

**INTERNATIONAL TRIBUNAL FOR THE LAW OF THE  
SEA**

**Case No. 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)**

MEMORIAL FILED ON BEHALF OF

**CENTER FOR INTERNATIONAL ENVIRONMENTAL LAW (CIEL)**

**AND**

**STICHTING GREENPEACE COUNCIL (GREENPEACE  
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## **Interests and Expertise of Amici**

1. The present amicus curiae brief is submitted by Stichting Greenpeace Council, otherwise known as Greenpeace International (“GPI”) and the Center for International Environmental Law (“CIEL”)<sup>1</sup>, with respect to the Request for an Advisory Opinion from the International Tribunal for the Law of the Sea (“ITLOS”) submitted on 12 December 2022 by the Commission of Small Island States on Climate Change and International Law (“COSIS”) under Article 21 of the ITLOS Statute on advisory opinions.
2. Greenpeace is an independent global network of campaigning organizations that act to change attitudes and behavior, protect and conserve the environment and promote peace. Greenpeace consists of 25 independent national or regional organizations with a presence in over 40 countries worldwide, as well as Stichting Greenpeace Council (Greenpeace International) which serves as a coordinating body. Greenpeace has been campaigning since the 1970s for protection of the marine environment. Its campaigns have helped pave the way for numerous treaties and resolutions in the field of international law of the sea.<sup>2</sup> Greenpeace has unique expertise in contentious and advisory matters regarding the obligations of States to act on climate change. Greenpeace International enjoys observer or similar status with numerous intergovernmental organizations in the field of law of the

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<sup>1</sup> We are grateful for the expert assistance of Dr. Ellycia Harrould-Kolieb and Dr. Mitchell Lennan who reviewed an earlier version of this submission.

<sup>2</sup> Including the moratorium on commercial whaling adopted by the International Whaling Commission in 1982 - *see* International Convention for the Regulation of Whaling, 2 December 1946, 161 U.N.T.S. 72 (entered into force on 1 November 1948) [hereinafter ICRW], Schedule at art. 10 (e); the resolution UN General Assembly, 85th Plenary Meeting, *Large-scale pelagic driftnet fishing and its impact on the living marine resources of the world's oceans and seas*, U.N. Doc. No. 44/225, 22 December 1989, calling for a moratorium on all large-scale pelagic driftnet fishing on the high seas; the Convention for the protection of the marine environment of the North-East Atlantic, 22 September 1992, 2354 U.N.T.S. 67 (entered into force on 25 March 1998) [hereinafter OSPAR Convention]; the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 4 August 1995, 2167 U.N.T.S. 3 (entered into force on 11 December 2001) [hereinafter Fish Stocks Agreement]; the 1993 and 1996 amendments to the Convention on the prevention of marine pollution by dumping of wastes and other matter, banning the dumping into the sea of radioactive or industrial wastes, banning the at-sea incineration of industrial wastes, and restricting the conditions for the introduction into the marine environment of other wastes or matter (*see* Convention on the prevention of marine pollution by dumping of wastes and other matter, banning the dumping into the sea of radioactive or industrial wastes, 29 December 1972, 1046 U.N.T.S. 120 (entered into force on 30 August 1975) [hereinafter London Convention] and its 1993 amendment and 1996 “1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972”); the Protocol on Environmental Protection to the Antarctic Treaty, 4 October 1991, 2941 U.N.T.S. (entered into force on 14 January 1998), banning inter alia the disposal of waste into seas surrounding the Antarctic; the annual negotiations of UNGA Sustainable Fisheries Resolutions, and in particular the landmark provisions on bottom fisheries of UNGA Resolution 61/105 and subsequent resolutions (*see* UN General Assembly, 61st session, *Sustainable fisheries, including through the 1995 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, and related instruments*, U.N. Doc. No. A/RES/61/105, 6 March 2007); the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, signed on 15 May 2009; and the Intergovernmental conference on an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction, 5th session, 20 February - 3 March 2023, *Draft agreement under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity on areas beyond national jurisdiction*.

sea, climate change and the environment, including the International Maritime Organization and the International Seabed Authority, the Council of Europe, the UN Environmental Programme and the UN Framework Convention on Climate Change.

3. The Center for International Environmental Law (“CIEL”) uses the power of law to protect the environment, promote human rights, and ensure a just and sustainable society. Since 1989, CIEL has been a leader in the development of international environmental and human rights law, including with respect to climate change and the interlinkages between human rights and climate policies. CIEL has submitted third-party interventions and amicus curiae briefs in numerous cases concerning human rights and the environment, before national, regional, and international courts, and arbitral tribunals, including inter alia, the Inter-American Court of Human Rights, the Inter-American Commission on Human Rights, the United States Supreme Court and U.S. Courts of Appeals, panels of the International Centre for Settlement of Investment Disputes, and national human rights institutions. CIEL has consultative status with the UN Economic and Social Council, is accredited to the UN Environmental Programme, is registered with the Organization of American States, and enjoys observer status with the UN Framework Convention on Climate Change and Intergovernmental Panel on Climate Change.

## **I. Introduction**

4. The present submission aims to assist the Tribunal in answering the questions posed by COSIS in line with international law and the best available science. Due to its global nature, climate change gives rise to States’ duties under multiple bodies of law, including international human rights law and international environmental law. The memorial first sets out the urgency of the climate emergency, its principal causes, current consequences, and foreseeable irreparable future harms. It then illustrates why greenhouse gas (“GHG”) emissions constitute a form of marine pollution as defined under the U.N. Convention on the Law of the Sea (“UNCLOS”). The memorial next addresses the need for ITLOS to interpret the duties of States under UNCLOS to protect and preserve the marine environment harmoniously with relevant principles of international environmental and human rights law and in light of the best available science, to ensure coherence in State obligations and in the global response to the harms caused by anthropogenic GHG emissions. The memorial outlines what those relevant principles and bodies of law require of States in the face of climate change and its impacts on the environment and human rights. Finally, to answer the questions posed by the Tribunal we submit that, in light of the best available science and international environmental and human rights law:
  - a) The duty to protect and preserve the marine environment under UNCLOS PART XII requires States to keep global temperature rise below 1.5°C and to implement adaptation measures, strengthen resilience, and reduce vulnerability to climate impacts;
  - b) To fulfill this duty, States must take all necessary measures to reduce, prevent, and control pollution, including:
    - i) immediately halting new fossil fuel projects;
    - ii) divesting and refraining from investing in fossil fuel-related projects;

- iii) fully transitioning the power sector to non-fossil fuel sources by no later than mid-century;
- iv) regulating private and public conduct that contributes to GHG emissions;
- v) ensuring that environmental impact assessments (“EIAs”) include cumulative climate analyses;
- vi) relying on proven measures capable of averting the risk of foreseeable harm in the near term instead of speculative technologies like large-scale carbon dioxide removal (“CDR”) and marine geoengineering;
- vii) ensuring that high-income and high-emitting States move first and fastest on climate action for marine protection and provide financial support to States less responsible for GHG emissions; and
- viii) ensuring effective remediation of harm.

## **II. Climate change is a fossil-fueled global crisis imperiling the world’s oceans**

5. Climate change is the result of increased concentrations of GHGs in the atmosphere, driven primarily by fossil fuels. Human activity, principally the production and combustion of fossil fuels,<sup>3</sup> has increased the concentration of greenhouse gases in the atmosphere to its highest level in at least 800,000 years.<sup>4</sup> For decades, the scientific community has concluded that fossil fuels are the main driver of rising GHG emissions.<sup>5</sup> These GHGs, from land-based, ocean-based, and/or airborne sources, have caused global warming, increasing the current average global temperature to 1.15 [1.02–1.28] °C above pre-industrial levels.<sup>6</sup> This warming, in turn, has caused significant changes in the global climate system.
6. At current levels of warming, climate change is having deleterious effects on the marine environment and communities around the world. As the Intergovernmental Panel on

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<sup>3</sup> IPCC, 2014: *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)], IPCC, Geneva, Switzerland [hereinafter IPCC AR5], at Summary for Policy Makers (“SPM”), p. 5 (2014); IPCC, 2021: *Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA [hereinafter IPCC AR6 WGI], p. 676; Richard Heede, *Tracing Anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010*, 122 *Climatic Change* 229 (2014); United Nations Environment Programme, *Emissions Gap Report 2021: The Heat Is On – A World of Climate Promises Not Yet Delivered* (2021), Nairobi.

<sup>4</sup> IPCC, 2018: *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty* [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA [hereinafter IPCC SR1.5], at Chapter 1, Box 1.1; IPCC AR5, SPM, 1.2; *see also* IPCC AR6 WGI, SPM A.2.1.

<sup>5</sup> IPCC AR5, SPM 1.2, p. 5 (stating that “[e]missions of CO<sub>2</sub> from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010 (high confidence)”).

<sup>6</sup> World Meteorological Organization (“WMO”), *State of the Global Climate 2022*, key messages.

Climate Change (“IPCC”) found, “marine heatwaves have very likely doubled in frequency since 1982 and are increasing in intensity”.<sup>7</sup> Today, marine heatwaves “have already resulted in large-scale coral bleaching events at increasing frequency”.<sup>8</sup> At current levels of warming, we are witnessing the “[a]cceleration of ice flow and retreat in Antarctica, which has the potential to lead to sea level rise of several meters within a few centuries (...) [and] may be the onset of an irreversible ice sheet instability”.<sup>9</sup> Moreover, across the globe, changes in Earth’s climate are putting communities at risk and threatening basic human needs, such as health, food, water, and human security.<sup>10</sup> For instance, in some parts of the world, ocean warming and ocean acidification are already adversely affecting food production from fisheries and shellfish aquaculture,<sup>11</sup> jeopardizing local livelihoods and subsistence needs.

7. Every fraction of a degree of temperature rise accelerates and intensifies those effects. The Synthesis Report of the IPCC’s Sixth Assessment Report (“AR6”), published in March 2023, reaffirmed that “every increment of global warming will intensify multiple and concurrent hazards (*high confidence*)”<sup>12</sup> and that “[v]ulnerability will also rise rapidly in low-lying Small Island Developing States and atolls in the context of sea level rise”.<sup>13</sup>
8. A temperature rise of 1.5°C would be devastating to people and ecosystems and cause irreversible harm, including to the marine environment. The best available science is clear: global temperature rise of 1.5°C above pre-industrial levels is not considered ‘safe’ for nations, communities, ecosystems, and sectors.<sup>14</sup> For example, according to the IPCC, “at 1.5°C warming, natural adaptation faces hard limits, driving high risks of biodiversity decline, mortality, species extinction and loss of related livelihoods (*high confidence*)”.<sup>15</sup>

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<sup>7</sup> IPCC, 2019: *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 [hereinafter IPCC SR Ocean and Cryosphere], SPM A.2.

<sup>8</sup> IPCC SR Ocean and Cryosphere, SPM A.6.4.

<sup>9</sup> IPCC SR Ocean and Cryosphere, SPM A.3.3.

<sup>10</sup> IPCC SR1.5, SPM B.5.

<sup>11</sup> IPCC, *Climate Change 2023: Synthesis Report. A Report of the Intergovernmental Panel on Climate Change. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)], IPCC, Geneva, Switzerland [hereinafter IPCC AR6, SYR], SPM A.2.4.

<sup>12</sup> IPCC, *Climate Change 2023: Synthesis Report. A Report of the Intergovernmental Panel on Climate Change. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)], IPCC, Geneva, Switzerland [hereinafter IPCC AR6, SYR], SPM B.1.

<sup>13</sup> IPCC AR6, SYR, Longer Report, p. 62.

<sup>14</sup> IPCC, 2022: *Climate Change 2022: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Lösschke, V. Möller, A. Okem, B. Rama (eds.)], Cambridge University Press. Cambridge University Press, Cambridge, UK and New York, NY, USA, [hereinafter IPCC AR6 WGII], SPM B.6, B.6.1; Technical Summary (“TS”) C.2.5, C.4.2, C.13, C.13.1, Ch. 16, pp. 2424-2428; see also IPCC SR1.5, Ch. 3, Cross-Chapter Box 8 pp. 274-81. IPCC SR1.5, TS 5 p. 44 (stating that “[w]arming of 1.5°C is not considered ‘safe’ for most nations, communities, ecosystems and sectors and poses significant risks to natural and human systems as compared to the current warming of 1°C (*high confidence*).”).

<sup>15</sup> IPCC AR6 WGII, TS C.1.2.

A warming of 1.5°C threatens to destroy 70 to 90 percent of coral reefs, and a 2°C increase means a nearly 100 percent loss—a point of no return.<sup>16</sup>

9. If warming exceeds 1.5°C, even temporarily, it would unleash even more drastic, and further irreparable harm.<sup>17</sup> Surpassing—or “overshooting”—1.5°C thwarts adaptation and resilience,<sup>18</sup> and increases the chance of triggering climate “tipping points” and self-reinforcing feedback loops, which magnify harms and make “return to a given global warming level or below [...] more challenging”.<sup>19</sup> Foreseeable irreversible impacts to the marine environment if warming exceeds 1.5°C include worsening sea level rise, increased loss of coral reefs, species extinction, and the disappearance of small islands,<sup>20</sup> including a number of Small Island States Parties to UNCLOS. Likewise, increased acidity in the ocean at 1.5°C and beyond “is likely to cause major shifts in marine ecosystems and food webs, including the loss of most coral reefs globally. Declines in species and even extinctions are expected by the end of this century if ocean acidification continues unabated”.<sup>21</sup> For humanity, these harms will greatly diminish the quality of life and livability of the planet.
10. Science makes clear that avoiding and minimizing further foreseeable harm and the irreversible damage of overshooting 1.5°C requires rapid and steep reductions in GHG emissions only possible through the phase-out of fossil fuels. To have a chance of limiting warming to 1.5°C—which is not safe—requires global carbon dioxide (“CO<sub>2</sub>”) emissions to decrease by at least 48% from 2019 levels by 2030 and reach net zero around 2050, alongside similar reductions in non-CO<sub>2</sub> GHGs.<sup>22</sup> Action this decade, by 2030, will be determinative—“climate resilient development prospects are increasingly limited if current greenhouse gas emissions do not rapidly decline, especially if 1.5°C global warming is exceeded in the near-term (high confidence)”.<sup>23</sup> Conversely, if the current pace of GHG emissions continues, the global average temperature will likely reach 1.5°C above pre-industrial levels in the near term, with warming continuing beyond

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<sup>16</sup> IPCC SR Ocean and Cryosphere, Ch. 4, 4.3.3.5.2, p. 379.

<sup>17</sup> IPCC AR6 WGII, SPM B.6, B.6.1; TS C.2.5, TS C 4.2, TS C.13 & C.13.1; Ch. 16, pp. 2424-2428; *see also* IPCC SR1.5, Ch. 3, Cross-Chapter Box 8.

<sup>18</sup> IPCC AR6 WGII, SPM B.6.2.

<sup>19</sup> IPCC AR6 WGII, SPM B.6.2, TS C.13.2; *see also* IPCC AR6 WGI, SPM C.3.2.

<sup>20</sup> IPCC AR6 WGII, TS C.12.3, C.13, C.13.1; IPCC SR Ocean and the Cryosphere, TS 1, stating that “Ocean warming, acidification and deoxygenation, ice sheet and glacier mass loss, and permafrost degradation are expected to be irreversible on time scales relevant to human societies and ecosystems.”; *see also* IPCC SR Ocean and Cryosphere, Ch. 6, pp. 589–655.

<sup>21</sup> Ellycia R. Harrould-Kolieb, *The UN Convention on the law of the sea: A governing framework for ocean acidification?*, 29:2 *Review of European, Comparative & International Environmental Law* 257 (2020), p. 258.

<sup>22</sup> *See IPCC, 2022: Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [P.R. Shukla, J. Skea, R. Slade, A. Al Khourdajie, R. van Diemen, D. McCollum, M. Pathak, S. Some, P. Vyas, R. Fradera, M. Belkacemi, A. Hasija, G. Lisboa, S. Luz, J. Malley, (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA [hereinafter IPCC AR6 WGIII], SPM C.1.2, Table SPM.2; *see also* IPCC AR6 WGIII, Ch. 3, 3.3.

<sup>23</sup> *See* IPCC AR6 WGII, SPM D.5 (“Societal choices and actions implemented in the next decade determine the extent to which medium and long-term pathways will deliver higher or lower climate resilient development (high confidence).”), SPM D.5.3, at 35 (warning that “[a]ny further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all (very high confidence)”).

that point.<sup>24</sup> The best available science shows transitioning the power sector to non-fossil fuel sources (i.e., shifting from coal, oil, and gas to renewable energy sources such as solar and wind) is necessary to avoid a temperature rise of 1.5°C or above<sup>25</sup>, and its attendant consequences on the marine environment, climate systems, and human rights.<sup>26</sup> In its most recent report, the IPCC found that to have a 50% chance of limiting warming to 1.5°C with limited or no overshoot, fossil fuel use needs to decline fast, with coal use declining by up to 100% of 2019 levels by 2050, oil by up to 90%, and gas by up to 85%.<sup>27</sup> Avoiding devastating impacts on people and ecosystems, including the marine environment, requires an immediate halt to fossil fuel expansion and fully transitioning to carbon-free energy sources such as solar and wind by no later than mid-century.<sup>28</sup>

11. Protecting and preserving the marine environment thus requires minimizing future warming and avoiding overshoot of 1.5°C by rapidly reducing GHG pollution, principally from fossil fuels, as well as supporting adaptation and enhancing resilience to minimize the deleterious effects of that pollution and to sustain the marine environment into the future.

### **III. GHG emissions constitute a form of marine pollution as defined under UNCLOS**

12. Anthropogenic GHG emissions unequivocally fall within the definition of “pollution of the marine environment” in Article 1 of UNCLOS. GHG emissions satisfy the two elements laid out in Article 1(1)(4): First, they entail “the introduction by man, directly or indirectly, of substances or energy into the marine environment”. Second, their introduction “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”.<sup>29</sup>

#### **A. GHG pollution entails the introduction of substances and energy by humans into the marine environment**

13. GHG-emitting human activity—principally fossil fuel production and use, both on land and at sea—releases chemical compounds into the atmosphere, including carbon dioxide, methane, nitrous oxide, and hydrochlorofluorocarbons.<sup>30</sup> Carbon dioxide travels through the atmosphere to the ocean, where it is deposited and absorbed, forming carbonic acid

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<sup>24</sup> IPCC AR6 WGI, SPM B.1, B.1.3, Table SPM.1.

<sup>25</sup> IPCC SR1.5, SPM fig. SPM.3b; IPCC AR6 WGIII, Ch. 17, 17.3.2.2, 17.5.

<sup>26</sup> See IPCC AR6 WGIII, SPM C.2-C.4, fig. SPM.5, C.12.1, fig. SPM.7, Ch. 3, 3.2, fig. 3.7.

<sup>27</sup> IPCC AR6 WGIII, SPM, C.3.2.

<sup>28</sup> IPCC SR1.5, Ch. 2, 2.3.2.1; *see also* IPCC SR1.5, SPM fig. SPM.3b; IPCC AR6 WGIII, Ch.17, 17.3.2.2, 17.5.

<sup>29</sup> United Nations Convention on the Law of the Sea, 10 December 1982, 1833 U.N.T.S. 3 (entered into force on 16 November 1994) [hereinafter UNCLOS], art. 1(1)(4).

<sup>30</sup> IPCC AR6, SYR, SPM A.1, A.1.4; IPCC AR5, p. 5 (stating that “[e]missions of CO<sub>2</sub> from fossil fuel combustion and industrial processes contributed about 78% of the total GHG emissions increase from 1970 to 2010, with a similar percentage contribution for the increase during the period 2000 to 2010 (high confidence)”).



and altering ocean chemistry. Oceans have absorbed about 30% of the anthropogenic CO<sub>2</sub> since the beginning of the industrial revolution.<sup>31</sup>

14. GHGs in the atmosphere also trap heat, which is absorbed by the oceans. GHG emissions have unequivocally contributed to global warming, with the average global surface temperature reaching 1.15°C above pre-industrial levels in recent years.<sup>32</sup> In this process, the “global ocean has warmed unabated since 1970 and has taken up more than 90% of the excess heat in the climate system”.<sup>33</sup> Absorption of heat—a form of “energy”<sup>34</sup>—is causing ocean temperatures to rise and water to expand, contributing to the melting of the ice sheets.<sup>35</sup>
15. Anthropogenic GHG emissions to the atmosphere, therefore, introduce “substances” and “energy” into the marine environment, constituting a form of marine pollution.<sup>36</sup>

**B. GHG pollution results in, and is likely to continue to result in, significant “deleterious effects” on the marine environment, human health, and marine activities**

**1. GHG pollution results in, and is likely to continue to result in, significant deleterious effects on the marine environment**

16. The chemical and physical changes in ocean composition due to the absorption of CO<sub>2</sub> and heat from anthropogenic activities unquestionably have “deleterious effects”, including myriad harms to “living resources and marine life”, “human health”, and “marine activities”.<sup>37</sup>

**Impacts of ocean warming**

17. Marine heatwaves are the most common form of ocean extremes resulting from anthropogenic temperature increases in the ocean. Over the past century, marine heatwaves have doubled in frequency and have become more intense, longer, and extended over larger areas as temperatures continue to rise.<sup>38</sup>
18. Warm-water corals are among the ecosystems most seriously impacted by rising ocean temperatures and marine heatwaves, which cause mass bleaching events and associated coral reef death. At current levels of global warming, coral reefs are already at high risk and declining. For instance, from 2016 through 2020, the Great Barrier Reef (“GBR”)

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<sup>31</sup> Nicolas Gruber et al., *The oceanic sink for anthropogenic CO<sub>2</sub> from 1994 to 2007*, 363 *Science* 1193 (2019).

<sup>32</sup> WMO, *State of the Global Climate 2022* (2023), key messages.

<sup>33</sup> IPCC SR Ocean and Cryosphere, SPM A.3.

<sup>34</sup> UNCLOS, Art 1(4).

<sup>35</sup> IPCC SR Ocean and Cryosphere, SPM A.3.

<sup>36</sup> IUCN, Issues Brief, *Ocean warming* (2017), available at [https://www.iucn.org/sites/default/files/2022-07/ocean\\_warming\\_issues\\_brief\\_final.pdf](https://www.iucn.org/sites/default/files/2022-07/ocean_warming_issues_brief_final.pdf), last visited on 12 June 2023.

<sup>37</sup> UNCLOS, art. 1(4).

<sup>38</sup> Marine heatwaves are defined as “a period of at least 5 days whose temperatures are warmer than 90% of the historical records for that location and time of year”; see IPCC AR6 WGII at Chapter 3, p. 416, FAQ 3.2, *How are marine heatwaves affecting marine life and human communities?*.

experienced three mass coral bleaching events,<sup>39</sup> and last year, in 2022, it suffered its fourth mass bleaching event, affecting 91% of reefs surveyed.<sup>40</sup> Even if global warming is limited to 1.5°C, coral reefs are projected to suffer significant losses of area and local extinctions, declining by a further 70%-90%,<sup>41</sup> which will be accompanied by devastating effects for the biodiversity that these highly complex animals—and ecosystems—support.<sup>42</sup>

19. If the 1.5°C limit is surpassed, marine species richness in tropical areas and the Arctic is projected to continue to decline by the end of the century,<sup>43</sup> and “at warming levels beyond 2°C by 2100, risks of extirpation, extinction and ecosystem collapse escalate rapidly (high confidence)” due to ocean warming and increased acidification.<sup>44</sup>
20. Deoxygenation and stratification are other consequences of the warming of the ocean. Warmer water holds less oxygen while also raising the oxygen demand from living organisms, resulting in less available oxygen for marine life.<sup>45</sup> Likewise, warmer water is more buoyant than cooler water, which “leads to reduced mixing of oxygenated water near the surface with deeper waters,”<sup>46</sup> contributing to what is known as ocean stratification. This process is being exacerbated by the addition of freshwater as a result of increased precipitation and the melting of the ice sheets, making the ocean surface less dense in comparison to deeper parts of the ocean and slowing overturning circulation (bottom water replenishment), inhibiting mixing between surface and deep waters and reducing the vertical exchange of heat, salinity, oxygen, and nutrients.<sup>47</sup> As a result, oxygen levels in the deep ocean have reduced significantly and faster than anticipated, with dire consequences for deep ocean animals.<sup>48</sup> Globally, oceans lost around 2% (0.5-3.3%) of oxygen between 1970 and 2019 in the top 1000m of the ocean.<sup>49</sup>

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<sup>39</sup> See AIMS, *Coral Bleaching Events*, available at <https://www.aims.gov.au/research-topics/environmental-issues/coral-bleaching/coral-bleaching-events>, last visited on 12 June 2023.

<sup>40</sup> See Adam Morton and Lisa Cox, *Devastating: 91% of reefs surveyed on Great Barrier Reef affected by coral bleaching in 2022*, 10 May 2022, <https://www.theguardian.com/environment/2022/may/10/devastating-90-of-reefs-surveyed-on-great-barrier-reef-affected-by-coral-bleaching-in-2022>, last visited on 12 June 2023; AIMS, *Coral Bleaching Events*, available at <https://www.aims.gov.au/research-topics/environmental-issues/coral-bleaching/coral-bleaching-events>, last visited on 12 June 2023.

<sup>41</sup> IPCC SR Ocean and Cryosphere, SPM B.6.4; IPCC SR Ocean and Cryosphere, Ch. 4, 4.3.3.5.2, p. 379; IPCC AR6, SYR, Longer Report, Section 3.1.2, p. 36.

<sup>42</sup> IPCC SR Ocean and Cryosphere, SPM B.6.4.

<sup>43</sup> IPCC AR6 WGII, Ch. 3, pp. 382-384.

<sup>44</sup> Extirpation is also referred to as local extinction; see IPCC AR6 WGII, Ch. 3, p. 382.

<sup>45</sup> IPCC AR6 WGII, Ch. 3, pp. 381-384; IUCN, *Issues Briefs - Ocean Deoxygenation* (2019), available at <https://www.iucn.org/resources/issues-brief/ocean-deoxygenation>, last visited on 12 June 2023 [hereinafter IUCN Ocean Deoxygenation].

<sup>46</sup> IUCN Ocean Deoxygenation.

<sup>47</sup> IPCC SR Ocean and Cryosphere, SPM A.2.4; see also: Steve Rintoul, *Antarctic alarm bells: observations reveal deep ocean currents are slowing earlier than predicted*, 25 May 2023, available at <https://theconversation.com/antarctic-alarm-bells-observations-reveal-deep-ocean-currents-are-slowing-earlier-than-predicted-206289>, last visited on 12 June 2023.

<sup>48</sup> Steve Rintoul, *Antarctic alarm bells: observations reveal deep ocean currents are slowing earlier than predicted*, 25 May 2023, available at <https://theconversation.com/antarctic-alarm-bells-observations-reveal-deep-ocean-currents-are-slowing-earlier-than-predicted-206289>, last visited on 12 June 2023.

<sup>49</sup> IPCC AR6 WGII, Ch. 3, page 396; IUCN Ocean Deoxygenation.

21. Sea level rise is another well-known consequence of anthropogenic ocean warming resulting from a combination of melting ice sheets and glaciers and the thermal expansion of seawater.<sup>50</sup> Rising sea levels are already affecting coastal zones and are threatening communities and coastal ecosystems with a range of hazards such as permanent submergence of land, more frequent and intense coastal flooding, coastal erosion, salinization of soils, ground and surface water, impeded drainage and loss and change of coastal ecosystems.<sup>51</sup> The impacts of sea level rise on coastal ecosystems “include habitat contraction, geographical shift of associated species, and loss of biodiversity and ecosystem functionality”.<sup>52</sup> Between 1901 and 2018, global sea level increased by 20 cm.<sup>53</sup> Under current emission trends, sea level rise is projected to increase, with extreme sea level events that would only have occurred once per century in the past, occurring annually by 2100, especially in tropical regions.<sup>54</sup>

### Impacts of ocean acidification

22. Ocean acidification is a direct consequence of the absorption of CO<sub>2</sub> into the ocean and is a significant threat to corals and other organisms with calcium carbonate skeletons—like pteropods, sea urchins, and mussels. Under current GHG emissions trends, by 2100 ocean acidity is projected to be higher than at any point over the last 20 million years and likely much longer.<sup>55</sup> The introduction of CO<sub>2</sub> and heat as a result of anthropogenic GHG pollution and the resulting effects—such as acidification and deoxygenation—is creating physiological suboptimal conditions for many marine fish species and invertebrates, driving “habitat loss (very high confidence), population declines (high confidence), increased risks of species extirpations and extinctions (medium confidence) and rearrangement of marine food webs (medium to high confidence, depending on ecosystem)” as well as “species extirpation, habitat collapse or surpassing ecological tipping points (very high confidence)”.<sup>56</sup>

23. If current emissions rates are maintained, the ocean acidification boundary is likely to be transgressed around 2030.<sup>57</sup> The global average pH of sea surface water has been increasing since the industrial revolution. A critical ocean acidification threshold—or planetary boundary—has been identified by scientists at 435 ppm of CO<sub>2</sub> in the atmosphere.<sup>58</sup> At 417.2 ppm by the end of 2022, current acidification levels already amount to over 80% of this threshold level.<sup>59</sup> A substantial transgression, if unavoids, is

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<sup>50</sup> IPCC SR Ocean and Cryosphere, SPM A.3.

<sup>51</sup> IPCC SR Ocean and Cryosphere, Ch. 4, 4.1.3.

<sup>52</sup> IPCC SR Ocean and Cryosphere, SPM A.6.3.

<sup>53</sup> IPCC AR6, SYR, SPM A.2.1.

<sup>54</sup> IPCC SR Ocean and Cryosphere, SPM B.3; IPCC AR6 WGII, TS C.5, C.5.1.

<sup>55</sup> Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* (2019), p. 1.

<sup>56</sup> IPCC AR6 WGII, Ch.3, pp. 381-382.

<sup>57</sup> Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* 10 (2019), p. 12.

<sup>58</sup> C. Butz, J. Liechti, J. Bodin, S.E. Cornell, *Towards defining an environmental investment universe within planetary boundaries*, 13 *Sustainability Science* 1031 (2018); Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* (2019), p. 12.

<sup>59</sup> Pierre Friedlingstein et al., *Global Carbon Budget 2022*, *Earth System Science Data* 4811 (2022).

“projected to cause massive and mostly irreversible impacts for ocean ecosystems and their services”.<sup>60</sup>

**2. GHG pollution results in, and is likely to continue to result in, significant “deleterious effects” on human health and marine activity**

24. Ocean and coastal ecosystems support life on Earth. Oxygen production, provision of food and fresh water, storm protection, climate regulation, cultural, spiritual, and recreational services, energy, and jobs, are some examples of the invaluable services for human well-being that the ocean and marine ecosystems provide.<sup>61</sup> The deleterious effects of GHG pollution and related climate impacts on the marine environment, as set out above, are altering and threatening many of the ocean’s ecosystem services, creating hazards to human health and hindering marine activities critical to livelihoods and basic needs, impairing sea water quality and reducing amenities.<sup>62</sup>
25. Ocean acidification adversely affects human systems and well-being. The increased acidity is already causing and is expected to cause increased “substantial disruptions to socio-economic systems over the coming decades and centuries, including via reduced access to protein, economic losses from fisheries and tourism, decreased coastal protection and impacts to human health and cultural identity”.<sup>63</sup>
26. The decline in coral reefs alone is projected to compromise the ecosystem services they provide to people.<sup>64</sup> Furthermore, the loss of coral reefs would leave island and coastal communities without natural storm barriers, decreasing protection against sea level rise and floods by 2050 and placing increasing numbers of people, ecosystems, and coastal infrastructure at risk.<sup>65</sup>
27. GHG pollution compounds other vulnerabilities. Deleterious effects resulting from GHG pollution interact with other vulnerabilities linked to income, ethnicity, gender, geographic location, and age, exacerbating existing humanitarian crises, especially for Indigenous Peoples and local communities.<sup>66</sup> Small Island States in the Caribbean and South Pacific are being disproportionately affected relative to their small population size and contribution to climate change.<sup>67</sup> They are more exposed to climate hazards like tropical cyclones, extreme sea level rise events, flooding, and marine heatwaves,<sup>68</sup> as well as climate-driven loss of ecosystem services,<sup>69</sup> which exposes their communities to food

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<sup>60</sup> Pierre Friedlingstein et al., *Global Carbon Budget 2022*, Earth System Science Data 4811 (2022).

<sup>61</sup> IPCC AR6 WGII, Ch. 3, p. 381.

<sup>62</sup> UNCLOS, art. 1(1)(4).

<sup>63</sup> Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 Marine Policy 10 (2019), p. 1.

<sup>64</sup> IPCC SR Ocean and Cryosphere, SPM B.8.2.

<sup>65</sup> IPCC AR6 WGII, Ch. 3, p. 382.

<sup>66</sup> IPCC AR6, SYR, SPM B.2.4.

<sup>67</sup> IPCC AR6, SYR, Longer Report, Figure 2.3 and Section 2.1.2, p. 16.

<sup>68</sup> IPCC AR6, SYR, SPM A.2.2.

<sup>69</sup> IPCC AR6, SYR, SPM B.2.4.

and water insecurity,<sup>70</sup> impairment of cultural and spiritual practices and permanent displacement.<sup>71</sup>

#### **IV. UNCLOS requires States to prevent, reduce, and control GHG emissions as a form of marine pollution**

28. Under UNCLOS Part XII, all States have a general obligation, as set out in Article 192, to “protect and preserve the marine environment”.<sup>72</sup> As explained by the Annex VII Arbitral Tribunal in the *South China Sea Arbitration* (The Republic of Philippines v. The People's Republic of China), “this ‘general obligation’ extends both to ‘protection’ of the marine environment from future damage and “preservation” in the sense of maintaining or improving its present condition. Article 192 thus entails the positive obligation to take active measures to protect and preserve the marine environment, and ... the negative obligation not to degrade the marine environment”.<sup>73</sup> This obligation limits States’ “sovereign right to exploit their natural resources”, which must be exercised “in accordance with” this duty.<sup>74</sup>
29. Subsequent provisions in Part XII elaborate on what this general duty entails. First, the duty requires States to take all measures necessary to “prevent, reduce, and control pollution of the marine environment from *any* source”, including “the use of technologies”,<sup>75</sup> land-based sources,<sup>76</sup> activities in and on the oceans such as seabed activities,<sup>77</sup> dumping,<sup>78</sup> and from or through the atmosphere.<sup>79</sup> Second, the duty applies to forms of pollution that have extraterritorial or transboundary impact. States are required to “take all measures necessary to ensure that activities under their jurisdiction or control” do not cause damage by pollution to other States and that pollution arising within their jurisdiction or control does not spread beyond areas over which they exercise sovereignty.<sup>80</sup>
30. Third, UNCLOS provides that the measures necessary to prevent, reduce, and control pollution of the marine environment include adequate regulatory and assessment frameworks, and must not themselves cause harm. States must use “the best practicable

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<sup>70</sup> IPCC AR6, SYR, SPM A.2.2, B.1.3.

<sup>71</sup> IPCC AR6 WGII, SPM B.1.7, B.6.1.

<sup>72</sup> UNCLOS, art. 192.

<sup>73</sup> The South China Sea Arbitration (The Republic of Philippines v. the People’s Republic of China), PCA Case no. 2013-19, Arbitral Award, ICGJ 495 (Arbitral Tribunal constituted under Annex VII of UNCLOS, 2016) [hereinafter, the South China Sea Arbitration], para. 941.

<sup>74</sup> UNCLOS, art. 193.

<sup>75</sup> UNCLOS, art. 196(1).

<sup>76</sup> UNCLOS, art. 207(1)(2).

<sup>77</sup> UNCLOS, art. 208 (1)(2).

<sup>78</sup> UNCLOS, art. 210 (1)(2).

<sup>79</sup> UNCLOS, art. 212(1)(2).

<sup>80</sup> UNCLOS, art. 194(2); *see also* Case Concerning Land Reclamation by Singapore in and Around the Straits of Johor (Malaysia v. Singapore), Case no. 12, Order of October 8, 2003, Joint Declaration of Judges Ad Hoc Hossain and Oxman, ITLOS Rep. 2003 p. 10 [hereinafter, the Land Reclamation Case].

means at their disposal ... in accordance with their capabilities”.<sup>81</sup> The measures shall include, amongst others, “those designed to minimize to the fullest possible extent” the release of toxic, harmful or noxious substances and other pollution.<sup>82</sup> States must also adopt laws and regulations to prevent, reduce, and control pollution,<sup>83</sup> and “adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference...”<sup>84</sup>. Additional procedural duties include a requirement to: “measure, evaluate, and analyze, by recognized scientific methods, the risks or effects of pollution of the marine environment”;<sup>85</sup> and for States to conduct EIAs when they “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”.<sup>86</sup>

31. UNCLOS acknowledges that measures adopted to protect and preserve the marine environment can have adverse impacts, and stipulates that in implementing measures, “States shall act so as not to transfer, directly, or indirectly, damage or hazards from one area to another or transform one type of pollution into another”.<sup>87</sup> Moreover, UNCLOS provides that States shall be liable for not fulfilling their obligations to protect and preserve the marine environment.<sup>88</sup> States must also ensure recourse is available within their legal system, “for prompt and adequate compensation or other relief”, for damage caused by pollution of the marine environment by persons in their jurisdiction.<sup>89</sup>
32. UNCLOS requires that States not only establish, but implement and enforce measures to protect and preserve the marine environment, and ensure that they evolve with science. The provisions in Part XII contain due diligence obligations.<sup>90</sup> Due diligence obligations require States “to deploy adequate means, to exercise best possible efforts, to do the utmost, to obtain [the] result”.<sup>91</sup> Adopting an explanation by the International Court of Justice (“ICJ”), ITLOS recognizes that due diligence, “is an obligation which entails not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators”.<sup>92</sup> ITLOS has recognized that due diligence “is a variable concept. It may change over time

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<sup>81</sup> UNCLOS, art. 194(1).

<sup>82</sup> UNCLOS, art. 194(3).

<sup>83</sup> UNCLOS, arts. 194(3), 207(1)(2), 211(2), 212(1)(2), 214.

<sup>84</sup> UNCLOS, arts. 213 (pollution from land-based sources), 214 (seabed activities), 222 (from or through the atmosphere).

<sup>85</sup> UNCLOS, art. 204.

<sup>86</sup> UNCLOS, art. 206; Responsibilities and obligations of States with respect to activities in the Area, Case no. 17, Advisory Opinion of February 1st, 2011, ITLOS Rep. 2011, p. 10 [hereinafter, the Seabed Chamber AO], paras. 145-146.

<sup>87</sup> UNCLOS, art. 195.

<sup>88</sup> UNCLOS, art. 235(1).

<sup>89</sup> UNCLOS, art. 235(2).

<sup>90</sup> Seabed Chamber AO, paras. 107-111, 113-116, 120; Request for Advisory Opinion submitted by the Sub-Regional Fisheries Commission (SRFC), Case no. 21, Advisory Opinion of April 2, 2015, ITLOS Rep. 2015, p. 4 [hereinafter the Fisheries AO] at paras. 124-29.

<sup>91</sup> Seabed Chamber AO, para 110.

<sup>92</sup> Seabed Chamber AO, para. 115.

as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge. It may also change in relation to the risks involved in the activity”.<sup>93</sup> “The standard of due diligence has to be more severe for the riskier activities”.<sup>94</sup>

33. Given that GHG emissions from human activity constitute marine pollution, fulfillment of these duties requires States to pass laws and regulations, and take all necessary measures to reduce, prevent, and control GHGs—emitted from any source, including from or through the atmosphere and land-based sources—in order to protect and preserve the marine environment. The measures required to effectively curb GHG emissions and their impacts on the marine environment are outlined in more detail below.

**V. ITLOS should interpret States’ duties under Part XII of UNCLOS harmoniously with international environmental and human rights law**

34. ITLOS’s interpretation of what States must do to protect and preserve the marine environment in the face of GHG pollution should be consistent with, and no less stringent than, State obligations under other relevant bodies of international law. States have concurrent duties with regard to climate change under international environmental and human rights law, and ITLOS should draw on these bodies of law in setting out the scope and content of States’ duties under Part XII.
35. Harmonious interpretation is a well-established principle in international law. Also known as systemic integration, harmonious interpretation is found within Article 31(3)(c) of the Vienna Convention on the Law of Treaties (“VCLT”).<sup>95</sup> The article provides that “any relevant rules of international law applicable in the relations between the parties” are to be considered in interpreting treaties.<sup>96</sup> As the ICJ has recognized, “[a]n international instrument has to be interpreted and applied within the framework of the entire legal system prevailing at the time of the interpretation”.<sup>97</sup> That legal system encompasses other international environmental law and human rights law.

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<sup>93</sup> Seabed Chamber AO, para. 117.

<sup>94</sup> Seabed Chamber AO, para. 117.

<sup>95</sup> Vienna Convention on the Law of Treaties, 23 May 1969, 1155 U.N.T.S. 331 (entered into force on 27 January 1980) [hereinafter the VCLT] at, art 31(3)(c); International Law Commission, *Fragmentation of international law: difficulties arising from the diversification and expansion of international law - Report of the study group of the International Law Commission*, U.N. Doc. No. A/CN.4/L.702, 18 July 2006, para. 17; VCLT commentary, pp. 603-4. *see e.g.* Rantsev v. Cyprus and Russia, Application No. 25965/04, 7 January 2010, Judgment, European Court of Human Rights, paras. 273–282; Street Children (Villagran-Morales et al v. Guatemala), Judgment, Inter-Am. Ct. H.R. (ser. C), No. 63, 19 November 1999, para 194; Supreme Court of the Netherlands, 20 December 2019, *Urgenda Foundation v. The State of the Netherlands (Ministry of Infrastructure and the Environment)*, Judgment, No. ECLI:NL:HR:2019:2007 [hereinafter the Urgenda Supreme Court case].

<sup>96</sup> VCLT, art. 31(3)(c).

<sup>97</sup> Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970), Advisory Opinion, 1971 I.C.J. Rep. 16, para. 53; *see also* Oil Platforms (Islamic Republic of Iran v. United States of America), Judgment, 2003 I.C.J. Rep 161, para. 41.

36. UNCLOS itself provides for harmonious interpretation. Article 293 states: “A court or tribunal having jurisdiction under this section shall apply this Convention and other rules of international law not incompatible with this Convention”.<sup>98</sup> The Arbitral Tribunal held in the *Arctic Sunrise Arbitration (The Kingdom of the Netherlands v. the Russian Federation)* that Article 293(1) enabled it to “have regard to general international law in relation to human rights” ... “to interpret the relevant Convention provisions”.<sup>99</sup>
37. A harmonious interpretation approach is consistent with the jurisprudence of ITLOS and Annex VII Arbitral Tribunals, which have relied on other sources of international law, including international human rights law<sup>100</sup> and international environmental law,<sup>101</sup> in interpreting UNCLOS. When looking at other relevant bodies of law, ITLOS and Arbitral Tribunals have cited customary international law, general principles, and treaties.<sup>102</sup> For instance, in *Arctic Sunrise*, the Tribunal held that it “may have regard to general international law in relation to human rights in order to determine whether law enforcement action such as the boarding, seizure, and detention of the Arctic Sunrise and the arrest and detention of those on board was reasonable and proportionate”.<sup>103</sup> In the *South China Sea Arbitration*, the Tribunal held that the content of Article 192 “is informed by other provisions of Part XII and other applicable rules of international

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<sup>98</sup> UNCLOS, art. 293.

<sup>99</sup> The Arctic Sunrise Arbitration (The Kingdom of the Netherlands v. the Russian Federation), PCA Case No. 2014-02, Arbitral Award, ICGJ 455 (Arbitral Tribunal constituted under Annex VII of UNCLOS, 2015) [hereinafter Arctic Sunrise], para. 197; Duzgit Integrity Arbitration (Malta v. Sao Taomé and Principe), PCA Case no. 2014-07, Arbitral Award, ICGJ 510 (Arbitral Tribunal constituted under Annex VII of the UNCLOS 2016) [hereinafter Duzgit Integrity Arbitration], paras. 207-208; *see also*, Fisheries AO, para 143.

<sup>100</sup> *E.g.* Arctic Sunrise, paras. 197, 227 (the Tribunal relied on freedom of expression and assembly, as set out in treaties including the International Covenant on Civil and Political Rights, to find that protest at sea is an internationally lawful use of the sea related to freedom of navigation.); *see also* Juno Trader case (Saint Vincent and the Grenadines v. Guinea-Bissau), Case no. 13, Prompt Release Judgment of December 18, 2004, ITLOS Rep. 2004, p.17 [hereinafter the Juno Trader Prompt Release Case], paras. 71-72, 77, 81; *see also* Tomimaru (Japan v. Russian Federation), Case no. 15, Prompt Release Judgment of August 6, 2007, ITLOS Rep. 2005-2007, p. 74 [hereinafter the Tomimaru Prompt Release Case], paras. 76, 79.

<sup>101</sup> South China Sea Arbitration, paras. 945, 956 (relying on CITES Convention to interpret the scope of Articles 192 and 294, and the Convention on Biological Diversity to define “ecosystem” in Article 194(5)); Seabed Chamber AO para. 135 (relying on instruments such as the Rio Declaration and jurisprudence from the ICJ to read in to the precautionary approach into the obligations of States under Part XIII.); *id.*, paras. 145-50 (stating that the EIA obligation is “a general obligation under customary international law.”). *See generally*, Alexander Proelss, *The Contribution of the ITLOS to Strengthening the Regime for the Protection of the Marine Environment*, pp. 93 et ss. in A. Del Vecchio, R. Virzo eds., *Interpretations of the United Nations Convention on the Law of the Sea by International Courts and Tribunals* (Springer Nature Switzerland AG, 2019).

<sup>102</sup> *See e.g.* Fisheries AO, paras. 142-150 (relying on international jurisprudence, and the Draft Articles of the International Law Commission on Responsibility of States for Internationally Wrongful Acts, to determine when a flag State shall be held liable for certain fishing activities conducted under its flag); M/V “Saiga” (No. 2) (Saint Vincent and the Grenadines v. Guinea), Case No. 2, Judgment of July 1st, 1999, ITLOS Rep. 1999, p. 4 [hereinafter M/V Saiga No. 2], paras. 80, 85 (ITLOS referred to the 1986 Convention on the Conditions for the Registration of Ships, the 1993 FAO Compliance Agreement, and the 1995 Fish Stocks Agreement to interpret the requirement of “genuine link” between a ship and a flag state in establishing the nationality of ship under Article 94); M/V “Virginia G” (Panama v. Guinea-Bissau), Case no. 19, Judgment of April 14, 2014, ITLOS Rep. 2014, p. 4 [hereinafter M/V Virginia G], paras. 215-217 (ITLOS found that bunkering of fishing vessels fishing in the exclusive economic zone may be regulated by a coastal state, and within the activities governed by Articles 64 and 62(4), despite the lack of reference to this activity, by taking into account the definitions of “fishing” and “fishing-related” activities in several international agreements, most of which came into force after UNCLOS).

<sup>103</sup> Arctic Sunrise, para. 197.



law”.<sup>104</sup> The Tribunal then relied on the “corpus of international law relating to the environment,” to interpret Article 192.<sup>105</sup>

38. UNCLOS—and Part XII—also has provisions that underscore the Convention’s interrelationship with other legal regimes. Provisions that require States to adopt laws and regulations to prevent, reduce, and control pollution of the marine environment from land-based sources<sup>106</sup> and from or through the atmosphere,<sup>107</sup> provide that they must do so while “taking into account internationally agreed rules, standards and recommended practices and procedures.” The accompanying enforcement provisions for both sources of pollution go a step further, and require States to take other measures necessary “to implement applicable international rules and standards established through competent international organizations or diplomatic conference[s] to prevent, reduce and control pollution of the marine environment....”<sup>108</sup> In addition, Article 235 provides that State liability “shall be in accordance with international law”.<sup>109</sup> To ensure prompt and adequate compensation for damage caused by pollution of the marine environment, “States shall cooperate in the implementation of existing international law and the future development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, [and] ... development of criteria and procedures for payment of adequate compensation”.<sup>110</sup>

#### **VI. ITLOS should interpret States’ duties under Part XII in light of the best available science**

39. International law requires States to align their climate action with the best available science. The duty to rely on the best available science when designing and implementing measures to prevent, minimize, and remediate environmental harm is well-established in international environmental law, and recognized in international human rights law. The legal obligations of States under UNCLOS, the United Nations Framework Convention on Climate Change (“UNFCCC”), and international environmental and human rights law all require that States respond to the climate crisis based on the best available science.
40. UNCLOS explicitly requires States to be guided by the “best scientific evidence available” in formulating measures for conserving living marine resources.<sup>111</sup> As noted above, Part XII includes requirements to use “recognized scientific methods” to

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<sup>104</sup> South China Sea Arbitration, para 941.

<sup>105</sup> South China Sea Arbitration, para 941.

<sup>106</sup> UNCLOS, art. 207.

<sup>107</sup> UNCLOS, art. 212.

<sup>108</sup> UNCLOS, arts. 213, 222. *See also* UNCLOS, art. 214 (imposing the same obligation for pollution from seabed activities); *cf Pulp Mills on the river Uruguay (Argentina v. Uruguay)*, Judgment, 2010 I.C.J. Rep 14, para. 197 (in interpreting language stating that the rules and measures must be “in accordance with applicable international agreements” and “in keeping, where relevant, with the guidelines and recommendations of international technical bodies,” the ICJ explained that “this requirement has the advantage of ensuring that the rules and measures adopted by the parties both have to conform to applicable international agreements and to take account of internationally agreed technical standards.”).

<sup>109</sup> UNCLOS, art. 235(1).

<sup>110</sup> UNCLOS, art. 235(3).

<sup>111</sup> UNCLOS, arts. 61(2), 119.

“measure, evaluate, and analyse ... the risks or effects of pollution of the marine environment,”<sup>112</sup> and ITLOS recognizes that due diligence measures must be guided by “new scientific ... knowledge”.<sup>113</sup>

41. International climate agreements are grounded in the best available science and explicitly recognize that the measures required of States to avoid dangerous anthropogenic interference with the climate system by GHGs should evolve with advancements in scientific understanding. Under the UNFCCC, which enjoys near universal ratification, States committed to “prevent dangerous anthropogenic interference with the climate system” and to review the adequacy of their commitments “in the light of the best available scientific information”.<sup>114</sup> Under the Paris Agreement, with near-universal ratification of 195 States,<sup>115</sup> States agreed on “the need for an effective and progressive response to the urgent threat of climate change *on the basis of the best available scientific knowledge*”<sup>116</sup> and that Parties should take mitigation actions, the reduction of anthropogenic GHG, “in accordance with best available science”.<sup>117</sup> National courts in various jurisdictions have interpreted “best available science” to consist of the latest research and observations from organizations such as the IPCC and the World Meteorological Organization (WMO), the UN Environment Programme (UNEP), and expert independent research institutes, peer-reviewed academic research, and evidence from national scientific or specialist bodies.<sup>118</sup>
42. Like UNCLOS and the UNFCCC, other relevant international environmental legal instruments require Parties to ground measures aimed at preventing and mitigating marine pollution—and protecting the marine environment and its living resources—in the best available science.<sup>119</sup>

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<sup>112</sup> UNCLOS, art. 204.

<sup>113</sup> Seabed Chamber AO, para. 117.

<sup>114</sup> United Nations Framework Convention on Climate Change, 9 May 1992, 1771 U.N.T.S. 107 (entered into force on 21 March 1994) [hereinafter UNFCCC], arts. 2, 4(2)(d).

<sup>115</sup> UNFCCC, *Paris Agreement - Status of Ratification*, available at <https://unfccc.int/process/the-paris-agreement/status-of-ratification>, last visited on 12 June 2023.

<sup>116</sup> Paris Agreement to the United Nations Framework Convention on Climate Change, 12 December 2015, 3156 U.N.T.S. (entered into force on 4 November 2016) [hereinafter Paris Agreement], pmbl. (emphasis added).

<sup>117</sup> UNFCCC, art. 4.1. Recently reaffirmed in the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, 26th session, 31 October-13 November 2021, *Glasgow Climate Pact*, 1/CMA.3, U.N. Doc. No. FCCC/PA/CMA/2021/10/Add.1, art. 1.

<sup>118</sup> Urgenda Supreme Court Case, paras. 2.1, 4.1-4.8; Administrative Court of Berlin, 31 October 2019, Backsen et al. (German Family Farmers) v. Federal Republic of Germany, Judgment, VG 10 K 412.18 (unofficial translation), pp. 19, 20; German Federal Constitutional Court of Germany, 24 March 2021, Neubauer et al. v. Germany, Judgment, BvR 2656/18, 1 BvR 96/20, 1 BvR 78/20, 1 BvR 288/20, 1 BvR 96/20, 1 BvR 78/20 (official translation) [hereinafter Neubauer Federal Constitutional Court Case], pp. 18-24.

<sup>119</sup> OSPAR Convention, art. 2, Annex I; Convention on Biological Diversity, 5 June 1992, 1760 U.N.T.S. 79 (entered into force on 29 December 1993) [hereinafter CBD], art. 12 (c) (requiring States to “promote and cooperate in the use of scientific advances in biological diversity research in developing methods for conservation and sustainable use of biological resources”); Convention on the conservation of migratory species of wild animals, 23 June 1979, 1651 U.N.T.S. (entered into force on 1 November 1983) [hereinafter Convention on Migratory Species], art. III(2) (providing that the “best scientific evidence available” should inform decisions on whether to list a migratory species as endangered and thus subject to special protections under the Convention).

43. International human rights law also requires States to rely on the best available science.<sup>120</sup> The Universal Declaration of Human Rights provides that “everyone has the right to ... share in scientific advancement and its benefits,”<sup>121</sup> and the International Covenant on Economic, Social, and Cultural Rights—ratified by 171 States—recognizes the right of everyone “to enjoy the benefits of scientific progress and its applications”.<sup>122</sup> This right requires States to “align [...] government policies and programmes with the best available, generally accepted scientific evidence”.<sup>123</sup> U.N. human rights treaty bodies have relied on the IPCC reports in setting out States’ duties to avert the threat of climate change.<sup>124</sup>
44. It is thus consistent with both UNCLOS and other relevant rules of international law to interpret States’ duties with respect to climate change in light of the best available science.

**VII. In light of the best available science, international environmental law and human rights law require States to act urgently to keep warming below 1.5°C by rapidly curbing fossil-fueled GHG emissions and supporting adaptation and resilience**

45. International environmental law and human rights law are relevant bodies of law for ITLOS to consider, as they set out States’ concurrent duties in response to climate change

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<sup>120</sup> The environment and human rights (States obligations in relation to the environment in the context of the protection and guarantee of the rights to life and to personal integrity: interpretation and scope of articles 4(1) and 5(1) in relation to articles 1(1) and 2 of the American Convention on human rights), Advisory Opinion OC-23/17, Inter-Am. Ct. H.R. (ser. A), 15 November 2017 [hereinafter Advisory Opinion OC-23/17], para. 172 (citing the International Law Commission, *Commentaries on the draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities*, Yearbook of the International Law Commission 2006, vol. II, Part Two (A/61/10), Principle 5, paras. 1, 2, 5); see also e.g. from the European Court of Human Rights: *Rees v. the United Kingdom*, Application No.9532/81, 17 October 1986, Judgment, European Court of Human Rights, para. 47; *Cossey v. The United Kingdom*, Application No. 10843/84, 27 September 1990, Judgment, European Court of Human Rights, para. 40; *Fretté v. France*, Application No. 36515/97, 26 May 2002, Judgment, European Court of Human Rights., para. 42; cf. *Oluic v. Croatia*, Application No. 61260/08, 20 August 2010, Judgment, European Court of Human Rights, paras. 29-31. See also *Urgenda Supreme Court Case*, para. 5.4.3 (“According to ECtHR case law, an interpretation and application of the ECHR must also take scientific insights and generally accepted standards into account.”).

<sup>121</sup> UN General Assembly, *Universal Declaration of Human Rights*, U.N. Doc. No. 217 A (III), 10 December 1948, art. 27(2).

<sup>122</sup> International Covenant on Economic, Social and Cultural Rights, 16 December 1966, 993 U.N.T.S. 3 (entered into force on 3 January 1976) [hereinafter ICESCR], art. 15(1)(b); Committee on Economic, Social and Cultural Rights, *General Comment No. 25 (2020) on science and economic, social and cultural rights (article 15 (1) (b), (2), (3) and (4) of the International Covenant on Economic, Social and Cultural Rights)*, U.N. Doc. No. E/C.12/GC/25, 30 April 2020 [hereinafter CESCR GC No. 25] paras. 52, 83.

<sup>123</sup> CESCR GC No. 25, para. 52; accord Marcos Orellana (Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes), *Right to science in the context of toxic substances*, U.N. Doc. No. A/HRC/48/61, 26 July 2021 [hereinafter SR on toxics, Right to science report] para. 97.

<sup>124</sup> Joint statement by the Committee on the Elimination of Discrimination against Women, the Committee on Economic, Social and Cultural Rights, the Committee on the Protection of the Rights of All Migrant Workers and Members of Their Families, the Committee on the Rights of the Child and the Committee on the Rights of Persons with Disabilities, *Statement on human rights and climate change*, U.N. Doc. No. HRI/2019/1, 14 May 2020 [hereinafter UN Human Rights Treaty Bodies’ joint statement on human rights and climate change] paras. 2, 5, 6.

and harms from GHG emissions. Like UNCLOS, these bodies of law require States to prevent, reduce, and control GHG emissions and implement adaptation measures to respond to the impacts of climate change in order to avert and minimize foreseeable harm to people and ecosystems, including the marine environment. ITLOS should therefore take them into account and ensure consistency in interpretation and harmony amongst States' duties in the context of climate change.

**A. Pursuant to international climate agreements, States must take action to prevent dangerous anthropogenic interference in the climate system**

46. The UNFCCC sets forth the overarching objective of the climate regime: “to achieve ... stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” and to do so in a timeframe that would allow ecosystems to naturally adapt and not disrupt essential functions.<sup>125</sup> In signing the Paris Agreement, Parties to the UNFCCC further agreed to undertake progressively more ambitious actions “reflect[ing] [a Party’s] highest possible ambition” to achieve the goals of the agreement.<sup>126</sup>
47. One primary means to achieve the objectives of the UNFCCC and Paris Agreement is through mitigation—reducing GHG emissions. Article 2(1)(a) sets a long-term temperature goal and obliges States to “pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change”.<sup>127</sup> As set out above, the UNFCCC and Paris Agreement provide that States’ climate action must be in line with the best available science. When adopting the Paris Agreement, the Parties also invited the IPCC to provide a special report (SR) on the impacts of global warming of 1.5°C.<sup>128</sup> In 2018, the IPCC delivered the 1.5°C SR, which showed that limiting the temperature increase to no more than 1.5°C would substantially reduce the risks and impacts on natural and human systems.<sup>129</sup> However, the 1.5°C SR, the SR on oceans and cryosphere and the subsequent IPCC AR6 reports, which are part of the best available science, all show the devastating impacts of 1.5°C warming itself. These reports affirm that States must keep warming below 1.5°C in order to “prevent dangerous anthropogenic interference with the climate system,”<sup>130</sup> and its deleterious impacts on the marine environment.
48. In addition to the mitigation objective of the Paris Agreement, States also committed to “increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience” and established “the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change”.<sup>131</sup> This obligation, which is distinct from States’ compliance with their mitigation duty, has been

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<sup>125</sup> UNFCCC, art. 2.

<sup>126</sup> Paris Agreement, arts. 3, 4(1)(2)(3).

<sup>127</sup> Paris Agreement, art. 2(1)(a).

<sup>128</sup> Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, 21st session, 29 January 2016, *Adoption of the Paris Agreement*, 1/CP.21, U.N. Doc. No. FCCC/CP/2015/10/Add.1, para. 21.

<sup>129</sup> IPCC SR1.5, Ch. 3, p. 180; IPCC SR Ocean and Cryosphere, SPM.

<sup>130</sup> UNFCCC, art. 2.

<sup>131</sup> Paris Agreement, arts. 2.1(b), 7.

interpreted as part of the duty to protect and prevent foreseeable risks of harm to human rights, as elaborated below.

49. Finally, States committed to the third objective of the Paris Agreement, ensuring that finance flows are “consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”.<sup>132</sup> This objective requires “(re)direct[ing] all finance and investment” away from unsustainable high GHG emission activities,<sup>133</sup> which includes fossil fuels investments and subsidies,<sup>134</sup> and to “a decarbonized and resilient economy”.<sup>135</sup>
50. Importantly, the obligations set forth in the UNFCCC and Paris Agreement do not supplant but build on and complement States’ concurrent duties under other bodies of international law, including the longstanding duty in international environmental law to prevent transboundary harm and the fundamental obligations under human rights law to avoid, avert, minimize, and remediate foreseeable harm to human rights, discussed in the sections that follow. The agreements neither exhaustively nor exclusively set forth States’ legal obligations with respect to climate change. The temperature goal set out in the Paris Agreement, therefore, does not supersede fundamental human rights obligations, detailed below, to reduce emissions to the greatest extent possible and, as quickly as possible, to prevent foreseeable harm. This is especially so given mounting evidence that current levels of warming are already causing significant human rights impacts. Ultimately, as the Paris Agreement recognizes, human rights obligations must be respected in and through climate action,<sup>136</sup> and those obligations may require States to adopt more ambitious action than that pledged in Paris as the science evolves.<sup>137</sup>

**B. Pursuant to the duty not to cause transboundary harm, States must enforce international frameworks to govern and regulate the transboundary effects of conduct within their jurisdiction or control**

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<sup>132</sup> Paris Agreement, art. 2.1(c).

<sup>133</sup> UNFCCC Standing Committee on Finance, Fourth (2020) Biennial Assessment and Overview of Climate Finance Flows [hereinafter SCF, Fourth (2020) BA], p. 149.

<sup>134</sup> SCF, Fourth (2020) BA, paras. 46, 45; UNFCCC Standing Committee on Finance, 2018 Biennial Assessment and Overview of Climate Finance Flows [hereinafter SCF, Third (2018) BA], paras. 343, 351 (highlighting the World Bank’s announcement to end funding to the upstream oil exploration and extraction of oil and gas by 2019 as progress and calling on other multilateral banks to “follow this lead.”), paras. 358-59; Report of the Conference of the Parties held in Sharm el-Sheikh, 27th session, 6 - 20 November 2022, *Revision of the modalities and guidelines for international consultation and analysis*, 5/CP.27, U.N. Doc. No. FCCC/CP/2020/10/Add.1 [hereinafter UNFCCC COP, Decision 5/CP.26], para. 46.

<sup>135</sup> SCF, Fourth (2020) BA, para. 476.

<sup>136</sup> In the preamble to the Agreement, the Parties acknowledged that they “should, when taking action to address climate change, respect, promote and consider their obligations on human rights...” Paris Agreement, pmbl.; see also Conference of the Parties serving as the meeting of the Parties to the Paris Agreement, 16th session, 15 March 2011, Cancun Agreements, 1/CP.16, U.N. Doc. No. FCCC/CP/2010/7/Add.1, para. 8 (acknowledging for the first time in a UNFCCC decision that Parties should fully respect human rights in all climate actions).

<sup>137</sup> Neubauer Federal Constitutional Court Case, para. 212 (noting that best available science could mean that the Constitutional requirements, in this instance in Germany, require setting emissions reductions targets to go beyond what is necessary to achieve the Paris temperature targets).

51. As discussed above, current rates of GHG emissions damage the marine environment in myriad ways, including deleterious impacts such as rising sea surface temperatures, sea level rise, and ocean acidification, which are inherently transboundary harms.<sup>138</sup> The UNFCCC is rooted in the duty not to cause transboundary harm<sup>139</sup>—specifically harm resulting from anthropogenic GHG emissions and their global impacts on climate systems. The principle informs both the ambition of State commitments and the climate action they must undertake pursuant to the Convention.
52. The duty of States not to cause transboundary harm constitutes customary international law and effectively qualifies territorial sovereignty. It imposes on States the duty not to knowingly allow their territories to be used “for acts contrary to the rights of other States”, as confirmed by the International Court of Justice.<sup>140</sup> The duty has long been understood to encompass environmental pollution that crosses territorial boundaries.<sup>141</sup> This application is enshrined in both Principle 21 of the 1972 Stockholm Declaration on the Human Environment and the Rio Declaration on Environment and Development. These instruments elaborate that States have the “sovereign right to exploit their own resources,” but that that right exists alongside “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 national jurisdiction”.<sup>142</sup> Importantly, States’ obligation not to cause transboundary harm necessarily extends to protection against the extraterritorial effects of the activities of both public and private actors within a State’s jurisdiction or subject to its control.<sup>143</sup>
53. When infringements of the obligation not to cause transboundary harm occur, States can be held “responsible for any significant damage caused to persons outside their borders by activities originating in their territory or under their effective control or authority”.<sup>144</sup> As the Inter-American Court of Human Rights has stressed, “this obligation does not depend on the lawful or unlawful nature of the conduct that generates the damage”; States “must provide prompt, adequate and effective redress to the persons and States that are victims of transboundary harm resulting from activities carried out in their territory or

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<sup>138</sup> *Supra*, Parts II and III of the present memorial.

<sup>139</sup> UNFCCC, pmb.

<sup>140</sup> The Corfu Channel Case (United Kingdom v. Albania), Preliminary Objection, 1949 I.C.J. Rep. 22.

<sup>141</sup> See Trail Smelter Arbitration (U.S. v. Canada), 3 R.I.A.A. 1905 (1941) (concerning fumes from a Canadian smelter were crossing the border and damaging U.S. citizens and property); Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996(I) I.C.J. Rep. 242 [hereinafter Legality of the Threat or Use of Nuclear Weapons AO], para. 29 (observing that the duty to not cause transboundary environmental harm is “now a part of the corpus of international law relating to the environment.”).

<sup>142</sup> UN Conference on the Human Environment held in Stockholm, 5-16 June 1972, *Stockholm Declaration on the Human Environment*, U.N. Doc. No. A/CONF.48/14/Rev. 1, 3 (1973), U.N. Doc. A/Conf.48/14, 2, Corr. 1 (1972), reprinted in 11 I.L.M. 1416 (1972) [hereinafter Stockholm Declaration]; UN Conference on Environment and Development held in Rio de Janeiro, 3-14 June 1992, *Rio Declaration on Environment and Development*, U.N. Doc. No. A/CONF.151/26/Rev.1 (1992), reprinted in 31 I.L.M. 874 (1992) [hereinafter Rio Declaration].

<sup>143</sup> Human Rights Committee, *General Comment No. 36 - Article 6: Right to life*, U.N. Doc. CCPR/C/GC/36, 20 October 2018 [hereinafter HRC GC No. 36] para. 22; Advisory Opinion OC-23/17 at para. 5, 101-104; see also *infra* at para. 56.

<sup>144</sup> Advisory Opinion OC-23/17, para. 103.

under their jurisdiction, *even if the action which caused this damage is not prohibited by international law*”.<sup>145</sup>

54. The prevention and regulation of transboundary environmental pollution require international cooperation in the development and implementation of regulatory and governance regimes to respond to threats.<sup>146</sup> Such international cooperation is critical to not only averting and mitigating environmental harm but also protecting affected human rights. Indeed, Principle 13 of the Framework Principles on Human Rights and the Environment, produced by the U.N. Special Rapporteur on Human Rights & the Environment, sets out that States should cooperate to establish, maintain, and enforce effective international legal frameworks in order to prevent, reduce, and remedy transboundary and global environmental harm that interferes with the full enjoyment of human rights.<sup>147</sup>

**C. Pursuant to their duties to respect and protect human rights, States must urgently phase out fossil fuels, ensure adequate adaptation measures, and ensure effective remediation of harm**

55. The duties to respect and protect human rights impose on States an obligation to refrain from conduct that foreseeably causes or contributes to human rights harm, and to take all necessary measures to prevent conduct by others that foreseeably endangers human rights.<sup>148</sup> Fulfillment of these duties requires States to address, alleviate, and mitigate foreseeable threats to human rights,<sup>149</sup> regulate the activities of all actors subject to their

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<sup>145</sup> Advisory Opinion OC-23/17, para. 103 (emphasis added).

<sup>146</sup> Office of the United Nations High Commissioner for Human Rights, *Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, healthy and Sustainable Environment - Individual Report No. 9 on global and regional environmental agreements (Prepared for the Independent Expert on the Issue of Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy, and Sustainable Environment)*, December 2013, para. 148 (citing North American Environmental Cooperation Agreement, Espoo Convention, etc.)

<sup>147</sup> John Knox (Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment), *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, U.N. Doc. No. A/HRC/37/59, 24 January 2018, at Annex “Framework principles on human rights and the environment”, Principle 13.

<sup>148</sup> See UN General Assembly, 85th Plenary Meeting, *Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms*, U.N. Doc. No. A/RES/53/144, 9 December 1998, art. 2 (“Each State has a prime responsibility and duty to protect, promote and implement all human rights and fundamental freedoms...”); Human Rights Committee, *General Comment No. 31 - The Nature of the General Legal Obligation Imposed on States Parties to the Covenant*, U.N. Doc. CCPR/C/21/Rev.1/Add.13, 29 March 2014 [hereinafter HRC GC No. 31], para. 7; Committee on Economic, Social and Cultural Rights, *General Comment No. 20 - Non-discrimination in economic, social and cultural rights (art. 2, para. 2, of the International Covenant on Economic, Social and Cultural Rights)*, U.N. Doc. No. E/C.12/GC/20, 2 July 2009 [hereinafter CESCR GC No. 20], para. 8.

<sup>149</sup> See Committee on the Elimination of Discrimination against Women, *General recommendation No. 34 (2016) on the rights of rural women*, U.N. Doc. No. CEDAW/C/GC/34, 7 March 2016 [hereinafter CEDAW Gen. Rec. No. 34], para. 12; HRC GC No. 36, paras. 18, 22, 26; Committee on Economic, Social and Cultural Rights, *General Comment No. 26 on land and economic, social and cultural rights*, U.N. Doc. No. E/C.12/GC/26, 24 January 2023 [hereinafter CESCR GC No. 26], paras. 14, 16; Committee on Economic, Social and Cultural Rights, *General comment No. 24 (2017) on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities*, U.N. Doc. No. E/C.12/GC/24, 10 August 2017 [hereinafter CESCR GC No. 24], paras. 26-28; Budayeva et al. v. Russia, Applications nos.15339/02, 21166/02,

jurisdiction, including businesses, ensure “effective protection” against rights violations, and hold actors accountable for violations.<sup>150</sup> The duty to respect and protect applies to all human rights protected in human rights treaties.<sup>151</sup> Where there is a violation of human rights, States must ensure access to an effective remedy.<sup>152</sup>

56. The duties to respect and protect have extraterritorial application. The duty to respect “requires States parties to refrain from interfering directly or indirectly with the enjoyment of the [] rights by persons outside their territories”.<sup>153</sup> The duty to protect requires States to regulate any actor subject to their jurisdiction to prevent them from violating rights when operating abroad,<sup>154</sup> or undertaking conduct that has the foreseeable effect of infringing rights, regardless of where those infringements occur. This duty extends to protection against conduct that causes climate change, pollution, and other forms of transboundary environmental harm, as has been widely recognized by international human rights treaty bodies and experts, and regional human rights systems.<sup>155</sup>

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20058/02, 11673/02 and 15343/02, 29 September 2008, Judgment, European Court of Human Rights, paras. 128, 130; Öneriyildiz v. Turkey, Application no. 48939/99, 30 November 2004, Judgment, European Court of Human Rights, para. 71; Ilascu et al. v. Moldova and Russia, Application No. 48787/99, 8 July 2004, Judgment, European Court of Human Rights, para. 317; Tătar v. Romania, Application no. 67021/01, 27 January 2009, Judgment, European Court of Human Rights [hereinafter Tătar v. Romania], paras. 87-88 (covering public and private conduct); Advisory Opinion OC-23/18, para. 81.

<sup>150</sup> CESCR GC No. 24, paras. 14-17; CEDAW Gen. Rec. No. 34, para. 13; Committee on the Elimination of Discrimination against Women, *General recommendation No. 39 (2022) on the rights of Indigenous women and girls*, U.N. Doc. No. CEDAW/C/GC/39, 31 October 2022 [hereinafter CEDAW Gen. Rec. No. 39], para. 57; HRC GC No. 36, paras. 18, 22, 26-27, 62; Advisory Opinion OC-23/17, at para. 118.

<sup>151</sup> See e.g. Office of the High Commissioner of Human Rights, *International Human Rights Law*, <https://www.ohchr.org/en/instruments-and-mechanisms/international-human-rights-law>, last visited on 13 June 2023; see also Int’l Covenant on Civil and Political Rights art. 2(1), Dec. 16, 1966, 999 U.N.T.S. 171, [hereinafter ICCPR]; HRC GC No. 36, paras. 7, 18, 63; CESCR GC No. 26, para. 10; CEDAW Gen. Rec. No. 34, sec. III; Committee on the Rights of the Child, *General Comment No. 16 (2013) on State obligations regarding the impact of the business sector on children’s rights*, U.N. Doc. No. CRC/C/GC/16, 17 April 2013 [hereinafter CRC GC No. 16], para. 24.

<sup>152</sup> ICCPR, art. 2(3); see also HRC GC No. 31, paras. 16, 18; CRC GC No. 16, paras 30, 44; Committee on the Elimination of Discrimination against Women, *General recommendation No. 28 on the core obligations of States parties under article 2 of the Convention on the Elimination of All Forms of Discrimination against Women*, U.N. Doc. No. CEDAW/C/GC/28, 16 December 2010 [hereinafter CEDAW Gen. Rec. No. 28], para. 32. An effective remedy includes a right to reparations, which can include compensation, restitution, rehabilitation and measures of satisfaction, guarantees of non-repetition and changes in relevant laws and practices, as well as bringing to justice the perpetrators of human rights violations. While this brief does not expound on the right to an effective remedy, it is an important pillar of State obligations under international human rights law and international law. The authors fully concur with the views expressed in the Amicus Brief of the UN Special Rapporteurs on Human Rights and Climate Change, Toxics and Human Rights and Human Rights and the Environment submitted to ITLOS on 30 May 2023, p. 27.

<sup>153</sup> CESCR GC No. 24, para. 29; see also HRC GC No. 36, paras. 22, 63; CEDAW Gen. Rec. No. 34, para. 13; Advisory Opinion OC-23/17, at para. 101.

<sup>154</sup> CEDAW Gen. Rec. No. 34, para. 13; CESCR GC No. 24, paras. 30-32.

<sup>155</sup> See e.g., Advisory Opinion OC-23/17, at paras. 141-142, 152; Case of Indigenous Communities of the Lhaka Honhat Association v. Argentina, Judgement, Inter-Am. Ct. H.R. (ser. C), 6 February 2020, paras. 207, 208; Marcelino Díaz Sánchez et al. v. Mexico, Precautionary Measures, Resolution, Inter-Am. Comm’n. H.R. No. 1498-18, 23 April 2019, paras. 24, 26, 27; HRC GC No. 36, at para. 62; UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, para. 10. See also UN Special Rapporteurs on Human Rights and Climate Change (Ian Fry), Toxics and Human Rights (Marco Orellanas) and Human Rights and the Environment, amicus brief submitted to ITLOS in Case n.3, 2023.



**1. States must mitigate and regulate conduct that contributes to foreseeable threats to human rights, such as climate change**

57. Climate change is an actual and foreseeable future threat to human rights. Climate change constitutes one of “the most pressing and serious threats to the ability of present and future generations to effectively enjoy all human rights”.<sup>156</sup> As five U.N. Treaty Bodies expressed in a joint statement, the adverse impacts of climate change “threaten, among others, the rights to life, to adequate food, to adequate housing, to health and to water, and cultural rights”.<sup>157</sup> Relying on findings by the IPCC, the five treaty bodies recognized that “adverse impacts on human rights are already occurring with 1°C of global warming; every additional increase in temperature will further undermine the realization of rights”.<sup>158</sup> In its *Sacchi et. al. v. Argentina et al.* (“*Sacchi*”) decision, the Committee for the Rights of the Child affirmed that “in light of existing scientific evidence showing the impact of the cumulative effect of carbon emissions on the enjoyment of human rights, including rights under the Convention, ... the potential harm of the State party’s acts or omissions regarding the carbon emissions originating in its territory was reasonably foreseeable to the State party”.<sup>159</sup>
58. Accordingly, States must mitigate and regulate conduct that contributes to climate change. In their joint statement, the five human rights treaty bodies explained that, “failure to take measures to prevent foreseeable harm to human rights caused by climate change, or to regulate activities contributing to such harm, could constitute a violation of States’ human rights obligations”,<sup>160</sup> even if the “threat[] do[es] not result in loss of life”.<sup>161</sup> More explicitly, as the U.N. Special Rapporteur on the promotion and protection of human rights in the context of climate change (“Special Rapporteur on Human Rights

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<sup>156</sup> UN General Assembly, 76th session, *The human right to a clean, healthy and sustainable environment*, U.N. Doc. No. A/RES/76/300, 28 July 2022, pp. 2-3 (2022); see also, e.g., UN Human Rights Council, 7th session, *Human rights and climate change*, U.N. Doc. No. A/HRC/RES/7/23, 28 March 2008; UN Human Rights Council, 10th session, *Human rights and climate change*, U.N. Doc. No. A/HRC/RES/10/4, 25 March 2009; UN Human Rights Council, 18th session, *Human rights and climate change*, U.N. Doc. No. A/HRC/RES/18/22, 17 October 2011; UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/RES/26/27, 15 July 2014; UN Human Rights Council, *Human rights and climate change*, U.N. Doc. No. A/HRC/RES/29/15, 2 July 2015; UN Human Rights Council, *Human rights and the environment*, U.N. Doc. No. A/HRC/RES/31/8, 23 March 2016, pmb., para. 4(a); UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/RES/32/33, 1 July 2016, pmb.; UN Human Rights Council, *Human rights and climate change*, U.N. Doc. No. A/HRC/35/20, 22 June 2017; UN Human Rights Council, *Human rights and climate change*, U.N. Doc. No. A/HRC/RES/38/4, 5 July 2018 at pmb.; UN Human Rights Council, *Human rights and climate change*, U.N. Doc. No. A/HRC/RES/41/21, 12 July 2019; UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/RES/44/7, 16 July 2020; HRC GC No. 36, para. 62.

<sup>157</sup> UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, para. 3.

<sup>158</sup> UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, para. 5; see also Ian Fry (Special Rapporteur on the promotion and protection of human rights in the context of climate change), *Promotion and protection of human rights in the context of climate change mitigation, loss and damage and participation*, U.N. Doc. No. A/77/226, 26 July 2022 [hereinafter, SR on climate change, Report on the promotion and protection of human rights in the context of climate change] para. 7 (“Throughout the world, human rights are being negatively affected and violated as a consequence of climate change.”)

<sup>159</sup> Committee on the Rights of the Child, *Decision adopted by the Committee on the Rights of the Child under the Optional Protocol to the Convention on the Rights of the Child on a communications procedure in respect of Communications No. 104/2019*, U.N. Doc. No. CRC/C/88/D/104/2019, 8 October 2021 [hereinafter CRC, *Sacchi v. Argentina*], para. 10.11; see also para. 10.14.

<sup>160</sup> UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, para. 10.

<sup>161</sup> HRC GC No. 36, para. 7.

and Climate Change”) explains, “States are obliged to take measures to mitigate climate change and to regulate the emissions of those businesses under their jurisdictions in order to prevent foreseeable negative impacts on human rights”.<sup>162</sup>

59. As set out above, regulations must cover the extraterritorial and transboundary activity of actors in the State’s territory and control. In its *Sacchi* decision, the Committee on the Rights of the Child found that, “it is generally accepted and corroborated by scientific evidence that the carbon emissions originating in the State party contribute to the worsening of climate change, and that climate change has an adverse effect over the enjoyment of rights by individuals both within as well as beyond the territory of the State party. The Committee considers that, through its ability to regulate activities that are the source of these emissions and to enforce such regulations, the State party has effective control over the emissions”.<sup>163</sup>
60. Domestic courts around the world have recognized that the risks to human rights, particularly to the right to life, require States to act to prevent climate change. In *Neubauer et al v. Germany*, the German Constitutional Court ruled that “[t]he fundamental right to the protection of life and health ... obliges the state to afford protection against the risks of climate change. The state must combat the considerable potential risks emanating from climate change by taking steps which—with the help of international involvement—contribute to stopping human-induced global warming and limiting the ensuing climate change”.<sup>164</sup> The court recognized that the State’s contribution to, and failure to take steps to avert, a risk of *future* harm from climate change can violate constitutional rights.<sup>165</sup> In Belgium, the Court of First Instance of Brussels ruled that the State has a “positive obligation ... to take the necessary measures to remedy and prevent the adverse consequences of dangerous global warming on [the plaintiffs’] lives and their private and family lives”.<sup>166</sup> In *The State of the Netherlands v. Urgenda*, the Supreme Court of the Netherlands considered the scientific evidence and found that “no other conclusion can be drawn but that the State is required pursuant to Articles 2 [right to life] and 8 [right to respect for private and family life] ECHR [European Convention on

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<sup>162</sup> SR on climate change, Report on the promotion and protection of human rights in the context of climate change, para. 9; *see also* Climate Emergency: Scope of Inter-America Human Rights Obligations, Resolution, Inter-Am. Comm’n H.R., Res. No. 3/2021, 31 December 2021, para. 12 [hereinafter Climate Emergency: Scope of Inter-America Human Rights Obligations].

<sup>163</sup> CRC, *Sacchi v. Argentina*, para. 10.9.

<sup>164</sup> *Neubauer* Federal Constitutional Court Case, paras. 144, 148.

<sup>165</sup> *Neubauer* Federal Constitutional Court Case, para. 108 (stating that “The possibility of a violation of the Constitution cannot be negated here by arguing that a risk of future harm does not represent a current harm and therefore does not amount to a violation of fundamental rights. Even provisions that only begin posing significant risks to fundamental rights over the course of their subsequent implementation can fall into conflict with the Basic Law. This is certainly the case where a course of events, once embarked upon, can no longer be corrected.” (internal citations omitted)).

<sup>166</sup> French-speaking Court of First Instance of Brussels, 17 June 2021, ASBL Klimaatzaak v. Belgian State et al., Judgment, Civil Section No. 2015/4585/A (unofficial translation), p. 61.

Human Rights] to take measures to counter the genuine threat of dangerous climate change”.<sup>167</sup> Courts in Pakistan<sup>168</sup> and Colombia<sup>169</sup> have made similar findings.

## 2. *States must urgently reduce emissions and phase out fossil fuels*

61. Effectively averting the risk that climate change poses to human rights requires States to take all measures within their powers to curb and regulate the principal driver of emissions: fossil fuels. International human rights bodies and experts have affirmed States’ duties to urgently reduce emissions and phase out fossil fuels. As the U.N. Special Rapporteur on Human Rights and Climate Change explains, “States must limit greenhouse gas emissions to prevent the current and future negative human rights impacts of climate change”.<sup>170</sup> The U.N. Secretary General,<sup>171</sup> human rights treaty bodies,<sup>172</sup> and independent experts,<sup>173</sup> all affirm that doing so requires an urgent and rapid shift away from fossil fuels.<sup>174</sup> In their joint statement, five U.N. treaty bodies affirm that States “must adopt and implement policies aimed at reducing emissions, which reflect the highest possible ambition” and “effectively contribute to phasing out fossil fuels”.<sup>175</sup> In a

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<sup>167</sup> Urgenda Supreme Court Case, paras. 5.6.2; *see also id.* para. 5.7.1.

<sup>168</sup> High Court of Lahore (Pakistan), 14 September 2015, Ashgar Leghari v. Federation of Pakistan, Order W.P. No. 22501/2015.

<sup>169</sup> Supreme Court of Colombia, 5 April 2018, Generaciones Futuras v. Minambiente, Judgment, STC. 4360-2018 (unofficial translation).

<sup>170</sup> SR on climate change, Report on the promotion and protection of human rights in the context of climate change, para. 9; *see also id.* para. 15.

<sup>171</sup> UN Meetings Coverage and Press Releases, *Secretary-General Calls on States to Tackle Climate Change ‘Time Bomb’ through New Solidarity Pact, Acceleration Agenda, at Launch of Intergovernmental Panel Report*, U.N. Doc. SG/SM/21730, 20 March 2023, <https://press.un.org/en/2023/sgsm21730.doc.htm>, last visited on 15 June 2023; UN Secretary General, *Secretary-General’s video message to the Sixth Austrian World Summit*, 14 June 2022, <https://www.un.org/sg/en/content/sg/statement/2022-06-14/secretary-generals-video-message-the-sixth-austrian-world-summit>, last visited 15 June 2023; UN Secretary-General, *Secretary-General’s video message to the Press Conference Launch of IPCC Report*, 28 February 2022, <https://www.un.org/sg/en/content/sg/statement/2022-02-28/secretary-generals-video-message-the-press-conference-launch-of-ipcc-report-scroll-down-for-languages>, last visited 15 June 2023.

<sup>172</sup> Joint Statement on Human Rights and Climate Change, para. 12; Committee on the Elimination of Discrimination against Women, *General recommendation No. 37 (2018) on the gender-related dimensions of disaster risk reduction in the context of climate change*, U.N. Doc. CEDAW/C/GC/37, 13 March 2018 [hereinafter CEDAW Gen. Rec. No. 37], paras. 14, 43, 46; Committee on Economic, Social and Cultural Rights, *Climate Change and the International Covenant on Economic, Social, and Cultural Rights*, 8 October 2018 [hereinafter CESCR, Climate Change and the ICESCR], para. 9.

<sup>173</sup> David R. Boyd (Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment), *Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, U.N. Doc. A/74/161, 15 July 2019 [hereinafter, SR Report on the Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, U.N. Doc. A/74/161], paras. 73, 76, 77(a); Philip Alston (Special Rapporteur on Extreme Poverty), *Report on Climate Change and Poverty*, U.N. Doc. A/HRC/41/39, 17 July 2019, paras. 40, 43, 59; David R. Boyd (Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment), *The human rights to a clean, healthy and sustainable environment: a catalyst for accelerated action to achieve the Sustainable Development Goals*, U.N. Doc. A/77/284, 10 August 2022, para. 80(e); SR on climate change, Report on the promotion and protection of human rights in the context of climate change, paras. 15, 90.

<sup>174</sup> IPCC SR1.5, SPM C.2, fig. SPM.3b; IPCC AR6 WGIII, TS fig. TS.3; Ch. 3, 3.5.2.2, p. 355; Ch. 17, 17.3.2.2, p. 1742; IPCC AR6, SYR, SPM fig. SPM.5, pp. 22-23.

<sup>175</sup> UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, paras. 2, 3.

recent General Comment, the Committee on Economic, Social, and Cultural Rights explained that, “mitigation policies should lead to absolute emissions reductions through the phasing out of fossil fuel production and use”.<sup>176</sup>

62. Phase-out requires States to divest from, and refrain from investing in, fossil fuel-related projects. In fulfillment of the duty to respect and protect, States should refrain from approving or advancing activities within their territories or control, including fossil fuel projects, that could significantly increase atmospheric GHG levels. Human rights bodies have recognized the need for States to divest from and stop financing fossil fuel development. In their joint statement, five U.N. human rights treaty bodies explained that to meet their human rights obligations, “States should also discontinue financial incentives or investments in activities and infrastructure which are not consistent with low greenhouse gas emissions pathways, whether undertaken by public or private actors”.<sup>177</sup> In its landmark inquiry on climate change, the Commission on Human Rights of the Philippines stated that States “must divest from, refrain from investing in, and deny subsidies or incentives to fossil fuel-related projects or activities, as well as cease from issuing new permits therefor”.<sup>178</sup>

### ***3. States must include an analysis of climate impacts in their environmental impact assessment processes***

63. To avoid causing or contributing to—and to protect against—harm to human rights, States must assess cumulative climate impacts of, and on, planned or proposed activities within their jurisdiction or control. African and Inter-American human rights bodies have expressly held that States cannot approve proposed activities absent impact assessments

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<sup>176</sup> CESCR GC No. 26, para. 56.

<sup>177</sup> UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, para. 3. The Treaty Bodies have also repeatedly expressed concern over public and private investment in the fossil fuel industry in the context of State reporting procedures. *See, e.g.*, Committee on Economic, Social and Cultural Rights, 72nd session, 26 September - 14 October 2022, *Concluding observations on the fourth periodic report of Luxembourg*, U.N. Doc. No. E/C.12/LUX/CO/4], paras. 10 (“the Committee is concerned about reports that public and private financial institutions under the State party’s jurisdiction continue to hold significant investments in the fossil fuel industry and other carbon-intensive sectors, despite their harmful impact on the climate. The Committee is also concerned about the lack of transparency and the lack of suitable and effective regulation of the financial sector in this regard.”), 11; Committee on the Rights of the Child, *Concluding observations on the combined fifth and sixth periodic reports of Canada*, 90th session, U.N. Doc. No. CRC/C/Can/CO/5-6, 23 June 2022, para. 37 (“The Committee is concerned about the disproportionately high carbon footprint of the State party, in particular through investments made in fossil fuels...”); Committee on Economic, Social and Cultural Rights, *Concluding observations on the fourth periodic report on Switzerland*, U.N. Doc. No. E/C.12/CHE/CO/4, 18 November 2019, paras. 18-19 (“The Committee also notes with concern reports that public and private financial institutions, including pension funds, maintain significant investments in the fossil fuels industry, despite the harmful impact of such fuels on the climate.” “The Committee also recommends that the State party take the measures necessary to reduce public and private investment in the fossil fuel industry and to ensure that such investment is consistent with the need to reduce greenhouse gas emissions”); SR on climate change, Report on the promotion and protection of human rights in the context of climate change, para. 90(c)(d) (“Establish an international human rights tribunal to hold accountable Governments, business and financial institutions for their ongoing investments in fossil fuels and carbon intensive industries and the related human rights effects that such investments invoke.”).

<sup>178</sup> Commission on Human Rights of the Philippines (CHRP), National Inquiry on Climate Change Report (2022), <https://chr.gov.ph/>, pp. 107, 112 (finding that, in transitioning away from fossil fuels, States must “engage with stakeholders in developing economic strategies that are fair, inclusive, and sustainable; and provide support to workers through the creation of local, inclusive and decent jobs.”).

that thoroughly address all the social, environmental, cultural and spiritual effects of the proposed activity on local communities.<sup>179</sup> Moreover, such assessments must address “the cumulative impact of existing and proposed projects”, to accurately ascertain whether existing and future activities could jeopardize the rights of affected populations.<sup>180</sup> According to the Inter-American Court of Human Rights, such assessments should inform States’ analyses of whether “execution of the project is compatible with its international obligations”, including their human rights obligations.<sup>181</sup>

64. In the context of the climate crisis, an adequate EIA requires consideration of the cumulative climate impacts of proposed public or private activities, including through direct and downstream GHG emissions. According to the U.N. Special Rapporteur on Human Rights and the Environment, “whenever possible States should assess the climate effects of major activities within their jurisdiction”, including “programmatic decisions about fossil fuel development”.<sup>182</sup> To ensure States do not cause or contribute to human rights violations, the assessments must consider all climate effects—direct and indirect. In applying the responsibility to respect human rights to corporations, the Hague District Court held that “[c]ompanies may be expected [as part of the responsibility to respect human rights] to identify and assess any actual or potential adverse human rights impacts with which they may be involved either through their own activities or as a result of their business relationships”; these impacts include those posed by the downstream emissions of their activities.<sup>183</sup> National courts in many other jurisdictions have likewise recognized that EIAs for proposed developments must include climate analyses, which in the case of fossil fuel projects must consider cumulative impacts and factor in downstream GHG emissions stemming from the production and combustion of the extracted fossil fuels.<sup>184</sup>

#### ***4. States must ensure adequate adaptation measures in order to fulfill their duty to protect human rights from foreseeable climate harm***

65. States must ensure they implement adequate adaptation measures to protect human rights. In the case of *Billy et al v. Australia*, the U.N. Human Rights Committee found the Australian government violated Indigenous Torres Straits Islanders’ rights to enjoy their culture and their right to a private life, family and home by failing to adopt adequate

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<sup>179</sup> Centre for Minority Rights Development (Kenya) and Minority Rights Group International on behalf of Endorois Welfare Council v. Kenya, No. 276/2003, 4 February 2010, Judgement, African Commission on Human and Peoples’ Rights, paras. 227-228; Kichwa Indigenous People of Sarayaku v. Ecuador, Judgment, Inter-Am. Ct. H.R. (ser. C), No. 245, 27 June 2012, paras. 204-207; Advisory Opinion OC-23/17, paras. 156-170; Saramaka People v. Suriname, Preliminary Objections, Merits, Reparations, and Cost, Inter-Am. Ct. H.R. (ser. C), No. 174, 28 November 2007 [hereinafter Saramaka], paras. 126, 146, 148, 154, 158. See also African Commission on Human and Peoples’ Rights, 51st Ordinary Session, 18 April - 2 May 2021, *Resolution on a Human Rights-Based Approach to Natural Resources Governance*, Resolution no. 224.

<sup>180</sup> Saramaka, para. 41; Advisory Opinion OC-23/17, para. 165.

<sup>181</sup> Advisory Opinion OC-23/17, para. 164.

<sup>182</sup> UN General Assembly, 31st session, *Report of the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment*, U.N. Doc. No. A/HRC/31/52, 1 February 2016, para. 54.

<sup>183</sup> Hague District Court, 26 May 2021, *Milieudefensie et al. v. Royal Dutch Shell plc.*, Judgement, No. C/09/571932/ HA ZA 19-379, para. 4.4.20.

<sup>184</sup> See, e.g., *New South Wales Land and Environment Court*, 6-7-27 November 2006, *Gray v. Minister for Planning et al.*, 152 LGERA 258, paras. 97-98, 100; *United States District Court - D.C.*, 27 January 2022, *Friends of Earth v. Haaland*, Civil Action No. 21-317; *United States District Court - D.C.*, 19 March 2019, *Wild Earth Guardians et al. v. Zinke et al.*, Civil Action No. 16-1724, pp. 63-72.

climate adaptation measures.<sup>185</sup> The Committee found that the impacts of GHG pollution, for the petitioners, resulted in them being “adversely affected by flooding and inundation of their villages and ancestral burial lands; destruction or withering of their traditional gardens through salinification caused by flooding or seawater ingress; decline of nutritionally and culturally important marine species and associated coral bleaching and ocean acidification”.<sup>186</sup> Having assessed Australia’s adaptation plans, the Committee found, *inter alia*, that “the State party’s failure to adopt timely adequate adaptation measures to protect the authors’ collective ability to maintain their traditional way of life, to transmit to their children and future generations their culture and traditions and use of land and sea resources discloses a violation of the State party’s positive obligation to protect the authors’ right to enjoy their minority culture”.<sup>187</sup>

66. Human rights treaty bodies have further confirmed that the realization of human rights includes the obligation to design adaptation measures that 1) take into consideration all forms of land use change induced by climate change; 2) protect all affected persons, particularly disadvantaged groups; and 3) ensure the effective participation and free, prior, and informed consent of the Indigenous Peoples affected.<sup>188</sup>

#### **D. States must rely on measures capable of averting the risk of foreseeable harm in the near term, in line with the precautionary principle**

67. The precautionary principle calls for preemptive regulation or action when there is no conclusive evidence of a particular risk scenario, when the risk is uncertain, or until the risk is disproved.<sup>189</sup> It is widely considered part of customary international law in the environmental field based on “the importance of preventive action in environmental governance”.<sup>190</sup> International human rights bodies have also endorsed and elaborated on the precautionary principle, recognizing its relevance and role in preventing harm to the right to life and other fundamental human rights.<sup>191</sup>

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<sup>185</sup> Human Rights Committee, *Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019* (Daniel Billy et. al. v. Australia - Torres Strait Islanders Petition), U.N. Doc.No. CCPR/C/135/D/3624/2019, 22 September 2022 [hereinafter Torres Strait Decision][hereinafter Torres Strait Decision].

<sup>186</sup> Torres Strait Decision, para. 8.12.

<sup>187</sup> *See* Torres Strait Decision. The UN Human Rights Committee did not, however, find that there was a current violation to threat to life.

<sup>188</sup> CESCR GC No. 26 , para. 57; CEDAW Gen. Rec. No. 39, para. 11; *see also* SR on climate change, Report on the promotion and protection of human rights in the context of climate change, para. 81

<sup>189</sup> Patricia Birnlie, Alan Boyle and Catherine Redgwell, eds., *International Law and the Environment* (Oxford University Press, 3d 2009), pp. 604-07.

<sup>190</sup> Anja Lindroos & Michael Mehling, *From Autonomy to Integration? International Law, Free Trade and the Environment* 77 *Nordic J. of Intl. L.* 253, 265 (2008) (and references therein). Already decades ago, scholars argued that the precautionary principle “ha[d] evolved into a general principle of environmental protection at the international level.” *See* James Cameron, “*The Status of the Precautionary Principle in International Law*,” in Timothy O’ Riordan & James Cameron, eds., *Interpreting the Precautionary Principle* (London, Earthscan Publications, 1994) 262 (and references therein).

<sup>191</sup> *See, e.g.*, HRC GC No. 36, para. 62 (noting that States should “pay due regard to the precautionary approach.”); Advisory Opinion OC-23/17, para. 180 (finding States must “act diligently to prevent harm” to human rights and “act with due caution to prevent possible damage”).

68. Under the precautionary principle, scientific or technical uncertainty about the full extent or scope of a risk cannot justify delaying the adoption of effective and proportionate measures aimed at preventing the risk from causing serious and irreversible damage to people and the environment. Rather, as the European Court of Human Rights found, the precautionary principle requires that relevant authorities take measures within the scope of their powers that could be reasonably regarded as capable of mitigating known risks.<sup>192</sup> The appropriate measures needed under a precautionary approach “may change over time, for example, in light of new scientific or technological knowledge”.<sup>193</sup>
69. As every fraction of a degree of warming exacerbates impacts to the marine environment and heightens the risk of irreversible harm, States need to urgently adopt measures capable of rapidly halting the emissions driving warming. Failure to do so increases the likelihood of overshooting 1.5°C, with foreseeable catastrophic impacts. Indeed, in the context of confronting climate change, the UNFCCC expressly incorporates the precautionary principle, noting that “[w]here there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing [prevention and mitigation] measures”.<sup>194</sup> National courts have relied on and applied the precautionary principle in addressing the adequacy of climate action, and likewise concluded that uncertainty about the scope of climate harm should not result in delayed action to reduce greenhouse gas emissions,<sup>195</sup> especially in light of the scientific consensus about the foreseeable harms that will arise if action is not taken now.
70. Moreover, under the principle of precaution, States are obliged to prioritize measures that pose a lower risk of causing harm.<sup>196</sup> As the IPCC<sup>197</sup> and human rights authorities<sup>198</sup> have

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<sup>192</sup> *Tătar v. Romania*, para. 108.

<sup>193</sup> Advisory Opinion OC-23/17, para. 142.

<sup>194</sup> UNFCCC, art. 3(3).

<sup>195</sup> *Urgenda Supreme Court Case*, paras. 5.3.2, 5.6.2 (holding that the State had a duty to act to address the risk of climate harm even if it was uncertain whether the harm will occur); *Neubauer Federal Constitutional Court Case*, paras. 229, 247 (reiterating that protecting the rights of future generations includes not delaying action especially given the irreversibility of climate change, and that precautionary measures must be taken to manage the anticipated future reduction burdens in accordance with respect for fundamental rights).

<sup>196</sup> Advisory Opinion OC-23/17, paras. 130, 133, 142, 180; *see also Tătar v. Romania*, paras. 108, 109.

<sup>197</sup> *See, e.g., IPCC AR6 WGII, SPM B.5.4, SPM-19* (“Risks arise from some responses that are intended to reduce the risks of climate change, including risks from maladaptation and adverse side effects of some emission reduction and carbon dioxide removal measures (*high confidence*).”).

<sup>198</sup> *See SR on climate change, Report on the promotion and protection of human rights in the context of climate change*, para. 16 (“[n]ew mitigation technologies associated with atmospheric changes and geoengineering also have the potential for significant human rights impacts”); Ian Fry (Special Rapporteur on the promotion and protection of human rights in the context of climate change), *Initial planning and vision for the mandate*, U.N. Doc. No. A/HRC/50/39, 24 June 2022, paras. 52, 53 (noting that proposed technologies, such as CDR, stratospheric aerosol injection, and marine cloud brightening all have “potential negative impacts on the enjoyment of human rights” and that each “either currently contributes to human rights infringement or has the potential to infringe on the rights of individuals and communities”); SR Report on the Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, U.N. Doc. A/74/161, para 83 (“Some proposed geoengineering strategies to mitigate climate change involve the large-scale manipulation of natural systems through measures such as fertilizing the oceans with iron, installing mirrors in outer space to reflect solar radiation, or shooting aerosols into the atmosphere (imitating the effects of large volcanic eruptions). These untested technological approaches could have massive impacts on human rights, severely disrupting ocean and terrestrial ecosystems, interfering with food production and harming biodiversity. These types of geoengineering strategies should not be used until their implications are much better understood.”); *see also E.*

recognized, measures taken in response to climate change may themselves pose risks or do harm to people and the environment, underscoring the obligation of States to “respect, promote and consider their respective obligations on human rights”<sup>199</sup> in all climate action. States therefore may not forgo available measures to rapidly reduce GHG emissions in reliance on technologies that are unproven at scale, not currently deployable, and that pose new and independent risks to the environment and human rights.

71. Technological carbon dioxide removal (“CDR”) and marine geoengineering present such uncertainties, feasibility constraints, and risks, including to the marine environment.<sup>200</sup> Technological CDR typically involves either enhancing existing natural processes in land and ocean sinks that remove carbon from the atmosphere or using chemical processes to, for example, capture CO<sub>2</sub> directly from the ambient air and store it elsewhere (e.g., underground).<sup>201</sup> Marine geoengineering encompasses ocean-based CDR as well as other interventions in marine environments, including some aimed at increasing the reflection of sunlight to decrease heat absorption, known as solar radiation modification (“SRM”).<sup>202</sup> As the IPCC has acknowledged, CDR technologies “are uncertain and entail clear risks”,<sup>203</sup> “face multiple feasibility constraints”,<sup>204</sup> and “cannot serve as a substitute for deep emissions reductions”.<sup>205</sup> Noting that CDR may be ineffective in reversing temperature rise following overshoot and that it is unproven at scale, the IPCC SR 1.5 found that it is risky to rely on such technology to limit warming to 1.5°C, rather than on measures that drastically reduce GHGs in the near term.<sup>206</sup> Moreover, the land use,

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Tendayi Achiume, (Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance), *Report of the Special Rapporteur on Ecological crisis, climate justice and racial justice*, U.N. Doc. No. A/77/549, 25 October 2022, para. 65 (noting that climate response measures potentially pose significant risks to human rights).

<sup>199</sup> Paris Agreement, pmbl.

<sup>200</sup> Even outside the climate context, these risks engage UNCLOS Part XII, requiring States to assess whether deployment of geoengineering technologies would be compatible with their Convention obligations.

<sup>201</sup> See IPCC, SR1.5, Ch. 4, p. 392, FAQ 4.2 *What are Carbon Dioxide Removal and Negative Emissions?*.

<sup>202</sup> See Contracting Parties to the London Protocol, 8th meeting, *Resolution LP.4(8) on the Amendment of the London Protocol to Regulate the Placement of Matter for Ocean Fertilization and Other Marine Geoengineering Activities* (adopted 18 October 2013, not yet entered into force); Contracting Parties to the London Convention, 44th consultative meeting, and Contracting Parties to the London Protocol, 17th meeting, *Statement on Marine Geoengineering*, 3-7 October 2022, IMO Doc. No. LC/44/LP 17, Annex 2, para. 1, fn. 3 (defining marine geoengineering as “a deliberate intervention in the marine environment to manipulate natural processes, including to counteract anthropogenic climate change and/or the impacts of climate change”). Proposed marine geoengineering approaches include, *inter alia*, ocean fertilization, which involves dumping substances into the ocean to stimulate the growth of phytoplankton on the premise that they absorb carbon dioxide and carry it to the ocean floor when they die; ocean alkalization or enhanced weathering which involves introducing mineral substances into the ocean to alter its chemistry in order to purportedly increase CO<sub>2</sub> absorptive capacity; and marine cloud brightening, marine sea surface brightening and modifying polar ice reflectivity or promoting polar ice growth, solar radiation management techniques that aim to increase the albedo effect to reflect sunlight and reduce absorption of heat. See generally Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP), *High level review of a wide range of proposed marine geoengineering techniques* (2019), Report Study GESAMP No. 98 IMO/FAO/UNESCO-IOC/UNIDO/WMO/IAEA/UN/UN Environment/UNDP/ISA.

<sup>203</sup> IPCC SR1.5, Ch. 2, p. 95.; see also IPCC AR6 WG II, SPM B.5.4, B.5.5, and TS C.11.10; IPCC AR6 WGIII, Ch. 3, 3.3.2.23-36; IPCC AR6 WGIII, SPM C.11, C.11.1, C.11.2.

<sup>204</sup> IPCC SR1.5, Ch. 4, p. 316.

<sup>205</sup> IPCC AR6 WGIII, Ch. 12, 12.3.

<sup>206</sup> IPCC SR 1.5, Ch. 2, Executive Summary; see also Kate Dooley et al., *The Land Gap Report* (2022), p. 15 (discussing risks of relying on CDR).



energy, and materials input requirements for large-scale CDR can have adverse impacts on food and water security as well as livelihoods.<sup>207</sup>

72. In addition to questions about their climate impacts, proposed forms of CDR in the marine environment also pose significant and largely unknown risks to marine ecosystems and the life that depends on them, due to changes they could engender in the ocean environment. In 2022, the States Parties to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 (“London Convention”)<sup>208</sup> and to its 1996 Protocol (“London Protocol”)<sup>209</sup> issued a statement acknowledging the “limited information about certain marine geoengineering techniques and scientific uncertainties on effectiveness” and “the potential for these techniques to have deleterious effects”.<sup>210</sup> For example, they could lead to excess levels of carbon dioxide in the water and other impacts on food and oxygen availability to organisms in the deep sea,<sup>211</sup> on top of upstream environmental and health impacts from the sourcing of substances introduced into the ocean biome, such as mineral ore. The principle of precaution, like Article 195, counsels against reliance on responses to GHG pollution of the marine environment that could pose significant harms to ocean ecosystems and human rights.
73. Citing the precautionary approach, States have expressed concern about and curtailed the development and use of marine geoengineering under other international environmental treaties. Decisions and resolutions under the Convention on Biological Diversity (CBD) and the London Convention/London Protocol severely restrict the deployment of marine geoengineering, and effectively prohibit ocean fertilization.<sup>212</sup>

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<sup>207</sup> IPCC AR6 WGII, SPM B.5.4; IPCC AR6 WGI, TS 3.3.2; *see also* IPCC AR6 WGI, SPM D.1.4.

<sup>208</sup> London Convention.

<sup>209</sup> The 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Nov. 14, 1996, 36 I.L.M. 1 (entered into force March 24, 2006) [hereinafter London Protocol].

<sup>210</sup> Contracting Parties to the London Convention, 44th consultative meeting, and Contracting Parties to the London Protocol, 17th meeting, 3-7 October 2022, IMO Doc. No. LC/44/LP 17, Annex 2.

<sup>211</sup> *See* Lisa A. Levin et al., *Deep-sea impacts of climate interventions: Ocean manipulation to mitigate climate change may harm deep-sea ecosystems* 379:6636 *Science* 978 (2023), pp. 979-981.

<sup>212</sup> Through the adoption of Decision X/33 on Biodiversity and Climate Change, subsequently reaffirmed in Decision XI/20, Parties to the Convention on Biological Diversity (CBD), have put in place a de facto moratorium on geoengineering that may affect biodiversity, with the exception of small scale scientific research studies justified by need and subject to prior assessment. The decision not only requires a precautionary approach but places the burden of justification on those wishing to proceed with deployment of geoengineering technologies. With respect to ocean fertilization, the CBD decision is referenced in and strengthened by guidance under the London Convention/London Protocol. Parties to the London Convention and London Protocol have, through a series of decisions and resolutions, adopted a de facto moratorium and assessment framework on marine geoengineering. Following the adoption in 2007 of a statement of concern on the regulation of ocean fertilization (Statement of Concern Regarding Iron Fertilization of the Oceans to Sequester CO<sub>2</sub>, IMO Doc. No. LC-LP. 1/Circ. 14, 13 July 2007), in 2008 the Parties adopted Resolution LC-LP.1, stating that “ocean fertilization activities other than legitimate scientific research should not be allowed” (IMO, Contracting Parties to the London Convention, 30th meeting, and Contracting Parties to the London Protocol, 3rd meeting, *Resolution LC-LP.1 (2008) on the Regulation of Ocean Fertilization*, IMO Doc. No. LC 30/16, 31 October 2008, para. 3). In 2010, referring back to the 2008 Resolution, Parties reiterated that ocean fertilization should be considered a form of prohibited dumping, and adopted an Assessment Framework for Scientific Research Involving Ocean Fertilization (IMO, Contracting Parties to the London Convention, 32nd meeting, and Contracting Parties to the London Protocol, 5th meeting, *Annex 5 Assessment Framework for Scientific Research Involving Ocean Fertilization*, IMO Doc. No. LC 32/15, 14 October 2010). In 2013 Parties adopted IMO, Resolution LP.4(8) (2013) on the amendment to the London

74. National courts have cited the precautionary principle to strike down States' dependence on future measures they deemed were too speculative to justify delaying the implementation of reliable near-term action,<sup>213</sup> and have recognized the uncertainty regarding the feasibility or impact of CDR.<sup>214</sup>

**E. Consistent with the principle of intergenerational equity, States must not delay climate action in reliance on speculative future measures that risk an overshoot of 1.5°C and impose a disproportionate mitigation burden onto future generations**

75. The principle of intergenerational equity demands a just balance and non-discrimination between the needs of present and future generations. The opening words of the UN Charter reflect the duty of present generations to protect future generations,<sup>215</sup> and since its adoption, the principle of intergenerational equity has been reaffirmed, elaborated, and operationalized in foundational documents setting forth the principles of international environmental law, including the Stockholm Declaration and Rio Declaration.<sup>216</sup> The principle has also been expressly incorporated in at least 44 legally-binding international agreements relating to the environment and climate,<sup>217</sup> including the UNFCCC and the

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Protocol to regulate the placement of matter for ocean fertilization and other marine geoengineering activities (inserting a new article 6bis14 and new annexes 4 and 5), reiterating concerns about ocean fertilization and “other proposed marine engineering techniques.” While the amendment has not yet entered into force, international law experts agree that ocean fertilization, other research purposes within the assessment framework and permitting conditions, is effectively prohibited under the LCLP, as contrary to the regime’s aims. See Philippe Sands and Kate Cook, *Re: The Restriction of Geoengineering under International Law - Joint Opinion* (2021), pp. 9-15, <https://www.ohchr.org/sites/default/files/2022-06/Annex-SubmissionCIEL-ETC-HBF-TWN-Geoengineering-Opinion.pdf>, last visited 15 June 2023. This regime arguably binds all Parties to UNCLOS, not just Parties to the LC and LP, by virtue of the requirement under art. 210 UNCLOS, which regulates dumping adverse to the marine environment, for States to observe “global rules and standards”, and the principle of harmonious interpretation.

<sup>213</sup> See, e.g., Urgenda Supreme Court Case, para. 7.2.5.

<sup>214</sup> See, e.g., Neubauer Federal Constitutional Court Case, paras. 222, 227; Supreme Court of Ireland, 31 July 2020, *Friends of the Irish Environment CLG v. the Government of Ireland*, Appeal No. 205/19 [hereinafter *Friends of the Irish Environment Case*], paras. 3.4, 6.46-6.47; see also England and Wales High Court of Justice - Administrative Court, 18 July 2022, *Friends of the Earth Limited et al. v. Secretary of State for Business, Energy and Industrial Strategy*, Case no. CO/126/2022, CO/163/2022, CO/199/2022 [hereinafter *Friends of the Earth UK case*], para. 250.

<sup>215</sup> See United Nations, *Charter of the United Nations*, 26 June 1945, 1 U.N.T.S. XVI (entered into force on 24 October 1945), pmb1. (stating “[w]e the Peoples of the United Nations determined to save succeeding generations from the scourge of war.”).

<sup>216</sup> Stockholm Declaration, Principle 1 (Providing that all people have “the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations”), Principle 2 (“The natural resources of the earth, including the air, water, land, flora and fauna . . . must be safeguarded for the benefit of present and future generations . . . .”); Rio Declaration, Principle 3 (“The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations.”).

<sup>217</sup> See CIEL, *Submission to the UN Special Rapporteur on Human Rights and the Environment on the environment and the rights of the child*, 38 October 2017, <https://www.ohchr.org/Documents/Issues/Environment/SREnvironment/Child/CIEL.pdf>, last visited 15 June 2023, p. 3, Annex 2 (listing 44 international environmental agreements with explicit references to intergenerational equity).

Paris Agreement,<sup>218</sup> and has been widely recognized by international and domestic courts,<sup>219</sup> including multiple ICJ decisions.<sup>220</sup> It imposes on States and individuals the duty to safeguard “[t]he natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems”, for “the benefit of present and future generations through planning or management, as appropriate”.<sup>221</sup> Human rights law does not limit the rights guaranteed to present generations. Because future generations have the right to equal enjoyment of all human rights, States must refrain from and protect against any conduct which can reasonably be expected to result in, or perpetuate, any form of discrimination against future generations.<sup>222</sup> Thus, under the principle of intergenerational equity, “[t]he present residents of the earth hold the earth in trust for future generations and at the same time the present generation is entitled to reap benefits from it”.<sup>223</sup>

76. Given the foreseeable future harms due to climate change, outlined above, continuing current levels of GHG emissions constitutes an injustice to future generations perpetrated by the present. In confronting the impacts of GHGs on the climate and environment—and hence, the rights of future generations—the principle of intergenerational equity demands that decision-makers pay attention to the distributive consequences of climate harm, government policies, and lack of or delay in climate action. Accordingly, only maximally ambitious and reliable climate mitigation measures can be consistent with intergenerational equity. And these measures must occur in the near term. According to the IPCC, delay in climate action “obstruct[s] near-term emission reduction efforts” and “overburden[s] future generations”,<sup>224</sup> as it significantly increases the risk of overshooting 1.5°C and the dangerous and irreparable environmental harm that would ensue.
77. Consistent with the IPCC’s observations, national courts have found delaying immediate or near-term emissions reduction measures to be inconsistent with the principle of intergenerational equity. In reviewing the Federal Climate Protection Act, the German Constitutional Court noted that the legislature had not equitably distributed the available carbon budget between current and future generations. According to the court, “one generation must not be allowed to consume large parts of the CO<sub>2</sub> budget under a comparatively mild reduction burden ... and expose their [future generations’] lives to

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<sup>218</sup> UNFCCC, art. 3(1) (“The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities”); Paris Agreement, pmb. (“Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to [. . .] intergenerational equity”).

<sup>219</sup> See, e.g. Neubauer Federal Constitutional Court Case, paras. 142-146 (finding that the “duty to afford protection against risks to life and health can also establish a duty to protect future generations” from burdens “being unilaterally offloaded onto the future”).

<sup>220</sup> See Legality of the Threat or Use of Nuclear Weapons AO, para. 29.

<sup>221</sup> Stockholm Declaration, Principle 2.

<sup>222</sup> See *Maastricht Principles on The Human Rights of Future Generations*, 3 February 2023 (endorsed by 58 UN current and former mandate holders, and experts), at pmb. II, Principle 6, available at <https://giescr.org/en/our-work/on-the-ground/principles-of-the-human-rights-of-future-generations>, last visited 15 June 2023.

<sup>223</sup> Werner Scholtz, *Equity*, p. 339, in L. Rajamani, J. Peel, eds., *The Oxford Handbook of International Environmental Law* (Oxford University Press 2d. 2021).

<sup>224</sup> IPCC AR6 WGIII, Ch. 12, p. 1263.

serious losses of freedom”.<sup>225</sup> Likewise, the decision by the Hague District Court in Urgenda, which was subsequently upheld, found that “the [Dutch] State, in choosing measures [to combat climate change], will also have to take account of the fact that the costs are to be distributed reasonably between the current and future generations”.<sup>226</sup> Courts in France have likewise held that planned future action could not excuse the failure to meet near-term targets, given the long-term effects of current emissions,<sup>227</sup> and the risk that delayed action would require drastic cuts later.<sup>228</sup>

78. The principle of intergenerational equity also precludes national climate mitigation plans that are too reliant on technologies not yet existent or unproven at scale. According to the German Constitutional Court, delaying emissions reductions in favor of such technologies imposes a disproportionate mitigation burden onto future generations and thereby would impede their enjoyment of fundamental rights.<sup>229</sup>

**F. High-income, high-emitting States must move first and fastest on climate action for marine protection and provide financial support to States less responsible for GHG emissions, consistent with the principle of equity and common but differentiated responsibilities and respective capabilities in light of different national circumstances (“CBDRRC-NC”)**

79. CBDRRC-NC is a well-established principle in international environmental law and has its origins in the fundamental international law concept of equity.<sup>230</sup> The principle is based on the notion that States share a common responsibility to protect the environment, but have differentiated responsibilities and abilities to respond to an environmental threat based on their past and present contribution to the problem and their abilities to implement measures.<sup>231</sup> The principle can be found in the Rio Declaration, which provides that:

States shall co-operate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth’s ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.<sup>232</sup>

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<sup>225</sup> Neubauer Federal Constitutional Court Case, para. 192.

<sup>226</sup> Urgenda Supreme Court Case, para. 4.76.

<sup>227</sup> Administrative Court of Paris, 3 February 2021, Notre Affaire à Tous et al. v. France, No. 44-008 60-01-02-02 54-07-03 R, para. 31.

<sup>228</sup> Supreme Administrative Court (*Conseil d’Etat*) of France, 19 November 2020, Commune de Grande-Synthe, No. 427301, para. 15.

<sup>229</sup> Neubauer Federal Constitutional Court Case, paras. 182 et ss.

<sup>230</sup> Christina Voigt et al., *Dynamic Differentiation: The Principles of CBDR-RC, Progression and Highest Possible Ambition in the Paris Agreement*, 5:2 Transnational Environmental Law 285 (2016), p. 303.

<sup>231</sup> Philipp Sands et al., *Principles of International Environmental Law* (Cambridge University Press 2019), p. 233.

<sup>232</sup> Rio Declaration, Principle 7.

80. The principle of CDDRRC-NC is also one of the fundamental pillars of the climate regime and requires high-income, high-emitting States to move first and fastest on climate action and provide financial support to States less responsible for GHG emissions.<sup>233</sup> For instance, one of the UNFCCC principles is that:

Parties should protect the climate system ... on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.<sup>234</sup>

The principle is also set out in Article 2 of the Paris Agreement, as well as duties for developed countries to provide developing countries with climate finance, technology transfer, and capacity building to support their realization of the Agreement's objectives.<sup>235</sup> These provisions, in line with equity, recognize that high-income, high-emitting States, as those most responsible for the climate crisis and most capable of addressing it, have a duty to support States less responsible for GHG emissions to take climate action.

81. International human rights bodies affirm that CDDRRC-NC means that developed countries must take greater and faster emission reduction measures and support developing countries. As set out above, international human rights bodies and experts turn to international environmental law as an interpretive and complementary body of law, including in identifying States' obligations to respond to climate change. In doing so, they interpreted and applied the principle of CDDRRC-NC. The U.N. Special Rapporteur on Human Rights and the Environment explain that, "[t]he main contributors to the problem have reaped immense economic benefits and thus have the greatest responsibility to solve the problem, pursuant to the principle of common but differentiated responsibilities".<sup>236</sup> He goes on to state, "[w]ealthy States must contribute their fair share towards the costs of mitigation and adaptation in low-income countries, in accordance with the principle of common but differentiated responsibilities. Climate finance to low-income countries should be composed of grants, not loans. It violates basic principles of justice to force poor countries to pay for the costs of responding to climate change when wealthy countries caused the problem".<sup>237</sup> The Committee on Economic, Social and Cultural Rights recognizes that the countries who have historically contributed the most to climate change, and the current main contributors, "shall assist the countries that are most affected by climate change but are least able to cope with its impact, including by supporting and financing land-related adaptation measures".<sup>238</sup> In its climate emergency resolution, the Inter-American Commission on Human Rights similarly states that "those States that have greater financial capacity must provide the guarantees to provide greater technical and logistical capacity to the States that have a greater degree of impact on

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<sup>233</sup> UNFCCC, arts. 3.1, 4; Paris Agreement, art. 2.2; Rio Declaration, Principle 7.

<sup>234</sup> UNFCCC, arts. 3.1, 4.

<sup>235</sup> Paris Agreement, arts. 2(2), 9(1)(3), 10(6), 11(3).

<sup>236</sup> SR Report on the Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, U.N. Doc. A/74/161, para. 26.

<sup>237</sup> SR Report on the Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, U.N. Doc. A/74/161, para. 68.

<sup>238</sup> CESCR GC No. 26, para. 58.

climate change, as well as less financial and infrastructure capacity to face the climate emergency”.<sup>239</sup>

**VIII. Read in light of the best available science and international environmental and human rights law, Part XII of UNCLOS requires States to take all necessary measures to keep global temperature rise well below 1.5°C, implement adaptation measures and ensure effective remediation**

82. The best available science and States’ duties under international environmental and human rights law, as laid out above, should be instructive in how ITLOS interprets Part XII of UNCLOS. Interpreted harmoniously, Part XII requires States to minimize all further warming and keep global temperature rise below 1.5°C, through known and effective measures to phase out fossil fuels, and to enhance resilience and implement adaptation to the impacts of climate change, without creating new risks to human rights and the marine environment. These actions are necessary given the foreseeable irreversible harms further warming would unleash, and to adapt to further global warming. This interpretation also ensures consistency between the different bodies of law, enabling clarity and unity for States in their duties to respond to the global crisis of climate change.

***Duty to protect and preserve the marine environment***

83. Protecting and preserving the marine environment under Article 192 requires States to minimize further warming and keep global temperature rise below 1.5°C. As set out above, the general duty to protect and preserve the marine environment in Article 192 requires States to refrain from degrading the marine environment, and instead maintain and protect it from future damage. The best available science shows that the best chance of maintaining, not degrading, and protecting the marine environment from future damage requires minimizing any further warming and not surpassing 1.5°C. The current levels of warming are already causing deleterious effects on the marine environment that will only worsen with further warming, and the effects will be catastrophic at or above 1.5°C.

84. This interpretation is consistent with States’ duties under international environmental and human rights law. Just as the best available science requires States to minimize further warming and keep it under 1.5°C in order to respect and protect human rights from foreseeable harm, so should ITLOS recognize that the best available science concludes that warming of 1.5°C will degrade the marine environment and States must prevent this warming to protect it from this damage. Moreover, this interpretation would also ensure that States are stabilizing GHG concentrations in the atmosphere at a level that would prevent further dangerous anthropogenic interference with the climate system, as required under international environmental law.

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<sup>239</sup> Climate Emergency: Scope of Inter-America Human Rights Obligations para. 7. *See also* SR Report on the Human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, U.N. Doc. A/74/161, paras. 26, 68.

85. The obligation to preserve the marine environment under Article 192 also requires States to take measures to adapt to the changing climate and deleterious effects of GHG emissions. As ITLOS has explained, preserving the environment requires States to take active steps to conserve the current state of the marine environment or to improve it when necessary.<sup>240</sup> For States to conserve the marine environment, they must put in place measures to adapt to the direct impacts of GHG pollution in the marine environment and its deleterious effects.<sup>241</sup> Adaptation alone could never reduce the impacts of ocean warming, acidification and resulting effects, such as deoxygenation, stratification and bleaching and weakening of coral reefs. Moreover, implementing increasing resilience and adaptation measures is necessary to address those impacts that are already occurring or will inevitably occur despite mitigation efforts, and such steps are therefore necessary to preserve the marine environment.<sup>242</sup>
86. Adaptation measures “can help to protect human communities, marine systems and the goods and services they provide by easing the pressures that may otherwise reduce adaptive capacity or push systems into a state of decline”.<sup>243</sup> For instance, the protection of marine habitats and ecosystems through Marine Protected Areas can help to reduce non-climatic stressors, including overfishing and habitat destruction.<sup>244</sup> Reducing stressors from fishing, for instance through reduced fishery quotas, and managing tourism can have an important role in managing marine adaptation measures, enhancing the strength and resilience of coral reefs.<sup>245</sup> Efforts can also be directed at ensuring human communities have the necessary conditions to adjust to ongoing and expected changes in the marine environment. For instance, through switching fisheries and aquaculture operations to exploit less vulnerable species, through respecting and incorporating ancestral and traditional knowledge or through economic and nutritional diversification and technology and knowledge transfer from Global North countries.<sup>246</sup>
87. Interpreting preservation to include adaptation is in line with the best available science and States’ duties under international environmental and human rights law. Just as international human rights law requires States to discharge their obligation to implement adequate adaptation measures to protect human rights that are foreseeably threatened by climate change, so should ITLOS recognize that States must do the same to preserve the marine environment. Doing so, would also be consistent with—and enable States to—fulfill their adaptation obligations under the UNFCCC and Paris Agreement.

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<sup>240</sup> South China Sea Arbitration, para 495.

<sup>241</sup> Ellycia R. Harrould-Kolieb, *The UN Convention on the law of the sea: A governing framework for ocean acidification?*, 29:2 *Review of European, Comparative and International Environmental Law* (2020), pp. 1, 4.

<sup>242</sup> Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* 10 (2019), p. 13.

<sup>243</sup> Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* 10 (2019), p. 13.

<sup>244</sup> Jean Pierre Gattuso et al., *Ocean solutions to address climate change and its effects on marine ecosystems*, 5 *Frontier Marine Science* 337 (2018).

<sup>245</sup> Kenneth R.N. Anthony, *Coral reefs under climate change and ocean acidification: challenges and opportunities for management and policy*, 41 *Annual Review of Environment and Resources* 59 (2016).

<sup>246</sup> Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* 10, 14 (2019).

### *All necessary measures*

88. International human rights and environmental law and the best available science, as elaborated above, are instructive for ITLOS in setting out the measures necessary for States to prevent, reduce, and control pollution—to protect and preserve the marine environment.
89. These bodies of law, informed by the best available science, make clear that States need to implement the following measures to reduce GHG emissions by 2030—the period most important for avoiding overshoot of 1.5°C and its deleterious effects on the environment and human rights:
  1. States must implement urgent and ambitious reductions in anthropogenic GHG emissions by immediately phasing out fossil fuels. Because UNCLOS applies to GHG pollution from “any source”,<sup>247</sup> whether occurring in and on oceans or on land,<sup>248</sup> those obligations require an immediate halt to new fossil fuel development and the shutdown of existing projects subject to a State’s jurisdiction. Consistent with international environmental and human rights law duties and principles set out above, effective phase-out necessarily precludes States from licensing new oil, gas, and coal exploration and production, as well as authorizing the buildout of new infrastructure for transporting, processing, and burning extracted fossil fuels. Moreover, it requires that States divest from, refrain from investing in, and deny subsidies or incentives to fossil fuel-related activity. Fossil fuel phase-out should also entail fully transitioning the power sector to non-fossil fuel sources (i.e., shifting from coal, oil, and gas to carbon-free energy sources such as solar and wind) by no later than mid-century.<sup>249</sup>
  2. In addition to refraining from authorizing decisions and conduct that will entrench fossil fuel dependence, States must also regulate and mitigate activities that do so or otherwise contribute to climate change. States are obligated under UNCLOS to adopt laws and regulations to prevent, reduce and control GHG pollution of the marine environment,<sup>250</sup> which, pursuant to international human rights and environmental law, should apply to private conduct within the State’s territory or control, including that of fossil fuel companies. Because the impacts of GHG pollution are inherently transboundary in nature, States can and should hold parties accountable if human rights or environmental threats manifest as infringements, even if the harm occurs extraterritorially. In line with relevant UNCLOS provisions, and other sources of international law, States bear responsibility for their contribution to and failure to prevent and protect against marine pollution, and must ensure effective remedies for damage caused.<sup>251</sup>

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<sup>247</sup> UNCLOS, art. 194.

<sup>248</sup> UNCLOS, art. 207(1)(2); UNCLOS, arts. 208 (1)(2), 212.

<sup>249</sup> IPCC, SR1.5, Ch. 2, 2.3.2.1; *see also* IPCC SR1.5, SPM fig. SPM.3b; IPCC AR6 WGIII, Ch. 17, 17.3.2.2, 17.5.

<sup>250</sup> UNCLOS, arts. 194(3), 207(1)(2), 211(2), 212(1)(2), 214.

<sup>251</sup> UNCLOS, art. 235.



3. States must preemptively ensure that public or private conduct does not exacerbate the climate crisis by requiring climate analyses to be included in environmental impact assessments (“EIAs”). UNCLOS expressly requires EIAs for planned activities likely to cause substantial pollution of or significant and harmful changes to the marine environment, which any activity with a significant climate footprint would unquestionably do.<sup>252</sup> However, as ITLOS has recognized, Article 206 of UNCLOS, “gives only few indications of th[e required] scope and content”; thus, international environmental and human rights law can “add precision and specificity to the obligation as it applies in the context of [GHGs]”.<sup>253</sup> States must thus ensure that their decisions on whether to advance proposed activities are based on EIAs which include climate analyses that factor in both direct and downstream GHG emissions of the activities in order to get a full picture of risks the activities pose to the marine environment. Taking a cumulative approach, the EIAs should also analyze how the activities would compound environmental degradation inflicted by climate change and past, existing or potential future development activities in the area of influence, and how climate change could affect the project’s viability and impacts.
4. States must rely on near-term measures known to be capable of averting the risk of foreseeable climate harm. ITLOS has interpreted UNCLOS as a convention that utilizes the precautionary approach,<sup>254</sup> which in the context of the climate crisis requires States to prioritize measures known to be effective at averting continued temperature rise. The best available science makes clear that States can achieve GHG emissions cuts necessary to avoid 1.5°C warming through currently available, proven measures, including the phase-out of fossil fuels, transition to available renewable energy sources, and increased energy efficiency. States should therefore prioritize these measures and implement them in the near term, rather than relying on future measures and speculative technologies that risk an overshoot of 1.5°C and displace the burden of both climate harm and climate action onto future generations.
5. Many of these speculative technologies—such as large-scale CDR and marine geoengineering—also pose new environmental and social risks. Far from abating the impacts of climate change, these technologies could compound them. Reliance on future deployment of such technologies, therefore, would not only delay needed climate action now, but potentially violate States’ duties under UNCLOS to prevent, reduce and control pollution from new technologies and refrain from transforming one form of pollution—GHG

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<sup>252</sup> UNCLOS, art. 206; South China Sea Arbitration, para. 948.

<sup>253</sup> Seabed Chamber AO, para. 149.

<sup>254</sup> See Southern Bluefin Tuna Cases (New Zealand v. Japan; Australia v. Japan), Case Nos. 3 & 4 Provisional Measures, Order of 27 August 1999, ITLOS Rep. 1999 [hereinafter, Southern Bluefin Tuna cases], para. 77; Southern Bluefin Tuna cases, Separate Opinion of Judge Laing, paras. 13, 17 (“it cannot be denied that UNCLOS adopts a precautionary approach.”); Seabed Chamber AO, paras. 132 (“the link between an obligation of due diligence and the precautionary approach is implicit in the [. . .] *Southern Bluefin Tuna Cases* [. . .]”), 135.

emissions—into new harms.<sup>255</sup> If responses to GHG pollution of the marine environment involve introducing new substances to the marine environment with potentially deleterious effects, as some marine geoengineering technologies do, they could violate Article 195 and 196 of UNCLOS and the precautionary principle. States that postpone implementing near-term GHG mitigation measures in favor of using future CDR technologies are ignoring “plausible indications of potential risk” and therefore also failing to meet their due diligence obligation.<sup>256</sup>

6. High-income, high-emitting States must take greater and faster emissions reduction measures and support adaptation and mitigation efforts in States less responsible for GHG emissions, including through contributing to financing mitigation and adaptation. ITLOS should interpret States’ obligations under UNCLOS to “prevent, reduce and control pollution of the marine environment...in accordance with their capabilities”<sup>257</sup> harmoniously with the Paris Agreement and the UNFCCC, which are based on the fundamental principles of CBDRRC-NC. For high-income and high-emitting States, the determination of a fair contribution to the global imperative to keep warming below the 1.5°C limit requires absolute, not net, emissions reductions in the near-term, and assistance in financing emission reductions in developing countries.

## **IX. Conclusion**

90. In answering the questions posed by COSIS, we respectfully request that ITLOS find that GHG emissions are a form of marine pollution under article 1(4) and interpret States’ duties under Part XII to respond to GHG emissions in light of the best available science and consistent with concurrent State duties under international environmental and human rights law. Specifically, we submit that ITLOS should interpret the duty to preserve and protect the marine environment under Part XII as requiring States to minimize any further warming and keep temperature warming under 1.5°C, and to implement adaptation measures and enhance resilience to climate change. To do so, ITLOS should interpret States’ duties to implement all necessary measures as outlined above.

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<sup>255</sup> UNCLOS, arts. 195, 196.

<sup>256</sup> Seabed Chamber AO, para. 131 (“[t]he due diligence obligation of the sponsoring States requires them to take all appropriate measures to prevent damage that might result from the activities of contractors that they sponsor. This obligation applies in situations where scientific evidence concerning the scope and potential negative impact of the activity in question is insufficient but where there are plausible indications of potential risks. A sponsoring State would not meet its obligation of due diligence if it disregarded those risks. Such disregard would amount to a failure to comply with the precautionary approach.”).

<sup>257</sup> UNCLOS, art. 194.