 513, Mar. Ecol. Prog. Ser., 239–252 (2014).

⁶ Christa Court *et al.*, *Effects of the Deepwater Horizon Oil Spill on Human Communities: Catch and Economic Impacts*, in DEEP OIL SPILLS: FACTS, FATE, AND EFFECTS 569–580 (Steven A. Murawski *et al.* eds., 2020), https://doi.org/10.1007/978-3-030-11605-7_33.

⁷ SINTEF Offshore Blowout Database, , SINTEF (2021), <https://www.sintef.no/en/projects/2021/sintef-offshore-blowout-database/>.

⁸ Andrew L. Mason, *An Integrated Assessment of Oil and Gas Release into the Marine Environment at the Former Taylor Energy MC20 Site*, <https://repository.library.noaa.gov/view/noaa/20612>.

⁹ Steven A. Murawski *et al.*, *Deepwater Oil and Gas Production in the Gulf of Mexico and Related Global Trends*, in SCENARIOS AND RESPONSES TO FUTURE DEEP OIL SPILLS: FIGHTING THE NEXT WAR 16–32 (Steven A. Murawski *et al.* eds., 2020), https://doi.org/10.1007/978-3-030-12963-7_2.

deeper the well the higher the likelihood of encountering high pressure/high temperature hydrocarbon bearing formations like that involved in the Deepwater Horizon disaster¹⁰. By definition, a blowout is the uncontrolled release of crude oil and/or gas from a well after pressure control systems have failed. The higher hydrocarbon formation pressures faced in deep sea drilling mean pressure control systems must be stronger than those in many shallower drilling scenarios to withstand and counteract these extreme conditions.¹¹ 29. While the Deepwater Horizon disaster occurred during “deep” exploratory drilling (800-2400 m depth), the Block 5/6/7 plan is to drill up to five wells between 700 and 3200 m, extending past the deep drilling range and into the “ultra-deep” range (below 2400 m depth).¹² 30. The probability of industry-reported serious accidents, fatalities, injuries, explosions, or fires grows by 8.5 percent with every additional 100 feet (~30 m) of depth at which an offshore platform operates.¹³ This means that the risk from drilling the deepest proposed Block 5/6/7 wells (3200 m) could increase the risk of a serious accident by 418% compared to the well at issue in the Deepwater Horizon accident (given that the Macondo 252-1 well was in waters 1500 m deep).¹⁴ 31. High technological and logistical barriers to accessing and capping deep well blowouts or leaks also increase risks. Increasing depth means increasingly cold temperatures, increasingly higher pressures, and increasingly difficult working conditions that necessitate the use of specialised remotely-controlled vehicles capable of withstanding high bottom water pressures and potentially high currents (as would be the case in the Block).¹⁵		
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¹⁰ United States National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Macondo: The Gulf Oil Disaster : Chief Counsel’s Report (2011); F. William M. Pinkston & Peter B. Flemings, *Overpressure at the Macondo Well and its impact on the Deepwater Horizon blowout*, 9, Sci. Rep., 7047 (2019).

¹¹ P. K. Mishra, *Ultradeepwater Cementing: Challenges and Solutions* (2006), <https://onepetro.org/speidtc/proceedings-abstract/06IDTC/All-06IDTC/139728>; Zhaoguang Yuan, Yahya Hashemian & Daniel Morrell, *Ultra-deepwater blowout well control analysis under worst case blowout scenario*, 27, J. Nat. Gas Sci. Eng., 122–129 (2015).

¹² Jason Lavis, *Shallow, mid to ultra deepwater definitions*, Drillers (2018), <https://drillers.com/shallow-mid-to-ultra-deepwater-definitions/>.

¹³ Lucija Muehlenbachs, Mark A. Cohen & Todd Gerarden, *The impact of water depth on safety and environmental performance in offshore oil and gas production*, 55, Energy Policy, 699–705 (2013).

¹⁴ Earl Boebert & James M. Blossom, *Deepwater Horizon: A Systems Analysis of the Macondo Disaster* (2016).

¹⁵ The Challenges of ROV Operations at Sea, Deep Ocean Education Project , <https://deepoceaneducation.org/resources/the-challenges-of-rov-operations-at-sea/>.

32. TEEPSA's oil spill modelling fails to consider the increased risk of accidents and spills with ultra-deep drilling. TEEPSA relies on oil spill modelling that is based on the blow-out contingency plan for Block 11B/12B, even though the maximum water depth of Block 11B/12B (1800 m) is half that of the maximum water depth of Block 5/6/7 (3200 m). Critically, the conditions of Block 11B/12B are used in part to estimate the amount of time a blow-out could be capped at the release points in the modelling study. The Oil Spill Modelling report (OSM) states that "The spill response strategies (including associated operational start and end times) listed below were applied to the study scenarios. These assumptions are based on the Oil Spill Contingency Plan (OSCP) prepared for Block 11B/12B in 2020 and adjusted for the Block 5/6/7 location."¹⁶ 33. The OSM did not model oil and/or gas releases from the water depth range of its target prospects. Although Table 1: Summary of Key Project Components of the ESIA states "Water depth range of most probable prospect(s): 2 000 m to 3 200 m,"¹⁷ the OSM only models oil and gas condensate releases from depths of 719 m (Release Point 1) and 1357 (Release Point 2).¹⁸ As a result, the estimates of oil spill trajectories are misleading given the proposed prospects and undercut the purpose of accurate oil spill modelling. 34. While it appears that the capping times used in the OSM (13 and 20 days for Release Points 1 and 2, respectively) were adjusted to account for time to transport the capping stack from Saldanha Bay to the release points, there was seemingly no accounting for the probable difficulties in capping presented by the extreme depths of the proposed exploratory drilling in Block 5/6/7. As a result of this omission, the risks of accidents and blow-outs cannot be assessed for the full range of proposed activity (drilling in ultra-deep waters). This is a fatal flaw of the OSM and thus the project's environmental assessment, and without this information, the decision-maker cannot make a reasonable decision about the project's risk level and safety. <i>Sub-seafloor blowout and leak scenarios were not assessed in the oil spill modelling</i>		
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¹⁶ ESIA App. 7 Oil Spill Modelling report, pg. 41-42.

¹⁷ ESIA, pg. xii.

¹⁸ ESIA App. 7 Oil Spill Modelling report, pg. 15.

35. Despite its ecological and economic devastation, the Deepwater Horizon disaster is not the worst spill scenario. Though it took 87 days for a capping stack to seal the well, the pipe fracture occurred in the water column. A worst-case scenario would have been a pipe fracture or leak beneath a seafloor, as oil would have dissipated into the surrounding rock formation, escaping at low pressure points that would have been impossible to predict or cap. 36. Sub-seafloor well head blowouts are the primary reason that the Taylor Energy MC20 disaster site has been continuously spilling up to 700 bbl of oil a day into the Gulf of Mexico since 2004, despite ongoing attempts to contain the leaks. As of 2019, the US Coast Guard and private contractors capture some of the leaking oil, but the system remains uncappable. The reserves of the oil-bearing formation are likely sufficient for the Taylor Energy spill to continue leaking for more than 100 years if not further contained.¹⁹ 37. In ultra-deep and deep drilling, blowout capping becomes increasingly technically challenging and expensive. After the Deepwater Horizon disaster, the capping plan had to anticipate a high shut-in pressure to avoid oil and gas leakages from the well casing below the seafloor. Evaluating this leak hazard required 2D and 3D seismic surveying, seafloor bathymetry mapping, and sediment analysis to assess the geological, hydrological, and geomechanical conditions around the Macondo Well.²⁰ Each of these steps prolonged the time before the well was contained, resulting in disastrous impacts to marine and coastal ecosystems and communities. 38. Sub-seafloor blowout and leak scenarios were not assessed in the oil spill modelling. Given the challenges of ultra-deep and deep well blowout capping described above, the assumption of a 20-day capping timeframe in the OSM is likely an underestimate, especially given the poorly understood geology of the Block. This is a fatal flaw in the project's environmental assessment,		
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¹⁹ An Integrated Assessment of Oil and Gas Release into the Marine Environment at the Former Taylor Energy MC20 Site, NCCOS Coastal Science Website , https://coastalscience.noaa.gov/data_reports/an-integrated-assessment-of-oil-and-gas-release-into-the-marine-environment-at-the-former-taylor-energy-mc20-site/.

²⁰ Stephen H. Hickman *et al.*, *Scientific basis for safely shutting in the Macondo Well after the April 20, 2010 Deepwater Horizon blowout*, 109, *Proc. Natl. Acad. Sci.*, 20268–20273 (2012).

and without this information, the decision-maker cannot make reasonable decision about the project's safety. <i>Blowout potential from the oil and gas-bearing formation is inadequately understood to model a spill</i> 39. According to the OSM, "[t]he blowout contingency plan (BOCP) has not been studied yet for block 5/6/7."²¹ Before TEEPSA prepares an assessment of the bathymetry, sediment, and geology of the Block, it is impossible to adequately access the technical equipment and contingencies needed to quickly cap a blowout. Because of these unknowns, the OSM should have used capping time longer than 20 days to properly access the impacts of a spill on marine and coastal communities and ecosystems. <i>Block 5/6/7 is situated in a highly turbulent and unpredictable metocean regime.</i> 40. The ESIA and OSM fail to adequately consider the year-round high winds and swell on blow-out or spill response timing. Block 5/6/7 is located within a highly turbulent and unpredictable meteorological and oceanographic system, aptly called the Cape Cauldron. A regime of turbulent inter-ocean exchange, the Cape Cauldron is of the major global hotspots of eddy kinetic energy.²² The world's strongest western boundary current, the Agulhas Current, comes out of the Indian ocean and at the S/SW tip of Africa abruptly retroflects (turns back on itself) upon interactions with the South Atlantic and Antarctic Circumpolar Currents. In the Agulhas Retroflexion area, a series of strong eddies (whirlpool-like circular movements of waters counter the prevailing current) are generated each year that "shed" off the main current and migrate W/WNW into the South Atlantic.²³ 41. In its description of the large-scale circulation and currents, the ESIA acknowledges that "Block 5/6/7 is primarily located within the Southern Benguela system, although the southern portion of		
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²¹ ESIA App. 7, Oil Spill Modelling report, pg. 42.

²² Olaf Boebel *et al.*, *The Cape Cauldron: a regime of turbulent inter-ocean exchange*, 50, Deep Sea Res. Part II Top. Stud. Oceanogr., 57–86 (2003).

²³ J. R. E. Lutjeharms, *Three decades of research on the greater Agulhas Current*, 3, Ocean Sci., 129–147 (2007).

the Block falls within the Agulhas Retroflexion area.”²⁴ This statement diminishes the extremity of the unique oceanographic system at hand, which is the high-energy interaction of the Atlantic and Indian oceans. In the southern portion of the Block, the abrupt turning (retroflexion) of the Agulhas Current creates highly energetic whirlpool systems that are challenging to model and predict.²⁵ 42. Block 5/6/7 routinely experiences seas rough enough to make deck operations dangerous, and as a result could lengthen blowout or spill response time. Exceptionally high wind speeds are common in the Agulhas Retroflexion, in the southern portion of the Block²⁶. The OSM report presents wind speed data from its 2016-2020 metocean dataset at Release Points 1 and 2. At both points each month’s maximum wind speed reaches 18-26 m/s (35-51 knots).²⁷ This means that throughout the year, the high wind range that could be encountered in the Block is between an 8 on the Beaufort Wind Scale (Gale – Moderately high waves of greater length; edges of crests begin to break into spindrift”) to a 10 (“Storm - Very high waves with long overhanging crests, tumbling of the sea becomes heavy and shock-like. Visibility affected”).²⁸ 43. High winds speeds in the Block as described above means that the region also experiences high waves and swells that can reach over 5 m in height.²⁹ The ESIA notes that “Winter swells are strongly dominated by those from the south and south-south-west, which occur almost 80% of the time, and typically exceed 2 m in height, averaging about 3 m, and often attaining over 5 m.”³⁰ Even in the summer, average swell is 2 m. The wind and swell conditions frequently observed or		
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²⁴ ESIA, pg. 142.

²⁵ R. Laxenaire *et al.*, *Anticyclonic Eddies Connecting the Western Boundaries of Indian and Atlantic Oceans*, 123, J. Geophys. Res. Oceans, 7651–7677 (2018).

²⁶ Sonia Ponce de León & C. Guedes Soares, *Extreme Waves in the Agulhas Current Region Inferred from SAR Wave Spectra and the SWAN Model*, 9, J. Mar. Sci. Eng., 153 (2021).

²⁷ ESIA App. 7 Oil Spill Modeling report, Tables 5 & 8, pg. 28-33.

²⁸ NOAA US Department of Commerce, *Beaufort Wind Scale*, <https://www.weather.gov/mfl/beaufort>.

²⁹ Ponce de León and Guedes Soares, *supra* note 31.

³⁰ ESIA, pg. 145.

modelled in the Block are like those that contributed to the Mumbai High North explosion disaster (13 m/s winds, 3-4 m swell). 44. At conditions frequently met even in the summer in the Block (winds over 11 m/s and wave heights over 2 m) it generally becomes difficult to safely deploy overboard equipment such as ROVs³¹, which would be necessary to prepare for capping stack placement in the case of a blowout. The ESIA and OSM should have considered the rough sea conditions of the Block in its capping timeframe, which is currently only 20 days – likely an underestimate. This failure to consider the unique metocean conditions of Block 5/6/7 in the OSM is a fatal flaw in the project’s environmental assessment. Without this information, the decision-maker cannot make a reasonable decision about the project’s safety. <u>The proposed mitigation measures are insufficient to adequately mitigate against a major oil spill.</u> 45. Whilst the impacts associated with a blow-out are identified as being of high significance, the ESIA (and the EA) fails to provide for adequate mitigation of impacts. The WildTrust Report finds that “the minimum time to shoreline oiling is estimated to be 0.6 days, which would make mitigation measures impossible to implement”.³² 46. The ESIA and the mitigation measures proposed depend on plans, including Oil Spill Contingency Plan (“OSCP”) and the Blowout Contingency Plan (“BOCP”), which have not been made available to I&APs. These plans should have formed part of the ESIA, as the information contained in these reports is crucial to understand the adequacy of mitigation measures, and the likely impacts on the marine environment, including the MPAs, CBAs and EBSAs, and on coastal communities. 47. The ability to respond to a catastrophic event, such as an oil spill during the exploratory drilling, required an assessment of the method, manner and speed at which TEEPSA would respond to an oil spill. The only way that this could properly be assessed was if an oil spill contingency plan had		
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³¹ The Challenges of ROV Operations at Sea, *supra* note 15.

³² Page 2 of the WildTrust Report.

been developed which could have been assessed, debated and influenced through the course of the environmental impact assessment process. 48. Section 24O(b)(iii) of NEMA lists “criteria to be taken into account by competent authorities when considering applications” for environmental authorisations. One such consideration is “the ability of the applicant to implement mitigation measures and to comply with any conditions subject to which the application may be granted.” 49. Based on the available information, it is impossible to conclude that a major oil spill will be met with a response that is able to contain the significant harm to any meaningful extent. 50. Without access to this information, neither the DG nor the Minister can reach a decision regarding the assessment of impacts, and consequently cannot authorise TEEPSA’s drilling plans. <u>The ESIA fails to adequately assess the impacts from operational and minor spills</u> 51. In the WildTrust Report, Marine Scientists submit: 51.1. That the quantity of oil released operationally is underestimated; 51.2. That the literature containing evidence of the impact of small spills has not been adequately considered in the specialist reports; 51.3. that operational and minor spills are significant in terms of assessing the impact on biodiversity within the MPAs, CBAs and EBSAs, where marine fauna and flora are concentrated and extremely vulnerable to soiling; and 51.4. that there is a high probability of sporadic but frequent oil occurrences in the coastal areas indicated at highest risk in the oil spill reports.³³ 52. The Report goes on to find that “The ecological consequences and risks to biodiversity of both a major oil spill and these likely smaller operational spills are of great concern”.³⁴		
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³³ Page 3-4 of the WildTrust Report.

³⁴ Page 3-4 of the WildTrust Report.

<u>The ESIA fails to consider that Block 5/6/7 is in a hotspot of climate change-induced oceanic intensification</u> 53. As the surface ocean warms from anthropogenic climate change, increasingly turbulent and hurricane-prone metocean conditions³⁵ are amplifying the risk of offshore drilling accidents and spills in the Gulf of Mexico.³⁶ So too in the Cape Cauldron/Agulhas Retroflection area of the Block, metocean conditions are shifting and becoming more extreme and less predictable with rapidly ocean warming. 54. The Block is already situated in a turbulent and energetic metocean regime and at its baseline is a particularly dangerous place for ultra-deep and deep offshore drilling activities. But as climate change causes storms to become more intense and frequent, and waves to become stronger and higher (particularly in the Block), the risk of accidents and spills increases, as does the ability to cap them. 55. The sea surface temperature of the Agulhas Current system has increased significantly since the 1980's. With ocean warming, there has been a documented increase in eddy kinetic energy in the Southeast Atlantic associated with more eddies being formed from the turning of the Agulhas Current.³⁷ This increase in eddy kinetic energy means less predictable metocean conditions and generally stronger systems in the exact location TEEPSA's proposed exploration zone within Block 5/6/7. 56. Ocean waves are becoming increasingly high and powerful with upper-ocean warming. The ESIA states that "[m]ost of the South-West Coast is classified as exposed, experiencing strong wave action."³⁸ However, the ESIA does not cite recent data and analyses that indicate wave action and		
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³⁵ Balaguru et al., *supra* note 22.

³⁶ Gulf Program BiOp, App. G, p. 50; see also BOEM & BSEE, *Final Biological Assessment* (Oil & Gas Activities in the Gulf of Mexico), App. K, at 16 tbl.14 (Feb. 2013) [hereinafter Final BA].

³⁷ Mathieu Rouault, Pierrick Penven & Benjamin Pohl, *Warming in the Agulhas Current system since the 1980's*, 36, *Geophys. Res. Lett.* (2009), <https://onlinelibrary.wiley.com/doi/abs/10.1029/2009GL037987>.

³⁸ ESIA, pg xvi.

winds are increasingly strong in the South-West Coast as the surface ocean warms due to climate change. A recent analysis of global satellite data looked at trends in oceanic wind speed and significant wave height over the 33-year period from 1985 to 2018. This study identifies the Agulhas region as one of the places in the world's oceans that shows a statistically substantial increase in mean significant wave height.³⁹ 57. Recent research shows that the transfer of energy from wind into sea-surface motion has increased globally (0.4% per year globally) across all ocean basins since 1948. But the SW coast of South Africa is a hotspot for wave energy increases – there, wave power annual increase is between 2-2.5 % per year, nearing the highest increase in the world oceans.⁴⁰ 58. The ESIA and OSM fail to mention or account for the intensification of metocean conditions of the region containing Block 5/6/7 and its Area of Interest. <u>The ESIA fails to consider that extreme weather conditions under climate warming increase the risk of accidents and spills</u> 59. Storms increase the risks of offshore blowouts and spills. As a pertinent example, Hurricane Ivan reached the northern part of the Gulf of Mexico in September 2004, and was classified at landfall as a Category 3 Hurricane producing 200 km/h (125 mph) winds and 22 m (71 foot) waves⁴¹. Hurricane Ivan destroyed seven drilling platforms and majorly damaged 12 large pipelines and six other platforms, producing over \$20.5 billion in damages⁴². One of the drilling platforms destroyed by Hurricane Ivan was the Taylor Energy Company's Mississippi Canyon Block 20 Saratoga Platform A (MC20). The structure was installed at a depth of 146 m and had 28 connected oil and gas wells. The hurricane caused large waves that triggered an underwater mudslide, toppling the MC20 multi-well structure (also known as the jacket) dragging it along the seafloor ~200 m and partially		
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³⁹ Ian R. Young & Agustinus Ribal, *Multiplatform evaluation of global trends in wind speed and wave height*, 364, Science, 548–552 (2019).

⁴⁰ Borja G. Reguero, Iñigo J. Losada & Fernando J. Méndez, *A recent increase in global wave power as a consequence of oceanic warming*, 10, Nat. Commun., 205 (2019).

⁴¹ Mason, *supra* note 6.

⁴² The deadliest, costliest, and most intense United States tropical cyclones from 1851 to 2010 (and other frequently requested hurricane facts), <https://repository.library.noaa.gov/view/noaa/6929>.

burying it in up to 21 m of mud. As mentioned, the buried wells continue to spill oil and gas into the Gulf of Mexico nearly 20 years later⁴³. 60. Even non-storm ocean swells can lead to serious accidents during offshore drilling. Off the west coast of India in 2005, high swells (~13 m/s winds with 4-5 m swell), led to the collision of the Mumbai High North offshore drilling platform with one of its support vessels, damaging multiple of the rig's gas risers (vertical pipelines) and eventually leading to a gas explosion that killed 22 crew members⁴⁴. 61. The ESIA fails to consider how climate change will impact the metocean conditions of the region containing the Block, and so does not assess the increased dangers of a devastating accident or oil and/or gas spill with metocean condition intensification. The OSM states that "All the results provided in this report are based on past metocean data (2016 to 2020 in this case) and can only give indications or trends of drifts at a future time."⁴⁵ This is a glaring omission, as the Agulhas Current and Agulhas Current Retroflection zone are intensely studied and numerous recent high-profile research outputs (described above) point towards this already naturally turbulent region becoming even more energetic and less predictable as the ocean continues to rapidly warm due to climate change. Such oversight endangers workers, and, because of the devastating consequences of an oil spill, endangers marine and coastal ecosystems and communities who would be harmed if a major accident or spill occurred. <u>Summary</u> 62. Exploratory drilling in Block 5/6/7 introduces compounding risks of a major and devastating spill due to its proposed drilling depth range (almost twice the depth of the Deepwater Horizon disaster site), unknown formation pressure, high-weather oceanographic location that is intensifying with		
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⁴³ Mason, *supra* note 6.

⁴⁴ J. Daley, *Mumbai High North Platform Disaster* (2013), <https://www.semanticscholar.org/paper/Mumbai-High-North-Platform-Disaster-Daley/2c5bef91522180f7c2ff13f0755f50c47967cffb>.

⁴⁵ ESIA App. 7, Oil Spill Modeling report, pg. 46.

climate change, and currents that would bring spilled oil to the Western Cape shoreline within hours. 63. Exploratory ultra-deep and deep drilling in the Block exposes communities and sensitive ecosystems to extreme risk of irreparable consequences from an oil spill. 64. As we address above, the ESIA inadequately assesses or mitigates these severe risks, and as a result it is not possible for the decision-maker to evaluate the environmental impacts of exploratory drilling in Block 5/6/7.		
<u>. Fourth Ground of Appeal: Failure to adequately assess noise impacts</u> 65. The ocean is an acoustic world. This is because water is a dense medium, and sound travels faster and farther underwater. Marine species utilise this efficiency and have evolved to depend on sound for essential biological functions, including feeding, breeding, travelling, and socializing. 66. Anthropogenic noise caused by the drilling of exploratory wells includes vessel noise, drilling noise, and Vertical Seismic Profiling (VSP) blasts, and can cause significant temporary and permanent harm across taxa. Harm can be physiological, including loss of hearing, death, or other injury, and behavioural, including cessation of feeding, changes in spawning or breeding, changes in movement patterns, and masking of communication. These behavioural harms can be as damaging to marine species fitness as direct physical harm. In addition, these harms are not limited to individual species, but can have ecosystem and population level impacts. 67. Because of several flaws in its approach, the ESIA does not fully identify and assess the risk posed to marine species and ecosystems and does not effectively mitigate the risks from the proposed exploratory drilling activities. <u>The ESIA's Conclusion that VSP Acoustic Impacts will be Low is flawed</u>		

68. The ESIA concludes that acoustic impacts from VSP will be “Low” without taking into account all relevant information. ⁴⁶		
69. The ESIA fails to analyse the increase in ambient noise from the VSP activities, which can be significant and extend for kilometres. This is a major flaw. The repetitive blasting of the airgun array will increase ambient noise, which increases impacts on marine species. VSP is expected to occur in sessions that could last up to 9 hours with as many as 250 blasts at 20 second intervals from the airgun. Sounds emanating from a seismic airgun array do not behave as individual and finite sound source <i>in situ</i> but reflect off the ocean surface and seafloor as they travel, leading to a continuous increase in the sound level through reverberation. The effect has repeatedly been documented and can extend for distances. ⁴⁷ Studies have found seismic surveys causing elevated ambient noise levels by more than 25 dB (approximately a 4-fold increase in noise levels) across distances of 40 km. ⁴⁸ This demonstrates that the impacts are more severe and not localised during VSP operations.		
70. The ESIA concludes that VSP impacts will be localised. However, seismic airguns produce noise that can travel long distances through seawater, even when they are directed downwards towards the seabed. Studies have shown that seismic blasts are at least detectable at distances greater than 500-700 km. ⁴⁹ Other studies have detected seismic surveys at levels sufficient to mask, or obscure,		

⁴⁶ Appendix 11, Marine Ecology Assessment, p. 210.

⁴⁷ *Id.* See supra, note 2, Guan et al. (2015); Estabrook et al. (2016); Guerra et al. (2016).

⁴⁸ See supra, note 2, Guerra et al. (2016).

⁴⁹ Estabrook et al. 2016. Widespread spatial and temporal extent of anthropogenic noise across the northeastern Gulf of Mexico shelf ecosystem. *Endangered Species Research* 30:267-382; Wiggins et al. 2016. Gulf of Mexico low-frequency ocean soundscape impacted by airguns. *Journal of the Acoustical Society of America* 140:176-183; Guan, S., et al. 2015. Airgun inter-pulse noise field during a seismic survey in an Arctic ultra shallow marine environment. *Journal of the Acoustical Society of America* 138: 3447-3457; Guerra et al. 2016. High-resolution analysis of seismic air gun impulses and their reverberant field as contributors to an acoustic environment. In A.M. Popper and A. Hawkins, eds. *The Effects of Noise on Aquatic Life II*, at 371-379. New York, N.Y.: Springer; Keen et al. 2018. Seismic airgun sound propagation in Arctic Ocean waveguides. *Deep-Sea Research Part I-Oceanographic Research Papers* 141:24-32, <https://doi.org/10.1016/j.dsr.2018.09.003>.

baleen whale calls at distances of thousands of kilometres away from the source.⁵⁰ In assessing impacts or establishing protective measures, regulatory agencies assume sound does not affect marine life beyond a few kilometres from the source; in fact, airgun noise influences and degrades the acoustic habitat of marine species over a far greater area, undermining the conclusion that impacts are localized. This means that the ESIA fails to account for the potential far-reaching effects of VSP in inshore areas, including coming to the erroneous conclusion that VSP will have no effect on biologically important spawning areas which “all lie inshore of the Area of Interest, and should in no way be affected by the highly localised VSP operations.”⁵¹ 71. The Marine Ecology Assessment (MEA) concludes that pelagic species will react to blasting by moving away from a sound source, and therefore, the physiological injury will be low.⁵² The ESIA, however, does not analyse the short and long-term impacts of this movement from an ideal or preferred habitat on the individuals, populations, and ecosystems. Marine protected species are utilizing habitat in the Area of Interest for important biological functions. If the species are moved from these areas critical to their biological functioning, it may cause severe and potentially irreversible consequence. For example, Block 5/6/7 forms part of several “blue corridors,” also known as “whale superhighways,” for species like the humpback whale and the southern whale⁵³. The project area also covers sea turtle migratory corridors for both critically-endangered leatherback and endangered loggerhead sea turtles.⁵⁴ Additionally, the Critical Biodiversity Areas (CBAs) where drilling may occur, include sperm whale winter and summer distributions, spawning areas, migration routes, and core usage areas for protected species.		
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⁵⁰ Nieukirk et al. 2004. Low-frequency whale and seismic airgun sounds recorded in the mid-Atlantic Ocean. *Journal of the Acoustical Society of America* 115:1832-1843; Nieukirk et al. 2012. Sounds from Airguns and fin whales recorded in the mid-Atlantic Ocean. 1999-2009. *Journal of the Acoustical Society of America* 131: 1102-1112.

⁵¹ Appendix 11, Marine Ecology Assessment, p. 206 (emphasis added).

⁵² Appendix 8, Marine Ecology Assessment, p. 206 (“animals would need to be in relatively close proximity to the operating sound source (VSP) to suffer physiological injury, and in reality, marine fauna in the offshore habitat of Block 5/6/7 would not stay in the same location for the entire period and **therefore cumulative effects would not be expected**. It is thus considered likely that most would avoid sound sources at distances well beyond those at which injury is likely to occur.”) (emphasis added).

⁵³ Appendix 11, Marine Ecology Assessment, p.86, Figure 39.

⁵⁴ Appendix 11, Marine Ecology Assessment, p. 67, Figure 31.

72. The MEA concludes that VSP blasting will affect plankton only near the zone of impact because the sound will be “highly localised and transient.”⁵⁵ In so concluding, it depends on the dismissal of a the McCauley study that demonstrates a decrease of over 50% of plankton and all krill larvae within a 1-km radius from airgun blasts.⁵⁶ The ESIA dismisses this study as “not comparable” to the VSP operations at hand, because it claimed that the “volumes and the energy released into the marine environment [during VSP operations] are significantly smaller than what is required or generated during conventional seismic surveys.”⁵⁷ 73. Although this is an accurate statement, the McCauley study itself used less pervasive technology than will be used during the expected VSP operations. McCauley, in his study, used a single air gun of 150 cubic inches with shots at pressure of 2,000 psi (pounds per square inch).⁵⁸ The VSP operations will use “a small dual airgun array, comprising a system of three 250 cubic inch airguns and three 150 cubic inch airguns with a total volume of 1 200 cubic inches of compressed nitrogen at about 2 000 psi.”⁵⁹ In sum, the results in the McCauley study may actually underestimate impacts to plankton that will be caused by VSP operations, and the ESIA does not offer a comprehensive discussion of the potential effects on plankton abundance. 74. The ESIA underestimates the cumulative effect of acoustic impacts from VSP activities in intensity, effect, and reach, which undermines the conclusion that impacts will be “Low.” <u>The ESIA’s conclusion that drilling and vessel acoustic impacts will be Very Low is flawed</u> 75. The ESIA also concludes that acoustic impacts from vessels and drilling will be “Very Low” without taking into account all relevant information.⁶⁰		
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⁵⁵ Appendix 11, Marine Ecology Assessment, p. 206.

⁵⁶ McCauley, R.D., et al. 2017. Widely used marine seismic survey air gun operations negatively impact zooplankton. *Nature Ecology & Evolution* 1: 0195.

⁵⁷ Volume 1: Main Report, Final Environmental and Social Impact Assessment Report, p. 375.

⁵⁸ See supra, note 10, McCauley et al. (2017)..

⁵⁹ Volume 1: Main Report, Final Environmental and Social Impact Assessment Report, p. 124.

⁶⁰ Appendix 11, Marine Ecology Assessment, p. 210.

76. The MEA acknowledges that the noise from well drilling operations can induce behavioural changes and masking of biologically important sounds. However, it concludes that those effects will be localised and not have ecosystem-wide effects. Specifically, the MEA states that “there is no evidence of significant behavioural changes that may impact the wider ecosystem.”⁶¹ To arrive at this conclusion of “no evidence,” the report relies on an almost 15-year-old environmental impact assessment prepared for offshore drilling in the Falkland Islands.⁶² The MEA does not further discuss the marine ecosystem around the Falkland Islands and how it differs from the marine ecosystem off the Southwest Coast of Africa, including species composition, migratory routes, currents, depth, spawning areas, vessel traffic, fishing pressure, underwater formations, substrate composition, etc. Relying on an outdated study that looked at a different environment is inadequate to assess ecosystem-wide impacts in the project without further analysis. 77. Similar to its analysis for VSP activities, the MEA depends upon the mobility of pelagic species as a justification for finding very low impacts from drilling and vessel operations. The MEA concludes that “As most pelagic species likely to be encountered within the Area of Interest are highly mobile, they would be expected to move away from the sound source before trauma could occur.”⁶³ Not only does this place the burden on the animals themselves to mitigate the harm caused by the non-impulsive activities, but it also fails to acknowledge the short and long-term impacts of the behavioural changes caused by moving away on individual, population and ecosystem levels. As noted above, marine protected species are utilizing habitat in the Area of Interest for important biological functions. If the species are moved from these areas critical to their biological functioning, it may cause severe and potentially irreversible consequence. For example, Block 5/6/7 forms part of several “blue corridors,” also known as “whale superhighways,” for species like the humpback whale and the southern whale. The project area also covers sea turtle migratory corridors for both critically-endangered leatherback and endangered loggerhead sea turtles. Additionally, the CBAs, where drilling may occur, are part of sperm whale winter and summer		
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⁶¹ Appendix 11, Marine Ecology Assessment, p. 201.

⁶² Appendix 11, Marine Ecology Assessment, p. 201 (citing Perry, J., 2005. Environmental Impact Assessment for Offshore Drilling the Falkland Islands to Desire Petroleum).

⁶³ Appendix 11, Marine Ecology Assessment, p. 200.

distributions, spawning areas, migration routes, as well as core usage areas for many including protected species. 78. The MEA does not adequately analyse the chronic impacts from the increase in ambient noise caused by the drilling and vessel activities. While acknowledging that the overall sound level generated by drilling operations “would be audible for considerable ranges before attenuating,” it dismisses the impacts of the noise because it would “not cause direct physical injury or mortality to marine life.”⁶⁴ This is a major flaw. Chronic noise exposure increases stress and changes behaviour, which may lead to decreased reproductive activity, decreased foraging, decreases in predator avoidance, immunosuppression, and ultimately reductions in survivorship. For instance, studies have found that ambient noise results in the cessation of feeding in multiple cetacean species,⁶⁵ the cessation of foraging activity in invertebrates and fishes,⁶⁶ and the cessation of egg laying and reproduction in invertebrate and fish species.⁶⁷ Rather than understand the marine ecosystem’s carrying capacity of anthropogenic chronic noise and whether the marine species in the Area of Interest can withstand the increased noise caused by the exploratory drilling activities, the ESIA concludes that behavioural disturbance from vessel and drilling noise will be low, relying on the fact that the area is already a main marine traffic area. <u>The ESIA fails to analyse impacts from displacement</u>		
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⁶⁴ Appendix 11, Marine Ecology Assessment, p. 200.

⁶⁵ Blair, H. B., et al. Evidence for ship noise impacts on humpback whale foraging behaviour. *Biol. Lett.* 2(8), 20160005. (2016). doi:10.1098/rsbl.2016.0005; Wisniewska, D. M. et al. High rates of vessel noise disrupt foraging in wild harbour porpoises (*Phocoena phocoena*). *Proc. R. Soc. B Biol. Sci.* 285(1872), 20172314 (2018). doi:10.1098/rspb.2017.2314.

⁶⁶ Popper, A. N. & Hastings, M. C. The effects of human-generated sound on fish. *Integr. Zool.* 4, 43–52 (2009); Voellmy, I. K. et al. Acoustic noise reduces foraging success in two sympatric fish species via different mechanisms. *Anim. Behav.* 89, 191-8 (2014). doi:10.1016/j.anbehav.2013.12.029; de Soto, N. A. Peer-reviewed studies on the effects of anthropogenic noise on marine invertebrates: From scallop larvae to giant squid. in *Advances in Experimental Medicine and Biology*, 17-26 (2016). doi:10.1007/978-1-4939-2981-8_3.

⁶⁷ de Soto, 2016; Popper and Hastings, 2009.

79. Both the VSP and drilling/vessel acoustic analyses fail to analyse how acoustic harms may cause displacement of vulnerable animals from their habitats. The MEA and other specialist studies are replete with flaws and gaps. 80. The MEA does not consider how displacement of the 35 species of cetaceans identified in the Area of Interest, in reaction to increased noise levels, may impact species' migratory routes or any other movement patterns required to support essential biological functions like feeding, migration, or reproduction. Block 5/6/7 forms part of several "blue corridors," also known as "whale superhighways," for species like the humpback whale and the southern right whale.⁶⁸ The seasonality for baleen whales in the area differs from species to species.⁶⁹ Toothed whales are also found within the broader project area, and their range varies from "extremely coastal" to "highly site specific."⁷⁰ 81. The MEA uses outdated and inapplicable science to reach its conclusions on impacts to migratory routes. According to the MEA "whales such as humpbacks and southern rights migrating and/or breeding along the Southwest Coast may be affected by the vessel and drilling noise as this is likely to extend to the shore."⁷¹ Nonetheless, the report relies on a 28-year-old study that looked at the effects of vessel-based diamond mining on marine mammals to suggest that "the significance of the impact is likely to be minimal."⁷² 82. The MEA improperly concludes that the impacts on seabirds from vessel noise, drilling noise, and VSP blasts will be either very low or low without undertaking a comprehensive analysis of the potential effects on different species and populations of seabirds. For instance, the Area of Interest is near African Penguin and Cape Gannet foraging and distribution areas, and overlaps with the foraging ranges of various other pelagic bird species.⁷³ Similar to its reliance on mobility with other		
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⁶⁸ Appendix 11, Marine Ecology Assessment, p. 86, Figure 39.

⁶⁹ Appendix 11, Marine Ecology Assessment, p. 73.

⁷⁰ Appendix 11, Marine Ecology Assessment, p. 86.

⁷¹ Appendix 11, Marine Ecology Assessment, p. 201.

⁷² Appendix 11, Marine Ecology Assessment, p. 201.

⁷³ Appendix 11, Marine Ecology Assessment, p. 68.

species, the MEA relies on African Penguins' ability to move to mitigate acoustic impacts and suggests that negative effects will be avoided because African Penguins' prey inhabit waters inshore from the Area of Interest.⁷⁴ However, the MEA also recognizes that penguins are known to forage as far as 60 km offshore.⁷⁵ The MEA fails to analyse African Penguins' full range and how displacement may impact their feeding behaviour or other predator-prey interactions. 83. The project area also covers sea turtle migratory corridors for both critically endangered leatherback and endangered loggerhead sea turtles.⁷⁶ The MEA, however, does not address the impacts that vessel noise, drilling noise, VSP blasting, existing traffic, helicopters, etc. may have on sea turtle species' migratory patterns. 84. The MEA fails to consider the differing types of displacement that may occur because of acoustic impacts from the exploratory drilling activities. Acoustic harms may cause changes in direction of movement of species both from a geographical area as well as vertically in the water column. The MEA does not consider the effects that displacement may have on marine species that inhabit deep waters, such as sperm whales, whether they may be driven to shallower waters inshore, and how that may impact access to food sources or increase their exposure to anthropogenic activities. 85. The MEA advances that "the responses of cetaceans to noise sources are often also dependent on the perceived motion of the sound source as well as the nature of the sound itself" such that "many whales are more likely to tolerate a stationary source than they are one that is approaching them."⁷⁷ The report relies on studies that are 20, 37, and 38 years old to support that statement,⁷⁸ and does not address cetaceans' perception of sound when five distinct wells are planned in different locations within the area.		
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⁷⁴ Appendix 11, Marine Ecology Assessment, p. 201.

⁷⁵ Appendix 11, Marine Ecology Assessment, p. 68.

⁷⁶ Appendix 11, Marine Ecology Assessment, p. 67, Figure 31.

⁷⁷ Appendix 11, Marine Ecology Assessment, p. 201.

⁷⁸ Appendix 11, Marine Ecology Assessment, p. 200-01.

86. The Fisheries Impact Assessment also relies on fishes’ ability to move to argue that impacts on commercial fish species will be attenuated while recognizing that fisheries catch rates may be impacted as a result of this movement.⁷⁹ Accordingly, the only mitigation measure that the assessment offers related to vessel and drilling noise pollution is to communicate with “the various sectors allowing them to focus fishing in other areas.”⁸⁰ This mitigation measure should, in turn, be accounted for in the Marine Ecology Assessment as it will inevitably increase fishing pressure and vessel traffic in other areas. In addition, the Fisheries Impact Assessment does not further evaluate how this displacement may impact fish populations or the ecosystem as a whole. <u>The ESIA fails to apply the Precautionary Principle</u> 87. The precautionary principle is required to be employed when addressing threats of harm to marine and bird life caused by seismic surveys.⁸¹ While the MEA uses outdated data and, at times, recognizes the scientific uncertainty, it does not apply the precautionary principle. Some examples are included below. 88. The MEA points to the deficiency of data surrounding cetacean behaviour and states that available information about the offshore environment is primarily from historic whaling records prior to 1970. It also notes that “data population sizes and trends for most cetacean species occurring on the west coast of southern Africa is lacking.”⁸² Yet, the MEA does not consider uncertainty or data gaps in its findings. 89. The Underwater Noise Model also recognizes the lack of understanding about acoustic impacts on fish and sea turtles, specifically it states that “the consequences of this masking and any attendant		
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⁷⁹ Appendix 12, Fisheries Impact Assessment, p.106.

⁸⁰ Appendix 12, Fisheries Impact Assessment, p.110.

⁸¹ *Sustaining the Wild Coast NPC and Others v. Minister of Mineral Resources and Energy and Others*, at 32-37.

⁸² Appendix 11, Marine Ecology Assessment, p. 72.

behavioural changes for the survival of fishes and sea turtles are unknown.”⁸³ Indeed, studies on sea turtle hearing, their uses of sounds, and their vulnerability to sound exposure are limited.⁸⁴ Thus, recent literature, has extrapolated from other species to begin to understand the potential impacts on sea turtles.⁸⁵ Still, the MEA fails to apply the limited known data like sea turtle migration patterns or recognize the vulnerabilities of sea turtles based on our understanding of impacts to other species in its analysis. 90. As demonstrated by the MEA itself, some scientific research on the topic of anthropogenic noise impacts is definitive, but there are still large data deficiencies in the realm of marine acoustics. This uncertainty points to the likelihood of risks associated with anthropogenic noise that we do not yet know or fully understand. The MEA fails to consider or even dismisses this uncertainty. The lack of knowledge about potential harms and the lack of understanding about species’ physiology, behaviour, and ecological interactions in the Area of Interest and nearby areas calls for the application of the precautionary principle and for robust mitigation measures that account for current uncertainty,⁸⁶ not a relaxed standard in which the industry capitalises on scientific gaps. <u>The ESIA offers inadequate mitigation measures</u> 91. The Marine Ecology Assessment offers inadequate mitigation measures that prioritise industry profits over the health of the marine ecosystem. 92. For example, the mitigation measures related to African penguins require visual scans, specific number of sightings, or individual penguins to be 500 meters outside of the mitigation zone. All are incompatible with the buffers of 20 km for African Penguins that are recommended around		
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⁸³ Appendix 8, Underwater Noise Modelling, p. 43 (citing Popper A. N., Hawkins A. D., Fay R. R., Mann D. A., Bartol S., Carlson T. J., Coombs S., Ellison W. T., Gentry R. L., Halvorsen M. B., Lokkeborg S., Rogers P. H., Southall B. L., Zeddis D. G. and Tavalga W. N., 2014, ASA S3/SC1.4 TR-2014 Sound Exposure Guidelines for Fishes and Sea Turtles: A Technical Report prepared by ANSI-Accredited Standards Committee S3/SC1 and registered with ANSI).

⁸⁴ Popper et al., 2014 at 11.

⁸⁵ Popper et al., 2014 at 6.

⁸⁶ See International Whaling Commission’s (IWC) Resolution 2018-4, Resolution on Anthropogenic and Underwater Noise (stating that “in line with the precautionary approach, the lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to address the effects of anthropogenic underwater noise”).

core foraging areas,⁸⁷ which become especially significant when the effects on prey species and the ecosystem as a whole is only poorly understood.⁸⁸ The MEA's VSP mitigation measures include a measure that calls for industry to limit VSP blasting to daylight and good visibility "as far as possible."⁸⁹ At first glance, this measure is encouraging since other mitigation measures under the assessment require visual scans of the immediate area. However, the "as far as possible" language is too permissive and left to industry itself to define. The MEA does not present any mitigation measures either for drilling, vessels, or VSP noise impacts that considers the seasonality and movement patterns of cetaceans, sea turtles, or any other species with complex movement patterns or migratory routes through the Block. 93. The ESIA relies on Passive Acoustic Monitoring (PAM) to mitigate harm from VSP blasting, which TEEPSA makes no commitment to execute. By employing hydrophones under the water, PAM allows the nonvisual detection of marine mammals - if they are vocalising within the range. If PAM is implemented and a cetacean detected acoustically, the ESIA would require a delay in operations until 20 minutes after the cetacean(s) was last acoustically detected. The ESIA will employ PAM only after "a risk assessment, undertaken ahead of the VSP operation, indicate that PAM equipment can be safely deployed considering the metocean conditions (specifically current)." This is problematic on many fronts. First, this demonstrates priorities as TEEPSA is willing to go ahead with drilling operations where it is too dangerous to deploy mitigation equipment. If PAM cannot be safely deployed, no drilling should be taking place. Second, there are questions of independence and conflict of interest where the operator itself is performing the risk assessment that could have resource implications. PAM is a critical tool to protect marine species. For example, sperm whales were the most commonly reported cetacean species in this area, and the ESIA admits that they are "difficult to detect visually." Nonetheless, their regular echolocation clicking sounds make "them		
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⁸⁷ Appendix 11, Marine Ecology Assessment, p. 68 (citing HARRIS, L.R., HOLNESS, S.D., KIRKMAN, S.P., SINK, K.J., MAJIEDT, P. & A. DRIVER, 2022. National Coastal and Marine Spatial Biodiversity Plan, Version 1.2 (Released 12-04-2022): Technical Report. Nelson Mandela University, Department of Forestry, Fisheries and the Environment, and South African National Biodiversity Institute. South Africa. 280 pp.)

⁸⁸ Appendix 11, Marine Ecology Assessment, p. 68

⁸⁹ Appendix 11, Marine Ecology Assessment, p. 208, Mitigation Measure 2.1

relatively easy to detect” using PAM, which in turn helps mitigate harms to this species listed as vulnerable by the IUCN and RSA Regional Assessment. <u>Fifth Ground of Appeal: Failure to adequately assess socio-economic impacts</u> 94. In its previous comments, the Green Connection submitted that socio-economic impacts of a major oil spill have not been adequately assessed, and in particular, the potential socio-economic impact on small-scale fishers and communities that are dependent on the oceans for their livelihoods has not been fully assessed (including in terms of magnitude) or quantified. Such impacts are likely to be devastating to small-scale fishers and fishing dependent communities, and could also have a significant impact on other sectors (and those employed) such as marine aquaculture. 95. Small-scale fishers are simply mentioned in the ESIA as a sector that ‘could be affected by shoreline oil contamination’,⁹⁰ an oil spill is indicated as potentially resulting in a reduction in small-scale (and other) fishing (exclusion areas for fishing, non-consumption due to toxicity, decline in fish stocks),⁹¹ while in terms of magnitude only an estimated reduction in commercial fishing is quantified as an ‘indicator’.⁹² These issues were not sufficiently addressed by the EAP, who concluded that there was no need to broaden the scope of the socio-economic impact assessment as the economic impacts are challenging to assess, and that the outcomes are likely to be “so broad that it would be of little direct value in informing the impact assessment process or the development of mitigation measures and ultimately decision-making” and that “[t]he impact of an unlikely oil spill is assessed to be of very high significance and any additional information will not change the assessment”.⁹³		
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⁹⁰ Page 468 of the ESIA.

⁹¹ Page 470 of the ESIA.

⁹² Page 471 of the ESIA.

⁹³ Page 127 of the CRR.

96. It is submitted that although the significance of the impact, in terms of impact ratings, cannot get higher than the VERY HIGH rating that has been assigned to a major oil spill, the purpose of such an assessment is not to assign a significance rating only. Instead, a full identification and assessment of impacts, paired with appropriated mitigation measures, is to enable the decision-maker to make an informed decision. In the current scenario, it may be challenging to assess the impacts, but certainly the results are imperative to inform decision-making. 97. The socio-economic impacts on small-scale fishers and coastal communities is a crucial aspect of the EIA process, and that an assessment of the economic impacts of a major spill and the adequacy of provisions made by TEEPSA to compensate anyone impacted by such a spill, should be conducted in the assessment phase of the EIA. This is also directly relevant to consideration of the need and desirability of the planned exploration drilling activities, but the potential economic impact of a major oil spill (including but not limited to the potential economic impact on small-scale fishers and communities that are dependent on the oceans for their livelihoods) is a highly relevant factor that the decision-maker should have taken into account when taking his decision. 98. The Appellants submit that the failure to fully assess and quantify negative socio-economic impacts of a major oil spill on some sectors constitutes a fatal flaw in the ESIA, and that the EA should have been refused by the DG.		
<u>Sixth Ground of Appeal: Failure to consider relevant coastal management considerations or to comply with the National Environmental Management: Integrated Coastal Management Act 24 of 2008</u> 99. 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”. By virtue of this section, the decision maker ought to have appreciated that in deciding whether to grant an environmental authorisation or not, he or she was required to consider additional factors specified in section 63 of NEM:ICMA⁹⁴ and whether or not the proposed project		

⁹⁴ S 63(1)(c), s 63(1)(h)(i), s 63(1)(h)(iv) and s 63(1)(i)

“would be contrary to the interests of the whole community”. This required an eco-centric consideration of the impacts of the proposed project in an area that must be afforded a particularly high standard of protection given the natural functioning of the dynamic coastal processes. 100. Section 12 and 21 set out the State’s obligation in relation to the management of the coastal zone, which must be taken into account in taking a decision in respect of this zone. 101. The DG's decision makes no mention of section 63 of NEM:ICMA, and the ESIA contains no evidence that the factors set out in section 63 was considered or assessed. Whilst the ESIA identifies that section 63 of NEM:ICMA is applicable, it does not assess each of the factors section in section 63. 102. Read together, this means that there was not a factual investigation as required by section 63 of the NEM:ICMA, including a determination of whether the coastal public property and the coastal protection zone would be impacted, and if so, to what extent the proposed activity is consistent with the goal of establishing or protecting those areas.⁹⁵ The management plans that are relevant in these areas, like the Coastal Management Programme for the Western Cape Province,⁹⁶ have also not been taken into consideration. 103. The ESIA does not, at any point, consider the interests of the affected human and non-human communities in any collective way. Consequently, the interests of the whole community have not been presented to the decision-maker in the ESIA, and without evidence of specific consideration of these interests in the Reasons for the Decision, the decision-maker has not evaluated these interests in their decision to grant environmental authorisation. 104. As set out elsewhere in this appeal, catastrophic oil spills could occur as a result of an uncontrolled wellhead blowout related to offshore oil and gas exploration and/or production drilling. Oceans play a critical role in regulating the climate and mitigating global warming by		
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⁹⁵ Section 63(1)(c) of NEM:ICMA.

⁹⁶ Western Cape Coastal Management Programme: 2016 available at <https://cer.org.za/wp-content/uploads/2009/12/Western-Cape.pdf>
Draft Western Cape Coastal management Programme 2022 – 2027 available at
<https://www.westerncape.gov.za/eadp/files/atoms/files/DRAFT%20Western%20Cape%20Provincial%20Coastal%20Management%20Programme%202022-2027.pdf>.

absorbing carbon dioxide. Oil spills pose a significant threat to functioning marine ecosystems, to living organisms in South Africa's coastal waters,⁹⁷ and to communities that depend upon the oceans for their livelihoods. Small-scale fishers and fishing-dependent communities are particularly vulnerable to the negative impacts of a large uncontrolled oil spill which could (among other things) lead to a depletion in the fish stocks upon which the livelihoods of these small-scale fishers and fishing communities depend. 105. The Appellants submit that it is not in the interests of the whole community (from and intra- and inter-generational perspective, as well as having regard to potential impacts on living organisms in South Africa's coastal waters⁹⁸) to expose our oceans and coasts to the increased risk of a potentially catastrophic major oil spill during exploration drilling, or during subsequent production operations.		
<u>Seventh Ground of Appeal: The ESIA fails to recognise and implement heightened legislative protections for the coastal environment</u> 106. Direct and indirect impacts can overlap in time and space. In the marine environment, the spatial relationship of direct and indirect impacts is complex due to ecosystem interconnectivity and also the variable spatial extent where impacts occur across different features. For instance, impacts that occur in the localised project can affect species that are distributed more broadly		

⁹⁷ In terms of the National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEM:ICMA), the 'interests of the whole community' is defined as meaning the collective interests of the community determined by:

- (a) prioritising the collective interests in coastal public property of all persons living in the Republic over the interests of a particular group or sector of society;
- (b) adopting a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable; and
- (c) taking into account the interests of other living organisms that are dependent on the coastal environment.

⁹⁸ In terms of the National Environmental Management: Integrated Coastal Management Act 24 of 2008 (NEM:ICMA), the 'interests of the whole community' is defined as meaning the collective interests of the community determined by:

- (d) **prioritising the collective interests in coastal public property of all persons living in the Republic over the interests of a particular group or sector of society;**
- (e) **adopting a long-term perspective that takes into account the interests of future generations in inheriting coastal public property and a coastal environment characterised by healthy and productive ecosystems and economic activities that are ecologically and socially sustainable; and**
- (f) **taking into account the interests of other living organisms that are dependent on the coastal environment.** (emphasis added)

across the seascape or that also use habitat outside of the impacted areas through wide-ranging movements and cascading ecological consequences through a species' population and via food webs. Therefore, the need to consider the connectivity of marine ecological processes is imperative for a decision maker, particularly where the issues under consideration are regulated by the legal obligation⁹⁹ to better manage the coastal environment to ensure its sustainability for future generations, particularly in light of increased anthropogenic pressures. 107. The National Environmental Management: Biodiversity Act, 2004 ("NEMBA") provides for ecosystems that warrant special conservation attention. These include ecosystems identified as Critical Biodiversity Areas ("CBAs") or Ecological Support Areas ("ESAs") in a bioregional plan, biodiversity sector plan or provincial spatial biodiversity plan. 108. The Appellants contend that the DG ignored the critical importance of NEM:BA, NEM:PAA and relevant provisions of NEM:ICMA in terms of protecting and conserving the identified CBAs within the survey area, as well as the EBSAs and MPAs. At the very least, the value of these areas and the extent of potential negative impacts of exploratory activities on these areas should have been considered. 109. The ESIA provides no independent or separate "detailed assessment" in respect of drilling in the CBA 1 and CBA 2, nor mitigation measures directed to protect the unique properties that caused the CBAs contained in the Area of Interest to be designated. 110. The ESIA allows for exploratory wells to be drilled in the two CBAs contained in the Area of Interest, and which cover approximately 5.4% of the Area of Interest.¹⁰⁰ As it currently stands, TEEPSA could drill all five wells in the CBAs without taking any additional precautions. 111. CBA 1 is an irreplaceable or near-irreplaceable site that is "required to meet biodiversity targets with limited, if any options to meet targets elsewhere."¹⁰¹ CBA 2 is a best design site where		
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⁹⁹ Section 2(4)(a)(vi), s 2(4)(vii) and 2(4)(r) of NEMA.

¹⁰⁰ Page 216 of the ESIA.

¹⁰¹ Page 216 of the ESIA.

there may be alternative areas where biodiversity targets can be met at a higher cost or requiring the allocation of additional area to achieve the targets. 112. As noted in the ESIA: “The biodiversity features specifically protected by CBA 1 and CBA 2 within the 5.4% overlap with the area of interest for drilling include sperm whale winter and summer distributions, spawning areas for certain fish and areas of high anchovy egg density, pelagic ecosystem type Bb2 [meaning cold pelagic ecosystem] and Southeast Atlantic Lower slope, as well as Leatherback turtle migration routes and the core usage areas of Atlantic Yellow-nosed and Wandering Albatross (L. Harris, pers. comm.).”¹⁰² 113. The CBAs also includes Risso’s dophin distributions as well.¹⁰³ 114. These areas, have been identified and set aside, and resources have been invested, in order to protect these biologically critical habitats and the marine species that depend on them. These include the sperm whale and Wandering Albatross listed as vulnerable, the leatherback turtle listed as critically endangered, and the Atlantic Yellow-nosed Albatross, listed as endangered. 115. The ESIA indicates that, “For the current project, drilling would be allowed within the CBAs, subject to the proposed mitigation.”¹⁰⁴ However, the ESIA proposes no mitigation that directly addresses the properties in the CBAs which make them “irreplaceable,” “near-irreplaceable” or “best design sites.” Yet, the acoustic harms to these areas could be significant (see sections referenced in acoustic harms). 116. In addition, the ESIA recognizes that the exploration activities are classified as having restricted compatibility, which require a “detailed assessment to determine whether the recommendation is that they should be permitted (general), permitted subject to additional regulations (consent), or prohibited, depending on a variety of factors.”¹⁰⁵ Yet the drilling has been approved in an		
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¹⁰² Page 218 of the ESIA.

¹⁰³ Page 334 of the ESIA.

¹⁰⁴ Page 218 of the ESIA.

¹⁰⁵ Page 218 of the ESIA.

irreplaceable or near-irreplaceable area without any detailed assessment addressing the risks associated with the unique properties of the CBAs and providing relevant mitigation measures to address them. 117. The Appellants further assert that the ESIA and the Marine Ecology Assessment did not adequately assess, consider, or present the legislatively mandated protection and conservation objectives in these three SEMAs with regard to the broader seascape impacts. Therefore, it is evident that the DG was not presented with the scope of the legislative objectives, the obligations imposed on them by these Acts, with particular reference to the larger marine environment, as well as the indirect and cumulative consequences linked to these impacts. 118. Despite recognition of the CBAs, the ESIA provides no further or substantial detail on the importance of the legislative protections provided to these areas, such as in the specific environmental management Acts (“SEMAs”). The SEMAs are only briefly mentioned in the document; specifically, in section 2.2, where the legislation is summarised into a few short paragraphs. Otherwise, only passing mentions of NEM:PAA, NEM:BA, and NEM:ICMA can be found in the ESIA. 119. As a result, it appears that, while the ESIA and the Marine Ecology Assessment contained some discussion and drew attention to the importance of MPAs, CBAs, and other such areas of environmental importance, the legislative status of these areas and the importance of their protection were minimized. 120. It is therefore apparent that the assessment failed to consider all project related impacts that occur in the localised project, and which can affect species that are distributed more broadly across the seascape or that also use habitat outside of the directly impacted areas through wide-ranging movements and cascading ecological consequences through a species’ population and via food webs. The need to therefore consider the connectivity of marine ecological processes across a broader seascape or outside of the directly impacted areas is relevant and necessary. 121. The result of this limited analysis in the ESIA is that the competent authority did not consider the legislative importance and national protection afforded to the MPAs, CBAs, and EBSAs located		
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within the exploration area. Nor did the EAP and competent authority consider the current uncertainty and broad connectiveness of the community structure and endemism of South African marine fauna off the edge of the continental shelf when ascertaining the significance of residual impacts. Given the limited biological and ecological data available on the community structure and endemism of South African marine fauna off the edge of the continental shelf, the extent of the type and severity of impacts to the marine fauna remain an uncertainty. The precautionary approach must therefore be adopted. Furthermore, the CBAs have been classified by the EAP as having restricted compatibility with non-invasive and invasive activities. CBAs are areas required to meet biodiversity targets for ecosystems, species and ecological processes, as identified in a systematic biodiversity plan. As the area of interest overlaps with two irreplaceable, namely CBA 1 and CBA 2, the project activities will cause these targets to be affected. This activity, according to the definitions in the EIA regulations,¹⁰⁶ should therefore automatically be classified as a significant impact in the ESIA. 122. Authorising the Project to take place within or within negligible proximity to CBAs and EBSAs undermines ecological thresholds and leads to unsustainable development, particularly in the ocean context, eroding the very reason for which the areas were given such status. 123. The overriding objectives of the three acts are to protect and conserve declared MPAs and biodiversity areas. The Appellants submit that this must be the default position in giving effect to these Acts, in so far as this particular marine environment is concerned. 124. The Appellants consequently submit that the DG focused inappropriately on the direct ‘footprint’ impacts of the project and ignored the wider landscape, indirect and cumulative impacts, particularly associated with the areas of significance. Furthermore, the DG failed to take into account the heightened protection afforded to the environment in the impacted areas.		
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¹⁰⁶ Significant impact” means an impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence

<u>Eighth Ground of Appeal: The authorised activities are not needed or desirable</u> 125. The competent authority must consider all of the factors listed in section 24O of NEMA, including the need and desirability of the proposed project, any guidelines published under section 24J, and any minimum information requirements for the application, according to regulation 18 of the EIA Regulations. This includes the Department of Environmental (DEA), Pretoria, South Africa's 2017 Affairs Guideline on Need and Desirability (hereinafter, "the Guideline"). 126. The Guideline also states that "the assessment of "need and desirability" must include considerations of how the proposed activity "may affect the geographical, physical, biological, social, economic, and cultural aspects of the environment".¹⁰⁷ 127. Addressing the need and desirability within the context of ecologically sustainable development should give consideration to the potential impacts of the proposed exploration for new offshore oil and gas resources throughout its life cycle¹⁰⁸ (rather than ring-fencing the consideration of need and desirability to the exploration well drilling phase only). 128. The description of need and desirability in the ESIA is deficient in at least the following respects: 128.1. it justifies the need and desirability of the proposed project with reference to exploration activities only, and fails to the lifecycle impacts associated with oil and gas exploitation, including the impacts of production, is the intended consequence of this activity; 128.2. it assumes that gas is a transition fuel to assist South Africa to achieve its climate commitments; 128.3. it fails to assess climate change implications; 128.4. it fails to consider all relevant policies;		
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¹⁰⁷ Page 9 of the Guideline.

¹⁰⁸ Section 2(4)(e) of NEMA stipulates that responsibility for the environmental health and safety consequences of a policy, programme, project, product, process, service or activity exists throughout its life cycle.

128.5. it fails to adequately consider alternatives, including the no development option; and 128.6. it fails to consider the potential impacts on food security. 129. This is set out more fully below. <u>Failure to consider the negative impacts of the full lifecycle of oil and gas exploitation</u> 130. It is artificial to consider the need for and desirability of undertaking the proposed exploration activities without considering the impacts associated with further production activities which are intended to materialise from successful exploration. The only reason that TEEPSA wishes to undertake exploration is to discover reserves, which can be exploited. 131. As confirmed in the judgment of the Eastern Cape High Court in <i>Sustaining the Wild Coast and Others v Minister of Mineral Resources and Energy and Others</i>, the processes are discrete stages that culminate in the production and combustion of oil and gas, and the emission of greenhouse gases that will exacerbate the climate crisis and impact communities' livelihoods and access to food. The court also confirmed that a comprehensive assessment of need and desirability of exploring for new oil and gas reserves from climate change and the right to food perspectives is relevant to a decision to authorise seismic survey activities. 132. A balanced and proper assessment of need and desirability requires considering both the positive and negative impacts of the full chain of oil and gas exploration and production. 133. However, the ESIA fails to consider the negative impacts of long-term oil and gas production, and downstream activities, in fact deliberately avoiding dealing with these aspects in relation to need and desirability. It does not consider how the exploration or production activities will not accrue any real benefits to coastal communities, only risk. Instead, it portrays the ostensible benefits of production, midstream and downstream activities, shying away from considering the impacts associated with exploitation. 134. Regarding the use of hydrocarbons and the petroleum industry in South Africa, the ESIA also draws information based 'mostly' on information summarised from a report by KPMG for the South African Petroleum Industry Association. The report indicates that South Africa relies on		
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imports of crude oil and refined fuels to meet its liquid fuel needs, and that South Africa has limited proven reserves of oil and natural gas. The market for refined products is indicated as ‘essentially flat’. The ESIA adds that a number of South Africa’s six refineries have shutdown (ENREF, SAPREF and NATREF) or lack feedstock (PetroSA GLT Plant), resulting in increased quantities of refined product being imported. 135. However, the Appellants submit that even if the project were to result in commercial exploitation, it would not necessarily have any impact on South Africa’s energy security, as any oil and gas extracted would not belong to South Africa, but would invariably belong to the companies that extract for profit.¹⁰⁹ Energy companies compete for access to petroleum rights granted by governments by either entering a concession agreement, meaning any discovered oil and gas are the property of the producers, or form part of a production-sharing agreement which favours the interest of the producers and ultimately diminishing the general interests of the broader South African Republic. 136. It is common practice that proposed exploration activities, only commence months and sometimes years after the need and desirability assessment is undertaken, with extraction and production only commencing years later. According to one study, the world’s largest oil and gas fields took an average of 5.5 years from discovery to first production and 17 years to reach peak output.¹¹⁰ Chevron Corporation’s (CVX) Gorgon natural gas development project off the coast of Australia took 30 years to complete, and another six years to begin producing liquefied natural gas.¹¹¹ The ESIA does not set out a timeline for commercial exploitation (by any party), should the exploration drilling result in a commercial find. Given the significant time lag between exploration activities and commercial exploitation of resources, the proposed exploration project in no way		
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¹⁰⁹ Stewart Glickman and Shang Yang Chuah, Oil, Gas & Consumable Fuels Industry Surveys (New York: CFRA, 2019)

¹¹⁰ Henrik Wachtmeister, Mikael Höök, “Investment and production dynamics of conventional oil and unconventional tight oil: Implications for oil markets and climate strategies” Energy and Climate Change, Volume 1, 2020, 100010, ISSN 2666-2787, <https://doi.org/10.1016/j.egycc.2020.100010>.

(<https://www.sciencedirect.com/science/article/pii/S2666278720300106>)

¹¹¹ <https://australia.chevron.com/-/media/australia/our-businesses/documents/Gorgon-Project-Milestones-Fact-Sheet.pdf>

provides a remedy nor will address in the immediate future South Africa's current energy insecurity issues. 137. What is more, by the time any resources discovered in the subject exploration block are ready for production, South Africa will have already needed to transition to renewable energy sources if the country intends to adhere to its international climate commitments. Oil and gas will not be as beneficial to South Africa's economy as the ESIA claims in its need and desirability assessment. 138. The ESIA justifies the exploration activities on the basis that gas production is needed and desirable. It biases the evaluation of need and desirability in favour of the proposal. The ESIA therefore failed to place before the DG any assessment of the long-term impacts of gas exploration and production, and consequently these could not have been assessed by the DG. <u>Assumption of gas as a transition fuel</u> 139. The need and desirability assessment assumes that the use of natural gas can serve as a transition fuel to assist the country in meeting its climate change commitments. Chapter 5 of the ESIA seeks to make the case for the use of liquified natural gas (LNG) as a transition fuel. In addition to its potential use in peaking plants (in place of diesel currently used), reference is made to the IRP2019, highlighting that while the capacity allocations see a significant increase in renewables and a decrease in hydrocarbons (coal, oil and gas), 'the IRP2019 acknowledges that gas-to-power technologies are required to provide the flexibility required to complement renewable energy in the "just transition" to a net-zero and climate resilient society'.¹¹² The ESIA acknowledges that South Africa has developed a promising renewable power programme, 'which has been very successful', but points to grid constraints in high yield wind and solar areas restraining further development in the Northern and Western Cape, and recycling the outdated argument that '[i]n any event, renewables capacity inherently expose the system to weather risk (lack of wind and or sun), further current battery technology is unproven at very large-scale for protracted periods.		
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¹¹² Page 69 of the ESIA.

There is, therefore, a potential role for natural gas fired power generation at least as a transition fuel'.¹¹³ 140. Reference is also made to DMRE policy relating to accelerating exploration of local resources, while in the short-term pursuing gas import options. 141. While the ESIA sets out various government policies in support of the use of gas as a transitional fuel (and for further offshore oil and gas exploration), importantly the report concedes that '[t]he use of fossil fuels is, however, not aligned with other national and international agreements, laws, policies and plans, which identify the need to reduce the reliance on fossil fuels and for the global community, including South Africa, to reduce its GHG emissions and meet international law obligations and commitments.'¹¹⁴ 142. Notwithstanding the DMRE's policy relating to accelerating exploration of local resources, while in the short-term pursuing gas import options, the Appellants submit that the competent authority is not bound by such policy and must independently apply its mind to the need and desirability of the proposed project from a NEMA perspective. Rigid adherence to policy in making an administrative decision fetters the decision-maker's discretion, in violation of basic principles of just administrative action (it is a fundamental rule of administrative law that the decision-maker vested with a discretionary power may not fetter its discretion by rigid adherence to a pre-determined policy). What is required of an administrator is that he or she is independently satisfied that the policy is appropriate to the circumstances of the particular case. In <i>Earthlife Johannesburg and Another v. Minister of Energy and Others</i>,¹¹⁵ the court found that "[p]olicy instruments developed by the Department of Energy cannot alter the requirements of environmental legislation for relevant climate change factors to be considered".¹¹⁶ The decision-maker cannot elevate principles or policies into rules that are considered to be binding with the result that no		
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¹¹³ Page 70 of the ESIA.

¹¹⁴ Page 89 of the ESIA.

¹¹⁵ *Earthlife Johannesburg and Another v. Minister of Energy and Others* 2017 2 All SA 519 (GP)

¹¹⁶ See above at para 97.

discretion is exercised at all. While policies in keeping with the empowering legislation may be used to assist decision making, they may not inevitably determine the outcome of the decision, lest they “preclude the person exercising the discretion from bringing his mind to bear in a real sense on the particular circumstances of each and every individual case coming up for decision.”¹¹⁷ 143. Chapter 5 of the draft EIR also includes a section referring to the "Just Transition and Climate Pathways Study" (NBI, 2021) in support of the contention that that a lack of gas supply ‘poses a risk to the decarbonisation ambitions of key sectors of the South African economy, which will rely on gas as a transition fuel or low carbon feedstock’.¹¹⁸ 144. However, as was pointed out by the Green Connection in its comments on the draft Scoping Report and the draft ESIA, recent independent studies challenge the view that fossil gas is necessary for electricity generation and as a transition fuel. Those submissions are incorporated into this appeal. These studies have not been integrated into the assessment. 145. While the increased use of gas as a ‘transitional fuel’ is promoted by government and vested interest groups, the increased use of gas (especially in electricity generation) will lead to increased emissions of climate warming GHGs, and methane (CH₄) in particular. While natural gas combustion is less carbon-intensive than that of coal, fugitive emissions arising from the production, transport, storage and use of natural gas have a much greater climate impact than CO₂. In particular, over a 20-year period (which is particularly relevant since the next 20 years are a critical window for addressing the climate crisis) methane emissions, which make up approximately 70-90% of natural gas emissions, are projected to be 82.5 times as impactful as those of CO₂.¹¹⁹ The desirability of using gas as a ‘transitional’ fuel is also questionable having regard to volatile international gas prices, as well as the potential risk of Carbon Border Taxes being introduced in the future. This risk will impose restrictions on the export of products with a high		
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¹¹⁷ Richardson v Administrator, Transvaal 1957 (1) SA 521 (T) at 530.

¹¹⁸ Ibid, at p78.

¹¹⁹ See the IPCC’s 6th Assessment Report (AR6), Working Group 1, Chapter 6 *The Earth’s Energy Budget, Climate Feedbacks and Climate Sensitivity*, Table 7.15 at p1017. Available online at: https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter07.pdf

carbon footprint, putting South Africa's economy at greater risk of developing gas to power rather than clean renewable alternatives. This invariably diminishes the need and desirability for promoting new gas development projects, as the negative climate impacts and financial risks undermine the potential for gas to represent a viable solution for South Africa's ambitions to address development whilst respecting universal and regional climate change obligations. 146. The fundamental outcome of the need and desirability assessment should not be centred on the determination of whether gas technology will ensure security of supply for electricity. Instead, due to the climate crisis, this assessment should be centred on whether South Africa needs, or should rely on, gas to provide security of supply of electricity and whether alternative technologies could meet the same supply objectives with less harm and risk. Renewable energy and/or storage can replace gas to provide reliable and cost-effective generating capacity while greatly reducing the environmental and health risks associated with gas.¹²⁰ 147. In fact, considering the lifecycle impacts of a gas to power plant, the use of natural gas (mostly methane) to generate electricity is likely to have a worse climate change impact than using coal, given the significant potential for leaks in the extraction and transportation of gas to a power plant. In support of this, we attach an expert report of Dr Robert Howarth who considered the efficiency of a combined cycle gas turbine versus a coal fired power station, as Annex B3. 148. It is incorrect of the EAP to have made the assumption that South Africa will require significant volumes of gas as part of its energy mix as soon as 2030. Reliance on this presumption is flawed. Firstly, the IRP does not indicate a need for significant amounts of gas by 2030, and secondly, recent reports have suggested that even the 2019 IRP's small allocation of gas within the energy mix is more than will ever be required. The Vital Ambition Report by Meridian Economics in collaboration with the Council for Scientific and Industrial Research ("CSIR") Energy Centre ("Vital		
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¹²⁰ See, e.g., Union of Concerned Scientists, Turning Down the Gas in California (13 July 2018), https://www.ucsusa.org/resources/turningdown-gas-california?_ga=2.79265367.2135392956.1587590973-34786515.1587590973#ucs-report-downloads

Ambition Report”)¹²¹ concludes that gas to power is only justified in the South African energy mix in so far as it is required for low-utilisation flexible capacity (peaker plants) for balancing the system during peak power demand. The report confirms that no investments in gas infrastructure for energy production and generation is needed now or in the near future. Furthermore, the 2019 IRP will likely need to be updated in the foreseeable future to align with South Africa’s 2021 Nationally Determined Contribution under the Paris Agreement and to keep pace with quickly evolving science and significant reductions in price for solar and wind energy. However, even the 2019 IRP, which is rooted in an outdated and scientifically and economically unsound understanding of the necessity for any gas in the energy mix, only projects the collective contribution of gas and diesel to the 2030 energy mix to be 1.3% combined. 149. It is worth noting that impeding global north carbon border adjustment mechanisms will impose restrictions on the export of products with a high carbon footprint, putting South Africa's economy at greater risk should it develop gas to power electricity rather than clean renewable alternatives. Investing in fossil fuel sources does not present a viable solution for South Africa’s ambitions to address development whilst respecting universal and regional climate change obligations <u>Failure to assess climate change implications</u> 150. In assessing need and desirability, NEMA requires that development be sustainable and requires the competent authority to “take into account all relevant factors.”¹²² The Guideline requires need and desirability assessment to address the impact of planned activities on global and international responsibilities relating to the environment, including climate change.¹²³ 151. It is assumed that the Minister is aware of the State’s commitments relating to climate change internationally and domestically. As a party to the United Nations Framework Convention on		
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¹²¹ Meridian Economics, 2020. A Vital Ambition: Determining the Cost of Additional CO2 Emission Mitigation in the South African Electricity System. See at <https://meridianeconomics.co.za/wp-content/uploads/2020/07/Ambition.pdf>

¹²² 24O(1)(b) of NEMA).

¹²³ Paragraph 1.1.8, page 11 of the Guideline.

Climate Change (UNFCCC) and the Paris Agreement, South Africa has committed to limiting the increase in the global average temperature to well below 2°C and to pursue efforts to limit the temperature increase to 1.5°C. South Africa is not, however, on track to meet these commitments. According to the Climate Action Tracker, “South Africa’s climate policies and commitments need substantial improvements to be consistent with the Paris Agreement’s 1.5°C temperature limit.”¹²⁴ 152. The need and desirability (from a climate change perspective) of conducting exploration drilling (which aims to identify oil and gas resources to be used in energy production and/or processing or manufacturing of materials) is particularly important given that climate change has been acknowledged as a ‘crisis’ with human-induced climate change impacts being experienced in every region. It is also recognised that the climate change ‘crisis’ requires immediate, rapid and large-scale reductions in greenhouse gas (GHG) emissions to limit global warming to 1.5°C (including accelerated action in this decade to reduce global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net-zero around mid-century). In support of these submissions, some of the recent developments relating to the climate crisis are discussed briefly below. 153. In August 2021, the Intergovernmental Panel on Climate Change (IPCC) (an international body for assessing the science related to climate change) released its 6th Assessment Report (AR6).¹²⁵ In its summary for policymakers, the IPCC indicates (among other things) that: 153.1. It is unequivocal that human influence has warmed the atmosphere, ocean and land, and that widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred;¹²⁶		
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¹²⁴ Climate Action Tracker, South Africa, <https://climateactiontracker.org/countries/south-africa/>.

¹²⁵ Climate Change 2021: The Physical Science Basis, available online at: <https://www.ipcc.ch/report/sixth-assessment-report-working-group-i/>

¹²⁶ Para A.1

153.2. The scale of recent changes across the climate system as a whole – and the present state of many aspects of the climate system – are unprecedented over many centuries to many thousands of years;¹²⁷ 153.3. Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has strengthened since AR5;¹²⁸ 153.4. Global surface temperature will continue to increase until at least mid-century under all emissions scenarios considered, and that global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO2 and other GHG emissions occur in the coming decades;¹²⁹ 153.5. Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, heavy precipitation, and, in some regions, agricultural and ecological droughts; an increase in the proportion of intense tropical cyclones; and reductions in Arctic sea ice, snow cover and permafrost;¹³⁰ 153.6. Continued global warming is projected to further intensify the global water cycle, including its variability, global monsoon precipitation and the severity of wet and dry events;¹³¹ 153.7. Many changes due to past and future GHG emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level;¹³²		
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¹²⁷ Para A.2

¹²⁸ Para A.3

¹²⁹ Para B.1

¹³⁰ Para B.2

¹³¹ Para B.3

¹³² Para B.5

153.8. From a physical science perspective, limiting human-induced global warming to a specific level requires limiting cumulative CO₂ emissions, reaching at least net zero CO₂ emissions, along with strong reductions in other GHG emissions. Strong, rapid and sustained reductions in CH₄ emissions would also limit the warming effect resulting from declining aerosol pollution and would improve air quality.¹³³ 154. On 9 August 2021, the IPCC issued a press release relating to its AR6 report. It states that the report provides new estimates of the chances of crossing the global warming level of 1.5°C in the next decades, and finds that unless there are immediate, rapid and large-scale reductions in GHG emissions, limiting warming to close to 1.5°C or even 2°C will be beyond reach.¹³⁴ 155. As appears from the expert affidavit of Professor Mark New, in the <i>Sustaining the Wild Coast</i> case, most of the discovered reserves of oil and gas cannot be burnt if we are to stay on the pathway to keep global average temperature increase below 1.5 degrees Celsius. Therefore, authorising new oil and gas activities in any form, with its goal of finding commercially exploitable reserves and consequently leading to production, is not consistent with South Africa complying with its climate change commitments, and is certainly not needed or desirable from a global or domestic perspective. Professor New's affidavit is attached as Annex B4. 156. The ocean bears the brunt of the impacts of human-made global warming. As the planet's greatest carbon sink, the ocean absorbs excess heat and energy released from rising greenhouse gas emissions trapped in the Earth's atmosphere, according to the IPCC's 6th Assessment Report (AR6). To date, the ocean has absorbed about 90% of the heat generated by rising emissions.¹³⁵ Estimates of surface ocean warming rates are outpacing climate model predictions nearly every		
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¹³³ Para D.1

¹³⁴ <https://www.ipcc.ch/2021/08/09/ar6-wg1-20210809-pr/>

¹³⁵ IPCC, *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* (2021), https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf.

year.¹³⁶ The global ocean surface temperature reached 21.1 °C in early April this year, the highest recorded ocean surface temperature since records began.¹³⁷ 157. As excessive heat and energy warms the ocean, the change in temperature leads to unprecedented cascading effects that include sea ice-melting, sea-level rise, marine heatwaves, loss of dissolved oxygen, and ocean acidification. Each of these effects have multiple and compounding negative impacts on ocean ecosystems. 158. While the ocean has taken up 90% of excess heat due to global warming so far, it may soon reach its physical limit. Warmer waters have less capacity to dissolve carbon dioxide (CO₂), and climate-ocean models of a worst-case emissions scenario (“business as usual”) recently found that the oceans' ability to soak up CO₂ would peak by 2100 without a slowdown in GHG emissions, becoming only half as efficient at absorbing the greenhouse gas by 2300.¹³⁸ Without an effective ocean heatsink, more fossil-derived carbon would remain in the atmosphere and lead to additional global warming. 159. Marine species, like all living things, are more resilient to stress and more likely to survive disruption and injury if healthy to begin with. The same theory applies to ecosystems. Healthy marine ecosystems that are biodiverse were shown to better recover after the Deepwater Horizon disaster than ecosystems that were less biodiverse.¹³⁹ Areas of low biodiversity, which are increasing in number due to climate change pressures like heat waves, acidification, and oxygen loss, may be particularly vulnerable to future oil disturbances.		
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¹³⁶ Lijing Cheng *et al.*, *Past and future ocean warming*, 3, Nat. Rev. Earth Environ., 776–794 (2022).

¹³⁷ Ocean surface temperatures reach record high, , World Economic Forum (2023), <https://www.weforum.org/agenda/2023/04/ocean-surface-temperatures-reach-record-high/>.

¹³⁸ Long-Term Slowdown of Ocean Carbon Uptake by Alkalinity Dynamics - Chikamoto - 2023 - Geophysical Research Letters - Wiley Online Library, , <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022GL101954>.

¹³⁹ Robyn A. Zerebecki, Kenneth L. Heck & John F. Valentine, *Biodiversity influences the effects of oil disturbance on coastal ecosystems*, 12, Ecol. Evol., e8532 (2022).

160. It is pointless to authorise this (and other) exploration drilling should such an assessment conclude that the development of new oil and gas fields is incompatible with South Africa's climate change commitments. 161. Despite this, the ESIA failed to address climate change considerations in terms of need and desirability. While a <i>Climate Change and Air Emissions Impact Assessment</i>¹⁴⁰ specialist report was undertaken, the climate change assessment was limited to the exploration well drilling stage only. 162. This is a material omission for the following reasons: 162.1. Exploration is intended to lead to the subsequent discovery of gas reserves for future oil and/or gas production, which will exacerbate South Africa's reliance on fossil fuels and increase South Africa's vulnerability to climate change impacts due to increased greenhouse gas emissions, with devastating adverse climate change consequences. 162.2. South Africa has pledged to stay on a course that will keep global average temperature increases below 1.5 degrees Celsius, which, according to international experts, can only be accomplished by not exploiting any additional oil and gas reserves. According to the International Energy Agency's ("IEA") recent report, "Net Zero by 2050: A Roadmap for the Global Energy Sector"¹⁴¹, for instance, achieving net zero by 2050 and limiting the rise in the average global temperature to 1.5 °C above pre-industrial levels "requires nothing short of a total transformation of the energy systems" that underpin the economies of the world and can only be achieved if there are no new oil and gas fields approved for development. This report calls for an immediate and massive deployment of all available clean and efficient energy technologies, as well as no approvals being granted for the development of new oil and gas fields.		
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¹⁴⁰ TEEPSA567 draft EIR, Appendix 15.

¹⁴¹ IEA (2021), *Net Zero by 2050*, IEA, Paris <https://www.iea.org/reports/net-zero-by-2050>, License: CC BY 4.0

163. Authorising exploration drilling for the purposes of determining the extent of available gas reserves for production, contravenes South Africa’s international and national climate change commitments. 164. The effect of granting authorisation is to authorise activities that keep the Earth on a trajectory which will exacerbate the climate crisis, and the impacts therefore will limit a number of human rights, including the environmental right (section 24) and the rights to human dignity (section 10), life (section 11) and to sufficient food and water (section 27(1)(b)). 165. Had the DG had the benefit of a comprehensive assessment of need and desirability from a climate perspective, he ought to have concluded that the proposed exploration is neither necessary nor desirable from a climate perspective. However, the decision-maker was not presented with these pertinent factors and did not take them into account when making his decision. <u>Failure to consider all relevant policies</u> 166. The Appellants submit that other relevant policies should have been included in the assessment of need and desirability, including the Western Cape Climate Response Strategy (“WCCRS”) which prioritises its attempts to achieve by 2030, a 50% reduction in methane emissions 30% of land and sea areas, especially areas of particular importance for biodiversity and its contributions to people, are conserved.¹⁴² To achieve the Western Cape government’s vision of net zero emissions in the province, two crucial transitions are identified in the WCCRS: "(1) a shift from internal combustion engines to electric mobility and (2) a massive shift from fossil fuel-based energy to renewable energy sources". 167. Given the rapid growth of renewable energy and energy storage technology, these predicted developments are plausible and desirable. In order to achieve an equitable and inclusive transition to net zero emissions, the strategy identifies as a short and long term plan that “[t]he energy sector		
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¹⁴² Sarah Birch et. 2021. Western Cape Climate Change Response Strategy. Vision 2050: A vision for a resilient Western Cape. (Western Cape Government, Department of Environmental Affairs and Development Planning, Climate Change Directorate)

must actively encourage innovation in energy services provision to accommodate renewable energy input and improve access to energy in low-income areas.”¹⁴³ 168. It is clear that the province intends to shift its resources and commitments towards directing development towards a more sustainable and resilient local economy that invests in renewable energy as a way of reducing the least cost and least regret to the economy and the environment for all residents of the province, including the residents that reside in the area of interest. This was not considered. Furthermore, the West Coast District Municipality Amended IDP 2022-2027 prioritizes the facilitation of socio-economic development around four key strategic goals: development of marine aquaculture within the district; supporting the small scale fisheries industry; facilitating coastal tourism development and preparing for the growth of the renewable energy sector provided environmental sustainability is achieved. This proposal is also not compatible with the IDP. 169. Employment in the fishing and the tourism sector represent the most secure and low risk futures for a considerable amount of the population in the municipalities that make up the West Coast. 170. A failure to factor and consider these relevant policies distorts the need and desirability of this development in favour of exploration despite the potential development grossly impacting the marine ecosystem. 171. Without considering the Western Cape Climate Change Response strategy, the Appellants submit that the EAP and the DG have not taken into account the carrying capacity restrictions, limits of acceptable change and thresholds that the current marine ecosystem currently maintains. 172. Other policies not considered in the ESIA, as pointed out in Natural Justice’s comments on the draft ESIA include the West Coast District Municipality Amended IDP and the City of Cape Town Climate Change Policy.		
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¹⁴³ Sarah Birch et. 2021. Western Cape Climate Change Response Strategy. Vision 2050: A vision for a resilient Western Cape. (Western Cape Government, Department of Environmental Affairs and Development Planning, Climate Change Directorate), pages 12-19

173. Furthermore, establishing the need and desirability of a proposed project, is a key objective of each stage of scoping and impact assessment and must account for South Africa’s 2021 NDC under the Paris Agreement. The ESIA fails to provide a broad and robust analysis of multiple alternative literature on renewable energy resources and consequently fails to make a justifiable and reasonable case for a project’s need and desirability having considered the available literature, without relying solely on the 2019 IRP and other policy documents. 174. In taking the decision, the DG does not identify which policies he relied on when taking his decision. The DG was not entitled to assume, without further investigation, that the proposed exploration is necessary and desirable based on policies or plans made by other state organs, as represented in the ESIA. <u>Failure to consider alternatives</u> 175. The Guideline requires that: “the consideration of ‘need and desirability’ during an application process... must consist of a primary description of the relevant considerations... in relation to feasible and reasonable alternatives. During the actual assessment stages of an EIA process the need and desirability must be specifically assessed and evaluated, including specialist input/studies as required.”¹⁴⁴ 176. Reasonable and feasible alternatives include the option of not implementing the activity. 177. The need and desirability evaluation directs the reader to section 9.5 of the report. Section 9.5 of the report goes on to describe the ostensible benefits which will not be achieved. However, it fails to identify any benefits that might accrue from not implementing the activity and fails to provide a balanced consideration of the no-go alternative, and in particular fails to set out the negative implications of potential future oil and gas development and attendant economic and social costs that will or may result. This would necessarily include the economic and social costs of GHG emissions that would result from future oil and gas development (including extraction, production		
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¹⁴⁴ Page 9 of the Guideline.

and use), as well as the social and economic costs that would result from a major oil spill arising from an uncontrolled wellhead blow-out (during both exploration and subsequent production phases). 178. A proper assessment of the No-Go alternative should have identified and assessed the potential ecological and socio-economic benefits of the no-go option for small-scale fishers and fishing dependent communities. The assessment should also necessarily have included a consideration of alternative means to generate energy and provide sustainable feedstocks for associated industrial applications, including renewable energy alternatives that do not pose a significant inter-generational ecological and socio-economic risk. 179. Consequently, the option of not implementing the activity has not been assessed at all in terms of need and desirability. <u>Failure to consider impacts on food security</u> 180. Despite section 5 of the ESIA recognising that DFFE Guideline requires that a consideration of need and desirability must take cognisance of food security, the ESIA contains no assessment of the impacts on food security, nor of need and desirability from a right to food perspective. <u>Conclusion</u> 181. Consequently, the ESIA did not adequately assess the need and desirability of the proposed project, and relevant considerations were not available to the DG when he took his decision. Need and desirability assessment is a fundamental and significant part of the EIA process and the absence of an acceptable assessment renders the EIA process fatally flawed. The environmental authorisation should not have been granted on this basis alone. 182. In light of the above, the Appellants submit that the ESIA did not include information that is necessary for the DG to consider and come to a decision on the application: the ESIA remains deficient, and the 'need and desirability' consideration and motivation incomplete, without at the very least a broad assessment of the climate change impacts should commercially exploitable oil		
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and gas resources be identified through the exploration drilling (and should these resources ultimately be produced and utilised).		
<i>Ninth Ground of Appeal: Failure to adequately assess the cultural impact of the project on fisheries and fisher communities in the Cultural Heritage Impact Assessment Report</i> 183. As set out in the appeal submitted by Dr Jacqui Sunde, the Report on the Impact Assessment of Cultural Heritage “(CHIA)” did not adequately and comprehensively assess the cultural basis of the receiving environment for this project from a fisheries perspective. In particular, it failed to assess the cultural impact on fishers who are not Khoisan indigenous peoples. 184. The greater Cape of Good Hope is part of the living cultural home to many indigenous and local fishers whose cultural identities as fishers have been born within and shaped by these waters and the adjacent coastline. For generations of fishers working on these waters and along this coast their whole lives, the ocean around the Cape Peninsula is a contiguous part of their everyday material world. This includes the different indigenous peoples of the Cape who make up several groupings as well as the thousands of fishers who have worked in the fisheries sector, including both the commercial and the small-scale, artisanal and subsistence sectors. Whilst many of these fishers do claim Khoisan indigenous status, many do not, but instead they articulate their powerful cultural identity as <u>fisher people</u>. 185. AS Dr Sunde identifies, the CHIA and the ESIA fail to articulate this broader fishery cultural heritage and but rather focuses on the ancestral and ritual practices and relationships that Khoisan peoples have to the sea. Although it acknowledged that heritage is both legacy and living cultural practice it does not describe the fisheries component of living cultural practices in the receiving environment or investigate this issue in any depth. 186. Dr Sunde sets out the key components that are not addressed at all or addressed inadequately, as follows:		

186.1. the role of the ocean and marine resources in constituting cultural identities of fisher people and fisher communities; 186.2. the systems of local knowledge that are part of cultural systems: The systems of fisher local ecological knowledge of the ocean and marine environment that constitute part of their culture and are key for biodiversity management and protection, particularly in times of environmental and climate change; 186.3. cultural and customary practices specific to fisher people: The cultural and customary practices of specific fisher communities that have become expressions of their culture; 186.4. fishers' sense of place which straddles both coastal land and sea and how continuity of this sense would be impacted by the proposed activity; 186.5. fisher-centred cultural ecosystem values: Some of the distinctive fisheries related cultural ecosystem values that are used by other sectors such as tourism and the real estate sector to articulate the value of their unique Cape brand; 187. AS a result of these deficiencies, the impact ratings are inaccurate. 188. She concludes that "[t]he CHIA fails to adequately understand the nature of fisheries in South Africa and the cultural heritage both tangible and intangible applicable to fishers. It fails to adequately describe the baseline environment, identify receptors, assess potential impacts and rate these impacts." 189. These are significant oversights in the impact assessment process, and as a result, the DG could not have had all relevant information before him to make an informed decision.		
<u>Tenth Ground of Appeal: The public participation process did not achieve meaningful consultation</u> 190. The public participation process failed to achieve meaningful consultation, for the reasons set out below.		

191. Coastal communities and the general public have been overwhelmed with the number of offshore oil and gas related applications running in parallel processes, particularly those which may impact the south-west and west coast of South Africa. In the month of May, I&APs have been called upon to respond to no less than four offshore oil and gas EIA processes, without taking into account legislative public participation processes for the Upstream Petroleum Resources Development Bill and the draft Marine Spatial Plans during a similar period. The EAP in the current application, SLR, has been appointed to conduct three of these parallel EIAs.

192. The table below sets out the various EIA processes, in which it is clear that multiple public meetings and submission dates are running during similar time periods:

Project	EAP	Public Participation Meeting Dates	Comment/Appeal Due Dates
TEEPSA Block 5/6/7: exploration drilling	SLR Consulting (Pty) Ltd	June – July 2022	7 December 2022 12 May 2023
TEEPSA DWOB: exploration drilling	SLR Consulting (Pty) Ltd	November 2022 May 2023	14 December 2022 12 May – 12 June 2023
TEEPSA 11B/12B: production drilling	WSP Group Africa (Pty) Ltd	January 2023	14 February 2023
TGS: reconnaissance	EIMS (Pty) Ltd	August / September 2022	25 November 2022 18 May 2023
Searcher Geodata: reconnaissance	EIMS (Pty) Ltd	July 2022	13 October 2022 9 February 2023
CGG Services SAS: reconnaissance	SLR Consulting (Pty) Ltd	April 2023	11 April – 15 May 2023
Karpowership Saldanha: power generation from gas	Triplo4 Sustainable Solutions	October / November 2022	13 December 2022

193. Many members of the public will be confused by the various applications, with different processes, slightly different due dates, slightly different applicants all being branded as TotalEnergies (in the case of the TEEPSA applications) and the same EAPs. It is inconceivable that affected coastal communities are able to respond to each of these processes in a meaningful way.

The ocean-based livelihoods of many coastal communities is recognised in the ESIA. This means that fishers must fish for a living, requiring them to be out at sea daily or for extended periods of time. Even if they wish to do so, they do not have the time or resources to attend multiple public meetings, engage with voluminous technical information and provide comments and appeals. For example, IAPs had 194. The Appellants submit that this has resulted in primarily civil society organisations being able to respond to some of these processes (though they are also time and capacity constrained given the number of applications), and the result, even if unintended, is that those who have less resources, are required to be out at sea to make their livelihoods, or are unable to fully understand the different proposals and processes, are significantly prejudiced by the onslaught of applications. 195. This confusion is evident within the CRR, in which the following comments are recorded: 195.1. Comment #33 Menka Vansant: <i>I was informed that there is a Total consultation meeting in Langebaan this Saturday, November 26th. Could you please send me the details on time and location?</i> SLR: <i>This comment related to TEEPSA Deep Water Orange Basin exploration project. A copy of the notification letter was email to Ms Vansant which included the details of the meeting in Langebaan and others.</i> 195.2. Similar confusion appears in comment #39. 196. The Appellants submit that both the EAP and the Applicant have not presented the impacts and benefits of the project in an objective manner in public meetings and consultations. 197. Ostensible “corporate social responsibility” by TotalEnergies should not be confused with positive impacts of a project, with promises of sponsorships, office spaces and other deals tending		
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towards buying consent and support for the project. For example, in the minutes of the public meeting held in Saldanha on 2 November 2022,¹⁴⁵ the following is recorded: <i>Nelisiwe Vundla (NVU) explained that TEEPSA has designed a programme that focuses on community and social upliftment, where the communities identify what programmes or projects they need and TEEPSA can assist depending on its capability. She further gave an example where the Indigenous Women Smallscale fishing programme in Hout Bay has submitted a proposal requesting TEEPSA to help support them with a fishing vessel. She advised that there are two CLOs in the area and that the community can contact these CLOs should they have an interest on initiating a programme or project.</i> 198. This was not presented at the public meeting in Hout Bay public meeting. 199. The Appellants note that a number of “Community Liaison Officers” were employed by TEEPSA, who assisted TEEPSA and the EAP to bring people to public meetings, whilst others were paid by TotalEnergies to distribute pamphlets. It is not clear from the record of these meetings whether those employed/paid by Total, and who expressed their views in the meetings, disclosed their employment status and consequent conflict of interest to those who attended the meetings, or other members of the public that they engaged with. 200. For example, In the public meeting held in Hout Bay on 8 November 2022, attended by staff of the Green Connection, various community representatives made comments in support of the project, with at least one or two of these people having been paid by TEEPSA to distribute pamphlets. Their conflict of interest was not disclosed. 201. During the same meeting, the EAP’s representative provided a summary of the findings of the ESIA, which was clearly skewed in favour of the development. Further, the following exchange occurred, in which an erroneous, alternatively bias, response to a question was only corrected upon intervention by the Green Connection’s Ms McDaid:		
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¹⁴⁵ The minutes of this meeting are contained in Appendix 5.7 of the ESIA>

<i>3.19 Why is renewable energy not considered viable, as we have the battery energy storage technology?</i> <i>3.19.1 JB explained that the current battery energy storage technology is not sufficiently developed to provide base load. Thus, South African policy provides for oil and gas exploration and development and gas forms part of South Africa's Energy Mix as part of the "Just Transition" to net carbon zero.</i> <i>3.22 Liz McDaid (LM) asked why no public consultation had been undertaken when the Exploration Right was transferred from Anadarko to Total. In addition, she noted that the justification of the "Just Transition" using gas in the energy mix is misleading as only 3000 MW of gas is included as part of the IRP 2019.</i> <i>3.22.1 JB noted that SLR was not involved with the transfer of rights from Anadarko to TEEPSA and could thus not comment on whether public participation has been undertaken as part of that process. He also that the SLR had gone into a lot of detail in summing the various policy documents for the Need and Desirability section of the report (even those policy documents recommending no new gas) and the 'Just Transition'. He noted that government would need to weigh up a number of things when making a decision on this project, including current national strategic policies and the transition to net carbon zero. He noted that implications of the no-go were based on information from the Socio-Economic Assessment and that he only provided a summary in the presentation. He also noted that it was commonly agreed that the IRP 2019 needed to be revised as it also included new coal generation (which has the greatest GHG emission), but acknowledged LM's point on the 3 000 MW included in the IRP 2019.</i> 202. Given the above, the environmental impact assessment process was procedurally unfair. 203. Furthermore, the Librarian of the Gansbaai Library, Ms Edna van der Linde, confirmed that the Library did not receive a copy of the ESIA for this project. A copy of this confirmatory email is		
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attached marked Annex B5. The Appellants accordingly question whether all other libraries did in fact have copies of the reports available to view, as alleged in the ESIA.		
<u>Eleventh Ground of Appeal:</u> <i>Failure to make the Oil Spill Contingency Plan and the Blowout Contingency Plan available for public comment is procedurally unfair</i> 204. In its Scoping Report comments, the Green Connection submitted that the OSCP and the BOCP should be made available for comment during the EIA process. However, these documents have to date been mired in secrecy, with only an outline of a framework OSCP having been included as “additional information”. The EAP has argued that there is no specific requirement to include the BOSP and OSCP in the EIA document set, stating that these will be site-specific and are internal documents. 205. The BOCP sets out the detailed response plan and intervention strategy in the event of the worst-case scenario. The Appellants submit that these plans are crucial to the environmental impact assessment process, and should have formed part of the EIA documents commented on by I&APs. 206. These documents should deal with specific equipment that will be available (including any offshore drilling equipment should a relief well need to be drilled), as well as the logistics informing actual response time etc. (such as – but not limited to - transport or shipping requirements for both the Saldanha Bay and Aberdeen capping stack mobilisation scenarios, implications of attempting to install a capping stack at a deep sea location in potentially adverse and challenging weather conditions, implications of having to drill a relief well should capping fail, and associated time requirements for all scenarios). 207. The response is integrally connected to the mitigation of this impact. For example, SANCCOB note in the CRR that it has not been afforded an opportunity to view the OSCP and “cannot determine whether it sufficiently addresses wildlife impacts”. SANCCOB are mandated to respond to emergencies, such as oil spills, affecting birds, and are consequently directly impacted by the contents of the plan, as well being experts in these responses.		

208. Notably, condition 5.5.2 of the EA requires TEEPSA to submit a number of plans, including the BOCP and the OSCP, presumably to the competent authority. There is no requirement for these plans to be made available to I&APs, and no provision for any commenting process. 209. The failure to make these plans available for comment by I&APs during the EIA process is procedurally unfair, and consequently, the decision to authorise the exploration drilling is unlawful.		
<u>Twelfth Ground of Appeal: Failure to notify Namibian government or Convention bodies of transboundary impacts</u> 210. The ESIA recognises potential impacts on Namibian territorial waters: 210.1. It acknowledges that the indirect area of influence includes “The coastal and nearshore region located landward of Block 5/6/7 and between southern Namibia on the West Coast and Gqeberha on the South-East Coast, sections of which could be affected depending on the metocean conditions at the time of drilling activities (season dependant).”¹⁴⁶ 210.2. The Orange Seamount and Canyon Complex EBSA is identified as falling within the indirect area of influence, which EBSA spans the border between South Africa and Namibia.¹⁴⁷ 210.3. There is a possibility of shoreline oiling extending into Namibia;¹⁴⁸ and “Modelling results show that the coast between southern Namibia on the West Coast and Gqeberha the South-East Coast may be at risk depending on the metocean conditions at the time of drilling (season dependant).”¹⁴⁹ 210.4. Furthermore, any impacts on fisheries will clearly have a transboundary impact.		

¹⁴⁶ Page 131 of the ESIA.

¹⁴⁷ Page 214 of the ESIA.

¹⁴⁸ Page 452 and 468 of the ESIA.

¹⁴⁹ Page 465 of the ESIA.

211. However, the ESIA does not contained a detailed assessment of any impacts on Namibian waters, or its coast and coastal communities. 212. The Benguela Current Convention is a formal treaty that sets out the countries' intention to promote a coordinated regional approach to the long-term conservation, protection, rehabilitation, enhancement and sustainable use of the Benguela Current Large Marine Ecosystem in order to provide economic, environmental and social benefits.¹⁵⁰ The Convention for Cooperation in the Protection, Management and Development of the Marine and Coastal Environment of the Atlantic Coast of the West, Central and Southern Africa Region ("Abidjan Convention"), covers a marine area from Mauritania to South Africa, a coastline of just over 14,000 km. It provides an overarching legal framework for all marine-related programmes in West, Central and Southern Africa.¹⁵¹ In terms of Article 4, States have an obligation to avoid transferring, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another. 213. South Africa is a party to both Conventions and is bound by the obligations of the Conventions. Although Namibia has not ratified the Abidjan Convention, the Namibian territorial waters form part of the Convention Area. 214. The ESIA briefly mentions the "Benguela Current Commission" but does not consider the obligations that arise from the Convention itself. It does not mention the Abidjan Convention.		
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¹⁵⁰ See <https://www.benguelacc.org/>.

¹⁵¹ See <https://abidjanconvention.org>.

215. Both treaties require that where there is a potential adverse impact¹⁵² on the marine and coastal environment, an environmental impact assessment must be undertaken.¹⁵³ In South Africa, that process is conducted in terms of NEMA. 216. Under international law, States have an obligation to provide prior and timely notification to, and consult with, potentially affected States, where activities are likely to have a significant adverse transboundary environmental effect. These States are also interested and affected parties in terms of NEMA. Consequently, in this application, the state of Namibia should have been consulted and the Abidjan Convention secretariat, together with the Benguela Current Commission or other relevant treaty bodies. 217. There is no evidence that any of these parties were consulted, or even notified of the application or the decision to authorise the activity, and this failure to do so constitutes a fatal flaw in the consultation process and violates South Africa's international obligations.		
Thirteenth Ground of Appeal: <i>Failure to assess transboundary impacts</i> 218. Despite the proximity of the seismic survey area to the territorial waters of Namibia, the ESIA fails to identify and assess impacts that are transboundary in nature. This is especially concerning, given the significance associated with the EBSAs spanning the border between South Africa and Namibia;¹⁵⁴ that the Benguela Current flows in a generally northerly direction, and that “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”.¹⁵⁵ Furthermore, the		

¹⁵² Article 1 of the Benguela Current Convention defines “Adverse Impact” as (a) includes any actual or potential detrimental effect on the Benguela Current Large Marine Ecosystem that results directly or indirectly from human conduct originating wholly or partly within the area under jurisdiction of a Party or from a ship or aircraft under its jurisdiction or control; and (b) includes adverse impact that extends beyond the jurisdiction of a Party in which the physical origin of the adverse impact is situated; and (c) includes any actual or potential detrimental effect on legitimate uses of the Benguela Current Large Marine Ecosystem, on the health of the people of the Parties or on their ability to provide for their health, safety, cultural and economic well-being, which occurs or may occur as a consequence of a detrimental effect referred to in (a); but (d) does not include any actual or potential detrimental effect that is negligible or which has been assessed and to be determined acceptable under this Convention;

¹⁵³ Article 13 of the Abidjan Convention and Article 4(2)(b) of the Abidjan Convention.

¹⁵⁴ Page 214 of the ESIA.

¹⁵⁵ Page 143 of the ESIA.

Benguela Upwelling System is one of the transboundary EBSAs, which “is globally unique as the only cold-water upwelling system to be bounded in the north and south by warm-water current systems”.¹⁵⁶ 219. It is submitted that given the State’s international law obligations, some of which are discussed above, the EIA process should have included an assessment of transboundary impacts. Failure to do so renders the assessment deficient.		
<u>Fourteenth Ground of Appeal: PASA acted outside of its mandate</u> 220. On 18 June 2004, the then Minister of Minerals and Energy designated¹⁵⁷ PASA to perform the functions set out in Chapter 6 of the Minerals & Petroleum Resources Development Act (MPRDA).¹⁵⁸ In doing so, the Minister exercised powers conferred in terms of section 70 of the MPRDA, and not NEMA. Section 71 of the MPRDA sets out the functions of PASA as the designated agency, which include (among other things) that the designated agency must: “review and make recommendations to the Minister with regard to the acceptance of environmental reports and the conditions of the environmental authorisations and amendments thereto.”¹⁵⁹ 221. The MPRDA as the enabling statute mandates PASA to perform a very limited role relating to environmental matters, namely, to review and make recommendations to the DMRE Minister with regard to: 221.1. the acceptance of environmental reports; and 221.2. the conditions of environmental authorisations and amendments thereto.		

¹⁵⁶ Page 84 of the Marine Faunal Assessment.

¹⁵⁷ GN733 of 18 June 2004: *Designation of the Petroleum Agency South Africa (Proprietary) Limited for the purposes of the Petroleum Resources Development act, 2002 (Act No. 28 of 2002)*. Section 70 of the MPRDA provides that the Minister Mineral Resources may designate an organ of state or a wholly owned and controlled agency or company belonging to the State to perform the functions referred to in Chapter 6 of the MPRDA (Petroleum Exploration and Production).

¹⁵⁸ Act 28 of 2002 (as amended).

¹⁵⁹ Section 71(i).

222. In terms of the NEMA EIA Regulations Listing Notice 2 of 2014, the Minister responsible for Mineral Resources is identified as the competent authority where the listed activity is or is directly related to (among other things) exploration of a petroleum resource. Section 42B of NEMA provides that the Minister responsible for Mineral Resources may in writing delegate a function entrusted to him/her in terms of the Act to the Director-General (DG) of the Department of Minerals and Energy, or any officer in the department of Minerals and Energy. Section s42B of NEMA does not empower the Minister responsible for Mineral Resources to delegate a function to state-owned agencies or companies, such as PASA. Section 42B of NEMA also does not include a power to subdelegate.¹⁶⁰ 223. Thus while PASA is empowered to receive applications (made under the MPRDA) for reconnaissance permits, technical co-operation permits, exploration rights and production rights in the prescribed manner,¹⁶¹ and to evaluate such applications and make recommendations to the Minister,¹⁶² it is not empowered in NEMA environmental impact assessment (EIA) processes to, hold pre-application meetings with the applicant, agree the ESIA process, or to make recommendations on whether or not to grant environmental authorisation. 224. PASA's mandatory statutory functions under the MPRDA include to promote onshore and offshore exploration for and production of petroleum, as well as to review and make recommendations to the Minister with regard to the acceptance of environmental reports and the conditions of the environmental authorisations and amendments thereto. It therefore cannot be viewed as an objective role-player. 225. PASA has, however, performed multiple functions outside of its mandate, in at least the following respects:		
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¹⁶⁰ Unlike s42(2)(d) of NEMA, which specifically provides that the Minister responsible for environmental matters may delegate a power or duty vested in him/her to the Director General, an MEC, the management authority of a protected area, or any organ of state (by agreement with that organ of state). In terms of s42(2)(a) this delegation must be in writing and may include the power to subdelegate.

¹⁶¹ Section 71(b).

¹⁶² Section 71(c).

225.1. a pre-application meeting held with PASA on 19 May 2021 ‘to inform them of TEEPSA’s proposed project and application for Environmental Authorisation, as well as to obtain agreement on the ESIA process’.¹⁶³ A follow-up meeting was held with PASA on 21 February 2022; 225.2. compiling an Application Form for Environmental Authorisation and DFFE National Screening Tool and submitting it to PASA; and 225.3. accepting the final ESIA for consideration and review, and thereafter making a recommendation to the DMRE on whether or not to grant the environmental authorisation. 226. While PASA is empowered under a separate statutory scheme (namely the MPRDA) to review and make recommendations with regard to the acceptance of environmental reports and the conditions of environmental authorisations, it is not empowered under the MPRDA to perform the functions of the competent authority in accepting the final ESIA Report or to make recommendations to the DMRE on whether or not to grant an environmental authorisation. 227. PASA has performed certain functions in relation to the EIA process that fall outside the scope of section 71 of the MPRDA, and should have been performed by the DMRE Minister or a person to whom the Energy Minister had validly delegated the power in accordance with section 42B of NEMA. It appears that the DMRE and PASA did not appreciate that the role of PASA had changed. For example, PASA performed the role of the competent authority in accepting and approving the Scoping Report, in accepting the application for environmental authorisation. 228. Consequently, the decision is <i>ultra vires</i> and should be set aside.		
<u>CONCLUSION</u> 229. The Appellants have sent out in this appeal a number of grounds on which the decision to grant environmental authorisation to TEEPSA was fatally flawed. The decision to authorise the project is consequently unlawful, in that it failed to comply with, <i>inter alia</i>, the Constitution and NEMA.		

¹⁶³ DSR, page v.

230. For all the reasons set out in this appeal, Natural Justice and the Green Connection submit that the appeal should succeed and that the environmental authorisation granted to TEEPSA by the Director General should be refused.		
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ARR comments by Case Officer

Name & Surname:

Date:

Signature:

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Approved by Supervisor

Name & Surname:

Date:

Signature:

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