

Summary for Policymakers						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Note to authors from Review Editors	Comment	Responses to Peer Review Comments by authors
Reuben Heydenrych	11	24			Broken link at the beginning of the line.	Done
Reuben Heydenrych	13		Box SPM3		Consider a recommendation for CBA and ESA mapping to be updated for this region. There is a risk of currently defined CBAs and ESAs being used for further identificaton of sensitive areas, as these categories are the default first port of call for managing biodiversity impact e.g. in the DFFE screening tool. The risk lies in the current CBA and ESA maps being based on outdated data. As a start, using current SANBI biodiversity data (available on request) would vastly improve the identification of sensitive areas. Citizen science datasets such as Inaturalist (with location data being shared) would probably also improve mapping of sensitive areas. Other experts should be encouraged to contribute data not available in the SANBI dataset.	The section referenced in the SPM (Box SPM3) was intended to summarise key recommendations emerging from the completed Work Package 1 (WP1) assessment and was included in the WP2 SPM for continuity.The WP2 Ecology Assessment recommends continued investment in biodiversity spatial planning and the refinement of biodiversity planning informants to support regional decision-making. Accordingly, the WP2 SPM has been updated to include a recommendation for the development of a regional biodiversity spatial framework that integrates biodiversity planning products, protected area expansion priorities and specialist sensitivity assessments into a coherent spatial planning tool. The framework would support protected area expansion, biodiversity offset implementation, biodiversity economy development, and the spatial alignment of GH₂-related development with biodiversity conservation objectives. The recommendation further recognises the need for biodiversity planning products and associated spatial datasets to be periodically refined as new ecological information becomes available
Reuben Heydenrych	50	32			As above.	
Reuben Heydenrych	15	5	Figure SPM 2		Change "forms" to "from".	Changed to "form"
Reuben Heydenrych	18		Box SPM8		Change "The Namakwa Region <i>comprises</i> 15 KBAs (see Figure 3 of Chapter 2a – Avifauna)." to "The Namakwa Region <i>includes</i> 15 KBAs (see Figure 3 of Chapter 2a – Avifauna)."	Wording has been amended
Reuben Heydenrych	22	1	Figure SPM 2		Change the colour codes in the map to more traditional yellow to red shades. Blue for "very high" vulnerability does not make sense in the context of the rest of the document, where red implies high environmental sensitivity.	Sourced from Aquatic specialist who could not effect this change. This should be fine for this map as it is not the sensitivity map.
Reuben Heydenrych	56	11 to 15			I strongly support the following recommendation: " <i>Offset considerations must be embedded in regional planning and governance frameworks upfront, rather than deferred to downstream project-level assessments.</i> " Rather than leaving the solution open-ended (e.g. an EMF, SDF, master plan, etc), I think it needs to be embedding in a mini-REDZ or EMF. It needs to be specified that this tool must be developed and maintained at national government level. Provincial environmental authorities simply do not have capacity to develop or apply it.	Accepted in part. The recommendation has been strengthened by specifying the preparation of a regional Integrated GH ₂ Mitigation and Biodiversity Implementation Plan that coordinates biodiversity offsets, ecosystem restoration and related conservation actions at a regional scale. This provides a dedicated implementation mechanism while allowing flexibility to align with existing statutory planning instruments where appropriate. Leadership and implementation responsibilities are clarified within the plan.

Chapter 2: Ecology, biodiversity and conservation planning						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Babalwa Mqokeli	1	16			Please ensure author list is finalised in second order draft (i.e., post peer review)	updated
Babalwa Mqokeli	5-7				Just a reminnder to the Author, to include the fauna findings and also include it in the Executive Summary and aggregated sensitivity mapping. This map and Executive Summary will be crucial in this chapter in informing the reader and policy-makers of key biodiversity aspects and sensitivities.	noted
Babalwa Mqokeli	5	44			Sentence " <i>extraordinary biodiversity but does place limit the spatial flexibility for development</i> " seems to be missing a word/s	rephrased
Babalwa Mqokeli	6	10-17			The statement: " <i>The consequence and likelihood of impacts with and without mitigation are considered similar, however, the risk assessment differs based on the contribution of sensitivity categories to achieving our conservation goals</i> " is this across all three scenarios? If yes, specify, and also provide a narrative explanation of the findings of the risk assessment table across scenarios in the Executive Summary	Text elaborated
Babalwa Mqokeli	7	5-7			Check this sentence for grammatical error: The Namakwa Region’s status as a global biodiversity hotspot and requires careful, informed spatial planning to balance development (especially GH2 and renewables) with conservation.	rephrased
Babalwa Mqokeli	8	23			Consider rephrasing "protected area focus areas " to "a set of priority areas for protection". The former could be ambiguous with the formal, legal meaning under NEMPAA.	rephrased
Babalwa Mqokeli	8	28-29			Include dates of CBA maps used, and clearly specify which WP1 spatial information is used (i.e., vegetation and flora, fauna, bats etc) and reference these accordingly)	Text elaborated
Babalwa Mqokeli	Overall comment				Add a statement in the Executive Summary and/or Introduction of the report that this Chapter covers the terrestrial ecology including flora, fauna, avifauna and bats themes assessed and reported on in separate individual reports, and integrated into this Ecology, Biodiversity & Conservation Planning Chapter (i.e., this document). This will provide clarity on the reference to documents/sources from WP1 or WP2. These documens/sources must be clearly specified when statede.g., "region avifaunal assessment" mentioned in the report.	Text elaborated
Babalwa Mqokeli	Overall comment				Report and Executive Summary does not include practical recommendations to enhance positive impacts and reduce negative impacts, to inform regional planning, policy and future EIA studies. This must be drawn from all themes constituting this integrated report (i.e., vegetation/flora, fauna, birds and bats)	Text elaborated
Babalwa Mqokeli	9	3-5			It might be a good idea to include a map of the study area after this passage and cross referencing to the figure.	figure added
Babalwa Mqokeli	General comment				Please include visual representation (map/s) of the key biodiversity features described in Section 3 in relation to the WP2 study area.The report would be strengthened by developing a consolidated spatial classification of the receiving environment that clearly delineates areas of ecological/biological/environmental significance, organised according to their respective levels of vulnerability or significance (where applicable) and outlined in the report accordingly.	updated

Babalwa Mqokeli	9	19-22			The statement regarding the winter-summer rainfall divide as the most significant biogeographic boundary globally is compelling, particularly in the context of southern Africa where this divide clearly influences vegetation patterns and biodiversity. However can we make such a "global claim" considering there are other boundaries also recognised for their global ecological significance? Perhaps we can frame this importance within a regional or southern Africa context?	rephrased
Babalwa Mqokeli	General comment				Check for spelling and grammar throughout	done
Babalwa Mqokeli	Overall comment				Sections 3.2 and 3.2.1 provide a detailed overview of current pressures, emerging threats, and observed vegetation productivity trends, as well as projections of climate change impacts. However, the narrative remains largely descriptive of present conditions and does not yet synthesise this information into a clear, forward looking ecological baseline for 2050 under a “no GH₂ development” (scenario 0) future. To strengthen this section, please integrate the key drivers outlined (e.g., climate change, overgrazing, land degradation, mining, renewable energy expansion, poaching) into a cohesive, spatially explicit description of the likely 2050 ecological condition of the Namakwa Region. This should articulate: 1. which ecosystems or areas are most likely to degrade or desertify by 2050; 2. which vegetation types may remain relatively resilient; 3. expected changes in habitat extent, ecological functioning, and species persistence; and 4. what the region’s overall biodiversity landscape is likely to look like if current pressures continue. This synthesis will provide the essential “receiving environment” baseline needed for assessing the cumulative impacts of GH₂-related development.	Text elaborated
Babalwa Mqokeli	Overall comment				The consolidation or integration of the other WP1 and particularly WP2 themes (avifauna, fauna, bats) does not come through in this report (with the exception of the sensitivity mapping). As per the scope of work for this Chapter, the study needed to incorporate findings from Contributing Authors on terrestrial ecology (WP1), including fauna, bats, avifauna and biodiversity offset framework (WP1 and WP2).	Summary of findings from other studies included
Babalwa Mqokeli	17		Table 3		As this should be an integrated ecology/biodiversity report, there's very little in this Table and/or section 3.2 that speaks directly to avifauna, fauna or bats. There’s no discussion of how broader ecological changes will affect terrestrial fauna, avifauna under the "scenario 0" conditions. How are these broader ecological changes expected to affect fauna, avifauna and bats by 2050?	
Babalwa Mqokeli	Overall comment		All Figures		All Figure headings should be below that specific figure/map	updated
Babalwa Mqokeli	35	9-10			Check for missing punctuation in the statement "Thus,.... that aligned across agencies and is....".	rephrased
Babalwa Mqokeli	35	4-14			Include references or sources (where applicable) to support this paragraph	updated
Babalwa Mqokeli	36		Figure 10		Include source and date in figure title	updated
Babalwa Mqokeli	38	12-15			What is the source and basis of this protected area expansion plans for the Namakwa Region covering 72%. Based on comment from Mark Botha re: Figure 13, it is uderstood this is the Author's map from a subset of regional data chosen by the author, and not the official current NPAES. This needs to be clearly specified that this is determined and/or recommended outcomes from the study.	This is a compilation of data from various sources (SANParks, NC DENC and NGOs) All sources listed. Anyone working of PA development their plans or focus areas have been included here.

Babalwa Mqokeli	38		Figure 13		Figure headings should be below that specific figure/map. What layers were used to make Figure 13?	description in text updated
Babalwa Mqokeli	41	2			Write out "CDF" at first mention	noted
Babalwa Mqokeli	40-41		Section 4.1.1		What is the purpose of including the Namakwa District Municipality Biodiversity Sector Plan (2009)? Should the analysis not be considering the most up-to-date data (in this case, the 2024 NC Biodiversity Spatial Plan), as I understand according to the SANBI metadata publication that the 2024 Northern Cape Biodiversity Spatial Plan CBA map is the most up-to-date reference for biodiversity planning in the province. And that it updates, revises, and replaces all older biodiversity plans, including the Namakwa District Biodiversity Sector Plan. I see the next section 4.1.2 provides the reasoning to my query. And so my query then is, Yes, the 2009 plan provides finer-scale detail, but is there not a risk in relying on it? Given the level of ecological degradation that has occurred in the area and what is currently know about local biodiversity, how confidently can it represent what still exists on the ground today?	The Namakwa District plan was produced at a much finer spatial scale to the provincial plans hence its inclusion. It also explicitly considers ecological corridors as an input and not as an output of the MARXAN analysis. As the purpose of the analysis is to integrate all informants into a single map and not a systmatic conservation plan to produce a CBA map we have latitude to be more inclusive / flexible with what data to include. All inputs are telling us something so lets include them. Documents text updated to explain this better.
Babalwa Mqokeli	43	8-9			How are the 2 Sector Plans used in conjunction? Are they merged?	They are treated as separate inputs / informants and combined in the final analysis.
Babalwa Mqokeli	43	27			Write out LHSKT in full atfirst mention	noted
Babalwa Mqokeli	50	17	Figure 21		We cannot call the sensitivity map developed as part of this SEA a CBA map, as that would mean it went through the full systematic process of developing biodiversity plans. That is, it is a regulated product developed according to the national standards and approved methods (by SANBI orDAERL). Rather call it "An integrated map of biodiversity sensitivity based on existing CBA data and other spatial informants"	Correct. Name updated
Babalwa Mqokeli	50		Figure 21	VERY HIGH HIGH MODERATE LOW	Include the relevant tiered sensitivity colours (as per the briefing note) for consistency, as per the image in column E of this line.	Figures updated
Babalwa Mqokeli	52	2-3			What about the fauna considerations and associated maps thereof?	added
Babalwa Mqokeli	53-54		Figure 23 & 24		Why not indicate the Combined sensitivity category (Low-Medium, Medium-High, High-very High) in the legend for these Figures? For ease	Figures updated
Babalwa Mqokeli	Overall comment				Please check Figure 8 of the Briefing Note in terms of determining the Risk.Ultimately the Risk and Opportunity is qualitatively measured by multiplying the likelihood of an impact (negative or positive) by the severity of the consequence or benefit. This does not seem accurate in your determination. For example A consequence of Moderate and Likelihood of More Likely should be resulting in Risk of High for your first row in Table 12. Furthermore, please include the associated tiered Risk colours in the Risk Assessment Tables.	noted
Babalwa Mqokeli	Overall comment				For the risk assessments. If a risk in a given receiving environment (e.g., a VH-sensitivity area) is rated VH before mitigation/management, and the recommended best-practice measure is to avoid any development in those identified zones, then the post-mitigation risk in that receiving environment cannot remain H/VH, as the assumption is that no development is permitted there. The only exception would be if those zones are so intrinsically sensitive that, even with no GH₂ development (Scenario 0), ongoing current trends still pose a substantially high risk - though this seems unlikely. This nuance isn't fully captured in your report.	noted

Nick Helme	5	17		add quartz patches as key plant hotspots, as not everyone understands that quartz is a type of gravel		Text elaborated
Nick Helme	5	21		add diamond and zinc mining as threats		Text elaborated
Nick Helme	5	30		give brief outline of criterion D1		Text elaborated
Nick Helme	5	36		explain 30x30 targets		Text elaborated and reference added
Nick Helme	7	7		modify; "concentrating development in primarily these"lower sensitivity landscapes would...		rephrased
Nick Helme	10		2	Sandveld should include Fynbos Biome (Namaqualand Sand Fynbos)		Text elaborated
Nick Helme	11	13		add a note about Blomveld, which supports many Bushmanland elements within the Klipkoppe		Text elaborated
Nick Helme	11	31		endemic species of plants and/or animals?		Text elaborated
Nick Helme	15	32		additional key threats to add: 1) ongoing alluvial dimaond mining along Orange R; 2) proposed Boegoebaai railway from Aggeneys		Text elaborated
Nick Helme	17		3	should add sand mobilisation as a result of soil disturbance due to wind and solar installations, leading to smothering of sensitive habitats downwind		Text elaborated
Nick Helme	20	7		mediating, or driving?		rephrased
Nick Helme	42		16	SANBI data is limited and quite out of date now; this map should also incorporate all the many recent iNaturalist observations for SoCC in the study area; but given that many of these points are obscured (for poaching reasons) the data wil have to be obtained from SANBI Redlist program, which can view the actual points; as per sect 4.1.4 this data may have been obtained and used, but it is not clear up to what date, if so		Correct but iNaturalist data not included here. Point to note for the EIA phase of GH2
Nick Helme	47; 48	6 ; 13		Why no mammal (other than bat), reptile, frog, butterfly or scorpion data included? All of these (except perhaps mammals) have many SoCC in the area - esp scorpions, frogs and reptile, many being very local, and good spatial data from inaturalist or other sources is available (Butterfly Atlas - Mecenero et al, Frog atlas, Reptile atlas, Prendini for scorpions. Strongly recommend that these data be included.		Noted. Point to note for the EIA phase of GH2
Nick Helme	54		24	It is not made clear in this map that dark green areas are formal conservation areas; the distinction from low sensitivity areas (lighter green) is not clear - pls make it clear		map updated
Nick Helme	55	12		why are ecological process impacts not important for sensitivity categories 3 & 4? They most certainly are - such as destabilisation of sand smothering hyper sensitive gravel patches. Typically pattern impacts would be seen at the construction phase, and ecological process impacts often only becoming evident at the operational phase - it may be better to group them as such - more like as in a normal IA		noted
Nick Helme	56	1		Avoidance of Irreplaceable habitats (that support irreplaceable species occurrences; such as many very localised SoCC, and the Alexanderbaai lichen fields) needs to be better emphasised; there is simply no way to mitigate loss of these areas; biodiversity offsets can only help reduce residual negative imapcts for habitat and species that occur at more than one locality, and where at least one is outside any developmet footprint		Technically all irreplaceable areas are classified as CBA1 in the CBA map and by their definition are no go areas for development. This has relevance to the spatial scale and completeness of the provincial CBA map to be able to adequately capture these areas
Nick Helme	58		12	colour coding and some written key examples would make this table easier to interpret		updated
Nick Helme	59	1		presumably still to come? Presumably would include management and mitigation of construction and opeational phase impacts of all potential development scenarios -thus hard surfaces, linear pipelines and powerlines, PV, WEFs, quarries etc ?		updated
Nick Helme	59	38		would be a good idea to make spatially explicit the lower sensitivity areas that COULD be considered for development footprints, rather than having to infer and eyeball it from busy, large scale maps such as Figure 24		map updated
Nick Helme	59	41		and consider spatial requirements for reptiles, frogs, scorpions, etc....		Definitely important but these are not well artuiculated by specialists. This analysis can only include that which has be mapped and generally spatial requirements for these groups are very poorly considered/mapped
Nick Helme	59	6		and what about mitigating climate change and global warming impacts, such as not building a new port and railway (involving huge resource use and Co2 production) when a perfectly good railway and port already exists in the form of the Sishen - Saldanha line and Saldanha port, a line which was supposed to be doubled decades ago, and never was due to Transnet incapacity and state capture. And why does nobody question PV and wind facilities in one of the most structure hostile environments in the country - highest levels of fog cover in SA will limit PV potential to less than 60% of more inland areas, high levels of windblown dust and sand (which will dramatically accelerate with any soil disturbance) will limit panel efficiency and cause severe corrosion and sandblasting effects, etc.		Point for overall SEA summary/findings

Nick Helme				where should a discussion about biodiversity offsets go? In many cases it is important to note that the areas of the vegetation units available for offsetting large scale impacts are actually very small, esp when cosnidering that offset ratios may have to be as high as 30:1 for EN systems, which means that in order to find 30x the footprint area in a particular veg type the actual footprint may - up front - need to be limited to 1/30 of the overall veg type area.		See offsets chapter for detailed discussion on offsets
Conrad Geldenhuys	whole document			Various language and syntax erros occur in the document, rather than list them all individually they will be referred to here collectively by page (line) and item with suggested change: 5(25) possible > possibly; 5(44) but does place limit > which limits; 7(5) delete AND; 8(3) region > regional; 8(5) informants > information (change throughout document); 9(3) > which includes; 10(15) co-inside > coincide; 11(5) now where > nowhere; 11(12, 14) indicate units a.s.l. for the 300m and 800m figures; 11(21) what are all > that have; 12(31) delete IN; 12(39) AND is; 12(40) because WITH; 12(41) Kao > Koa; 15(8) delete ARE OR; 15(21) consider > considered; 19(29) sever > severe; 31(20) replace only a with that only; 32(13) extend > extent; 35(5) area > are; 35(14) delete in the; 38(8) out > our; 40(11) earmark > earmarked; 44(4) use > used; 44(8) Namaqwa > Namaqua; 45(6) delete the first OF; 45(9) if > of; 49(4) IN Table 15; 59(28) delete AND; 60(16) delete THE EXISTING		text corrected
Conrad Geldenhuys	5	25		Climate change impact severity is exacerbated by the threats mentioned in the previous praragraph (e.g. grazing) leading to multiplier effects		Text elaborated
Conrad Geldenhuys	5	40		Replace sentence with: "Four sensitivity categories are identified: very high...etc.", otherwise the whole sentence does not read logically		rephrased
Conrad Geldenhuys	7		Un-numbered Figure	The map of summed protected area sensitivites give the impression that - if one look at the legend colour ramp - that PA's are low sensitivity. The colour choice between low sensitivity and PA's is very similar. Suggest a more definitive contrast to avoid ambiguity.		map legend updated
Conrad Geldenhuys	10	11-13		In the context of the Sandveld discussion specifically there is also a temperature and moisture gradient, escpecially near the coast which has relevance for the assessment.		Text elaborated
Conrad Geldenhuys	10	26		The terminology "vener" is often used which is not clear to understand. Does it refer to biological crusts? Stable topsoil? Other?		Text elaborated
Conrad Geldenhuys	10	26-28		Revise sentence. Suggestion: Where this blanket is removed IT immediately causes sand mobilisation WITH the WIND-BLOWN SAND smothering vegetation in its path		rephrased
Conrad Geldenhuys	10	29-31		It may be worth reflecting that at least some natural sand mobility does occur in this landscape, but that it is degradation induced excessive mobilisation that poses a threat to habitats. There are of course some pockets of extensive sparsely vegetated natural dune systems along the coast.		Text elaborated
Conrad Geldenhuys	11	7		In comparison with the Strandveld, the Hardeveld is a complex mosaic of habitats (less uniform) delineated by distinctive soil characteristics and micro-climate habitats (see e.g. Schmiedel's work)		Text elaborated
Conrad Geldenhuys	11	25-31		The Flora of the Kamiesberg also exhibits different characteristics when one compares the hotter, drier eastern parts (transitioning into Bushmanland) with the cooler, wetter western side. There is a distict rainshadow in the east from the highlighting Kamiesberg mountains that curtail winter frontal systems		Text elaborated
Conrad Geldenhuys	13	14		The north-south trending mountains also cast a rainshadow to the east which results in distinct habitats and flora		Text elaborated
Conrad Geldenhuys	17		Table 3	Current mining: Delete OF in Notes; Renewable energy-solar: THE magnitude in Notes; Renewable energy-wind: ecosystem level IMPACTS/CONSEQUENCES in Notes; Poaching: doe > do in Bidiversity Impact; The construcution phases of wind also have significant direct impacts with turbine footprints and road networks spanning extensive areas.		rephrased
Conrad Geldenhuys	20	13		An example also of specific circumstances of vulnerability is the case of highlands vs lowlands. A number of studies have shown that plains vegetaion is more susceptible to grazing (and climate) impact (e.g. Van Rooyen et al. 2015 and 2018, Geldenhuys et al. 2023). It is perhaps telling that the large parts of the Kamiesberg commonage area also show greening in Figure 6, which probably relates to the highlighting habitats that are less grazed (or change from low base levels).		This is a good observation and added to the text. The greening on slopes in the kamiesberg is attributed to growth/expansion of trees

Conrad Geldenhuys	31	45		It is perhaps worthwhile to provide background reference/discussion earlier in the report to reflect on the concept "degraded", and the interpretation that is used in this assessment when discussing degradation. The concept can for example refer to sub-optimal productivity in an agricultural sense, loss of ecological functionality in an ecological sense, transitionining between reversible (equilibrium) or non-reversible (non-equilibrium) "states" of cummunity diversity and community assemblages.		I have spcifically avoided trying to geet too deep into the degradation debate as degradation is an umbrella term that includes a complex basket of interacting processes hence for the purposes here degradation narrowly defined as reduction in vegetation productivity (see similar Juergens comment below)
Conrad Geldenhuys	32	2		Figure 9 instead of Figure 8?		updated
Conrad Geldenhuys	36	4	Fig 10	There are a number of formally declared protected areas that have not been included in the indicated map (and calculations?) of the protected area estate. They include: The farm Wortel (Gamsberg NR expansion), the property Kaip (Goegap NR exapansion), Sandhoog NR, Kamnap PE, Brakputs NR, Rooiklippes NR, Strandfontein PE. There may be others as well. As far as is known there is no Naries Private Nature Reserve (Ordinance). which one assumes is a designation under the old 1974 Nature Conservtion Ordinance. Recommend that the DAERL Conservation Planner, Mr. Enrico Oosthuysen, be consulted on the latest database on protected areas. There are also SANParks conservation initiatives underway to include properties of the Kamiesberg (east of the N7) into namaqua NP (progress unknown)		Noted and such an important point. Unfortunately we are using the data provided. Updating the PA layer to be an accurate reflection of the status quo is required but is beyond the scope of this SEA.
Conrad Geldenhuys	39		Fig 13	Please indicate the informants in the figure description		Text elaborated
Conrad Geldenhuys	40	20		The 2009 Namakwa District Biodiversity Sector Plan has been superceded by the 2024 Biodiversity Spatial Plan. In order to (1) reflect the most current information, (2) consider the latest conservation planning best practice guidelines, (3) use finer scale mapping and (4) have consistency in bioregional analysis, it is recommended that the 2024 Plan be used as the primary reference. This product will eventually also feed into the latest Provincial Biodiversity Spatial Development Framework which will serve as the primary spatial development framework for the province		In this type of analysis there is no requirement to only this product. Applying the precautionary principle all available datasets are used. Also, the NDM plan contains data not used in the provincial plan and is at a spatial scale much finer than the prov plan, therefore it compliments the prov plan. This is explained in the revised document text.
Conrad Geldenhuys	42		Fig 15	The final version of the 2024 provincial Critical Biodiversity Areas map (V.3) has been published on the SANBI BGIS website and should be referenced.		Reference added
Conrad Geldenhuys	43	1		The statement that the new 2024 CBA map is at coarse resolution is incorrect. The 2024 version planning units were at the 200ha scale in comparison with the 1600ha in 2016 version. Although not at for example the resolution of the Western Cape it is should be gauged in the context of the size of the Northern Cape Province.		The 2024 CBA is still very coarse scale relative to the minimum scale of land use planning applications and decisions (1-3ha). A 1ha planning unit is fine scale. A 200hs PU is coarse scale.
Conrad Geldenhuys	43	11		It is my understaning from the NC Conservation Planner that SK IBAs (no replaced by KBAs) have been incorporated into the 2024 Biodiversity Spatial Plan, although whether the P v Wyk data has is not known.		Yes there is some replication of input data. This is not viewed as a problem it just help readers understand/see all the different inputs considered in the analysis. As the combining of inputs is a maximum of inputs rather than a sum of inputs means that this double accounting is not an issue.
Conrad Geldenhuys	44		Fig 17	Although the extensive occurrence of KBAs over the project area has limited use for the conservation planning exercise it is maybe worthwhile to add a short description of each, as an Appendix or such. This will help to describe the global significance of the area.		Noted. No further text addedd
Conrad Geldenhuys	46		Fig 19	In the figure description indicate what the score range of 1 - 4 means, without having to consult the technical assessment. Is 1 High risk and 4 Low risk or vice versa?		Text elaborated
Conrad Geldenhuys	46	5		Bat assessment requires further discussion		Text elaborated
Conrad Geldenhuys	48	17		The 2024 Marxan driven systematic conservation planning goes some way to addressing ecosystem and conservation network connectivity and aims to provide optimal scenarios for achieving conservation targets while pursuing practical conservation planning spatial solutions		Yes but it does not include a detailed ecological corridor analysis. We address this issue here and it should be addressed in future iterations of the provincial CBA map.
Conrad Geldenhuys	64		Table 15	There is effectively a duplication of the SK Expert areas. These have already been considered in the NDM Biodiversity Sector Plan (Nr.1), but is then used again as a separate informant (Nr. 3). As stated before, the 2024 Biodiversity Spatial Plan is the primary reference for conservation plannig and present and should be the primary reference.		See point above on duplication of input data
Conrad Geldenhuys	49	1		The 2024 NC Biodiversity Spatial Plan incorporates industry standard conservation planning approaches and guidelines and therefore uses a systematic approach to identify biodiversity sensitivities, and also identifies optimal spatial solutions to achieve biodiversity targets. It should serve as the primary reference for identifying sensitivites on a regional level, with ancillary spatial informants overlain if the authors wishes to identify additional aspects that should be considered. There are material differences in the final (V.3) of the 2024 CBA map and the version presented in the assessment		Correct but this SEA is not a systematic conservation plan merely and intgration of all available data to provide a perspective on important areas for biodiversity

Conrad Geldenhuys	52	10-15		The 2024 CBA map approach does indeed consider some regional connectivity aspects (e.g. ESAs. Mountain ridges, drainage lines, cluster design, etc.), although it could benefit from additional landscape design aspects as mentioned (e.g. PA expansion plannig)		Correct but see point on ecological corridor analysis above
Conrad Geldenhuys	63		Appendix 1	The 2025 (in fact 2024) CBA areas is available online on the SANBI BGIS website; The 2024 CBA map of course replaces the 2016 CBA map, with the latter not being of relevance anymore. Similarly the 2010 NPAES has been replaced by the 2017 NPAES and therefore irrelevant. The DENC Protected Area Development Focus Areas reference is unknown. The Northern Cape PAES 2017 reference is Balfour & Holness, 2017. A 2024 version of the SANBI Threatened Species Program database is available		Noted
Norbert Juergens	General comments			This is a peer review of the assessment labeled: "The Boegoebaai Strategic Environmental Assessment; Ecology, Biodiversity and Conservation Planning: Regional Sensitivity Assessment." This report is of great value, especially as it collates the available information into a consistent map format, accompanied by a wealth of important information. On the other hand there are also obvious weaknesses and gaps which are not in balance with the bearing and importance of the development plans. I apologize in advance that a critical review must focus on the latter. I regard it as the role of a reviewer to identify opportunities for improvement, even though I do not know the exact terms of reference for this assessment and the full motivation and design of the SEA. It may well be that some of the additional goals, proposed in this review, had simply been excluded in the ToR for the consultants. In all such cases the review comments should not be interpreted as criticism on the assessment, but as identification of additional necessary information which will hopefully be covered by the next activities. It will be the role of the Review Editors to judge which of the comments are of relevance, seen from a more holistic perspective. I will happily be available for further discussions of remaining questions.		Noted. The reviewer is sincerely thanked for being forthright and thorough with their comments as these have made a valuable contribution to the document.
Norbert Juergens	General comments			When I agreed to review the "The Boegoebaai Strategic Environmental Assessment; Ecology, Biodiversity and Conservation Planning: Regional Sensitivity Assessment", I was expecting the need for a scientific review, as it is common practice for publications submitted to scientific journals. However, in the given case, there is no major scientific analysis of data, with the exception of the analyses of the change of the EVI vegetation index. The assessment rather collates "existing biodiversity planning informants", including bioregional plans, which include maps of critical biodiversity areas and ecological support areas, key biodiversity areas, sensitive bird areas, sensitive bat areas, expert mapped biodiversity areas or habitat areas, plant species of conservation concern point data, all these plans generated during the past years by various institutions and consultants. The authors present the output of all these plans as a series of maps, which provide a good overview of all the areas which were identified as areas of conservation value by one or several of these plans. This is an important desktop product. However, for this review, it shifts the focus for a review (in the sense of scientific quality control of the assessment itself) to all these bioregional plans etc. which may well be of excellent quality, which, however, are not provided and cannot be reviewed. Citations in the chapter 8 "References" as for example Desmet (2006) or Desmet (2018) are not found by search machines like Google Scholar. Some of the stated data sources cannot be confirmed. For example, Figure 16 is labeled as a map of important areas for plants, identified by 23 experts. However, only one expert (Pieter van Wyk) is named and his input shown in a map. Who are the other experts and what is their input? I (the reviewer) would immediately agree to some of the proposed "important areas", while I would add others which are not shown and question others which are shown. However, I have not been contacted and asked for input or interview, in spite of the fact that I published more papers on the Richtersveld flora and vegetation than anybody else and compiled almost all (39) of the mapping units in the Richtersveld for the SA VegMap (2006). In the light of the importance of the proposed development plans for the future of the conservation of the biodiversity of the region, such an omission of proven expertise should not happen. These question marks regarding the data foundation for plant biodiversity and ecosystems are accompanied by the lack of any information on the biodiversity of insects, amphibia, mammals and other taxa. An additional weakness of the assessment is the poor to missing information regarding the expected impacts, which will be caused by the planned development. The scenarios of low and high GH2 production are expressed in ha for the planned activities. However, the planned infrastructures for transport and for the production of energy and key chemicals will, when successfully established, trigger cascades of follow-up industrial developments, attracting further demographic growth and settlements. Such scenarios could well have been added to a "strategic" assessment of this dimension. The final chapter 7 "Recommended Strategic Management Actions" proposes to (a) go around biodiversity economy, (b) develop the plan for Vision 2040 and (c) protect the sense of place as a value for tourism. This focus on the economy (sensu latu) of biodiversity is fine, however, the concrete consequences are not fully discussed. Will the Richtersveld National Park still maintain its market brand and identity of a remote wilderness, when industrialized landscapes and large settlements next door dominate the coastal plain and the perception in the media? What is also missing is a statement that a development plan of this dimension requires a new and updated assessment of the biodiversity based on targeted field work not only in the known hotspots where all taxonomists went, but equally in the hitherto neglected areas, as a robust spatial information of the species richness, endemic species, and threatened species, in order to address biodiversity itself, including not only plants, birds and bats, but also at least insects, reptiles, amphibia, mammals. What is also missing is a consideration of important ecosystem processes, including aeolian transport of sand and dust and the involved cascading processes, which can destroy habitats. The intended developments, if well planned, may contribute strongly to the restoration of degraded ecosystems. If ignored, the new developments may trigger further aeolian transport, with negative consequences for nature and the new infrastructures, themselves.		noted

Norbert Juergens	General comments			This report is of great value as it compiles the results and maps of numerous, probably all, already produced assessments and plans, regarding ecosystems and biodiversity in the study area. The report also adds own assessments, especially based on the vegetation index EVI. However, the EVI change patterns are not validated with ground truth and the presented EVI changes are - at least in the northern parts of the study area - not matching published ground truth. The report is designed around the assessments of "sensitivity" and "risks". Under "sensitivity", there is no own field-work-based and no updated own data compilation and resulting spatial mapping and assessment of the value of biodiversity in terms of species richness, phylogenetic diversity, endemic, rare, threatened or red-listed species. It remains unclear for the reviewer to which extent all the earlier produced assessments and conservation plans are solidly based on robust biodiversity data. The term biodiversity is often used as equivalent to plant diversity. In addition to plants, only birds and bats are analysed. There is no assessment of the biodiversity of insects, chelicerata, amphibians, mammals. The authors optimistic statements regarding the quality and completeness of biodiversity mapping may be adequate for the more southern parts of the study area, however, cannot be shared, for the northern parts of the study area. "Risk" is measured in terms of disruption of ecological processes, loss or degradation of ecosystems and/or loss of species. The weakness of this approach is the lack of robust data for these three risks, which require monitoring of sufficient length of time and adequate parameters. Consequently, the proposed strategic management proposal in response to the reported sensitivity and risks mainly proposes that GH2 development should avoid the already earmarked conservation priority areas, proposed conservation spatial frameworks and spaces of value for tourism. In summary and in the light of the awareness of large numbers of undescribed species and species of uncertain area and/or taxonomy, especially in the northern half of the study area, also due to the lack of any longer-term projection or spatial circumscription of the expected longer-term impacts like settlements, railway routes, and many more developments, this assessment does not sufficiently satisfy the needs for a robust assessment and planning of conservation needs and priorities in balance to the extraordinary globally unique value of the region as a hotspot of biodiversity, endemism and probably also active evolution.		noted
Norbert Juergens	General comments			In October 2025 I received the Regional Sensitivity Assessment as "Draft v2 October 2025", still without chapter 6, for review. This assessment combines features of a desktop study with some additional research, mainly related to the change of the enhanced vegetation index (EVI). There is no chapter which introduces and explains the methodology applied. The logical chain includes the following steps: (1) A general introduction to the study area and the patterns of diversity in its bioregions (p9-14). (2) A (incorrectly labeled) chapter 3.2 which combines information on "Biodiversity Status and Trends" (title) with lists (p15-18) of the expected future impacts and stresses which might be implied by the planned local port and SEZ and the planned regional development. (3) A chapter 3.2.1 (including maps and interpretations of the change of EVI within the study region (p15-30) but see critical remarks on EVI in arid ecosystems. (4) A chapter 3.2.2 labeled "Ecosystem status" which introduces the Red Lists of Ecosystems (RLE) as a component of the National Biodiversity Assessments (NBAs) in Figure 7 and shows only a limited number of critically endangered ecosystems, located only in the Richtersveld, extended by an own calculation based on the EVI data (Figure 8 and 9), but see critical remarks on mismatch of the two data sets! (5) The level of presently protected areas in the study area is presented, complemented by a concept for a network of protected areas (Vision 2040), provided by SANParks. (6) While the above is labeled "Biodiversity Status and Trends" chapter 4 is labelled "Receiving Environments Sensitivity Analysis". Contrary to these labels, this chapter is used to present various sources which - following the authors - are based on proper species data and a systematic conservation planning approach. In the following, the 4.1.1 Namakwa District Biodiversity Sector Plan 2009, the 4.1.2 Northern Cape Critical Biodiversity Areas 2024, An additional map layer 4.1.3 "Succulent Karoo Important Biodiversity Areas" based on unnamed experts, a 4.1.4 layer of point localities of threatened and rare plants, a map of 4.1.5 "key biodiversity areas" (KBAs)(which will not be used in the report because they cover too much of the study area), a map of 4.1.6 "Important Bird Areas" (IBAs) and a map of a "Regional bat risk assessment", labeled under 4.1.7 "Sensitive Bat Areas", are presented. (7) In a chapter 4.2, labeled "Limitations of Biodiversity Information Used in Plans" it is stated that additional information has been added for this report, including for example "mountain slopes and kloofs modelled from digital elevation model". Beyond such statements these and other additional data are not shown in the report. It is astonishing that not even in this chapter the lack of any information regarding insects or amphibians etc. for this report is reported and consequences how to handle these gaps are discussed.		noted
Norbert Juergens	General comment			Incomplete document: I received the Regional Sensitivity Assessment as "Draft v2 October 2025". In this draft, the important chapter 6 is still missing and a few other text elements are labeled as "to be finalized": List of authors, acknowledgements, ... As a reviewer, I am unable to assess, why the report is incomplete and which parts will be added, after review.		The review document was a draft and all the issues identified by the reviewer have been addressed in the final document.
Norbert Juergens	General comment			A lot of the assessment is written in a language of insiders, without hard definitions, with a lot of unexplained acronyms and terms which only superficially give the impression of a systematic approach. For example, the term "Benefit Categories" is once presented as a title of chapter 5.1, but the term benefit is not used any further. The authors should at least add a list which translates the used acronyms.		A list of terms and acronymn would be a useful addition to the overall SEA however these have not been added to this document
Norbert Juergens	General comment			The authors frequently use the term biodiversity incorrectly in cases when only biodiversity of plants is discussed.		Valid point and text elaborated to say that the definition of "biodiversity" here has a strong biase towards plant biodiversity due to historical weight of plant biodiversity information and interest in the region

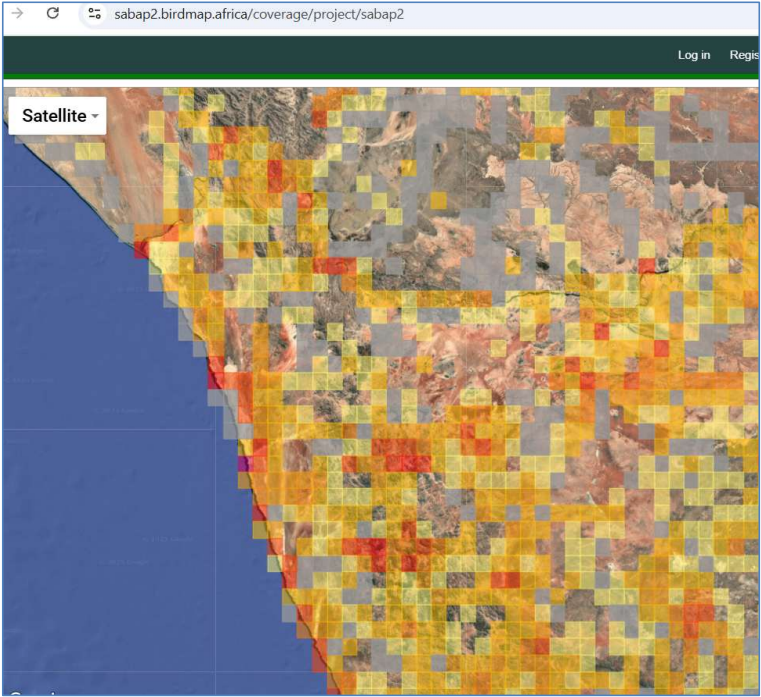
Norbert Juergens	General comment			It is unfortunate that the author(s) do not consistently cite the sources of information, but only in selected cases, with a lot of autocitations. In total, 29 references are cited, 10 of which are authored or coauthored by the author of this sensitivity assessment. This bias is also visible at lower scale. For example, Midgley & Thuiller (2007) early published on "Potential vulnerability of Namaqualand plant diversity to anthropogenic climate change", a paper cited by 85 publications. However, this important paper is not cited in this assessment. Instead, a paper Guo, Desmet and Powrie (2017) is cited, which has only been cited 3 times.		Noted. The review of scientific literature is not as comprehensive as it could be due to time/budget limitations of the SEA. Guo 2017 is cited as the paper provides a more updated perspective of CC on plant diversity based on a quantitiative analysis of plant distribution data compared to Midgley and Thuiller 2007.
Norbert Juergens	1	16		The list of authors is not complete		list completed
Norbert Juergens	4	17		The chapter Acknowledgements is not complete, only one name is listed.		acknowledgements completed
Norbert Juergens	5-7			I enjoyed reading most of the "Executive Summary" which clearly states the extraordinarily high biodiversity value of the study area, its uneven spatial distribution (which requires high-quality and high-resolution spatial data and analysis). Weaker elements of the summary are (a) the lack of the impacts which will be imposed by the planned development, (b) the avoidance to state the lack of sufficient biodiversity data of important taxonomic groups, especially in the northern parts of the study area, (c) the avoidance to state the lack of sufficient data on the change of ecosystem functions and status, (d) the avoidance to give advice which additional data and analysis would be required to properly address the high biodiversity value and to properly allow planning with minimum impact, (e) the unclear use of offsets as a tool for mitigation and the diffuse combination of "vegetation types" and "ecosystems", (f) the avoidance to mention the diamond mining industry as one important historical and present impact.		noted. Added to conclusion section
Norbert Juergens	5	20-23		The importance of the impact of historical and present diamond mining in parts of the study area must be mentioned		noted. Text elaborated
Norbert Juergens	5	30		"Criterion D1": This is only one example for numerous acronyms which are used without explanation. Such explanations should be given when first mentioned or (best solution) a list of acronyms should be compiled and added to the document.		Is defined and reference to IUCN definition added
Norbert Juergens	6	1	Figure without number	Namibia should not be shown in the colour of "Low" biodiversity sensitivity. Perhaps it makes sense for a number of maps to also add a classification unit with a separate colour as 'not included in assessment' or 'no data'. Which biodiversity is shown here, compared to the next Figure?		Namibia not covered by the SEA. Maps updated with Namibia being masked out
Norbert Juergens	6	14		"Offset" as an important tool for mitigation is several times mentioned in the entire assessment, however, rather as a buzzword, without concrete applications, without showing examples of successful implementation or a proof of feasibility or usefulness.		Very important point and this is discussed in the offset chapter
Norbert Juergens	7	1	Figure without number	Which biodiversity is shiwn here, compared to the next Figure? How is a sum of "biodiversity, birds and bats" calculated?		Added link to species group studies
Norbert Juergens	8	3		Perhaps regional instead of region and sensitivity instead of sensitives?		rephrased
Norbert Juergens	8	10	Table 1	This table is unreadable. Why is biodiversity measured in hectares per year? What means "background"? In line 3 and 4 not ha/y but ha are shown, what makes the difference? Which methods are used here?		table updated
Norbert Juergens	8	13		understating or understanding?		rephrased
Norbert Juergens	8	34		"Offset" should not be used unless the concept of offset and its feasibility are shown.		noted
Norbert Juergens	9-14	all		I enjoyed reading the 6 pages (9-14) : Description of the bioregions of the study area and key biodiversity patterns. In this chapter, I found only minor potentials for improvement.		noted
Norbert Juergens	9	25		Sentence incomplete?		rephrased
Norbert Juergens	10	5		bioregion or bioregions?		rephrased
Norbert Juergens	11	2		Is "erosion gravel pavement" a scientific term?		noted
Norbert Juergens	11	5		"now where"???		rephrased
Norbert Juergens	11	12		Not always Hardeveld, often Sandveld, as well.		Hardeveld "outposts" in the Sandveld ie heuweltjieveld Sandveld units
Norbert Juergens	11/12	47/1-3		The sentence does not make sense, as it stands.		rephrased

Norbert Juergens	12	34		Name at least one of these key ecological processes		noted. Text elaborated
Norbert Juergens	13	3		This unit is not SA´s "only true desert". Also the Western Gariep unit falls under Desert.		noted
Norbert Juergens	13	44		The lower Orange River Valley rather forms part of 3.1.9 Western Gariep. Where is "Sun Valley"? Google only knows a Sun Valley in Cape Town and one in Idaho, USA.		If you really are an expert on the Richtersveld you would know where Sun Valley is [apologies for the sarcastic remark]
Norbert Juergens	14	35		I strongly disagree: There are important areas which have not yet been captured.		Yes we are continually finding new areas important for biodiversity. If the reviewer had responded to the survey requests when the expert data was collect many years back maybe some of these other areas would be captured.
Norbert Juergens	15	21		considered?		noted
Norbert Juergens	15	22-23		I don´t understand this sentence. Livestock grazing is reversible, but that does not mean that the lost species in overgrazed areas come back.		As a general statement over graxzing is reversible even lost species can return.
Norbert Juergens	15-18	all		The chapter 3.2 "Biodiversity status and trends" is incorrectly labeled. The title implies an assessment of the already given status and presently observed trends. However, the content clearly also deals with the expected future pressures and impacts, considering the implementation of the Boegoebaai project. This content should be reflected by the title. The latter aspects (potential or expected future stresses and impacts) are incompletely listed: Important future impacts like the housing development for the large number of people who will find jobs in the various plants and infrastructures and building activities are not mentioned. Similarly, new roads and railway lines and many other components are not even mentioned. This important "Regional Sensitivity Assessment" would miss its target, if the cumulative impact of such important components like the housing development are outsourced and not covered by an integrated assessment. Similarly it is astonishing that the strong impact of the diamond mining structures (see new review publication by Vos et al. in Aeolian Research) is not mentioned and quantified at all, while only the mining of mineral sands is broadly mentioned and accompanied by quantities (impacted surface area).		noted. Text elaborated
Norbert Juergens	19-35	all		The largest chapter of the report (16 pages long) discusses the changes ("trends") as indicated by the EVI signal. This approach refers to the publication on the use of EVI by Venter et al. (2020). However, Venter et al. (2020) validate their results using in situ local scale observations only located in more humid regions further south or east, not a single validation site is located in Namaqualand or the Richtersveld (Figure 1 in Venter et al. 2020). In contrast, in the more arid northern Namaqualand, Richtersveld and Bushmanland plains and inselbergs the use of the EVI becomes questionable because the signal from the mineral soil surface with increasing aridity finally is stronger than the vegetation signal. This chapter cannot be accepted as it stands. It must be started by a clear statement regarding the methodological limitations, in northern Namaqualand, the Richtersveld and Bushmanland.		Text updated to reflect limitations of study but it must be noted that there are no quantitative studies assessing "degradation" for the region so midful of these limitations the data is the best available. Definitely a scientific publication us required but that is beyond the timescale of the SEA. Overall, experts who have viewed the data agree with the general trends midnful of the mis-match noted by the reviewer.
Norbert Juergens	19-35	all		In the report, this chapter (3.2.1) is labeled "Climate Change and Ecosystem Degradation". Both, "climate change" and "ecosystem degradation" are complex and include several different processes. However, the authors of the sensitivity assessment jump directly into the EVI trend discussion, without unpacking climate change or ecosystem degradation.		Correct, however, detailed discussion of these topics beyond the scope of this study. Degradation is clearly and narrowly defined here as a decrease in vegetation productivity.
Norbert Juergens	19-35	all		The authors claim that they base their EVI trend analysis on two 34 years long Landsat time series, using a linear regression. This carries the impression that the data allow to see the change (trend) over 34 years. However, this is not the case, because many vegetation units show dynamics of shorter time scale. During 34 years, several oscillations of series of more humid and more arid years took place. These differ within the study area: For example, in this year parts of the Richtersveld had good rains and recovered in terms of biomass, while the Soebatsfontein vicinity was less favoured and has not yet recovered. The course of annual rainfall in the study area is not shown. It may well be that time series two is simply a mirror of the somewhat better rains which since 2020 broke the extreme drought.		Refer to the Zander et al 2020 paper for further explanation. Linear regression is an excellent means to summarise variable long term data
Norbert Juergens	19-35	all		The authors of the report use the observed EVI trend as equal to vegetation productivity. In a first approximation this seems to be correct. However, this does not reflect the huge role of annual Mesembryanthemum species which cause an EVI signal, however die back after a few months and generate a highly saline topsoil, which does not support germination but of Mesembryanthemum.		noted
Norbert Juergens	19	4		Also cite the publications by Midgley and Thuiller		Text elaborated
Norbert Juergens	19	13-14		Rephrase: these two time series only at their end (during the last years) coincide with ...		rephrased
Norbert Juergens	19	11-23		It is insufficient to summarize 34 years with a linear regression. Show the course of ups and downs of the EVI during the 34 years.		Refer to the Zander et al 2020 paper for further explanation. Linear regression is an excellent means to summarise variable long term data

Norbert Juergens	19	29		severe		noted
Norbert Juergens	19	32-33		vegetation types are not equal to ecosystems		In SA vegetation types = ecosystems as a means of standardising/aligning local terminology with global terminology
Norbert Juergens	20	10-12		Unpack climate change!		noted
Norbert Juergens	23	1-10	Figure 3	All these figures should be properly labeled as time intervals (period of years)		Figures updated
Norbert Juergens	29	1-3	Figure 5	The legend of these maps should label the years/time periods for which the EVI change stands. It should be discussed that these maps do not capture the extreme degradation shown with ground truth and photos in Jürgens et al. 2025, for example for the Annisvlakte and the Grasvlakte farms next to the foot of the Anenous Pass.		noted
Norbert Juergens	31	9		Say who collaborates or erase the word		Text elaborated
Norbert Juergens	31	18		Explain which offset with proven effectiveness is meant		Text elaborated
Norbert Juergens	31	22		Explain criterion D		Text elaborated
Norbert Juergens	31	42		This is not correct for the Richtersveld, see rainfall data and recovery in supporting online material in Jürgens et al. 2025. Say, where in the study area recovery took place when.		This is a general trend for the region. Locally (ie Richtersveld) the trend may be different but this level of detailed is beyond the scope of the SEA
Norbert Juergens	32	1-4		Explain in detail what makes the difference in method and observed pattern with and without RLE D1. Name and discuss possible reasons for the mismatch in RLE D1 Figure 8 that does not capture the extreme degradation shown with ground truth and photos in Jürgens et al. 2025, for example for the Annisvlakte and the Grasvlakte farms next to the foot of the Anenous Pass.		The EVI trend does detect the change on Grasvlakte but does not that on the Annisvlakte. The analysis is limited to detecting change that happens during the analysis window. On the Annisvlakte the major change happened prior to 1994. This is elaborated in the text.
Norbert Juergens	35	14		estate in the ?		noted
Norbert Juergens	38	18	Figure 12	I propose to say that this map partly shows the legal status in coarse grain only, while the situation in the real world is different. Show the mining areas within the Richtersveld National Park. Discuss the de-facto conservation in the southern Richtersveld. Discuss the low level of law enforcement.		noted
Norbert Juergens	40	4		Define the receiving environments		noted
Norbert Juergens	40	11		earmarked		noted
Norbert Juergens	40	16-17		See the general critical remarks and question marks re species observation data and expert mapping		noted
Norbert Juergens	43	19		Name the other experts as well		Added to appendix
Norbert Juergens	44	4		used		noted
Norbert Juergens	44-47			The information re birds and bats is extremely short, does not properly explain the risks and their assessment, maps are partly of very bad to extremely bad quality		cross referenced to species studies
Norbert Juergens	49	4		in missing?		noted
Norbert Juergens	49	6-8		Say clearly how diverse information can be combined		Text elaborated

Norbert Juergens	50 ff			Critical remarks: I honestly do not understand the method by which the final maps and valuations have been generated. Between the many maps, presented in chapter 3 and 4 and the final Biodiversity Sensitivity Maps of Figure 21 and Figure 24 there is a gap which is not explained. Perhaps this problem can be demonstrated by using an example: In Figure 24 the sensitivity class "very high" is shown for the entire eastern Richtersveld, including a southern end which forms a spine or tooth south of Eksteenfontein. This spine is not visible in any of the maps in the report, except Figure 15, a "draft v2" provided by Oosthuysen & Geldenhuys (2024). Why is this now the final result in Figure 21? And: Why is there a Figure 24 which does not show even a faint shadow of this spine? And: Why is there a Figure 23 which offers a third version and seems to somehow combine plants and bats and birds, which is not possible. Why is the one map showing sensitivity values from wall to wall, while in the other map sensitivity in existing National Parks is obscured? Which of the three maps shall form the basis for planning?		All maps have been updated and standardised.
Norbert Juergens	51	1	Figure 21	Namibia does not have LOW biodiversity sensitivity. Improve map		Analysis does not consider Namibia. Namibia masked out in updated maps
Norbert Juergens	53			Maps of very bad quality		noted
Norbert Juergens	53	4	Figure 23	Defend how and why the addition of sensitivity ranks of birds & bats & plants ... provides a meaningful combined biodiversity sensitivity map		The approach simply equally weights and adds the individual sensitivity informants to provide a single integrated sensitivity map.
Norbert Juergens	54			no sensitivity shown in Parks (Figure 24)		Protected areas are protected and therefore technically not available for development and therefore are effectively masked out of the analysis
Norbert Juergens	55			Mitigation by biodiversity offsets: On page 55 the conviction is formulated that "... biodiversity offsets do guarantee that a portion of the biodiversity being lost is placed into formal protection...". This should be discussed in more detail.		Text elaborated
Norbert Juergens	59	1		The entire chapter 6 is missing		Document numbering updated
				At the end, some main points regarding this SEA of "Ecology, Biodiversity and Conservation Planning", again: (1) The assessment of the ECOLOGY includes an own study of the change of the vegetation index EVI which shows interesting differences in space. However, EVI is only of limited accuracy in arid environments and the presented spatial patterns are not validated based on ground truth studies located in the relatively arid region. In the northern, more arid part of the study area, the EVI patterns are rather falsified, if compared with published ground truth patterns. Unfortunately, the ecology is not further unpacked beyond the trends towards browning or greening. There is no projection or a spatially explicit mitigation proposal regarding dangerous ecosystem processes as for example the aeolian transport of sand and dust, and in the discussion climate change is not differentiated as changes in for example precipitation, evapotranspiration, temperature, wind. (2) The assessment of the BIODIVERSITY in this SEA is almost limited to plants and does not include a novel updated compilation of all available or even new field collected data, this part of the SEA is rather a desktop study which trusts the quality of a number of earlier compiled conservation plans. (3) The assessment of CONSERVATION PLANNING is well presented by using numerous earlier compiled conservation plans and their spatial differentiation which are all presented in a consistent map format. Accordingly, the three final "recommended strategic management actions" are mainly addressing already defined conservation plans and the interests of the biodiversity economy. All this is fine, however, the existing biodiversity of this insufficiently studied biodiversity hotspot is not sufficiently embedded in this assessment (which probably was not part of the ToR).		These are valid points. The SEA analysis is limited by the time and budget available. What is being suggested should possibly be done as part of a more comprehensive EIA for GH2. The EVI analysis is preliminary and conducted as part of the SEA as there is no regional-level quantitative assessment of landuse/climate change impacts on ecosystems and a perspective on this is required for the SEA. It is imperative that the EVI trend analysis be validated, peer review and published as a scientific paper.

Chapter 2a: Avifauna						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Conrad Geldenhuys	11	9		The SEA only investigates the SEA project area and the four municipalities indicated. Would the baseline scenario consider/assume that no GH2 development could take place in the rest of the province in future? It is stated explicitly that no GH2 will occur in the Northern Cape under Scenario 0.		The scope of the SEA focuses on the Namakwa Region and the proposed development of GH2 in the Boegoebaai Port and SEZ only. In terms of Scenario 0, the Boegoebaai Port and SEZ would remain undeveloped and no GH2 would be produced in this area of the Northern Cape. It therefore cannot be assumed that no GH2 development could take place in the rest of the province in future. Section 2.2.1 has been slightly rephrased to address this comment - see change effected in version 3 of the revised WP2 Terrestrial Avifaunal Specialist Assessment Report.
Conrad Geldenhuys	11	8		Sand mining is also a foreseeable mining type for the province. For Scenario desription one could also state that conservation as a positive land use (in opposition to mining and industry-related as environmental cost activities), is being targeted for the project area, through landscape conservation inititaitves such as the SANParks mega-living landscapes initiative and SANParks (Park) as well as Provincial authority strategic plannig (NPAES) and Nature Reserve expansion plans. If not used as a Scenario descriptor, then it could be stated generally to set the scene.		Noted. Section 2.2.1 has been updated to address this comment - see change effected in version 3 of the revised WP2 Terrestrial Avifaunal Specialist Assessment Report.
Conrad Geldenhuys	17	4-7		Including extensive road network construction/clearance during construction phase leading to habitat destruction and habitat fragmentation.		Noted. Section 3.2 has been updated to address this comment - see change effected in version 3 of the revised WP2 Terrestrial Avifaunal Specialist Assessment Report.
Conrad Geldenhuys	17	23-24		This statement probably requires qualification as it is a broad statement. Can total impact over a lengthy linear infrastructure type (e.g. long gridline over many kilometers) be compared to a point infratructure's impact (which has a fraction of the footprint of a linear development)? Unit-for-unit (length) comparison may see a specific point such a wind turbine exerting a greater impact, although there would be variability across infrastructure points.		Noted. Linear and point infrastructures exert qualitatively different pressures. A turbine may have higher per-unit impact, but a transmission line’s cumulative footprint across kilometers can be equally or more significant. The comparison, when done, should therefore be framed in terms of population-level risk and landscape-scale connectivity, not just per-unit footprint. The authors are of the opinion that at the SEA-level the statement suffices noting that more detailed qualification can be done at a site-specific level during the EIA processes to be undertaken for each proposed development.
Conrad Geldenhuys	17	General		Rates of mortalities can be misleading in the sense that one or two incidents of large raptor mortalities could effectively lead to immediate extirpation of a resident population (e.g. breeding pair) in an area for species that occur in local densities. Follow-up monitoring that does not record any mortalities for that species for some time would therefore not reflect the true historic impact.		Noted. A comprehensive Biodiversity Management Plan (BMP) will be developed prior to commercial operation of any proposed renewable energy development and its associated electrical grid infrastructure, and will determine potential biological removal (PBR) values for all priority species on-site. The calculation of PBR values will consider population sizes of each species and thus determine annual fatality thresholds for the development site. If fatality numbers exceed these annual thresholds based on post-construction fatality monitoring data recorded during operations, additional mitigation measures must be implemented as part of the adaptive management strategy. The choice of additional mitigation measures will be dependent on the measures in place at the time and could involve the implementation of additional mitigation measures such as Shutdown on Demand or selective curtailment of specific turbines during high-risk periods, or the fitment of powerlines with LED type bird flight diverters to reduce bird collision risk during low light or crepuscular conditions.

Conrad Geldenhuys	18	14		In the eastern regions of the project area, are constructions of Sociable Weaver nests on powerlines an electruction risk factor?		Noted. Any nest structures on powerlines could pose an electrocution risk to birds. However, if the use of overhead powerlines is unavoidable due to technical reasons or to accommodate other environmental sensitivities (such as aquatic ecology), a suitably qualified Avifaunal Specialist must be consulted timeously during the detailed engineering design phase of each project to ensure that a bird friendly pole design is used, and that appropriate mitigation is implemented pro-actively for pole structures e.g., insulation of live components to prevent electrocutions on terminal structures and pole transformers.
Conrad Geldenhuys	20	21		 How has the incomplete SABAP2 pentad data set for the project area been dealt with as a limitation? All years SABAP2 data map indicated Oct 2025		Bird distribution data for the WP2 study area i.e., Namakwa region has been obtained from 874 SABAP2 pentads (see Figure 2 in the WP2 Terrestrial Avifaunal Specialist Assessment Report). The 20 pentads comprising the WP1 study area i.e., Boegoebaai Port and SEZ are included within this dataset. This SABAP2 database presents recordings of bird species over the past 18 years (i.e., since 2007). Therefore, considering that all the species information available for the 874 pentads have been used in this assessment, is it not considered a limitation as the dataset is not regarded as being "incomplete" but instead represents all available avifaunal information for the Namakwa Region.
Conrad Geldenhuys	21	30		Correction: SAND Fynbos		Noted. Change effected in version 3 of the revised WP2 Terrestrial Avifaunal Specialist Assessment Report.
Conrad Geldenhuys	22		Figure 3	Recommend referencing the original source for KBAs. See https://www.keybiodiversityareas.org/map		Noted. Change effected in version 3 of the revised WP2 Terrestrial Avifaunal Specialist Assessment Report.
Conrad Geldenhuys	24		Table 3	There are some species listed that have a strong marine presence, such as Caspian tern, Curlew sandpiper and Great white pelican. In Table 3 it is stated that no marine species were considered in the terrestrail assessment. It therefore comes across as incorrect or an oversight to state that no marine species were considered in the terrestrial assessment. Recommend revising the statement to indicate that some species have a broad presence from the marine environment into terrestrial wetland habitats which may cause some overlap. The species in the marine Assessment are probably exclusively marine.		Kindly note that the WP2 Terrestrial Avifaunal Specialist Assessment did not assess marine/seabirds to limit duplication between studies but instead focussed on terrestrial avifauna within the Namakwa Region. However, the species mentioned i.e., Caspian tern, Curlew sandpiper and Great white pelican which do have a broader presence into terrestrial wetland habitats were considered in the WP2 Terrestrial Avifaunal Specialist Assessment - please see Table 3 on page 24 of the report.

Conrad Geldenhuys	29	15		The sensitivity mapping and modelling describes POTENTIAL risks for bird species towards the types of RE and grid developments mentioned based on terrain, species habits, etc. It is perhaps worthwhile to reflect on the existing and planned RE developments that are in process over the study area (ACTUAL/DEVELOPING risks). There are existing focal areas for RE expansion over the project area such as Kleinzee-Kommagas, Loeriesfontein area, Springbok-Aggeneys, that effectively increases the sensitivity scores even though they are not part of the analysis procedure. The same applies to large grid developments, especially on the coastal plain. Conversely, risk over large expanses of conservation areas such as Namakwa NP and Richtersveld NP are theoretical risks that will probably not materialise, since development is strongly curtailed in these areas.		Noted. The sensitivity mapping and modelling undertaken for the WP2 Terrestrial Avifaunal Specialist Assessment have taken into consideration both existing and planned renewable energy and electrical grid development/expansion throughout the Namakwa Region. This inclusion also formed part of the baseline assessment i.e., Scenario 0. The composite avifaunal sensitivity map further illustrates the overall high to very high avifaunal sensitivity to proposed development activities in the mentioned focal areas such as Kleinzee-Kommagas, Loeriesfontein area, Springbok-Aggeneys, and the coastal plain - please see Executive Summary of the WP2 Terrestrial Avifaunal Specialist Assessment.
Conrad Geldenhuys	44	17		Employ comprehensive, integrated monitoring programmes that considers all development impacts around infrastructure development and not just turbine/solar collisions or large grid collisions and electrocutions. Ancillary infrastructure, such as roads, fences (including electrified fences) and small grid connections are also relevant.		Please note that Section 8.4 in the WP2 Terrestrial Avifaunal Specialist Assessment Report speaks to the implementation of comprehensive, integrated avifaunal monitoring programmes that considers <u>all</u> anticipated impacts associated with the proposed infrastructure types that are associated with the GH2 development scenarios, not only collisions and electrocutions.
Aphelele Tomsana	12	3		would it not be appropriate to use most ...electricity/energy... instead of " power " or does the power not mean electricity?		The authors failed to link this comment to what is stated in line 3 on page 12 of the WP2 Terrestrial Avifaunal Specialist Assessment Report. There is no reference to "power" in that paragraph per se. Also, just to confirm that in context of this report, all references to power would mean electricity/energy.
Aphelele Tomsana	18	21 -22		Would the Cape Vulture (~2.5) (Vulnerable) be the only priority species? What about the Lappet-faced vulture (~2.8) (Critical) with bigger wingspan than vulture? Should maybe the sentence not read as Cape Vulture is one of the priority species...		Noted. Change effected in version 3 of the revised WP2 Terrestrial Avifaunal Specialist Assessment Report.

Chapter 2b: Bats						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Babalwa Mqokeli	General comment				Excellent work on the Executive Summary - it is clear, well structured and effectively communicates the key findings and recommendations to policymakers	Thank you
Paul Lochner	title page / general				The title of the SEA for WP2 is not correct. It should be: STRATEGIC ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED BOEGOEBAAI PORT, SPECIAL ECONOMIC ZONE (SEZ) AND THE NAMAKWA REGION WORK PACKAGE 2 – NAMAKWA REGION	Changed in report
Paul Lochner	3	1			Wener has his prof registration number. Also what professional registration this is, i.e. Pr.Sci.Nat.	SACNASP, changed in report
Paul Lochner	5	4-5			See above comment about title of SAEA for WP2. These lines 4-5 say the SEA is "of the proposed Green Hydrogen economy and associated renewable energy infrastructure (wind and solar PV) in the Namakwa Region". This is true. But please also insert that it is for the Proposed Port and Special Economic Zone at Boegoebaai, that would support the green hydrogen economy and require renewable energy developmnt in the Namakwaland region. The Port and SEZ is not only about green hydrogen. It could also to support other activities such as minerals.	Have done so
Paul Lochner	7	Figure (i)			The sensitivity map is good. Please add some place names to help orientate the reader, such as Boegoebaai, Springbok, Port Nolloth, Alexander Bay, Pofadder.	This will involve quote a bit of exrra work now which can take time, let me know how critical it is.
Babalwa Mqokeli	8		ES Figure		I've changed the risk level colours to be consistent with briefing note. The green colours could be misinterpreted with the opportunity colours as opposed to risk. Please also consider adding a title to this risk table	Thank you, I added a title to the table.
Paul Lochner	Summary				The summary is good. Informative and clear.	Thank you
Babalwa Mqokeli	General comment				We've removed background or introductory content regarding the development or the SEA as provided in the Briefing Note, the editors have and/or will include this introductory content in the Introduction Chapter of the overall SEA report.	Noted
Babalwa Mqokeli	overall comment				The SEA scope or terms of reference was to also provide a detailed description of the likely baseline receiving environment up to 2050 (Sc0) in view of current social and ecological trends e.g., mining activities, rising unemployment, decreased rainfall and water supply, other land use changes, increased tourism etc. That is, what is the predicted trend for bats in the absence of the proposed GH2 economy development, but in light of current socio-economic and ecological trends?	Inserted at end of Section 4 and separate "Macro drivers of change" document

Paul Lochner	overall comment				Following from above comment from Babalwa, yes, I think there needs to be section explaing the likely baseline trend under Sc0 for bats, such as from ongoing renewable energy development (in particular windfarms), mining, etc. Maybe add this add end of section 4 (baseline)?	Inserted at end of Section 4 and separate "Macro drivers of change" document
Babalwa Mqokeli	19	12			What are the predictions on bat populations for this region in light of the activities mentioned in this statement and other factors, such as climate change? This speaks to my comment above.	I'll adress this rather in a dedicated paragraph/section tying in with the above two comments. This specific section is a generalised section
Babalwa Mqokeli	21	10-13			Any population modelling done in the South African context, and in particular Northern Cape and/or Namakwa region?	No there hasn't been.
Babalwa Mqokeli	21	18			Which site is being referred to here? IS this the Namakwa region study area?	Changed it to speak to the Namakwa region
Babalwa Mqokeli	25	13			We've changed Scenario 1 year to "2030" for consistency with the Northern Cape Green Hydrogen Masterplan...Check throughout for this.	Thanks
Babalwa Mqokeli	28	7-8	Section 3		I understood from your Plan of Study that you were also going to conduct a site vist to applicable caves/mines in the study area. If this was done then please include/state in assessment methodology	No unfortunately this could not be done.
Babalwa Mqokeli	30	16-17			Include cross reference to Figure 4-1	Done
Babalwa Mqokeli	30	31-32			Include cross reference to Figure 4-2	Done
Babalwa Mqokeli	38		Figure 4-3		For Figure 4-3, consider using completely distinct colours to differentiate grassland from forest land. This will help improve visual clarity and make it easier for readers to distinguish between the two land cover types.	This will involve quote a bit of exrra work now which can take time, let me know how critical it is.
Babalwa Mqokeli	39	11			Add "for wind and solar PV energy" to provide context for the mentioned SEA in this statement	Done
Paul Lochner	54		Figure 5-1. Bat sensitivity map		Please add some names of key towns to orientate the reader (see above comment on map in Summary).	This will involve quote a bit of exrra work now which can take time, let me know how critical it is.
Babalwa Mqokeli	overall comment				Consider leaving out the Conclusion section, in an effort to reduce report length, as the content hereis also covered in the Executive Summary	Removed the entire conclusion
Paul Lochner	69		Conclusions		The Conclusions repeat the same Recommendations that came in the previous Recommendaitons section. And they are in the Summary. Therefore, as suggested above by Babalwa, please remove duplication from the Conclusions section and refer to the Recommendations provided in Section 7 above.	Removed the entire conclusion

Chapter 3: Biodiversity Offset Framework						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Babalwa Mqokeli	3	2-3			Perhaps add upfront briefly describing what that intention <i>is</i> "behind an optimal deployment of biodiversity offsets". Could be added as a footnote to this sentence	Done. Paraphrasing the Guideline. This assumption unfortunately doesn't hold true for many decision makers or commentators
Babalwa Mqokeli	3	23			The estimated footprint for big GH2 is 144 000 ha, rather reflect approximately (i.e., ~ symbol) as opposed to more than symbol, or state as ~ 144 000 ha for consistency in terms of the estimated development footprint	Done
Babalwa Mqokeli	5		Footnote 1		The GH2 production throughputs as defined in the Briefing note are 0.05 mtpa and 4 mtpa for small and big GH2 respectively.	Done
Babalwa Mqokeli	9	10-14			Referencing the current Springbok REDZ, the text is acknowledging existing government/planning designations and highlighting that despite official REDZ boundaries, a more environmentally cautious approach would be to focus on areas with lower ecological sensitivity. It may be helpful to clarify (briefly) this SEA's rationale for "deviating" or adjustments from/to REDZ outcomes...for example, due to updated ecological data or refined sensitivity data, the (obvious) identification of less sensitive zones. While it might be obvious or implied, a short explanatory sentence might help prevent misinterpretation or criticism that this SEA "ignored" existing national planning frameworks. Noting that these recommendations reflect new or refined data strengthens the SEA's defensibility in review processes.	Done in footnote
Babalwa Mqokeli	9	18-19			I wouldn't reference this as CSIR data as the approved or in process RE projects data extracted and shared with the specialists is it is based on the DFFE South African Renewable Energy EIA Applications Database.	Done. CSIR did the calcs tho.
Babalwa Mqokeli	10	12			Include in text reference to Figure 3 and Figure 4	Done
Babalwa Mqokeli	11		Figure 4		Please check that this Figure corresponds with what's contained in Phil's latest report. His regional sensitivity map legend in the latest version includes sensitivity categories (i.e., Low, Medium, High Very High).	Have requested latest. Please could CSIR insert if I don't get it in time
Babalwa Mqokeli	11-12		Table 1		Please introduce or reference this Table in preceding text to provide context before it appears. Check throughout for other Tables and please do the same for Figures.	Done
Babalwa Mqokeli	16	16-17			The sentence "Little spatial information for other large scale regional infrastructure developments (e.g., a proposed dam at Vioolsdrif, grid infrastructure expansion)." seems incomplete.	Done
Babalwa Mqokeli	18	11			Should this value not be kept at ~ 180 000? Considering the combined calcs equal 179 200 ha	Done. Don't know how I messed the calc up... rushing
Babalwa Mqokeli	19	11-12			Number iii) could be slightly ambiguous, consider rephrasing for clarity.	Done
Babalwa Mqokeli	19	14-31			To enhance clarity and/or usability of the descriptions and spatial data, it may be helpful to cross-reference the narrative descriptions of proposed offset receiving areas with the zones on the map (Figure 6). Consider including labels/annotation/numbered key that tie each described site to its mapped location.	Done for WP1 to WP 1 report. Have annotated labels in Fig 7. Ideal for CSIR to revise map if required for publication
Babalwa Mqokeli	21		Figure 8		Move this Figure to after the mitigation trade-off passage and include in text reference accordingly.	Done
Babalwa Mqokeli	22	20-22			Perhaps cite other literature or policy documents that support this statement, particularly around the risks of rent-seeking behaviour by local elites or decision makers.	Removed, although Lots to cite. But this is inflammatory (though real, and evidenced by comment in the SEA PPP)
Babalwa Mqokeli	23	32			As above, I've removed reference to this data as being CSIR data. To note earlier, on page 9 you reference February 2025 whereas in this line you mention April 2025. Please maintain consistent date	Done
Babalwa Mqokeli	24	4-6			For clarity, does the statement regarding the lack of guidance on preventing 'streamlined offsets' from shortcutting the mitigation hierarchy refer specifically to this SEA, or does this reflect a broader, widely recognised challenge in biodiversity offset implementation?	Done - I hope

Babalwa Mqokeli	Overall comment				To meet the scope the report should include a discussion of offset planning needs under business as usual pressures (e.g., legacy RE projects, mining etc). What is the expected biodiversity trends as far as offsets are concerned, in the absence of the proposed GH2? Without this it limits the ability to compare offsets needs and risks across scenarios (including scenario 0)	Difficult to respond to as there is no mechanism for BAU offset planning, and no means of aligning Competent Authorities Offset approvals or guidance without the EMF or SEMP that a SEA would bring. No other regulatory tool exists.
Susie Brownlie	1-30	all		As noted for WP1, the potential for considerable marine impacts is not covered in this SEA. The fact that some of the largest impacts on most important biodiversity features will likely be in the marine and coastal realms is a matter requiring biodiversity offsets. The national biodiversity offset guideline currently does not cater for these offsets, but it specifically notes that “That does not however mean that biodiversity offsetting is not required for residual negative impacts on biodiversity in estuarine ecosystems and the marine realm”. <i>Please note that this comment is aimed at the CSIR, rather than at the author of the offsets framework!</i>	<i>CSIR Response:</i> The WP1 Marine Ecology study (Chapter 2 of the SEA) recognises that significant biodiversity impacts are likely to occur in the marine and coastal realms and that these warrant consideration in terms of biodiversity offsets. The chapter also emphasises proactive avoidance of areas identified as irreplaceable or of Very High sensitivity, in line with the mitigation hierarchy. In particular, it highlights Boegoebaai Point as an area “of very high sensitivity and likely irreplaceable,” where development should not occur even if offsets are proposed elsewhere. The chapter also acknowledges that while the National Biodiversity Offset Guideline (2023) currently applies only to terrestrial and freshwater realms, it does explicitly state this does not mean offsetting is not required for residual negative impacts on biodiversity in estuarine and marine ecosystems. To address this policy gap, the Marine Ecology study proposes deferring to the International Finance Corporation (IFC) Performance Standard 6 on biodiversity conservation, which provides a recognised international framework for designing and implementing marine biodiversity offsets. The report outlines the key steps and design principles to be followed in identifying and implementing such offsets in line with the mitigaton hierarchy, should significant residual impacts be confirmed. Full consideration of a potential offset is beyond the scope of the study, however it strongly recommends that these steps be followed in identifying any offsets required to mitigate against negative impacts on any habitat identified as being CBA Natural or CBA restore.	
Susie Brownlie	1-30	all		The report meets the requirements of the Brief (Annexure 1), with some minor queries included in the comments below. The recommendations of this chapter are strongly supported. In particular: a) The emphasis throughout the chapter on proactive avoidance of irreplaceable, unique and non-offsetable biodiversity and adopting a precautionary approach are fully endorsed, given SA's commitments in terms of the CBD's GBF and its own national targets. [For example: (e.g. Figure 1 on p1, directing development away from areas requiring large offsets; p3, lines 8-10, and p10, lines 1-3: the need to investigate areas along the coast where WEF would have little or no impact, is essential before any green fields WEF are developed; p6, lines 5-6 on the need to ensure upfront planning of regional infrastructure to avoid 'fatal flaws' in project location or design).] As repeatedly noted, offsets cannot be used to circumvent rigorous adherence to the mitigation hierarchy. In addition, the not trivial costs and liabilities associated with successful offset implementation, as well as uncertainties around outcomes, make avoidance of significant negative impacts the optimum strategy, linked to due consideration and investigation of reasonable and feasible alternatives. b) The need for a clear implementation and management plan for the SEA - typically a Strategic Environmental Management Plan or SEMP arising from the SEA process is fully supported (see also subsequent comments). A SEMP commonly includes spatial mapping, recommendations for different areas and supportive guidance for decision making, and explicit directives for management. Both SDFs and EMFs are provided for in law, and the SEA findings could be integrated into these approaches (as set out in the then DEAT (2007) SEA Guideline and as proposed in this chapter), to give effect to the recommendations flowing from the SEA. c) The recommendation (e.g. (p22, lines 23-29; p25, lines 20-26) that the SEZ proponents invest in proactive offset schemes to streamline implementation, give assurance of offset outcomes, avoid land use conflicts, manage several threats and clarify cost implications, is seen as crucial. As noted, clear commitment from development proponents and upfront resourcing is essential.		Concur

Susie Brownlie	1-30	all		With regard to cumulative impacts: it is noted that 'the cumulative, indirect or induced impacts are unclear and hard to estimate for offsetting quantification' (p8 lines 13-14). In addition, it is stated that 'The nature of the developments and linear infrastructure and the ancillary industries' impacts are almost certain to be of a scale and nature as to result in significant widespread biodiversity loss that is difficult - with current knowledge - to define and counterbalance' (e.g. p3, lines 32-35). According to the chapter, it is deemed 'likely that national targets for biodiversity features may be compromised (e.g., loss of ecosystem extent below thresholds required for continued functioning or persistence' p5-6, lines 34-39. 1-4)). While reliable data on other/ approved developments in the region are not readily available, in effect the regional study - taking into account the full range of probable regional infrastructure developments - is in itself a form of cumulative impact assessment. The proposed offset ratios in this chapter for e.g. ONAs and LC ecosystems take into account the cumulative consequences of multiple components which contribute to the SEZ, and constitute an essential component of the offset framework. These ratios must apply clearly to each and every residual negative impact on the regional ecosystem in order to ensure that biodiversity targets could and would be met. As expressed in the chapter (e.g. p11, lines 12-16) a rebuttable presumption of the need for biodiversity offsets for residual negative impacts of the SEZ should apply. (Biodiversity offsets in SA are triggered by residual negative impacts of at least moderate or medium significance, in line with the national biodiversity offset guideline (2023). There is a major risk that, if offset requirements are left to 'downstream' individual project/ EIAs to determine, using typical methodologies to evaluate impacts, many residual impacts would in all likelihood be evaluated as of less-than-moderate/ medium significance (e.g. on LC ecosystems, ESAs and minor impacts on VU ecosystems), thus avoiding the need for offsets altogether, contrary to recommendations at regional level (e.g. Table 2).) As recommended in the report, an EMF, SDF (Strategic Environmental Management Plan or equivalent environmental management instrument) is essential to plan implementation of the SEA's recommendations. This plan must be completed in advance of individual/ component projects being submitted to decision makers to ensure that expectations and standardized requirements for biodiversity offsets and compensation are clear. Political and administrative commitment to adherence to that plan by all competent authorities is essential. Also, The SEMP must specify explicit criteria, parameters, actions and requirements to be met by EIAs, to ensure their alignment with the SEA. It is recommended that the author consolidates (from different sections of the report) and tabulates the essential components, and 'rules and tools' of the SEMP from a biodiversity and offset perspective (e.g., for an integrated land/ resource-use spatial plan, it is envisaged that non-offsetable or 'no go' areas with irreplaceable biodiversity, corridors essential for maintaining ecological functioning, and explicitly demarcated 'offset receiving areas' would be required at minimum. Other elements of the SEMP would conceivably stipulate standard offset ratios defined for different areas/ vegetation types, exchange rules for offsetting, thresholds or limits for any conversion of natural areas, implementation models and engagement with stakeholders, and guidance on any trade-offs involving biodiversity and their transparent justification (e.g. drawing on Gibson et al's (2005) or Gibson (2006) trade-off rules)). In addition, it is recommended that the author tabulates explicit parameters, criteria and activities for project-level EIAs, for inclusion in the SEMP. [A number of recommendations to streamline 'downstream' EIAs and offsets are made in various sections of the chapter (please refer to later comments on the Brief; p28: adherence to the mitigation hierarchy and avoidance of impacts on non-offsetable biodiversity; a presumption of offset requirements for residual impacts and use of standardized basic ratios; use of appropriate biodiversity specialists and SANBI's species data, DAERL (2024) and Desmet (2025) mapping; provision of performance and financial guarantees; clearly defined biodiversity outcomes for offsets; prohibition of land clearing for RE structures, and provision of wildlife crossing structures for linear infrastructure). It is suggested that these recommendations be consolidated and expanded to include e.g. establishing reliable biodiversity baselines at impact and offset sites, appropriate pffset implementation models, monitoring and evaluation (using relevant indicators and with adaptive management), and periodic independent audits, amongst others.) While it appears that use of the recommended offset ratios for different vegetation types would deliver adequate compensation for ecosystems, rigorous specialist studies and baseline surveys would also be required in all EIAs on natural or semi-natural areas to determine the potential need for additional offsets to compensate for impacts on SCC (be they birds, reptiles, amphibians, mammals, plants), and/ or increased offset ratio (Table 2), and/ or a need to deliver 'net gain' or measures to result in a net increase in affected populations. The need to compensate for residual impacts of offsets on an affected community's biodiversity values (use/ livelihood and cultural values) should also be included in the SEMP, with clear obligations/ responsibilities at 'downstream' project/ EIA level.		concur
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Susie Brownlie	1-30	all		Mitigation (including compensation) of both the proposed SEZ impacts on affected people and communities will be required. In addition, any impacts of offsets (e.g. through restricting use of, or access to, livelihood, social or cultural resources on which there is high dependence) will also need to be compensated. This chapter provides excellent guidance on offsets and ecological compensation, as well as the optimum location of offsets for impacts on biodiversity, but does not address the additional likelihood of compensation for impacts caused by offsets, and/ or risks of 'leakage' or displacement of livelihood or cultural activities by affected landowners, occupiers or communities should that compensation be inadequate. (The chapter states the importance (p24, lines 23-30) of a coordinated approach to engagement with affected communities, including 'what compensation would be available', and 'what role they could play in offset scheme'. Moreover, it notes (p24 line 38, p25, lines1-2) that planning landscape-scale outcomes and the wider contribution of the biodiversity economy may also require focusing on a 'sense of place and wilderness'. It refers to 'the biodiversity economy' and related nodes in Figure 1, and elsewhere to 'the broader biodiversity economy' (line 28 p24), but without explanation of how that would or should be applied.) The stated need for 'socially equitable, progressive and proactive offset approaches' (lines 12-13, p4) is emphasized. Engagements, negotiations, and agreements on acceptable and due compensation for any impacts of development and of biodiversity offsets, appropriate implementation arrangements with affected communities and the fair sharing of costs and benefits of change will be at the very core of any long-term vision for the region, including offsets. It is suggested that this chapter incorporates clear recommendations regarding compensation for offsets and mechanisms to ensure socially equitable outcomes and prevention of potential leakage. <i>(It is not clear to me to what extent other chapters have covered the need to compensate for livelihood/ use and cultural values of biodiversity; if already dealt with in e.g. a chapter on ecosystem services then please ensure that both impacts of development plus impacts of offsets are covered!)</i>		Acknowledged Gap and shortcoming. Ideally addressed in the Social Chapter. Will take up with specialist. I'm unqualified to talk to the social compensation aspects, but acknowledge they are a key component.
Susie Brownlie	1-30	all		Mention of the IFC PS6 in this chapter is fragmented and a bit confusing! e.g. lines 15-16 on p11 and lines 37-38 on p24, and text for Table 1 (p11) stating that 'Inferred Offset ratios align with...IFC PS6 definition of Natural Habitat'. I recommend either addressing the related requirements more clearly, or including a specific para on their relevance/ application to this regional study. (The concepts of NNL and NG would best be related to our target-based offset system.)		tried to address this. However, there is no easy integration between NNL, NG and SA's system, even though it is implicitly target based, and does accommodate loss, as long as t doesn't transgress thresholds
Susie Brownlie	8	9-12		The risks of displacing State expenditure (i.e. committed budgets, confirmed plans or programmes) on biodiversity conservation/ management is noted. Are there recommendations in this respect to prevent such 'cost shifting', e.g. where SANParks has already committed to, and has a dedicated budget for, NP expansion (i.e. not using offset banking), or provincial authorities are similarly committed to PA expansion). It is noted that (p23, lines 19-21) that ecological compensation actions must come with commitments to maintain existing budgets from statutory conservation authorities managing the schemes; would similar commitments be required for wider offset design and implementation?		Yes - these recommendations/requiremens are included.
Susie Brownlie	8	13-21		The difficulties in assigning offset liability refers. The chapter recommends that 'SEZ proponents should proactively mitigate impacts on behalf of tenants', and that SEZ support for an investment in proactive offset schemes would be imperative to streamline implementation, avoid land use conflicts and manage various threats. This recommendation is strongly supported, as is the need to cater for biodiversity upfront, and not reactively after development has been approved (p8 lines 24-25).		concur
Susie Brownlie	9	8-11		The recommendation for a standardized EMPr for PV facilities within the less sensitive zones delineated in this SEA, setting out clear mitigation rules (e.g. no clearing of vegetation, raised structures, and offset requirements as per this chapter) is supported for inclusion in the SEMP.		OK
Susie Brownlie	11-12		Table 1	The relevance and application of Column RLE (D1) would benefit from a simple explanation for readers.		Done
Susie Brownlie	12-13		Table 1	While it is supported that the offset ratios reflect risks of inadequate accounting for indirect and cumulative impacts across the region and thus undermining the ability to meet biodiversity targets, it is questionable to require a 2:1 offset ratio for LC [both in terms of RLE (D1) and RLE (NBA 2025), WP vegetation types where there is a very low level of degradation (e.g. Blouputs Karroid Thornveld). It is not explicit that the remaining extent of the ecosystem (REE in the national guideline) has been taken into account in these ratios - it would be appropriate to confirm that they have (and/ or that it is factored into the 2025 RLE).		Agreed. Have reduced ratio to 0, where all LC, WP and REE >95%
Susie Brownlie	16	9-15	Figure 5	Uncertainty about the status of RE projects in the region refers. Are there any recommendations for determining the status of these projects, since they could have considerable implications for availability of suitable offset areas.		Not without substantially more work, which will be out of date as soon as its completed. The BB GH2 is a market signal to most RE developers who are all developing projects furiously on speculation.

Susie Brownlie	17		Figure 6	The implications of the white outlines (overlap or potential conflicting land uses) over the blue PA Expansion Priority Focus Areas for securing offsets are not clear. Are there any explicit recommendations for prioritizing the need to determine more accurately and resolve these overlaps/ conflicts (since it would appear that offset receiving areas may need to be revised?)		The PA expansion PFAs are not being used as Offset Receiving Areas for exactly this reason. The far more reduced Receiving areas actively avoid the existing development rights wherever possible.
Susie Brownlie	19	32-34		Implementation of 'some other effective conservation measure, effective at a landscape scale at reducing biodiversity loss and catering for ecosystem processes and species movement' rather than using formal PAs, 'may be required'. It would be useful to clarify cases where formal PA declaration would be important, as opposed to other mechanisms (such as OECMS, conservation servitudes, etc.) and in which context specific approaches would be best.		This is very hard to do defensibly. Currently, the policy environment is contradictory. Also, PA declaration is a landowner's wish and Ministerial/MEC's prerogative. The only definite case is where a statutory conservancy agency is expanding an existing PA.
Susie Brownlie	21-22	4-6	Figure 8	Trade-offs between biodiversity features in offsets refer. Trade-offs may well be considered between biodiversity (or other environmental factors) and social, economic or cultural factors, as noted (p8, lines 22-24) In every situation, it is important when considering trade-offs to evaluate systematically and transparently their potential consequences in terms of attaining the country's - and the region's - biodiversity targets (in terms of pattern, process and delivery of ecosystem services), as well as the resilience and response of impacted biodiversity components to loss. As proposed by Gibson <i>et al</i> (2005), and Gibson (2006), trade-off rules need to safeguard . Importantly, the burden of justification falls on the proponent of the trade-off. It would be useful to propose clear rules or guidance with regard to permitting trade-offs between biodiversity features both in allowing significant residual impacts and in selecting offset areas, to prevent further decline or risk of decline in a major area of existing concern (such as biodiversity loss), and displacement of significant adverse effects from the present to the future. <i>(Explicit Trade-off rules between biodiversity and social/cultural/ economic factors should ideally be stipulated by the CSIR for this GH project and the SEZ to protect long-term socio-ecological system integrity; livelihood sufficiency and opportunity; intragenerational and intergenerational equity; resource maintenance and efficiency (amongst others).)</i>		Concur. It is difficult to provide guidance on trade-off rules in the absence of case-by-case information, and the more generic the rules, the more chance there is of them being abused or not acting as a safeguard. Beyond the (very modest) ecological compensation proposals which admittedly require additional consultation and input from the authorities, i'm very hesitant to provide tradeoff guidance in the time available
Susie Brownlie	22; 23	39-40; 22-32		The Avifauna report recommends region-wide implementation of various conservation actions, including retrofitting of existing infrastructure to reduce bird mortality. It is not clear why e.g. retrofitting would not qualify as an offset, rather than ecological compensation (or an 'offset type', as presented). Such actions to reduce mortality from collisions or electrocution typically are seen as measures to reduce the current 'drivers of loss', delivering gains to counterbalance losses in a population or species against a measurable and reliable counterfactual.		There is merit in considering some measures addressing direct species mortality as offsets, as is done elsewhere in the world. I prefer, in this instance, to class them with Ecological Compensation, as they are broadly targeted and indirect (numerous species benefit, and its not certain that CR species will be saved); as well as the fact that some of the impacted spp are listed as CR, and that the additional grid and WEF here may well drive their populations down unacceptably.
Susie Brownlie	23	1-2		Conservation Trust Funds (CTFs) are mentioned in relation to ecological compensation for avifauna only. The financing of strategic offset areas and their implementation is a critical success factor, requiring adequate capacity, and the administration and management of funds. It would add value to this report if this topic could be expanded with clear recommendations for an optimum arrangement, including the potentially wider use of CTFs. (The report seems to focus on the SEZ proponents and SANParks as an implementing agent e.g. p22, lines 17-19.) These recommendations could be included in the SEMP.		Agreed. CTFs are dangerous for offsets generally. Direct costing, financial guarantees and penalties are more appropriate, and these have been built into the SANParks scheme. This is really granular detail for this Framework.
Susie Brownlie	23	18-21		It is proposed that ecological compensation measures could include "endowing sustainable funding mechanisms to secure long term (>99 years) conservation management of the offset areas..." This action presents a potential risk of developers choosing to pay money for residual - and 'non-offsetable' - damage to biodiversity rather than providing 'on the ground' compensation (i.e. an easier option!). This option also suggests that irreplaceable loss could be acceptable and compensation would instead focus on a diminishing portfolio of offsets in the landscape. Clear guardrails will be essential to prevent both scenarios - it would be useful to include them in this chapter.		This risk is recognised, but the option does not suggest that irreplaceable loss is readily acceptable. It does acknowledge that wide scale damage is occurring in the region, and that the long term best outcomes for the majority of these ecosystems in a region underserved with protection and enforcement capacity in conservation organisations, is proactive protection emanating from large scale infrastructure developments.
Susie Brownlie	28	20-23		I could not find any clear description of the change trends in the broader region, other than mention of mining, mobilized sand plumes, and other RE projects. From the Brief, it seems that this information (climate, land use, societal change) is required by the CSIR to respond to "how the social-ecological system is changing". What, e.g., are the climate change implications for the region, and would they affect the offset framework?		This is covered in the WP2 Terrestrial Ecology report. And is not sensible to repeat here. It is noted that the offset receiving areas cater for altitudinal and other gradients to accommodate climate change. But this cant be done at the expense of safeguarding the evolutionary stage for the in-situ biodiversity to adapt.
Susie Brownlie	28	36-41		With reference to cumulative impacts in the region, I could not find any reference to use of three scenarios using a risk framework methodology to be provided by the CSIR.		This is covered in the WP2 Terrestrial Ecology report.

Susie Brownlie	28	47-52		The Brief: recommended strategic management actions, refers. The chapter was asked to develop practical recommendations or guidelines for future EIA studies, design and approval of biodiversity offsets at the project level; practical recommendations to inform and align with national policy and regional planning; and to recommend strategies for integrating offsets into broader land-use planning and conservation initiatives. A number of recommendations for streamlining project-level offset studies are made in the chapter (p5, line 13), as listed below. However, these recommendations are dotted throughout the chapter rather than being consolidated in one place - it would be useful for them to be tabulated. [*p5, lines 13-14; p6, lines 6-9 and 26-29; and p7, lines 1-7. These recommendations focus on demonstrating adherence to the mitigation hierarchy (and avoidance of non-offsettable impacts as a priority), *p 11, lines 11-16, which recommends a precautionary approach, that even if a site is classified as ONA, it should still attract a basic offset ratio unless: i) there is demonstrable evidence that no SCC occur on the site; ii) the site does not play an important ecological function role; and iii) the site would not be considered as ‘Natural Habitat’ in terms of Performance Standard 6 of the IFC [i.e. despite some degradation, it still largely contains the principal characteristics and functions of a native ecosystem]. * p13, lines 4-9, 18. SANBI data and mapping for Not Protected or Poorly Protected species must be made, reference to DAERL (2024) mapping and Sensitivity Mapping (Desmet 2025) should be made in all cases and checked by specialists in the EIA process, together with diligent baseline surveys. *p14, lines 2-7. Performance and financial guarantees should be provided to ensure achievement of objectives and outcomes specified upfront in the EIA process. *p14 Table 2 advocates a set of standard offset ratios to be used for the SEZ *p25, lines 3-14, which recommend no clearing of land for RE structures, and provision of wildlife crossing structures on linear infrastructure *p25, lines 20-26 recommend that the SEZ proponents invest in proactive offset schemes to streamline implementation, avoid land use conflicts and manage several threats. In this respect, the SANParks’ proactive offset scheme seems to be a useful model on which to build, giving clarity on offset outcomes and cost implications early on.]		Done
Susie Brownlie	1		Figure 1	Biodiversity economy nodes (2021) - source of this information?		The source was the mentioned SANParks 2019 CDF.
Susie Brownlie	11		Figure 4	There are three different green shades shown, but the key only reflects two (e.g. south of Richtersveld NP - WHS?)		This is the WHS Core area - although protected under that statute, its status is unclear. Figure will change
Susie Brownlie	11	10		(SANBI 2018, although, 2025)' must be explained		changed to 2025. Draft data, but used by Desmet anyway
Susie Brownlie	15		Table 2	Natural vegetation ONA. The description for this feature should include all remaining natural areas of vegetation, regardless of protection level (else WP ONA not catered for!). Then if PP or NP this ratio increases by 50%.		Agreed. Done
Susie Brownlie	15	24		to help avoid unnecessarily land use conflict'		presume reviewer wants "s" inserted
Susie Brownlie	16	6		...is maintained the DFFE'.		done
Susie Brownlie	17	4-5		It seems a imperative'		done
Susie Brownlie	19	8-9		These are also set out in Mitigation trade-offs between biodiversity features are an unfortunate reality'.		unclear.
Susie Brownlie	19	11		...bords...'		unclear.
Susie Brownlie	19	16-17		...and Figure 7, and could also form the foundations of creating large landscapes aligned to Vision 2040Figure 1'		unclear. Inserted reference to Desmet for clarity
Susie Brownlie	20	footnote 15		Detailed consultation, landowner engagement and agreements are required prior to formalising thee'		done
Susie Brownlie	19; 22	8-14; 4-9		Duplication of text ('Mitigation trade-offs between biodiversity features are an unfortunate reality...')		unclear. No duplication in my version
Susie Brownlie	24	12		an establish environmental management instrument'		done

Chapter 4: Water resources						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Babalwa Mqokeli	Overall comment				Significant effort has gone into the Chapter - much appreciated. The Chapter is longer than the brief; while this is understandable given the broad scope and complexity of the topics covered, it could be reduced slightly by synthesising content, particularly the description of the receiving environment, and capturing this detailed baseline information as an Appendix where necessary - as Appendices will also be published.	Thank you. Have reduced Exec Summary to 7 pages and tried to avoid repetition in descriptive areas
Babalwa Mqokeli	ii		Figure E1		Figure E1 could be removed here (in the ES) as it is included in the main report for baseline information. Rather only keep the "iconic maps" (i.e., sensitivity maps) in the ES which communicate findings to policy makers.	Done
Babalwa Mqokeli	Overall comment				I note that Section 9 (Risk/Opportunities Assessment) and subsequent Impact Tables only outline <i>Risks</i> associated with the development, does that mean there are no identified/predicted direct or indirect <i>Opportunities</i> associated with the development that are applicable to the themes of this Chapter (i.e., groundwater systems, surface hydrology, and inland and estuarine aquatic ecosystems)? If so, kindly state explicably. The same is noted for the ES section	Minor positive oppoirtunities identified for groundwater and surface water - addressed in Section 9.7 and included in Impact Tables
Babalwa Mqokeli	5	2-3			Would the statement "At the same time, some of the proposed SEZ development interventions might increase the availability of fresh water in some areas, through desalination projects, thus changing current development constraints" not be considered a benefit/opportunity and therefore assessed in Section 9?	Agreed - this has been included.
Babalwa Mqokeli	38	6			The GH2 development will be at the SEZ, rather change to "at the proposed Boegoebaai <i>SEZ</i> ."	Done
Babalwa Mqokeli	40		Table 7.4		For the sensitivity classification Table (table 7.4), I would consider using distinct colours for the Medium and Very High sensitivity. These are currently both purple in the Table but orange and purple in the Figure (Figure 7.1)	Amendment made; 'medium' sensitivity in Table 7.4 has been corrected to orange.

Babalwa Mqokeli	41	26-27			As per the previous comment, would this not be identified as a potential benefit or opportunity, and therefore be considered as such in the Opportunity and Risk Assessment section? It may be useful to frame this alongside recommendations to mitigate the concern raised - namely, the potential lack of skills or capacity among local operators to manage more technically complex systems such as coastal desalination works.	Agreed - this has been included.
Babalwa Mqokeli	48	14			I assume this reference is referring to the overall SEA Introduction and Context Setting Chapter?	Yes
Babalwa Mqokeli	54		Table 8.4		Trend direction/symbol has not been included/indicated for water quality under the theme "Aquatic Ecosystems...."	Done
Babalwa Mqokeli	61	8			The scope of the SEA is to identify BOTH the potential opportunities and risks (i.e., issues) associated with the proposed development. Therefore reference to the assessment as being to "highlight major issues..." offers a partial narrative. Unless we can confidently say there aren't any positive/opportunities (direct/indirect) associated with the proposed development.	Amended
Babalwa Mqokeli	61-72		Tables 9.2, 9.3, 9.4, 9.5, 9.6 & 9.7		Authors to include the relevant tiered sensitivity colours in highlighting the definition and identified level of risk accordingly.	Done
Paul Lochner	3	13			This line reads "weathered zones or regolith", and is the one type of aquifer found. Can you please add a phrase something like ".. which is characterised by ..." to explain to the reader what this means, as done with previous two bullets.	Paragraph amended to include recommendation.
Paul Lochner	3	14-14			To make Summary more accessible to the general reader, please add a few words to explain what is meant by poor groundwater with a rating of 70 - 1000 mS/m. For example, add something like "... where mS/m is a measure of the conductivity of water (based on the salts/ions in the water) and indicates that the groundwater is saline. "	Paragraph amended to include recommendation.

Paul Lochner	9	17-19			Does the reference to “marine water sources” refer to possible supply of desalination water (from seawater) to areas outside the SEZ? Such as Alexander Bay. And more broadly? And what about water supply from treatment and re-use of water from WWTWs?	Added text to explain desalination source. Treatment and re-use of water from WWTW is addressed in recommendations for upgrading maintenace.
Paul Lochner	10	17-21			It is an important point that the effluent from WWTWs (as the result of increased development) must not lead to damage to aquatic systems.	Included in descriptins 7.4.2 and 7.4.3
Paul Lochner	10	6			Summary: Conclusions - what about the possibility that the SEZ leads to supply of desalinated seawater that support nearby towns such as Port Nolloth and Alexander Bay and reduces the dependence of these towns on water abstraction from the Orange River and / or ground water usage? Would this not be an opportunity in terms of protection of groundwater resources and surface water flow in the Orange River?	Have added section on positive impacts: 9.7
Catherine Meyer	i -ix	1 -31		Executive Summary: The current Executive Summary is nine pages long with four maps. The briefing states that this to be two pages long with one iconic map.Two pages is likely unreasonable and too short for the amount of information covered. However, efforts should be made to synthesise further into perhaps five pages.		Shortened to 7 pages and removed repetition
Catherine Meyer	i	16		There are numerous areas in the Exec Summary that can be summarised e.g. the proposed "expansion of renewable energy genereation and transimision infrastructure" to GH ₂ development		Shortened
Catherine Meyer	i	23		from biodiversity perspective... mention of the impacts on flow regime/ patterns is omitted.		Included
Catherine Meyer	i	31		See Comment 3 about use of subscript		Corrected
Catherine Meyer	ii	17-18		General: Executive summaries are often read stand alone, meaning that all acronyms should be expanded on first time use followed by abbreviations (even if covered in the main text)		Done

Catherine Meyer	ii	23		Can be summarised /shortened to GH ₂ development		Addressed
Catherine Meyer	iii	17		Between E1, E2 and E3 there is duplication in information e.g. aridity, the Orange River etc. This could be summarised once off		Addressed
Gary de Winnaar	iii	27		Spelling correction of "dryer"		Done
Gary de Winnaar	iii	42-45		With reduced resilience, rivers and floodplains will become more vulnerable to spread and infestation of invasive alien plant species, notably Prosopis spp., which will further exacerbate surface and groundwater availability. IAPs have been mentioned within the document, however, it will be good to ensure that the (indirect) impacts have been fully accounted for. This will also apply to added disturbances and linear features developing under Scenario 1 and 2.		Included
Gary de Winnaar	iv	6		Note to check that indirect impacts from upscaling deslination plants are considered. In particular, brine and disposal thereof.		This would be included in Marine reporting but is also referenced in the groundwater sensitivity section
Gary de Winnaar	iv	31		Need to close brackets after "Groen River Estuaries"i		Done
Gary de Winnaar	iv	42-44		Vioolsdrift Dam will also impact the river ecosystems between the dam and the estuary resulting in deterioration in riverine functions and processes (including increased spread and establishment of IAPs, leading to increased bank erosion, etc.).		This is referred to in page iii
Gary de Winnaar	v	9		Change orange to upper case		
Catherine Meyer	vii -ix	2 - 31		Sections E5 and E6 could be simplified further to help with shortening the Exec Summary		Done
Catherine Meyer	i - 84 (whole doc)	1-74		Main Report: This report is far longer than the required limit of 40 page as per the briefing. As indicated in the report (Page 4, L20), the geohydrology and aquatic ecosystems reporting was compiled directly into the present document, whilst the surface hdyrology report is appended. Thus the main document could be further streamlined, by removing the detailed reporting into respective appendices (e.g. categories of FEPA ratings, and background to sensitivity classifications are superfluous for the main report), thereby using the main document as a broad summary and the Executive Summary as the headlines summary		Have removed methodologies and background information and placed in new appendices (aquatic ecosystems)

Catherine Meyer	i-84 (whole doc)	1-74		General: GH2 should be subscript 2		Correct throughout
Catherine Meyer	2	16, 38, 39		General: issue with Table of Contents tabs to page numbers		Works in new version
Catherine Meyer	4	12		General: first mention of acronym PV (photo-volatic), not in list of acronyms		Added
Gary de Winnaar	4	13-14		Note: it will be important to ensure that brine impacts are considered in the marine study if disposed into the sea.		For marine study
Catherine Meyer	7	3		Reference to non-estuarine "micro-outlets". Given that this is the definition section and that these types of systems are newly classified (as at 2020), it is recommended that a definition of micro-outlet systems is provided here in this section.		Included
Catherine Meyer	8	12		While we are dealing with the coastal region in the context of South Africa, irt the study area the coastal region lies to the west, and hinterland to the east. Perhaps a typing error? See page 11 Line 3 referring to north western coastal region		Corrected
Catherine Meyer	8	Text box L1		General: Mean Annual Rainfall - suggested use of Precipitation for consistency and to not be confused with Runoff (MAR).		Changed to Precipitation where MAP is used, but rainfall used in general text.
Catherine Meyer	8	Text box L2		General: Global Climate Models - missing acronym, which follows in next sentence		Added
Gary de Winnaar	9			Any predictions of future temperature changes which will also affect water resources? I see this is mentioned later in the report.		Agreed
Catherine Meyer	11	Text box L4		General: punctuation errors		Corrected
Catherine Meyer	11	Text box L5		General: typing error ? MAE should be MAPE		Changed all to MAPE
Catherine Meyer	11		Figure 2.5	Subheading states Mean Annual Evaporation whilst text refers to Mean Annual Potential Evaporation. Please ensure consistency of terminology thorought		Changed to MAPE throughout

Catherine Meyer	12-13			This section reads disproportionately detailed and jargon-filled compared to the soils, geomorphology and even rainfall sections. Perhaps it can be simplified/ summarised. One is left questioning, what value does this add to the report from a water resource perspective. Certainly this would relate to geohydrology / aquifers, thus it should be tailored towards these aspects.		Agreed, geology is lengthy in comparison to the other subsection. I have made recommendations for shortening, however, if we decide to append the aquatic and GW reports to the end, we can include full geology there.
Catherine Meyer	12	4, 7, 46		Grammar: comprised of is incorrect, either comprises or is composed of		Grammatical errors fixed.
Catherine Meyer	14	19		General: third reference is outside of the collective.		Punctuation error fixed.
Catherine Meyer	12-14			Section 2.2 - 2.5 need to be made more relevant in respect to water resources. E.g. Geology and aquifers, Soil and perhaps water quality influences or highly erosive soils, Geomorphology and flow paths within the study area that lend itself to rivers, drainage lines, wetlands, dams, etc.		Geomorphology and geology has been updated; my recommendation is that we pull the soil section. For me to appropriately tie in the soils into the hydrogeology, I think I would need a whole extra page which would make the report even lengthier.
Catherine Meyer	14	30		Should be supported by a reference, related to e.g. the Succulent Karoo Biodiveristy Hotspot		Inserted
Catherine Meyer	15	1	Figure 2.8	There is no in-text reference to this figure. In addition, the map illustrates landcover (not land use). The extensive labelling on the map (quaternaries, towns and river names) overcrowds the depiction of landcover. It could be simplified to be clearer.		Added
Catherine Meyer	16			Section 3 Hydrogeology - Given that groundwater is a critical water source for the region, this section would benefit from one map (e.g. Figure B5 to come into the report, not as a appendix) showing the distribution of groundwater resources in the region (perhaps more than the map ilustrating the distribution of small dams)		Added
Catherine Meyer	16	16		Aquifer " is mapped". However, no figure reference (or map) follows.		Cross reference included.
Catherine Meyer	16	35		This sentence reads in opposition to Line 26... perhaps alternate wording is required..."in character" is rather referring to chemical composition?		Sentence amended.
Catherine Meyer	17	18		Section 3.4. Recharge: first paragraph L19-27 overlaps with Climate section 2.2.- thus duplication of information. Please look to combine this information. However, see L22-24 (comment below).		Edited

Catherine Meyer	17	22-24		Differing values (12-15x and 22x the MAP) vs those quoted in Section 2.2.3 Evaporation Pg. 11, L3, of 8-44x the MAP		Edited
Catherine Meyer	18	11		Grammar: It is not gramatically correct to start a sentence with a number. Please begin with expanded number, i.e. Fifty		Edited
Catherine Meyer	19	16		WR2012. Should be supported by a literature reference, e.g. Herold and Bailey (2016)		Fixed
Catherine Meyer	19	22		General: Please check Schutte et al., 2023 reference throughout the document for consistent punctuation use		Changed all to: Schütte et al., 2023 throughout
Catherine Meyer	20	Textbox L4		General: Expanded GCM terminology is not necessary as GCM acronym already previously used.		Changed all Global Climate Models to GCMs
Catherine Meyer	21	17		Grammar: lay to lies		Changed
Catherine Meyer	21	18		Is this the correct reference to be using. As per the reference list, DWAF 2008 relates to Groundwater. Perhaps DWAF 2008. Methodology for the Determination of the Ecological Water Requirements for Estuaries is missing from the reference list?		Corrected
Catherine Meyer	22	7-8		General: acronym for WWTW used in L6 above		Corrected
Gary de Winnaar	22	10-11		Can add: poor livestock farming practices and overgrazing grazing		Added
Catherine Meyer	22	15		General: acronym for WWTW used in L6 above		Corrected
Catherine Meyer	22	23		First half of sentence is incomplete.		Edited
Catherine Meyer	22	23-25		This is quite a sweeping statement without any backing (it is an assumption), especially wrt discharge to watercourses, or optimistic reuse in industry. It is recommended that the Municipal waste disposal plans or bulk services master plans or similar are consulted to back this statement.		Reworded
Catherine Meyer	25	1	Table 5.1	Table runs off the page. Are there other columns needing to be viewed. Table needs a note explaining the different acronyms used, e.g. LT, VU, CR, EN, WP, PP, MP etc.		Fixed

Gary de Winnaar	25	16		Should probably read: They need to stay "in" (or get into)		Edited
Gary de Winnaar	26	38-40		Barbus hospes is now named Enteromius hospes, and also to note that it is least threatened, but still considered an important species for the lower Orange. It is suspected that they have benefited from the dam releases and more consistent base flows.		Thank you - have added footnote
Catherine Meyer	27	22-24		It is worth noting that in some instances there is existing/historical extensive mining operations WITHIN coastal CBA1 and 2 areas which is arguable because of the level of historical degradation. However the CBA mapping is coarse and it is understood that the signficance comes from a climate adapation prespective, and preservation of the coastal corridor, more than extant biodiversity value in some areas.		Noted in text
Gary de Winnaar	27	39		Assume that the Namaqualand Hardeveld Bioregion has no wetland habitats? Probably worth mentioning for completeness and consistency.		No - there is one seep in this bioregion (noted in text)
Catherine Meyer	29	11		General: EIS acronym and expansion already used in the text above.		Edited
Gary de Winnaar	29	17		Duplication of "increasing wet season base flows"		Edited
Catherine Meyer	31	5		It would be good to mention that ETS of the ORM Estuary is Endangered, (as per 2018 NBA) given that this is one of the sensitivity criteria (as mentoined for the CTAPC estuaries)		Estuary ETS covered separately in Section 5.3
Catherine Meyer	31	38		Area of ORM Estuary: As per the 2018 NBA estuaries GIS layer the area of the ORM estuary is 3 019 ha. Also dounble check DWS, 2024 reference for 2024a or 2024b throughout the document.		DWS (2024) used with a footnote referencing NBA 2018. @024a and 2024b edited
Catherine Meyer	31	43		Extent of ORM Estuary: This is the former boundary. It now extends approx 3 km upstream of the bridge as indicated in the 2011 SAR of the Estuarine Management Plan, the 2018 NBA (Van Niekerk et al., 2019) and the updated SAR (yet to be finalised/gazetted) (EMP update process in progress)		Amended with thanks
Catherine Meyer	32	1-2		A more recent reference exists, namely the ORM updated Situation Assessment Report. However it has not yet been finalised/gazetted. Notwithstanding the information is much the same as reported in this section, including the REC, etc.		This text left as is

Catherine Meyer	32	15-16		Regulated water flows... as a result of hydro-electric and irrigation releases		Edited
Catherine Meyer	32	39		General: CTAPC acronym already expanded. Only acronym is necessary		Edited
Catherine Meyer	34		Figure 5.2	Refernce should be Van Nierkek et al., 2020 not 2014		Edited
Catherine Meyer	35	20		There is no in text reference to the registered groundwater use map at Appendix B: Figure B8		This has been rectified.
Catherine Meyer	35	16		General authorization of zero (?) m ³ /ha/a for groundwater use. Perhaps this is a typing error?		This is not an error, just an indication that all groundwater use needs to be licensed and is not available for general use without a licence.
Catherine Meyer	35	30	Figure 6.1	It would useful if the percentages were included on this pie chart. Power generation is 1% but looks greater than livestock watering (also 1%)		Graph updated with additional data and percentages included.
Catherine Meyer	36	11		According to the EFR study done for the ORM mouth and marine environment (Louw et al., 2013) the simulated annual MAR was given as 11 306.29 Mm3. This major difference between what is currently report requires investigation. This may because the latter reports the MAR without abstractions. Perhaps better to include the abstractions, especially given the uncertainty in actual abstraction volumes as is summarised in the rest of the paragraph.		This has been clarified in text
Catherine Meyer	37		Figure 6.3	The font size of this map is illegible. Good to increase for better readability.		Map re-done
Catherine Meyer	39	22		There is reference to a aquifer contamination susceptibility map. However there is no in text reference nor corrsponding map in the Appendices		This has been rectified.
Catherine Meyer	39	27	Table 7.3	Row 4 Minor Aquifer Region (3) - should this be Major not minor? Column 4x Row4, should this be High Susceptibility, not medium (as per Lines 25-26)?		Correct, error rectified.
Gary de Winnaar	40	26		Punctuation error.		Amended.

Gary de Winnaar	40	25-27		How much of SAs GW SWSA do they make up, i.e. how important are these resources within the national context.		Comment included.
Gary de Winnaar	42		Table 7,5	Were surface water SWSAs considered in the surface water resources sensitivity?		No. No known Surface Water SWSA in the region only the Stampriet Aquifer system (GW?)
Catherine Meyer	43	3		There is not explanataion or examples given as to why duration and frequency of inundation would increase (as explained for subsequent bullet points). E.g. is this due to diversion of runoff into these ecosystems from hardened surfaces?		Have added explanation
Catherine Meyer	48	3		General: assisted should be assessed		Assisted is correct
Catherine Meyer	48	16	Table 8.1	Table runs off the page. Are there other columns needing to be viewed?		No - table formatted
Gary de Winnaar	49	35		"Boegoebaai Port development. SEZ" should probably have a comma - this appears several times in the doc		Edited
Gary de Winnaar	50	4	Table 8.2	"Boegoebaai Port development. SEZ" should probably have a comma		Edited
Catherine Meyer	50 52 54	1 1 6	Table 8.2 Table 8.3 Table 8.4	For all three tables, it might worthwhile having two trend columns, allowing the reader to visually assess that Sc1 + Sc 2 will worsen the Sc0 situation		Not implemented - will not be compatible with ther reports and we believe explanatory text is clear
Gary de Winnaar	51	38		"Boegoebaai Port development. SEZ" should probably have a comma		Amended.
Gary de Winnaar	52	4	Table 8.3	"Boegoebaai Port development. SEZ" should probably have a comma		Amended.
Gary de Winnaar	52		Table 8.3	Punctuation error under the explanation for Runoff Extremes		Amended.
Gary de Winnaar	54	1		"Boegoebaai Port development. SEZ" should probably have a comma		Amended.
Gary de Winnaar	54	9	Tabe 8.4	"Boegoebaai Port development. SEZ" should probably have a comma		Amended.

Catherine Meyer	54		Tabe 8.4	Final row on : Also to consider- Shift in the River Estuarine Interface, with implications for productivty, and faunal communtiy assemblages and distribution, especially habitat use by fish		Added to "Orange River and Estuary" row
Catherine Meyer	57		Table 9.1	Negative - moderate catgeorisation for i) Geohydrology and iii) inland aquatic and estuarine resources: It seems counterintuitive that negative impacts of moderate consquence are "well within" WQ limits, and/or thresholds. If you are experiencing moderate changes, limits/thresholds or guidelines are being exceeded for some or multiple attributes. Such warning signs should elicit an immediate response to mitigate with specific interventions. Perhaps thresholds would be reached (as per their role as critical indicators) but this should not be described as "well within". For Inland Aquatic: If there is a "clear degradation" in various system attributes (abiotic/biotic) then these attributes are clearly being impacted, therefore "well within" tolerance levels is contradictory. Perhaps approaching the limit. Further, these ecosystems have been categorised as very high to highly sensitive (as per the assessment) and thus moderate impacts should certainly influence decision making processes and to ensure that the precautionary principal is upheld.		Agree with the concern raised - however, if the change is GREATER than this threshold, then this would be upscaled to the next level f consequence. Have removed "well" and left it as "within"
Catherine Meyer	58		Table 9.1	Negative - moderate categorisation - Significant impact implies ample evidence to show an impact. This implies that legal requirements are being exceeded.		Agreed - but NWA limits exceeded if there are ANY impacts -there are no thresholds
Catherine Meyer	61		Table 9.2	Medium degree of risk - It could be argued that with limited flows and sources of replenishment, that treated/untreated effluent would pose high risk to ephemeral systems potentially receiving such effluent. For systems holding water e.g. pans, or systems with water for only a short while, e.g arid estuaries and micro-outlets, the resultant state could be severely altered / compromised. The capacity for dilution is particularly limited in these systems (unless freshwater flows/groundwater inputs are supplemented, which in turn leads to a spiralling artificial interference). Effluent issues are already discernable in the Orange River which is a perennial system.		Agreed - but we do not have scope to go into detail. These issues are dealt with in the Sensitivity section (Section 7.4)
Catherine Meyer	65	5-8		This bullet points appears to be worded from the perspective of the resource impacting on the development, and should rather read as impacts of the development on the resource. e.g overabstraction/ reliance on Orange River and reticulation, thereby increasing pressure on ageing infrastructure, on a system already understrain, and also reducing available supply to increasing regional population.		Good ppoint. Thank you. Have reworded

Catherine Meyer	65	14		...from the Orange River [to be added: in alignment with the EFR and RQOs for the estuary and marine environment]		Added
Catherine Meyer	65	16		Based on the information presented in the report, desalination of groundwater is unlikely to be a feasible mitigation measure because groundwater resources are already under strain in the baseline scenario (Sc0)		Paragraph amended to only state desalination (of seawater).
Catherine Meyer	68	14		It would be advisable for Table 9.6 to follow immediately below Section 9.5.3 to keep with the train of thought		Have left in old order - to follow the surface water discussion.
Gary de Winnaar	68	20		"inland aquatic ecosystems" should probably be changed to "estuarine"		Thank you - amended
Catherine Meyer	69	34		Managing impacts: This point does not specify where the discharge of treated or untreated is being released to (but the paragraph alludes to estuaries). It must be a firm standing point (and therefore to go under Avoidance (i) Ln 8) - that No treated or untreated effluent must be permitted to flow into estuaries because they are highly sensitive ecosystems. The required zone of dilution is zero meters (as per the Guidelines for the Discharge of Effluent from Land based Source DEA, 2014; also DEA/Anchor, 2015). Thus water quality must meet receiving water quality standards at end of pipe, which is difficult and expensive for WWTWs to do, and unlikely to be achievable given the current performance record of WWTWs. Only under exceptional circumstances would such discharge be permitted into estuaries, e.g. to improve or maintain RQOs, or in irreversibly modified systems, and if end-of-pipe standards can be met.		We believe that the need for protection of estuaries from such inflows has been strongly emphasised in the report. If WWTWs can indeed achieve required receiving WQ standards and do not impact on natural flow regime / hydroperiod, then they could be tolerated.
Catherine Meyer	73	30		Another standing point is that opportunities for abstraction from the ORM estuary can only be considered if in keeping with the Ecological reserve and RQOs for the estuary and the marine environment		We believe that this is indeed addressed in the text
Catherine Meyer	74	33		General : typing error of desalinisation or desalination		Amended.
Catherine Meyer	75	3		Grammar: this resource to these resources place		Amended.
Gary de Winnaar	75	14-15		Assuming that indirect impacts to the environment (notably brine disposal) does not have a significant negative impact on water resources and aquatic ecosystems.		Yes - included in text

Catherine Meyer	75	29		Wording suggestion: GH ₂ development		Edited
Catherine Meyer	75	28-29		Personal opinion : this statement can be misconstrued as a throw away statement which infers that the specialist authors of this report don't in fact know themselves whether GH ₂ development is a good idea in the Namaqua region. I think it might be better to say that, for example, while solar and wind energy sources are promising/amply available (if found by the relevant specialist study), the availability of water resources (and related aquatic ecosystems) in this particular region is a major constraining or limiting factor for such development at the outset, taking into account current and future demands and projected climate change impacts.		Thank you - this is a good point and we have re-worded the text
Catherine Meyer	86	A3 3rd bullet		Refernce to 2018 NBA for the aquatic information - I trust that the Estuarine Realm report (Van Niekerk et al., 2019) and ancillary spreadsheets was consulted as well.		Yes. Added to list
Catherine Meyer	90-91		Figure B3 and Figure B4	Figure heading refers to study area as Boegoebaai port. This is incorrect for this Regional SEA component. Figure B3 is not necessary given the regional extent of the study.		Have left it in for context but amended heading
Gary de Winnaar	95		Figure B8	Embedded map heading is different to the figure heading		Addressed
Catherine Meyer	116		Figure C3-1	The font size of this map is illegible. Please increase for better readability. Data source/reference is missing		Map re-made
Catherine Meyer	126		Figure E6	As per previous comment: Map is very busy and could be simplified in terms of labels, e.g. river names, quaternaries, and/or town removed, to focus on conservation and landcover		Map re-made
				The report was well compiled and the authors were well researched/familiar with the region, covering critical aspects of groundwater and suface water resources, and inland aquatic ecosystems. It was a pleasure to read and rich in content, and very informative. Some overall final comments: - The Executive Summary and Report both exceeded the page limits however, a 2pg Executive Summary is unlikely to effectively and meaningfully capture the findings of three subchapters. Nonetheless,		

Catherine Meyer	Overall general comment			there are opportunities for further summarising of the Executive Summary. - The report could be shortened by removing detailed reporting background/ methodology aspects to the Appendices, as per the surface water reporting. - As other chapter author's were consulted, perhaps there could be a link to the Marine (local) study, cross-reporting on important considerations for desalination, as this would be a vital augmentation of water resources for the development. - The contribution of the Orange River Estuary to the marine environment warrants a mention given that this is a critical function of the estuary. - There are some minor spelling and punctuation errors dotted throughout the report that were not flagged in this review. - The update of the Orange River Estuary Estuarine Mangement Plan is currently in progress. The Situation Assessment Report has been completed. Within the SAR report there are results pertaining to water quality within the estuary that the author may want to consider/update the current chapter. A special request to DFFE/ORASECOM may be required to access the document. - Given the conceptual stage of this enormous development opportunity, I do think that the authors' opinion(s) (as selected specialists on the matter of water resources) should be more direct regarding their reservations/uncertainties, and not leave the reader guessing about alternatives.		Thank you for constructive, detailed comments. Much appreciated. We trust we have addressed the issues raised adequately
Kevin Pietersen	i	4		Remove flows		Sentence amended.
Kevin Pietersen	i	11		Is the formation of the pans/wetlands described in the text?		Described in Section 5.2.8 - albeit briefly. More detail in the WS1 report.
Kevin Pietersen	ii	13		Describe groundwater occurrence in the weathered zones at the same level of detail as the two bullets above.		Description included.
Kevin Pietersen	iii	3, 4		A figure will be good to illustrate the groundwater resource units and strategic water source areas? Also, a box to explain these terms will be helpful.		A new map has been included in Appendix B (Figure B9), but SWSAs and GRUs are described within the report body. For the purpose that the executive summary must remain as short as possible and is already considered too long, these descriptions have not been brought forward to the excutive summary.
Kevin Pietersen	v	41		The methodology for the sensitivity assessments requires some explanation.		The methodology is included in the report body and is not included in the executive summary as it is already longer than the brief.
Kevin Pietersen	viii	2, 3		This is the most important recommendation from a groundwater perspective. Desalination of groundwater can only be implemented with support from the government.		This comment is noted, thank you.

Kevin Pietersen	ix	17, 18		I am hesitant about such a recommendation based on the experiences of desalination plants on the south coast, for example.		There are definitely inherent risks that are associated with desalination which we acknowledge but don't have sufficient scope to assess in this report (or can practically assess in this 40 page requirement). We have mentioned it in this paragraph that there are risks associated here, but have not discussed/assessed the risk.
Kevin Pietersen	ix	30, 31		Should this question not come right up front?		Reworded and expanded on
Kevin Pietersen	4	33		Remove flows		Sentence amended.
Kevin Pietersen	16	30		It is important to highlight the issue of stratification. Fresher water may overlie more saline water and abstraction over time may induce poorer quality groundwater?		This has been included.
Kevin Pietersen	22	42, 43		Please explain the reasoning for this conclusion?		Amended; this sentence has been removed as it is in direct contradiction to what is stated on page 17 lines 42 - 45 (Section 3.4 Recharge).
Kevin Pietersen	35	7		Correct spelling to groundwater.		Sentence amended.
Kevin Pietersen	40	12		Is the latest DWS study results not available.		Not that I could find, unfortunately
Kevin Pietersen	40	14		To what extent has the tectonic framework been taken into account?		The tectonic framework is the primary criterion for delineation of the GRUs in this area - the geological terranes are the main subdivision.
Kevin Pietersen	50		Table 8.2 Row Water Availability and Recharge	The issue of thresholds for recharge and episodic recharge should be highlighted.		Highlighted in the report as recommended.

Chapter 5: Heritage resources						
Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Babalwa Mqokeli	4	23-25			Perhaps state the certain features and areas in this statement that are at risk from a visual perspective, as well as from a cultural perspective (i.e., the WHS, National Parks and other reserves, coastline, kamiesberg mountain range, prominent routes through the area, RCBL).	This has been inserted
Babalwa Mqokeli	4	41-42			In the statement "It must be noted, however, that impacts to highly significant sites would still be seen as negative." perhaps add "such as..." and list a few examples of such significant sites.	RCBL has been added as an example
Babalwa Mqokeli	5	16			The phrase " "relate the increase in scientific knowledge" is missing a preposition, update for clarity	This has been done.
Babalwa Mqokeli	5-6	General comment			Sub-section numbering in Executive Summary (ES) has no prior Section numbering (i.e., Section 7) therefore remove numbering in ES (i.e., 7.1, 7.2, 7.3, 7.4 & 7.5)	This has been removed.
Babalwa Mqokeli	5	38			Is the statement referring to inland areas away from the coast? If so, improve statement for clarity	There must be consultation with a specialist palaeontologist for the entire study area in WP2, and PIA reports produced as required..
Babalwa Mqokeli	7		Figure 1		Figure 1 makes reference to "SEZ study area", update accordingly. Also include in text reference to the sensistivity map in the body of the ES, as there is no prior reference to this map. Furthermore, it seems this map only includes maritime heritage and living heritage, and not account for the palaeo and cultural landscape sensitivity and thus not providing a full view of the Heritage sensitivity. Consider updating this and compiling an integrated sensitivity map to show all the sensitivities of the Heritage theme.	Now split into 2 maps to show sensitivity (1a) and named features (1b).
Babalwa Mqokeli	8	14			Considering there's mention of four Local Municipalities, it might be helpful to specify the names of the Municipalities, as it seems incomplete or unclear without them.	Municipal names have been inserted
Babalwa Mqokeli	8	17			Check in text Figure reference number	Done
Babalwa Mqokeli	8	18-21			Insert Figure in text references (i.e., Figure 3 and Figure 4)	Done
Babalwa Mqokeli	16		Figure 21		What does the red feature on the map (Figure 21) indicate?	This was an error and has been omitted in the new map
Babalwa Mqokeli	22	4			This sentence is not clear. Is it saying kraals often included separate enclosures for lambs (called lamb kraals)?	Clarified
Babalwa Mqokeli	23	1-3			Figure 1, as referenced in this sentence, does not clearly depict the RCBL (World Heritage Site), perhaps include a map in this Section (Section 4.7) which clearly indicates the site.	Now have 2 maps and RCBL is clear.
Babalwa Mqokeli	23	15			Perhaps replace "present" with "SEA" to indicate SEA WP1 study area.	Done

Babalwa Mqokeli					The features mentioned in the statement "Adjacent, and within the buffer zone, are the Richtersveld National Park and Nababiep Nature Reserve. Immediately east of Springbok is the Goegap Nature Reserve and further south again is the Namaqualand National Park (Webley & Morris 2004)." are not clearly depicted on a map, making it difficult to follow for context.	Now have 2 maps and these features are all indicated.
Babalwa Mqokeli	24	8-9			Check in text Figure reference number. Figure 32 indicates the Wildflowers inland of Hondeklipbaai	Done.
Babalwa Mqokeli	24	3			It may also be beneficial to explicitly indicate the scenic routes (i.e., N7, N14 and R382) on a map.	Done.
Babalwa Mqokeli	25		Figure 33		Add in legend or in Figure title that the yellow boundary is the study area (i.e., WP2 study area)	Done.
Babalwa Mqokeli	25	8			What does the abbreviation CRM stand for?	Cultural Resource Management. Abbrev removed since the term is only used once.
Babalwa Mqokeli	28		Figure 36		Figure 36 does not clearly indicate the RCBL nor does it indicate the transhumant herders from all six communal areas. Instead it indicates sensitive areas, and as per the previous comment it would beneficial to include a map in Section 4.7 clearly indicating these sites/features in order to link them to the sensitivity maps (Figure 1 and Figure 36).	Now fig. 37. We are not sure what is meant by "indicate the transhumance herders from all six communal areas"? Transhumance patterns can only be depicted after fieldwork in the areas concerned. The map shows the communal areas and the RCBL has been made clear.
Babalwa Mqokeli	30	15-22			Please clarify what is meant by "the environmental process" in this context. Are you referring specifically to the Environmental Impact Assessment (EIA) process or another form of environmental regulation or is this in reference to the environmental monitoring phase?	The Environmental Impact Assessment process as specified under NEMA and the NHRA
Babalwa Mqokeli	37-43		Table 10a, 11a, 10b, 11b, 10c, 11c, 10d. 11d, 10e, 11e, 10f, 11f, 10g, 11g		I've added the relevant colours associated with the Risk/Opportunity ratings (i.e., Low, Moderate, High and Very Hight	Thank you - done
Babalwa Mqokeli	General comment				The Potential Impacts sections describes the nature and distribution of potential negative and positive. However, as per the Scope outlined in the briefing note, you were also required to also include a "description of what would constitute best-practice for effective management/mitigation/enhancement of <i>(those)</i> positive and negative impacts”	Best practice for effective management/mitigation/enhancement of (those) positive and negative impacts, would be the implementation of the EIA process.
Paul Lochner	5	22			Typo - make it an upper case"R" for Natural Heritage Resources Act	Done

Paul Lochner	7		Figure 1		Maps are very valuable for communicating the findings of this WP2 study. In addition to comments above by Babalwa on Figure 1, I have the following comments. I think we need two iconic maps: Figure 1.1: Map showing all key features that are discussed in the Summary. Add the: - RCBL World Heritage Site boundary - declared provincial heritage sites that are regarded as of very high sensitivity - Kamiesberg - communal pastoral areas cited (Richtersveld; Leliefontein; Steinkopf; Komaggas; Concordia; Pella) - Label all roads mentioned - N7 and N14 are labelled - also label R382 and the "Wildeperdehoek Pass on the Messelpad Road" that is a scenic route. Figure 1.2: Map with full range of sensitivity mapping . In the existing Figure 1, what are the red stars? Are these the provincial heritage sites? Please clarify this in the Figure.	Done. See previous responses above.
Paul Lochner	9	2			check grammar in sentence	Done
Paul Lochner	17	5			The report states "the discovery of diamonds in 1926, falls outside the 100-year period in terms of the NHRA." Please add a sentence to explain this "100-year period".	The date for the discovery of the first diamond along the west coast is disputed, but according to Carstens was 1925. Hence the material remains associated with the discovery of diamonds would be protected under the NHRA.
Paul Lochner	17	5			It seems like we are cutting this fine, in that 1926 is only just outside the 100-year period. Could someone argue that the project development is happening outside the 100-year period and therefore cultural-historical aspects related to diamond mining should inform the SEA and the sensitivity mapping?	A section has been inserted to address this issue since development will still be in the future by which time legally archaeological residues of diamond mining may be affected..
Paul Lochner	18	8 and 12			Line 8 says Rev Schmelen is of the London Missionary Society. And line 12 says he is of the Rhenish Missionary Society. Please check. Did he change societies?	This has been cleared up.
Paul Lochner	27		Figure 25		Please add the place names "Cape Voltas, Wreck Point, Soco Reefs" to the Figure.	Done
Paul Lochner	28	3	ref to Figure 1		The text says "... Figure 1 does include the locations of declared provincial heritage sites which can be regarded as of very high sensitivity." Is this true? Please see if you can make these sites clearer in Figure 1.	The declared Provincial Heritage Sites as shown as stars in Figure 1.
Paul Lochner	28	48	Figure 36: Sensitivity mapping for living heritage.		In Figure 36: "Sensitivity mapping for living heritage", please add the names of the communities that are not shown in the Figure, such as Pella; Concordia; Richtersveld; Komaggas. Some names are shown, such as Steinkopf, linked to towns.	Now fig. 37. Done.
David Halkett	2	1		General comment for abstrac: should be updated after review comments are taken into account		Noted
David Halkett	2	28		No mention of later graves/cemeteries		Included
David Halkett	4	5		And mining and agriculture along the orange river		Included

David Halkett	7	3-4		These are areas which are currently known to be sensitive. There may be others that have not yet been identified.		"known" added into the caption.
David Halkett	11	14-15		"Many bedrock exposures in pans bear grinding grooves or patches on them" - suggested wording: "Grinding grooves or hollows, and ground areas are often found on exposed bedrock surfaces in or adjacent to pans"		Sentence improved
David Halkett	12	6-7		"Rock shelters with stratified deposits are extremely rare in the study area, numbering less than ten". - suggetsted text: Rock shelters with stratified deposits in the study area currently known to science are extremely rare, numbering less than ten."		Sentence improved
David Halkett	12	4		Suggested wording: "...some shells decorated with <i>engraved decoration</i> are known."		Added
David Halkett	12	8		In similar vane, Spoeg River is currently the only known shelter with deep deposit....		Added
David Halkett	12	18		Perhaps put rock engravings under a separate bullet point? Perhaps include this refernce with respect to rock engravings (and other archaeological resources along the lower Orange River: Halkett, D. 1999. A phase one archaeological assessment of heritage resources in the Trans Hex Diamond Concession, Richtersveld. Unpublished report. Cape Town: University of Cape Town, Department of Archaeology Contracts Office. Prepared for Trans Hex Group (Pty) Ltd.		Rock engravings added as separate bullet. The reference has been included, along with another from Vioolsdrif just to show that the distribution is not restricted to the area of the Transhex Concession.
David Halkett	12	19		I know of a single fine line engraving of a male human figure on the side of a cliff near Bloeddrift along the Orange R.		Noted
David Halkett	12	22		My recollection is cupules and grinding grooves were observed at Droegrond in Bushmanland (Smith date? - possibly in EiniquaInd book?). Not sure if that is in the study area though....may be just to the east.		Yes, outside the area to the east.
David Halkett	12	23		".....pastoralist pots.....," suggested: "...pastoralist ceramic pots....."		Done - sentence improved
David Halkett	14	15		" O’okiep Copper Company". Is this a typo or should it be O'kiep/Okiep?		Not a typo. This is the original spelling of O'okiep. However, we have jut used the modern spelling now.
David Halkett	16	11	figure 21	This figure is difficult to read due to scale and being text heavy.		Noted. Unfortunately, there is a lot of information to be included.
David Halkett	16	19		There are perhaps a few more references for the coastal mining areas....but perhaps not eessential to include in the context of the report?		Agreed
David Halkett	16	22-23		Stone piles can also arise from prospecting/drilling and may sometimes be confused with graves!		This can happen, although debris from drilling is usually different.

David Halkett	17	3		"...establishment of the reserves,..." Comment: for clarity, perhaps make it more clear what the reserves are that you are referring to.		Added "communal" before reserves
David Halkett	17	8		culmination should read culminating		Done
David Halkett	17	14		"..was those around.." should read "..was located around.."		Sentence improved
David Halkett	20	31		(Klinghardt 1982)): single bracket after 1982		Done
David Halkett	21	8		The “matjieshuise”.... Insert the word traditional before matjieshuise?		Done
David Halkett	22	12-13		"...which is largely inaccessible to tourism." Suggest "...and as a result, those areas are largely inaccessible to tourism."		Sentence improved
David Halkett	22	9-19		Granite mining too is prevalent in the area north east of Pofadder (and probably other areas too)and these activities can alter the landscape through mining of granite koppies, and disturb archaeological and historical remains		That is correct
David Halkett	24	14-15		How and why has the SAHRIS palaeo sensitivity map been altered?		The SAHRIS Palaeo Map was amended for several reasons. 1. The current maps shows buried marine formations for the WP project which will not be impacted. 2. The Nama Group, with its early life form fossils, was changed from CLEAR to HIGH. 3. Areas with unfossiliferous bedrock were changed to GREY/NOT SENS. 4. The Koekenaap Fm red aeolian surficial sands on the Garies map, were rated V HIGH, when they are actually LOW.
David Halkett	25	4-5	figure 23 caption	"In reality the surface sediments are of low sensitivity but are underlain by very high sensitivity sediments close to the coast).: Comment: If sub-surface strata are very highly sensitive, surely indicating as blue on the figure is deceptive? Depth sensitive I suppose but nevertheless!		The map for Alexander Bay shows subsurface geology, viz. buried marine formations under extensive aeoliansandsheets and dunes. The surficial aeolian sands are most likely to be disturbed by the construction earthworks. The late Quaternary fossils in these soils are accorded LOW sensitivity.
David Halkett	26	5		I agree it would be problematic at this scale to map sites and sensitivity. I am not sure whether in terms of the brief it would be useful to show where archaeological and palaeontological (and other heritage related) studies have been done. Most of this is on SAHRIS, although some projects from earlier years may be missing. Similarly, research projects have identified resources across the landscape but may not be captured on SAHRIS. The reference list represents only a fraction of the reporting that is available as you have said. The totality of the work allows for a decent baseline condition statement for the study area overall.		It's important to emphasise that this is an SEA, and not a Baseline study which would happen for a small area being targeted for development. A desktop review of all the literature is outside the scope of the project.
David Halkett	27	5-10		There is no mention of other kinds of graves post-dating the pre-colonial era. Informal cemeteries, burial clusters etc.		This has been inserted
David Halkett	28	3-4		"However, Figure 1 does include the locations of declared provincial 3 heritage sites..." Comment: No PHS's are indicated on Figure 1.		PHS sites are indicated as red stars

David Halkett	28	12		"These areas are thus regarded..." Comment: When you say "these areas" are you only refrring to only the red areas or any other areas beyond the reserves as well ?		The word "communal" inserted before "these areas" for clarity.
David Halkett	30	6-9		Comment: All mining in the study area poses risks to all types of heritage resources.		Agreed
David Halkett	30	35-36		Suggested wording: Infrastructure and mining development may also occur in communal grazing lands <i>and further threaten traditional landuse patterns</i>		Included the proposed addition to the sentence
David Halkett	31	10-11		Surely some infrastructure will affcet more than just surficial sediments? Perhaps specify what is meant by "surficial" ie depth. Probably only relavant in some areas.		Unfortunately, we have no indication of the proposed depth during development
David Halkett	31	14-18		Does it not follow that sites in the interior of the study area are fewer and more dispersed generally, and therefore significance may be higher?		No. It means that since inland sites may be more dispersed, there is the opportunity to avoid them with proposed infrastructure and development.
David Halkett	32	23		suggested wording: communal <i>use</i> areas.		Done
David Halkett	32	28		suggested wording: communal <i>use</i> areas.		Done
David Halkett	32	32		Genral comment: No tables 1-7 are found in the report? Whay does table numbering start at 8?		This is how the instructions were given for the report
David Halkett	34		table 8 - negative	Graves - extreme column: Suggested wording: Many graves destroyed <i>without any record</i>		Sentence added
David Halkett	35		table 8 - positive	Graves Comment: all columns refer to known graves? Surely it shoul be ALL graves, known and unknown? Saying "known graves" are being "discovered" is contradictory!		"known" is changed to "marked". This is what was meant. Can only deal with marked graves here since unmarked graves are completely unknown until dug up.
David Halkett	36		table 8 - positive	Cultural landscape - Mining is singled out as the main culprit for visual impacts. Surely there are others which are relavant to the topic, ie powerlines, processing plants, windfarms, formal and informal roads to name a few. Mining with all its impacts has almost become part of the cultural landscape of parts of the northern Cape!		We are considering positive impacts here - so environmental mitigation after mining
David Halkett	36	7		Comment: you mention the SAHRA grading system but there is no integration of the grading categories in Table 8 with regard to heritage significance.		SAHRA grades were not inmcluded because in terms of the guidelines they only apply to archaeology and palaeontology. This is a VERY RELATIVE sliding scale for degree of impact and is not meant to grade the sites being impacted.
David Halkett	37-43			Table numbering is not sequential but I am assuming this is deliberate? Also, a number of categories across the Tables are indicated as N/ and as a reader I find it difficult to know immediately why that is the case! Perhaps footnotes/clarifying text below such tables to indicate the use of n/a?		Correct. Table numbering is as per instructions from the client
David Halkett	44	11 to 12		This speaks to my earlier point about surface palaeontological sensitivity and clarifying sensitivity in terms of depth. i.e what activities have deep impacts as examples.		Information in this regard is not available at this stage.

David Halkett	44	26-27		What level of specialit study will be required? It would seem that desktop studies will not be of great help in pin-pointing actual wreck sites/debris fields?		The Underwater Heritage Impact Assessment would follow standard mininum standards just like any other specialist study.
David Halkett	44	32-35		The question of exhumation and reburial is likely to be hotly debated. Exhumation should only occur where no other options for mitigation are possible. Easier to mitigate known marked graves and cemeteries. Given the scale of the project in later years, there should be a relibale method for dtermining if surface stone piles/cairns are in fact graves or just random piles.		Noted. Exhumations are a last resort and it is best they are avoided. With regard a reliable method of determining graves under stone cairns, this technology is not present currently
David Halkett	44	1		General comment for this section: You say there are no areas of palaeontological resources which warrant NO GO status. Are there no instances of other heritage resources which may warrant being No Go areas? RCBL and buffer for example springs to mind?		Correct, the RCBL would be a no-go area
David Halkett	48	25		Reference Mussgunug should follow after Morris. My earlier comments wrt to the limited reference list applies i.e. there are many more heritage-related references available that can be used when individual projects are initiated for the GH2 (in some areas).		Done
David Halkett		general comment		I believe the range of possible heritage resources and sensitivity has been covered in the report. I agree with the authors that there are likely to be many more sites which will hopefully be identified during more specific surveys in the Namakwa Region SEA area. As with the previous WPT1 study area, visual resources of Namakwa 2 Region SEA study area must be included when assessing impacts on heritage during implementation of the GH2 program.		A specific Visual Impact Assessment must be commissioned within EIA processes.

Chapter 6: Infrastructure and planning

Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors	ELSONA - Questions/Comments Internal	Johan Comments & Notes	Michelle	Johan follow up on Michelle
Antony Cooper	Cover			The sources of the photos on the cover should be given somewhere.		The cover is only a temporary item.It is likely to fall away with a simple chapter intro. This will be established by the final editors assembling the document.			Nothing further	
Antony Cooper	Cover			Is there a template for the covers of the reports? I would expect the cover to state what organisation produced the report, the client for the report, and contact details for both. Alternatively, these details could be put on the first inside page.		See previous comment	Is this not relevant to the report instead of to each chapter?		Nothing further	Yes
Antony Cooper	Cover			I would expect logos of the relevant organisations on the cover.		Logos and related item will likely only feature on the combined document.	Is this not relevant to the report instead of to each chapter?		Nothing further	Yes
Antony Cooper	General			It is not clear if this report will be open or if it is confidential or secret. This should be stated somewhere.		The status of the report will be reflected on the final combined document. Not relevant at this stage as the document is not openly distributed.	Is this not relevant to the report instead of to each chapter?		Nothing further	Yes
Antony Cooper	ii			It is useful to provide a recommended citation for the report, such as on page ii. Further, the document should have an unique identifier, such as the project ID and report ID, or a DOI. A DOI can be obtained for US\$1.00 from https://www.crossref.org/		In line with prior comments, the final combined document will carry the citation specification, identifier, DOI etc.	Is this not relevant to the report instead of to each chapter?		Nothing further	Yes
Antony Cooper	ii			I think the glossary and list of acronyms should come before the Executive Summary .		Moved the definitions and abbreviations section in line with reviewer comment.	Is this not relevant to the report instead of to each chapter?		Nothing further	Yes
Antony Cooper	General			There is a lot of repetition in this document.			EDIT Required		Edit still needed?	No edit
Antony Cooper	vi			The Executive Summary should start with a concise outline of the brief, the Boegoebaai project, the three scenarios and the context for this report. This report does not include any costs for the project, presumably because that was not part of the brief, but the report should state where the costs and analysis of them can be found.		This will form part of preceeding chapter (s) as this chapter flows from items adressed in other more general sections.	Is this not relevant to the report instead of to each chapter?		Nothing further	Yes
Antony Cooper	vi - vii	5-42, 1-10, 20-23		Other than the bullet point between lines 11 and 19, the text is generic and could apply to any large project, save for the single mention of the Richtersveld Local Municipality in line 23. Each of these bullets should refer to specifics of the proposed project and/or the area.		Edited but could edited further.	Check	To confer with Elsona	Made some edits - see blue changes and comments	Yes, Not all
Antony Cooper	vi	5		Whose planning governance function? National, provincial district or local municipality, or all of them?		For me this is especially a challenge for the Richtersveld municipality. It is however not limited to this level.	Check	To confer with Elsona	Nothing further	Yes
Antony Cooper	vi	29-35		This bullet point should mention the huge amount of expected extra traffic from heavy vehicles, which not only will wear away the roads rapidly but will need service infrastructure for fuel and maintenance, and all those extra fuel tankers to bring in the fuel before all the trucks run on green hydrogen.		Edited to refer to the increased heavy vehicle traffic.	Yes	To confer with Elsona	Nothing further	Yes
Antony Cooper	vii			The Executive Summary should end with an overall concluding statement, such as whether or not the project is feasible or useful, etc.		Need to confer to see what is an appropriate statement.	Included in the chapter?		A statement around the overall desirability should be made in the broader assessment (i.e. not per chapter)	Added something but need to talk through it

Antony Cooper	viii - x			The items in the table should be in some sensible order, such as alphabetical. Some of the text is in italics and some not. "Spatial Planning and Land Use Management Act (SPLUMA)" is in a larger font than the rest of the table.		It is in Alphabetical order. Removed Italic font.	Check		Nothing further	Yes
Antony Cooper	viii			The definition for "core region" should include the names of the four municipalities.		Added the nmaes of the municipalities.	Yes		Nothing further	Yes
Antony Cooper	viii			Definitions should be added for "GE site", "SEA" and "GH2".		Added definitions/ descriptions for these items.	Yes - will it be per chapter/Report as a whole?	The final editted document might contain the overall list of abbreviations etc. This might fall away in this chapter.	Changed GE to GH in appropriate place - see blue mark up	Yes
Antony Cooper	1		1. Introduction and scope	The introduction should include a brief description of how the evaluation was done, such as conducting site visits, reviewing the literature, interviewing key stakeholders, etc.		Edited and added a paragraph section.	Per chapter?		Write out acronymns	Yes
Antony Cooper	1		1. Introduction and scope	It is not clear to what extent the proposed Boegoebaai project will use green hydrogen for local use, such as powering heavy vehicles or industries.		The local use is only specified in the scenario reflection. Initial focus is on export.	Is that part of the assumptions we received?	No such details - the key assumption is GH2 for export. Need to check	Check	Yes
Antony Cooper	1	7, 27		Khai-M or Khai-Ma or Khâi-Ma?		Edited all Khai-Ma.	Check		Nothing further	Yes
Antony Cooper	1	7		It should be stated here that these are local municipalities and they all are in the Namakwa District Municipality.		Edited to reflect that these are local municipalities.	Yes - will it be per chapter/Report as a whole?		Nothing further	Yes
Antony Cooper	1	18-19		What about wind energy potential?		Edited.	??		Nothing further	Yes
Antony Cooper	2		Figure 1	The legend is illegible at less than 200%. It is not clear that all the different classes are included in the map. It would be better to use far fewer, higher-level classes. These comments also apply to the other maps in this document.		I replaced the map with a more simplified land covers using the 2001 version.	Johan - do we need to discuss/can that just be amended?	Standard landcover has too many classes for a map this size in the report.	Nothing further	Yes
Antony Cooper	2	14-15		The infrastructure and the landowners WILL be impacted!		Changed the phrasing to 'WILL'	Check		Nothing further	Yes
Antony Cooper	2	15		The major landowners should be identified here in general, eg: communities, municipalities, mining companies, commercial farmers, etc.		Same as previous comment.	OK - NB		Change hasn't been made	No change
Antony Cooper	2	21		First introduce SPLUMA, then discuss the impact.		Expanded the abbreviation and a section in brackets to simple describe its intention)	check		Nothing further	Yes
Antony Cooper	3	23-24		The shading should be removed.		Removed the shading but added a note refering to the need to place the reference here when the combined report is created.	check		Nothing further	Yes
Antony Cooper	3	5-33		It will be useful to include references to the relevant sections in this chapter.		The key reference here is the chapter that Doreen is dealing with. She would go into more detail regerding settlements and development aspects. We need to refer to her section.	??		Nothing further	Yes
Antony Cooper	3	17-24		This paragraph is a bit confusing because the context for this report has not been given, specifically the other reports that have investigated the proposed Boegoebaai project.		This states that this section of the broader report is not a stand alone but that the readers should also consider the issues raised in other section that could shed more light on the challenges - not adressed here.	In the overall report? Or stand alone as chapter?	Refering to other sections of the report	Nothing further	Yes

Antony Cooper	3	25-26		And detailed environment impact assessments, etc?		Added reference to such items.	??		Apologies, I lost the changes. Added EIA's to 2nd sentence in paragraph.	Yes
Antony Cooper	3	29	Figure 2	Figure 2 needs a more detailed introduction. Also, what is the source of the figure? I think that Figure 2 should come after the envisaged project and scenarios have been introduced, which will provide the context for the contents of the figure.		Elsona and Michjelle - what do you think?	Check	Might need to move it.	I think it should be moved as Anthony suggests. It also needs an edit (and reference?)	Not moved yet, reference edited
Antony Cooper	4	14		I think that a few details of the weakness of the municipalities should be given here, such as from the reports of the Auditor General of South Africa. For example, all four local municipalities had qualified audit outcomes for the 2022-23 financial year, though the Namaqua District Municipality had an unqualified audit outcome with no findings.		Edited to add a brief portion reflecting information from the Auditor General's report.	Makes sense		Agreed. Check my blue addition.	Yes
Antony Cooper	5	1-25	Figure 3	It is not clear how Figure 3 relates to the bullet points in lines 10 to 25.		The bullets mentions items reflected in the graphic - but it pertinantly mentions a few.	Check	Not sure how more I can improve or add to it??	Include a key where the acronyms are written out.	Yes
Antony Cooper	5	13-14		Please provide a reference for the Richtersveld SDF, which will then also give its date and hence how current it is.		Reference provided.	??		Nothing further	Yes
Antony Cooper	5	16-17		Either replace the opening bracket with a comma, or add a closing bracket. It is also not clear which part of the text is the reference.		Edited and reference added/ corrected.	EDIT Required		Nothing further	Yes
Antony Cooper	6	11		These words should not have capital letters as they are not proper names nor the titles of documents.		Edited.	EDIT Required		Nothing further	Yes
Antony Cooper	6	19		This is the first mention of SEA, so I thought that it was an incorrect spelling of SEZ!		SEA is correct. Referring to the region of study.	Check		Write out acronymns first time used.	Yes
Antony Cooper	6	19-21		A better wording of this sentence is: "The governance capacity is already limited for the local and district municipalities in the Namakwa SEA region for coordinated and aligned spatial and infrastructure investment planning and management, including the mitigation of any new activities in their areas of jurisdiction."		Changed the section with the provided alternative text.	EDIT Required		Made small change - see blue edit.	Yes
Antony Cooper	6	41-42		The words "Geographic Information System" should not have capital letters as they are not proper names nor the titles of documents.		Removed the capitals in text.	EDIT Required		Nothing further	Yes
Antony Cooper	8		Table 3	The lines are inconsistent. Growth in settlement structures implies that the individual structures are getting bigger (which might be the case!). I think a better term is increase (if it is about the number of structures) or expansion (if it is about the area covered by them).		Notes - used the term 'Increase' in stead of 'growth'.	Makes sense - Edit required		I would change the title of this table to 'Increase in Settlement Structures from from XXX(year) to XXX(year). This is if you are talking about number of structures and not area covered.	Yes
Antony Cooper	8-9		Table 3 & Figure 4	Aggeneys is in Table 3 but not in Figure 4. Kleinsee in Table 3 vs Kleinsee in Figure 4.		Edited map.	Check		Nothing further	Yes
Antony Cooper	9		Figure 4	The map is too small to read at less than 200%. What are all the small polygons?		Map edited to enlarge some features such as text.	Check??		At 100% the names of places are still a bit small.	Leave for now, await comment from Paul etc.

Antony Cooper	9	9-10		It is not clear if any of these documents exist or if they are mandatory or when they need to be updated, etc.		Just a reference to such document they might neve. Edited the paragraph.	Check??		Agreed. Small changes proposed.	Yes
Antony Cooper	9	21		Are these Breaking New Ground (BNG) houses, in which case capitals should be used, or pseudo-BNG houses, in which case the quotes and lower case is appropriate. Further, is 448 an adequate number and what is the time scale?		Edited by capitalising BNG in text.	??		Nothing further	Yes
Antony Cooper	10	6		The shading should be removed.		Removed shading - only served as a reminder to link to later section in overall report.	EDIT Required		Nothing further	Yes
Antony Cooper	10	27		Remove "Municipality" or add it to the other three. Also, lower case for Housing.		Added 'municipality' to the other three.	EDIT Required		Put in lower case for 'housing'	Yes
Antony Cooper	9-10		2.3.1. Water and sanitation	Clearly, massive investment in water and sanitation is needed, including removing all the asbestos pipes immediately. It seems that one or more desalination plants will be essential to provide potable water, which might be part of the water system for producing green hydrogen.		Agreed. Added a paragraph indicating the added need for desalination at the SEZ.	??		Agreed. Check my small blue change.	Yes
Antony Cooper	11	12-13		While in good condition, the N7 and N14 away from Springbok have rather narrow hard shoulders.		Noted. No further comment of edits.	??		Nothing further	Yes
Antony Cooper	11	14-22		The paragraph about the gravel and municipal roads should be moved to after the two paragraphs about the R382. Also, the first sentence should not start with 'other', because that implies the N1, N14 and R382 are gravel roads.		Moved the paragraph.	Makes sense - Edit required		Agreed. See small comment	Yes
Antony Cooper	11	27-30		Generally, the R382 lacks hard shoulders, as shown by both photos in Figure 5.		Notes but no changes were made to this item	??		Nothing further	Yes
Antony Cooper	11		2.3.2. Road Infrastructure	This section should discuss the massive volume of traffic expected, being 32-55 truck & trailer combinations each hour (see my comments on Table 8), pounding through towns such as Upington, Kakamas, Pofadder, Springbok, Steinkopf and Port Nolloth.		I do not agree as this section describes the baseline situation. Would rather reflect this issue under the potential impacts section.	Makes sense - Edit required	Check with Elsona...	Agree that this section is describing the CURRENT situation	Yes
Antony Cooper	12		2.3.3. Electricity & Figure 6	Wind energy potential is included in the map, but not in the text. Presumably, the proposed project will increase electricity generation in the area, and not only demand?		Yes it is reflected in the next section 2.3.4	Check??		Nothing further	Yes
Antony Cooper	12	23		Reference for the Integrated Resource Plan? Is this a national, regional or local plan?		Added citation.	??		Citation doesn't seem to be added in Section 2.3.4, first paragraph	Yes
Antony Cooper	Page 13 line 19, page 21 line 43-44 and page 44 line 12			Richtersveld Sida Hub, "Richtersveld Sida !Hub" or "Richtersveld Sida! Hub"?		Standardised on the name for all three references.	??		Nothing further	Yes
Antony Cooper	14		Figure 7	Ecclesiastical is mentioned only in the legend for Figure 7 and nowhere in the text. Presumably, this refers to mission stations?		It does not show on the map so I will be very limited or small. DO not think mentioning it in the text is relevant.	??		Nothing further	Yes

Antony Cooper	14-15		2.3.7. Information and Communication technology	What would be suitable? LTE, EDGE, 5G or something else?		No It is not for us to propose ICT technology - rather this is something the developers will determine. The point to be made is that currently the coverage is limited meaning that should any notable development occur then the ICT infrastructure should also be improved.	Do we need to say what would be most suitable?		Nothing further	Yes
Antony Cooper	15		2.3.8. Gas Pipeline	Is this referring to the much-delayed exploitation of the Kudu Gas Field and other gas deposits, or to the supply of gas for household, commercial and industrial use? Also, where will the gas pipelines run from and to?		Text was added which includes a description of there the line would connect.	How much detail do we provide?		Nothing further	Yes
Antony Cooper	15		2.4. Regional development opportunities & Figure 9	It is not clear if these other projects will compete with the Boegoebaai project for resources, or if they will complement one another. Also, Figure 9 includes BNG projects, but these are not mentioned in the text.		Added text outlining possible pressure and compettion for resources and skills	Not sure - can we determine this?		Nothing further	Yes
Antony Cooper	15	33		As the Vioolsdrift Dam is mentioned several times, it would be useful to state here what it is intended to do, such as flood control, or provide water for irrigation, mining, green energy or household consumption. Also, will it be on the Orange River, or on a tributary?		Added a sentence adressing the questions raised.	?? I am not sure either - apologies		Nothing further	Yes
Antony Cooper	17	9-11	Table 5	6538 jobs, as stated in the text, or 5638, as stated in Table 5? Also, where does 6336 come from?		Number edited in the table.	Check		See comments around referencing the employment estimates	Yes
Antony Cooper	17	9-11		As this is probably a close-nit community, in-migration might cause conflict between the residents and the immigrants (particularly over jobs) and other social problems. Even worse, the number of new jobs is likely to be far less than the number of job seekers moving into the area.		Nothing to add - agree but it is difficult to even predict the extent of migration. Leave as is. Aspect should be featured in Doreen's section.	Yes - I assume this is addressed in Doreen's chapter?	Asked Babalwa if she can send Doree's draft doc.	Agreed. Check in Doreen's chapter.	Yes
Antony Cooper	17	15		Other lower bounds given in Table 5 are 1320, 1310, 1220 and 840.		Adjusted - referring to decline directly after construction.	Check		I suggest providing dates for the years that are being referred to. Otherwise it seems that there are lower numbers that should be considered.	adjusted
Antony Cooper	17	18 & 28		What would the approximate commute times be, bearing in mind that the R382 will be packed with trucks and trailers.		Added text mentioning travel time.	OK that is a valid question - can we calculate?		Nothing further	Yes
Antony Cooper	20		Figure 10	Some of the text is blurry. Could the figure be made slightly larger to make the text easier to read?		Made figure larger.	Check and edit		Nothing further	Yes
Antony Cooper	20-21	22-21		It is best not to have a paragraph consisting of only one sentence, or a very long paragraph.		Could not find this item?	Edit		Have split the long paragraph into 3 - see track changes	Yes
Antony Cooper	21-22			The three subsection headings (for each of the scenarios) should be numbered 3.1.1, 3.1.2 and 3.1.3.		Added numbers to sub-heaings.	Edit		Nothing further	Yes

Antony Cooper	21	41		Addressing the N7, N14, and R382 needs or changes?		Added text to clarify.			Nothing further	Yes
Antony Cooper	22	38-40		It is not necessarily wrong for people to move from small isolated settlements that are expensive to service, to growth towns with the population and infrastructure to provide better services and a better life for all.		I am not saying it is wrong - rather that one should not neglect smaller towns. It is about ensuring a balance within the constraints of available funding.	valid - Edit		Nothing further	Yes
Antony Cooper	23	4		Here 'region' could be interpreted as being the Richtersveld LM. Rather use district or district municipality.		Not refering to the district but to the study area. Changed text to clarify this.	Edit		Nothing further	Yes
Antony Cooper	23		Figure 11	Source for photos?		Added source.	Edit and add		Nothing further	Yes
Antony Cooper	24	18		Combine references into one set of brackets.		<i>Needs to be checked in final editing</i>	Edit		Needs to be checked in final editing	Yes
Antony Cooper	25-26		Table 6	What are the sources for Table 6? If it is the work of the authors, it should so be stated in the text. Does the baseline scenario include wind and solar energy unrelated to the proposed Boegoebaai project? Ideally, the Big Hydrogen production scenario would lead to businesses being established in the area to exploit the green hydrogen and the intermediate products (green electricity, desalinated water, brine, salt, etc).		Added text to refer to projects occuring despite Boegoebaai SEZ.	This possible to deduct from the assumptions from the broader project?		Please let me know when you get to Table 7. It definitely needs editing but I am not sure I always understand what is being meant - so I think its best done over TEAMS.	Edited with Michelle
Antony Cooper	27-28			The three subsection headings (for each of the scenarios) should be numbered 3.2.1, 3.2.2 and 3.2.3.		Added numbers to sub-heaings.	Edit		Nothing further	Yes
Antony Cooper	27	14		This is the only time COGTA is mentioned in the text, so the full name should be given here.		Replaced with full name.	Edit		Added "Department of ..."	Yes
Antony Cooper	28	4		Highly-skilled professionals might well expect a good airport to be conveniently close, so t6hat they can spend the weekends in Cape Town or Gauteng.		Yes it is true - but the point refers to people not living in the two key towns but further away. As per the example of Aggeneys	Relevant - but how do we handle this?		Edit sentence to reflect that the point refers to people not living in the two key towns but further away (e.g. Aggeneys)	Yes
Antony Cooper	29	32-35		Some of the iron ore mines serviced by OREX Line are nearing the end of their lives and have started the mine closure processes. Kumba's Kolomela is expected to close in 2034 and Sishen in 2040. The iron transported by the OREX Line could be replaced by manganese, but that reduces the ore available to be transported along the proposed new railway line to Boegoebaai.		Added a sentence to mention this possibility. Not sure if it can be better said.	This is valid - how do we handle this?		Nothing further	Yes
Antony Cooper	30	16		The formatting of this line looks odd.		No chang - product of MS Word.	Edit		Nothing further	Yes
Antony Cooper	31	1	Table 8	Zinc not Zink, Ilmenite not Illemenite. Also, in a table it is better to use left justification and not full justification.		Edited and spelling corrected.	Edit		Agreed. But see comments in document about referencing tables.	Yes

Antony Cooper	31	1	Table 8	It seems that this table is the only place where iron, magnetite, ilmenite and salt are mentioned, and one of few places where lead and zinc are mentioned. This makes me sceptical about the likelihood of shipping minerals out of Boegoebaai.		Based on a pre study - the volumes of these commodities are low. Manganese dominate.	I am not clear - @johan?		Include a sentence (or footnote) before or after table to draw readers attention to the fact that the volumes of these commodities are low and that manganese dominates (reference to pre-study - or are you referring to the TM Consulting Report?).	Added sentence
Antony Cooper	31	1	Table 8	On the other hand, Table 8 does not mention copper.		Based on a pre study - Copper is only now experiencing a revival.	As above		Nothing further	Yes
Antony Cooper	31		Table 8	The headings for columns 2 and 3 are confusing, because based on Table 4, no minerals will be shipped through Boegoebaai before 2031, when building the port has been completed.		Adjusted dates to better match	Clarify and edit		Nothing further	Yes
Antony Cooper	31	1-5	Table 8	Side-tipper trucks with 40 m3 capacity are common in South Africa and it is common for such a truck to tow a side-tipper trailer that also has 40m3 capacity. Each can carry 30-35 tons, though the maximum combination mass is 56 tons. Thus, 7.83 Mtpa will require over 139 000 trips by tuck and trailer combinations per year, or 383 per day (including weekends and holidays) or 537 for 52 5-day weeks. 9.61 Mtpa will require over 171 000 trips pa, or 470 per day or 660 per working day. With the return trips of the empty trucks and trailers, that is from 32 to 55 trucks an hour.		The Pre study calculated that that 561 heavy vehicles will visit the Port per day. This is projected to increase to 829 by 2050. Both indicate large numbers and the numbers are close.	This is probably what we should have calculated - practically - this is not possible? Can we discuss		Nothing further - happy to discuss if needed (see Elsona's comment)	Yes
Antony Cooper	31	1-5	Table 8	Note that by road, Hotazel is about 985 km from the Port of Coega, about 790 km from Port Nolloth and about 855 km from Boegoebaai. However, the road from Hotazel to Port Nolloth runs through the middle of Upington for several kilometres.		Not refering to wat is isn the text, rather it seems to refer to what is mentioned = 'beyond' or further afield affected towns.	How do we handle this?		Comment and response not clear to me.	Yes
Antony Cooper	39	7-9		This is the first time that Abraham Villiers Bay and Oranjemund are mentioned. Is Abraham Villiers Bay at Port Nolloth? Is Oranjemund at Alexander Bay, or in Namibia?		These lines have been removed due to other text edits in the section.	Clarify and check if we need to introduce earlier?		Nothing further	Yes
Antony Cooper	40		Figure 18	Figure 18 is difficult to read and to understand. It needs explanation in the text.		It is refered to in terms of the Northern Cape green hydrogen master plan. It just want to show the link, but if needed it can be removed also.	Edit and add		I would suggest removing this figure as its not clear.	No change
Antony Cooper	42	2-6	Table 10	These amounts of electricity should be correlated with the current consumption for South Africa as a whole and if possible, with the current consumption for the Northern Cape and the municipalities. As far as I know, this project will use the same amount of electrical power that the whole of South Africa uses now!		I added an item referencing the SA total production in comparison.	I am not sure about this at all!! Who can support?		Nothing further	Yes
Antony Cooper	42		Table 10	In the headings, should Sc1 Sam GH2 not be Sc1 Small GH2? Then should Sc2: Big Green Hydrogen Scenario not be Sc2: Big GH2? If footprint=extent, why have both RE footprint - solar and RE extent - solar?		Edited the table to reflect Scenarios and removed a duplicated line.	EDIT Required		Nothing further	Yes
Antony Cooper	42	9-10		What about offshore wind and solar power, or even wave power?		Offshore wind is not an option and offshore wave and solar is not considered. Added item refering to wind energy issue.	Do we address this? OR part of the assumptions?		Suggest to SEA core team to include the fact that offshore wave and solar is not considered in their introduction to the whole report (their assumptions).	Agreed
Antony Cooper	42	25	26	Appendix F does NOT identify potential sites!		Edited to refer to Appendix E.	Amend		Nothing further	Yes

Antony Cooper	45	19-20		GB or GW?		Edited.	??		GB still used twice in 3rd line of paragraph.	Yes
Antony Cooper	46	18		Delete the hyphen.		Deleted.	Edit		Nothing further	Yes
Antony Cooper	46		Table 11	The table will read better if all the numbers are given with one decimal place. The table can be formatted better to ensure each row needs only one line.		Edited table.	Edit		Nothing further	Yes
Antony Cooper	47		Figure 21	Increase the size of the figure to make it legible.		Edited and maps enlarged.	Edit		Nothing further	Yes
Antony Cooper	48-49	28-10		It is likely that just for the small GH2 scenario, the desalination and electrolyser plants will be far larger than any previous ones assessed by the authorities, so this is likely to make approval much more complicated and need much more times.		I added a sentence to make this point.	OK - that is a useful point - how do we handle that?		Nothing further	Yes
Antony Cooper	51-53		Table12	The table needs to have sections on the social (such as disruption and conflict), economic (such as the money running out) and environmental (such as extinction of useful species and environmental degradation) risks. Given the remoteness of the area, two risks for Construction of economic infrastructure are the availability of skilled workers and consumables, such as fuel.		We can check Doreen section But I do believe these items would be part of other chapters - we only looked at risk related to the issues featured in this section.	Are these issues not addressed in other chapters? Did the reviewers know what other chapters are considering?	Can discuss with Elsona	Check whether these are addressed in Doreen's chapter. Can lack of access to skilled workers and consumables be represented in this table?	Later check
Antony Cooper	56	11		The 3 should be a superscript.		Edited	Edit		Nothing further. I am also not aware of what contextual factors have changed.	Yes
Antony Cooper	57	10-11		Provide a reference for the SEA team's categories, even if it is the title of an accompanying document.		added a reference and reference also added to table 14.	I dont understand the comment		Nothing further	Yes
Antony Cooper	62-65		Table 15	Table 15 seems to consist of several independent tables. It will be best to make them separate tables, each with tier own caption and table number.		It is one table stretching over multiple pages. Following the example provided in the guide document. Kept it one table but added text indicating tabel extends over subsequent pages.	Check and edit		Nothing further	Yes
Antony Cooper	77-79		Text and Table A1	It is not clear from the text on page 77 and Table A1 if these projections are for the current situation continuing, or for the implementation of one or more of the three scenarios. Presumably, Tshani Consulting [2023] and CoGTA [2023] are the sources of the projections, but it is not clear how they were combined for Table A1. Further, it is not clear here if these projections were done for the project or if they were just obtained from a literature search.		It is for the current situation continueing growth based on historic structure growth. Does not consider scenarios. Added notes to clarify this in text.	?? I am not sure either - apologies		Just made few small edits to the text	Yes
Antony Cooper	77-79		Text and Table A1	What are the implications of the trends? If these are discussed elsewhere in the report, it should be mentioned here with a reference to the relevant section.		Section 2.2 references to Appendix A. Added reference in appendix.	Check and add		Just made few small edits to the text	Yes
Antony Cooper	79	1	Table A1	It is not clear what was calculated by the authors.		The whole table was calculated by authors. Added 'source'	?check and edit		Perhaps just add the data sources used to calculate this - if thats possible?	Yes
Antony Cooper	81 & 86			Typically, each appendix should start on a new page.		Split page to make each appendix appear on its own page.	Yes		Nothing further	Yes

Antony Cooper	82		Figure F1	The legend should not include items not shown on the map, such as petroleum, and it should not have items such as <all other values> or REEA_OR_2024_Q2. Is the entire ocean considered to be suitable for harvesting wave energy? From the colours and hatching selected, I am unable to differentiate between the World Heritage Site and the REDZs.		Edited map removing iems and changing text.	Redo map?		Sentence above the compass points not clear on the map	Yes
Antony Cooper	82	5-6		The caption is confusing. Are high level sites those with high elevations (such as to catch the wind, but the figure does not only show wind energy potential) or priority sites?		Edited to remove confusing title - only refering to sites identified.	Priorities - so we need to edit		Changed title to "sites identified for possible green energy developments"	Yes
Antony Cooper	82	7-15		Presumably, these five sites are the five GE sites on the map in Figure F1, but what type of GE is each one?		Checked and it is both wind and solar	Check	StuurLuanita epos om te vra	Nothing further	Yes
Antony Cooper	86-87			It is not clear what this purpose of this appendix is or why it is at the end of the document. The title is misleading, as this is more an introduction to the project than literature considerations.		Removed Appendix H (I believe it was part of text which was moved - might not be needed.	?? Is this required, or should we leave it??		Nothing further	Yes
Mark Oranje	viii - x		Section 1: Definitions	1. Please check the definition of "District municipal tribunal". This is not correct. 2. The term "integrated development" needs to be "integrated development planing and plan". 3. The terms "land use management", "municipal planning governance", "Municipal Spatial Development Framework" and "spatial planning" can be better defined. 4. Please check consistency in the left hand column. In some cases there is no ". ". In others there is a ". ". In others thee is a ". ". 5. The term "REDZ" needs to be "REDZs" (plural). 6. In general, this section on definitions can be improved substantially. It lacks depth and does not create a good impression as "entrance"/introduction to the report to follow.		Edited several definitions (added references also to some.	We need to check and amend	Proposed Elsona do a second round of checks on this item to ensure no further gaps.	Consistency needed around referencing the definitions. Add references to those without, which come from source documents.	Yes
Mark Oranje	1	6	Section 1.1	1. It should be "Local Municipality" - both uppercase. 2. The contextual setting as set out on page 1 needs to be checked. Things have changed in a number of key contextual matters listed. When referring to a municipality include the full name, i.e. is it a "Local" or a "District" Municipality?		Edited the LM aspect, and chacked the rest of the report for the same.	We need to check and amend	I do not know what of the contextual matters would have changed, consequently the rest of the paragraph text remains the same.	Nothing further. I am also not aware of what contextual factors have changed.	Yes
Mark Oranje	General comment			Even though it is engaged in section 1.2, the document lacks a proper introduction and explanation as to why it is/was done/written, where it fits in,etc. This should be attended to earlier in the document.	This could be addressed by providing clarity and strcuture at the beginning of the document, making it clear why this document is important, what it covers and why, and what the reader will get from reading it.	Something to be checked! Pressume that the larger document will provide and outline of all the sections and this is where the role of the section will be featured.	I am not clear what is meant by the note from review editors? for this chapter or for the report as a whole?	Check with project editors (Babalwa etc.)	I agree, check with core SEA team around whether they will provide this introduction at the very beginning of the report.	Yes
Mark Oranje	2-3	21-26 on page 2 1-2 on page 3	Section 1.1 last paragraph.	This paragraph seems out of place. The contents can also be enhanced.		Portion of the paragraph has been edited, however there is also the possiblility of removing this paragraph altogether.	?? Check	Can remove this paragraph?	Yes, I would remove it from here and place it where the planning system is described - possibly as a footnote to the intro to Section 3.1 where the stress on the planning system is described.	Leave edited

Mark Oranje	Gneral comment			The document lacks a golden thread. It comes across as a conglomeration of a number of paragraphs (many of which cover interesting and relevant content) but without a clear central objective, thrust or reason.	This could be addressed by providing clarity and structure at the beginning of the document - making it clear why this document is important, what it covers and why, and what the reader will get from reading it. Maybe also a diagram that indicates what the different chapters/documents are (about) and how and where they all fit together. A separate section in the document on the history of the region may be useful.	Added a section under SCOPE OF PROJECT which lists the sections of the report.	I am not clear what is meant by the note from review editors? Does every chapter require a diagram on relation to other chapters? History of region in the report or in our chapter?		The section under Scope of the Report is helpful. I think the introduction provided by the SEA core team to the whole report will also be useful in assisting the reader in identifying the core thread.	Already added text
Mark Oranje	10-11		Section 2.3.1	This section can be improved upon in terms of contextualisation, legal content and stats/"numbers" (e.g., data on debt).		Edited text and added a table reflecting statistics on electricity and water debt 2023. Added latest blue drop scores to reflect water challenges.	Needs a re-work?		See my comments in the document. Addition of blue drop scores is good, but I think the level of debt may be too much detail (if Table 5 is left in, it should be referred to in the text).	Taken out
Mark Oranje	13-14		Section 2.3.5	This section is of crucial importance. It needs more in-depth engagement.		Added an item reflecting the last / latest available information regarding the CPA issues. Added item on transfer of Aleander Bay to Richtersveld.	Check and add		See comment in report. Nothing further to add, but deleted sentence.	Yes
Mark Oranje	15-16		Section 2.4	This section lists proposals by others. I expected to also see an analysis by the authors of the potential of the region, followed by a listing of the proposals by others, and preferably, also an analysis of their perspective on the extent to which these proposals are credible, likely to be developed/come to fruition, etc. and whether there are hence unexplored areas of potential in the region.		Outside the scope of the chapter. Add proviso based on plans and not verified, based on assumptions.	Is this do-able/required?		Agreed. Perhaps add a footnote, or a sentence at the beginning of this section to say that it primarily focuses on examples of proposed projects in the region at the time of writing.... Also, say what assumptions are made e.g. this is based on current planning and the section does not include a discussion on the likelihood of these projects being implemented.	this items was significant ly edited
Mark Oranje	18-19		Tables 4 and 5	These are good and useful tables that show thorough engagement and interpretation.		NO change	Nothing required		Nothing further	Yes
Mark Oranje	23		Section 3.2	It may be worth noting that the NSDF clearly argues/stipulates that mining activities should not lead to the development of 'stand-alone' new settlements, and that the housing and other needs created by mines should be provided for in existing settlements. The hierarchy of settlements as put forward in the NSDF, and the NSAAs that impact on the region may be referenced and the related maps shown.		Added the NSDF reference to this aspect referring to the de-coupling of settlements.	How do we address this in the section?		Nothing further. (just a thought that when the established towns are at a distance, as in this case, it is likely to be difficult to contain future growth to existing settlements. Just a thought - not for report.	Yes

Mark Oranje	25-26		Table 6	This is a good table. It could be enhanced by relating the statements made to the proposals in plans covering the area - i.e., national, provincial, regional, district and local.		Where possible add in a link to a plan, or pre-study, etc. Added a few references to text.	Check??		I think this table needs editing - the meaning is not always clear. I suggest we have an MS TEAMS session and edit it.	
Mark Oranje	29	32 and 34	Section 3.3.1.	The wording "mining ore" could be better described, i.e. manganese (as it will not be iron ore that will be moved by road). The sentence "However, this line will eventually reach capacity and require major upgrading" with regards to the Sishen-Saldanha railway line needs more work. It is a big statement without any numerical or other evidence to back it up (that I saw).		Trying to contact TRANSNET Rail for discussion.	Makes sense - not sure if we can get hold of such information?		Contact Transnet?	Not yet checked with Transnet
Mark Oranje	General comment			I may have missed it, but I would have liked to have seen a description of what is being proposed for Boegoebaai. It may be in another report/document, but it should be included in this report/document as well, so the readers can "connect to" and "relect on" the content covered in this report/document in the same way as the authors of the report/document have/do.		Part of another section in the overall report. Can not address this will just repeat the item.	Part of complete/bigger report or handled separately?		Nothing further	Yes
Mark Oranje	45		Figure 20	Just a small one - where is this? If not in the region, say where it is, and why it is used in this report/document?		It was a good image to illustrate the point of the relevance of roads when constructing wind farms - Haouma Wind Farm Project in Morocco. Added the example to the figure name.	Makes sense. Edit required		Change photo to that sent by Babalwa.	Replaced photo
Mark Oranje	47	1	Figure 21.(a)	This figure is hard to make sense of. (Figure 21.(b) can also be improved.)		Edited this already as it was raised in comments by Antony Cooper - Made the images larger.	?? check		Figure 21(a) is still very hard to read - not clear.	Wait for feedback Paul etc.
Mark Oranje	51		Table 12	The heading of the right-hand column "Extent/ Limits of Acceptable Change" and the contents in the column below it do not seem to match. (The contents in themselves make sense, but not under the heading as provided. They come across as "risk mitigating measures".)		Revisit this table and possibly rephrase the items in this column	?? check		Some of these are mitigation measures and others are expressed as limits. I think the right-hand column as a whole needs revision to turn all points into potential mitigation measures. I can do this on MS TEAMS with Johan.	Edited with Michelle
Mark Oranje	55	6-7		The sentence "Land Use Management Systems of each municipality sets out the appeal process should there be an appeal against a district municipal planning tribunal decision" is not correct. District municipalities in South Africa do not take decisions on land development applications. District municipalities do not have Land Use Schemes (LUSs). Municipal Planning Tribunals (MPTs) take decisions on land development applications submitted in terms of LUSs in local municipalities. In some cases, local municipalities in a district "share" MPTs, but the decisions are still at local municipal level in relation of the LUSs of local municipalities. Importantly, district municipalities do not take these decisions.	Please check and confirm this matter.	Edited to remove possible misinterpretation of the MPT. Added a section in text as well as a reference to SPLUMA.	Makes sense. Edit required		See my comments in the document. The two sentences around complaints and appeals need to be clarified.	Edited text
Mark Oranje	59-66		Tables 13, 14, 15 and 16	These are good and useful tables that show thorough engagement and interpretation.		..	Nothing required		Nothing further	Yes
Mark Oranje	78		Table A1	I may have missed it, and it may be covered elsewhere in the reports/documents, but it would have been interesting to see (the) population projections under (the) different scenarios as covered in the report/document.		We did not look at socio-economic but this was addressed in Dorreen. Outside scope of this chapter.	Makes sense		Nothing further	Yes

Chapter 7: Socio-Economics

Peer reviewer name	Page range	Line/s	Table/Fig/Plate	Peer Reviewer Comment	Note to authors from Review Editors	Responses to Peer Review Comments by authors
Lochner Marais	General comments wrt the report			It was not clear what the overall purpose of the document is/was. Or I could not work that out. For example, where in the development process does this fit? Does it run concurrently with EIA processes? What is the possible role of interested and affected parties? Is this just a scoping review? Some of my comments might assume a different process. This would mean I think a set of activities would have occurred, but in reality, this has yet to happen.		Agreed. Although this is probably explained somewhere in the SEA, it should perhaps be mentioned briefly in each chapter. I have ADDED it in the Exec Summary and in the Introduction.
Lochner Marais	General comments wrt the report			There is little reflection on the method employed in the report. I was hoping to see some reflections from interested and affected parties.		Agreed, I ADDED that this is not included in the SEA.
Lochner Marais	General comments wrt the report			Social impact assessments have broadened over the last decade to include decline and closure. The more important consideration from this change is that the report can do more to reflect on boom and bust. Investments of this nature will likely be stop-start affairs and highly dependent on the international markets. It also means that the global risks for this investment require more attention.		It is unlikely that the Port, SEZ and GH2 will have significant "bust" features, similar to mines closing down. The only "bust" may result from the end of the construction process, but that is likely to be fairly sustained over time, and during that time, a number of employees may receive training to divert to more permanent on-site functions. I ADDED THIS POINT IN THE EXECUTIVE SUMMARY AND TEXT.
Lochner Marais	10-16			This claim that ports generate local and regional development needs to be backed up in two ways: (1) evidence of where it is the case, and (2) the nuanced nature of these impacts requires attention. The section on the regional impacts makes several claims about the possible regional impacts. This needs to be backed up by evidence. For example, the economic structure of the Northern Cape is not dense. It could be that these envisaged impacts would never occur. There should be clear economic logic behind these statements.		Evidence is indeed provided, based on literature. However, the point regarding the underdeveloped nature of the Northern Cape economy will be added, as a caveat. POINT ADDED.

Lochner Marais	11	30		The report claims the port will increase land value. This is seen as only a positive aspect. The question is whether this could lead to the displacement of local people, pushing land prices beyond their means.		AGREED. POINT ADDED.
Lochner Marais	11			The report mentioned that the land belongs to the Richtersveld CPA and that using the land would be carefully negotiated. I wondered why some initial discussions did not occur and why the CPA was not consulted when drafting this document.		Explanation has been added to the Executive Summary and main text to explain that community negotiations do not take place for SEA studies. There is a long section on the need for, and possible approaches to, NO ADDITIONAL CHANGES MADE.
Lochner Marais	11			The report refers to three types of business/economic impacts: 1) Direct, 2) Indirect, and 3) Induced effects. What seems absent is a more detailed discussion of backwards and forward linkages and how those links will affect the region. The main problem is often that the technology and skills required in these technologically advanced economic systems bypass local people (although there might be a national benefit). This holds stability risks for significant investments like this. I think one should also be transparent about this risk. Simply assuming that these forward and backwards linkages will be established over time is somewhat of a stretch that does not consider local skills and capital.		This matter is dealt with fully in the report. However, I HAVE ADDED A CAVEAT here.
Lochner Marais	13			In addition to the point above, the report generally makes several assumptions about many job creation possibilities. This needs to be backed up by similar examples or some basic modelling.		The modelling was done by the Boegoebaai Port Business case, cited repeatedly. NO CHANGES MADE.
Lochner Marais	15			An outline of Transnet's CSI is provided. This boils down to a list of so-called priority areas. No indication is given of an overall approach towards engaging local people and their communities. There is also no evidence of what local stakeholders would prefer		The SEA precedes stakeholder engagement, so the point is not strictly relevant. However, I have ADDED A POINT that stakeholder preferences would be unclear, and would change over time, and may only take shape as the project proceeds.
Lochner Marais	15			The risks of a deteriorating road network are well-documented because of the transport of minerals to the harbour. Road infrastructure is usually constructed based on the envisaged load it would carry. Could these impacts be greater because the original road construction did not consider the value and load?		POINT ADDED - the expense of rebuilding existing roads is a strong argument for investing in rail infrastructure <i>ab initio</i> .

Lochner Marais	15-16			The emphasis on community involvement is essential. Yet, the report assumes a simple, homogenous community awaiting significant development. A far more nuanced approach to this is required.		This matter is dealt with fully in the report. I HAVE ADDED A SENTENCE emphasising differences in local interests and capacities.
Lochner Marais	18, 20-23			For the first time, there is an acknowledgement that local people might not benefit from jobs. This is now directly related to green hydrogen. I think this reality should at least be more prominently represented in a more nuanced way.		This matter was addressed on page 20, in the section entitled "Employment". I have ADDED A SENTENCE strenghtening the need for early training interventions so that local people can access employment.
Lochner Marais	19			The report should be careful not to make simple assumptions about using green hydrogen in local transport systems. There is also a simple assumption about the market need for green hydrogen in city bus services. Yet, none of the city bus services in South Africa has reached a break-even point and depends on a large subsidy—of course, cheaper energy could help. However, more affordable energy does not solve the existing structural problems of the SA city bus services. Admittedly, there are a few private services as well.		I ADDED A SENTENCE about the need for feasibility studies for possible transport plans.
Lochner Marais	20			Skills-related issues are identified as a key constraint. The alignment of the TVET college is then proposed as a possibility. Of course, this is a logical response. Yet, the TVET system has proven to be inflexible and incapable of dealing with the skills needs of the future. A more specific plan and one less dependent on the state would be required.		I ADDED A SENTENCE about the need to address inefficiencies of the TVET system.
Lochner Marais	22			The section on urban spinoffs is interesting. It should be borne in mind that water must be "transported". The cost is not just in the production.		I ADDED a CLAUSE on the need to factor in transport costs.
Lochner Marais	21			The possible use in agriculture is vaguely explained. There is no assessment of the market size and contribution.		I ADDED a brief paragraph on the possible uses of other forms of green hydrogen in agriculture, and the need for more economic and technical research in this sector.
Lochner Marais	24			The summary on page 24 only refers to positive outcomes. This is rather strange.		This comment is wrong. Half the paragraph is cautionary about potential challenges. NO ALTERNATION MADE.
				Re SEZ: This seems all idealistic, with very little economic evidence that this is a viable option/ It is also only reflected in positive outcomes.		This comment is wrong. The section offers several cautions about potential difficulties. NO CHANGE MADE.

Lochner Maraiis	28-30			Impact of population change and urbanisation: (1) This is only seen in a positive link - I think a SEA should also consider that urbanisation will affect social change. (2) will create negative implications for local people. More people mean more cars on the roads (accidents), likely more crime, and different values between host populations and those flocking into the area. All of this can be managed, but it requires identification and recognition		This comment is wrong. The introduction to this section warns about unintended. difficulties, and later sections spell this out in detail. NO CHANGE MADE.
Lochner Maraiis	30			Maybe there is room to use some of the latest SARS employment data to understand this situation better.		NO CHANGE MADE. Data since 2022 will not made a material difference to the argument.
Lochner Maraiis	31			Care should be taken not to easily build skills links between people currently having some technical skills and those that would be required in the development. A key conceptual issue about relatedness might be missing, even though the technical nature of skills might exist.		I INSERTED "new training and re-skilling opportunities" to highlight the fact that people with some technical skills may have training needs before entering the new sectors.
Lochner Maraiis	31-32			Regarding income and housing, high local inflation is considered a possible adverse effect. But this is quickly downscaled to people's ability to increase their incomes. Of course, this is possible, but there is always the risk that local people would find it difficult to find accommodation or own property. I think there should be an acknowledgement there of		This is described in detail below. NO CHANGE.
Lochner Maraiis	22-25			Housing and planning impacts are only discussed in terms of positive impacts. Surely, a more careful analysis with possible negative impacts should provide a more balanced approach.		Comment is wrong. There are many details about negative consequences. NO CHANGE MADE.
Lochner Maraiis				Housing and spatial planning: the institutional and organisational problems are described well. Maybe there is a better understanding of transient populations' housing and planning needs. To what degree population growth will be temporary or more permanent is unclear.		YES, there are many imponderables. NO CHANGE MADE.
Lochner Maraiis	37			Health impacts are discussed well. Developers usually develop appropriate plans for workplace accidents. More importantly, there will also be an increase in non-workplace accidents that require a response. Maybe there is a need to reflect on overall well-being. One of the consequences of boom towns is an adverse effect on mental health issues (suicide often increases). Boomtowns are also usually associated with masculinity – there is no reflection on this?		Well-being is discussed in detail later. NO CHANGE MADE.

Lochner Maraiis	44			Recommendation: I generally agree with the note about the similarity with mining. Yet, this is probably underplayed in the assessment. Furthermore, despite the conceptual value of Social and Labour plans, there is little evidence of good practice. Maybe the point is that it could simply be wrong to assume that these plans and CSI will deal with the risk appropriately.		I disagree that the similarity between Boegoebaai and mining projects should be emphasised. In fact, I think there are significant differences. I ADDED a paragraph to this effect. I do agree that Social and Labour Plans are often not very ineffective, and I ADDED a sentence expressing caution.
Lochner Maraiis	46			Explaining the assumption in the Transnet study about backwards linkages would be essential. Also, will these backwards linkages take place in the region? International experience suggests it is rather tricky because of the remote areas' lack of economic density. The forward and backwards linkages related to food are also somewhat idealistic concerning the possible regional benefits.		AGREED. I ADDED a sentence about our later Agricultural section which expresses doubt about any meaningful agricultural backward linkages. The reader is therefore alerted here about that argument.
Lochner Maraiis	46			There is also an inherent assumption that investment will drive regional development. This discards local skills and capacities required in a modern economy.		This comment is ambiguous. Does it mean that we neglect the importance of local skills? That would be wrong, as we emphasise it in detail. Or does the comment mean that local skills can also drive regional development? To a small extent that may be the case, e.g. due to an in-migration of a specific type of skilled person, but generally, regional development depends on INVESTMENT. Investment brings skills (either local or imported). NO CHANGE MADE.
Lochner Maraiis	47	`	``	The value of improved broadband connectivity is probably underplayed.		Important point. I HAVE ADDED A SENTENCE.
Lochner Marais	44			It might be worthwhile to compare the NC economic growth rate with that of SA and state the share of GDP. Also, to relate the low growth rate to mining is probably valid, but it should also be seen against the low growth in SA.		I ADDED A SENTENCE highlighting the very small Northern Cape percentage of SA GDP.
Lochner Marais	46			I have made earlier comments about the simplicity of estimating local economic impacts. Although these estimates are essential, local impacts also depend on the degree to which there are local skills and the forward and backwards linkages. The risk is that, despite these economic benefits, it might bypass local people.		This point is emphasised repeatedly in the report. NO CHANGES MADE.
Lochner Marais	47			Estimates of products to be exported through the harbour are vague. For example, what agricultural products? With which harbour will this one complete? The same for mining?		Agreed. I have inserted text emphasising the benefits of mining and agricultural exports via Boegoebaai, compared to Cape Town and Saldanha harbours.

Lochner Marais	48			The section on Tourism is excellent. Maybe consideration should be given to the risk that the port development might crowd out jobs in Tourism, fundamentally because of better salaries.		I do not agree that higher salaries will be a significant impact on tourism. The more money in circulation, the more tourism investment is likely (ceteris paribus). The real challenge to tourism comes from the impacts on the environment caused by industrialisation and heavy transport. NO CHANGES MADE.
Lochner Marais	59			Rightfully, there is no mention of an airport in the area. Yet, maybe mentioning the Upington airport is worthwhile. I also think there is an airstrip at Alexander Bay, but I'm not sure about the functionality. Later, there is a reference to an airport in Springbok (albeit without scheduled flights.		The comment is wrong. There is a strong pitch for an airport in Springbok, with scheduled flights, and possible links to Upington. NO CHANGES MADE.
Lochner Marais	63			The agriculture section is excellent. The impact or the lack of effects is well-identified. Some of these/lack of impacts are not adequately reported in the rest of the report. Risks are well defined. The one risk I think is absent is that better road access and more people might increase stock theft. There is no reflection on the current levels of stock theft and its likely impact. It should also be taken into account that the essential messages of this section are also reflected accurately elsewhere in the report.		I ADDED a sentence on livestock theft.
Lochner Marais	86			Section on mining: (1) Maybe acknowledge the volatility in copper prices - this is a significant concern for stability (2) There are potentially several critical minerals in the areas (3) the link to the port which is made elsewhere is not discussed here (4) Reference to the ZINC smelter - more evidence need to be provided about the viability of this		TO BE ADDED
Lochner Marais	89			The report provides a detailed overview of the political dynamics. The implications for municipal stability may be discussed in more detail. Also, will the municipality and district be able to manage the pressures of such a port development?		This matter is dealt with below, on page ... NO CHANGES MADE.
Lochner Marais	108			Municipal finances and audit performance: There is a decent attempt to provide some broad overview figures about municipal finance. Although useful, it does not account for change over the last 5-10 years. Is it getting better or worse? Overall, the municipal financial situation is depressing. There is minimal reflection on what this would mean for the new developments. Do you not have funds or capacity to do the planning? Or being in control of the planning? What will the consequences be?		The report does provide auditing information for five years, although not financial information. That would be superfluous. I have ADDED a sentence that audit reports by the Auditor-General's office are a good proxy for administrative and financial management effectiveness (around page 111). I have also ADDED a sentence about finding sufficient funding for planning activities (around page 120).

Lochner Marais	120			There is the simple assumption that the LMS should do some planning. Is this realistic? Is a more nuanced approach not possible? Much of this planning must be done before the development. The danger is that it would be done without local knowledge.		I have ADDED a sentence that the Namakwa DM may well be the main planning agency, instead of the LMs (around page 120).
Lochner Marais	125			Some concerns associated with extraversion are appropriate and should be more mainstreamed in the rest of the report. There is a real risk that a technocratic approach could delink populations from the project. There might also be court cases about land and development. However, I am not sure what the legal arguments are. Still, if this were the "Interim Protection of Informal Land Rights Act", it could be problematic if the process were not followed. There is no consensus amongst the inhabitants. The report may be more specific about how existing and future concerns could become significant risk factors.		I have ADDED a sentence warning about a heavily technocratic approach, and the importance of a robust public consultation process (around page 125).
Lochner Marais	137			Risk assessment: (1) I struggled to follow the risk assessment and flow of argument. Maybe there is room to explain this a bit better. I was not convinced there was a systematic translation of possible risks and positive effects from the text into the tables. Maybe I have identified a few more that can be considered.		I have ADDED a fuller explanation of the risk table, in four paragraphs, including the meanings of S1, S2 etc; the geographic areas, and the meaning of Risk and Opportunities. This will make it much easier to understand.
Lochner Marais	137			(2) It was not clear what the purpose of the positive and negative impacts was. This is descriptive of all possibilities without a specific judgment		See note above.
Lochner Marais	137			(3) I have identified other possible concerns which could be integrated (see ideas from above)		Not clear what this refers to.
Lochner Marais	1437			(4) Is without and with management the correct terminology? Should it not be mitigation? But maybe there is a good reason to stick to management		I have added a footnote explaining why the term "mitigation" is not used.
Lochner Marais	137			(5) Housing: possible inability of locals to find housing? Informal settlement development?		I ADDED A sentence explaining that the table is a very high-level analysis, without examining the various elements of each Risk or Opportunity.
Lochner Marais	137			(6) Typically, my question would be did the community have a chance to add risks and rate risks?		I ADDED a sentence explaining that the community consultation process may add elements to the table.
Lucius Botes	1	15		Close brackets		CORRECTED
Lucius Botes	1			Implications could be intended/unintended and unimagined (See literature on mine closure)		I have not made changes.

Lucius Botes	3	46		the stimulation of not stimulation off		CORRECTED
Lucius Botes	6	46		Add: This will enhance local economic development		ADDED a sentence. I have ADDED the need for ore transport to be done by railway line.
Lucius Botes	7	8-26		Close the gap before ... "The proposed ..."		DONE
Lucius Botes	7	35		All US English should be change to SA/UK English not "authorized" but authorised		DONE
Lucius Botes	10	4		Complete SIP number???		DONE - SIP 17
Lucius Botes		10		Remove bracket after 2021		CORRECTED
Lucius Botes	15	30-32		In Section C and here mention is made of the various minerals for possible export through the proposed Boegoebaai Port. However, nowhereare are their estimates of the longevity of these ore bodies. Perhaps check Mineral Council reports to estimate/quantity because this will be key for many of your assumptions around the economic viablity of the Port.		From AI, it seems manganese and iron mines have a life of about 30 years. Point ADDED, also to mining section.
Lucius Botes	20			align footnotes		DONE
Lucius Botes	22	33		Five forms of energy justice is identified but only one is procedurally discussed. Why? A short sentence to refer to the after forms will add value.		I have REDUCED this paragraph to remove confusing material. The point is now much clearer.
Lucius Botes	23			The fact that the community did not understand after presentations pose the cahllenge that technical presentations like this should be "translated" to the level that the community members could internalise it, oherwise communinniyt engamennt is meaningless.		I ADDED a sentence that much more useful basic information should be provided to the community, at all levels. This should be done in such a way that community members do not feel intimidated by technical information, and are willing to ask questions.
Lucius Botes	24			align footnotes		DONE
Lucius Botes	28	18-19		evidence or literature to back this claim?		This claim was relocated two paragraphs below, where evidence is provided (Hoffman and Rohde).
Lucius Botes		33		This is a 20 year ar old source. Perhaps some more recent evidence/literature.		Much information is provided in a later section on tourism. I have INSERTED a reference to Section E3 below, in brackets.
Lucius Botes		30 & 36		Rreferences are made to Annexure A. Also further in the document, Where is Annexure A?		FOLLOWED UP WITH BABALWA

Lucius Botes	29	8		Census 2022 figures are available. So why only 2001 & 2011 figures?		ADDED 2022 population and updated analysis. Also ADDED 2022 education and matric data.
Lucius Botes	30	33		Heading should be numbered "2 Employment"		CORRECTED
Lucius Botes		43		Only 1 bracket after 28%?		CORRECTED
Lucius Botes				allign footnotes		CORRECTED
Lucius Botes	31	32		Unclear what MSEP stands for put in brackets the meaning		CORRECTED, also added this item in bibliography
Lucius Botes				allign footnotes		CORRECTED
Lucius Botes	32	15-19		for which years were these income levels?		2019. INSERTED date, as well as footnote.
Lucius Botes		footnote 103		Date for this profile?		2024. INSERTED date.
Lucius Botes	33	11		backlog of not off		CORRECTED
Lucius Botes	34	20		remove . before Municipality		CORRECTED
Lucius Botes		26 & 27		allign footnotes		CORRECTED
Lucius Botes	36					
Lucius Botes	39	32		You could also add Kimberley		CORRECTED
Lucius Botes				Allign fotnote 137 and close brackets at the end of office Machinery		CORRECTED
Lucius Botes	40			Allign footnotes		CORRECTED
Lucius Botes	41			Allign footnotes		CORRECTED
Lucius Botes	44	19		delete 1 bracket		CORRECTED
Lucius Botes	46	44		Of in place of OF		CORRECTED
Lucius Botes				Allign footnotes		CORRECTED
Lucius Botes	49			Allign footnotes		CORRECTED
Lucius Botes	51	2		To what geographical area does this 1.1 Billion rand refer? to entire SA??		ADDED "IN Namakwa District"
Lucius Botes		29		Delete second "includes"		CORRECTED

Lucius Botes	52			What are the dates of publications for footnotes 190 & 191		CORRECTED
Lucius Botes	55			Align footnotes		CORRECTED
Lucius Botes	59			Align footnotes		CORRECTED
Lucius Botes	60	7		Heading solar should be right and wind should be left		CORRECTED
Lucius Botes	61			Align footnotes		CORRECTED
Lucius Botes	62			Align footnotes		CORRECTED
Lucius Botes	63	22		Close brackets		CORRECTED
Lucius Botes	64			Align footnotes		CORRECTED
Lucius Botes	66	11		Plural 1730s without's		CORRECTED
Lucius Botes	67			Align footnotes		CORRECTED
Lucius Botes	68	24		Remove % after 36		CORRECTED
Lucius Botes	70			Align footnotes		CORRECTED
Lucius Botes				Footnote 248 delete second ,		CORRECTED
Lucius Botes	71			Footnote 251 should DAELR not be DAERL?		No change made
Lucius Botes	72			No brackets after date of publishing for consistency		CORRECTED
Lucius Botes	73			Align footnotes		CORRECTED
Lucius Botes				Footnote 256 DAERL or DAELR?		DAELR. CORRECTED
Lucius Botes	74			Align footnotes		CORRECTED
Lucius Botes	75	16		Should read "the entire are along the coast" not long the coast		CORRECTED

Lucius Botes				Align footnotes		CORRECTED
Lucius Botes	76	22		Is line 22 not contradicting line 17?		I have REPHRASED to avoid possible confusion
Lucius Botes	81			Align footnotes		CORRECTED
Lucius Botes	82			Align footnotes		CORRECTED
Lucius Botes	83			Align footnotes		CORRECTED
Lucius Botes				Consistency in footnote referencing		CORRECTED
Lucius Botes	85			Consistency in footnote referencing		CORRECTED
Lucius Botes	86			Align footnotes		CORRECTED
Lucius Botes	91			line 16 not MCC but NCM		CORRECTED
Lucius Botes	94			Align footnotes		CORRECTED
Lucius Botes	95			Check the numbering of sub-headings		CORRECTED
Lucius Botes		30		COPE heading should be 4.9 adapt also the others		CORRECTED
Lucius Botes	98			Align fonts		CORRECTED
Lucius Botes	100	3		Is line 3 correct that NCM has wond 75% of the vote but line 39 only indicated 1 councillor for NCM?		CORRECTED(Well spotted!)
Lucius Botes	101	38		Not clear to which table it refers?		REMOVED reference
Lucius Botes				Align footnotes		CORRECTED
Lucius Botes	103			Align footnotes		CORRECTED
Lucius Botes	104	4		Space after 36% and ,		CORRECTED
Lucius Botes	106	19		Khai-Ma with hyphen or not. Consistency.		CORRECTED

Lucius Botes		20		Khai-Ma and not Khal-Ma		CORRECTED
Lucius Botes				Align footnotes		CORRECTED
Lucius Botes	109	24		35% of total revenue		CORRECTED
Lucius Botes				Align footnotes		CORRECTED
Lucius Botes	110			Align footnotes		CORRECTED
Lucius Botes	112			Align footnotes		CORRECT
Lucius Botes		15		In the Table of Local Municipal Finance Overviews mention is made of over 50% of the budget already spent. This is only useful info if one knows how nay months in the financial year this refers to. The same apply to p 110 line 32. p 113 line 15 and p 114 line 20.		"next year" replaced with "following year", to show that overspending is taking place.
Lucius Botes	116			Align footnotes		CORRECTED
Lucius Botes	120			Second inverted comma is missing		CORRECTED
Lucius Botes	122			Align footnotes and consistency in references. Some dates of publication in brackets other not.		CORRECTED
Lucius Botes				Footnote 415 no ,after		CORRECTED
Lucius Botes		40 & 44		Not need to tefer to Dr Nzo just Nzo for consitency with other author references		CORRECTED
Lucius Botes	124	16-18		Describes the dissatisfafction of local residents reagrding mining corporate exploitation. This section could be enriched with a recent book by Matebesi, Marais and Nel 2024. Local Responses on Mine Clsosure in South Africa where two chapters are devoted to a detail empirial research of resident dissatisfaction with the mines.		I WILL GET THESE PAPERS!
Lucius Botes	125			Align footnotes		CORRECTED
Lucius Botes		13		Put in another bracket (		CORRECTED
Lucius Botes		41		SA English prioritise not prioritize		CORRECTED
Lucius Botes		3		a development model not just dev. model		CORRECTED

Lucius Botes		24 - 39		Another consequence that deserves highlighting is the intergenerational angle. Youth and generations to come will have to bear the often unintended and intended consequences of projects and policy decisions.		Point ADDED
Lucius Botes	126			Align footnotes		CORRECTED
Lucius Botes	128			Align footnotes		CORRECTED
Lucius Botes	129			Align footnotes		CORRECTED
Lucius Botes	131			With the PDIA one could have also used the SLA (Sustainable Livelihood Analysis) focussing on the capitals and capacities of communities and not only on the shortcomings and needs. What is also referred to as a strength-based approach to development working from agency and assets.		Sentence ADDED
Lucius Botes				Align footnotes		
Lucius Botes	133	43				
Lucius Botes	References			In general there are some inconsistencies in the Reference List	CAN BE FIXED LATER	
Lucius Botes	25			Footnote 76 Jacobs not in References	ADDED	ADDED
Lucius Botes	38			Footnote 131 Ufride not in references	Newspaper article. NOT ADDED TO REFS	Not added. It is a newspaper article
Paul Lochner	general				I read the "general comment" from Prof Lochner Marais. I think his comment that the "overall purpose of the document is not clear" is more for the CSIR team to address, as this Socio-economic chapter comes as part of the overall SEA report. The intro chapters by CSIR will explain the "overall purpose", context relative to EIA processes etc.	Agreed. I ADDED two sentences to clarify the status of the SEA
Paul Lochner	general				Comment to CSIR team: the chapter uses acronyms (e.g. CSI, LM, DM, CPA), and the full title is often not provided. The CSIR team needs to check that these acronyms are listed in the Glossary, Abbreviations & Acronyms section at the start of the SEA Report.	AGREED

Paul Lochner	general				Please clarify the use of the term "Namakwa". In the report, there is the "Namakwa District Muni", the "Namakwa area", the "Namakwa region". Sometimes it is not clear what is being referred to as "Namakwa". Especially in section D (social), where (for example), it compares Namakwa (whatever that is?) to the Namakwa DM. Pg 32 line 15 states ... " monthly income levels in Namakwa are extremely low, compared to Namakwa DM ..."	VERY GOOD POINT.I have reserved "Namakwa" for the District Municipality, and Namaqualand for the broad region. CHANGES MADE. I have also ADDED A NOTE ON TERMINOLOGY in the introduction.
Paul Lochner	6	45			Under "agriculture", this line refers to "Green hydrogen should be marketed to farmers in the district". Perhaps add a bullet on the effects of the EU's Carbon Border Adjustment Mechanism (CBAM) requirements, and how this will impact existing agri exports, and the need for avoiding use of fossil fuel (e.g. diesel trucking) in order for NCape Agri exports to remain competitive in the EU.	Very important point. ADDED in Executive Summary and text. Also in Risk table.
Paul Lochner	9	2-3			check grammar for "... offers a fairly abstract or stylized factors .."	CORRECTED
Paul Lochner	11	2			check grammar	CORRECTED
Paul Lochner	14	1			check grammar - add "that" to "...stimulate commercial and financial services [that] will include financial .." ?	CORRECTED
Paul Lochner	14	35-36			Yes, I agree with the authors that it is counter-intuitive that Transnet has copper production dropping off after 2030, given that global copper demand is expected to increase with the shift from oil to electricity over the next decades.	INSERTED a reference about likely growth of copper demand.

Paul Lochner	16	6-7			Yes, agreed. Consider adding a comment here on effects of CBAM. See my earlier comment about CBAM and effects on agri exports from N. Cape such as table grapes. Having access to a port in the N. Cape, as well as green H2, instead of transporting grapes over longer distances via Port of Cape Town, offers significant benefits for local agri exports. (As well as ofcourse reducing transport load on the N7 to Cape Town).	Very important point here. ADDED another sentence about rail and CBAM.
Paul Lochner	18		11		COMment to CSIR team: the chapter uses acronyms (e.g. CSI, LM, DM, CPA), and the full title is often not provided. The CSIR team needs to check that these acronyms are listed in the Glossary, Abbreviations & Acronyms section at the start of the SEA Report	CORRECTED
Paul Lochner	19		28		edit "unsiGH2tly"	CORRECTED
Paul Lochner	23		21		spelling of "chapter"	CORRECTED
Paul Lochner	31		36		Check grammar	CORRECTED
Paul Lochner	50		18		How does this table "suggest a slow but steady increase in bed-nights sold in the region"? It is just showing 2023 data. There is no comparative year to show an increase? Surely it needs a comparative reference to suggest an increase?	I REPLACED the original table which showed 2019, 2021 and 2023 figures.
Paul Lochner	80		11		Section E goes from section 4.5 to 4.7. No section 4.6.	CORRECTED, also subsequent sections.
Paul Lochner	96				Subheading numbering for section 5 are incorrect - e.g. see "Richtersveld Local Municipality" should be 5.1, not 4.1	DELETED SECTION

Paul Lochner	96 to 100				Propose we delete Section 5: "Municipal political profiles". It is a moment in time. It does not link directly to the project. Previous sections give adequate political overview. And given that the Socio-Econs Chapter is very long (150+ pages), therefore I suggest we delete section 5.	Agreed - DELETED. I kept one paragraph about the political shift at Nama Khoi, which is important.
Paul Lochner	115				Section F (Institutional): For section 8.6, change header to "General financial position of Namakwa local municipalities" to show this applies to "local" municipalities.	CORRECTED
Paul Lochner	116		20		Section 8.7 "Namakwa DM" is a second sub-section with same heading as Section "8.5 Namakwa DM". Please combine into one section on Namakwa DM. Or change sub-headings to differentiate.	CORRECTED
Paul Lochner	Section E (Macro-economics)				This section is ~42 pages. Well presented. But please can we shorten it, to reach the reader more effectively. Please can you reduce to ~30 pages. I suggest that: - Section 3: TOURISM - reduce section 3.2 (current tourism offerings in study area from ~11 pages (current) to ~5 pages. It is very descriptive. This section does not need so much detail on the existing offerings. - Section 4: AGRICULTURE - reduce section 4.3.1 (Communal and commange farming) from ~8 pages to ~4 pages. It is also very descriptive.	Have done so
Paul Lochner	Section F (Institutional)				This section is 30 pages. Please can this be shortened to 20 pages. I suggest: - remove the section 5 "Municipal political profiles" (5 pages) - section 8 "Municipal finance and audit performance" - this is 11 pp. I suggest this is shortened to 5 or 6 pages (1 page per LM and two pages on the DM).	Have done so
Paul Lochner	122	9			grammar - should this be "Go / No go" ?	CORRECTED

Paul Lochner	123	30			check grammar - making agreements [behind] closed doors ?	CORRECTED
Paul Lochner	Section G. The public engagement process - pages 121-127				This is about 7 pages of text with no sub-headings (before getting to 7.1). Please add some sub-headings to guide the reader.	Subheadings INSERTED - much better!!
Paul Lochner	140-145				Risks and Opportunities section - There is a single intro line, and then the tables, with risks & opps for the 3 scenarios and the different spatial receiving environments. The actual statement of the risk/opportunity (in the Tables) is very brief (a few words). I think a section needs to be added (before the tables) that provides a one page overview of all the risks & opportunities that are extrapolated and assessed. This section can be the "impact" headings used each table, with a few lines/phrases of text unpacking each risk/opportunity.	WILL ADD
Paul Lochner	142-145				Some table headings have "Risk" but the shading shows that the "impact" is assessed as an "Opportunity". I think the heading "risk" is meant to be "opportunity". Please check.	Comments not entirely clear. I have ADJUSTED it slightly.
Igshaan Samuels	14	4 to 6		Can jobs e delineated to say how may owmen it can employ and how many youth, PWD?		Cannot say anything meaningful. I have INSERTED a sentence saying that it would depend on management policies.
Igshaan Samuels	14	19 to 23		are these jobs per annum? Are these unique jobs?		Good question. I have ADDED a sentence stating that Transnet defines these figures as "workers/employees onsite at any given time".
Igshaan Samuels	14	35 to 36		quite a few mining applications have een filed near Concordia, do these not include copper mines?		Indeed. I have INCLUDED a sentence about this; and provided more details about Copper 360 investments in the mining section below.

Igshaan Samuels	19	21 to 24		who owns this 240 000 ha land? does the richtersveld CPA own such a big piece of land other than the land in the park? How much of grazing land will be occupied. This is a concern because communities are usually not benefitting from renewable energy projects, especially livestock farmers.		I ADDED a statement that details of land use need to be clarified, but land-owners, such as CPAs, are likely to benefit from rental income.
Igshaan Samuels	19	28		spelling		CORRECTED
Igshaan Samuels	19	38 to 41		It would ne good if there is a mentioning of community led business that could benefit. It might be that outside business takes most of the benefits.		I have ADDED a sentence stating the importance of accessible and supportive portals and help desks to enable local businesses to participate in this growth economy
Igshaan Samuels	20	1 to 2		but, community businesses should be part of this one stop system		Agreed. Covered by my previous point.
Igshaan Samuels	22	2 to 8		great idea		Agreed!
Igshaan Samuels	23	5 to 14		This is also a cue that proper consultations and good facilitators are needed to consistently engage the community		There is a sentence that the issue is dealt with fully in the final section
Igshaan Samuels	28	1		these should be mandatory		Agreed. I have ADDED a sentence
Igshaan Samuels	28	23 to 24		maybe only if you consider the villages not be be rural, otherwise this figure would e incorrect.		Agreed. I ADDED a sentence about the definitional vagueness of "rural and "urban", and that the main point is that people on farms and villages have tended to move to towns.
Igshaan Samuels	28	25 to 27		It is likely that the urban population will also apply for the jobs and many are also unskilled. People who find themselves in rural areas in the region are those who prefer to be in that setting, close to their farms or animals. They have not chosen to go to the big towns or cities for jobs.		This statement was not intended to be definitive - just a possibility. NO CHANGES MADE.
Igshaan Samuels	29	1 to 2		Is artificial intelligence considered in this projection? Those living in a more tech world will also lose jobs.		This is not very relevant. NO CHANGES MADE.
Igshaan Samuels	29	4		This is very speculative. If the land tenure does not change, then this is highly unlikely. Trends in Namaqualand also suggest that many of those working in urban areas actually owns a far chunk of the livestock when visiting stockposts. The increasingly variable environment will make commercial level farming much more difficult. Aslo, even if people keep a few animals, they do so to retain the rights to use certain portions of the communal.		Definitely speculative. I have ADDED a sentence that this depends on the likelihood of these projects to attract people permanently.

Igshaan Samuels	29	25 to 27		many go to Vredendal and Cape Town		Agreed. ADDED this.
Igshaan Samuels	30	19 to 22		Steinkopf is a good example of this as much of the infrastructure is much better than in the Kamiesberg, as the people of Steinkopf had higher proportion of residents working in the mines and they invested in their homes and the town in general.		Agreed. ADDED this.
Igshaan Samuels	34	41 to 42		its name changed		Agreed. CHANGED it
Igshaan Samuels	47	35 to 40		It is quite worrying that after 10 years or so, jobs will decline, agriculture will not benefit from the port anymore. This is also given that only 9% of benefits will be accrued locally.		Agreed. Will ADD a sentence later, under agriculture
Igshaan Samuels	52	13		not in Richtersveld		I don't know what this comment refers to! Reviewers must be a bit more specific
Igshaan Samuels	54	12 to 13		More Leliefontein village than Paulshoek village. the matjieshut campsite in Paulshoek is non-functional		I CHANGED this to the past tense.
Igshaan Samuels	54	22 to 28		Also, there are talks about tourist spending a day with herders in the field.		I have ADDED this as a suggestion. The reviewer's point was a bit unclear.
Igshaan Samuels	63	30		Is this figure right?		No idea what figure the reviewer is talking about!
Igshaan Samuels	64	24 to 25		Kamiesberg mountains has about a 300 mm p/a average		I have ADDED this in brackets.
Igshaan Samuels	64	33		alien and native encroaching species such as Vachellia karroo		I have ADDED this briefly.
Igshaan Samuels	64	37		I would say it is access to markets that is most limiting and the lack of skills to market livestock produce from communal areas.		I have ADDED this point
Igshaan Samuels	64	39		In the communal areas, they have a herding system, which works for them. They dont need fences. A herding system is much more adaptable to a changing climate.		This point is dealt with below.
Igshaan Samuels	65	22 to 23		Might be for commercial livestock farming but in the vast communal areas, the cost to raise an animal is extremely low.		I have ADDED a clause focusing particularly on commercial farmers.
Igshaan Samuels	65	29		I think this is where communal farming needs to be separated from from the commercial narrative. Communal farming is not in decline. herds have remained stable for decades. Economic viability has always been an issue for communal farmers, so they are dealing with it in different ways icl. income diversification. Also, livestock serve non-economic purposes.		I have ADDED the word "comemrcial" to focus the attention on commercial farming here.

Igshaan Samuels	65	34		Im not sure, but wasnt there provincially owned land along the Orange River.		Not clear what the point of this comment is.
Igshaan Samuels	65	44		reserves areas		CORRECTED
Igshaan Samuels	65	45		This only pertains to land reform farms. The general Act 9 lands are unfenced and not allocated to a person(s). Only cropping units are allocated to families at the cost of an annual fee. They only receive user rights and not ownership rights.		I have ADDED this information
Igshaan Samuels	66	4		Even a few on the general communal areas. I have seen herds of 1500+ where the owner doe snot have any loans to pay, so his profit in almost 'clean'.		I have ADDED this information a few pages below.
Igshaan Samuels	66	2 to 4		Transhumance is also practices in Richtersveld where herds move to the Orange river in summer and the rest of the communal lands in winter. In Leliefontein, it is vertical transhumance down the mountain and in Steinkopf, it is between Bushmanland and the winter rainfall succulent karoo areas.		This point is adequately described. NO ADDITIONS.
Igshaan Samuels	66	14		because they were nomadic and moved around.		Not clear why this is emphasised. Nevertheless, I have ADDED a clause.
Igshaan Samuels	66	16		I dont think this report will benefit from this colonial narrative and perhaps this sentence and the next could be replaced with something more balanced.		It is not clear which text is a "colonial narrative".
Igshaan Samuels	66	21 to 25		The northern frontier expanded to the region in the 1700s already, so when the mission stations were established in the early 1800s, mostly of traditional lands were already lost.		Not clear what has to be changed. NO CHANGE
Igshaan Samuels	69	22 to 24		Simply not true. There is no tragedy of the commons. Things might not be going well, but there is no tragedy. See the word of debaeudoin and others, and those of Rick Rohde on this topic.		I have ADDED two sentences showing the disagreement and possible regional variation of impacts.
Igshaan Samuels	69	27 to 28		The first transfer was made to the Concordia community some time lats year. So, the CPA has ownership and a title deed.		Information about Concordia ADDED.
Igshaan Samuels	69	31		Since apartheid was abolished, these areas are no longer called reserves. They just call them communal areas. "Reserves" carry a racial connotation		CORRECTED THROUGHOUT

Igshaan Samuels	69	40 to 41		In some cases, access to land refoem farms has matters matters worse for some. E.g. just can given access to only maybe a 1000 ha camp with no option ot move during a drought. Those who get access to LR farms are not supposed to move back onto the commons. The real issue is the promotion of commercial like management styles on communal land, like trying to force a circle into a triangle. There is a lack of acknowledgment that there are other ways of farming informed by indigenous and traditional knowledge with less dependence on technology and large capital inputs.		I ADDED a sentence to this effect
Igshaan Samuels	69	45		1500 I have seen		ADD a clause to this effect
Igshaan Samuels	70	1 to 2		Also, recurrent drought push back herd sizes		I ADDED this point
Igshaan Samuels	70	1		I would even say less than 75 animals (goats and sheep). Remember goat ownership is prominent in communal areas as opposed to private farms.		Point ADDED
Igshaan Samuels	70	2 to 3		According the Kamiesberg municipality, people are not allowed to touch rangeland infrastructure because they dont own it. It is the duty of the municipality, but of course the municipality dont do it.		NOT CLEAR
Igshaan Samuels	70	2 to 4		The question is, do they really have to spent a lot of money on this. They exchange rams, raise their own rams when they recognized good phenotypic characteristics. They also use traditional knowledge and remedies to treat sick animals. Herding allows animals to access a diverse diet and we found that some plants have huge veterinary befits such as killing internal parasites in 4 hours. So, large cash injections might not be needed in these cases. They need access to markets and good services from the municipality and Dept. Agric.		I ADDED the point about markets.
Igshaan Samuels	70	8		rather say 'in many cases'		ALTERED
Igshaan Samuels	70	9 to 10		not true. They sell of almost all male kids/lambs and might keep one or two that they think can become good rams. If they dont sell the young males, they risk inbreeding.		This point is already made. NO CHANGE
Igshaan Samuels	71	27		and conservation		Not clear what this refers to. NO CHANGE
Igshaan Samuels	71	44 to 46		A profit of R90k per 100 LSU.? Or have the input costs already been deducted?		Not sure what this is referring to. NO CHANGE

Igshaan Samuels	72	11 to 12		also conservation as the sizes of Namaqua NP, Tanqua NP and Richtersveld NP have expanded dramatically of late.		Point ADDED
Igshaan Samuels	72	14		in the formal commercial sector.		Point ADDED
Igshaan Samuels	75	27		Leliefontein is a village		CHANGED
Igshaan Samuels	75	32		or any livestock congregation points e.g. wpts, shading trees, gates, etc. This is not unique to livestock. e.g. piopsheres are evident in national parks as well		NO CHANGE - too much detail
Igshaan Samuels	82	37 to 38		one of the current biggest threat to the biodiversity these days is sand and dust storms.		Important point. I HAVE ADDED A SENTENCE.
Igshaan Samuels	83	10 to 11		also community based nurseries to propagate seedlings for rehabilitation		Point ADDED
Igshaan Samuels	85	16 to 18		With agriculture not in the long term export plans and the threat of dust to agricultural exports, one can easily see who will get the shortest end of the stick. Mine owners will benefit most with the threat of environmental pollution incl. dust particles from minerals		AGREED - will emphasise this point.
Igshaan Samuels	85	28		The impact on people, incl. agricultural community will be flt.		Agreed
Igshaan Samuels	general			I think the agriculture section (pages 63–86) of the report is well-contextualised as it considers all the important facets of agriculture and provides and provides balanced view of the opportunities and constraints for farming in the Namakwa District. I comment the authors on their acknowledgment of the dualistic nature of agriculture, considering both the importance of commercial agriculture largely on private lands and communal farming systems, where cultural significance is also discussed.		Grateful!

Igshaan Samuels	General comments			•The Boegoebaai Port provides a direct export gateway for high-value irrigated crops from Orange River valley projects and other nearby production zones in the short terms, the plan to phase out agricultural shipping later in favour of ore and hydrogen exports undermines regional agro-logistics and export potential. This should be reconsidered, as wisely pointed out in the report. If agriculture is not catered for, by an large the nearby communities and farmers will not benefit much, but would bare the brunt of mineral dust pollution and risk on underground water contamination, amongst others. •The project’s desalination facilities could transform smallholder and communal agriculture near the coast, provided access is shared. Maybe a recommendation to establish dedicated water quotas or infrastructure for communal irrigation schemes and communal property associations (CPAs) might ensure support for agriculture. If farmers cant export via the port, perhaps emphasis and support should be put on local markets to sell their produce. •The benefits from improved energy access (solar and wind), especially in off-grid and remote areas can also benefits farmers nearby even a community owned model for energy production to power water pumps, cold storage, general infrastructure. I am emphasizing these low hanging fruits communities whether in rural or urban areas, need to benefit more from this project as they will be in the frontline if any disasters happen or the continued risk of pollution in whatever form. •The production of local green ammonia results in targeted fertilizer subsidies or local sales depots, especially for local farmers. •The report lists intentions for enterprise development, agri-infrastructure, and research stations. To ensure these are not extractive or tokenistic, they should include the Richtersveld CPA and farmer associations in design and governance of any agri-support programme. •The plan to phase out agriculture over time reduces agriculture to a low priority. Once infrastructure is set up for mining and hydrogen, it will be difficult to claw back space for farmers unless explicitly protected. •The 240,000 ha of land planned for renewable energy installations is vaguely referenced, with no indication of how much grazing or farming land will be lost, and who owns it. •There is no mention of compensation, land-use trade-offs, or benefit-sharing with livestock keepers and CPA members or farmers in general. These risks replicating exclusionary renewable energy patterns seen in other parts of South Africa. •The mention of ore dust potentially contaminating irrigated produce is crucial. However, no remedial plan is articulated beyond a vague reference to improving trucking and handling systems. This is important because the agricultural sector might become at risk. This is separate from the concerned impacts on human health. Perhaps there could be a recommendation for a baseline environmental impact study for air quality and crop contamination, particularly around high-value horticultural zones. •The communal livestock sector is mentioned, but not analysed in depth. They might be disproportionately impacted by land loss, road construction, or influx of external settlers. This report can recommend compensatory measures, veterinary service enhancement, and mobility planning as part of the development phase of the project, to reduce the impacts of this venture. •Another key component missing for me is the role of artificial intelligence in taking over some to the promised jobs. This is crucial since it will definitely result in promised jobs not materializing. Which jobs are most at risk to AI?		Agreed
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