

IN THE INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

CASE 31

**REQUEST FOR AN ADVISORY OPINION SUBMITTED BY THE COMMISSION OF
SMALL ISLAND STATES ON CLIMATE CHANGE AND INTERNATIONAL LAW
(REQUEST FOR ADVISORY OPINION SUBMITTED TO THE TRIBUNAL)**

**AMICUS BRIEF FILED ON BEHALF OF WORLD WIDE FUND FOR
NATURE (WWF) INTERNATIONAL**

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I. INTRODUCTION

1. The International Tribunal for the Law of the Sea (**'the Tribunal'** or **'ITLOS'**) has been asked in this request for an Advisory Opinion (**'the Request'**) to address the following questions:

What are the specific obligations of State Parties to the United Nations Convention on the Law of the Sea ('UNCLOS'), including Part XII:

- (a) to prevent, reduce and control pollution of the marine environment in relation to the deleterious effects that result or are likely to result from climate change, including through ocean warming and sea level rise, and ocean acidification, which are caused by anthropogenic greenhouse gas emissions in the atmosphere?*
- (b) to protect and preserve the marine environment in relation to climate change impacts, including ocean warming and sea level rise, and ocean acidification?*

2. This submission does not address jurisdictional aspects of the Request.¹ It rather focuses on the matters of substance to be examined by ITLOS in which the World Wide Fund for Nature International (**'WWF'**) has expertise, due to its scientific knowledge on the impacts of climate change on marine ecosystems.
3. WWF is the world's leading independent conservation organisation. WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature by conserving the world's biological diversity, ensuring that the use of renewable natural resources is sustainable and by reducing pollution and wasteful consumption. WWF makes these submissions with a view to assisting the Tribunal in addressing the questions posed in this case.
4. This statement is divided into 3 sections. Section II sets out the context of this Request for an Advisory Opinion laying down key observations in relation to the state of the oceans and climate change, based on WWF's direct knowledge and on the best available science. Section III addresses general considerations of how UNCLOS is to be interpreted against that background. First, it submits that UNCLOS is a living instrument, able to adapt to new challenges affecting the oceans. Second, it addresses

¹ It is the position of WWF, however, that the question whether the full tribunal could render advisory opinions was settled in Advisory Opinion 21 (*Request for an advisory opinion submitted by the Sub-Regional Fisheries Commission (SRFC)*) of 2 April 2015. Case No. 21, *Request for an advisory opinion submitted by the Sub-Regional Fisheries Commission (SRFC) (Request for Advisory Opinion submitted to the Tribunal)* (2 April 2015). (**'Advisory Opinion 21'**). It is the position of WWF that the requirements of Article 138 of the rules of the Tribunal have also been met, namely: (1) the request has been transmitted to the Tribunal by 'a body' authorized by or in accordance with an international agreement; and (2) the request for an opinion pertains legal questions.

the relevance of the Paris Agreement to the Interpretation of UNCLOS. Section IV deals with the questions before the Tribunal.

5. This brief is written from a perspective whereby a healthy marine environment defined as ‘healthy marine living organisms’² is important in and of itself and not merely for the service it renders to humanity. UNCLOS protects the marine biological diversity of the oceans and therefore the right of the diversity of marine species to exist and thrive.

II. THE STATE OF THE OCEAN AND CLIMATE CHANGE

6. About 70 per cent of Earth’s surface is comprised of ocean.³ The ocean is critical for life on Earth.
7. Today we face the double, interlinked emergencies of human-induced climate change and the loss of biodiversity threatening the well-being of current and future generations. Between 1970 and 2018 the abundance of monitored wildlife populations globally decreased on average by 69%. One million plants and animals are threatened with extinction.⁴
8. Climate change (and global warming) is being caused by an increase in greenhouse gases which blanket the Earth and trap the sun’s heat. Fossil fuels (coal, oil and gas), which are burnt to produce energy, are by far the biggest contributor to climate change, making up 75 per cent of global greenhouse gas emissions (‘GHGs’) and nearly 90 per cent of all carbon dioxide emissions. Land use change, including deforestation, is responsible for approximately a quarter of GHG emissions.⁵
9. The Intergovernmental Panel on Climate Change (‘IPCC’), the UN Body tasked with assessing the science on climate change, has noted that ‘ocean and coastal ecosystems support life on Earth and many aspects of human well-being. Covering two-thirds of the planet, the ocean hosts vast biodiversity and modulates the global climate system by regulating cycles of heat, water and elements, including carbon’.⁶ Due to its size and reflective (albedo) capacity, the ocean ‘has absorbed more than 93% of the heat generated by anthropogenic global warming since 1971’.⁷ Our ocean is being used as the planet’s greatest carbon sink, absorbing around 90% of the excess heat and energy released from

² Yoshifumi, Tanaka, ‘Article 1’ in Proelss. (ed), United Nations Convention on the Law of the Sea, A Commentary, (C.H.Beck, Hart Nomos, 2017), p. 23.

³ LuAnn Dahlman and Rebecca Lindsey, “Climate Change: Ocean Heat Content”, 1 August 2018 <<https://www.climate.gov/news-features/understanding-climate/climate-change-ocean-heat-content>>

⁴ See WWF, ‘Climate, Nature and Our 1.5°C Future Report, A Synthesis of IPCC and IPBES Reports’, 2022 (‘**WWF Living Planet Report 2022**’), p. 12-13. (‘**Annex 2**’) Available at <https://wwfint.awsassets.panda.org/downloads/wwf_climate_nature_and_our_1_5c_future_report.pdf>

⁵ <https://www.un.org/en/climatechange/science/causes-effects-climate-change>

⁶ See, [IPCC Sixth Assessment Report](#), Climate Change 2022: Impacts, Adaptation and Vulnerability (Chapter 3: Oceans and Coastal Ecosystems and their Services, Executive Summary <<https://www.ipcc.ch/report/ar6/wg2/chapter/chapter-3/>>

⁷ See Nilufer Oral, “Climate Change and protecting the oceans: A Tale of two regimes”, 11 May 2018; IUCN D. Laffoley and J.M. Baxter, “Explaining Ocean Warming: Causes, scale, effect and consequences”, p. 17. https://portals.iucn.org/library/sites/library/files/documents/2016-046_0.pdf citing the Fifth Assessment Report published by the Intergovernmental Panel on Climate Change.

rising GHGs⁸ and around 20-30% of the carbon dioxide produced by human activities since the 1980s, leading to a reduction in the pH of the ocean (ocean acidification). This has resulted in changes to ocean chemistry that are unprecedented in 65 million years.⁹

10. Excessive heat and energy warming the ocean is leading to a cascade of melting sea-ice and land ice, sea level rise, marine heatwaves and deoxygenation. Concurrently, higher levels of carbon dioxide in the atmosphere is causing ocean acidification. This, cumulatively, is causing lasting impacts on marine biodiversity and increasing the risk of irreversible loss of marine and coastal ecosystems; with over half of the Earth's marine species standing on the brink of extinction by 2100 at current estimates.¹⁰ Pollution, under UNCLOS (as discussed below) would encompass: (a) increased concentrations of carbon dioxide in the atmosphere and ocean resulting in ocean acidification, and (b) increased heat energy in the ocean as a consequence of increasing GHG concentrations in the atmosphere.

A. Best Available Science and the State of the Ocean

11. The IPCC has provided irrefutable evidence that anthropogenic GHG emissions are having severe and worsening impacts on marine ecosystems globally¹¹ leading to the collapse of fish populations¹² and key marine species such as shallow water coral reefs. The two major impacts are ocean warming and acidification.
12. The IPCC identifies that climate change has already caused 'substantial damages, and increasingly irreversible losses in terrestrial, freshwater, cryospheric and coastal and open ocean ecosystems'.¹³ It has identified widespread impacts and related losses and damages on human systems and altered ocean ecosystems worldwide.
13. Warmer waters are predicted, at a global scale, to result in a shift of marine species distribution towards the poles, as they attempt to adapt to new conditions including prey availability. Some fish populations are projected to be pushed predominantly poleward at a rate of 10s to hundreds of kilometres per decade leading to some local extinctions in the tropics and the displacement of species at higher latitudes.¹⁴ The modelling shows this shift to be more extreme where high emission scenarios are used.
14. As the IPCC report observes 'hundreds of local losses of species have been driven by increases in the magnitude of heat extremes' and 'mass mortality events on land and in

⁸ <https://www.un.org/en/climatechange/science/climate-issues/ocean-impacts>

⁹ WWF, 'Climate, Nature and Our 1.5°C Future Report, A Synthesis of IPCC and IPBES Reports' (See **Annex 2**) p. 12-13.

¹⁰ UNESCO, "Impacts of Climate Change on World Heritage Coral Reefs: Update on the First Global Scientific Assessment", 2018. Available at <https://unesdoc.unesco.org/ark:/48223/pf0000265625.locale=en>

¹¹ IPCC AR6 Synthesis Report ('**Annex 1**'), para A.1.

¹² Christopher M Free et al, 'Impacts of Historical Warming on Marine Fisheries Production', *Science*, 1 March 2019, Vol 363, Issue 6430, pp. 979-983

<https://cordis.europa.eu/article/id/124893-trending-science-climate-change-is-causing-fish-to-disappear>

¹³ IPCC. AR6 SYR, p. 15.

¹⁴ IPBES Global assessment report on biodiversity and ecosystem services, section 4.2.2.2.1, p. 634

the ocean'¹⁵. The IPCC crucially observes that 'impacts on some ecosystems are approaching irreversibility such as the impacts of hydrological changes resulting from the retreat of glaciers, or the changes in some mountain and Arctic ecosystems driven by permafrost thaw'.¹⁶

15. Global warming is being slowed down by our ocean. This is due to carbon take up which occurs in two ways: firstly, by CO₂ being dissolved in the water column (which leads to acidification), and secondly by "blue carbon" ecosystems sequestering CO₂. Ocean acidification can only be halted by reducing CO₂ being released into the atmosphere. The world is waking up to the ocean's critical role in mitigation, adaptation and resilience building – from the carbon sequestered in blue carbon habitats like mangroves, seagrass beds and kelp forests, to the protection that ecosystems like coral reefs provide against storm surges and other climate change impacts. Yet while the ocean holds myriad solutions, it is suffering from increasing climate change impacts.¹⁷
16. Coral reefs, which make up some of the most species-rich habitats on Earth, are suffering heavily: scientists expect major damage to reef-building corals with 1.5°C global warming and warm water corals to all but disappear above 2°C¹⁸.
17. Climate effects are impacting critical marine habitats and the migratory connections between them (known as 'blue corridors') as well as affecting prey abundance, distribution and type, and changing the timing of important migrations causing real and imminent extinction risk to whales, dolphins and porpoises.¹⁹ Although marine mammals have been shown to be quite resilient to changing ocean conditions, the food that seals, sea lions, whales and dolphins depend on has been shown to change locations due to warming water. The loss of sea ice habitat and associated abundance of prey species is also impacting terrestrial species such as polar bears. The IPCC has observed in that regard: "The polar regions are losing ice, and their oceans are changing rapidly. The consequences of this polar transition extend to the whole planet, and are affecting people in multiple ways".²⁰
18. The IPCC has noted that "[i]t is *extremely likely* that the rapid ice loss from the Greenland and Antarctic ice sheets during the early 21st century has increased into the near present day, adding to the ice sheet contribution to global sea level rise".²¹ The IPCC has further noted:

¹⁵ IPCC. AR6 SYR, p. 15.

¹⁶ Ibid.

¹⁷ Daniela Diz, Pauli Merriman, Klaas de Vos, Martin Sommerkorn, Simon Walmsley.. *Blueprint for a Living Planet: Four Principles for Integrated Ocean-Climate Strategies*. WWF International, Gland, Switzerland, 2021, p. 5. (**WWF, Blueprint for a Living Planet'**)

<https://wwfint.awsassets.panda.org/downloads/blueprint_for_a_living_planet_final_june_2021_spreads.pdf>

¹⁸ WWF, 'Climate, Nature and Our 1.5°C Future Report', p. 12.

¹⁹ WWF, 'Protecting Blue Corridors Report', 2022

²⁰ Meredith, M., M. Sommerkorn, S. Cassotta, C. Derksen, A. Ekaykin, A. Hollowed, G. Kofinas, A. Mackintosh, J. Melbourne-Thomas, M.M.C. Muelbert, G. Ottersen, H. Pritchard, and E.A.G. Schuur, 2019: Polar Regions. In: *IPCC Special Report on the Ocean and Cryosphere in a Changing Climate* [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY, USA, pp. 203–320. <https://doi.org/10.1017/9781009157964.005>, p. 205.

²¹ Ibid, p. 206.

At sustained warming levels between 2°C and 3°C, The Arctic Ocean will be practically sea ice free throughout September in most years (*medium confidence*); there is *limited evidence* that the Greenland and West Antarctic ice sheets will be lost almost completely and irreversibly over multiple millennia; both the probability of their complete loss and the rate of mass loss will increase with higher temperatures (*high confidence*)²²

19. In effect, the Arctic is warming nearly four times as fast as the global average. Loss of land ice is causing sea level rise. Sea ice that Arctic people and species including polar bears and walrus depend upon is also melting away. Loss of ice is also threatening other species such as seals who depend on this habitat to raise their young.²³
20. In the Antarctic, krill is a key species in the food web. A tiny shrimp-like crustacean, it is ‘the near exclusive food for giant blue-whales’ and some seabirds.²⁴ As reported, ‘[w]hen abundant, animals migrate thousands of miles to feed on krill. But when absent the entire marine ecosystem suffers.’²⁵ Global warming is now depleting the sea ice that krill depend on. Krill distribution is shrinking polewards as the ocean warms. Scientific research suggests that warming waters will impact krill growth, with one study suggesting that it could ‘possibly lead[ing] to a 40% decline in the mass of individual krill by the end of the century’²⁶ Recent research also provides new evidence which suggests that combined anthropogenic stressors (such as ocean acidification and nanoplastic pollution) can obstruct Antarctic krill development at the earliest and most sensitive embryonic stage of life²⁷. Paradoxically, the contribution of the Antarctic krill to blue carbon processes is significant.²⁸
21. Ocean warming and ocean acidification is also having severe impacts on people, particularly those living in subsistence coastal communities which rely on natural resources to survive, as well as the economic prospects of commercial fisheries and the aquaculture sector. To WWF’s knowledge, these impacts include: (a) decreases in productivity and resilience of fisheries and shellfish aquaculture; (b) coral reef dependent fisheries, and (c) the vulnerability of coastal communities in Small Island States, which often have a relatively high dependence on coastal fisheries (including coral reef fisheries).
22. As sea levels rise, saltwater intrusion in coastal aquifers is likely to increase, reducing the availability of freshwater for people living in coastal regions. Saltwater intrusion affects both people (including sources of drinking water) and freshwater species (range

²² See IPCC Sixth Assessment Report, Working Group 1, Chapter 9, p 1217

https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter09.pdf

²³ WWF, “Polar Bear: A Powerful Predator on Ice Species” < [²⁴ Mary Jane Schramm, “Tiny Krill: Giants in Marine Food Chain”, *National Marine Sanctuary Program* < \[²⁵ Ibid.\]\(https://sanctuaries.noaa.gov/news/features/1007_krill.html#:~:text=Krill%20is%20the%20near%20exclusive,the%20entire%20marine%20ecosystem%20suffers.></p></div><div data-bbox=\)](https://www.wwf.org.uk/learn/wildlife/polar-bears#:~:text=Previous%20Next-,Climate%20change,ice%20to%20raise%20their%20young.></p></div><div data-bbox=)

²⁶ Emily s. Klein et al, “Impacts of rising sea temperature on krill increase risks for predators in the Scotia Sea” Plos One Journal Open Access, January 31, 2018 <<https://doi.org/10.1371/journal.pone.0191011>>

²⁷ Rowlands E, Galloway T, Cole M, Lewis C, Peck V, Thorpe S and Manno C (2021) The Effects of Combined Ocean Acidification and Nanoplastic Exposures on the Embryonic Development of Antarctic Krill. *Front. Mar. Sci.* 8:709763. doi: 10.3389/fmars.2021.709763

²⁸ WWF, “Antarctic Krill: Powerhouse of the Southern Ocean”, Report, 2022.

and habitats) due to the salt front (where freshwater meets saltwater) progressing upstream²⁹.

23. Failing to prevent or mitigate the impacts of climate change and failing to protect and preserve the marine environment plays into a dangerous feedback loop whereby the effects of climate change destroy the mitigation services of marine and coastal habitats such as salt marshes, seagrass and mangroves which otherwise sequester carbon and provide protective barriers from storm surges. 25-50% of these critical 'blue carbon' ecosystems have been lost or degraded due to human disturbances, causing them to release a proportion of their stored carbon into the atmosphere.³⁰
24. If managed effectively the ocean can contribute greatly to keep our climate in balance, feed a growing population, support economic development, and protect habitats and treasured wildlife. But only a *healthy* ocean can provide these essential services. And, as the IPCC *Ocean and Cryosphere* report made clear, climate change is adding pressures from temperature rise to ocean acidification while exacerbating existing pressures such as marine pollution and overexploitation, with the impacts being disproportionately faced by the most vulnerable communities.³¹
25. To the extent that the law of the sea is a body of international law governing the rights and duties of States concerning the ocean, and UNCLOS is considered "a constitution of the oceans", the clarification of States' duties and obligations in relation to climate change, is crucial for the survival of the planet as we know it.

III. THE INTERPRETATION OF UNCLOS IN THE CONTEXT OF CLIMATE CHANGE

A. UNCLOS As a Living Instrument

26. UNCLOS was negotiated during a period when concerns of climate change were not known.³² UNCLOS, however, was never meant to be a 'static or immutable legal regime'.³³ It is WWF's submission that the interdependence between the oceans and the atmosphere is a matter at the heart of UNCLOS given that the protection of the marine environment is one of the central goals of UNCLOS.³⁴
27. Paragraph 4 of the preamble of UNCLOS provides that the aim of UNCLOS is to establish 'a legal order for the seas and oceans which will', among others, 'promote... the conservation of their living resources, and the study, protection and preservation of the marine environment'. UNCLOS purports to provide *the* overarching framework for

²⁹ The Invisible Flood: The Chemistry, Ecology, and Social Implications of Coastal Saltwater Intrusion
Kate Tully, Keryn Gedan, Rebecca Epanchin-Niell, Aaron Strong, Emily S Bernhardt, Todd BenDor, Molly Mitchell, John Kominoski, Thomas E Jordan, Scott C Neubauer, *BioScience*, Volume 69, Issue 5, May 2019, Pages 368–37

³⁰ WWF, 'Climate, Nature and Our 1.5°C Future Report', p. 13.

³¹ WWF, *Blueprint for a Living Planet*, p. 5.

³² A. Boyle, 'Protecting the Marine Environment from Climate Change' in E. Johansen et al (eds), *The Law of the Sea and Climate Change*, Cambridge University Press: Cambridge, 2021, p. 83.

³³ *Ibid.*

³⁴ Robin Churchill et al, *The Law of the Sea* (Manchester University Press, 2022) (Fourth Edition), p. 604.

international law in relation to the protection of the marine environment.³⁵ In WWF's submissions this necessarily entails addressing the effects of anthropogenic emissions on the sea and the obligations of States under UNCLOS.

28. While Part XII of the Convention, which deals with the protection and preservation of the marine environment makes no reference to the adverse impacts of climate change on the ocean and marine environment, the Convention is considered “a living instrument”. As Judge Lucky put it in his Separate Opinion in *Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission (SRFC)* (Advisory Opinion of 2 April 2015):

*The 1982 Convention and the Statute of the Tribunal are ‘living instruments’. This means that they ‘grow’ and adapt to changing circumstances. The law of the sea is not static. It is dynamic and, therefore, through interpretation and construction of the relevant articles a court or tribunal can adhere and give positive effect to this dynamism.*³⁶

29. In that line, publicists have acknowledged, in relation to the “[t]he general obligations of States to take measures to prevent, reduce, and control transboundary pollution and pollution of the marine environment which was elaborated in the 2010 *Pulp Mills* case and in the ITLOS *Advisory Opinion on the Seabed Activities* of 2011” that “[t]here seems no reason not to apply it to greenhouse gas emissions [...]”.³⁷
30. Indeed, there is consensus that the UNCLOS regime is “solid, yet flexible”, as former President of the Tribunal, Judge Paik has observed.³⁸ Leading commentary on UNCLOS states:

*If UNCLOS had provided detailed provisions on all matters relating to the protection of the marine environment, many of them (especially those concerning the prevention of pollution) would have become rapidly out of date as the need for higher standards of protection became apparent and the desirability of measures to address newly perceived environmental issues became evident.*³⁹

31. Among the examples of issues that have emerged since the conclusion of UNCLOS – note these authors, are those that “include global climate change and its consequences for the marine environment...”⁴⁰
32. For her part, Barret observes:

[UNCLOS has been described as “living” in a metaphorical sense akin to a tree or an organism. It has also been likened to a national constitution which must “grow” in accordance with the times. [...]

³⁵ Ibid, p. 603.

³⁶ See Jill Barrett and Richard Barnes, *Law of the Sea, UNCLOS as a Living Treaty*, BIICL, 2016, p. 4.

³⁷ The Role of International Courts and Tribunals in the Development of Environmental Law, Volume 109 (Proceedings of the One Hundred Ninth Annual Meeting of the American Society of International Law), Remarks by Alan Boyle, p. 200.

³⁸ ‘How healthy is the ocean’s constitution?’, remarks of Judge Paik, then President of ITLOS, conference celebrating the anniversary of UNCLOS in November 2019.

³⁹ Robert Churchill et al, *The Law of the Sea, op cit*, p. 605.

⁴⁰ Ibid, p. 605, footnote 21.

[...] When Sir Michael Wood, speaking about UNCLOS on the occasion of its thirtieth anniversary in 2012, characterized it as a “living instrument”, he was referring to various kinds of flexibility inherent in its design. As examples, he noted that the framework for the protection of the marine environment in Part XII had been developed through international rules, standards and recommended practices to take account of new realities; [...]

[...]

A key practical test of how effectively UNCLOS “lives” is its ability to address major challenges that were not foreseen at the time it was negotiated. Climate change was not yet part of the international agenda, but now ocean acidification caused by CO₂ pollution from the atmosphere threatens the marine environment. [...] If UNCLOS is a living treaty it should be able to evolve and develop new standards and institutions within a unified framework, if it is not, these problems may go unsolved or solutions may develop outside of the reach of UNCLOS and lead to fragmentation of the international law of the sea.⁴¹

33. Lastly, former Vice-President of ITLOS, Judge Attard (as he was then) has referred to the interdependence between the oceans and the atmosphere as follows:

*ITLOS should be well-prepared for the contemporary law of the sea challenges. [...] More attention needs to be given to the interdependence between the oceans and the atmosphere. It is generally agreed that climate change is leading to ocean warming, acidification, and sea-level rise. These adverse effects could lead to requests for the settlement of disputes or for Advisory Opinions. I am pleased that the Tribunal has already given important decisions on the protection and preservation of the marine environment. Furthermore, it is constantly striving to keep abreast of contemporary challenges such as sea-level rise.*⁴²

34. In short as aptly put by Alan Boyle, UNCLOS is. ‘...capable of further evolution through the incorporation by reference of generally accepted international rules and standards, and the adoption of implementing agreements and soft law. It must be interpreted and applied with subsequent developments in international law and policy in mind’.⁴³

B. Relevance of the Paris Agreement to the Interpretation of UNCLOS

35. WWF submits that the Paris Agreement is relevant to the interpretation of the obligations under Part XII of UNCLOS.⁴⁴
36. The Paris Agreement is a legally binding international treaty on climate change. It is the treaty currently setting the international standard for the management and control of greenhouse gas emissions. It was adopted by 196 Parties at the UN Climate Change

⁴¹ Jill Barret and Richard Barnes, *Law of the Sea: UNCLOS as a Living Treaty*, (BIICL 2016), pp.3-5.

⁴² ITLOS, Newsletter 2018/3, “ITLOS bench: interview with Vice-President Attard (Malta).”, August 2018 <<https://www.itlos.org/en/main/press-media/itlos-newsletters/itlos-newsletter-2018/3/>>

⁴³ A. Boyle, in “Litigating Climate Change under Part XII of the LOSC”, the *International Journal of Marine and Coastal Law* 34 (2019) 458-481 at p. 462. Supporting this view on Article 31(3) (c) of the Vienna Convention on the Law of Treaties and the *South China Sea Arbitration (The Republic of Philippines vs. The People’s Republic of China)* PCA Case No. 2013–19, Award on the Merits.

⁴⁴ United Nations Framework Convention on Climate Change (‘Paris Agreement’)

Conference (COP21) in Paris, France on 12 December 2015. It entered into force on 4 November 2016. There is a significant overlap of State Parties to the Paris Agreement and to UNCLOS. While 195 States are Parties to the Paris Agreement,⁴⁵ 169 States are Parties to UNCLOS.⁴⁶

37. In accordance with Article 31(3)(c) of the Vienna Convention on the Law of Treaties ('VCLT'), treaties shall be interpreted in accordance with the instruments directly related to it, but also in accordance with:

“(c) any relevant rules of international law applicable in the relations between the parties.”

38. The Paris Agreement makes reference to the importance of ensuring the integrity of oceans in its Preamble,

“Noting the importance of ensuring the integrity of all ecosystems, including oceans, and the protection of biodiversity, recognized by some cultures as Mother Earth...”⁴⁷

39. Thereby agreeing to ‘...significantly reduce the risks and impacts of climate change’ [Article 2 of the Paris Agreement]⁴⁸

40. Article 2(1)(a) of the Paris Agreement contains the over-arching temperature goal aimed at:

Holding the increase in the global average temperature to well below 2C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 C above pre-industrial levels.

41. Thus, emissions reduction (mitigation) is the central goal of this treaty. The mechanics to achieve it are laid down in Article 3 and 4.

42. Article 3 of the Paris Agreement contains the obligation “to undertake and communicate ambitious efforts as defined in Articles 4, 7, 9, 10, 11 and 13” with a view to achieving the temperature goal set out in Article 2.

43. Article 4 (1) of the Paris Agreement provides that in order to achieve the temperature goal set out by the Agreement, “Parties aim to reach global peaking of greenhouse gas emissions as soon as possible”, and to “undertake rapid reductions thereafter in accordance with best available science” which ought to reach net zero in the second half of the century.

⁴⁵ Status of Ratification of the Paris Agreement as of 6 June 2023 <
https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-7-d&chapter=27&clang=en>

⁴⁶ Status of Ratification of UNCLOS as of 6 June 2023 |<
https://treaties.un.org/pages/ViewDetailsIII.aspx?src=TREATY&mtdsg_no=XXI-6&chapter=21&Temp=mtdsg3&clang=en>

⁴⁷ Paris Agreement, Preamble.

⁴⁸ Paris Agreement, Article 2 (1) (a).

44. Article 4(2) provides that “*Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve*”, and that “*Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.*”
45. Article 4 (3) and 4(4) reflects a common but differentiated responsibility towards emissions reductions between big emitters and developing countries. Article 4(3) provides: “**Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.**” (Our emphasis)
46. Likewise, Article 4(4) places a particular responsibility on developed countries: “*[D]eveloped country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances.*” (Our emphasis)
47. Article 5(1) states: ‘Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouses gases as referred to in Article 4, paragraph 1(d), of the Convention including forests’.
48. WWF submits that the above legally binding obligations are relevant to construe the obligations under UNCLOS in the present Request. While the applicable law, the law that is being interpreted by the Tribunal, is UNCLOS, the provisions of the Paris Agreement inform said obligations. This is in accordance to Article 31(3)(c) VCLT which gives expression to the principle of systemic integration in international law.⁴⁹
49. As the International Law Commission Special Rapporteur on Fragmentation of International Law, Professor Martti Koskenniemi noted:

It is sometimes suggested that international tribunals or law-applying (treaty) bodies are not entitled to apply the law that goes “beyond” the four corners of the constituting instrument or that when arbitral bodies deliberate the award, they ought not to take into account rules or principles that are not incorporated in the treaty under dispute or the relevant *compromis*. But if, ..., all international law exists in systemic relationship with other law, no such application can take place without situating the relevant jurisdiction-endowing instrument in its normative environment. This means that although a tribunal may only have jurisdiction in regard to a particular instrument, it must always *interpret* and *apply* that instrument in its relationship to its normative environment – that is to say “other” international law.⁵⁰

⁴⁹ A/CN.4/L.682 (13 April 2006), International Law Commission, “Fragmentation of International Law. Difficulties Arising from the Diversification and Expansion of International Law – Report of the Study Group”, p 423. Available at < <https://digitallibrary.un.org/record/574810?ln=en> >

⁵⁰ Ibid (footnotes omitted).

50. Treaties are not interpreted ‘in a vacuum’.⁵¹ WWF thus invites the Tribunal, in interpreting UNCLOS, to do so in its relationship to its normative environment of which WWF submits the Paris Agreement is part. This is in accordance with the principle of treaty interpretation enshrined in VCLT 31(3)(c).

51. This principle -which is merely the expression of larger principle – that of “systemic integration”- , we submit, as Professor Koskenniemi posited, is a reasonable and even a necessary aspect of the practice of legal reasoning. As Koskenniemi posited:

*Legal interpretation, and thus legal reasoning, builds systemic relationships between rules and principles by envisaging them as parts of some human effort or purpose. Far from being merely an “academic” aspect of the legal craft, systemic thinking penetrates all legal reasoning, including the practice of law-application by judges and administrators.*⁵²

52. For “systematization” - that is, the establishment of systemic relationships between legal rules –, as Koskenniemi noted, is a key aspect of legal reasoning.⁵³

53. In the first international case on State responsibility for failure to address the impact of climate change, this was the approach taken by the organ determining the case.

54. On 22 September 2022, the United Nations Human Rights Committee delivered its Views in the *Torres Strait Islanders* case,⁵⁴ the first legal action brought by climate-vulnerable inhabitants of low-lying islands against a Sovereign state for lack of climate action. This was the first instance in which an international organ acknowledged that environmental treaties, such as the Paris Agreement and other environmental instruments, are relevant to the interpretation of a different instrument in the context of climate change. Reliance of the claimants in the *Torres Strait Islanders* case on the Paris Agreement and other environmental instruments was rejected by the Respondent State.⁵⁵ The Committee observed that it was not competent to determine compliance with other international instruments or agreements (indeed the authors never argued so). However, the Committee accepted that such international agreements are relevant for the interpretation of human rights obligations under the treaty in question (the International Covenant on Civil and Political Rights):

“to the extent that the authors are not seeking relief for violations of the other treaties before the Committee but rather refer to them in interpreting the State party’s

⁵¹ As posited by Monica Feria-Tinta in relation to the relevance of the Paris Agreement to the interpretation of other treaties. Monica Feria-Tinta, ‘The Future of Environmental cases in the European court of Human Rights’ in Natalia Kobylarz and Evadne Grant (eds), *Human Rights and the Planet* (EE, 2022), p. 184. See also, M.Feria-Tinta, ‘Climate Change Litigation in the European Court of Human Rights’, *L’Europe des Droits et Libertés Journal*, December 2020 (Issue 3), available at < <https://www.europedeslibertes.eu/article/climate-change-litigation-in-the-european-court-of-human-rights-causation-imminence-and-other-key-underlying-notions/>>

⁵² A/CN.4/L.682 para 35 (footnotes omitted)

⁵³ Ibid, para 35, footnote 32 citing Aulis Aarmio, *Denkweisen der Rechtswissenschaft* (New York Springer, 1979) pp. 50-77 and generally Joseph Raz, *The Concept of a Legal System* (Oxford: Clarendon Press, 1979).

⁵⁴ Human Rights Committee, Daniel Billy et al. Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/201 Adopted by the Committee at its 135th session (27 June – 27 July 2022). (*‘Torres Strait Islanders case’*)

⁵⁵ *Torres Strait Islanders*, §6.5.

obligations under the Covenant, the Committee considers that the appropriateness of such interpretations relates to the merits of the authors' claims under the Covenant."⁵⁶

55. This acceptance of the systemic principle in treaty interpretation, which is likewise relevant to the interpretation of UNCLOS, is an important aspect of the *Torres Strait Islanders* decision, setting a precedent for other international organs' and courts' application of rules of interpretation of their treaties. The Committee's position upheld the authors' argument that: "*International environmental legal obligations of States are indeed relevant to interpreting the scope of their duties under the Covenant. Treaties should be interpreted in the context of their normative environment.*"⁵⁷

IV. LEGAL ANALYSIS

A. Preliminary question: Do CO₂/ Greenhouse Gas Emissions constitute "pollution" within the meaning of Article 1 (1) (4) of UNCLOS?

56. The questions posed in the Request for an Advisory Opinion by the Commission of Small Island States on Climate Change and International Law ('COSIS') contain the underlying assumption that anthropogenic greenhouse gas emissions are a form of pollution of the marine environment as they cause deleterious effects. A preliminary issue for the Tribunal to consider is therefore whether CO₂ emissions, greenhouse gas emissions (with the correlative climate change effects) fall within the meaning of 'pollution' under Article 1(1)(4) of UNCLOS.

57. Article 1(1)(4) of UNCLOS reads:

1. *For the purposes of this Convention*

[...]

(4) "pollution of the marine environment" means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities;

58. Authoritative commentary of this provision states:

*Art. 1 (1) (4) provides an open definition of marine pollution which may include **all sources of marine pollution in the present and future.***⁵⁸ (Our emphasis)

59. This includes, as noted by the Commentary, 'pollution from or through the atmosphere'.⁵⁹ The Commentary however goes on to remark:

⁵⁶ Ibid, §7.5.

⁵⁷ Ibid, § 5.6.

⁵⁸ Yoshifumi, Tanaka, 'Article 1' in Proelss. (ed), United Nations Convention on the Law of the Sea, A Commentary, (C.H.Beck, Hart Nomos, 2017), p. 23.

⁵⁹ Ibid.

“The definition covers substances or energy which ‘is likely to result’ in deleterious effects. It would follow that potentially harmful effects on the marine environment can also become the object of regulation. In light of its open texture nature, Art. 1 (1) (4) also covers new sources of marine pollution [...]. Even though it may be go (sic) too far to argue that the precautionary approach was already reflected in this provision, the Convention must be interpreted and applied in light of the recent development of international law, including rules of international environmental law. Therefore, there appears to be some scope to argue that presently the definition of marine pollution in Art. 1 should be interpreted and applied taking account of the precautionary approach.”⁶⁰

60. Leading publicists in the area of the law of the sea agree with the view that CO₂ emissions and other greenhouse gas emissions fall under the definition of “pollution” within the meaning of Article 1(1)(4) of UNCLOS. See, for example, Boyle in ‘Climate Change, Ocean Governance and UNCLOS’ emphasizing:

“Article 1(1)(4) of UNCLOS defines ‘pollution of the marine environment’ to include the introduction of substances or energy resulting in harm to the marine environment. CO₂ emissions appear to have resulted in the deposition of excess anthropogenic carbon into the oceans, altering their chemistry, and making them more acidic. They also appear to have added “energy” to the oceans, either directly by causing ocean temperatures to rise, or indirectly by melting ice caps and glaciers, resulting in sea level rise. Evidence evaluated in reports from various UN specialised agencies has shown that these depositions have caused or are likely to cause the kind of harmful effects listed in Article 1(1)(4).”⁶¹

61. Boyle suggests that as far as climate change mitigation strategies are concerned, UNCLOS, part XII (which he argues must be interpreted and applied with subsequent developments in international law and policy in mind) requires States to take the measures necessary to protect the marine environment from the harmful effects of anthropogenic climate change.⁶² Prip likewise argues that while Part XII does not refer to climate change related impacts, ‘this however does not imply that climate change induced harmful impacts cannot be considered’.⁶³
62. Former ITLOS Judge, Rüdiger Wolfrum would agree with that interpretation as in his view, the Convention is ‘flexible enough to accommodate the issues which will confront us’ including ‘climate change’.⁶⁴
63. For all the above, it is WWF’s submission that the term “*all sources*” of pollution in Article 1(1)(4) is broad enough to include CO₂/ Greenhouse Gas Emissions, as per the ordinary meaning of the term (‘all sources’) in accordance with rules of treaty interpretation, Article 31 (1), of the VCLT. Thus, they amount to “pollution” within the meaning of Article 1 (1) (4) of UNCLOS.

⁶⁰ Ibid.

⁶¹ Alan Boyle, “Climate Change, Ocean Governance and UNCLOS”, in Jill Barrett and Richard Barnes, *Law of the Sea, UNCLOS as a Living Treaty*, p. 218.

⁶² Alan Boyle, ‘Protecting the Marine Environment from Climate Change’, in E. Johansen et al (eds), *The Law of the Sea and Climate Change*, Cambridge University Press: Cambridge 2021, pp 81-103, at p. 84.

⁶³ C. Prip, ‘Integrating Climate Change in the Governance of Areas beyond National Jurisdiction’, in E. Johansen et al (eds), *The Law of the Sea and Climate Change*, ibid, pp. 336-353, at p 337.

⁶⁴ Wolfrum intervention in *ITLOS at 20: Looking into the Future*, Symposium, 18 March 2017, p. 85.

64. It is pertinent to note that the question of whether greenhouse gas emissions constitute a form of pollution was recently considered by a domestic court, in a class action raising tort law, in connection to a private company, Shell.⁶⁵ This was the first time that any court in the world ordered a fossil fuel company to comply with global climate goals and to become aligned with the Paris Agreement. The Dutch District Court seizing the case construed the term 'environmental damage' within the meaning of Article 7 of Rome II⁶⁶ to encompass climate change deleterious effects.⁶⁷ The background of the case was the perilous situation faced by the Wadden region in the Netherlands. The Dutch court observed that coastal flooding had impacted low-lying coastal areas in north-western Europe in the past and the risks were expected to increase due to sea-level rise and an increased risk of storm surges due to climate change.
65. The Inter-American Court's Advisory Opinion No. 23⁶⁸ for its part had taken a similar approach.⁶⁹ More recently, as seen above, in the *Torres Strait Islanders* case, the UN Human Rights Committee acknowledged sea-level rise adversely affecting life on a low-lying island, ocean acidification, coral bleaching, reed death, decline of seagrass beds and other nutritionally and culturally essential marine species, as effects of climate change, constituting environmental harm.⁷⁰
66. WWF submits that these precedents that climate change, due to CO₂ emissions, constitute environmental damage, are relevant for the consideration of ITLOS of the meaning of "pollution" under UNCLOS Article 1.1 (4). To the extent the Tribunal feels it necessary to examine the assumption underlying the COSIS request, WWF submits that the conclusion it should draw is that GHGs fall within scope of "pollution" under Article 1.1.(4) of UNCLOS.

B. Question 1: Obligations of State Parties to 'prevent, reduce and control pollution of the marine environment in relation to the deleterious effects that result or are likely to result from climate change'

67. The specific obligations relating to this question are contained in Article 194 of UNCLOS (in its interrelationship with other provisions in UNCLOS). Leading commentary on the definition of 'marine environment' stipulates that this encompasses *marine living*

⁶⁵ Dutch District Court, *Milieudéfensie et al. v. Royal Dutch Shell plc*. Judgment of 26 May 2021 ('*Milieudéfensie*')

⁶⁶ Regulation (EC) No 864/2007 of the European Parliament and the Council of 11 July 2007 on the law applicable to non-contractual obligations.

⁶⁷ *Milieudéfensie*, para 4.3.2. The Dutch Court held: "The parties were right to take as a starting point that climate change, whether dangerous or otherwise, due to CO₂ emissions constitutes environmental damage in the sense of Article 7 Rome II."

⁶⁸ Inter-American Court of Human Rights, Advisory Opinion OC-23/17 "The Environment and Human Rights", of November 15, 2017, Requested by the Republic of Colombia. ('**Advisory Opinion No. 23'**)

⁶⁹ *Ibid*, see for example, para 96.

⁷⁰ *Torres Strait Islanders* case, para 7.3, para. 8.3.

*organisms*⁷¹ and the concept of ‘marine environment’ covers marine biological diversity.⁷²

(1) Obligations under Article 194 of UNCLOS (in its interrelation with other provisions of UNCLOS)

68. Article 194 of UNCLOS reads:

*Measures to prevent, reduce, and control pollution
of the marine environment*

1. *States shall take, individually or jointly as appropriate, all measures consistent with the Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practical means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.*

2. *States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.*

3. *The measures taken pursuant to this Part shall deal with all sources of pollution of the maritime environment. [...]*

4. *In taking measures to prevent, reduce or control pollution of the marine environment, States shall refrain from unjustifiable interference with activities carried out by other States in the exercise of their rights and in pursuance of their duties in conformity with this Convention.*

5. *The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted threatened or endangered species and other forms of marine life.* (emphasis added)

69. The following are some of the key obligations stemming from Article 194 of UNCLOS.

(a) *Obligation to reduce greenhouse gas emissions*

70. Article 194 (1) requires States to take measures necessary to prevent marine pollution ‘*from any source*’. Publicists observe:

“There is an indicative list of sources in Article 194 (3) which covers, inter alia, “the release of toxic, harmful or noxious substances, especially those which are persistent,

⁷¹ Yoshifumi, Tanaka, ‘Article 1’ in Proelss. (ed), United Nations Convention on the Law of the Sea, A Commentary, (C.H.Beck, Hart Nomos, 2017), p. 23.

⁷² Ibid, p. 24, noting in particular Article 194 (5) of UNCLOS.

from land-based sources, *from or through the atmosphere* or by dumping.” While anthropogenic greenhouse gas emissions are not specifically listed here, it is entirely plausible to read Article 194(3) as covering atmospheric depositions of CO₂ resulting in marine pollution. A significant proportion of marine pollution already comes from airborne depositions, and it has never been suggested that this is excluded from UNCLOS.⁷³

71. WWF submits -as suggested by leading scholars- that Article 194 together with Article 207 (on land-based sources of marine pollution) and Article 212 (which would cover GHGs emissions from ships or aircraft), would cover airborne sources of marine pollution comprehensively including CO₂ emissions and other greenhouse gas emissions.⁷⁴
72. Churchill, Lowe and Sander suggest that the effect of the increasing concentration of greenhouse gases in the atmosphere that are causing marine pollution, includes “the burning of fossil fuels and the farming of methane-emitting livestock”.⁷⁵ They note:

“One consequence of this development is ocean acidification, which results from the mixing of carbon dioxide in the atmosphere with sea water to form weak carbonic acid. Acidification inhibits the development of coral and other species, such as mussels and sea urchins, that require calcium carbonate to form their shells. A second consequence of increasing greenhouse gas emissions is the warming of the oceans caused by the greenhouse effect. This is also detrimental to coral as it causes the coral polyps to expel the algae that live within their tissue and provide most of their energy, turning the coral white. Such bleaching makes coral vulnerable to disease and stunts their growth’ and if severe, will kill it. The harm caused to coral reefs by acidification and bleaching is particularly troubling because they are the habitat of an enormous number and variety of species of fauna and flora. Ocean warming also displaces many marine species from their existing habitats. For example, cod, which have a low tolerance of temperature changes, are moving steadily to higher latitudes in search of colder waters. Species from tropical and subtropical waters are expanding their range and are now being found in areas where previously they had never, or only rarely, occurred. Thus, existing ecosystems are being significantly disrupted. Apart from long-term, gradual warming of the oceans, there are also short-term heatwaves that kill substantial amounts of marine life, including kelp forests, seagrass meadows and coral reefs, on all of which numerous species depend. A third consequence of increasing greenhouse gas emissions is sea level rise, caused by the thermal expansion of seawater and the melting of land-based ice in the polar regions. Sea-level rise affects habitats at the sea/land interface on low-lying coasts, such as salt marshes and mangrove swamps. The overall effect of human activities on the marine environment has been stark. For example, around one-third of all species of reef-forming corals, sharks and marine mammals are threatened with extinction; and across all marine vertebrate, invertebrate

⁷³ Boyle, ‘Climate Change, Oceans Governance and UNCLOS’, p. 217. Footnotes omitted. As Boyle observes “A resolution on the reduction of aviation emissions of CO₂ was adopted by the International Civil Aviation Organization (ICAO) in 2010 [ICAO resolution A37-19 (2010). The EU has extended its emissions trading scheme to aviation]. Regulations on CO₂ emissions from ships were adopted by the IMO in 2011 [The Marine Environment Protection Committee of the IMO adopted amendments to MARPOL, Annex VI, with entry into force on 1 January 2013, making the Energy Efficiency Design Index (EEDI) and the Ship Energy Efficiency Management Plan (SEEMP) mandatory subject to certain conditions].” Boyle, *ibid.*

⁷⁴ See for example, *ibid.*, p. 218.

⁷⁵ Robert. Churchill, Vaughan Lowe and Amy Sander, *The Law of the Sea*, op cit, p. 601.

*and plant groups that have been studied in sufficient detail to support a robust estimate, the proportion is about one-quarter.*⁷⁶

73. The obligation ‘to *prevent*’ under Article 194(1) requires therefore the protection of the marine environment against climate change impacts which include *inter alia* ocean warming, ocean acidification, ocean deoxygenation, coral bleaching, and sea level rise.
74. To the extent that CO₂ and other greenhouse gas emissions (including those produced by the burning of fossil fuels⁷⁷ and the farming of methane-emitting livestock⁷⁸) are a form of pollution under UNCLOS, WWF submits that the obligation to “prevent, reduce and control pollution of the marine environment from *any source*” under Article 194 (1) imposes an obligation to reduce greenhouse gas emissions (in accordance with the Paris Agreement, namely in line with the over-arching temperature goal aim (Article 2(1)(a), and in compliance with Articles 3, 4(1), 4 (2).
75. WWF submits that given the science of climate, what we know today, ‘reducing greenhouse gas emissions’ entails some specific obligations of result in addition to obligations of conduct.
76. To achieve the needed reduction of greenhouse gas emissions, States are obliged to reduce greenhouse gas emissions in a trajectory compatible with 1.5°C pathways, which entails phasing out fossil fuels.⁷⁹ Notably, States are expected not to grant licences to, but rather prevent, new oil and gas exploration (which is incompatible with the Paris Agreement goal of limiting global warming to 1.5°C). WWF submits this is an obligation of result. The IPCC’s most recent reports have made it clear that greenhouse gas emissions from existing fossil fuel infrastructure will already push the world beyond 1.5°C of global warming. The obligations under “prevent” in UNCLOS obliges States therefore, not to allow more fossil fuel sources to be explored. The IPCC stated:

⁷⁶ Ibid, pp. 601-602. Footnotes omitted.

⁷⁷ The IPCC has found that emissions from fossil fuels are the dominant cause of global warming. In 2018, 89% of global CO₂ emissions came from fossil fuels and industry. The IPCC states: “Different combinations of gases are emitted from different activities. **The largest source of CO₂ is combustion of fossil fuels** in energy conversion systems like boilers in electric power plants, engines in aircrafts and automobiles, and in cooking and heating within homes and business (approximately 64% of emissions...). Fossil fuels are also a major source of methane (CH₄) the second biggest contributor to global warming. While **most GHG come from fossil fuel combustion**, about one quarter comes from land -related activities like agriculture (mainly CH₄ and N₂O) and deforestation (CO₂), with additional emissions from industrial processes...”. IPCC Sixth Assessment Report, p. 194. (Our emphasis)

“When fossil fuels are burned, they release large amounts of carbon dioxide, a greenhouse gas, into the air. Greenhouse gases trap heat in our atmosphere, causing global warming. Oil releases a huge amount of carbon when burned - approximately a third of the world’s total carbon emissions. There have also been a number of oil spills in recent years that have had a devastating impact our oceans’ ecosystem.”, ClientEarth, ‘Fossil fuels and climate change: the facts’, 18 February 2022.

⁷⁸ UN Environment Programme, “Methane emissions are driving climate change. Here’s how to reduce them” <<https://www.unep.org/news-and-stories/story/methane-emissions-are-driving-climate-change-heres-how-reduce-them>>. Methane is the primary contributor to the formation of ground-level ozone, a hazardous air pollutant and greenhouse gas. See United Nations Environment Programme and Climate and Clean Air Coalition (2021). Global Methane Assessment: Benefits and Costs of Mitigating Methane Emissions. Nairobi: United Nations Environment Programme.

⁷⁹ No later than 2050, with developed countries achieving this sooner. See WWF, ‘Taking Stock, Taking Action: Changing Course to 1.5°’, June 2023. Available at <https://wwfint.awsassets.panda.org/downloads/wwf_cop28_expectations.pdf>

“Projected cumulative future CO₂ emissions over the lifetime of existing fossil fuel infrastructure without additional abatement exceed the total cumulative net CO₂ emissions in pathways that limit warming to 1.5°C (>50%) with no or limited overshoot. They are approximately equal to a total cumulative net CO₂ emissions in pathways that limit warming to 2°C with a likelihood of 83% [...] About 80% of coal, 50% of gas, and 30% of oil reserves cannot be burned and emitted if warming is limited to 2°C. Significantly more reserves are expected to be kept unburned if warming is limited to 1.5°C.”⁸⁰

77. It is WWF's view that developed countries need to develop pathways to nature-positive, net-zero emissions by 2040 and developing countries by 2050. This is also the view of the UN General Secretary in his Acceleration Agenda and Solidarity Pact.⁸¹ (See below more on common but differentiated responsibilities and respective capabilities).
78. Further, in WWF's submission, Article 194(1), obliges States to include (obligation of result) coastal and marine habitats in Nationally Determined Contributions ('NDCs') and National GHG Inventories, ensuring they fully take into account the potential of all their territory -including ocean and coastal areas- for mitigation, adaptation and resilience-building, including advancing the designation and effective management of marine protected areas and other effective area-based conservation measures to protect blue carbon ecosystems, as well as the conservation and restoration of coastal and marine ecosystems, such as mangroves, tidal marshes, and seagrass beds.⁸²
79. As the IPCC's evidence of best available science has reported, “all global modelled pathways that limit warming to 1.5°C.... involve *rapid and deep and in most cases, immediate greenhouse gas emissions reductions in all sectors*”.⁸³ In order to comply with UNCLOS obligations under Article 194 (1), State parties would have to implement immediate greenhouse gas emissions reductions in all sectors, including taking rapid and deep immediate greenhouse gas emissions reductions.

(b) Common but differentiated responsibility and respective capabilities

80. The obligation to prevent, reduce and control pollution of the marine environment -read in agreement with Article 4(3) and 4(4) of the Paris Agreement- entails a common but differentiated responsibility on the part of States. The NDCs of Developed States, and the action required from said States, have to reflect its highest possible ambitions, in accordance with their national circumstances as major contributors to emissions. Developed States have to take the lead “*by undertaking economy-wide absolute emission reduction targets*” as per Article 4(4) of the Paris Agreement.
81. The reduction obligations under Article 194(1) of UNCLOS would require therefore a differentiated approach.

⁸⁰ IPCC, AR6 SYR Longer Report, p. 24.

⁸¹ <https://press.un.org/en/2023/sgsm21730.doc.htm>

⁸² For more on blue carbon see, D. Laffoley, ‘Protecting and effectively managing blue carbon ecosystems to realise the full value to society - a sea of opportunities. An opinion piece by Dan Laffoley for WWF-UK’, Woking, Surrey, UK (2020), 42 pp. <https://www.wwf.org.uk/sites/default/files/2020-11/WWF_blue_carbon020.pdf>

⁸³ IPCC Sixth Assessment Report, Summary for Policymakers, para. C.3, p. 24. (Our emphasis)

82. A differentiated approach in the assessment of obligations under a treaty construed taking into account the Paris Agreement was taken in the *Torres Strait Islanders* case. Therein the UN Human Rights Committee considered the developed status of the defendant State and noted:

“7.8 With respect to mitigation measures, although the parties differ as to the amount of greenhouse gases emitted within the State party’s territory, and as to whether those emissions are significantly decreasing or increasing, the information provided by both parties indicates that the State party is and has been in recent decades among the countries in which large amounts of greenhouse gas emissions have been produced. The Committee also notes that the State party ranks high on world economic and human development indicators. In view of the above, the Committee considers that the alleged actions and omissions fall under the State party’s jurisdiction under articles 1 or 2 of the Optional Protocol and therefore, it is not precluded from examining the present communication.”⁸⁴

(c) *The obligation to ‘ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment’*

83. Article 194 (2) contains the obligation of State Parties to take measures to ensure that activities under their ***jurisdiction or control*** are so conducted as not to cause damage by pollution to other States and their environment. As observed by authoritative commentary Cybulka, Article 194 (2) “*obliges States to conduct or authorize activities under their jurisdiction or control in a matter not harming other States.*”⁸⁵ Climate Change is a transboundary source of pollution within the meaning of Article 194, therefore, 194(2) is directly relevant to the obligations of states to ensure the principle of no harm enshrined therein.
84. Cybulka further observes: “Art. 194(2) evolved from Principle 21 of the Stockholm Declaration, which stipulates that States have ‘[...] the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of its national jurisdiction [...]’”⁸⁶ WWF notes therefore that the duty of no harm extends to areas beyond the limits of national jurisdictions.
85. The obligation to ensure that activities under their jurisdiction of control ‘do not harm’ extend not only to activities directly undertaken by States and their organs, but to the activities of others within their jurisdiction and control.⁸⁷
86. Thus, in a first instance, Article 194 imposes an obligation on the part of a State Party to regulate polluting ‘activities’ (some of which have been discussed above, including fossil fuel burning) which lead to global warming (and other climate change effects), within their jurisdiction. Commentators observe that:

⁸⁴ *Torres Strait Islanders* case, para 7.8.

⁸⁵ Detlef Czybulka, ‘Article 194’ in Proelss (ed) *United Nations Convention on the Law of the Sea*, op cit, p.1305.

⁸⁶ *Ibid*, p. 1306.

⁸⁷ *Ibid*.

“Examples of such activities would include industrial installations which generate CO₂, power generators that use oil or coal, oil extraction industries, coal-mining, or possibly deforestation. This does not mean that corporate polluters would be responsible under the Convention, or that the contribution of each plant would have to be quantified. The Convention does not address private parties directly. But it does make States parties responsible under Article 194 for regulating and controlling the risk of marine pollution damage to other States resulting from the activities of the private sector.”⁸⁸

87. **Second**, Article 194 (2) also imposes an obligation to ensure that activities under its ‘control’ do not cause harm by pollution. The test of ‘control’ is over the activities, even if the activities take place beyond the national boundary of the State party in question.
88. In *Advisory Opinion 23*, the Inter-American Court of Human Rights addressed legal questions concerning transboundary damage in the sea, applying a test of ‘control’ (under the American Convention on Human Rights) which was not exercised over territory, or over individual victims, but over the activities responsible for the harm.⁸⁹ This is analogue to the test under Article 194 (2) of UNCLOS. From that optic, a country which decides to license new drilling in an offshore oil field, could not credibly claim that such activities were outside its ‘control’ within the meaning of Article 194(2) of UNCLOS.

(d) The obligation ‘to ensure’ in article 194(2)

89. The Arbitral Tribunal in *South China Sea (Philippines v China)* (2016)⁹⁰ at [944] recently addressed the obligation ‘to ensure’ enshrined in article 194(2) of UNCLOS as one of due diligence. The Tribunal stated:

Drawing on decisions of the International Court of Justice in *Pulp Mills on the River Uruguay* and the Seabed Disputes Chamber advisory opinion, the International Tribunal for the Law of the Sea noted that the obligation to ‘ensure’ is an obligation of conduct. It requires “due diligence” in the sense of a flag State not only adopting appropriate rules and measures, but also a “certain level of vigilance in their enforcement and the exercise of administrative control”.

90. Thus, the obligations ‘to regulate’ and ‘to control’ the risk of marine pollution damage are fundamentally obligations of due diligence:

States must take the measures necessary to prevent or minimize harmful pollution, including **environmental impact assessments**, regulation and use of best available technology, **application of the precautionary principle** and enforcement. On that basis **States have an obligation to control CO₂ emissions from any source likely to pollute the marine environment and cause harm ...**⁹¹

⁸⁸ Boyle, “Climate Change, Ocean Governance and UNCLOS”, op cit, p. 219.

⁸⁹ Inter-American Court of Human Rights, *Advisory Opinion 23*, op cit, para 102.

⁹⁰ Award, *The Republic of Philippines and the Republic of China (In the Matter of the South China Sea Arbitration)* PCA Case No 2013-19, 12 July 2016. (**‘the South China Sea Arbitration’**)

⁹¹ Boyle, “Climate Change, Ocean Governance and UNCLOS”, op cit, p. 219. (Our emphasis)

91. Environmental impact assessments are to be carried out for both land-based and marine projects which assess the likely impacts from GHGs (including scope 3 emissions⁹²) on marine ecosystems. As the Seabed Disputes Chamber of ITLOS held in its Advisory Opinion of 2011,⁹³ ‘the obligation to conduct an environmental impact assessment is a direct obligation under the Convention and a general obligation under customary international law.’⁹⁴ It was noted in that sense, that as regards the Convention, article 206 states the following:
- ‘When states have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practical, assess the potential effects of such activities on the marine environment [...]’⁹⁵
92. WWF submits the current planetary emergency, requires an enhanced application of this obligation to prevent further pollution by GHG effects on the marine ecosystems. In the words of the International Court of Justice, in the *Pulp Mills* case, ‘due diligence, and the **duty of vigilance and prevention** which it implies, would not be considered to have been exercised, if a party planning works liable to affect the regime of the [entity] or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works.’⁹⁶
93. WWF submits that this obligation includes the obligation to consider the cumulative impacts of projects.⁹⁷ International jurisprudential developments support this. In its Advisory Opinion on ‘Environment and Human Rights’, requested against the background of an infrastructure mega-project shipping route alternative to the Panama Canal which was feared to potentially kill marine life, create chemical pollution and introduce invasive species from shipping lane bottlenecks, the Inter-American Court on Human Rights held in relation to the obligation of carrying out an environmental impact assessment:

“[...]the environmental impact assessment must examine the cumulative impact of existing projects and proposed projects. In this regard, if a proposed project is linked to another project, as in the case of the construction of an access road, for example, the environmental impact assessment should take into account the impact of both the main project and the associated projects. In addition, the impact of other existing projects should be taken into account. This analysis will allow a more accurate

⁹² i.e. taking into account end use of fossil fuels. The Greenhouse Gas Protocol Corporate Standard classifies a company's GHG emissions into three 'scopes': (i) Scope 1 emissions: direct emissions from owned or controlled sources; (ii) Scope 2 emissions: indirect emissions from the generation of purchased energy; and (iii) Scope 3 emissions: all indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. See Global Compact Network <<https://www.unglobalcompact.org.uk/scope-3-emissions/>>

As Scope 3 emissions usually account for more than 70 percent of a business' carbon footprint, it is crucial that States tackle Scope 3 emissions to meet the aims of the Paris Agreement and limit global warming to 1.5°C.

⁹³ ITLOS, Responsibilities and obligations of States Sponsoring Persons and entities with respect to activities in the Area (Request for Advisory Opinion Submitted to the Seabed Disputes Chamber), Case No 17, Advisory Opinion of 11 February 2011 ('**Advisory Opinion of 2011**').

⁹⁴ *Ibid*, para 145.

⁹⁵ *Ibid* para. 146.

⁹⁶ International Court of Justice, *Pulp Mills on the River Uruguay* (Argentina v Uruguay) (2010), para 204.

⁹⁷ An aspect of the obligation to carry out impact assessments well established, for example in the jurisprudence of the Inter-American Court of Human Rights. See, *Case of the Saramaka People v Suriname*, Interpretation of the Judgment of Preliminary Objections, Merits, Reparations and Costs. Judgment of August 12, 2008, at para. 41.

conclusion to be reached on whether the individual and cumulative effects of existing and future activities involve a risk of significant harm."⁹⁸

94. In the context of climate change, States have a due diligence obligation under Article 194 to regulate and control activities such as carbon dioxide emitting power generators that use oil or coal, oil extraction industries, coal- mining, as well as regulating and controlling activities emitting other greenhouse gas emissions such as methane.
95. Further, in WWF's submissions, Article 194 entails robust due diligence obligations which take a 'sustainability-based approach' (where failure to comply with basic sustainability standards renders an activity or the product of the activity unlawful) as opposed to a mere 'legality-based approach' (which will only capture activities or their products which have not complied with laws in the country of production). Such robust obligations should also include a duty to mitigate to provide clarity on what States are required to do when they identify a risk.

(e) Obligation to take 'all measures'

96. The obligation '*to take all measures*' to 'prevent, reduce, and control' pollution of the marine environment enshrined in Article 194(1) likewise is a due diligence obligation. In this context, it must be said that it is not a loose due diligence obligation (loosely framed as 'gradual' reduction of GHG pollution) but consistent with the requirements of the Paris Agreement which requires some rapid, deep as well as sustained global greenhouse gas emission reduction. The IPCC report, the best available science, stated that urgent action is needed.
97. Here again, the common but differentiated responsibilities are key. In his Concurring individual opinion in the *Torres Strait Islanders* case, Committee Member Gentian Zyberi stated in relation to the climate obligations of a developed State (relevant *mutatis mutandis* to this question), the following:

*The State party in this case has taken both mitigation and adaptation measures. When it comes to mitigation measures, assessing the nationally determined contributions taken by States parties to the ICCPR under the 2015 Paris Agreement, when the State is party to both treaties, is an important starting point. **States are under a positive obligation to take all appropriate measures to ensure the protection of human rights. In this context, the due diligence standard requires States to set their national climate mitigation targets at the level of their highest possible ambition and to pursue effective domestic mitigation measures with the aim of achieving those targets.***⁹⁹ *When a State is found to not have fulfilled these commitments, such a finding should constitute grounds for satisfaction for the complainant/s, while the State concerned should be required to step up its efforts and prevent similar violations in the future. **The requirement of due diligence applies also to adaptation measures.***¹⁰⁰

⁹⁸ Inter-American Court of Human Rights, **Advisory Opinion No. 23**, para 165. Footnotes omitted.

⁹⁹ Paris Agreement, Art. 4(3) and 4(2).

¹⁰⁰ *Torres Strait Islanders* case, Concurring Individual Opinion by Committee Member Gentian Zyberi, at para 3. (emphasis added)

98. Given the fact that climate change poses a risk of serious and irreversible harm to the marine environment ‘the measures taken must be adequately precautionary’.¹⁰¹
99. The term “*all measures*” would include that State Parties make the ocean a vital aspect of national climate change goals, policies and strategies and take action to strengthen the mitigation, adaptation and resilience potential of the ocean, as well as dependent communities and economies. In particular, State Parties should:
- (i) Revise their NDCs with increased ambition.
 - (ii) Mobilize capacity building and adequate resources for the identification of ocean-climate measures.
 - (iii) Urgently strengthen ocean-climate action and finance.
 - (iv) Advance nature-based solutions and measures for their ocean and coasts that are nature-positive and can deliver net zero outcomes.
 - (v) Use the opportunities of Santiago Network on Loss and Damage¹⁰² as a technical facility under the [Warsaw International Mechanism] to understand their country’s ocean-related economic and non-economic losses and damages and how the financial arrangements, including a fund for loss and damage helps minimise and address them.
 - (vi) Significantly increase finance for ocean-climate action and solutions.¹⁰³
 - (vii) Ensure that 100% of marine resources are derived from sustainable sources by 2030¹⁰⁴: States should be measuring and (significantly) reducing their global footprint (the environmental impacts of the products they produce and consume) and this includes in the marine space. This will include sustainable management of the Parties’ marine resources such as fish stocks.

¹⁰¹ Boyle, “Climate Change, Ocean Governance and UNCLOS”, op cit, p. 220.

¹⁰² The Santiago Network of Loss and Damage was established at COP25/CMA2 “as part of the Warsaw International Mechanism,... for averting, minimizing and addressing loss and damage associated with the adverse effects of climate change, to catalyse the technical assistance of relevant organizations, bodies, networks and experts, for the implementation of relevant approaches at the local, national and regional level, in developing countries that are particularly vulnerable to the adverse effects of climate change”.

¹⁰³ See WWF, COP 27 Expectations, WWF Oceans Practice paper, October 2022, p. 3. Available at <
https://wwfint.awsassets.panda.org/downloads/wwf_cop27_ocean_climate_expectations_paper_october_2022.pdf>

¹⁰⁴ See for example UK Global Footprint Report: WWF, “Thriving within our planetary means: Reducing the UK’s Footprint of production and Consumption by 2030”, June 2021. Available at <
https://www.wwf.org.uk/sites/default/files/2021-06/Thriving_within_our_planetary_means_full_report.pdf>

(f) *The obligation of State parties to protect the ocean, rare and fragile ecosystems, marine living resources from deleterious impacts of climate from human activities in the context of climate change*

100. As the Tribunal in the *Chagos Case*¹⁰⁵ stated, reiterated by the Tribunal in the *South China Sea Arbitration*, ‘Article 194 is “not limited to measures aimed strictly at controlling pollution” and extends to measures focussed primarily on conservation and preservation of endangered species and rare or fragile ecosystems’¹⁰⁶ As noted by Czybulka,

The provision gives as the Tribunal considered in the South China Sea Arbitration, a particular shape to the duties following Art. 192 in the context of fragile ecosystems. These obligations concern the prevention on harm that would affect species and habitats and may extend to the establishing of marine protected areas. It is a laudable and farsighted provision (a ‘bridge’) that permits and eventually demands the application of modern approaches and instruments of marine biodiversity conservation in implementing the Convention that go far beyond the ‘anti-pollution approach’ historically contained in Art. 194 (1)-(3).¹⁰⁷

101. In the context of climate change, the obligations under Article 194(5) of UNCLOS include the obligation of State parties to protect and conserve the ocean, rare and fragile ecosystems, marine living resources from deleterious impacts on climate, from human activities. WWF respectfully submits that climate change creates a new level of obligation on the part of States, for those species and habitats at risk from climate change impacts on the ocean.

102. This obligation should be informed by the Paris Agreement Article 5 (1)¹⁰⁸ which incorporates by reference UNFCCC Article 4(1)(d) and (e) on ocean, marine, coastal, carbon sinks.¹⁰⁹

¹⁰⁵ PCA, *Chagos Marine Protected Area* (Mauritius v United Kingdom), Award of 18 March 2015 (‘**Chagos case**’)

¹⁰⁶ *Chagos case*, para 538. *South China Sea Arbitration*, para 945.

¹⁰⁷ Czybulka, op cit, p. 1298. Footnotes omitted.

¹⁰⁸ ‘Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1(d), of the Convention including forests.

¹⁰⁹ The UNFCCC Article 4 (1) reads: All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall: (a) Develop, periodically update, publish and make available to the Conference of the Parties, in accordance with Article 12, national **inventories of anthropogenic emissions by sources and removals sinks** of all greenhouse gases not controlled by the Montreal Protocol, using comparable methodologies to be agreed upon by the Conference of the Parties; [...] (d) Promote **sustainable management**, and promote and cooperate in the **conservation** and enhancement, as appropriate, of **sinks and reservoirs of all greenhouse gases** not controlled by the Montreal Protocol, including biomass, forests and **oceans** as well as other terrestrial, **coastal and marine ecosystems**; (e) Cooperate in preparing for **adaptation** to the impacts of climate change; develop and elaborate appropriate and **integrated plans for coastal zone management**, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods” (emphasis added)

Note that UNFCCC Art 4(1)(d), explicitly refers to oceans as sinks which is of particular importance as it was incorporated by reference under Art 5(1) of the Paris Agreement.

103. In WWF's submissions, in order to protect and restore the ocean, the implementation of active steps such as the implementation and delivery of the Kunming-Montreal Global Biodiversity Framework¹¹⁰ is key (see above paragraph 34 on the relevance of soft law to the interpretation of treaties), including, but not limited to, the following targets:

(i) Target 1 ('Ensure that all areas are under participatory integrated biodiversity, inclusive spatial planning and/or effective management processes addressing land and sea use change [...]')

(ii) Target 3 ('**Ensure and enable that by 2030 at least 30 per cent of... marine and coastal areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively considered and managed through ecologically representative**, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognising indigenous and traditional territories, where applicable, and integrated into wider ...seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognising and respecting the rights of indigenous peoples and local communities, including over their traditional territories'); (emphasis added)

(iii) Target 8 ('Minimise the impact of climate change and ocean acidification on biodiversity and increase its resilience through mitigation, adaptation, and disaster risk reduction actions, including through nature-based solutions and/or ecosystem-based approaches, while minimising negative and fostering positive impacts of climate action on biodiversity');

(iv) Target 10 ('Ensure that areas under... fisheries... are managed sustainably...'); and

(v) Target 16: ('Sustainable consumption choices are enabled, and food waste reduced by half').¹¹¹

104. Note in that regard that crucially, both target 1 and target 3 apply also to the Area.

C. Question 2: Obligations of State Parties to 'protect and preserve the marine environment' in relation to climate change impacts including ocean warming and sea level rise into the atmosphere

105. The specific obligations relating to this question are contained in Article 192, Article 207 and Article 212 of UNCLOS.

¹¹⁰ The Kunming-Montreal Global Biodiversity Framework, Decision adopted by the Conference of the Parties to the Convention on Biological Diversity. CBD/COP/DEC/15/4, 19 December 2022. Available at <<https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>>

¹¹¹ Ibid.

(1) Obligations under Article 192 of UNCLOS

106. Article 192 of UNCLOS reads:

States have the obligation to protect and preserve the marine environment

107. The ‘marine environment’ for this purpose includes ‘rare and fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life’¹¹² Article 117 -to be read in conjunction- provides also the obligation to conserve “the living resources in the high seas”. This covers fish and marine mammals.¹¹³ Publicists point out that “Part XII can readily be interpreted to cover protection of marine biodiversity in general and conservation of coral reefs in particular”.¹¹⁴
108. In the *Southern Bluefin Tuna* cases,¹¹⁵ the Tribunal ‘expressly regarded **the conservation of living resources** of the sea as an element in the protection and preservation of the marine environment’¹¹⁶
109. Insofar as anthropogenic greenhouse gas emissions have already caused marine pollution as per scientific evidence¹¹⁷ and the introduction of ‘substances or energy’ to the marine environment and the ‘deleterious effect’ required by article 1(1)(4) of UNCLOS¹¹⁸ is ongoing, the requirement of states to ‘protect and preserve the marine environment’ in article 192, would include preventing and combating climate change.¹¹⁹
110. WWF submits that as part of this obligation States Parties are bound to protect and restore **coastal blue carbon habitats** - areas of known high blue carbon (in aquatic plants and sediments) must be properly protected and, where relevant, restored so that they continue to draw down and store carbon.
111. In short, WWF submits that the obligation ‘to protect and preserve the marine environment’ under Article 192 of UNCLOS includes a duty to protect the ocean against climate change impacts. In that context the term ‘to preserve’ in Article 192 means to *improve* the existing condition of the marine environment. The obligation ‘to protect’ the marine environment in this context, also includes protection from future damage.¹²⁰
112. The standard of conduct is one of due diligence, in the words of ITLOS’ Seabed Disputes Chamber 2011 Advisory Opinion, ‘*an obligation to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain this result*’.¹²¹

¹¹² UNCLOS Article 194(5), Boyle, op cit, p. 217.

¹¹³ Boyle, ibid.

¹¹⁴ Ibid.

¹¹⁵ ITLOS, *Southern Bluefin Tuna Cases* (New Zealand v Japan: Australia v Japan), Provisional Measures, Order of 27 August 1999, ITLOS reports (1999) , 280 at p. 295, para 70.

¹¹⁶ Cybulka, op cit, p.1279. (Our emphasis)

¹¹⁷ A. Boyle, ‘Protecting the Marine Environment from Climate Change’, op cit, p. 84.

¹¹⁸ Ibid.

¹¹⁹ C. Prip, ‘Integrating Climate Change in the Governance of Areas beyond National Jurisdiction’, op cit.

¹²⁰ *South China Sea Arbitration, Merits*, para 941.

¹²¹ ITLOS, Responsibilities and obligations of States Sponsoring Persons and entities with respect to activities in the Area (Request for Advisory Opinion Submitted to the Seabed Disputes Chamber), Case No 17, Advisory Opinion of 11 February 2011, para 110.

113. As noted by publicists, the general obligation enshrined in Article 192 ‘is applicable to the high seas and to the Area’.¹²²
114. In that regard it is the position of WWF that in order to comply with Article 192, in the current context of a climate and nature emergency, a moratorium on deep sea mining is required with the resulting obligation of States not to mine the deep sea absent sufficient knowledge on deep sea biodiversity, the deep seas’s role in regulating the climate, on the impact of mining the deep sea on climate change, and in light of the known and unknown risks.¹²³ Feria-Tinta and Kamga note for example that “there are warnings in scientific studies that ‘an increased release of methane from the oceans could accelerate climate change.’”¹²⁴ They observe:

Methane Hydrate is believed to be ‘the world’s largest natural gas resource’ and can be found in the shallow sediments of many deep ocean areas. Scientific scholars note that enormous amounts of methane hydrate have been found beneath Arctic permafrost, beneath Antarctic ice, and in sedimentary deposits along continental margins worldwide. To the extent that deep-sea mining may tap into resources which would potentially release vast quantities of methane into the atmosphere, the question is what would the legal consequences be under UNCLOS? What would be the implications of this for the regulation of deep-sea mining?’¹²⁵

115. It is WWF’s submission that no deep-sea mining could at present be consistent with UNCLOS, Article 192 as well as Article 145.

(2) Obligations under Article 207 and Article 212

116. Article 207 (Duty to protect against land-based sources of pollution) and Article 212, (Duty to adopt laws and regulations to prevent pollution of the marine environment through the atmosphere) are also relevant to address Question 2. As discussed above, these provisions create a duty to mitigate against land-based activities generating GHG emissions.
117. It must be noted that in aiming to reduce marine pollution of ‘all kinds’, land-based sources and ocean acidification have been identified as priorities by the United Nations’ Sustainable Development Goals (‘SDGs’).¹²⁶ This as one of the targets of SDG 14, which addresses conservation and sustainable use of the oceans and marine resources.¹²⁷ The targets include: Target 14.1: By 2025, prevent and significantly **reduce marine pollution of all kinds, in particular from land-based activities**, including marine

¹²² See Commentary on Article 192 in A Proelss (ed), *United Nations Convention on the Law of the Sea: A Commentary*, *op cit*, p. 1280.

¹²³ For example there are warnings in scientific studies that an increased release of methane from the oceans could accelerate climate change.

¹²⁴ Monica Feria-Tinta and Maurice Kamga, “Mining the Bottom of the Sea: Potential future disputes and the role of the International Tribunal for the Law of the Sea” in T Campanella (ed) *Handbook of Seabed Mining & The Law of the Sea*(Routledge) (forthcoming 2023)

¹²⁵ *Ibid.*

¹²⁶ As noted by A. Boyle, in “Litigating Climate Change under Part XII of the LOSC”, the *International Journal of Marine and Coastal Law* 34 (2019) 458-481 at p. 461.

¹²⁷ See UN Sustainable Development Goals, Goal 14 < <https://www.globalgoals.org/goals/14-life-below-water/>>

debris and nutrient pollution; Target 14.2 By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration in order to achieve healthy and productive oceans; Target 14.3: Minimize and address the impacts of ocean acidification, including through enhanced scientific cooperation at all levels¹²⁸.

118. WWF submits that ‘pollution of all kinds’ includes GHG emissions, and that SDG 14 is closely linked to SDG 13 which commits States to take ‘urgent action’ to deal with climate change and its impacts. These commitments, WWF submits, are relevant to the interpreting obligations under UNCLOS.
119. WWF also notes that Article 207 (5) ‘requires parties to ensure that their national laws are ‘designed to minimize to the fullest possible extent, the release of toxic, harmful, or noxious substances, especially those that are persistent, into the marine environment’.¹²⁹ This is tied to the obligation to prevent, reduce, control: namely the obligation of mitigating GHGs and regulating these emissions as seen above.

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COUNSEL FOR WWF

16 JUNE 2023

Enclosures:

Annex 1: IPCC AR6 Synthesis Report: Climate Change 2023

Annex 2: WWF, ‘Climate, Nature and Our 1.5°C Future Report, A Synthesis of IPCC and IPBES Reports’, 2022

Annex 3: WWF, ‘Protecting blue corridors report’, 2022

Annex 4: WWF, ‘Living Planet Report’ 2022

¹²⁸ The Targets can be found here: <https://www.globalgoals.org/goals/14-life-below-water/> (emphasis added)

¹²⁹ Article 207 (5) UNCLOS. See also A. Boyle, in “Litigating Climate Change under Part XII of the LOSC”, p. 468.