

INTERNATIONAL COURT OF JUSTICE

**OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE**

**ADVISORY PROCEEDINGS**

**(REQUEST FOR AN ADVISORY OPINION)**

WRITTEN STATEMENT OF BARBADOS



22 March 2024

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## I. SUMMARY OF WRITTEN STATEMENT

1. The United Nations General Assembly (“UN General Assembly”) has unanimously asked the International Court of Justice (the “Court”) to render an advisory opinion on one of the most pressing geopolitical problems of our time – the disastrous environmental consequences caused by human-made emissions of carbon dioxide and other globe-warming gases. As this Court’s settled jurisprudence confirms, the legal questions presented in UN General Assembly’s request fit comfortably within the Court’s jurisdiction.<sup>1</sup>
2. Notably, the UN General Assembly’s request does not require this Court to act *de lege ferenda* or to apply potentially contested principles of international law. There is no divided *opinio juris* or lack of historical precedent, such as led this Court to find it could not articulate definitive legal prohibitions in the *Nuclear Weapons Advisory Opinion*.<sup>2</sup> Instead, answering the central question posed by the UN General Assembly – ‘What are the obligations of States to ensure the protection of the climate system and compensate for damage to the same?’ – requires only the application of long-standing international law to indisputable scientific facts.
3. On the law, the core legal principle is as simple as it is ancient: *sic utere tuo ut alienum non laedas*, the classical prohibition on transboundary harm. The principle is stated in Latin because it originates in a Roman

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<sup>1</sup> See Section III.

<sup>2</sup> See Section V.

principle of law.<sup>3</sup> However, the legal concept is not limited to the Western legal tradition. Its homologues are found in every major legal tradition in the world, such as (as shown below) Buddhist, ancient Chinese, Hindu, Islamic and other legal traditions.<sup>4</sup> Furthermore, it is undeniable that this principle of international law pre-dates the start of the Industrial Revolution and its associated massive anthropogenic release of carbon dioxide and other gases into the Earth's climate.

4. As is now also well-established, the prohibition on transboundary harm protects the environment outside a State's borders, including both areas under another State's control and areas outside of any national control. As this Court has succinctly explained:

[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States and of areas beyond national control is now part of the corpus of international law relating to the environment.<sup>5</sup>

5. The principle of transboundary harm also carries with it the requirement of redress based on strict liability. That is, any State that has, by action or omission, caused transboundary harm must do all it can reasonably to remedy and provide redress for that harm. This is regardless of other fault or *dolus*. It is not a defence for any State to assert a purported lack of *reus* (i.e., that it did not mean to), knowledge (i.e., that it did not know) or the failure to breach another norm of international law (i.e., that the acts were otherwise lawful). As this written statement explains, a State's

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<sup>3</sup> See paragraph 135.

<sup>4</sup> See paragraphs 136-139.

<sup>5</sup> *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion of 8 July 1996, I.C.J. Reports 1996*, p. 226 (“**Nuclear Weapons Advisory Opinion**”), paragraph 29, Annex 393.

wrongdoing and consequent liability arises strictly from the creation of the transboundary harm itself. The transboundary harm alone is a necessary and sufficient condition of the obligation to provide redress.<sup>6</sup>

6. A State that knowingly or with wilful blindness permits transboundary harm also must, of course, provide full redress, at the very least.<sup>7</sup> However, that does not detract from the underlying regime of strict liability.
7. Further, to the extent the prohibition on transboundary harm applies only to ‘serious’ transboundary harm, the harm emerging from climate change is straightforwardly ‘serious’, as shown herein.
8. It cannot be doubted that the foregoing correctly states the position of international law. The principles set forth above, and all the legal positions set forth in this written statement, are supported by reference to over 500 international law legal authorities. These include treaties, international agreements, non-binding inter-State instruments, State acts, decisions of the highest judicial authorities, writings of the most highly qualified publicists and more. These legal authorities come from every region on our planet. They span the epochs, from ancient times to the modern day. And they reflect a vast diversity of different circumstances. These over 500 authorities are merely the beginning of the legal support for the rights and obligations under international law identified in this written statement. Undoubtedly, the written statements of other States will provide even more supporting authorities.

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<sup>6</sup> See Section VI.F.

<sup>7</sup> See Sections VI.F, VII.A, VII.B and VII.D.



9. With respect, Barbados submits that the role for this Court is to apply the facts of climate change to these clearly identified and applicable legal principles. In that respect, the answers to the UN General Assembly's request are straightforward. States that have, by permission or their own acts, contributed to climate change must now provide complete and effective remedy for the harms they caused. Moreover, those States cannot be excused from this obligation because it would be inconvenient or expensive. A State's remedial obligations under the laws of State responsibility can only arguably be reduced somewhat by a risk of the most catastrophic of consequences on its population. However, States cannot avoid their remedial obligations by claiming slight inconvenience, political difficulty or high cost.<sup>8</sup>
10. Climate change is a transboundary harm. At all relevant times, it has always been known to have been caused by anthropogenic greenhouse gas emissions. Indeed, the scientific basis for climate change through atmospheric carbon dioxide emission was comprehensively described over 130 years ago by the renowned Swedish chemist Svante Arrhenius.<sup>9</sup> The dramatic consequences of anthropogenic gas emissions have been subsequently confirmed for at least the last seventy years, by many scientific and governmental institutions.<sup>10</sup> Despite this, harmful anthropogenic emissions of greenhouse gases continued virtually unabated.
11. The physical consequences of the decision to permit the expulsion of carbon dioxide and other greenhouse gases, in massive quantities for such

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<sup>8</sup> See paragraphs 340-342.

<sup>9</sup> See paragraph 37.

<sup>10</sup> See Section IV.

an extended period of time, are as harmful as they are dramatic. They include, amongst other things: (a) rising land and ocean temperatures; (b) rising sea levels; (c) extreme weather events; (d) extreme harm to wildlife and ecosystems; and (e) acidification and harm to marine ecosystems. Every human being on this planet, just as every animal and plant, is and will be harmed by climate change.<sup>11</sup>

12. States that did not contribute to climate change, including but not limited to Barbados, are now suffering these and other consequences. They suffer harm due to the acts and omissions of other States. In these circumstances, the States that caused climate change have an obligation under international law to provide effective and complete redress for these harms. The redress can and must include:

- a. widely distributed funding for climate change alleviation measures, through existing and future dedicated climate change funds;<sup>12</sup>
- b. close State attention to climate change and investment in scientific research into its amelioration and mitigation;<sup>13</sup>
- c. significant technology transfer and know-how and capacity building measures to address the effects of climate change;<sup>14</sup> and

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<sup>11</sup> See Section IV.

<sup>12</sup> See Section VII.C(i).

<sup>13</sup> See Section VII.C(iii).

<sup>14</sup> See Section VII.C(ii).

- d. compensation to States and their peoples who are suffering from climate change.<sup>15</sup>
13. No doubt climate change impacts the whole world. Indeed, small island developing States like Barbados are deeply affected by the climate emergency. At present, Barbados is suffering significant loss and damage caused by (a) the effects of climate change; and (b) taking action to mitigate and adapt to climate change.<sup>16</sup> These effects and costs will only grow in future.
14. This written statement does not, of course, ‘assign blame’. It seeks to assist the Court by articulating the legal consequences of established law based on the physical reality of climate change. Unlike in the *Nuclear Weapons Advisory Opinion*, the principles of international law related to these questions pertaining to climate change are settled.<sup>17</sup> Transboundary harm requires full and effective remedy, under international law. The fact that the principle today must be applied to the widespread effects of climate change does not mean that it can be set aside or modified. The law of State responsibility and its obligations remained and remain constant. Their application to climate change is similarly unquestionable.

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<sup>15</sup> See Sections VII.A and VII.D.

<sup>16</sup> See Section IV.B(vi).

<sup>17</sup> See Section V.

## II. INTRODUCTION

15. This written statement furnishes information on the questions submitted to the Court for an advisory opinion on the *Obligations of States in Respect of Climate Change* by the UN General Assembly on 12 April 2023 (the “**Request**”), in accordance with the Orders dated 20 April and 15 December 2023.
16. The Request comes at a critical time. As all UN Member States recognise, “climate change is an unprecedented challenged of civilisational proportions” and “the well-being of present and future generations of humankind depends on our immediate and urgent response to it.”<sup>18</sup> 198 State Parties to the United Nations Framework Convention on Climate Change acknowledge that “change in the Earth’s climate and its adverse effects are a common concern of humankind.”<sup>19</sup>
17. It is a matter of public record that Barbados has been at the forefront of the international climate change dialogue for a significant period of time. This includes its participation in collective action by small island States. Two seminal examples of Barbados’s leadership in this field are: (a) the 2021 Bridgetown Declaration, which calls for action on the environmental dimension of COVID-19 sustainable development and recovery in Latin America and the Caribbean;<sup>20</sup> and (b) the Bridgetown Initiative for the

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<sup>18</sup> UN General Assembly Resolution 77/276 (2023), A/RES/77/276, 4 April 2023 (“**UN General Assembly Resolution 77/276**”), Annex 233.

<sup>19</sup> United Nations Framework Convention on Climate Change, 9 May 1992, 1771 UNTS 107 (“**UNFCCC**”), Recitals, page 2, Annex 112.

<sup>20</sup> See Bridgetown Declaration, Report XXII Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean, 1-2 February 2021, Annex III, UNEP/LAC-IG.XXII/7, 5 February 2021, Annex 307.

Reform of the Global Financial Architecture,<sup>21</sup> which calls for collective action related to financial mechanisms available to developing States to address the disproportionate burden of climate change shouldered by these States.

18. This written statement to the Court provides a welcome opportunity for Barbados to continue its efforts at the forefront of global climate change initiatives. Barbados respectfully expresses the hope that its views on these questions will assist the Court in advancing the rule of law in the context of the climate emergency.
  
19. **Section I** above provided a summary of this written statement. After this Introduction, **Section III** notes that the Court has jurisdiction to make this advisory opinion and should do so. **Section IV** explains that anthropogenic (i.e., human-made) emissions of greenhouse gases irrefutably cause damage and loss to all States and present and future generations. This has been known for over a century. **Section V** notes that this Court should answer the questions submitted by the UN General Assembly on the basis of international law as it exists. **Section VI** sets out the obligations of States to ensure the protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases for States and for present and future generations. **Section VII** discusses the legal consequences of those obligations, in particular for States (including small island developing States), peoples and present and future generations specially affected by climate change. **Section VIII** provides a conclusion to this written statement.

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<sup>21</sup> See The 2022 Bridgetown Agenda for the Reform of the Global Financial Architecture, Government of Barbados, Ministry of Foreign Affairs and Foreign Trade, 23 September 2022, Annex 311.

### III. JURISDICTION AND ADMISSIBILITY

20. This Court is competent to render the advisory opinion requested by the UN General Assembly. It should do so. Should any State or international organisation submit that the Court is not competent, Barbados respectfully reserves the right to provide further submissions on this subject.
21. Previous advisory opinions rendered by this Court have fundamentally contributed to the development of international law.<sup>22</sup> This function of the Court is vital. Climate change is among the most pressing issues facing the world today. For this reason, the exercise of the Court’s advisory function in the present proceedings will be of critically important value.

#### A. The Court has jurisdiction over the Request

22. This Court has jurisdiction to provide this advisory opinion because: (i) it is requested by an organ duly authorised under Article 96 of the UN

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<sup>22</sup> See, e.g., L.B. Chazournes, *Advisory Opinions and the Furtherance of the Common Interest of Humankind*, in *INTERNATIONAL ORGANIZATIONS AND INTERNATIONAL DISPUTE SETTLEMENT: TRENDS AND PROSPECTS*, eds. L.B. Chazournes et al (Brill | Nijhoff, 2002), page 105, Annex 544; T. Mayr & J. Mayr-Singer, “Keep the Wheels Spinning: The Contributions of Advisory Opinions of the International Court of Justice to the Development of International Law”, *Heidelberg Journal of International Law*, 2016, pp. 425-449, Annex 545. See also N. Lanzoni, “The Authority of ICJ Advisory Opinions as Precedents: The Mauritius/Maldives Case”, *The Italian Review of International and Comparative Law*, 2022, pp. 296-322, page 309, Annex 546 (“For instance, in Convention on Genocide the ICJ introduced the innovative criterion of the conformity with the object and purpose of the treaty in order to scrutinise the legitimacy of making reservations to it. This criterion quickly became the generally accepted one and made its way through the work of the International Law Commission on the law of treaties, and the 1969 Vienna Convention on the Law of Treaties”); *Reservations to the Convention on Genocide, Advisory Opinion of 28 May 1951, I.C.J. Reports 1951*, p. 15, pages 24-27 and 29, Annex 411.

Charter;<sup>23</sup> (ii) it pertains to legal questions; and (iii) the procedure for adoption of the Request is proper.

23. Article 65(1) of the Statute of this Court states that:

[t]he Court may give an advisory opinion on any legal question at the request of whatever body may be authorized by or in accordance with the Charter of the United Nations to make such a request.<sup>24</sup>

24. The UN Charter provides that:

[t]he General Assembly or the Security Council may request the International Court of Justice to give an advisory opinion on any legal question.<sup>25</sup>

25. In application of this provision, this Court has explained that:

[i]t is however a precondition of the Court's competence that the advisory opinion be requested by an organ duly authorized to seek it under the Charter, that it be requested on a legal question, and that, except in the case of the General Assembly or the Security Council, that question should be one arising within the scope of the activities of the requesting organ.<sup>26</sup>

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<sup>23</sup> See UN Charter, 26 June 1945, XV UNCIO 335, amendments in 557 UNTS 143, 638 UNTS 308 and 892 UNTS 119 (“**UN Charter**”), Article 96(1), Annex 66.

<sup>24</sup> Statute of the International Court of Justice, 26 June 1945, USTS 993, 3 (“**ICJ Statute**”), Article 65(1).

<sup>25</sup> UN Charter, Article 96(1), Annex 66.

<sup>26</sup> *Application for Review of Judgment No. 273 of the United Nations Administrative Tribunal, Advisory Opinion of 20 July 1982, I.C.J. Reports 1982*, p. 325, pages 333-334, Annex 412.

26. The above conditions are met. First, the Request is made by the UN General Assembly, an organ of the UN duly authorised to make a request to this Court to “give an advisory opinion on any legal question.”<sup>27</sup>
27. Second, the Request pertains to legal questions as per the UN Charter and the ICJ Statute. This Court has indicated that the questions requested must be “framed in terms of law and raise problems of international law” and therefore must be “by their very nature susceptible of a reply based on law.”<sup>28</sup> Such questions must “scarcely [be] susceptible of a reply otherwise than on the basis of law.”<sup>29</sup>
28. The questions posited by the UN General Assembly are legal questions. The first question asks the Court to set out, *inter alia*, “the obligations of States under international law to ensure the protection of the climate system” and the second question asks the Court to set out “the legal consequences under these obligations for States” that have caused “significant harm to the climate system” with respect to (i) States that are “specially affected” and (ii) “people and individuals of the present and future generations affected by the adverse effects of climate change.”<sup>30</sup> In order to answer these questions, the Court must “identify the existing principles and rules, interpret them and apply them” to offer a reply “based on law.”<sup>31</sup>

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<sup>27</sup> UN Charter, Article 96(1), Annex 66.

<sup>28</sup> *Western Sahara, Advisory Opinion of 16 October 1975, I.C.J. Reports 1975*, p. 12, page 18, Annex 413.

<sup>29</sup> *Western Sahara, Advisory Opinion of 16 October 1975, I.C.J. Reports 1975*, p. 12, page 18, Annex 413.

<sup>30</sup> *Obligations of States in respect of Climate Change (Request for Advisory Opinion), Order of 20 April 2023, I.C.J. General List No.187*, page 2.

<sup>31</sup> *Nuclear Weapons Advisory Opinion*, page 234, Annex 392.



29. Further, Barbados submits that the questions are strictly legal and not political. The questions pertain to international law, including international environmental law. The late Judge Christopher Weeramantry, Vice-President of this Court, in his dissent in the *Nuclear Weapons Advisory Opinion* considered the “principles of environmental law” as “part of customary international law” and “*sine qua non* for human survival.”<sup>32</sup>
30. However, the jurisprudence of this Court has established that even if the questions posited have political aspects, that would be irrelevant to establishing jurisdiction.<sup>33</sup> Those political aspects do not suffice to deprive the questions of their legal character or “deprive the Court of a competence expressly conferred on it by its Statute.”<sup>34</sup>
31. Barbados further submits that the questions submitted to the Court are not abstract. In the unlikely event that such a concern is raised, Barbados submits that the Court would still not be deprived of its jurisdiction. The Court has dismissed this objection since its earliest advisory opinion. In *Conditions of Admission*, this Court was invited to provide an opinion in respect of the admission of States into the UN. It was argued that the question was an abstract one. Rejecting this argument, this Court held:

[i]t has also been contended that the Court should not deal with a question couched in abstract terms. That is a mere

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<sup>32</sup> *Nuclear Weapons Advisory Opinion*, Dissenting Opinion of Judge Weeramantry (“**Nuclear Weapons Advisory Opinion, Dissenting Opinion of Judge Weeramantry**”), page 504, Annex 393. Judge Weeramantry considered, amongst others, the Stockholm and Rio Declarations, referring to the duties of States to prevent damage to the environment of other States.

<sup>33</sup> *See Nuclear Weapons Advisory Opinion*, page 234, Annex 392.

<sup>34</sup> *Application for Review of Judgment No. 158 of the United Nations Administrative Tribunal, Advisory Opinion of 12 July 1973, I.C.J. Reports 1973*, p. 166, page 172, Annex 414.

affirmation devoid of any justification. According to Article 96 of the Charter and Article 65 of the Statute, the Court may give an advisory opinion on any legal question, abstract or otherwise.<sup>35</sup>

32. The Request is also compatible with the UN General Assembly’s practice, which *inter alia*, has called for the “[p]rotection of global climate for present and future generations of humankind.”<sup>36</sup>
33. Third, the proper procedure for the adoption of the Request has been followed. The UN General Assembly, at its sixty-fourth plenary meeting held on 29 March 2023, adopted the resolution requesting the present advisory opinion, by consensus.<sup>37</sup> The procedure for the adoption of UN General Assembly Resolution 77/276 was perfectly proper.

## **B. The Request is admissible**

34. The questions requiring the advisory opinion are made by written request, containing an exact statement of the questions upon which the opinion is required<sup>38</sup> and are accompanied by documents likely to throw light upon the question.<sup>39</sup>

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<sup>35</sup> *Conditions of Admission of a State to Membership in the United Nations, Advisory Opinion of 28 May 1948, I.C.J. Reports 1948, p. 57, page 61, Annex 416.*

<sup>36</sup> UN General Assembly Resolution 68/212 (2013), A/RES/68/212, 20 December 2013, Annex 234.

<sup>37</sup> *See Request for Advisory Opinion by the Secretary-General of the United Nations dated 12 April 2023.*

<sup>38</sup> *See ICJ Statute, Article 65(2); Request for Advisory Opinion by the Secretary-General of the United Nations dated 12 April 2023, page 2.*

<sup>39</sup> *See ICJ Statute, Article 65(2); Request for Advisory Opinion by the Secretary-General of the United Nations dated 12 April 2023, page 2 (“I would like to further inform you that, pursuant to Article 65, paragraph 2, of the Statute of the Court, the Secretariat will start to prepare a dossier containing a collection of all documents that are likely to throw light*

35. Further, as this Court has emphasised, Article 65(1) of the ICJ Statute leaves this Court discretion whether to give an advisory opinion or not.<sup>40</sup> Barbados submits that this Court should exercise its discretion to do so.
36. This Court has observed that it has “constantly been mindful of its responsibilities”<sup>41</sup> as the “principal judicial organ of the United Nations.”<sup>42</sup> As part of that function, it has also been mindful in principle to not refuse to give an advisory opinion<sup>43</sup> and has held that it would only do so for “compelling reasons.”<sup>44</sup> Given the importance of climate change, as further described in **Section IV**, the Request is not an occasion for the Court to depart from this practice. There is no compelling reason for the Court not to exercise its jurisdiction to render an advisory opinion. In fact, it is essential that it does so.

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upon these questions. The dossier will be transmitted to the Court in due course”); List of Documents (documents received from the Secretariat of the United Nations), 30 June 2023.

<sup>40</sup> See *Nuclear Weapons Advisory Opinion*, pages 234-235, Annex 392.

<sup>41</sup> *Nuclear Weapons Advisory Opinion*, page 235, Annex 392.

<sup>42</sup> UN Charter, Article 92, Annex 66.

<sup>43</sup> See *Nuclear Weapons Advisory Opinion*, page 235, Annex 392.

<sup>44</sup> *Judgments of the Administrative Tribunal of the ILO upon Complaints Made against UNESCO, Advisory Opinion of 23 October 1956, I. C. J. Reports 1956*, p. 77, page 86, Annex 386.

#### IV. FACTUAL BACKGROUND

37. The chemical and planetary dynamics that cause climate change have been widely known, and scientifically accepted, for over 150 years; indeed they were fully described by Svante Arrhenius as early as 1896 and have been further confirmed for at least 70 years (*see Section IV.A*).<sup>45</sup> There is nothing new or surprising in what is discussed below. What has changed is only that, today, the dramatic impacts of anthropogenic gas emissions have become, as predicted, deeply vexing (*see Section IV.B*).

##### A. From the 1850s onwards, the harmful impacts of anthropogenic carbon gas emissions have been known and confirmed

38. The consequential impacts on the climate of greenhouse gas emissions have been studied, confirmed and reiterated by scientists and experts for well over a century-and-a-half.

39. Historically, the impacts of atmospheric carbon were known as early as 1856, when a paper published in the *American Journal of Science and Arts* explained that “[a]n atmosphere of [carbon acid/carbon dioxide] would give to our earth a high temperature.”<sup>46</sup>

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<sup>45</sup> See S. Arrhenius, “On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground”, *Philosophical Magazine and Journal of Science*, 1896, pp. 237-276, Annex 3.

<sup>46</sup> E. N. Foote, “Circumstances affecting the Heat of the Sun’s Rays”, *American Journal of Science and Arts*, 1856, pp. 382-383, page 383, Annex 1.

40. By 1861, it had been scientifically extrapolated that anthropogenic carbon gas emissions would necessarily cause “changes of climate.” An 1861 paper published by the Royal Society of London explained that:

if . . . the chief influence be exercised by the aqueous vapour, every variation of this constituent must produce a change of climate. Similar remarks would apply to the carbonic acid [/carbon dioxide] diffused through the air; while an almost inappreciable admixture of any of the hydrocarbon vapours would produce great effects on the terrestrial rays and produce corresponding changes of climate.<sup>47</sup>

41. The definitive description of climate change was then provided by the renowned chemist Svante Arrhenius in 1896, when he stated in the *Philosophical Magazine and Journal of Science* that:

[a]ll authors agree in the view that there prevails an equilibrium in the temperature of the earth and its atmosphere. The atmosphere must, therefore, radiate as much heat to space as it gains partly through the absorption of the sun’s rays, partly through the radiation from the hotter surface of the earth and by means of ascending currents of air heated by contact with the ground. On the other hand, the earth loses just as much heat by radiation to space and to the atmosphere as it gains by absorption of the sun’s rays.

...

Thus if the quantity of carbonic acid [/carbon dioxide] increases in geometric progression, the augmentation of the

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<sup>47</sup> J. Tyndall, “On the Absorption and Radiation of Heat by Gases and Vapours, and on the Physical Connexion of Radiation, Absorption, and Conduction”, *Philosophical Transactions of the Royal Society of London*, 1861, pp. 1-36, page 28, Annex 2.

temperature will increase nearly in arithmetic progression.<sup>48</sup>

42. By 1899, a paper in *The Journal of Geology* explained with startling accuracy how doubling or tripling the then still relatively lower level of carbon dioxide in the atmosphere would result in a rise in temperatures equivalent to those of a long past geological era, the Middle Tertiary (also known as the Miocene) era – around 23 million to 5 million years ago – when humans were not in existence yet. It stated that:

[t]he general results assignable to a greatly increased or a greatly reduced quantity of atmospheric carbon dioxide and water may be summarized as follows . . . An increase, by causing a larger absorption of the sun's radiant energy, raises the average temperature, while a reduction lowers it. The estimate of Dr. Arrhenius, based upon an elaborate mathematical discussion of the observations of Professor Langley, is that an increase of the carbon dioxide to the amount of two or three times the present content would elevate the average temperature 8° or 9°C, and would bring on a mild climate analogous to that which prevailed in the Middle Tertiary age.<sup>49</sup>

43. Drawing on these observations, by 1938, another paper published by the British Royal Meteorological Society drew the direct link and warned of the result of human emissions of fossil fuels and the rise in global temperatures. It stated that the influence of “the activities of man” on “the making of our climates and weather” is “not only possible, but is actually

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<sup>48</sup> S. Arrhenius, “On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground”, *Philosophical Magazine and Journal of Science*, 1896, pp. 237-276, pages 254-267, Annex 3.

<sup>49</sup> T. C. Chamberlin, “An Attempt to Frame a Working Hypothesis of the Cause of Glacial Periods on an Atmospheric Basis”, *The Journal of Geology*, 1899, pp. 545-584, page 551, Annex 4.

occurring at the present time.”<sup>50</sup> It also advanced that “[t]he temperature observations at 200 meteorological stations are used to show that world temperatures have actually increased at an average rate of 0.005°C. per year during the past half century.”<sup>51</sup> The same paper concluded that the natural absorption (the offtake) did not balance human emissions (the artificial production). Instead, it properly stated that:

great many factors which influence the carbon cycle in nature have been examined in order to determine the quantitative relation between the natural movements of this gas and the amounts produced by the combustion of fossil fuel. . . . The general conclusion from a somewhat lengthy investigation on the natural movements of carbon dioxide was that there is no geological evidence to show that the *net* offtake of the gas is more than a small fraction of the quantity produced from fuel. (The artificial production at present is about 4,500 million tons per year.)<sup>52</sup> (Emphasis in the original.)

44. By 1940, scientific analysis confirmed that “[i]n the period between 1900 and 1935 the amount of coal and oil burnt has been very nearly 50,000 million tons, equal to the direct addition to the atmosphere of 150,000 million tons of CO<sub>2</sub>.”<sup>53</sup> The same paper again dispelled the idea that the

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<sup>50</sup> G. Callendar, “The artificial production of carbon dioxide and its influence on temperature”, *Quarterly Journal of the Royal Meteorological Society*, 1938, pp. 223-240 (“**1938 Callendar Paper**”), page 223, Annex 5.

<sup>51</sup> 1938 Callendar Paper, page 223, Annex 5.

<sup>52</sup> 1938 Callendar Paper, page 224, Annex 5.

<sup>53</sup> G. Callendar, “Variations of the amount of carbon dioxide in different air currents”, *Quarterly Journal of the Royal Meteorological Society*, 1940, pp. 395-400, page 399, Annex 6.

ocean could absorb such additional carbon dioxide from the Earth's atmosphere. It noted that:

[t]he importance of the sea water in regulating the amount of CO<sub>2</sub> in the air has already been mentioned, and one would expect to find that a considerable part of the gas produced from fuel had been absorbed by the sea; but the observations . . . appear to show that all this extra gas has remained in the air.<sup>54</sup>

45. In 1949, another scientific paper in the publication *Weather* yet again confirmed that the burning of fossil fuel led to more solar heat being trapped in the Earth's atmosphere, i.e., increased temperatures. It noted that "the climates of the world are behaving in a manner which suggests that slightly more solar heat is being retained in the atmosphere."<sup>55</sup> It also observed that:

[i]t is only during the present century that man has exerted his influence on a sufficient scale to disturb nature's slow-moving carbon-balance, but now his demand for heat and power has led to the transfer of large quantities of "fossil" carbon from the rocks to the air.<sup>56</sup>

46. In 1956, a paper published in *Tellus* posited that temperatures would increase by 3.6°C if carbon dioxide concentration doubled. It noted that "in order to restore equilibrium, the surface temperature must rise 3.6°C if the CO<sub>2</sub> concentration is doubled and the surface temperature must fall

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<sup>54</sup> G. Callendar, "Variations of the amount of carbon dioxide in different air currents", *Quarterly Journal of the Royal Meteorological Society*, 1940, pp. 395-400, pages 399-400, Annex 6.

<sup>55</sup> G. Callendar, "Can carbon dioxide influence climate?", *Weather*, 1949, pp. 310-314, page 314, Annex 7.

<sup>56</sup> G. Callendar, "Can carbon dioxide influence climate?", *Weather*, 1949, pp. 310-314, page 312, Annex 7.



3.8°C if the CO<sub>2</sub> concentration is halved.”<sup>57</sup> The paper emphasised that this increase in carbon dioxide in the atmosphere is caused by anthropogenic emissions of greenhouse gases, including the combustion of fossil fuels. It also concluded that human activities in the burning of fossil fuels resulted in a steep increase in carbon dioxide in the atmosphere. The paper observed that:

[i]n recent years industrial and other activities of man are adding considerably more CO<sub>2</sub> to the atmosphere than any of the above factors from the inorganic world . . . The combustion of fossil fuels is adding  $6 \times 10^9$  tons per year of CO<sub>2</sub> to the atmosphere at the present time. In addition such activities as the clearance of forests, the drainage and cultivation of lands, and industrial processes such as lime burning and fermentation release additional amounts of CO<sub>2</sub> that are not included in the above estimate. This is a large enough contribution to upset the carbon dioxide balance and to increase the amount in the atmosphere appreciably. Some of this additional CO<sub>2</sub> is used in photosynthesis, but as already discussed, very little of the extra CO<sub>2</sub> is permanently lost to the atmosphere since there is a corresponding increase in the rates of decay and respiration. Another part of this additional CO<sub>2</sub> is absorbed by the oceans; this factor is discussed in detail in the following sections. However, it seems probable that these losses are small at the present time. If this is true, then a major portion of the extra CO<sub>2</sub> from man’s activities will remain in the atmosphere and the CO<sub>2</sub> concentration will increase for at least several centuries to come. If this extra CO<sub>2</sub> is remaining in the atmosphere, the concentration is increasing from this source at the rate of 30 per cent a century.<sup>58</sup>

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<sup>57</sup> G. Plass, “The Carbon Dioxide Theory of Climate Change”, *Tellus*, 1956, pp. 140-154 (“Plass Paper”), page 142, Annex 8.

<sup>58</sup> Plass Paper, pages 143-144, Annex 8.

At the present time the burning of fossil fuels is adding more than  $6 \times 10^9$  tons per year of CO<sub>2</sub> to the atmosphere. Other activities of man such as the clearance of forests and the drainage and cultivation of land add additional amounts of CO<sub>2</sub> to the atmosphere each year. The total amount added each year from these sources is several orders of magnitude larger than any factor that contributes to the CO<sub>2</sub> balance from the inorganic world at the present time . . . Therefore, this additional factor has greatly disturbed the CO<sub>2</sub> balance. If all this additional CO<sub>2</sub> remains in the atmosphere, there will be 30 per cent more CO<sub>2</sub> in the atmosphere at the end of the twentieth century than at the beginning. If no other factors change, man's activities are increasing the average temperature by 1.1°C per century.<sup>59</sup>

47. The paper then drew the undeniable conclusion that “[e]ven if the oceans absorb CO<sub>2</sub> much more rapidly than has been assumed here, the accumulation of CO<sub>2</sub> in the atmosphere will become an increasingly important problem through the centuries.”<sup>60</sup>

48. In 1957, two scientific papers again warned of the excessive amount of carbon dioxide humanity was adding to the Earth's atmosphere. The first, published again in *Tellus*, cautioned that humanity was carrying out:

a large scale geophysical experiment of a kind that could not have happened in the past nor be reproduced in the future. Within a few centuries we are returning to the atmosphere and oceans the concentrated organic carbon stored in sedimentary rocks over hundreds of millions of years.<sup>61</sup>

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<sup>59</sup> Plass Paper, page 149, Annex 8.

<sup>60</sup> Plass Paper, page 149, Annex 8.

<sup>61</sup> R. Revelle & H. Suess, “Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO<sub>2</sub> during the Past Decades”, *Tellus*, 1957, pp. 18-27, page 19, Annex 9.

49. The paper also observed that “[i]n contemplating the probably large increase in CO<sub>2</sub> production by fossil fuel combustion in coming decades we conclude that a total increase of 20 to 40 % in atmospheric CO<sub>2</sub> can be anticipated.”<sup>62</sup>

50. The second paper, published in 1957 by the American Geophysical Union, similarly noted:

[o]f particular interest is the fate of the enormous quantity of carbon dioxide which has been introduced into the atmosphere since the beginning of the industrial revolution in the 19th century, and the manner in which the added carbon dioxide has been distributed in the carbon cycle. Although appreciable amounts of carbon dioxide have undoubtedly been added from soils by tilling of land, apparently a much greater amount has resulted from the combustion of fossil fuels.<sup>63</sup>

51. In 1959, similar remarks were again repeated in another paper in a treatise, where it was said that:

[i]t is obvious that an addition of CO<sub>2</sub> to the atmosphere will only slightly change the CO<sub>2</sub> content of the sea but appreciably effect the CO<sub>2</sub> content of the atmosphere.<sup>64</sup>

52. In 1961, a letter by the scientist Gilbert Plass to the editor of the scientific journal *Tellus* noted that the increase in carbon dioxide caused a rise in

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<sup>62</sup> R. Revelle & H. Suess, “Carbon Dioxide Exchange Between Atmosphere and Ocean and the Question of an Increase of Atmospheric CO<sub>2</sub> during the Past Decades”, *Tellus*, 1957, pp. 18-27, page 26, Annex 9.

<sup>63</sup> H. R. Brannon et al., “Radiocarbon evidence on the dilution of atmospheric and oceanic carbon by carbon from fossil fuels”, *Transactions, American Geophysical Union*, 1957, pp. 643-650, page 643, Annex 10.

<sup>64</sup> B. Bolin & E. Eriksson, *Changes in the carbon dioxide content of the atmosphere and sea due to fossil fuel combustion*, in *THE ATMOSPHERE AND THE SEA IN MOTION: SCIENTIFIC CONTRIBUTIONS TO THE ROSSBY MEMORIAL VOLUME*, ed. B. Bolin (Rockefeller Institute Press, 1959), page 131, Annex 11.

global temperatures. The letter stated that “[m]any of the climatic changes which have occurred over the past several billion years of the earth’s history can readily be explained by variations of the atmospheric CO<sub>2</sub> amount” and “the difference between our two values for the temperature change is significant for the explanation of the world-wide temperature increase which has occurred in the twentieth century.”<sup>65</sup> This letter references Gilbert Plass’s earlier paper from 1956, in which he concluded that:

[t]he radiation calculations predict a definite temperature change for every variation in CO<sub>2</sub> amount in the atmosphere. These temperature changes are sufficiently large to have an appreciable influence on the climate.<sup>66</sup>

53. In 1961, the British Royal Meteorological Society published another paper noting that the additional carbon dioxide in the atmosphere leads to temperature increases at different latitudes. It found that “a considerable fraction of the extra CO<sub>2</sub>, and the warming effect which goes with it, may still remain in the northern westerly circulation to give the greater temperature rise there than in other latitudes.”<sup>67</sup> This paper also looked back on the scientific agreement surrounding climate change, noting that:

[s]ome years ago the writer suggested that rising temperature trends, already observed in certain regions, could be due to back radiation from the extra CO<sub>2</sub> produced by fossil fuel combustion. (Callendar 1938, 1949). Since then calculations on atmospheric radiation by Plass\* (1953) have supported this view, and he considers that variations

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<sup>65</sup> L. D. Kaplan, “The Influence of Carbon Dioxide Variations on the Atmospheric Heat Balance”, Letter to the Editor, *Tellus*, 1961, pp. 296-300, page 296, Annex 12.

<sup>66</sup> Plass Paper, page 142, Annex 8.

<sup>67</sup> G. Callendar, “Temperature fluctuations and trends over the earth”, *Quarterly Journal of The Royal Meteorological Society*, 1961, pp. 1-12, page 10, Annex 13.

of atmospheric carbon dioxide are an important factor in climatic change (Plass 1956).<sup>68</sup>

54. In 1962, the US National Academy of Sciences – National Research Council (the definitive scientific institution in the United States of America)<sup>69</sup> explained in a study, in plain terms, that the burning of fossil fuels leads to a higher amount of carbon dioxide in the atmosphere, which causes temperatures to rise as well as other weather effects and ecological misbalances. It stated that:

[t]here is evidence that the greatly increasing use of the fossil fuels, whose material contents after combustion are principally H<sub>2</sub>O and CO<sub>2</sub>, is seriously contaminating the earth's atmosphere with CO<sub>2</sub>. Analyses indicate that the CO<sub>2</sub> content of the atmosphere since 1900 has increased 10 percent. Since CO<sub>2</sub> absorbs long-wavelength radiation, it is possible that this is already producing a secular climatic change in the direction of higher average temperatures. This could have profound effects both on the weather and on the ecological balances.

In view of the dangers of atmospheric contamination by both the waste gases of the fossil fuels and the radioactive contaminates from nuclear power plants, Professor Hutchinson urges serious consideration of the maximum utilization of solar energy.<sup>70</sup>

55. In 1963, a scientific paper published by the Conservation Foundation concluded with a high level of certainty that the increase in carbon dioxide

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<sup>68</sup> G. Callendar, "Temperature fluctuations and trends over the earth", *Quarterly Journal of The Royal Meteorological Society*, 1961, pp. 1-12, page 9, Annex 13.

<sup>69</sup> Courts of the United States of America consider the reports of the US National Academy of Sciences as authoritative and as reflecting scientific consensus (see, e.g., *Wise v Alcoa Inc.*, 231 N.C. App. 159, 167 (2013), pages 5-6, Annex 465; *Meister v Med Eng. Corp.*, 267 F.3d 1123 (D.C. Cir. 2001), Annex 466).

<sup>70</sup> "Energy Resources: A Report to the Committee on Natural Resources of the National Academy of Sciences", *United States National Academy of Sciences – National Research Council*, 1962, page 96, Annex 14.

caused global temperatures to rise to the devastating effect of melting the polar ice caps, which in turn causes sea levels to rise and the warming of the oceans. It stated:

[i]t seems quite certain that a continuing rise in the amount of atmospheric carbon dioxide is likely to be accompanied by a significant warming of the surface of the earth which by melting the polar ice caps would raise sea level and by warming the oceans would change considerably the distributions of marine species including commercial fisheries.<sup>71</sup>

56. The same paper also offered an ominous warning for future generations.

It stated:

[t]he effects of a rise in atmospheric carbon dioxide are world-wide. They are significant not to us but to the generations to follow. The consumption of fossil fuel has increased to such a pitch within the last half century that the total atmospheric consequences are matters of concern for the planet as a whole.<sup>72</sup>

57. In 1965, the US President's Science Advisory Committee released its Report of the Environmental Pollution Panel for the President's Science Advisory Committee.<sup>73</sup> This seminal report concluded that an increase in carbon dioxide emissions driven by burning fossil fuels could "produce measurable and perhaps marked changes in climate, and will almost certainly cause significant changes in temperature and other properties of

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<sup>71</sup> "Implications of Rising Carbon Dioxide of the Atmosphere", *The Conservation Foundation*, 1963, page 1, Annex 15.

<sup>72</sup> "Implications of Rising Carbon Dioxide of the Atmosphere", *The Conservation Foundation*, 1963, page 1, Annex 15.

<sup>73</sup> See "Report of the Environmental Pollution Panel for the President's Science Advisory Committee", *The White House*, November 1965 ("**1965 Environmental Report**"), Annex 16.

the stratosphere.”<sup>74</sup> It explained in clear terms the greenhouse effect of carbon dioxide released into the atmosphere by human industrial activities. It stated that:

[w]ithin a few short centuries, we are returning to the air a significant part of the carbon that was slowly extracted by plants and buried in the sediments during half a billion years. . . . The part that remains in the atmosphere may have a significant effect on climate: carbon dioxide is . . . a strong absorber and back radiator of infrared radiation, . . . consequently, an increase of atmospheric carbon dioxide could act, much like the glass in a greenhouse, to raise the temperature of the lower air.<sup>75</sup>

58. The 1965 Environmental Report described, again in clear terms, the possible effects of an increase in atmospheric carbon dioxide, such as are well-known today, including the melting of the Arctic ice caps, the rise of sea levels, warming of seawater and increased acidity of freshwaters.<sup>76</sup> It also noted that “the climatic changes that may be produced by the increased CO<sub>2</sub> content could be deleterious from the point of view of human beings.”<sup>77</sup>

59. In the same month that the 1965 Environmental Report was published, at the 45<sup>th</sup> Annual Meeting of the American Petroleum Institute, the then-President of this business association stated that:

[o]ne of the most important predictions of the report is that carbon dioxide is being added to the earth’s atmosphere by the burning of coal, oil, and natural gas at such a rate that by the year 2000 the heat balance will be so modified as

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<sup>74</sup> 1965 Environmental Report, pages 126-127, Annex 16.

<sup>75</sup> 1965 Environmental Report, page 113, Annex 16.

<sup>76</sup> See 1965 Environmental Report, pages 123-124, Annex 16.

<sup>77</sup> 1965 Environmental Report, page 127, Annex 16.

possibly to cause marked changes in climate beyond local or even national efforts. The report further states, and I quote: ‘. . . the pollution from internal combustion engines is so serious, and is growing so fast, that an alternative nonpolluting means of powering automobiles, buses, and trucks is likely to become a national necessity.’<sup>78</sup>

60. In 1966, a scientist wrote an essay in a bundle titled “Some thoughts on the year 2000,” where he argued that:

[a]lready there are signs that air pollution has become a global problem and could develop catastrophically in as little as ten years. In the last few years it has been realised that the sea also is not an infinite sink for waste products, particularly where these are distributed as hydrocarbons at the air water interface where dilution can only take place in two dimensions.<sup>79</sup>

61. In 1967, a paper in the *Journal of the Atmospheric Sciences* estimated that “a doubling of the CO<sub>2</sub> content in the atmosphere [will have] the effect of raising the temperature of the atmosphere . . . by about 2C.”<sup>80</sup>

62. In 1968, the Stanford Research Institute prepared a report for the American Petroleum Institute which cautioned that rising carbon dioxide levels in the atmosphere would result in increases in temperature at the Earth’s surface.<sup>81</sup> It also underscored that a significant temperature

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<sup>78</sup> “Proceedings of the American Petroleum Institute: Annual Meeting General Session”, *American Petroleum Institute*, 1965, page 13, Annex 17.

<sup>79</sup> J. Lovelock, *Some thoughts on the year 2000: The future as seen half a century ago*, in *THE COLOURS OF ENERGY: ESSAYS ON THE FUTURE OF ENERGY IN SOCIETY*, eds. G. Kramer & B. Vermeer (Shell International BV, 2015), PDF page 83, Annex 527.

<sup>80</sup> S. Manabe & R. Wetherald, “Thermal Equilibrium of the Atmosphere with a Given Distribution of Relative Humidity”, *Journal of the Atmospheric Sciences*, 1967, pp. 241-259, page 241, Annex 18.

<sup>81</sup> See “Report on Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants”, *Stanford Research Institute*, February 1968 (“**1968 Report on Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants**”), page 108, Annex 19.



increase could lead to sea level changes.<sup>82</sup> In particular, this report stated that:

[w]e are concerned with the possible changes in atmospheric CO<sub>2</sub> content because CO<sub>2</sub> plays a significant role in establishing the thermal balance of the earth. This occurs because CO<sub>2</sub> is a strong absorber and back radiator in the infrared portion of the spectrum, especially between 12 and 18μ. As such CO<sub>2</sub> prevents the loss of considerable heat energy from the earth and radiates it back to the lower atmosphere, the so-called “greenhouse” effect. Thus the major changes which are speculated about as possibly resulting from a change in atmospheric CO<sub>2</sub> are related to a change in the earth’s temperature . . . If the earth’s temperature increases significantly, a number of events might be expected to occur, including the melting of the Antarctic ice cap, a rise in sea levels, warming of the oceans, and an increase in photosynthesis.<sup>83</sup>

63. The same report even highlighted this finding in the summary at the beginning. It noted that:

[i]f CO<sub>2</sub> levels continue to rise at present rates, it is likely that noticeable increases in temperatures could occur. Changes in temperature on a world-wide scale could cause major changes in the earth’s environment over the next several hundred years including change in the polar ice caps. It seems ironic that given this picture of the likely result of massive CO<sub>2</sub> emissions so little concern is given to CO<sub>2</sub> as an important air pollutant.<sup>84</sup>

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<sup>82</sup> See 1968 Report on Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants, page 108, Annex 19.

<sup>83</sup> 1968 Report on Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants, pages 107-108, Annex 19.

<sup>84</sup> 1968 Report on Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants, page 8, Annex 19.

64. This 1968 report also drew attention to the fact that “[t]he possibility that changes in atmospheric CO<sub>2</sub> could change world climate is not a new idea.”<sup>85</sup>
65. Subsequently, at a meeting of the UN General Assembly in 1968, the US Ambassador to the UN spoke with great concern about the possibility of climate change resulting from the increase of anthropogenic greenhouse gas emissions from the burning of fossil fuels. He suggested that even if there were doubts about the consequences of climate change, these consequences would be so devastating that humanity should not take the risk of them materialising. Ambassador Wiggins addressed the leaders of the world as follows:

[a]nd what are we going to do about the steadily rising burden of carbon dioxide in the earth's atmosphere? In the past hundred years, since fossil fuels began to be burned in huge quantities, atmospheric carbon dioxide has increased by close to 10 per cent. That increase will probably total about 25 per cent by the year 2000, given the rapidly accelerating rate of fuel consumption. Will the resulting ‘green-house’ effect cause a permanent warming of the earth's climate, and perhaps even a rise in the world sea level as the polar ice caps melt? No one is sure, though much of human destiny could depend on the answer.<sup>86</sup>

66. At this same meeting, the Representative of the Republic of India to the UN also noted that “nearly everyone agrees that there is an environment crisis.”<sup>87</sup> He noted that the “problems of human environment” that have

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<sup>85</sup> 1968 Report on Sources, Abundance, and Fate of Gaseous Atmospheric Pollutants, page 105, Annex 19.

<sup>86</sup> UN General Assembly, Agenda Item 91, 1733rd Plenary Meeting, A/PV.1733, 3 December 1968 (“**General Assembly 23rd Session**”), paragraph 38, Annex 276.

<sup>87</sup> General Assembly 23rd Session, paragraph 125, Annex 276.

an international nature are “disturbances in temperatures and destruction of ecological systems on land and water.”<sup>88</sup>

67. In 1970, a paper published by the National Academy of Sciences found that current rates of carbon dioxide increase in the atmosphere would cause a “very substantial change” in global temperatures.<sup>89</sup> The paper noted that:

[t]he effect of carbon dioxide is to increase the earth’s temperature by absorbing outgoing terrestrial radiation. Recent numerical studies have indicated that a 10% increase in carbon dioxide should result, on the average, in a temperature increase of about 0.3°C at the earth’s surface. The present rate of increase of 0.7 ppm per year would therefore (if extrapolated to 2000 A.D.) result in a warming of about 0.6°C — a very substantial change.<sup>90</sup>

68. In 1970, the UK House of Commons also discussed the greenhouse effect and the consequences of the resulting climate change. One member made the following remarks in this respect:

[t]his has a “greenhouse” effect because it allows the sun’s rays to come down but prevents them from escaping into the atmosphere.

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if this goes on, it is thought that by the end of the century the temperature of the earth could be raised by two degrees Centigrade, and this would begin to melt the ice caps. Water generated by this melting process could, they say, be sufficient in mass to flood many cities. But all is not lost.

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<sup>88</sup> General Assembly 23rd Session, paragraph 128, Annex 276.

<sup>89</sup> G.S. Benton, “Carbon Dioxide and its Role in Climate Change”, *Proceedings of the National Academy of Sciences*, 1970, pp. 898-899, page 898, Annex 20.

<sup>90</sup> G.S. Benton, “Carbon Dioxide and its Role in Climate Change”, *Proceedings of the National Academy of Sciences*, 1970, pp. 898-899, page 898, Annex 20.

We are pumping so much grit into the air that the sun's rays are not able to get through, and they are deflected back into the atmosphere. The ice-cap thus is catching up with us.<sup>91</sup>

69. In 1974, the US Central Intelligence Agency concluded a report titled “A Study of Climatological Research as it Pertains to Intelligence Problems.”<sup>92</sup> The first sentence of this report highlighted the global destabilising effect of climate change. It noted:

[t]he western world’s leading climatologists have confirmed recent reports of a detrimental global change. The stability of most nations is based upon a dependable source of food, but this stability will not be possible under the new climatic era. A forecast by the University of Wisconsin projects that the earth’s climate is returning to that of the neo-boreal era (1600-1850) — an era of drought, famine, and political unrest in the western world.<sup>93</sup>

70. In 1975, a paper in the journal *Science* gravely warned that “[i]t is possible that we are on the brink of a several-decades-long period of rapid warming.”<sup>94</sup> It explained the delayed onset of climatic change as follows:

the natural climatic cooling which, since 1940, has more than compensated for the carbon dioxide effect, will soon bottom out. Once this happens, the exponential rise in the atmospheric carbon dioxide content will tend to become a significant factor and by early in the next century will have

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<sup>91</sup> Statement by Mr C. Mather, Environmental Pollution, United Kingdom Parliament Hansard, Volume 804, 21 July 1970, column 332, Annex 278.

<sup>92</sup> “A Study of Climatological Research as it Pertains to Intelligence Problems”, *The United States of America Central Intelligence Agency*, August 1974, Annex 21.

<sup>93</sup> “A Study of Climatological Research as it Pertains to Intelligence Problems”, *The United States of America Central Intelligence Agency*, August 1974, page 1, Annex 21.

<sup>94</sup> W. S. Broecker, “Climatic Change: Are We on the Brink of a Pronounced Global Warming?”, *Science*, 1975, pp. 460-463 (“**1975 Broecker Paper**”), page 460, Annex 22.

driven the mean planetary temperature beyond the limits experienced during the last 1000 years.<sup>95</sup>

71. The report also noted in more detail:

[t]he major point of the argument is that over the past 30 years the warming trend due to CO<sub>2</sub> has been more than countered by a natural cooling. This compensation cannot long continue both because of the rapid growth of the CO<sub>2</sub> effect and because the natural cooling will almost certainly soon bottom out. We may be in for a climatic surprise. The onset of the era of CO<sub>2</sub>-induced warming may be much more dramatic than in the absence of natural climatic variations.<sup>96</sup>

and concluded:

[g]lobal temperature would begin a dramatic rise which would continue for about four decades (that is, half the 80-year cycle). This warming would by the year 2000 bring average global temperatures beyond the range experienced during the last 1000 years.<sup>97</sup>

72. Also in 1975, another paper used the term “greenhouse effect” to describe the warming effect of the additional carbon dioxide in the atmosphere due to the burning of fossil fuels. It also warned of “major climatic changes.” It stated that:

[e]nergy from fossil sources has a specific problem: the release of CO<sub>2</sub>. Even if all other by-products, i.e. SO<sub>2</sub>; or NO<sub>x</sub>, were retained, CO<sub>2</sub> would still be released into the atmosphere: Increases in the CO<sub>2</sub> content of the atmosphere could lead to the so-called greenhouse effect, i.e. an increase in average global temperature to overcome the CO<sub>2</sub> infrared absorption barrier of the atmosphere. This has

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<sup>95</sup> 1975 Broecker Paper, page 460, Annex 22.

<sup>96</sup> 1975 Broecker Paper, page 463, Annex 22.

<sup>97</sup> 1975 Broecker Paper, page 462, Annex 22.

been estimated to be perhaps as high as 1° to 2°C for a doubling of the CO<sub>2</sub> content in the atmosphere, which would be enough to induce major climatic changes.<sup>98</sup>

73. Another paper in *Science* of that year also again noted how carbon dioxide creates a greenhouse effect. It noted that “[t]his trapping of the surface radiation by the infrared bands, also known as the greenhouse effect, would tend to increase the surface and atmospheric temperature.”<sup>99</sup>
74. In 1976, a paper published (yet again) in *Tellus* alarmingly found that within 12 years the carbon dioxide rate had increased by 60%. It stated: “the change in [CO<sub>2</sub>] rate roughly approximates that of fossil fuel combustion which was 60% higher in 1971 than in 1959.”<sup>100</sup>
75. In 1977, a paper (yet again) in *Science* offered a slightly lower estimate than the paper discussed above, yet no less worrying estimate of the increase in carbon dioxide levels. It stated that:

[o]ne fact about CO<sub>2</sub> that is known with certainty is that the concentration in the atmosphere is increasing . . . [f]or the remainder of this century the clearing of land will continue and the use of fossil fuel will increase. As a result, by the year 2000 the CO<sub>2</sub> concentration will exceed preindustrial levels by about 25 percent . . . [t]he most likely trend appears to be warming, with effects considerably greater in the polar regions than at mid-latitudes.<sup>101</sup>

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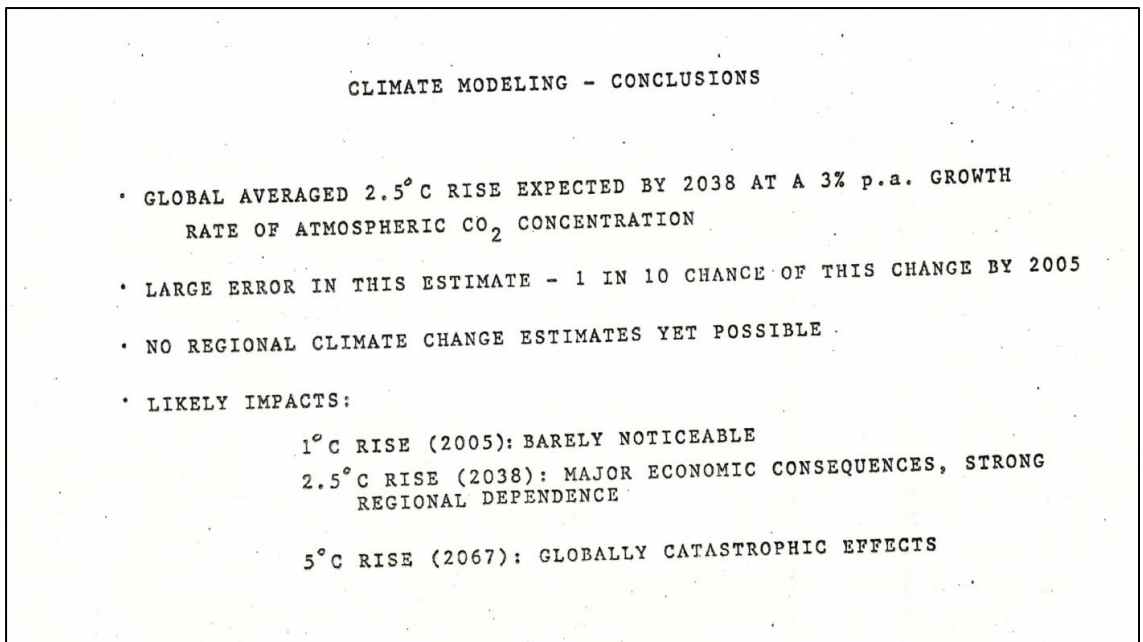
<sup>98</sup> “Second Status Report of the IASA Project on Energy Systems 1975”, *International Institute for Applied Systems Analysis*, 1975, page 144, Annex 23.

<sup>99</sup> V. Ramanathan, “Greenhouse Effect Due to Chlorofluorocarbons: Climatic Implications”, *Science*, 1975, pp. 50-52, page 50, Annex 24.

<sup>100</sup> C. Keeling et al., “Atmospheric carbon dioxide variations at Mauna Loa Observatory, Hawaii”, *Tellus*, 1976, pp 538-551, page 550, Annex 25.

<sup>101</sup> P. H. Abelson, “Energy and Climate”, *Science*, 1977, page 941, Annex 26.

76. The paper concluded with the following frightening warning that there would be no way back for humanity: “[h]umanity is in the process of conducting a great global experiment. If unpleasant effects are encountered they cannot be quickly reversed.”<sup>102</sup>
77. By 1980, the American Petroleum Institute had also established a CO<sub>2</sub> and Climate Task Force. In 1980, a presentation was given to this task force on “The CO<sub>2</sub> Problem, Addressing Research Agenda Development.”<sup>103</sup> This presentation was both startling in its terms and its predictive content. The following slide presented to the institute’s Task Force speaks for itself:<sup>104</sup>



<sup>102</sup> P. H. Abelson, “Energy and Climate”, *Science*, 1977, page 941, Annex 26.

<sup>103</sup> Minutes of the Meeting of American Petroleum Institute CO<sub>2</sub> and Climate Task Force (AQ-9), 29 February 1980 (“**Minutes of the Meeting of American Petroleum Institute CO<sub>2</sub> and Climate Task Force**”), page 1, Annex 29.

<sup>104</sup> Minutes of the Meeting of American Petroleum Institute CO<sub>2</sub> and Climate Task Force, PDF page 13, Annex 29.

78. Today, of course, we are living in that predicted world of “major economic consequences” and “globally catastrophic effects.”<sup>105</sup>
79. In 1980, scientists were already sounding out the need for international cooperation *inter alia* to control fossil combustion. A paper of that year stated that:

there is concern about climate effects from the build-up of carbon dioxide (CO<sub>2</sub>) in the atmosphere from combustion of all carbon fuels including oil, gas, coal, and wood. Currently there is uncertainty about CO<sub>2</sub> inputs from various sources, the absorption of CO<sub>2</sub> by various sinks, and the consequences of the effects of rising CO<sub>2</sub> content in the atmosphere. If the effects prove as serious as some researchers predict, the resulting situation would call for extraordinary kinds of international cooperation to control world fuel combustion or, alternatively, the amount of deforestation.<sup>106</sup>

80. In 1980, yet another paper in *Science* emphasised the great importance of environmental issues created by the increase of carbon dioxide in the atmosphere. It noted: “[t]he possible climatic effects of large increases in atmospheric CO<sub>2</sub> due to burning of fossil fuels may constitute one of the important environmental problems of the coming decades.”<sup>107</sup>
81. Similar warnings accrued over the rest of that decade:
- a. in 1981, a paper in the *Journal of Geophysical Research* warned that the climate warming effect of the increase in atmospheric

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<sup>105</sup> Minutes of the Meeting of American Petroleum Institute CO<sub>2</sub> and Climate Task Force, PDF page 13, Annex 29.

<sup>106</sup> “COAL—Bridge to the Future”, *World Coal Study (WOCOL)*, 1980, page 135, Annex 27.

<sup>107</sup> R. Madden & V. Ramanathan, “Detecting Climatic Change due to Increasing Carbon Dioxide”, *Science*, 1980, pp. 763-768, page 763, Annex 28.



carbon dioxide was even more significant than previously thought. It found that “results indicate that the direct contribution for CO<sub>2</sub> increases to surface heating may be larger than previously calculated [and] the question of indirect influences of the CO<sub>2</sub> is still far from resolved”,<sup>108</sup>

b. in 1981, a report on a symposium that year mentioned that:

man’s activities may produce changes in climate that exceed any which have occurred naturally in the past 10 000 years. The cause is atmospheric carbon dioxide. By burning fossil fuels and, most probably, by deforestation and changing land-use, man has upset the balance in the global carbon dioxide budget and produced, over the past century, a considerable increase in atmospheric CO<sub>2</sub> concentration. Future changes will almost certainly occur at an accelerating rate. These changes are important because CO<sub>2</sub> is a radiatively active gas. It participates strongly in the radiation balance of the atmosphere, effectively trapping out-going long-wave radiation in the lower layers of the atmosphere and producing a warming by the ‘greenhouse’ effect.<sup>109</sup>

and also that:

[t]hese are necessary consequences, because increased CO<sub>2</sub> will perturb the whole climate system, and will do so in quite complex ways. Furthermore, CO<sub>2</sub>-induced changes will occur not only in temperature, but also in other meteorological and oceanographic parameters,

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<sup>108</sup> J. Hummel & R. Reck, “Carbon Dioxide and Climate: The Effects of Water Transport in Radiative-Convective Models”, *Journal of Geophysical Research*, 1981, pp. 12,035-12,038, page 12,037, Annex 30.

<sup>109</sup> T. Wigley, *Energy production and climatic change: an assessment*, in URANIUM AND NUCLEAR ENERGY: 1981, The Uranium Institute (Butterworth Scientific Limited, 1981), pp. 291-322, page 293, Annex 31.

pressure patterns, prevailing winds, rainfall, ocean temperatures and currents, sea-ice distribution, etc. All these are interlinked facets of the global climate system.

How sure can we be that doubling of CO<sub>2</sub> levels will warm the globe by *on average* 2-3°C? The answer is that we can have considerable confidence on this estimate.<sup>110</sup> (Emphasis in the original.)

- c. in 1983, the US Environmental Protection Agency published the “Projecting Future Sea Level Rise. Methodology, Estimates to the Year 2100, and Research Notes.” This study concluded that the increase in greenhouse gases in the atmosphere would cause a substantial rise in sea levels. It stated:

[c]oncentrations of atmospheric CO<sub>2</sub> and other greenhouse gases will continue to increase in coming decades. Two National Academy of Sciences panels have concluded that higher levels of these gases will almost certainly produce a large global warming. That warming, by thermally expanding the oceans and by causing the transfer of ice and snow resting on land to the oceans, should raise sea level substantially faster than the rise that has taken place during the past century.<sup>111</sup>

- d. in 1984, a paper in a treatise described that “for CO<sub>2</sub> doubling, all models produce a rise in global mean temperature of about

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<sup>110</sup> T. Wigley, *Energy production and climatic change: an assessment*, in URANIUM AND NUCLEAR ENERGY: 1981, The Uranium Institute (Butterworth Scientific Limited, 1981), pp. 291-322, page 304, Annex 31.

<sup>111</sup> “Projecting Future Sea Level Rise. Methodology, Estimates to the Year 2100, and Research Notes”, *U.S. Environmental Protection Agency*, 24 October 1983, page vi, Annex 32.

2.5 K.”<sup>112</sup> It also concluded that “[r]esults of [the model] show that limiting equatorial response by evaporative buffering . . . does not limit global response: rather, such buffering strongly amplifies polar response”;<sup>113</sup>

- e. in 1986, a scientific paper delivered the following warning: “[e]vidence is mounting, however, that by burning fossil fuels, leveling tropical forests, and engaging in a number of other activities, humans are releasing gases to the atmosphere that could trap enough heat to raise the temperature of the earth’s surface by a few degrees Celsius.”<sup>114</sup> It warned that “[a]lthough an average warming of a few degrees does not sound like much, it could create dramatic changes in climatic extremes.”<sup>115</sup> It also pointed out some of the consequences of climate change: “[c]hanges in the timing and amount of precipitation will almost certainly occur if the climate warms, affecting agriculture and hydroelectric resources, among other things. Soil moisture, which is critical during planting and early growth periods, will change”;<sup>116</sup> and
- f. in 1989, a scientific paper also set out the consequences of climate change for certain vulnerable States. It provided that “some

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<sup>112</sup> B. Flannery et al., *Energy Balance Models Incorporating Evaporative Buffering of Equatorial Thermal Response*, in CLIMATE PROCESSES AND CLIMATE SENSITIVITY, eds. J. Hansen & T. Takahashi (American Geophysical Union, 1984), page 113, Annex 33.

<sup>113</sup> B. Flannery et al., *Energy Balance Models Incorporating Evaporative Buffering of Equatorial Thermal Response*, in CLIMATE PROCESSES AND CLIMATE SENSITIVITY, eds. J. Hansen & Taro Takahashi (American Geophysical Union, 1984), page 116, Annex 33.

<sup>114</sup> M. Shepard, “The Greenhouse Effect: Earth’s Climate in transition”, *EPRI Journal*, 1986, pp. 4-15 (“**Shepard 1986 Paper**”), page 5, Annex 34.

<sup>115</sup> Shepard 1986 Paper, page 13, Annex 34.

<sup>116</sup> Shepard 1986 Paper, page 13, Annex 34.

countries are acutely vulnerable to natural climatic variability that may cripple their own food production or substantially reduce the supply and raise the price of foodstuffs on the world market. Under conditions of changing climate and growing population, this situation may grow more precarious.”<sup>117</sup>

82. This list could go on and on. There can be no doubt: the harmful effect of greenhouse gas emissions through *inter alia* the burning of fossil fuels has been established through scientific knowledge for many decades. The above list of historical scientific findings is unequivocal evidence of this simple fact.

**B. Current scientific observations confirm past predictions: anthropogenic gas emissions are harming all States and areas outside national jurisdiction**

83. The scientific consensus is as clear as it is undeniable. As definitively stated by the Intergovernmental Panel on Climate Change (“IPCC”), the UN body for assessing the science related to climate change,<sup>118</sup> “[h]uman activities, principally through emissions of greenhouse gases, have unequivocally caused global warming.”<sup>119</sup> All UN Member States unanimously agree that “anthropogenic emissions of greenhouses gases

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<sup>117</sup> P. H. Gleick, “The Implications of Global Climatic Changes for International Security”, *Climatic Change*, 1989, pp. 309-325, page 311, Annex 35.

<sup>118</sup> See “About”, *Intergovernmental Panel on Climate Change*, Annex 59. In 1988, the UN Environment Programme and the World Meteorological Organization, a UN specialised agency, created the IPCC and the UN General Assembly endorsed it (*see* UN General Assembly Resolution 43/53 (1988), A/RES/43/53, 6 December 1988 (“UN General Assembly Resolution 43/53”), paragraph 5, Annex 215).

<sup>119</sup> “Climate Change 2023: Synthesis Report. Summary for Policymakers”, IPCC AR6 SYR, *Intergovernmental Panel on Climate Change*, 2023 (“IPCC 2023 Summary for Policymakers”), page 4, Annex 57.

are unequivocally the dominant cause of global warming.”<sup>120</sup> States and international organisations also accept the science of climate change in their submissions to the International Tribunal for the Law of the Sea (the “ITLOS”).<sup>121</sup>

84. This science is simple but highly developed. Carbon dioxide, methane and nitrous oxide exist in the Earth’s atmosphere in different forms.<sup>122</sup> These gases are also referred to as “greenhouse gases” because, when they are in the atmosphere, they absorb and re-radiate solar energy within the Earth’s atmosphere. This traps the heat from the Sun in the Earth’s atmosphere, creating an effect similar to the artificial trapping of solar radiation by greenhouses.<sup>123</sup>

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<sup>120</sup> UN General Assembly Resolution 77/276, page 2, Annex 233.

<sup>121</sup> In the *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)*, ITLOS Case No. 31 (“**ITLOS Climate Change Advisory Opinion**”), see United Kingdom, Written Statement of 16 June 2023, paragraph 6, Annex 325; European Union, Written Statement of 15 June 2023, paragraph 44, Annex 318; African Union, Written Statement of 16 June 2023, paragraphs 12, 21, Annex 322; Republic of Chile, Written Statement of 16 June 2023, paragraphs 29, 33, 39, Annex 327; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraph 125, Annex 328; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraph 41, Annex 330; Arab Republic of Egypt, Written Statement of 16 June 2023, paragraph 12, Annex 331.

<sup>122</sup> See “Annex VII – Glossary. Climate Change 2021: The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change, 2021 (“IPCC 2021 Glossary”)*, page 2233, “Greenhouse gases”, Annex 50; “The greenhouse effect”, British Geological Survey, Annex 60.

<sup>123</sup> See IPCC 2021 Glossary, page 2232, “Greenhouse effect”, Annex 50; “The greenhouse effect”, British Geological Survey, Annex 60; “Historical Overview of Climate Change-Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change”, Cambridge University Press, *Intergovernmental Panel on Climate Change, 2007*, page 115, Annex 37.

85. Certain human activities release elements into the atmosphere, like carbon, that are stored in organic and inorganic sources on or buried within the Earth. When these activities release these elements into the atmosphere, the elements combine with prevalent atmospheric oxygen to increase the amount of greenhouse gases beyond that which would naturally occur. Examples of such human activities leading to the release of these elements, and corresponding release of greenhouse gases, include: “burning of fossil fuels, deforestation, land use [(e.g., grazing, timber extractions, etc.)] and land-use changes (LILIC), livestock production, fertilisation, waste management, and industrial processes.”<sup>124</sup>
86. Human activities that increase the atmospheric concentration of greenhouse gases have greatly increased since the Industrial era that began in the United Kingdom in the eighteenth century.<sup>125</sup> Industrialisation led to a significant increase in combusting material containing carbon, such as coal, petroleum and natural gas, as doing so became increasingly common to power heavy transport and industry.<sup>126</sup> When such fuels are burned, their carbon content combines with oxygen to form carbon dioxide. That

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<sup>124</sup> IPCC 2021 Glossary, pages 2218 and 2236, “Anthropogenic emissions” and “Land use”, Annex 50.

<sup>125</sup> See G. Agbugba et al., *The decoupling of economic growth from carbon emissions: UK evidence*, UK Office for National Statistics, 2019, page 6, Annex 44.

<sup>126</sup> See “Global Carbon and other Biogeochemical Cycles and Feedbacks. Climate Change 2021 – The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2021, pp. 673-815 (“**IPCC 2021 Global Carbon, Report on Climate Change, The Physical Science Basis**”), page 687, Annex 47; in the ITLOS Climate Change Advisory Opinion, see African Union, Written Statement of 16 June 2023, paragraph 22, Annex 322; Australia, Written Statement of 16 June 2023, paragraph 26, Annex 329; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraph 67, Annex 328; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraph 48, Annex 330.

carbon dioxide becomes part of the atmosphere and further adds to the natural greenhouse gases that are already present in the atmosphere.<sup>127</sup>

87. Vegetation (e.g., forests) and oceans are natural “sinks” in the sense that they can absorb heat and carbon dioxide, which mitigates the impacts of increasing greenhouse gas concentration in the atmosphere.<sup>128</sup>
88. However, there is a limit to the amount of carbon dioxide and other greenhouse gases that can be absorbed by these sinks.<sup>129</sup> The effectiveness of these sinks is also substantially decreased as heightened concentrations of greenhouse gases, and the resulting temperature increases, create environmental damage.<sup>130</sup>
89. As a result, due to anthropogenic gas emissions, there is a greater concentration of greenhouse gases in the atmosphere than at any other point in the last two million years.<sup>131</sup> This increased concentration of

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<sup>127</sup> See IPCC 2021 Glossary, page 2230, “Fossil fuel emissions”, Annex 50.

<sup>128</sup> See “How much carbon dioxide does the Earth naturally absorb?”, *Ask MIT Climate*, Annex 61. See also “Summary for Policymakers. Climate Change 2021 – The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2021, page 4, paragraph A.1.1 and footnote 7, Annex 46; “Frequently Asked Questions. Climate Change 2021: The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2021, page 28-29, Annex 49; IPCC 2023 Summary for Policymakers, page 13, paragraph B.1.3, Annex 57.

<sup>129</sup> See “How much carbon dioxide does the Earth naturally absorb?”, *Ask MIT Climate*, Annex 61.

<sup>130</sup> See “Summary for Policymakers. Climate Change 2021 – The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2021, pages 19-21, paragraphs B.4 to B.5.4, Annex 46; IPCC 2023 Summary for Policymakers, page 12, paragraph B.1.3, Annex 57.

<sup>131</sup> Atmospheric carbon dioxide is now 50% higher than pre-industrial levels. The IPCC has found with high confidence that historical cumulative net carbon dioxide emissions from 1850 to 2019 were 2400±240 gigatons, of which 58% occurred between 1850 and 1989, and about 42% occurred between 1990 and 2019. In 2019, carbon dioxide concentrations in the atmosphere were higher than at any time in at least two million years. During the last measured decade, global average annual emissions of carbon

anthropogenically created gas is not offset by natural “sinks,” causing the atmosphere to trap more heat and, therefore, rising global temperatures.<sup>132</sup>

90. Rising global temperatures cause a series of significant consequences, detailed in particularity below. These consequences adversely impacted the environmental, climactic systems, plants, animals and human beings. At some point, a “tipping point” is reached where the consequences of climate change become irreversible.<sup>133</sup> Examples of “tipping point” consequences include the melting of polar ice sheets and the drying of the Amazon rainforest.<sup>134</sup> These risks of irreversible damage escalate with every increment of global warming: the risks are higher now when the global average temperature rises 1.5°C above pre-industrial levels and will become even higher when temperatures reach 2°C above global averages.<sup>135</sup> Indeed, this has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>136</sup> Many States and international organisations agree that the tipping point is dangerously

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dioxide reached the highest levels in human history, to at least 10 billion metric tons per year. *See* “Climate Change 2022: Mitigation of Climate Change. Summary for Policymakers”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2022, page 6, Annex 51; IPCC 2021 Global Carbon, Report on Climate Change, The Physical Science Basis, page 676, Annex 47.

<sup>132</sup> *See* IPCC 2023 Summary for Policymakers, page 12, paragraph B.1.1, Annex 57.

<sup>133</sup> *See* “Climate Change 2023. Synthesis Report of the IPCC Sixth Assessment Report (AR6). Longer Report”, IPCC AR6 SYR, *Intergovernmental Panel on Climate Change*, 2023, page 42, Annex 56; “United in Science”, *World Meteorological Organization*, 2022, Annex 55.

<sup>134</sup> *See* “United in Science”, *World Meteorological Organization*, 2022, Annex 55.

<sup>135</sup> *See* IPCC 2023 Summary for Policymakers, page 15, paragraph B.2.2, Annex 57.

<sup>136</sup> In the ITLOS Climate Change Advisory Opinion, *see* Republic of Mauritius, Written Statement of 16 June 2023, paragraphs 21, 53, Annex 320; Republic of Mauritius, Oral Statement of 15 September 2023 (am), ITLOS/PV.23/C31/9, pages 18-19, Annex 346; Republic of Mozambique, Written Statement of 16 June 2023, paragraph 3.65, Annex 321; African Union, Written Statement of 16 June 2023, paragraph 23, Annex 322; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraph 43, Annex 323.



imminent now and that climate change is the biggest challenge of our time.<sup>137</sup>

91. The IPCC also estimates that there is very little capacity left in the atmosphere for the presence of anthropogenic greenhouse gases to increase without the tipping point being reached.<sup>138</sup> At current rates, the world will reach human-induced global warming of 1.5°C around 2040.<sup>139</sup> That is why an urgent reduction in anthropogenic gas emissions is required.
92. To expand on the above with particularity, anthropogenically caused increased greenhouse gas emissions will cause significant consequences to the environment, including: (a) rising temperatures of land and ocean and affect air quality (*see* sub-section (i)); (b) rising sea-levels (*see* sub-section

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<sup>137</sup> In the ITLOS Climate Change Advisory Opinion, *see* Republic of Singapore, Written Statement of 16 June 2023, paragraph 1, Annex 324; Pacific Community, Oral Statement of 20 September 2023 (pm), ITLOS/PV.23/C31/15, pages 9-10, Annex 349; United Kingdom, Written Statement of 16 June 2023, paragraph 4, Annex 325; Canada, Written Statement of 16 June 2023, paragraph 3, Annex 326; African Union, Written Statement of 16 June 2023, paragraph 2, Annex 322; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraph 3, Annex 323; Republic of Chile, Written Statement of 16 June 2023, paragraph 70, Annex 327; People’s Republic of China, Written Statement of 15 June 2023, paragraph 4, Annex 317; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraph 8, Annex 328; Argentine Republic, Oral statement of 13 September 2023 (pm), ITLOS/PV.23/C31/6, page 1, Annex 341.

<sup>138</sup> *See* IPCC 2021 Global Carbon, Report on Climate Change, The Physical Science Basis, page 739-741, 777 (“to limit global warming to 1.5°C above pre-industrial levels with either a one-in-two (50%) or two-in-three (67%) chance the remaining carbon budgets amount to 500 and 400 billion tonnes of CO<sub>2</sub>, respectively, from 1 January 2020 onward . . . Currently, human activities are emitting around 40 billion tonnes of CO<sub>2</sub> into the atmosphere in a single year”), Annex 47.

<sup>139</sup> *See* “Framing and Context. 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”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2018, page 81, Annex 43.

(ii)); (c) extreme weather events (*see* sub-section (iii)); (d) harm to wildlife and ecosystems (*see* sub-section (iv)); (e) acidification and deoxygenation of oceans (*see* sub-section (v)); and (f) loss and damage to States and their peoples (*see* sub-section (vi)).<sup>140</sup>

(i) Anthropogenic gas emissions cause rising temperatures of land and ocean and affect air quality

93. Climate change caused by anthropogenic gas emissions will lead to stronger and more frequent land and marine heatwaves.<sup>141</sup> In addition to killing vulnerable humans, heatwaves cause increased mortality of a wide variety of animal and marine species and have consequent effects on ecosystems and industries such as agriculture and fisheries.<sup>142</sup>
94. Indeed, this impact of anthropogenic gas emissions has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>143</sup>

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<sup>140</sup> See IPCC 2023 Summary for Policymakers, page 16, Annex 57.

<sup>141</sup> See “Weather and Climate Extreme Events in a Changing Climate. Climate Change 2021 – The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2021, pp. 1513-1765, page 1519, Annex 48.

<sup>142</sup> See “Oceans and Coastal Ecosystems and Their Services. Climate Change 2022: Impacts, Adaptation and Vulnerability”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2022, pp. 379-550, page 460, Annex 52.

<sup>143</sup> In the ITLOS Climate Change Advisory Opinion, *see* European Union, Written Statement of 15 June 2023, paragraph 44, Annex 318; European Union, Oral Statement of 20 September 2023 (am), ITLOS/PV.23/C31/14, page 21, Annex 350; Canada, Written Statement of 16 June 2023, paragraphs 4,14, Annex 326; Pacific Community, Written Statement of 16 June 2023, paragraph 9, Annex 332; United Kingdom, Written Statement of 16 June 2023, paragraph 41(a), Annex 325; African Union, Written Statement of 16 June 2023, paragraphs 2, 25, 27, 43, 95, 103-108, Annex 322; Australia, Written Statement of 16 June 2023, paragraphs 25, Annex 329; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraph 32, Annex 323; People’s Republic of Bangladesh, Oral statement of 13 September 2023 (pm), ITLOS/PV.23/C31/6, page 21, Annex 342; Belize, Written Statement of 16 June 2023,

95. Climate change is expected to have negative impacts on human health, including increased likelihood of undernutrition from diminished food production; injury, disease and death resulting from more intense heatwaves and fires; and higher risk of food, water and vector-borne diseases.<sup>144</sup> The World Bank estimates that a 2°C rise in the average global temperature could potentially put between 100 million and 400 million more people at risk of hunger and could result in over three million additional deaths from malnutrition each year.<sup>145</sup>
96. Anthropogenic gas emissions also directly degrade air quality, which has a resultant negative effect on human and animal health.<sup>146</sup> The effects of this may be most acutely felt by developing States that have more limited medical facilities.

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paragraph 19(b), Annex 333; Belize, Oral statement of 18 September 2023(am), ITLOS/PV.23/C31/11, page 27, Annex 348; Republic of Chile, Written Statement of 16 June 2023, paragraphs 33-34, 55-56, Annex 327; Republic of Chile, Oral Statement of 14 September 2023 (am), ITLOS/PV.23/C31/7, page 1, Annex 345; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraphs 63-65, 87-89, Annex 328; Republic of Djibouti, Written Statement of 16 June 2023, paragraph 6, Annex 334; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraph 65, Annex 330; Arab Republic of Egypt, Written Statement of 16 June 2023, paragraphs 13-14, Annex 331; France, Written Statement of 16 June 2023, paragraph 82, Annex 335; Japan, Written Statement of 15 June 2023, page 2, Annex 319; Federal Republic of Germany, Written Statement of 14 June 2023, paragraph 32, Annex 316; Republic of Indonesia, Oral Statement of 15 September 2023 (am), ITLOS/PV.23/C31/9, pages 1-2, Annex 347.

<sup>144</sup> See “Water. Climate Change 2022: Impacts, Adaptation and Vulnerability”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2022, pp. 551-712, pages 555-557, 585, Annex 53.

<sup>145</sup> See “World Development Report 2010: Development and Climate Change”, *The World Bank*, 7 June 2011, pages 4-5, Annex 500.

<sup>146</sup> See “Annex I: Glossary. 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”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2018, pp. 541-562, page 542, Annex 42.

97. Such impacts will inevitably interact with human socio-economic risk drivers, such as competition for land between urban expansion, food production and pandemics.<sup>147</sup> Invariably, human rights abuses may materialise as societies struggle with these vast impacts and consequential migration and social friction.<sup>148</sup>

(ii) Anthropogenic gas emissions cause rising sea levels

98. The IPCC states that anthropogenic gas emissions are the main driver of the increase in sea levels seen since at least 1971.<sup>149</sup> It also states that global mean sea levels increased by approximately 0.20 metres between 1901 and 2018 and that sea levels are projected to continue rising with what the IPCC describes in the IPCC 2023 Summary for Policymakers as “risks for coastal ecosystems, people and infrastructure.”<sup>150</sup>

99. Indeed, this impact of anthropogenic gas emissions described by the IPCC has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>151</sup>

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<sup>147</sup> See IPCC 2023 Summary for Policymakers, page 15, paragraph B.2.3, Annex 57.

<sup>148</sup> See “Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change”, *Intergovernmental Panel on Climate Change*, 2014, page 20, Annex 41.

<sup>149</sup> See IPCC 2023 Summary for Policymakers, page 5, paragraph A.2.1, Annex 57.

<sup>150</sup> IPCC 2023 Summary for Policymakers, page 15, paragraph B.2.2, Annex 57.

<sup>151</sup> In the ITLOS Climate Change Advisory Opinion, see European Union, Written Statement of 15 June 2023, paragraphs 44,46, Annex 318; European Union, Oral Statement of 20 September 2023 (am), ITLOS/PV.23/C31/14, page 21, Annex 350; Canada, Written Statement of 16 June 2023, paragraph 14, Annex 326; Republic of Sierra Leone, Written Statement of 16 June 2023, paragraph 24, Annex 336; Kingdom of the Netherlands, Written Statement of 16 June 2023, paragraph 4.7, Annex 338; United Kingdom, Written Statement of 16 June 2023, paragraph 41(b), Annex 325; African Union, Written Statement of 16 June 2023, paragraphs 2, 25, 112-116, Annex 322;

100. As a small island State, Barbados is particularly susceptible to coastal inundation, sea level rise and coastal erosion.<sup>152</sup>

(iii) Anthropogenic gas emissions cause extreme weather events

101. Recent years have seen a concerning upward trend in the amount of extreme weather events (such as floods, droughts, cyclones, heat waves and wildfires) and deaths from such weather events.<sup>153</sup> Such events have huge impacts on economic activity in exposed sectors, such as agriculture, forestry, fishery, energy and tourism with resultant impacts on individual livelihoods.<sup>154</sup> Such extreme weather events have been accepted as a consequence of the global heating of anthropogenic gas emissions.

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African Union, Oral Statement of 21 September 2023 (pm), ITLOS/PV.23/C31/17, page 2, Annex 352; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraphs 4, 9, 23, Annex 323; People’s Republic of Bangladesh, Oral Statement of 13 September 2023 (pm), ITLOS/PV.23/C31/6, page 21, Annex 342; Belize, Written Statement of 16 June 2023, paragraph 19(c), Annex 333; Belize, Oral Statement of 18 September 2023 (am), ITLOS/PV.23/C31/11, page 27, Annex 348; Republic of Chile, Written Statement of 16 June 2023, paragraphs 33, 34, 55, 56, Annex 327; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraphs 93-95, Annex 328; Republic of Djibouti, Written Statement of 16 June 2023, paragraph 6, Annex 334; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraphs 65, 67, Annex 330; Arab Republic of Egypt, Written Statement of 16 June 2023, paragraphs 13, 15, Annex 331; France, Written Statement of 16 June 2023, paragraph 82, Annex 335; Japan, Written Statement of 15 June 2023, page 2, Annex 319; Federal Republic of Germany, Written Statement of 14 June 2023, paragraph 32, Annex 316; Republic of Indonesia, Oral Statement of 15 September 2023 (am), ITLOS/PV.23/C31/9, pages 1-2, Annex 347.

<sup>152</sup> See “Climate Change Knowledge Portal for Development Practitioners and Policy Makers: Barbados”, *The World Bank*, Annex 58.

<sup>153</sup> See A. Bárcena et al., *The climate emergency in Latin America and the Caribbean: the path ahead – resignation or action?* (ECLAC Books, No. 160 (LC/PUB.2019/23-P), Economic Commission for Latin America and the Caribbean, 2020) (“**Bárcena, Climate Emergency in Latin America**”), pages 142-143, Annex 45.

<sup>154</sup> See IPCC 2023 Summary for Policymakers, page 6, paragraph A.2.6, Annex 57.

102. Indeed, this impact of anthropogenic gas emissions has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>155</sup>
103. For example, Barbados is highly vulnerable to hurricanes and other extreme weather events.<sup>156</sup> Cyclones may be becoming more destructive and frequent due to climate change.<sup>157</sup> Small island developing States often take years to recover from flooding by extreme weather events due in part to the high cost of debt financing for such projects.<sup>158</sup> If the trend of increasingly strong hurricanes continues, these extreme weather events may pose an existential risk to Barbados and other Caribbean and low lying States.<sup>159</sup>
104. These adverse impacts are concentrated among economically and socially marginalised persons such as the elderly and children.<sup>160</sup> Extreme weather events, such as heatwaves and hurricanes, cause disruptions in

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<sup>155</sup> In the ITLOS Climate Change Advisory Opinion, *see* African Union, Written Statement of 16 June 2023, paragraph 24, Annex 322; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraphs 4, 9, 44, Annex 323; People’s Republic of Bangladesh, Oral statement of 13 September 2023 (pm), ITLOS/PV.23/C31/6, page 21, Annex 342; Belize, Written Statement of 16 June 2023, paragraph 20(a), Annex 333; Republic of Djibouti, Written Statement of 16 June 2023, paragraph 6, Annex 334; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraph 68, Annex 330; France, Oral Statement of 25 September 2023 (am), ITLOS/PV.23/C31/18, page 1, Annex 353.

<sup>156</sup> *See* “Climate Change Knowledge Portal for Development Practitioners and Policy Makers: Barbados”, *The World Bank*, Annex 58.

<sup>157</sup> *See* “Weather and Climate Extreme Events in Changing Climate. Climate Change 2023: The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, pp. 1513-1765, page 1517, Annex 48.

<sup>158</sup> *See* Building Resilience in Small Island Developing States, A compendium of research prepared by the UNCTAD Division for Africa, Least Developed Countries and Special Programmes, UNCTAD/ALDC/INF/2022/2, 31 January 2022, page 16, Annex 487.

<sup>159</sup> *See* Bárcena, Climate Emergency in Latin America, page 122, Annex 45.

<sup>160</sup> *See* IPCC 2023 Summary for Policymakers, page 6, paragraph A.2.7, Annex 57.

necessary healthcare and services for older persons, sometimes resulting in the elderly being stranded without access to medical care.<sup>161</sup> Extreme weather events also bring about enduring consequences. For instance, children’s access to education may be interrupted due to damage to their schools.<sup>162</sup>

105. Extreme weather events also have collateral effects on, for example, public finances and infrastructure in the form of property losses, lifestyle changes and disruption of transport and international trade (which reinforces poverty traps).<sup>163</sup>

(iv) Anthropogenic gas emissions harm wildlife and ecosystems

106. Wildlife and ecosystems often contain unique features and resources that generally extend beyond national borders. They include deserts, semi-arid lands, mountains, wetlands, small islands and certain coastal areas.<sup>164</sup>

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<sup>161</sup> See Report of the Office of the United Nations High Commissioner for Human Rights, Analytical study on the promotion and protection of the rights of older persons in the context of climate change, A/HRC/47/46, 30 April 2021, page 5, paragraph 11, Annex 486.

<sup>162</sup> See Report of the Office of the United Nations High Commissioner for Human Rights, Analytical study on the relationship between climate change and the full and effective enjoyment of the rights of the child, A/HRC/35/13, May 2017, page 4, paragraph 10, Annex 481.

<sup>163</sup> See Bárcena, Climate Emergency in Latin America, Annex 45, citing (a) at page 158, “Natural Hazards, Unnatural Disasters: The Economics of Effective Prevention”, *The World Bank*, 2010, pages 10-22, Annex 499; and (b) at page 95, R. Caballeros-Otero & R. Zapata, *The impacts of natural disasters on developing economies: implications for the international development and disaster community* in DISASTER PREVENTION FOR SUSTAINABLE DEVELOPMENT: ECONOMIC AND POLICY ISSUES, ed. Mohan Munasinghe & Caroline Clarke (The World Bank, 1995), Annex 517.

<sup>164</sup> See *The Environment and Human Rights (State 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 of November 15, 2017. Series A No. 23 (“**IACtHR 2017 Advisory Opinion**”), paragraph 142, footnote 279, Annex 372.

Climate change caused by anthropogenic gas emissions (and resulting extreme events such as floods, droughts, cyclones, heat waves and fires) affects the functioning of ecosystems, biodiversity and ecosystem services.<sup>165</sup>

107. Irreversible damage to wildlife and ecosystems has already occurred due to anthropogenic gas emissions. Certain local species have gone extinct due to heat extremes and mass mortality events – and others are significantly endangered.<sup>166</sup> As the warming levels further rise, the risk of species extinction and loss of biodiversity in key ecosystems (such as forests, coral reefs and the Arctic regions) also rises.<sup>167</sup> Many communities depend on those ecosystems for food and employment, such as tourism and conservation.<sup>168</sup> Loss of those resources will inevitably lead to conflict, mass migration and the accompanying human rights abuses.<sup>169</sup>
108. The impact of anthropogenic gas emissions on wildlife and ecosystems has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>170</sup>

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<sup>165</sup> See “Terrestrial and Freshwater Ecosystems and Their Services. Climate Change 2022: Impacts, Adaptation and Vulnerability”, Cambridge University Press, *Intergovernmental Panel on Climate Change, 2022*, pp. 197-377, page 202, Annex 54.

<sup>166</sup> See IPCC 2023 Summary for Policymakers, page 5, paragraph A.2.3 and page 18, paragraph B.3.2, Annex 57.

<sup>167</sup> See IPCC 2023 Summary for Policymakers, page 19, paragraph B.3.2, Annex 57.

<sup>168</sup> See IPCC 2023 Summary for Policymakers, pages 5-6, paragraphs A.2.3-A.2.6, Annex 57.

<sup>169</sup> See IPCC 2023 Summary for Policymakers, page 19, paragraph B.3.2, Annex 57.

<sup>170</sup> In the ITLOS Climate Change Advisory Opinion, see European Union, Written Statement of 15 June 2023, paragraph 45, Annex 318; European Union, Oral Statement of 20 September 2023 (am), ITLOS/PV.23/C31/14, page 21, Annex 350; Canada,



(v) Anthropogenic gas emissions acidify and deoxygenate oceans

109. Due to the anthropogenic gas emissions already in the atmosphere, ocean acidification is imminent despite attempts to keep the global temperature rise within 1.5°C.<sup>171</sup> Ocean acidification is a result of increased concentration of carbon dioxide dissolved in ocean waters, depleting oxygen levels in the ocean and thereby making the oceans more acidic.<sup>172</sup> This deeply impacts sea life as ocean acidity hinders sea organisms’

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Written Statement of 16 June 2023, paragraphs 4-5, Annex 326; Republic of Mauritius, Written Statement of 16 June 2023, paragraph 19, Annex 320; Republic of Mozambique, Written Statement of 16 June 2023, paragraph 3.27, Annex 321; Pacific Community, Written Statement of 16 June 2023, paragraph 11, Annex 332; United Kingdom, Written Statement of 16 June 2023, paragraph 41(a)-(c), Annex 325; African Union, Written Statement of 16 June 2023, paragraphs 24, 94, Annex 322; African Union, Oral Statement of 21 September 2023 (pm), ITLOS/PV.23/C31/17, pages 2, 17, Annex 352; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraphs 24, 26, Annex 323; People’s Republic of Bangladesh, Oral statement of 13 September 2023 (pm), ITLOS/PV.23/C31/6, pages 21, 22, 23, Annex 342; Belize, Written Statement of 16 June 2023, paragraph 19(a), Annex 333; Belize, Oral Statement of 18 September 2023 (am), ITLOS/PV.23/C31/11, pages 27-28, Annex 348; Republic of Chile, Written Statement of 16 June 2023, paragraphs 37, 38, 91, Annex 327; Republic of Chile, Oral Statement of 14 September 2023 (am), ITLOS/PV.23/C31/7, pages 6, 7, Annex 345; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraphs 90-92, 113-119, Annex 328; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraphs 66, 76-81, Annex 330; Arab Republic of Egypt, Written Statement of 16 June 2023, paragraphs 14, 76, Annex 331; France, Written Statement of 16 June 2023, paragraphs 86, 87, 93, Annex 335; Japan, Written Statement of 15 June 2023, page 2, Annex 319; Republic of Indonesia, Oral Statement of 15 September 2023 (am), ITLOS/PV.23/C31/9, pages 1-2, Annex 347.

<sup>171</sup> See IPCC 2023 Summary for Policymakers, pages 12 and 13, paragraph B.1.3, Annex 57.

<sup>172</sup> See “Summary for Policymakers. Climate Change 2021 – The Physical Science Basis”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2021, page 5, paragraph A.1.6, Annex 46; IPCC 2021 Glossary, page 2241, “Ocean acidification”, Annex 50.

ability to build shells, thereby posing a significant risk to the marine ecosystem.<sup>173</sup>

110. Such damage to the oceans has a negative impact on humans. Persons are reliant on the marine environment for their livelihood, such as those who work in the fishing industry. In this respect, harm to the oceanic environment directly affects their social and economic rights. Human enjoyment of the oceans is also protected under the right to a healthy environment, of which the oceans are a significant part.
111. This impact of anthropogenic gas emissions has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>174</sup>

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<sup>173</sup> See “Oceans and Coastal Ecosystems and Their Services. Climate Change 2022: Impacts, Adaptation and Vulnerability”, Cambridge University Press, 2022, *Intergovernmental Panel on Climate Change*, pp. 379-550, page 460, Annex 52.

<sup>174</sup> In the ITLOS Climate Change Advisory Opinion, see Republic of Sierra Leone, Written Statement of 16 June 2023, paragraph 31, Annex 336; Federated States of Micronesia, Written Statement of 16 June 2023, paragraph 32, Annex 337; Socialist Republic of Vietnam, Oral Statement of 20 September 2023 (am), ITLOS/PV.23/C31/14, page 42, Annex 351; United Kingdom, Written Statement of 16 June 2023, paragraphs 4, 41(c), Annex 325; Republic of Rwanda, Written Statement of 17 June 2023, paragraph 129, Annex 340; European Union, Written Statement of 15 June 2023, paragraphs 44-45, Annex 318; European Union, Oral Statement of 20 September 2023 (am), ITLOS/PV.23/C31/14, page 21, Annex 350; Republic of Mozambique, Written Statement of 16 June 2023, paragraph 3.27, Annex 321; Canada, Written Statement of 16 June 2023, paragraph 14, Annex 326; Republic of Latvia, Written Statement of 16 June 2023, paragraph 17, Annex 339; Kingdom of the Netherlands, Written Statement of 16 June 2023, paragraph 2.5, Annex 338; African Union, Written Statement of 16 June 2023, paragraphs 2, 25, 95, 98-102, Annex 322; African Union, Oral Statement of 21 September 2023 (pm), ITLOS/PV.23/C31/17, page 2, Annex 352; People’s Republic of Bangladesh, Written Statement of 16 June 2023, paragraph 24, Annex 323; People’s Republic of Bangladesh, Oral Statement of 13 September 2023, ITLOS/PV.23/C31/6, pages 21-22, Annex 342; Belize, Written Statement of 16 June 2023, paragraph 19(a), Annex 333; Republic of Chile, Written Statement of 16 June 2023, paragraphs 33, 35, 55, 56, Annex 327; Republic of Chile, Oral Statement of 14 September 2023 (am), ITLOS/PV.23/C31/7, pages 1, 7, Annex 345; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023,

(vi) Like many other States and their peoples, Barbados and its citizens are already experiencing loss and damage due to climate change

112. Some of the worst effects of anthropogenic gas emissions are felt by small island States and other developing States.<sup>175</sup> Although they are among the least responsible of all nations for climate change caused by these gas emissions, these States are likely to suffer strongly from its adverse effects.<sup>176</sup> This makes them a special case requiring the help and attention of the international community.<sup>177</sup> The impact of anthropogenic gas

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paragraphs 98-103, 110-113, Annex 328; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraphs 65, 69, Annex 330; Arab Republic of Egypt, Written Statement of 16 June 2023, paragraphs 13-14, Annex 331; Japan, Written Statement of 15 June 2023, page 2, Annex 319; Federal Republic of Germany, Written Statement of 14 June 2023, paragraph 32, Annex 316; Republic of Indonesia, Oral Statement of 15 September 2023 (am), ITLOS/PV.23/C31/9, pages 1-2, Annex 347.

<sup>175</sup> See “On the Frontlines of Climate Change, Small Island States Can Lead in Resilience”, *The World Bank*, 11 April 2022, Annex 501.

<sup>176</sup> G20 States account for around 78% of global greenhouse gas emissions and “largely determine global emission trends” (“Emissions Gap Report 2019”, *UN Environment Programme*, 2019, page 16, Annex 488 bis).

<sup>177</sup> See “Climate change, small island developing States”, *Climate Change Secretariat, United Nations Framework Convention on Climate Change (UNFCCC)*, 2005, page 5, Annex 474.

emissions on small island States has been accepted by numerous States and international organisations in their submissions to ITLOS.<sup>178</sup>

113. Climate change is “already wreaking havoc on Barbados.”<sup>179</sup> There has been a “significant drying trend” in the Caribbean in the last decades and a noticeable decline in annual rainfalls.<sup>180</sup> In the period 1961-2010, temperatures during the day have risen and there has been a significant increase in extreme warm temperatures.<sup>181</sup> Sea levels are already rising in the Caribbean.<sup>182</sup> Caribbean States face a scarcity of freshwater such that,

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<sup>178</sup> In the ITLOS Climate Change Advisory Opinion, *see* Republic of Singapore, Written Statement of 16 June 2023, paragraph 1, Annex 324; Republic of Mauritius, Written Statement of 16 June 2023, paragraphs 3, 17, Annex 320; United Kingdom, Written Statement of 16 June 2023, paragraph 5, Annex 325; Canada, Written Statement of 16 June 2023, paragraph 4, Annex 326; African Union, Written Statement of 16 June 2023, paragraphs 11, 52, Annex 322; Belize, Written Statement of 16 June 2023, paragraph 15, Annex 333; Commission of Small Island States on Climate Change and International Law (COSIS), Written Statement of 16 June 2023, Vol I, paragraphs 8, 122-124, Annex 328; Democratic Republic of the Congo (DRC), Written Statement of 13 June 2023, paragraph 54, Annex 330; Australia, Oral Statement of 13 September 2023 (am), ITLOS/PV.23/C31/5, page 2, Annex 343; Federal Republic of Germany, Oral Statement of 13 September 2023 (am), ITLOS/PV.23/C31/5, page 17, Annex 344; Argentine Republic, Oral Statement of 13 September 2023 (pm), ITLOS/PV.23/C31/6, page 1, Annex 341; Republic of Chile, Oral Statement of 14 September 2023 (am), ITLOS/PV.23/C31/7, page 6, Annex 345; European Union, Oral Statement of 20 September 2023 (am), ITLOS/PV.23/C31/14, page 21, Annex 350; France, Oral Statement of 25 September 2023 (am), ITLOS/PV.23/C31/18, page 1, Annex 353.

<sup>179</sup> Barbados 2021 Update of the First Nationally Determined Contribution, 1 January 2021, page 6, Annex 306.

<sup>180</sup> T. Stephenson et al., “Changes in extreme temperature and precipitation in the Caribbean region, 1961-2010”, *International Journal of Climatology*, pp. 2957-2971, pages 2958-2959, Annex 40 bis. *See also* Dr A. Thomas et al., “Science of Climate Change and the Caribbean: Findings from the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Cycle (AR6)”, IPCC AR6 (“**Science of Climate Change and the Caribbean**”), page 13, Annex 61 bis.

<sup>181</sup> *See* T. Stephenson et al., “Changes in extreme temperature and precipitation in the Caribbean region, 1961-2010”, *International Journal of Climatology*, pp. 2957-2971, pages 2962-2963, Annex 40 bis. *See also* Science of Climate Change and the Caribbean, page 13, Annex 61 bis.

<sup>182</sup> *See* The Climate Studies Group Mona, The University of the West Indies, “The State of the Caribbean Climate”, 2020, page 40, Annex 44 bis.

for example, Barbados must rely on desalination to meet the freshwater needs of its population.<sup>183</sup> Barbados is one of the world’s most water stressed States.<sup>184</sup> Further:

[t]he likelihood is that with increasing population and social trends Caribbean island states will become evermore water scarce, making additional increases in supply very expensive and environmentally sensitive.<sup>185</sup>

114. As both a small island and a developing State, Barbados “face[s] the consequences of climate change with a very limited quantity of economic, social and natural resources.”<sup>186</sup> The International Monetary Fund has assessed that “Barbados is highly vulnerable to climate change due to increased frequency and intensity of climate-induced natural disasters” yet its “greenhouse gas emissions are low, contributing to less than 0.01 percent of the global total.”<sup>187</sup>

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<sup>183</sup> See A. Cashman et al., “Climate Change in the Caribbean: The Water Management Implications”, *The Journal of Environment & Development*, 2010, pp. 42-67 (“**Climate Change in the Caribbean**”), page 48, Annex 39 bis. See also Science of Climate Change and the Caribbean, page 17, Annex 61 bis.

<sup>184</sup> See The Climate Studies Group Mona, The University of the West Indies, “The State of the Caribbean Climate”, 2020, page 89, Annex 44 bis.

<sup>185</sup> Climate Change in the Caribbean, page 47, Annex 39 bis.

<sup>186</sup> Barbados 2021 Update of the First Nationally Determined Contribution, 1 January 2021, page 6, Annex 306.

<sup>187</sup> “Barbados – Staff Report for the 2023 Article IV Consultation and Second Reviews under the Arrangement under the Extended Fund Facility Arrangement and Arrangement under the Resilience and Sustainability Facility – World Bank Assessment Letter for the Resilience and Sustainability Facility”, *International Monetary Fund*, 6 December 2023 (“**IMF Report on Barbados**”), paragraphs 1-2, Annex 502.

115. Barbados is already allocating significant resources to initiatives aimed at building resilience and adaptive capacity to climate change in Barbados.

This includes, for example:

- a. the Roofs to Reef Program aimed at enhancing the capacity of Barbados to “recover from climatic events”;<sup>188</sup>
- b. the Water Resource Management and Flood Resilience Program which seeks to improve “water resource management and flood resilience”;<sup>189</sup>
- c. the National Coastal Risk Information and Planning Platform which provides key data relating to Barbados’s vulnerability to coastal hazards;<sup>190</sup>
- d. the Water Sector Resilience Nexus for Sustainability in Barbados which “is designed to strengthen the resilience of Barbados to the impacts of climate change” and “support adaptation measures in the water sector”;<sup>191</sup> and
- e. an Integrated Coastal Zone Management Plan which involves assessing and anticipating climate-related risks in order to strengthen Barbados’s resilience to coastal hazards and mitigate climate change induced risks.<sup>192</sup>

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<sup>188</sup> “Barbados Resilience Profile”, *USAID*, May 2021 (“**Barbados Resilience Profile**”), page 5, Annex 46 bis.

<sup>189</sup> Barbados Resilience Profile, page 5, Annex 46 bis.

<sup>190</sup> See Barbados Resilience Profile, page 5, Annex 46 bis.

<sup>191</sup> Barbados Resilience Profile, page 5, Annex 46 bis.

<sup>192</sup> See “Integrated Coastal Zone Management: The Barbados Policy Framework (2020 to 2030)”, ICZM Plan Vol.1, July 2020, page 8, Annex 371 bis.

116. Nevertheless, Barbados and its citizens are already experiencing loss and damage due to climate change. Loss and damage refers to the “negative effects of climate change that occur despite mitigation and adaptation efforts” which are the “unavoidable and irreversible impacts of the climate crisis.”<sup>193</sup>

117. As Prime Minister Mia Mottley stated on World Environment Day 2023:

as Barbadians, the truth is that each day serves as an environment day for us. With the rising sea levels impacting our island, from Six Men’s to Silver Sands, worsening quantities of Sargassum Seaweed blanketing our shores, and the days and nights getting warmer, we know and feel the effects of the Climate Crisis in our nation.

[O]n June 17 [2021], we were impacted by a freak storm and three months later, Hurricane Elsa became the first major hurricane to hit the country since 1955, impacting homes, destroying crops, damaging livestock in the hundreds of thousands and resulting in damage in excess of US \$35 million.<sup>194</sup>

118. In December 2023, the Heads of Government to the Caribbean Community made a joint statement noting that:

[t]he impacts [of climate change] have been devastating for our Region. Loss and damage have struck at the core of our economies and our societies. At one extreme, lives and livelihoods have been lost. At the other extreme, our

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<sup>193</sup> “About loss and damage”, *UN Environment Programme*, 2024, Annex 490.

<sup>194</sup> “Prime Minister Statement for World Environment Day 2023”, *Barbados Government Information Service*, 5 June 2023, Annex 315.

environment is under siege. We pay for our losses from threadbare pockets.<sup>195</sup>

119. Barbados has made huge strides forward in recent years as a vibrant and economically productive democracy. But the disproportionately high impact of climate change on Barbados puts that progress at risk.<sup>196</sup> For example, Bridgetown harbour is the primary economic coastal asset of the State.<sup>197</sup> The harbour handles the most tourists per year in Barbados but already stands significantly impacted by a rise in sea levels, storm surges and coastal erosion, with the prospect of worse ahead.<sup>198</sup>
120. Unfortunately, the Caribbean will face severe climate consequences due to its low-lying land mass and fragile marine environments.<sup>199</sup> Climate models demonstrate that the Caribbean, including Barbados, will face further deleterious effects of climate change in the near future. These models evidence an increase in annual temperatures in the Caribbean “of approximately 2.9°C” for the period 2071-2100 which is “well outside the range of natural variability.”<sup>200</sup> Projections for seasonal temperatures

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<sup>195</sup> Joint statement for the Heads of Government of the Caribbean Community (CARICOM) at the twenty-eighth session of the Conference of the Parties (COP 28) to the United Nations Framework Convention on Climate Change (UNFCCC), 4 December 2023, page 1, Annex 370 bis.

<sup>196</sup> See “INDC Project Actions and Impacts: Barbados”, *United Nations Development Programme*, May 2019, Annex 484.

<sup>197</sup> See M. Mycoo et al., “Human Adaptation to Coastal Hazards in Greater Bridgetown, Barbados”, *Frontiers in Environmental Science*, 2021, Annex 533.

<sup>198</sup> See M. Mycoo et al., “Human Adaptation to Coastal Hazards in Greater Bridgetown, Barbados”, *Frontiers in Environmental Science*, 2021, pages 6, 12, Annex 533. See also IMF Report on Barbados, paragraph 1, Annex 502.

<sup>199</sup> See “Climate Change 2023. Synthesis Report of the IPCC Sixth Assessment Report (AR6). Longer Report”, IPCC AR6 SYR, *Intergovernmental Panel on Climate Change*, 2023, pages 16-17, Annex 56.

<sup>200</sup> J. D. Campbell et al., “Future climate of the Caribbean from a regional climate model”, *International Journal of Climatology*, 2010, pp. 1866-1878, PDF page 10, Annex 38 bis.



further suggest an increase of 2°C to 5°C across the Caribbean for the same period.<sup>201</sup>

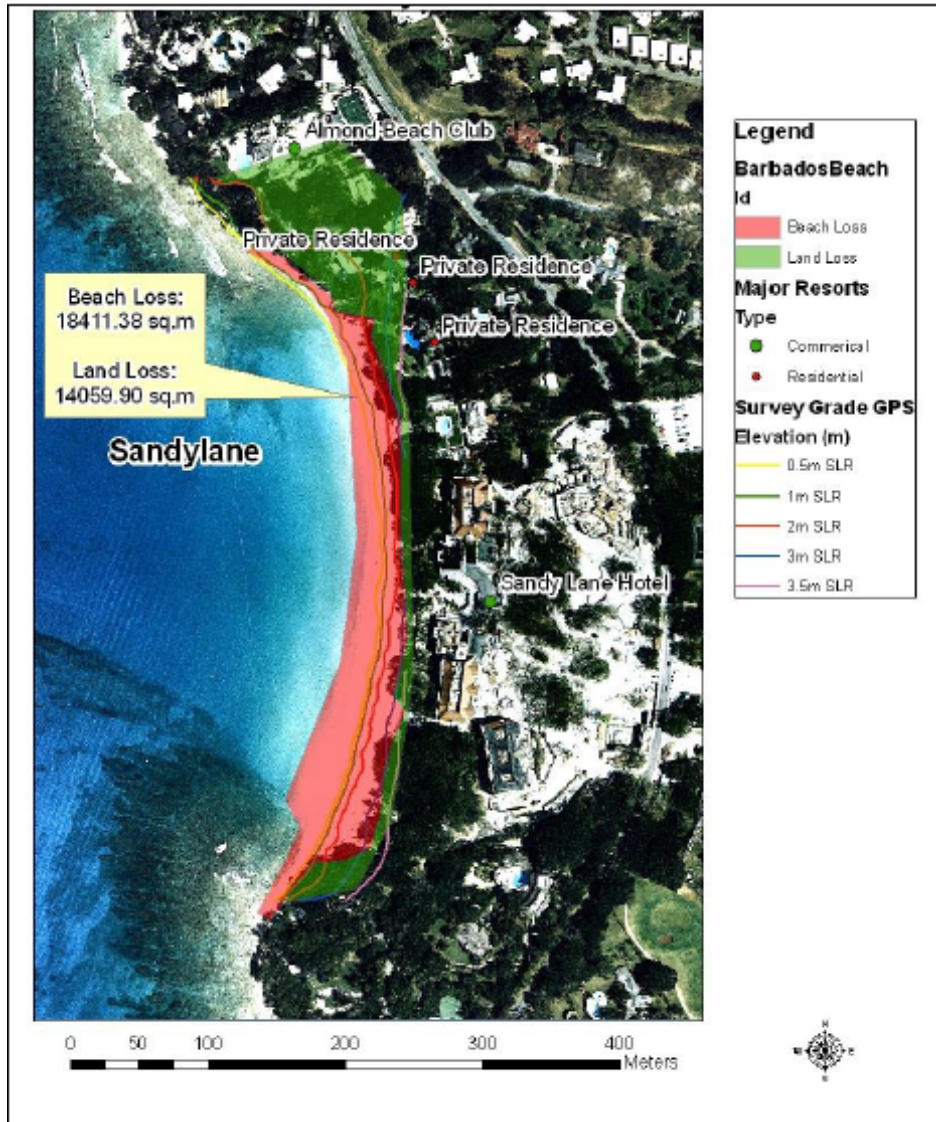
121. Sea levels in the Caribbean will rise at a rate of “5.0 to 10.0mm per year” in the “next several decades”, putting low lying coastal islands of the Caribbean in great distress.<sup>202</sup> For example, as Barbados communicated to the UNFCCC in 2018, it faces considerable loss of coastal area due to climate change. This is seen in the following two pictures:<sup>203</sup>

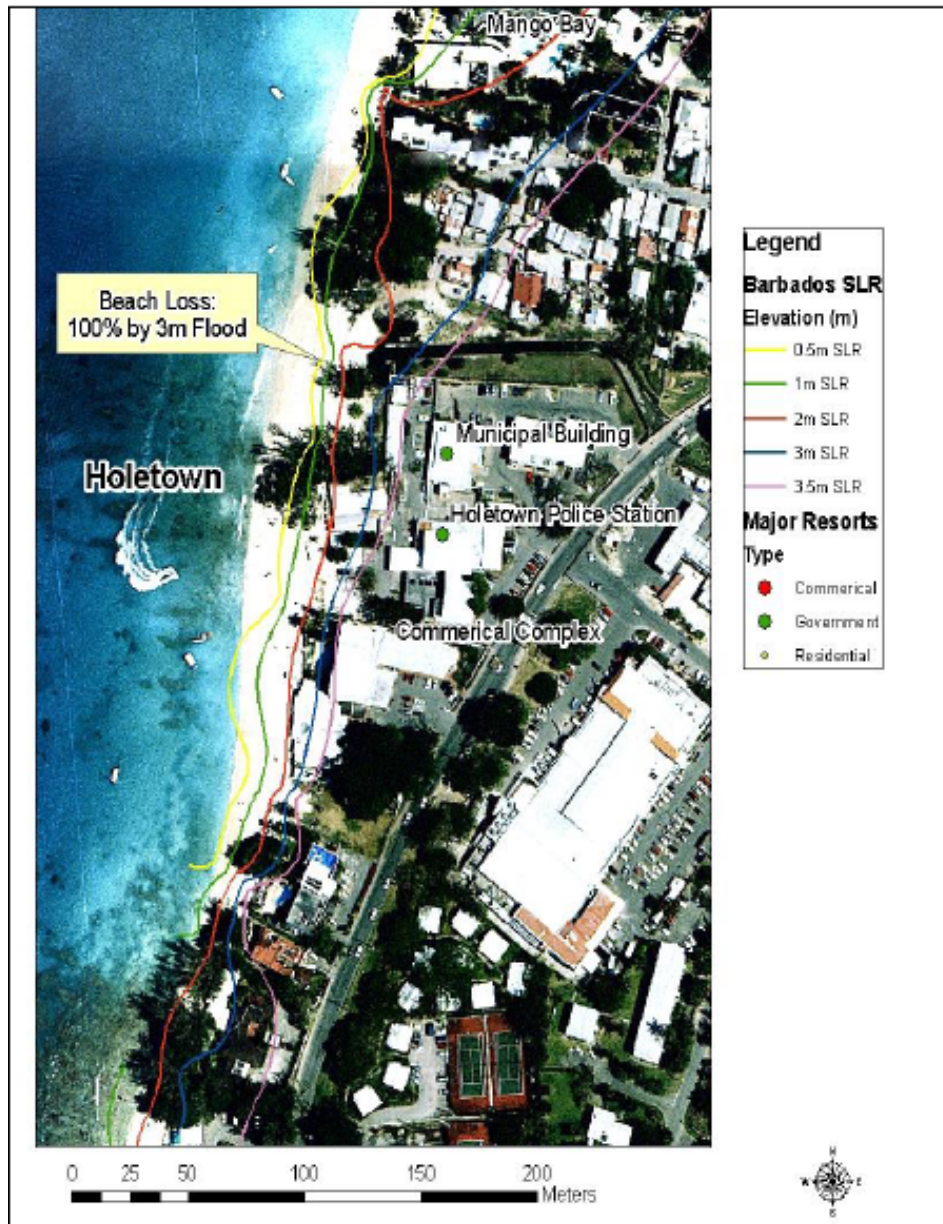
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<sup>201</sup> J. D. Campbell et al., “Future climate of the Caribbean from a regional climate model”, *International Journal of Climatology*, 2010, pp. 1866-1878, PDF page 10, Annex 38 bis.

<sup>202</sup> Climate Change in the Caribbean, pages 51-52, Annex 39 bis.

<sup>203</sup> See Barbados’ Second National Communication under the United Nations Framework Convention on Climate Change, April 2018, pages 50-51, Annex 359, citing Simpson et al., “CARIBSAVE Climate Change Risk Atlas (CCCRA) – Barbados”, 2012, DFID, AusAID and The CARIBSAVE Partnership, Barbados, West Indies, pages 79-80, Annex 41 bis.





122. The combination of drought conditions and rising sea levels will also foster “salinity intrusion into coastal and groundwater aquifers,” further threatening freshwater resources of Caribbean States.<sup>204</sup>
123. Rising sea levels, ocean acidification and coral bleaching will adversely affect reef fishing in the Caribbean.<sup>205</sup> This will have a significant impact on small-scale fisheries that rely on reef fishing for their livelihoods.<sup>206</sup>
124. As about 70% of the Caribbean population lives and works in coastal areas, where most of the infrastructure is located:

the cost to Caribbean [small island developing States] from increased hurricane damage, infrastructure damage and loss of tourism revenue due to climate change is projected to reach \$22 billion by 2050 or about 10% of the current regional economy.<sup>207</sup>

125. Barbados faces the prospect of these and further climate change impacts. In addition to droughts and rising sea levels described above, these impacts include eroding shorelines and loss of reefs and fisheries.<sup>208</sup> The

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<sup>204</sup> Climate Change in the Caribbean, page 52, Annex 39 bis.

<sup>205</sup> See L. Nurse, “The implication of global climate change for fisheries management in the Caribbean”, *Climate and Development*, 2011, pp. 228-241, pages 231-232, Annex 42 bis.

<sup>206</sup> See L. Nurse, “The implication of global climate change for fisheries management in the Caribbean”, *Climate and Development*, 2011, pp. 228-241, pages 232-233, Annex 42 bis.

<sup>207</sup> “Rising to the climate challenge: Coastal and marine resilience in the Caribbean”, *Canari Issue Paper*, 2021, page 2, Annex 45 bis.

<sup>208</sup> See “Barbados Resists Climate Colonialism in an Effort to Survive the Costs of Global Warming” *ProPublica*, 27 June 2022, Annex 310. See also IMF Report on Barbados, paragraph 1, Annex 502; Science of Climate Change and the Caribbean, pages 18 and 26 (“further loss of 70-90% of reef-building corals compared to today, with 99% of corals being lost under warming of 2°C or more above the pre-industrial period (*high confidence*)”), Annex 61 bis.

loss of reefs reduces protection against sea surges and tsunamis, increasing the island’s vulnerability.<sup>209</sup>

126. As part of its leadership in addressing the impacts of climate change on behalf of all vulnerable peoples and States, Barbados is honoured that it has been selected to serve as the next Chair of the Climate Vulnerable Forum (“CVF”). The CVF is an international partnership of sixty-eight developing countries, representing over 1.74 billion people and USD 3.8 trillion of gross domestic product, who are uniquely vulnerable to the adverse impacts of climate change. The CVF is also forming an independent Secretariat, headed by former Maldives President Mohamed Nasheed as Secretary-General, to continue its work to address the impact of climate change on vulnerable States.<sup>210</sup> Barbados reaffirms its commitment to the CVF and, indeed, to the amelioration of the harms of climate change for all vulnerable States around the world.

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<sup>209</sup> See “Oceans and Coastal Ecosystems and Their Services. Climate Change 2022: Impacts, Adaptation and Vulnerability”, Cambridge University Press, *Intergovernmental Panel on Climate Change*, 2022, pp. 379-550, page 382, Annex 52.

<sup>210</sup> See, e.g., “Barbados to Hold Next Climate Vulnerable Forum Presidency with former Maldives president Mohamed Nasheed as first CVF-V20 Secretary-General”, *Climate Vulnerable Forum, Vulnerable Twenty Group*, 1 December 2023, Annex 368 bis; “The Climate Vulnerable Forum & The Vulnerable Group of Twenty – An Overview Guide”, *Climate Vulnerable Forum, Vulnerable Twenty Group*, 2022, pages 8, 12-13, Annex 369 bis.

**V. THIS COURT SHOULD ANSWER THE REQUEST ON THE BASIS OF INTERNATIONAL LAW AS IT EXISTS**

127. As the principal judicial organ of the UN, the Court should answer this Request on the basis of international law as it exists, in light of all relevant sources of law. It should do so notwithstanding the prevailing policy considerations of large and developed States on climate change.
128. This advisory opinion is not like the *Nuclear Weapons Advisory Opinion*. In that advisory opinion, this Court decided that the threat or use of nuclear weapons would “generally” be contrary to international law but could not conclude “definitively” whether such weapons would be unlawful.<sup>211</sup> It did so only because the relevant legal principles were not yet fully established in international law. The opposite is true in respect of this advisory opinion.
129. This Court should have regard to the full panoply of sources when considering the existence and scope of each obligation, rule, duty and principle of international law under the Request. International law is rich with sources from all legal traditions, languages and backgrounds. This written statement discusses international law obligations, duties, rules and principles that are accepted under multiple sources of international law listed in Article 38 of the ICJ Statute. This includes “international conventions,” “international custom, as evidence of a general practice accepted as law,” “general principles of law,” “judicial decisions” and the “teachings of the most highly qualified publicists.”<sup>212</sup> Indeed, the sources listed in this written statement include historical conventions. This Court

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<sup>211</sup> *Nuclear Weapons Advisory Opinion*, paragraph 105(2)(E), Annex 392.

<sup>212</sup> ICJ Statute, Article 38.

also refers to various materials as evidence of customary international law, including domestic court decisions, domestic legislation, resolutions of UN organs and other specialised agencies, decisions and commentaries of treaty bodies and reports of the International Law Commission (the “ILC”), all of which are cited here.<sup>213</sup>

130. Some States may have different public policy considerations, especially as concerns the costs of redress and mitigation of climate change damage. However, unlike States before this Court in the *Nuclear Weapons Advisory Opinion*, the international community agrees about the climate emergency and the need for international courts to clarify international law. It is no coincidence that UN Member States unanimously agreed to request this Court for an advisory opinion on this topic too.<sup>214</sup> As explained throughout this written statement, the legal principles at issue in this advisory opinion have been well-established in international law for decades and centuries – indeed, they were uncontested before Roman times.

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<sup>213</sup> See, e.g., *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion of 9 July 2004*, I. C. J. Reports 2004, p. 136, pages 171-179, Annex 417; I. Brownlie, *Principles of Public International Law* (Oxford, 5ed., 1998), page 5, Annex 512; S. Rosenne, *The Law and Practice of the International Court, 1920-2005* (Martinus Nijhoff Publishers, 4ed., 2006), pages 1551-1552, Annex 514; *Nuclear Weapons Advisory Opinion*, paragraph 70, Annex 392.

<sup>214</sup> See UN General Assembly Resolution 77/276, Annex 233.

**VI. QUESTION (A): WHAT ARE THE OBLIGATIONS OF STATES UNDER INTERNATIONAL LAW TO ENSURE PROTECTION OF THE CLIMATE SYSTEM AND OTHER PARTS OF THE ENVIRONMENT FROM ANTHROPOGENIC EMISSIONS OF GREENHOUSE GASES FOR STATES AND FOR PRESENT AND FUTURE GENERATIONS?**

**ANSWER**

132. This Section sets out the obligations of States under international law to ensure protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases for States and for present and future generations. This comprises: (a) the obligation not to cause transboundary harm (*see Section VI.A*); (b) the obligation to protect and preserve the environment within a State's own jurisdiction (*see Section VI.B*); (c) the obligation to protect and preserve the environment in areas beyond national control (*see Section VI.C*); (d) the obligation to mitigate and repair (*see Section VI.D*); (e) the obligation to cooperate (*see Section VI.E*); and (f) the obligation to compensate (*see Section VI.F*).

**A. Obligation not to cause transboundary harm: States must ensure that activities within their jurisdiction and control do not harm the environment of other States**

133. Under international law, States are obligated not to cause transboundary harm, including environmental harm.

134. It is well-established in customary international law that States cannot cause transboundary harm, i.e., they cannot conduct or even permit



activities in their own territory that harm the territories of other States.<sup>215</sup>

This well-established principle applies to climate change.

135. This obligation pre-dates even the Industrial Revolution. The *sic utere tuo ut alienum non laedas* principle (in English, “[u]se your own property in such a way that you do not injure other people’s”)<sup>216</sup> has been well-established since the time of Roman law.<sup>217</sup> It was already “[o]ne of the tritest of maxims in the law of England” in 1897,<sup>218</sup> having been recognised by United Kingdom courts, for example, in 1610.<sup>219</sup>
136. The related principle of good neighbourliness, which requires States to abstain from conduct that causes harm to other States, also pre-dates the Industrial Revolution.<sup>220</sup> Iterations of this principle appear in Chinese and Japanese law on conciliation,<sup>221</sup> Malaysian and Indonesian customary law<sup>222</sup> and Romanian treaties with neighbouring States as early as 1655.<sup>223</sup>

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<sup>215</sup> See *Nuclear Weapons Advisory Opinion*, paragraph 29, Annex 392.

<sup>216</sup> J. Law & E. A. Martin, “sic utere tuo ut alienum non laedas”, in *A DICTIONARY OF LAW* (Oxford University Press, 2006), Annex 526.

<sup>217</sup> See A. Watson, “The Digest of Justinian, Volume 1”, *University of Pennsylvania Press*, 1998, Digest 8.5., pages 269-270, Annex 167.

<sup>218</sup> M. De Villiers, “Nuisances in Roman Law”, *Law Quarterly Review*, 1897, pp. 387-394, page 387, Annex 168.

<sup>219</sup> See *Aldred’s Case* (1610) 77 ER 816, page 821, Annex 169.

<sup>220</sup> See J. G. Lammers, *Pollution of International Watercourses* (Martinus Nijhoff Publishers, 1984), page 568, Annex 186; L. B. Chazournes & D. Campanelli, “Neighbour States” in *Max Planck Encyclopedia of Public International Law*, 2006, paragraphs 9 and 10, Annex 187.

<sup>221</sup> See C. W. Jenks, “Tolerance and Good Neighbourliness as Concepts of International Law”, *Malaya Law Review*, 1967, pp. 1-9, page 2, Annex 188.

<sup>222</sup> See C. W. Jenks, “Tolerance and Good Neighbourliness as Concepts of International Law”, *Malaya Law Review*, 1967, pp. 1-9, page 2, Annex 188.

<sup>223</sup> See F. Dumitrita & N. Gales, “Affirming the Principle of Good Neighborliness in International Relations”, *Logos Universality Mentality Education Novelty Section: Law*, Vol. 8, no. 2 (2020), pp. 1-10, page 7, Annex 547.

137. The ancient Hindu legal code, the Manu Smriti, also provides that a legal wrong is committed by damaging the natural environment of another's property – in chapter 8, verses 288 and 289, it states that legal damages must be paid by one who “damages the goods of another,”<sup>224</sup> including for damage to “flowers, roots, and fruit.”<sup>225</sup> The same principle animates Buddhist legal principles, as well.<sup>226</sup>
138. Further, the ancient Chinese T'ang Code, first promulgated in 642 AD, prohibited damage to public and private property, including letting out “filth” through walls.<sup>227</sup> The Great Qing Code, first promulgated in 1647, similarly prohibited damage to property.<sup>228</sup> This principle is encapsulated in modern Chinese laws requiring that “[a]ny person who pollutes the environment and causes damages to others in violation of State provisions

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<sup>224</sup> J.L. Shastri, *Manusmṛti of Kullūka Bhaṭṭa* (Motilal Banarsidass, 2000), page 324, as translated in G. Bühler, “The Laws of Manu”, in *The Sacred Books of the East*, Oxford University Press, 1886, reprinted by Motilal Banarsidass, 1964, Vol. XXV, page 305, paragraph 288, Annex 170.

<sup>225</sup> J.L. Shastri, *Manusmṛti of Kullūka Bhaṭṭa* (Motilal Banarsidass, 2000), page 324, as translated in G. Bühler, “The Laws of Manu”, in *The Sacred Books of the East*, Oxford University Press, 1886, reprinted by Motilal Banarsidass, 1964, Vol. XXV, page 305, paragraph 289, Annex 170.

<sup>226</sup> *See Case concerning the Gabčíkovo-Nagymaros Project (Hungary v Slovakia), Judgment of 25 September 1997, I.C.J. Reports 1997*, p. 7 (“**Gabčíkovo-Nagymaros**”), Separate Opinion of Vice-President Weeramantry, page 102, Annex 395.

<sup>227</sup> G. MacCormack and F. X. Wang, “The T'ang Code: Early Chinese Law”, *Irish Jurist*, 1983, pp. 132-150, page 133; Annex 189; W. Johnson, “The T'ang Code, Volume II: Specific Articles”, *Princeton Library of Asian Translations*, 1997, Articles 204, 284, 404, 425, Annex 171.

<sup>228</sup> *See* L. H. Zhang and N. Dong, *The Great Qing Code in Comparative and Historical Perspective*, in *LAW, JUSTICE AND CODIFICATION IN QING CHINA: EUROPEAN AND CHINESE PERSPECTIVES. ESSAYS IN HISTORY AND COMPARATIVE LAW*, ed. Guido Abbattista (Edizioni Università di Trieste, 2017), page 156, Annex 190; W. C. Jones, “The Great Qing Code”, *Oxford University Press*, 1994, Article 98, Annex 172.

for environmental protection and the prevention of pollution shall bear civil liability in accordance with the law.”<sup>229</sup>

139. Islamic law (i.e., Sharia law) also supports the international obligation not to cause transboundary harm. The *hadith*, which are sayings of the Prophet Muhammad (PBUH),<sup>230</sup> state that “[w]hoever harms [others], Allah will harm him, and whoever causes hardship [to others] Allah will cause hardship to him”<sup>231</sup> and “let there be no infliction of harm nor its reciprocation.”<sup>232</sup> The Ottoman Civil Code elaborated between 1869 and 1875 and based on Islamic law (which was also in force in Jordan and Kuwait),<sup>233</sup> states that “[e]ach man can build an enclosure as high as he likes, which is his property, and can place on it what he wishes, without his neighbour being able to hinder him, so long as an excessive injury does not result by reason of it,” which includes excessive smoke escaping to the neighbour’s property.<sup>234</sup>

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<sup>229</sup> General Principles of the Civil Law of the People’s Republic of China, 1986, Article 124, Annex 268. *See also*, e.g., Tort Law of the People’s Republic of China, 2010, Article 65, Annex 269 (“Where any harm is caused by environmental pollution, the polluter shall assume the tort liability”); Environmental Protection Law of the People’s Republic of China, 1989, Articles 38-39, 41 and 44-45, Annex 270.

<sup>230</sup> *See* G. E. Roughton, “The Ancient and the Modern: Environmental Law and Governance in Islam”, *Columbia Journal of Environmental Law*, 2007, pp. 99-140, page 102, Annex 191.

<sup>231</sup> N. M. Nasir et al., “Environmental Sustainability and Contemporary Islamic Society: A Shari’a Perspective”, *Asian Academy of Management Journal*, 2022, pp. 211-231, page 221, Annex 192 (second and third brackets appear in the original), citing as primary source: Abu Dawood, Book 19, Hadith 3635.

<sup>232</sup> M. H. Kamali, “Legal Maxims and Other Genres of Literature in Islamic Jurisprudence”, *Arab Law Quarterly*, 2006, pp. 77-102, page 85, Annex 193.

<sup>233</sup> *See* J. G. Lammers, *Pollution of International Watercourses* (Martinus Nijhoff Publishers, 1984), page 485, Annex 186. The Ottoman Civil Code was known by various names, including Medjellè.

<sup>234</sup> *See* W. E. Grigsby, *The Medjellè or Ottoman Civil Law* (Nicosia, 1895), page 246, Annex 173, citing Medjellè, Articles 1198, 1200. *See also*, e.g., W. E. Grigsby, *The*

140. Unsurprisingly, Judges of this Court have expressly referred to the same fundamental principle of *sic utere*.<sup>235</sup>
141. Modern international instruments document the obligations not to cause transboundary environmental harm. For example:
- a. under the Convention on the Law of the Non-Navigational Uses of International Watercourses, 41 States recognise a duty that mandates countries using an international watercourse within their territories to take suitable measures to avert causing significant harm to other countries sharing the same watercourse.<sup>236</sup> This convention has been described as a codification of customary international law in respect to obligations to equitable and reasonable utilisation, prevention of significant harm and prior notification of planned measures;<sup>237</sup>

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*Medjellè or Ottoman Civil Law* (Nicosia, 1895), pages 246, 257, Annex 173, citing Medjellè, Article 1197 (“No one can be hindered from the use of his own property unless from this excessive injury result to another person, then he can be hindered”) and Article 1254 (“Each man can take the benefit of a common thing, but under the condition that he does not cause injury to others”), Annex 173.

<sup>235</sup> See, e.g., *Nuclear Tests (Australia v France)*, Judgment of 20 December 1974, I.C.J. Reports 1974, p. 253, Dissenting Opinion of Judge Castro, page 388, Annex 389; *Gabčíkovo-Nagymaros*, Separate Opinion of Vice-President Weeramantry, page 102, Annex 395.

<sup>236</sup> See Convention on the Law of the Non-Navigational Uses of International Watercourses, 21 May 1997, 2999 UNTS 77 (“**Convention on the Law of the Non-Navigational Uses of International Watercourses**”), Article 7(1) (“Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States”), Annex 128.

<sup>237</sup> See S. C. McCaffrey, “Introductory note to the Convention on the Law of the Non-navigational Uses of International Watercourses”, *United Nations Audiovisual Library of International Law*, 30 June 2008, Annex 521.

- b. under the UN Convention on the Law of the Sea, 168 States and the European Union recognise the *sic utere* principle;<sup>238</sup>
- c. under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 52 States undertake to take all appropriate measures to “prevent, control and reduce” any transboundary impact;<sup>239</sup>
- d. under the Vienna Convention for the Protection of the Ozone Layer, 197 States and the European Union recognise they must “adopt appropriate legislative or administrative measures and cooperate in harmonising appropriate politics to control, limit, reduce, or prevent human activities under their jurisdiction or control should it be found that these activities have or are likely to have adverse effects resulting from modification or likely modification of the ozone layer”;<sup>240</sup>
- e. under the Convention on long-range transboundary air pollution, 52 States and the European Union state they are “determined to protect man and his environment against air pollution and shall endeavour to limit and, as far as possible, gradually reduce and

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<sup>238</sup> See United Nations Convention on the Law of the Sea, 10 December 1982, 1833 UNTS 3 (“UNCLOS”), Article 194(2) (“States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention”), Annex 95.

<sup>239</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 17 March 1992, 1936 UNTS 269 (“**Convention on the Protection and Use of Transboundary Watercourses and International Lakes**”), Article 2, Annex 109.

<sup>240</sup> Vienna Convention for the Protection of the Ozone Layer, 22 March 1985, 1513 UNTS 293 (“**Vienna Convention for the Protection of the Ozone Layer**”), Article 2, Annex 98.

prevent air pollution including long-range transboundary air pollution”;<sup>241</sup>

- f. under the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 79 States recognise that the Contracting States have “the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”;<sup>242</sup> and
- g. under the Convention on Environmental Impact Assessment in a Transboundary Context, 44 States and the European Union commit to “either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities.”<sup>243</sup>

142. Regional conventions also refer to the same legal prohibition on transboundary harm:

- a. under the Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, 21 States and the European Union recognise they must “take all appropriate measures to prevent, abate and to the fullest possible extent eliminate pollution of the environment which can be caused

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<sup>241</sup> Convention on long-range transboundary air pollution, 13 November 1979, 1302 UNTS 217 (“**Convention on long-range transboundary air pollution**”), Article 2, Annex 89.

<sup>242</sup> Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972, 1046 UNTS 120, Preamble, Annex 82.

<sup>243</sup> Convention on Environmental Impact Assessment in a Transboundary Context, 25 February 1991, 1989 UNTS 309, Article 2.1, Annex 166.

by transboundary movements and disposal of hazardous wastes, and to reduce to a minimum, and if possible, eliminate such transboundary movements”;<sup>244</sup>

- b. under the Protocol for the Protection of the Mediterranean Sea against Pollution resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, 14 States and the European Union agree to “take all measures necessary to ensure that activities under [their] jurisdiction are so conducted as not to cause pollution beyond the limits of [their] jurisdiction”;<sup>245</sup>
- c. under the ASEAN Agreement on Transboundary Haze Pollution, 10 States acknowledge, “in accordance with the Charter of the United Nations and the principles of international law”, their “responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment and harm to human health of other States or of areas beyond the limits of national jurisdiction”;<sup>246</sup> and
- d. under the Protocol Concerning Pollution from Land-Based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean

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<sup>244</sup> Amendments to the Convention for the Protection of the Mediterranean Sea Against Pollution (the title of the Convention was amended as: Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean), 10 June 1995, OJ L 322, Article 11, Annex 124.

<sup>245</sup> Protocol for the Protection of the Mediterranean Sea against Pollution Resulting from Exploration and Exploitation of the Continental Shelf and the Seabed and its Subsoil, 14 October 1994, OJ L 4/15, Article 26(1), Annex 122.

<sup>246</sup> ASEAN Agreement on Transboundary Haze Pollution, 10 June 2002, Article 3(1), Annex 139.

Region, 12 States agree to consult with each other to resolve the issue of transboundary pollution.<sup>247</sup>

143. In addition to such binding instruments, non-binding instruments also hold particular importance in the Court’s analysis. Non-binding instruments gain significant legal weight when they are consistently reaffirmed by international entities and authorities over time.<sup>248</sup> This reaffirmation often plays a substantial role in shaping and recognising international legal norms originating from conventional sources.<sup>249</sup> The following non-binding instruments confirm the obligation against transboundary harm:
- a. in 1972 and 1974, UN Member States twice accepted the responsibility not to cause transboundary harm, in the 1972 Stockholm Declaration (adopted by 113 States) and General Assembly Resolution 3281 (XXIX) (1974) (adopted with votes from 121 States in favour);<sup>250</sup>

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<sup>247</sup> See Protocol Concerning Pollution from Land-Based Sources and Activities to the Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 6 October 1999, US Treaty Series 10-813, Article IX, Annex 133.

<sup>248</sup> See K. Schmalenbach, *States Responsibility and Liability for Transboundary Environmental Harm*, in CORPORATE LIABILITY FOR TRANSBOUNDARY ENVIRONMENTAL HARM: AN INTERNATIONAL AND TRANSNATIONAL PERSPECTIVE, eds. K. Schmalenbach et al. (Springer, 2023), page 55, Annex 541.

<sup>249</sup> See J. Friedrich, *International environmental “soft law”* (Springer, 2013), pages 143-170, Annex 524.

<sup>250</sup> See Report of the United Nations Conference on the Human Environment, Declaration of the United Nations Conference on the Human Environment, A/CONF.48/14/Rev.1, 16 June 1972 (“**Stockholm Declaration**”), Principle 21 (“States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and 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”), Annex 469. See also UN General Assembly Resolution 3281(XXIX) (1974), A/9946, 12 December 1974, Article 30 (“All States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the



- b. by the 1974 OECD Recommendation of the Council on Principles concerning Transfrontier Pollution, the Council of the OECD (made up of ambassadors from Member States of the OECD) recommended that Member States “co-operate in developing international law applicable to transfrontier pollution”,<sup>251</sup>
- c. by General Assembly Resolution 37/7 (1982) (adopted with votes from 111 States in favour), UN Member States committed to ensure that their activities do not cause any harm to “natural systems located within other States or in the areas beyond the limits of national jurisdiction”,<sup>252</sup>
- d. the UN Conference on Environment and Development in 1989 reaffirmed States’ “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>253</sup>
- e. during UN Conference on Environment and Development in 1992, 179 States adopted the Rio Declaration on Environment and

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environment of other States or of areas beyond the limits of national jurisdiction”), Annex 211.

<sup>251</sup> “OECD, Recommendation of the Council on Principles concerning Transfrontier Pollution”, OECD/LEGAL/0133, *OECD*, 14 November 1974, page 4, Annex 507.

<sup>252</sup> UN General Assembly Resolution 37/7 (1982), A/RES/37/7, 29 October 1982, Principle 21(d), Annex 213.

<sup>253</sup> UN General Assembly Resolution 44/228 (1989), A/RES/44/228, 22 December 1989, paragraph 7, Annex 216.

Development and agreed to cooperate and notify to prevent any transboundary harm;<sup>254</sup>

- f. in 2001, the ILC proclaimed that States “shall take all appropriate measures to prevent significant transboundary harm”;<sup>255</sup> and
- g. States’ submissions before the Inter-American Court of Human Rights (“**IACtHR**”) in related advisory proceedings before the IACtHR have also confirmed that the obligation not to cause transboundary harm is a relevant part of general international law.<sup>256</sup>

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<sup>254</sup> See Report of the United Nations Conference on the Human Environment and Development, Rio Declaration on Environment and Development, A/CONF.151/26/Rev.1 (Vol. 1), June 3-14 1992 (“**Rio Declaration**”), Principle 14 (“States should effectively cooperate to discourage or prevent the relocation and transfer to other States of any activities and substances that cause severe environmental degradation or are found to be harmful to human health”) and Principle 18 (“States shall immediately notify other States of any natural disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those States. Every effort shall be made by the international community to help States so afflicted”), Annex 281.

<sup>255</sup> “Draft Articles on Prevention of Transboundary Harm from Hazardous Activities”, Report of the Commission to the General Assembly on the work of its fifty-third session, Yearbook of the International Law Commission, A/CN.4/SER.A/2001/Add.1 (Part 2), *International Law Commission*, 10 August 2001, Article 3, Annex 493.

<sup>256</sup> In the *Request for Advisory Opinion OC-32 on Climate Emergency and Human Rights presented by the Republic of Chile and the Republic of Colombia* (“**IACtHR Second Climate Change Advisory Opinion**”), see, e.g., Written Observations of the Republic of Colombia, 18 December 2023, paragraph 71, Annex 353 bis; Written Observations of the Republic of El Salvador, 18 December 2023, page 11, Annex 354 bis.

144. International case law, including that of this Court, also reflects the importance of the obligation not to cause transboundary harm, including environmental harm:
- a. in *Corfu Channel*, this Court ruled that it is “every State’s obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States”;<sup>257</sup>
  - b. in the *Nuclear Weapons Advisory Opinion*, as noted above, this Court confirmed this principle and established that the “existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment”;<sup>258</sup>
  - c. in *Pulp Mills*, this Court added that “the principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State in its territory . . . A State is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State. This Court has established that this obligation ‘is now part of the corpus of international law relating to the environment.’”<sup>259</sup> This Court also stated that “it may now be considered a requirement under general international law to undertake an environmental

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<sup>257</sup> *Corfu Channel (United Kingdom of Great Britain and Northern Ireland v Albania), Merits, Judgment of 9 April 1949, I.C.J. Reports 1949*, p. 4, page 22, Annex 384.

<sup>258</sup> *Nuclear Weapons Advisory Opinion*, paragraph 29, Annex 392.

<sup>259</sup> *Case of Pulp Mills on the River Uruguay (Argentina v Uruguay), Judgment of 20 April 2010, I.C.J. Reports 2010*, p. 14 (“**Pulp Mills**”), paragraph 101, Annex 400.

impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a transboundary context, in particular, on a shared resource”;<sup>260</sup>

- d. in *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua)*, this Court set out procedural and substantive obligations of States that flow from the obligation not to cause transboundary harm, including the obligation to undertake an environmental impact assessment and the “obligation to exercise due diligence in preventing significant transboundary environmental harm”;<sup>261</sup>
- e. in *Disputes over the Waters of the Silala River (Bolivia v Chile)*, this Court confirmed that in “general international law,” States have an obligation not to cause harm to another State’s environment “in a transboundary context, and in particular as regards a shared resource”;<sup>262</sup> and
- f. in the *Trail Smelter Arbitration*, in awarding damages for transboundary harm, the tribunal confirmed that “under the principles of international law, as well as of the law of the United States of America, no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein,

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<sup>260</sup> *Pulp Mills*, paragraph 204, Annex 400.

<sup>261</sup> *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica)*, Merit, Judgment of 16 December 2015, I.C.J. Reports 2015, p. 665, paragraph 153, Annex 406.

<sup>262</sup> *Disputes over the Waters of the Silala River (Bolivia v Chile)*, Merit, Judgment of 1 December 2022, I.C.J. Reports 2022, p. 614, paragraph 99, Annex 383.

when the case is of serious consequence and the injury is established by clear and convincing evidence.”<sup>263</sup>

145. The opinions of the most highly qualified publicists also concur. For example, a group of human rights and environmental law experts (including former judges of the European Court of Human Rights (“**ECtHR**”), Paulo Pinto de Albuquerque and Helen Keller, and UN Special Rapporteur on Human Rights and the Environment, David R. Boyd) have drafted the Strasbourg Principles, which note that States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States.<sup>264</sup> In addition, in 1986, the International Law Association, a non-governmental organisation created to study the developments of international law, drafted rules on international groundwaters that included an obligation on basin States to “prevent or abate the pollution of international groundwaters in accordance with international law applicable to existing, new, increased and highly dangerous pollution.”<sup>265</sup>
146. States also recognise the existence of the obligation not to cause transboundary harm through their practice:
- a. the United States of America consented to Canada damming the St Lawrence River with a part of it being in the American

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<sup>263</sup> *Trail Smelter Arbitration (United States v Canada)*, Awards, 16 April 1938 and 11 March 1941, RIAA, Vol. III, p. 1905 (“**Trail Smelter Arbitration**”), page 1965, Annex 433.

<sup>264</sup> See “The Strasbourg Principles of International Environmental Human Rights Law – 2022”, *Journal of Human Rights and the Environment*, 2022, pp. 195-2020 (“**Strasbourg Principles**”), Principle 36, Annex 540.

<sup>265</sup> “Rules on International Groundwaters”, Report of the Sixty-Second Conference, Seoul Conference Report, 1986, Committee on International Water Resources, pp. 251-274, *International Law Association*, Article 3(1), Annex 513.

territory, under some conditions, one being that “if the construction and operation of the said dam causes damage or detriment to the property owners of Les Galops Island or to the property of any other citizens of the United States, the government of Canada shall pay such amount of compensation as may be agreed upon between the said government and parties damaged, or as may be awarded the said parties in the proper court of the United States before which claims for damage may be brought”,<sup>266</sup> and

- b. the United Kingdom reserved its right “with the Soviet Government to claim compensation on our own behalf on behalf of our citizens for any losses suffered as a consequence of the accident at Chernobyl” on 21 July 1986.<sup>267</sup>

147. As adeptly stated by the Republic of Colombia in its recent submissions on climate change to the IACtHR in 2023:

. . .at the international level there is an obligation not to cause transboundary damage, which refers not only to the negative obligation or “not to do”, but the duty to ensure that all activities carried out under the jurisdiction and control of a State do not cause damage to the environment in areas beyond its jurisdiction. This is also configured as a positive obligation for States, in the sense of preventing

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<sup>266</sup> “Canada-United States Settlement of Gut Dam Claims: Report of the Agent of the United States Before the Lake Ontario Claims Tribunal”, *International Legal Materials*, 1969, page 120, Annex 277.

<sup>267</sup> Statement by Ronald Timothy Renton, Baron Renton of Mount Harry, PC, DL, UK Parliament Hansard, Chernobyl Disaster (Compensation), Volume 102: debated on Monday 21 July 1986, Annex 280.

their territory from being used for acts contrary to the rights of other States.

(Translated from Spanish original.)<sup>268</sup>

148. Some have argued that the obligation not to cause transboundary harm also requires the harm to be “significant.” Whether or not this requirement is part of the law of transboundary harm, the requirement of “significance” is clearly met in the particular circumstances of climate change for the reasons described in **Section IV**. According to the ILC, the threshold of significant harm exists “to prevent frivolous or vexatious claims.”<sup>269</sup> The standard of “significant” harm requires “a real detrimental effect on matters such as, for example, human health, industry, property, environment or agriculture in other States” as shown through objective evidence.<sup>270</sup> “Significant” harm is said to mean something that is “more than ‘detectable’ but need not be at the level of

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<sup>268</sup> In the IACtHR Second Climate Change Advisory Opinion, *see* Written Observations of the Republic of Colombia, 18 December 2023, paragraph 71 (in original Spanish, “. . . a nivel internacional existe la obligación de no causar daño transfronterizo, la cual hace referencia no solo a la obligación negativa o “de no hacer”, sino el deber de velar por que todas las actividades realizadas bajo la jurisdicción y control de un Estado no causen daños al medio ambiente en áreas más allá de su jurisdicción. Lo anterior se configura también como una obligación positiva para los Estados, en el sentido de impedir que su territorio sea utilizado para actos contrarios a los derechos ed los otros Estados”), Annex 353 bis. *See also* IACtHR 2017 Advisory Opinion, paragraph 101, Annex 372.

<sup>269</sup> “Commentaries on the Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities”, Report of the International Law Commission Fifty-eighth session, Yearbook of the International Law Commission, A/CN.4/SER.A/2006/Add.1 (Part 2), *International Law Commission*, 2006 (“**ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities**”), Principle 2, paragraph 1, page 64, Annex 497.

<sup>270</sup> ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, Principle 2, paragraph 2, page 65, Annex 497.

‘serious’ or ‘substantial’.”<sup>271</sup> The arbitral tribunal in the *Trail Smelter Arbitration* awarded damages where there were “serious consequences” and “clear and convincing evidence” of injury.<sup>272</sup> This Court considered as significant harm the large deposition of sediment from a road, with resulting risks to the ecology and water quality as well as morphological changes.<sup>273</sup>

149. As **Section IV** sets out, there is scientific consensus that anthropogenic emissions of greenhouse gases cause, among other things, rising sea levels, extreme weather events and harm to humans.
150. Therefore, the obligation not to cause transboundary harm is well-established and also applies to the legal questions posed in this advisory opinion request relating to climate change.

**B. Obligation to protect and preserve the environment: States must protect and preserve their own internal environment within a State’s own territory for the benefit of their own people**

151. Under international law, States are obligated to protect and preserve their own internal environment in order to protect their own peoples from harm.
152. This Section explains that the obligation to protect and preserve the environment is an obligation that arises out of the international obligation

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<sup>271</sup> ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, Principle 2, paragraph 2, page 65, Annex 497.

<sup>272</sup> *Trail Smelter Arbitration*, page 1965, Annex 433.

<sup>273</sup> *See Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua) and Construction of a Road in Costa Rica along the San Juan River (Nicaragua v Costa Rica), Merit, Judgment of 16 December 2015, I.C.J. Reports 2015, p. 665, paragraphs 155-156, Annex 406.*



not to harm humans within a State’s own jurisdiction and control (*see* subsection (i)) and that it is enforceable on a State-to-State level (*see* subsection (ii)).

- (i) The obligation to protect and preserve one’s own environment arises from the obligation not to harm people within a State’s own jurisdiction and control

153. As attested by historical legal authorities, States have always had an obligation to preserve their own environment to benefit their own citizens:

- a. under the Roman law public trust doctrine, waters and resources were government property but all Roman citizens had the right to occupy and use them.<sup>274</sup> Courts in the United States of America relying on this doctrine have held that public authorities hold waterways and related resources in trust for the benefit of citizens;<sup>275</sup>
- b. environmental conservation was a component of public health regulations (*salubritas*) under Roman law;<sup>276</sup>
- c. legislation in the 13th century in England prohibited the burning of coal as a matter of public health due to its noxious release of chemicals;<sup>277</sup>

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<sup>274</sup> See B. Frey, “The Public Trust in Public Waterways”, *Urban Law Annual*, 1974, pages 220-222, Annex 196.

<sup>275</sup> See, e.g., *Illinois Central Railroad Co. v Illinois*, 146 U.S. 387 (1892), Annex 174.

<sup>276</sup> See M. Jimenez Salcedo, “Initiatives of the Roman Administration and Urban Environment”, *Ius Romanum*, 2018, pages 164-165, Annex 197.

<sup>277</sup> See, e.g., D. Fowler et al., “A chronology of global air quality”, *Philosophical Transactions of the Royal Society*, 2020, page 5, Annex 198; H. C. Maxwell Lyte,

- d. legislation in medieval Northern Italy aimed at limiting pollution within cities to protect the communal environment;<sup>278</sup> and
- e. under Islamic law (i.e., Sharia law),<sup>279</sup> Muslims are required “not [to] cause corruption in the land”<sup>280</sup> and “not [to] spread corruption on earth [and] be mindful of God who created you and former generations.”<sup>281</sup> Islamic scholars interpret corruption in Sharia law as also referring to environmental damage.<sup>282</sup> Similarly, the *hadith* require that “[t]here shall be no damage and no infliction of damage,” which Islamic scholars interpret as a

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*Calendar of Close Rolls, Edward I: Volume 5, 1302-1307* (His Majesty’s Stationery Office, 1908. *British History Online*), page 537, Annex 175; H. C. Maxwell Lyte, *Calendar of Patent Rolls, Edward I: Volume 4, 1301-1307* (His Majesty’s Stationery Office, 1898. *British History Online*), page 549, Membrane 5d, Annex 176; Smoke Abatement, London Act 1853, 1853(16 & 17 Vict.) C. 128, Annex 177.

<sup>278</sup> See R. E. Zupko & R. A. Laues, *Straws in the Wind: Medieval Urban Environmental Law the Case of Northern Italy* (Routledge, 1996), pages 97-99, 104-107, Annex 199.

<sup>279</sup> Sharia law is documented by the Qur’an (the “word of God”) and Prophet “Muhammad’s reported sayings (*hadith*), deeds, and tacit approval of practices” (G. E. Roughton, “The Ancient and the Modern: Environmental Law and Governance in Islam”, *Columbia Journal of Environmental Law*, 2007, pp. 99-140, page 102, Annex 191).

<sup>280</sup> M. A. S. Abdel Haleem, *Qur’an: English translation and parallel Arabic text* (Oxford University Press, 2010) (“**Qur’an English Translation**”), Chapter 2, verse 60, Annex 178.

<sup>281</sup> Qur’an English Translation, Chapter 26, verses 183-184, Annex 178. See also Qur’an English Translation, Chapter 2, verse 205, Annex 178 (“[w]hen he leaves, he sets out to spread corruption in the land, destroying crops and livestock— God does not like corruption”); Qur’an English Translation, Chapter 5, verse 64, Annex 178 (“[t]hey try to spread corruption in the land, but God does not love those who corrupt ”); Qur’an English Translation, Chapter 7, verse 56, Annex 178 (“do not corrupt the earth after it has been set right – call on Him fearing and hoping. The mercy of God is close to those who do good”).

<sup>282</sup> See The Islamic Declaration on Climate Change, 18 August 2018, Annex 271 (“We recognize the corruption (*fasād*) that humans have caused on Earth in our relentless pursuit of economic growth and consumption”); M. K. Gueye & N. Mohamed, “An Islamic Perspective on Ecology and Sustainability”, *Ecotheology*, 2022, page 2 (“Muslim scholars writing on the ecological crisis regard excesses, both in the unbridled consumption of natural resources and the production of waste, as transgressions of [the] balance [created by God]” i.e., “a corruption”), Annex 179.

protection of the “basic elements of the environment for the benefit of present and future generations,” including “from the harmful impacts of external factors such as chemical products and wastes.”<sup>283</sup>

154. Furthermore, in applying the “general principles of law recognized by civilized nations” under Article 38(1)(c) of the ICJ Statute, the Court should also make reference to the legal principles adopted by the sovereign so-called “indigenous” peoples of the world. In this respect, Barbados respectfully submits that any archaic understanding of “civilized nations” in Article 38(1)(c) that excluded indigenous peoples must instead be replaced with the ordinary, good faith meaning of the term in accordance with Article 31 of the Vienna Convention on the Law of Treaties.<sup>284</sup> The good faith, ordinary meaning of the term “civilized nations” would necessarily include the robust and complex legal principles that govern and governed the relations of the various indigenous, sovereign peoples in the world.<sup>285</sup> Indeed, indigenous, sovereign peoples are recognised by the UN General Assembly and States

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<sup>283</sup> A. A. Bagader et al., *Environmental Protection in Islam*, IUCN Environmental Policy and Law, Paper No. 20, 1994, page 13, Annex 548, citing Hadith related by the Imam Malik. See also S. S. S. Haneef, “Principles of Environmental Law in Islam”, *Arab Law Quarterly*, 2002, pp. 241-254, pages 248-252, Annex 194.

<sup>284</sup> See Vienna Convention on the Law of Treaties, 23 May 1969, 1155 UNTS 331, Article 31, Annex 67.

<sup>285</sup> See, e.g., A. Yusuf, “Diversity of Legal Traditions and International Law: Keynote Address”, *Cambridge Journal of International and Comparative Law*, 2013, pp. 681-703, pages 695 and 699, Annex 195; *Gabčíkovo-Nagymaros*, Separate Opinion of Vice-President Weeramantry, page 97, Annex 395; C.G. Weeramantry, “Universalising International Law” (Martinus Nijhoff Publishers, 2004), pages 2-3, Annex 549; *North Sea Continental Shelf (Federal Republic of Germany v Denmark; Federal Republic of Germany v Netherlands)*, Judgment of 20 February 1969, p.3, Separate Opinion of Judge Ammoun, page 140, Annex 418.

as having their own distinct political, legal, economic and cultural institutions<sup>286</sup> and have entered into treaties with States.<sup>287</sup>

155. In this regard, multiple international courts and national courts have recognised and applied, as legal principles, indigenous legal principles that mandate the protection and preservation of the environment. As but a few examples:

- a. in *Case of Kichwa Indigenous People of Sarayaku v Ecuador*, the IACtHR recognised that the Sarayaku People of Ecuador have a “profound and special relationship” with their lands, which “encompasses their worldview and cultural and spiritual identity.”<sup>288</sup> The IACtHR referred to an expert witness account which described this “special relationship” as being “expressed in the most varied practices of management, protection, use or primary extraction of natural resources, goods or services from the ecosystems”,<sup>289</sup>

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<sup>286</sup> See, e.g., UN General Assembly Resolution 61/295 (2007), A/RES/61/295, 13 September 2007, Annex, Articles 3-5, Annex 235, adopting the UN Declaration on the Rights of Indigenous Peoples; UN General Assembly Resolution 76/148 (UN General Assembly Resolution 76/148 (2021), A/RES/76/148, 16 December 2021, preamble, Annex 236.

<sup>287</sup> For example, the Treaty of Waitangi between the United Kingdom and the Māori was signed by over 500 chiefs (see “All about the Treaty”, *State Services Commission*, 2005, PDF page 2, Annex 207) and Canada entered into and continues to recognise treaties with indigenous groups (see “Treaties and Agreements”, *Government of Canada*, Annex 366; Canada Act 1982, section 35, Annex 246).

<sup>288</sup> *Case of the Kichwa Indigenous People of Sarayaku v Ecuador, Merits and Reparations*. Judgment of June 27, 2012. Series C No. 245, paragraph 155 (“**Case of the Kichwa Indigenous People of Sarayaku v Ecuador**”), Annex 379.

<sup>289</sup> *Case of the Kichwa Indigenous People of Sarayaku v Ecuador*, paragraph 154, Annex 379.

- b. New Zealand courts have recognised the principle of *Kaitiākanga* in Māori communities under which the Māori recognise they have spiritual stewardship over the environment.<sup>290</sup> New Zealand’s Supreme Court noted that this principle requires caring “for one’s own.”<sup>291</sup> It includes, for example, sustainably fishing in rivers to catch only for immediate needs.<sup>292</sup> This principle precedes the time of the signing of the Treaty of Waitangi in May 1840 and the colonisation of New Zealand by Europeans;<sup>293</sup> and
- c. Australian courts have recognised an obligation to protect and preserve the environment in indigenous custom through recognition of the practice of ‘Caring for Country’. This concept refers to indigenous communities’ practice of “protect[ing] the country from degradation and [caring] for it spiritually.”<sup>294</sup> The Federal Court of Australia, referring to the submissions of the Ngaliwurru and Nungali peoples of Australia, has noted that “[a]part from occupying the land, they are said to ... care for the

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<sup>290</sup> See Waitangi Tribunal Report, *Ko Aotearoa Tēnei, A Report into Claims Concerning New Zealand Law and Policy Affecting Māori Culture and Identity*, Wai 262, 2011, page 105, Annex 200.

<sup>291</sup> *Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board* [2021] NZSC 127, paragraph 154, footnote 243, Annex 201.

<sup>292</sup> See *Ngati Rangi Trust v Manawatu-Wanganui Regional Council*, Decision of the Environment Court of New Zealand of 18 May 2004, A67/2004 NZEnvC 172, paragraph 126, Annex 202.

<sup>293</sup> See *Ngati Rangi Trust v Manawatu-Wanganui Regional Council*, Decision of the Environment Court of New Zealand of 18 May 2004, A67/2004 NZEnvC 172, paragraphs 120-123, Annex 202; *Trans-Tasman Resources Ltd v Taranaki-Whanganui Conservation Board* [2021] NZSC 127, paragraph 297, Annex 201.

<sup>294</sup> *Western Australia v Ward*, Decision of the High Court of Australia of 8 August 2002, paragraph 592, Annex 203.

land and waters in accordance with spiritual and social obligations.”<sup>295</sup>

156. Furthermore, constitutions and legislation of many States also recognise and give effect to similar indigenous legal obligations to protect and preserve the environment:

a. the Constitution of Ecuador incorporates the principle of *Sumak kawsay* by stating:

the sovereign people of Ecuador . . . [h]ereby decide to build [a] new form of public coexistence, in diversity and harmony with nature, to achieve a good way of living, the *sumak kawsay*

. . .

Article 14. The right of the population to live in a healthy and ecologically balanced environment that guarantees sustainability and the good way of living (*sumac kawsay*), is recognized.

. . .

Article 250. The territory of the Amazon provinces is part of an ecosystem that is necessary for the planet’s environmental balance of the planet. This territory shall constitute a special territorial district, for which there will be integrated planning embodied in a law including social, economic, environmental and cultural aspects, with land use development and planning that ensures the conservation and protection of its ecosystems and the principle of *sumak kawsay* (the good way of living).

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<sup>295</sup> *Griffiths v Northern Territory of Australia*, Decision of the Federal Court of Australia of 17 July 2006, paragraph 27, Annex 204.

...

Article 275. The development structure is the organized, sustainable and dynamic group of economic, political, socio-cultural and environmental systems which underpin the achievement of the good way of living (sumak kawsay).

...

Article 387. The following shall be responsibilities of the State. . . [t]o promote the generation and production of knowledge, to foster scientific and technological research, and to upgrade ancestral wisdom to thus contribute to the achievement of the good way of living (sumak kawsay).<sup>296</sup>

- b. in New Zealand, the principle of *Ko au te Awa, ko te Awa ko au* is enshrined in the Te Awa Tupua (Whanganui River Claims Settlement) Act 2017.<sup>297</sup> It states that the “iwi and hapū [(i.e., communities] of the Whanganui River have an inalienable connection with, and responsibility to, Te Awa Tupua [i.e., the river and surrounding environment in its physical and metaphysical forms]<sup>298</sup> and its health and well-being”,<sup>299</sup> and
- c. in New Zealand, the principle of *Kaitiakangā* (discussed in the paragraph above) is also enshrined in legislation. It is defined as,

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<sup>296</sup> Constitution of the Republic of Ecuador, 20 October 2008, Preamble, Articles 14, 250, 275 and 387, Annex 263.

<sup>297</sup> See Te Awa Tupua (Whanganui River Claims Settlement) Act 2017, 20 March 2017 (“**Whanganui River Claims Settlement Act**”), Annex 264.

<sup>298</sup> See Whanganui River Claims Settlement Act, section 12, Annex 264 (“Te Awa Tupua is an indivisible and living whole, comprising the Whanganui River from the mountains to the sea, incorporating all its physical and metaphysical elements”).

<sup>299</sup> Whanganui River Claims Settlement Act, section 13(c), Annex 264. See also Whanganui River Claims Settlement Act, section 71(b), Annex 264.

for example, the “exercise of guardianship by the tangata whenua [i.e., the relevant communities] of an area in accordance with tikanga Maori in relation to natural and physical resources; and includes the ethic of stewardship.”<sup>300</sup>

157. In fact, 143 UN Member States voted in favour of a UN General Assembly adopting the UN Declaration on the Rights of Indigenous Peoples, which recognises that indigenous peoples have the responsibility to protect their lands:

Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.<sup>301</sup>

158. Moreover, the Government of Canada recognises that indigenous peoples in Canada are under the obligation to protect and preserve the environment by establishing funds to aid them in protecting the environment.<sup>302</sup> For example, in 2022, the Canadian Prime Minister

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<sup>300</sup> Resource Management Act 1991, 22 July 1991, section 2, Annex 265. *See also*, e.g., Natural and Built Environment Act 2023, 23 August 2023, section 11(1), Annex 266; Marine and Coastal Area (Takutai Moana) Act 2011, 31 March 2011, section 9(1), Annex 267.

<sup>301</sup> UN General Assembly Resolution 61/295 (2007), A/RES/61/295, 13 September 2007, Annex, Article 25, Annex 235, adopting the UN Declaration on the Rights of Indigenous Peoples.

<sup>302</sup> *See*, for e.g., “Budget 2023: A Made in Canada Plan”, *Government of Canada*, 2023, pages 132-134, 233, Annex 362; “Project Finance for Permanence: Support for Indigenous-led conservation initiatives”, *Government of Canada*, Annex 363; “Protecting more nature in partnership with Indigenous Peoples”, *The Prime Minister of Canada*, 7 December 2022, Annex 364.



announced a package of CAD 800 million of funding for indigenous-led conservation initiatives, noting that:

Indigenous Peoples have been caring for the lands and waters of Canada since time immemorial. First Nations, Inuit, and Métis have unique relationships with nature and knowledge of responsible stewardship as a way of life.<sup>303</sup>

159. Today, in international conventions, States further document the obligation to protect and preserve the environment, including within their jurisdiction and control. For example:
- a. under the Convention on Biological Diversity, 195 States and the European Union confirm that “[States have] sovereign rights over their own biological resources [and are] responsible for conserving their biological diversity and for using their biological resources in a sustainable manner.”<sup>304</sup> Those States also affirm that “the conservation of biological diversity is a common concern of humankind”,<sup>305</sup>
  - b. under UNCLOS, 168 States and the European Union agree that “States have the obligation to protect and preserve the marine environment.”<sup>306</sup> UNCLOS defines “pollution of the marine environment” as the “introduction by man . . . of substances or energy into the marine environment . . . which results or is likely

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<sup>303</sup> “Protecting more nature in partnership with Indigenous Peoples”, *The Prime Minister of Canada*, 7 December 2022, Annex 364.

<sup>304</sup> Convention on Biological Diversity, 5 June 1992, 1760 UNTS 79 (“**Convention on Biological Diversity**”), Preamble, Annex 113.

<sup>305</sup> Convention on Biological Diversity, Preamble, Annex 113.

<sup>306</sup> UNCLOS, Article 192, Annex 95.

to result in such deleterious effects as harm to living resources and marine life, hazards to human health”;<sup>307</sup> and

- c. under the Alpine Convention, 8 States commit to take certain measures, including regarding the “prevention of air pollution,” where the “objective is to drastically reduce the emission of pollutants and pollution in the Alpine region . . . to a level which is not harmful to man, animals and plants.”<sup>308</sup>

160. Reflecting the universal legal obligation under the UN Charter to promote and encourage respect for human rights and fundamental freedoms,<sup>309</sup> States have agreed in international conventions on human rights to protect and preserve the environment to prevent harm to humankind:

- a. under the American Convention on Human Rights, 16 American States must “undertake to adopt measures . . . with a view to achieving progressively . . . the full realization of the rights implicit in the economic, social, educational, scientific, and cultural standards set forth in the Charter of the Organization of American States.”<sup>310</sup> As the IACtHR stated, this entails ensuring sustainable development also in the environmental sphere.<sup>311</sup> The IACtHR noted that its observations on environmental obligations go beyond States party to the treaty it was interpreting and are

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<sup>307</sup> UNCLOS, Article 1(4), Annex 95.

<sup>308</sup> Alpine Convention, 7 November 1991, 1917 UNTS 135, Article 2(2)(c), Annex 160.

<sup>309</sup> See UN Charter, Articles 1(3), 13(1)(b), 55, 62(2), Annex 66.

<sup>310</sup> American Convention on Human Rights “Pact of San José, Costa Rica”, 22 November 1969, 1144 UNTS 123 (“**American Convention on Human Rights**”), Article 26, Annex 62. See also, e.g., Charter of the Organization of American States, 30 April 1948 (“**OAS Charter**”), Articles 3(k)-(m) and 30, Annex 64.

<sup>311</sup> IACtHR 2017 Advisory Opinion, paragraph 57, footnote 85, Annex 372.

“important for all the States of the planet.”<sup>312</sup> The IACtHR also clarified that this obligation entails a right to a healthy environment and that this requires States to “implement the necessary measures *ex ante* damage is caused to the environment, taking into account that, owing to its particularities, after the damage has occurred, it will frequently not be possible to restore the previous situation.”<sup>313</sup> On the basis of this obligation of the American Convention on Human Rights, in 2020, the IACtHR found that a State had violated the right to a healthy environment by, among other things, failing to prevent illegal logging causing harm to the territory of indigenous communities and thereby negatively affecting the lives of those communities;<sup>314</sup>

- b. under the Protocol of San Salvador to the American Convention on Human Rights, 16 American States recognise that “[e]veryone has a right to live in a healthy environment and to have access to basic public services,” and therefore they are obliged to “promote the protection, preservation, and improvement of the environment”,<sup>315</sup>
- c. under the Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin

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<sup>312</sup> IACtHR 2017 Advisory Opinion, paragraph 35, Annex 372.

<sup>313</sup> *Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina. Merits, Reparations and Costs.* Judgment of February 6, 2020. Series C No. 400 (“**Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina**”), paragraph 208, Annex 380. *See also Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina*, paragraphs 202-203, Annex 380; IACtHR 2017 Advisory Opinion, paragraph 57, Annex 372.

<sup>314</sup> *See Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina*, Annex 380.

<sup>315</sup> Additional Protocol to the American Convention on Human Rights in the area of Economic, Social, and Cultural rights “Protocol of San Salvador”, 17 November 1988, OAS Treaty Series No. 69, Article 11, Annex 63.

America and the Caribbean, 15 Latin American and Caribbean States agree that they are obligated to “guarantee the right of every person to live in a healthy environment”;<sup>316</sup>

- d. under the Inter-American Convention on Protecting the Human Rights of Older Persons, 8 Latin American States recognise that “[o]lder persons have the right to live in a healthy environment with access to basic public services”;<sup>317</sup>
- e. under the Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 47 States recognise the “right of every person of present and future generations to live in an environment adequate to his or her health and well-being”;<sup>318</sup>
- f. under the African Charter on Human and Peoples’ Rights, 54 States are obligated to ensure that “[a]ll peoples . . . have the right to general satisfactory environment favourable to their development”;<sup>319</sup>
- g. under the Protocol to the African Charter on Human and Peoples’ Rights on the Rights of Women in Africa, 42 States are obligated

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<sup>316</sup> Regional Agreement on Access to Information, Public Participation and Justice in Environmental Matters in Latin America and the Caribbean (also known as the “Escazú Agreement”), 4 March 2018, 3398 UNTS 1, Article 4(1), Annex 157. *See also* Article 1, Annex 157.

<sup>317</sup> Inter-American Convention on Protecting the Human Rights of Older Persons, 5 June 2015, 3175 UNTS 1, Article 25, Annex 155.

<sup>318</sup> Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters “Aarhus Convention”, 25 June 1998, 2161 UNTS 447, Article 1, Annex 132.

<sup>319</sup> African Charter on Human and Peoples’ Rights, 27 June 1981, 1520 UNTS 217 (“**African Charter on Human and Peoples’ Rights**”), Article 24, Annex 92.

to ensure that “[w]oman shall have the right to live in a healthy and sustainable environment” and “the right to fully enjoy their right to sustainable development”;<sup>320</sup> and

h. under the Arab Charter on Human Rights, 16 States recognise the “right to a healthy environment” and that States shall take the necessary measures to “commensurate with their resources to guarantee these rights.”<sup>321</sup>

161. The International Covenant on Economic, Social and Cultural Rights acknowledges that its 171 State parties must take certain steps to achieve the full realisation of the right to physical and mental health, which includes “the improvement of all aspects of environmental and industrial hygiene.”<sup>322</sup> According to the Committee on Economic, Social and Cultural Rights, States should therefore: (a) prevent and reduce “the population’s exposure to harmful substances such as radiation and harmful chemicals or other detrimental environmental conditions that directly or indirectly impact upon human health”; (b) “refrain from unlawfully polluting air, water and soil, e.g., through industrial waste from State-owned facilities, from using or testing nuclear, biological or chemical weapons if such testing results in the release of substances harmful to human health”; and (c) “formulate and implement national policies aimed

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<sup>320</sup> Protocol to the African Charter on Human and Peoples’ Rights on the Rights of Women in Africa, 11 July 2003, 3269 UNTS 1, Articles 18, 19, Annex 143.

<sup>321</sup> Arab Charter on Human Rights, 22 May 2004, CHR/NONE/2004/40/Rev.1, Article 38, Annex 146.

<sup>322</sup> International Covenant on Economic, Social and Cultural Rights, 16 December 1966, 993 UNTS 3 (“ICESCR”), Article 12(2), Annex 73.

at reducing and eliminating pollution of air, water and soil.”<sup>323</sup> This obligation goes beyond a State’s borders – States must respect this right in other countries (including to prevent third parties in other countries from violating it) by influencing other States and through influencing actions of international organisations (along with international financial institutions and development banks formulating policies, credit agreements, etc.).<sup>324</sup>

162. Even where an international convention does not provide for an express right to a healthy environment or non-polluted climate system, treaty bodies (e.g., committees, commissions and courts, including bodies whose decisions are legally binding on States) have interpreted human rights as requiring States to ensure that right. For example:

- a. the IACtHR has underlined in its jurisprudence the “relevance of the environment as a whole for the protection of human rights,”<sup>325</sup> including the territorial rights of indigenous and tribal peoples and the right to life;<sup>326</sup>

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<sup>323</sup> “General Comment No. 14 (2000) – The right to the highest attainable standard of health (Article 12 of the International Covenant on Economic, Social and Cultural Rights”, E/C.12/2000/4, *UN Committee on Economic, Social and Cultural Rights*, 11 August 2000 (“**General Comment No. 14**”), paragraphs 15, 34, 36, Annex 447.

<sup>324</sup> *See* General Comment No. 14, paragraph 39, Annex 447. In the IACtHR Second Climate Change Advisory Opinion, *see also* Written Observations of the Republic of Colombia, 18 December 2023, paragraph 71, Annex 353 bis.

<sup>325</sup> IACtHR 2017 Advisory Opinion, paragraph 35, Annex 372.

<sup>326</sup> *See* IACtHR 2017 Advisory Opinion, Section VI, Annex 372, referring to further jurisprudence of this Court (*see, e.g., Case of Kawas-Fernández v Honduras. Merits, Reparations, and Costs*. Judgment of April 3, 2009. Series C No. 196, paragraph 148, Annex 377). *See also* Individual Report on the American Declaration of the Rights and Duties of Man, the American Convention on Human Rights, and the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights, Mapping Human Rights Obligations Relating to the Enjoyment of a Safe, Clean, Healthy and Sustainable Environment, Report No. 13, 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, Annex 478.

- b. the Inter-American Commission on Human Rights (the “IACHR”) has equally stated that “several fundamental rights require, as a necessary precondition for their enjoyment, a minimum environmental quality, and are profoundly affected by the degradation of natural resources,” such as the right to life, security and physical integrity;<sup>327</sup>
- c. the ECtHR decided that “severe environmental pollution may affect individuals’ well-being and prevent them from enjoying their homes in such a way as to affect their private and family life adversely, without, however, seriously endangering their health”,<sup>328</sup>
- d. the European Committee of Social Rights decided that States have an obligation to protect and preserve the right to health in the context of pollution from human-made emissions from lignite mining;<sup>329</sup>
- e. the African Commission on Human and Peoples’ Rights decided that States must “take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and

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<sup>327</sup> IACHR, Indigenous and Tribal Peoples’ Rights, paragraph 190, Annex 468.

<sup>328</sup> *López Ostra v Spain* [1994] ECHR 46, paragraph 51, Annex 424. There are three climate change-related cases currently pending before the ECtHR and that court has adjourned several other climate change-related cases pending their resolution (see “Factsheet – Climate change”, *European Court of Human Rights*, January 2024, Annex 509).

<sup>329</sup> See “Marangopoulos Foundation for Human Rights v Greece”, Complaint No 30/2005, Decision on the Merits, *European Committee of Social Rights*, 6 December 2006, paragraphs 202-203, Annex 453. See also “International Federation for Human Rights v Greece”, Complaint No 72/2011, Decision on the Merits, *European Committee of Social Rights*, 23 January 2013, Annex 454.

to secure an ecologically sustainable development and use of natural resources”;<sup>330</sup>

- f. 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 decided that a “[f]ailure 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” and “in order for States to comply with their human rights obligations and to realize the objectives of the Paris Agreement, they must adopt and implement policies aimed at reducing emissions”;<sup>331</sup>
- g. the Committee on Economic, Social and Cultural Rights noted that States owe an obligation to their own populations and populations outside their territories to “prevent foreseeable human rights harm

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<sup>330</sup> “Decision on Communication 155/96, The Social and Economic Rights Action Center and the Center for Economic and Social Rights / Nigeria”, *African Commission on Human and Peoples’ Rights*, ACHPR/COMM/A044/1, 27 May 2002 (“**African Commission Decision on Communication 155/96**”), paragraph 52, Annex 455.

<sup>331</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, HRI/2019/1, 14 May 2020, paragraphs 10-11, Annex 485. *See also* Convention on the Rights of the Child, 20 November 1989, 1577 UNTS 3, Annex 65; ICESCR, Annex 73; Convention on the Rights of Persons with Disabilities, 13 December 2006, 2515 UNTS 3, Annex 163; Convention on the Elimination of All Forms of Discrimination Against Women, 18 December 1979, 1249 UNTS 13, Annex 164; International Convention on the Protection of the Rights of All Migrant Workers and Members of their Families, 18 December 1990, 2220 UNTS 3, Annex 165.



caused by climate change” and a failure to do so could constitute a breach of human rights;<sup>332</sup>

- h. the UN Human Rights Committee commented that “[e]nvironmental degradation, climate change and unsustainable development constitute some of the most pressing and serious threats to the ability of present and future generations to enjoy the right to life”,<sup>333</sup>
- i. the Committee on the Elimination of Discrimination against Women recognised that human-caused changes to the climate exacerbate pre-existing gender inequalities and compound the intersecting forms of discrimination against those who are often disproportionately affected compared to others;<sup>334</sup> and
- j. the Committee on the Rights of the Child recognised that a “clean, healthy and sustainable environment is both a human right itself and necessary for the full enjoyment of a broad range of children’s rights” and therefore “environmental degradation, including the consequences of the climate crisis, adversely affects the enjoyment of these rights, in particular for children in disadvantaged

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<sup>332</sup> Statement of the Committee on Economic, Social and Cultural Rights, E/C.12/2018/1, 31 October 2018, paragraphs 5-6, Annex 482.

<sup>333</sup> “General Comment No. 36 (2019) – Article 6: Right to Life”, CCPR/C/GC/36, *UN Human Rights Committee*, 3 September 2019, paragraph 62, Annex 441. *See also* “Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 3624/2019, *Billy v Australia*”, CCPR/C/135/D/3624/2019, *UN Human Rights Committee*, 18 September 2023 (“**Billy v Australia**”), paragraph 8.3, Annex 444.

<sup>334</sup> *See* “General recommendation No. 37 (2018) – On the gender-related dimensions of disaster risk reduction in the context of climate change”, CEDAW/C/GC/37, *UN Committee on the Elimination of Discrimination against Women*, 13 March 2018, paragraph 2, Annex 450.

situations or children living in regions that are highly exposed to climate change.”<sup>335</sup> It further noted that a failure to take measures to prevent foreseeable human rights harm caused by climate change or to regulate activities contributing to such harm, could constitute a violation of States’ human rights obligations.<sup>336</sup>

163. This obligation extends to preventing harm by non-State entities and persons, e.g., private companies and individuals.<sup>337</sup> For example:
- a. the UN Human Rights Committee also clarified that States must preserve the environment and protect it from the harm “caused by public and private actors.”<sup>338</sup> This includes taking appropriate legislative and other measures to ensure that all activities taking place in whole or in part within their territory or jurisdiction are consistent with the right to life;<sup>339</sup>
  - b. the IACtHR noted that States must do so “especially in relation to hazardous activities” and therefore must “adopt legislative and other measures to prevent such violations, and to investigate,

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<sup>335</sup> “General comment No. 26 (2023) – On children’s rights and the environment, with a special focus on climate change”, CRC/C/GC/26, *UN Committee on the Rights of the Child*, 22 August 2023, paragraph 8, Annex 451.

<sup>336</sup> See “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 Communication No. 104/2019”, CRC/C/88/D/104/2019, *UN Committee on the Rights of the Child*, 8 October 2021, paragraph 10.6, Annex 452.

<sup>337</sup> For example, in the IACtHR Second Climate Change Advisory Opinion, see Written Observations of the Republic of Colombia, 18 December 2023, paragraph 71, Annex 353 bis.

<sup>338</sup> See “General Comment No. 36 (2019) – Article 6: Right to Life”, CCPR/C/GC/36, *UN Human Rights Committee*, 3 September 2019, paragraph 62, Annex 441.

<sup>339</sup> “General Comment No. 36 (2019) – Article 6: Right to Life”, CCPR/C/GC/36, *UN Human Rights Committee*, 3 September 2019, paragraph 22, Annex 441.

punish and provide reparation when they occur.”<sup>340</sup> It also stated that given the relationship between human rights and the environment, among other things, States must: (a) regulate this matter to prevent significant damage to the environment; (b) supervise and monitor certain activities to protect human rights from actions of public authorities and private actors; and (c) require and approve environmental impact assessments,<sup>341</sup> and

- c. the IACHR resolved that “States must ensure that both public and private entities reduce their GHG [greenhouse gas] emissions.”<sup>342</sup>

164. The obligation to protect and preserve the environment within a State’s own jurisdiction is also evidenced by the general practice of States and is accepted as law:

- a. in 1948, UN Member States recognised in the Universal Declaration of Human Rights that they should ensure the right to a standard of living that is adequate for health and well-being,<sup>343</sup>
- b. in 1968, UN Member States unanimously adopted a resolution recognising the “continuing and accelerating impairment of the quality of the human environment caused by factors such as air and water pollution . . . on the condition of man, his physical,

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<sup>340</sup> *Case of the Buzos Miskitos (Lemoth Morris et al. v Honduras)*. Judgment of August 31, 2021, Series C No. 432, paragraph 48, Annex 382. *See also* IACtHR 2017 Advisory Opinion, paragraphs 118-119, Annex 372.

<sup>341</sup> *See* IACtHR 2017 Advisory Opinion, paragraphs 146-170, Annex 372.

<sup>342</sup> “Climate Emergency: Scope of Inter-American Human Rights Obligations”, Resolution 3/2021, Inter-American Commission on Human Rights, 31 December 2021, paragraph 12, Annex 273.

<sup>343</sup> *See* UN General Assembly Resolution 217(III) (1948), A/RES/217(III), 10 December 1948 (“**Universal Declaration of Human Rights**”), Article 25, Annex 208.

mental and social well-being, his dignity and his enjoyment of basic rights”;<sup>344</sup>

- c. in 1972, as mentioned above, 113 States adopted principles in the Stockholm Declaration in which they acknowledged that “[hu]man[s] ha[ve] 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 that “[t]he discharge of toxic substances . . . must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems.”<sup>345</sup> As such, “States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea” and States should plan policies and cooperate to protect and improve the environment;<sup>346</sup>
- d. in 1989, 29 European States party to the World Health Organization adopted the European Charter on Environment and Health, recognising that “every individual is entitled to an environment conducive to the highest attainable level of health and wellbeing” and therefore “[e]very government and public authority

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<sup>344</sup> UN General Assembly Resolution 2398(XXIII) (1968), A/RES/2398(XXIII), 3 December 1968, Annex 209.

<sup>345</sup> Stockholm Declaration, Principles 1 and 6, Annex 469.

<sup>346</sup> Stockholm Declaration, Principle 7, Annex 469. *See also*, e.g., Stockholm Declaration, Principles 9-26, Annex 469.

has the responsibility to protect the environment and to promote human health within the area under its jurisdiction”;<sup>347</sup>

- e. in 1992, during the UN Conference on Environment and Development, 179 States adopted principles in the Rio Declaration in which they acknowledged that human beings are “entitled to a healthy and productive life in harmony with nature” and that States should “reduce and eliminate unsustainable patterns of production and consumption” and “shall enact effective environmental legislation”;<sup>348</sup>
- f. in 1993, during the World Conference on Human Rights in Vienna, 171 States adopted the Vienna Declaration and Programme of Action (which was then endorsed unanimously by the UN General Assembly)<sup>349</sup> recognising that the right to development should be fulfilled so as to meet the “environmental needs of present and future generations” and that “illicit dumping of toxic and dangerous substances and waste potentially constitutes a serious threat to the human rights to life and health of everyone”;<sup>350</sup>
- g. in 1994, a UN Special Rapporteur noted that there was “universal acceptance of the environmental rights recogni[s]ed at national,

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<sup>347</sup> European Charter on Environment and Health, 8 December 1989, WHO/EURO:1989-3845-43604-61265, World Health Organization Regional Office for Europe, page 2, paragraphs 1, 5, Annex 104.

<sup>348</sup> Rio Declaration, Principles 1, 8, 11, Annex 281.

<sup>349</sup> See UN General Assembly 48/121 (1994), A/RES/48/121, 14 February 1994, paragraph 2, Annex 237.

<sup>350</sup> Vienna Declaration and Programme of Action, Report of the World Conference on Human Rights, A/CONF.157/23, 12 July 1993, Article 11, Annex 365.

regional and international levels.”<sup>351</sup> As of 2021, more than 150 States have recognised and operationalised the human right to a healthy environment in their constitutions, legislation and enforcement in local courts.<sup>352</sup> For example, the Constitution of India provides that the “State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country,”<sup>353</sup> the Federal Constitution of the Swiss Confederation declares that the “Confederation shall legislate on the protection of the population and its natural environment against damage or nuisance,”<sup>354</sup> the Constitution of Kenya states that every person has the right “to have the environment protected for the benefit of present and future generations through legislative and other measures”<sup>355</sup> and the Constitution of the Federative Republic of Brazil provides that “[e]veryone has the right to an ecologically balanced environment, which is an asset of common use and essential to a healthy quality of life, and both government and community shall have the duty to defend and preserve it for

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<sup>351</sup> Final report prepared by Mrs Fatma Zohra Ksentini, Special Rapporteur, Human Rights and Environment, E/CN.4/Sub.2/1994/9, 6 July 1994, paragraph 240, Annex 471.

<sup>352</sup> See J. H. Knox, *Human Rights*, in THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW, eds. L. Rajamani & J. Peel (Oxford University Press, 2021), pages 786-787, Annex 534. In 2019, a Special Rapporteur reported that “[t]here are 100 States whose constitutions explicitly incorporate the right to a healthy environment” and “more than 100 States where the right to a healthy environment is explicitly incorporated in national environmental legislation” (Report of the Special Rapporteur, Issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment, A/HRC/40/55, 8 January 2019, paragraphs 13, 15, Annex 483).

<sup>353</sup> Constitution of India, 26 November 1949, as on May 2022, Article 48A, Annex 245.

<sup>354</sup> Federal Constitution of the Swiss Confederation, 18 April 1999, as of 13 February 2022 (English translation), Article 74, Annex 255.

<sup>355</sup> Constitution of Kenya, 28 August 2010, as amended from time to time and updated in 2019, Article 42, Annex 258.

present and future generations.”<sup>356</sup> Moreover, in 2021, the German Federal Constitutional Court decided that constitutionally guaranteed human rights, namely the protection of life and physical integrity, oblige Germany to take climate action.<sup>357</sup> In 2022, the Australian Land Court of Queensland decided that, given there is a causal link between climate change and the enjoyment of human rights (including the right to life, protection of children, culture of First Nations People and the enjoyment by certain groups of rights without discrimination), activities which have negative impacts on climate change limit human rights,<sup>358</sup>

- h. in 2007, representatives of Small Island Developing States at the conference of the Alliance of Small Island States on Preparing for

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<sup>356</sup> Constitution of the Federative Republic of Brazil, 5 October 1988, as amended from time to time through 2022 (English translation), Article 225, Annex 249. *See also* Constitution of the People’s Republic of China, 4 December 1982, as amended from time to time and updated in 2019 (English translation), Article 26 (“[t]he state shall protect and improve living environments and the ecological environment, and prevent and control pollution and other public hazards”), Annex 248; Constitution of the Kingdom of Cambodia, 21 September 1993, as on October 2015 (English translation), Article 59 (“[t]he State shall preserve and protect the environment and the balance of natural resources, by organizing a precise planning for the management, especially of the land, water, atmosphere, air, geology, ecological systems, mines, energy, petroleum and gas, rocks, sand, gems, forests and forest by-products, wildlife, fish and aquatic resources”), Annex 251; Constitution of the Republic of Uzbekistan, 8 December 1992, as amended in 2023 (English translation), Article 49 (“[t]he State, under the principle of sustainable development, shall implement measures to improve, restore and protect the environment, maintain ecological balance. The State shall take measures to protect and restore the ecological system, social and economic development of the Aral Sea region”), Annex 250; Constitution of the Republic of Poland, 2 April 1997, as amended from time to time and updated in 2009 (English translation), Article 74 (“[p]ublic authorities shall pursue policies ensuring the ecological security of current and future generations”), Annex 254; Constitution of the Republic of Moldova, 27 July 1994, as amended from time to time and updated in 2016 (English translation), Article 37 (“[e]very individual has the right to live in an ecologically safe and healthy environment”), Annex 252.

<sup>357</sup> *See Neubauer v Germany*, Order of the First Senate of 24 March 2021, German Federal Constitutional Court – 1 BvR 2656/18, Annex 461.

<sup>358</sup> *See Waratah Coal Pty Ltd v Youth Verdict Ltd & Ors (No 6)*, [2022] QLC 21, Order of the Land Court of Queensland, 25 November 2022, paragraph 1352, Annex 464.

Bali and Beyond declared that climate change has “clear and immediate implications for the full enjoyment of human rights,” including the rights to life, to an adequate standard of living and to the highest attainable standard of health;<sup>359</sup>

- i. by 2012, 10 Member States of the Association of Southeast Asian Nations recognised that “[e]very person has the right to an adequate standard of living for himself or herself and his or her family including . . . [t]he right to a safe, clean and sustainable environment”;<sup>360</sup>
- j. in 2022, 161 UN Member States voted in favour of a resolution recognising the right to a healthy environment, the promotion of which would require the “full implementation of the multilateral environmental agreements under the principles of international environmental law”,<sup>361</sup> and

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<sup>359</sup> Malé Declaration on the Human Dimension of Global Climate Change, 14 November 2007, Annex 284.

<sup>360</sup> ASEAN Human Rights Declaration (AHRD) and the Phnom Penh Statement on the Adoption of the AHRD, 18 November 2012, Article 28(f), Annex 289.

<sup>361</sup> UN General Assembly Resolution 76/300 (2022), A/RES/76/300, 1 August 2022, paragraphs 1 and 3, Annex 228. Some States noted that, despite their vote in favour of the resolution, they did not consider the right created a binding obligation on them (*see* UN General Assembly, Draft resolution A/77/L.58, 64<sup>th</sup> Plenary Meeting, A/77/PV.64, 29 March 2023, Annex 232). The UN Human Rights Council had previously adopted a decision recognising such right (*see* UN Human Rights Council Resolution 48/13 (2021), A/HRC/RES/48/13, 18 October 2021, paragraph 1, Annex 227).



- k. States sitting on the UN Human Rights Council have progressively adopted resolutions acknowledging the effects of climate change, including global warming, on the enjoyment of human rights.<sup>362</sup>

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<sup>362</sup> See, e.g., UN Human Rights Council Resolution 48/13 (2021), A/HRC/RES/48/13, 18 October 2021 (States recognise that “the impact of climate change, the unsustainable management and use of natural resources, the pollution of air, land and water, the unsound management of chemicals and waste, the resulting loss of biodiversity and the decline in services provided by ecosystems interfere with the enjoyment of a clean, healthy and sustainable environment, and that environmental damage has negative implications, both direct and indirect, for the effective enjoyment of all human rights”), Annex 227; UN Human Rights Council Resolution 46/7 (2021), A/HRC/RES/46/7, 23 March 2021 (States recognise “that sustainable development and the protection of the environment, including ecosystems, contribute to human well-being and to the enjoyment of human rights, including the rights to life, to the enjoyment of the highest attainable standard of physical and mental health, to an adequate standard of living, to adequate food, to safe drinking water and sanitation and to housing, and cultural rights”), Annex 226; UN Human Rights Council Resolution 45/30 (2020), A/HRC/RES/45/30, 7 October 2020 (States are “deeply concerned that the effects of environmental harm may undermine the full enjoyment of a vast range of the rights of the child, inter alia the right to life, the right to the enjoyment of the highest attainable standard of physical and mental health, the right to a standard of living adequate for the child’s physical, mental, spiritual, moral and social development, the right to education, the right of the child to be cared for by his or her parents, the right to rest and leisure, to engage in play and recreational activities, and the right of the child to be protected from economic exploitation and from performing any work that is likely to be hazardous or to interfere with the child’s education or to be harmful to the child’s health or physical, mental, spiritual, moral or social development”), Annex 225; UN Human Rights Council Resolution 44/7 (2020), A/HRC/RES/44/7, 16 July 2020 (States emphasise that “the adverse effects of climate change have a range of implications, which can increase with greater global warming, both direct and indirect, for the effective enjoyment of human rights, including, inter alia, the right to life, the right to adequate food, the right to the enjoyment of the highest attainable standard of physical and mental health, the right to adequate housing, the right to self-determination, the rights to safe drinking water and sanitation, the right to work and the right to development, and recalling that in no case may a people be deprived of its own means of subsistence”), Annex 224; UN Human Rights Council Resolution 77/212 (2022), A/RES/77/212, 15 December 2022 (States express their deep concern about “the increasing challenges posed by global climate change and the loss of biodiversity, which have increased vulnerabilities and inequalities and have adversely affected development gains, in particular in developing countries”), Annex 230; UN Human Rights Council Resolution 7/23 (2008), A/HRC/7/23, 28 March 2008 (States are “[c]oncerned that climate change poses an immediate and far-reaching threat to people and communities around the world and has implications for the full enjoyment of human rights”), Annex 238.

165. This obligation is further supported by the most highly qualified publicists. For example, the drafters and endorsers of the Strasbourg Principles<sup>363</sup> agree that States are under the obligation to ensure, for the benefit of present and future generations, as well as for the benefit of the environment itself, that everyone within their jurisdiction can enjoy safe, clean, healthy and sustainable environmental conditions adequate for their rights to health, well-being, dignity and culture.<sup>364</sup>
166. Therefore, international conventions, other international instruments and State practice show that States are obligated to protect and preserve the environment and the climate system within their own jurisdiction and control.
- (ii) This obligation is enforceable on a State-to-State level
167. The obligation to protect the environment within one's own jurisdiction and control is enforceable against a State by other States, even if they are themselves not injured by the States whose territory is impacted. This is because the obligation is an *erga omnes* obligation (i.e., an obligation in whose fulfilment all States have a legal interest) and an *erga omnes partes* obligation (i.e., an obligation in whose fulfilment all States party to the same treaty have a legal interest).
168. The *erga omnes* and *erga omnes partes* character of the obligation is supported by this Court's case law. In *Gabčíkovo-Nagymaros*, this Court recognised "the great significance [of] respect for the environment, not

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<sup>363</sup> See paragraph 145.

<sup>364</sup> See Strasbourg Principles, Principle 35, Annex 540.

only for States but also for the whole of mankind.”<sup>365</sup> In addition, late Judge Christopher Weeramantry, previous Vice-President of this Court, in his dissenting opinion in the *Nuclear Weapons Advisory Opinion*, recognised that the principles of environmental law “do not depend for their validity on treaty provisions,” that they are “part of customary international law” and the “*sine qua non* for human survival.”<sup>366</sup> *Ad hoc* Judge Dugard, in his dissenting opinion in *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua)*, also acknowledged the specific obligation not to engage in wrongful deforestation that results in the release of carbon as an *erga omnes* obligation.<sup>367</sup>

169. This Court has also allowed non-injured States to bring claims against States for breaches of international human rights and environmental obligations in treaties – thereby acknowledging that those obligations are *erga omnes partes*.<sup>368</sup>

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<sup>365</sup> *Gabčíkovo-Nagymaros*, paragraph 53, Annex 394, citing the *Nuclear Weapons Advisory Opinion*, paragraph 29, Annex 392.

<sup>366</sup> *Nuclear Weapons Advisory Opinion*, Dissenting Opinion of Judge Weeramantry, page 504, Annex 393.

<sup>367</sup> *Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v Nicaragua)*, *Compensation, Judgment of 2 February 2018*, *I.C.J. Reports 2018*, p. 15 (“**Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment**”), Dissenting opinion of Judge Ad Hoc Dugard, paragraph 35, Annex 408).

<sup>368</sup> See *Questions relating to the Obligation to Prosecute or Extradite (Belgium v Senegal)*, *Judgment of 20 July 2012*, *I.C.J. Reports 2012*, p. 422, paragraphs 68-69, Annex 403; *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)*, *Judgment of 31 March 2014*, *I.C.J. Reports 2014*, p. 226, Annex 404. See also “Draft Articles on Responsibility of States for Internationally Wrongful Acts”, Report of the Commission to the General Assembly on the work of its fifty-third session, Yearbook of the International Law Commission, A/CN.4/SER.A/2001/Add.1 (Part 2), *International Law Commission*, 10 August 2001 (“**Articles on Responsibility of States**”), Article 48, Annex 494. This is even though the Court in 1970 stated that human rights instruments themselves do not confer on State the capacity to protect victims irrespective of their

170. The *erga omnes* and *erga omnes partes* nature of this obligation is supported by teachings of highly qualified publicists. For example, Giorgio Gaja (previously Judge of this Court) stated that:

[a] State which has not been injured, but which may invoke the responsibility of the wrongdoing State, does so essentially in the exercise of a collective interest. It will rarely have suffered damage (moral or material) that affects it individually. This could be the case of a State which, even if its coastal and maritime areas are not affected by the consequences of pollution in the high seas, incurs expenses to combat pollution.<sup>369</sup>

171. The ILC, a body of international law experts, developed articles on State responsibility, which state that:

[a]ny State other than an injured State is entitled to invoke the responsibility of another State . . . if: (a) the obligation breached is owed to a group of States including that State, and is established for the protection of a collective interest of the group; or (b) the obligation breached is owed to the international community as a whole.<sup>370</sup>

172. The ILC's Commentary to the Articles on Responsibility of States clarifies that collective obligations "might concern, for example, the environment or security of a region (e.g., a regional nuclear-free zone treaty or a regional system for the protection of human rights)."<sup>371</sup> The

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nationality (see *Barcelona Traction, Light and Power Company, Limited, Judgment of 5 February 1970, I.C.J Reports 1970*, p. 3, paragraph 91, Annex 387).

<sup>369</sup> G. Gaja, *States having an Interest in Compliance with the Obligation Breached*, in *THE LAW OF INTERNATIONAL RESPONSIBILITY*, eds. James Crawford et al. (Oxford University Press, 2010), page 961, Annex 523.

<sup>370</sup> Articles on Responsibility of States, Article 48(1), Annex 494.

<sup>371</sup> "Draft Articles on Responsibility of States for Internationally Wrongful Acts with commentaries", Report of the Commission to the General Assembly on the work of its fifty-third session, Yearbook of the International Law Commission, A/CN.4/SER.A/2001/Add.1 (Part 2), *International Law Commission*, 10 August 2001

ILC also noted that individual States may be specially affected by the breach of obligations owed to the international community as a whole “for example, a coastal State specially affected by pollution in breach of an obligation aimed at protection of the marine environment in the collective interest.”<sup>372</sup>

173. In addition, late Judge Crawford, in his then capacity as the ILC’s Special Rapporteur on State Responsibility, stated that the conservation of resources amounting to a common heritage of mankind could give rise to obligations *erga omnes partes*.<sup>373</sup>
174. The obligation is also *erga omnes* and *erga omnes partes* by virtue of its direct link with fundamental human rights obligations. This Court has already stated that “the principles and rules concerning the basic rights of the human person” are obligations *erga omnes* because they are the “concern of all States.”<sup>374</sup> As discussed above, there is a direct link between a healthy environment and the enjoyment of human rights. Therefore, the obligation to protect and preserve the environment, including the climate system, for present and future generations is an

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(“**Commentary to the Articles on Responsibility of States**”), Article 48, page 126, paragraph 7, Annex 495.

<sup>372</sup> Commentary to the Articles on Responsibility of States, Article 48, page 127, paragraph 10, Annex 495.

<sup>373</sup> See Third Report on State responsibility by James Crawford, Special Rapporteur, A/CN.4/507, *International Law Commission*, 15 March 2000, paragraph 92, Annex 492.

<sup>374</sup> *Barcelona Traction, Light and Power Company, Limited, Judgment of 5 February 1970, I.C.J Reports 1970*, p. 3, paragraphs 33-34, Annex 387.

obligation that is enforceable on a State-to-State level, because it is the “concern of all States.”<sup>375</sup>

175. This is supported by State practice of bringing cases against each other before international and regional courts with allegations for breaches of human rights or providing for mechanisms for them to do so in treaties:
- a. The Gambia brought a case against Myanmar for violations of the Convention on the Prevention and Punishment of the Crime of Genocide to this Court and this Court allowed this case to proceed past the preliminary objections phase;<sup>376</sup>
  - b. Belgium brought a case against Senegal for violations of the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment and this Court decided on the merits of the case;<sup>377</sup> and
  - c. under the European Convention on Human Rights, 46 States agree that “any High Contracting Party may refer to the Court any alleged breach of the provisions of the Convention and the

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<sup>375</sup> *Ad hoc* Judge Dugard in his dissenting opinion in *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment* also suggested that environmental obligations (specifically the obligation not to engage in wrongful deforestation that results in the release of carbon) is an *erga omnes* obligation (see *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, Dissenting opinion of Judge *Ad Hoc* Dugard, paragraph 35, Annex 408).

<sup>376</sup> See *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (The Gambia v Myanmar)*, *Preliminary Objections, Judgment of 22 July 2022*, *I.C.J. Reports 2022*, p. 477, Annex 410.

<sup>377</sup> See *Questions relating to the Obligation to Prosecute or Extradite (Belgium v Senegal)*, *Judgment of 20 July 2012*, *I.C.J. Reports 2012*, p. 422, Annex 403.

Protocols thereto by another High Contracting Party.”<sup>378</sup> States have exercised this right in over 30 inter-State cases.<sup>379</sup> This is so even if the State bringing the case is not a victim of an abuse of a human right.<sup>380</sup>

176. In addition, the IACtHR recognises the “collective guarantee” of the entire inter-American system, which “translates into a general duty of protection required of States Parties to the American Convention and the OAS Charter, in order to ensure the effectiveness of those instruments, as a rule of an *erga omnes partes* nature.”<sup>381</sup> This collective guarantee mechanism in the American Convention on Human Rights requires States to cooperate on ensuring the effectiveness of their human rights obligations.
177. Therefore, the obligation to protect and preserve the environment and other parts of the climate system within the jurisdiction and control of the State is an *erga omnes (partes)* obligation.

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<sup>378</sup> Convention for the Protection of Human Rights and Fundamental Freedoms as amended by Protocol No. 15, 4 November 1950, European Treaty Series - No. 5 (“**European Convention on Human Rights**”), Article 33, Annex 69.

<sup>379</sup> See “Inter-State applications”, *European Court of Human Rights*, Annex 510.

<sup>380</sup> See *Slovenia v Croatia* [2016] ECHR 54155, paragraph 67, Annex 429.

<sup>381</sup> *Denunciation of the American Convention on Human Rights and the Charter of the Organization of American States and the consequences for State human rights obligations (interpretation and scope of articles 1, 2, 27, 29, 30, 31, 32, 33 a 65 and 78 of the American Convention on Human Rights and 3(l), 17, 45, 53, 106 and 143 of the Charter of the Organization of American States)*. Advisory Opinion OC-26/20 of November 9, 2020, Series A No. 26, paragraph 164, Annex 381.

**C. Obligation to protect and preserve the environment in areas beyond national control: States must protect and preserve the climate system and other parts of the environment in areas beyond national control**

178. Under international law, States are also obligated to protect and preserve the climate system and other parts of the environment in areas beyond national control.
179. The extension of environmental protection obligations to areas beyond national control is established under long-standing international law. In the late 19<sup>th</sup> century, the tribunal in the *Fur Seals Arbitration* confirmed environmental protection obligations (namely, measures for the protection and preservation of migratory fur seals) in respect of the high seas “outside the jurisdictional limits of the respective Governments.”<sup>382</sup> The finding is all the more notable for having been rendered by a tribunal whose members included high-ranking State officials: *inter alia*, a Justice of the US Supreme Court, a US Senator, the Minister of Justice of Canada, the Attorney General of Canada, an Ambassador of France and a Norwegian Minister of State.<sup>383</sup> Within two decades, by 1911, the major

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<sup>382</sup> *Award of the Arbitral Tribunal established under the Treaty signed in Washington, on the 29<sup>th</sup> of February 1892, Between United States and Her Majesty The Queen of United Kingdom of Great-Britain and Ireland (Relating to the Rights of Jurisdiction of United States in the Bering’s Sea and the Preservation of Fur Seals)*, Award, 15 August 1893, RIAA Vol. XXVIII, p. 263, page 270, Annex 180.

<sup>383</sup> *See Award of the Arbitral Tribunal established under the Treaty signed in Washington, on the 29<sup>th</sup> of February 1892, Between United States and Her Majesty The Queen of United Kingdom of Great-Britain and Ireland (Relating to the Rights of Jurisdiction of United States in the Bering’s Sea and the Preservation of Fur Seals)*, Award, 15 August 1893, RIAA Vol. XXVIII, p. 263, page 268, Annex 180.



sealing States had also enshrined these extraterritorial obligations to protect and promote the environment into treaty law.<sup>384</sup>

180. States' obligations to protect and preserve the environment in areas beyond national control is also widely confirmed by a multitude of more recent international law sources. For example:

- a. under the Vienna Convention for the Protection of the Ozone Layer, 197 States and the European Union commit to protect human health and the environment against adverse effects resulting or likely to result from human activities which modify or are likely to modify the ozone layer.<sup>385</sup> Together, the Vienna Convention for the Protection of the Ozone Layer and its associated Montreal Protocol on Substances that Deplete the Ozone Layer reflect the acceptance by 197 States and the European Union of a binding obligation to protect the ozone layer in the stratosphere, including beyond national jurisdiction.<sup>386</sup> Notably, these instruments were the first in the history of the UN to have achieved universal ratification, confirming decisively that protecting and preserving the environment beyond national jurisdiction reflects universally agreed principles of law;

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<sup>384</sup> See Convention between the United States and Other Powers Providing for the Preservation and Protection of Fur Seals, 7 July 1911, UK Treaty Series 1912 No. 2, Annex 181.

<sup>385</sup> See Vienna Convention for the Protection of the Ozone Layer, Article 2(1), Annex 98.

<sup>386</sup> The Vienna Convention for the Protection of the Ozone Layer defines "ozone layer" expansively as "the layer of atmospheric ozone above the planetary boundary layer", without any limitation to areas immediately above territory within national jurisdiction (see Vienna Convention for the Protection of the Ozone Layer, Article 1(1), Annex 98).

- b. under the UNFCCC, 197 States and the European Union agree that they “should protect the climate system for the benefit of present and future generations of humankind”;<sup>387</sup>
- c. through the Convention on Biological Diversity, 195 States and the European Union confirm that:

States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their own jurisdiction or control do not cause damage to the environment . . . of areas beyond the limits of national jurisdiction.<sup>388</sup>

The Convention on Biological Diversity further establishes an obligation to cooperate in respect of areas beyond national jurisdiction for the conservation and sustainable use of biological diversity;<sup>389</sup>

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<sup>387</sup> UNFCCC, Article 3(1), Annex 112. States recognise also that “climate change and its adverse effects are a common concern of humankind” and that climate change may adversely affect natural ecosystems and humankind (e.g., due to shortages of food) (*see*, e.g., UNFCCC, Recitals, Annex 112; Paris Agreement, 12 December 2015, 3156 UNTS 79 (“**Paris Agreement**”), Recitals, Annex 156). In fact, the definition of “Adverse effects of climate change” in the UNFCCC acknowledges that climate change has significant deleterious effects on “human health and welfare” among other things (UNFCCC, Article 1(1), Annex 112). States also attest that they are aware of “the potentially harmful impact on human health and environment through modification of the ozone layer” (Vienna Convention for the Protection of the Ozone Layer, Recitals, Annex 98).

<sup>388</sup> Convention on Biological Diversity, Article 3, Annex 113. *See also* Stockholm Declaration, Principle 21 (“States have, in accordance with the Charter of the United Nations and the principles of international law . . . 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”), Annex 469.

<sup>389</sup> *See* Convention on Biological Diversity, Article 5, Annex 113.

- d. under UNCLOS, 168 States and the European Union also accept and enshrine expressly an obligation to protect and preserve the marine environment.<sup>390</sup> This is widely accepted, including through judicial pronouncements, as applying both within and beyond the limits of national jurisdiction,<sup>391</sup> and
- e. under the Convention on Environmental Impact Assessment in a Transboundary Context, 44 States and the European Union agree that they “shall, either individually or jointly, take all appropriate and effective measures to prevent, reduce and control significant adverse transboundary environmental impact from proposed activities.”<sup>392</sup>

181. Likewise, the obligation to protect and preserve the marine environment is universally reflected in a multitude of agreements relating to Antarctica. In the context of the suspension of sovereignty claims over the Antarctic, all obligations of environmental protection and preservation in Antarctica are properly understood as pertaining to areas beyond national jurisdiction.<sup>393</sup> In this regard, key agreements include the Protocol on

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<sup>390</sup> See UNCLOS, Article 192, Annex 95.

<sup>391</sup> See, e.g., *Request for an Advisory Opinion Submitted by the Sub-Regional Fisheries Commission (SRFC)*, *Advisory Opinion of 2 April 2015*, ITLOS Reports 2015, p. 4, paragraph 120, Annex 421. See also *South China Sea Arbitration (Philippines v China)*, Award, 12 July 2016, PCA Case No. 2013-19 (“**South China Sea Arbitration**”), paragraphs 940-941, Annex 437.

<sup>392</sup> Convention on Environmental Impact Assessment in a Transboundary Context, 25 February 1991, 1989 UNTS 309, Article 2.1, Annex 166.

<sup>393</sup> See R. Rayfuse, “Protecting Marine Biodiversity in Polar Areas Beyond National Jurisdiction”, *Review of European Community & International Environmental Law*, 2008, pp. 3-13, page 4 (“the suspension of sovereignty claims in the Antarctic currently renders the entire Antarctic area, including the Southern Ocean south of the Arctic Convergence, one beyond national jurisdiction, albeit one governed by a special regime established by various agreements and bodies comprising the Antarctic Treaty System”), Annex 520.

Environmental Protection to the Antarctic Treaty, which records the 33 Parties' recognition of "the need to enhance the protection of the Antarctic environment and dependent and associated ecosystems" and "that the development of a comprehensive regime for the protection of the Antarctic environment and dependent and associated ecosystems is in the interest of mankind as a whole."<sup>394</sup> The Protocol further records the 33 Parties' agreement that "[t]he protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica . . . shall be fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area"<sup>395</sup> as well as agreement that, *inter alia*, activities in the Antarctic Treaty area shall be planned and conducted so as to "limit adverse impacts on the Antarctic environment and dependent and associated ecosystems"<sup>396</sup> and to avoid "adverse effects on climate and weather patterns."<sup>397</sup> Additional relevant instruments in this regard include:

- a. the Antarctic Treaty, to which 56 States are party, establishing a consultation and recommendations procedure "in furtherance of the principles and objectives of the Treaty, including . . . preservation and conservation of living resources in Antarctica"<sup>398</sup> as well as banning nuclear explosions and the disposal of radioactive waste;<sup>399</sup>

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<sup>394</sup> Protocol on Environmental Protection to the Antarctic Treaty, 4 October 1991, 2941 UNTS 3 ("Antarctic Environmental Protocol"), Preamble, Annex 107.

<sup>395</sup> Antarctic Environmental Protocol, Article 3(1), Annex 107.

<sup>396</sup> Antarctic Environmental Protocol, Article 3(2)(a), Annex 107.

<sup>397</sup> Antarctic Environmental Protocol, Article 3(2)(b)(i), Annex 107.

<sup>398</sup> The Antarctic Treaty, 1 December 1959, 402 UNTS 71, Article IX(1)(f), Annex 70.

<sup>399</sup> See The Antarctic Treaty, 1 December 1959, 402 UNTS 71, Article V(1), Annex 70.

- b. the Convention for the Conservation of Antarctic Seals, to which 16 States are party, which – recognising the “need for effective conservations measures,” “that the stocks of Antarctic seals are an important living resource in the marine environment,” “that any harvesting should be regulated so as not to exceed the levels of optimum sustainable yield” and enshrining the objective “to maintain a satisfactory balance within the ecological system” – establishes catch limits for various seal species and prohibits entirely the catch of others;<sup>400</sup> and
- c. the Convention on the Conservation of Antarctic Marine Living Resources, to which 29 States are party, “[r]ecognising the importance of safeguarding the environment and protecting the integrity of the ecosystem of the seas surrounding Antarctica” as well as “the urgency of ensuring the conservation of Antarctic marine living resources” and the “prime responsibilities of the Antarctic Treaty Consultative Parties for the protection and preservation of the Antarctic environment.”<sup>401</sup>

182. Widespread obligations of environmental protection and preservation with respect to areas beyond national control can also be found in regional treaties and instruments. To set out just a few, non-exhaustive examples:

- a. the Agreement on the Protection of the Marine Environment and the Coastal Area of the South-East Pacific, to which 5 States are party, establishes environmental protection and preservation

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<sup>400</sup> Convention for the Conservation of Antarctic Seals, 1 June 1972, 1080 UNTS 175, Preamble, Annex 80.

<sup>401</sup> Convention on the Conservation of Antarctic Marine Living Resources, 20 May 1980, 1329 UNTS 47, Preamble, Annex 90.

obligations *inter alia* with respect to “the high seas up to a distance within which pollution of the high seas may affect” the area within the 200-mile maritime area of sovereignty and jurisdiction of the parties;<sup>402</sup>

- b. the Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Oil or Other Harmful Substances in Cases of Emergency, to which 5 States are party, establishes environmental protection and preservation obligations *inter alia* with respect to “the high seas up to a distance within which discharged pollutants constitute a danger” to waters within the 200-mile maritime area of sovereignty and jurisdiction of the parties;<sup>403</sup>
- c. the Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, to which 12 States are party, establishes environmental protection and preservation obligations *inter alia* with respect to the “areas of the high seas which are enclosed from all sides” by certain 200 nautical mile zones;<sup>404</sup>
- d. the Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, to which 8 States are

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<sup>402</sup> Agreement on the Protection of the Marine Environment and the Coastal Area of the South-East Pacific, 12 November 1981, 1648 UNTS 3, Article 1, Annex 93.

<sup>403</sup> Agreement on Regional Cooperation in Combating Pollution of the South-East Pacific by Oil or Other Harmful Substances in Cases of Emergency, 22 July 1983, 1648 UNTS 35, Article 2, Annex 97.

<sup>404</sup> Convention for the Protection of the Natural Resources and Environment of the South Pacific Region, 24 November 1986, Australian Treaty Series No. 31 (“**Noumea Convention**”), Article 2, Annex 101.

party, extends certain obligations of marine oil pollution preparedness and response to areas beyond the jurisdiction of any State to the extent consistent with international law;<sup>405</sup>

- e. the Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean, to which 9 States and the European Union are party, pursues the express objective “to prevent unregulated fishing in the high seas portion of the central Arctic Ocean through the application of precautionary conservation and management measures as part of a long-term strategy to safeguard healthy marine ecosystems and to ensure the conservation and sustainable use of fish stocks”;<sup>406</sup> and
- f. the Protocol on Climate Change Adaptation and Disaster Risk Management in Fisheries and Aquaculture in the Caribbean, approved by the 20 States of the Caribbean Community requires States to “take action and adopt measures to combat climate change and ocean acidification and their impacts, build resilience and protect fisheries sector livelihood assets.”<sup>407</sup>

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<sup>405</sup> See Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic, 15 May 2013, US Treaty Series No. 16-325, Article 3(2), Annex 154.

<sup>406</sup> Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean, 3 October 2018, OJ L 73, Article 2, Annex 158. See also Agreement to Prevent Unregulated Fishing in the High Seas of the Central Arctic Ocean, 3 October 2018, OJ L 73, Preamble (“consistent with the precautionary approach, to prevent the start of unregulated fishing in the high seas portion of the central Arctic Ocean while keeping under regular review the need for additional conservation and management measures”), Annex 158.

<sup>407</sup> Protocol on Climate Change Adaptation and Disaster Risk Management in Fisheries and Aquaculture in the Caribbean, The Food and Agriculture Organization of the United Nations and Caribbean Regional Fisheries Mechanism, 11 October 2018, Article 6.1, Annex 161.

183. Similar obligations with respect to areas beyond national jurisdiction can also be found in additional, non-regional treaties relating to fisheries. For example:

- a. the Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, to which 44 States and the European Union are party, confirms that “under international law as reflected in [UNCLOS], all States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.”<sup>408</sup> Consistent with the obligation to provide assistance to developing countries, the Agreement further confirms that its Parties “shall cooperate . . . to provide assistance, including technical assistance, to Parties that are developing countries in

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<sup>408</sup> Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 24 November 1993, 2221 UNTS 91, Preamble, Annex 119. *See also* International Guidelines for the Management of Deep-sea Fisheries in the High Seas, SPRFMO-VI-SWG-INF01, *Food and Agriculture Organization of the United Nations*, 29 August 2008, Annex 475; UN General Assembly Resolution 59/25 (2005), 17 January 2005, Article 66 (“Calls upon States, either by themselves or through regional fisheries management organizations or arrangements, where these are competent to do so, to take action urgently, and consider on a case-by-case basis and on a scientific basis, including the application of the precautionary approach, the interim prohibition of destructive fishing practices, including bottom trawling that has adverse impacts on vulnerable marine ecosystems, including seamounts, hydrothermal vents and cold water corals located beyond national jurisdiction, until such time as appropriate conservation and management measures have been adopted in accordance with international law”), Annex 219; UN General Assembly Resolution 61/105 (2007), 6 March 2007, Article 89 (“further invites the Food and Agriculture Organization of the United Nations . . . [to develop] standards and criteria for use by States and regional fisheries management organizations or arrangements in identifying vulnerable marine ecosystems and the impacts of fishing on such ecosystems, and establishing standards for the management of deep sea fisheries, such as through the development of an international plan of action”), Annex 220.



order to assist them in fulfilling their obligations under this Agreement”,<sup>409</sup> and

- b. the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, to which 92 States and the European Union are party, enshrines as general principles that States fishing on the high seas, “[i]n order to conserve and manage straddling fish stocks and highly migratory fish stocks,”<sup>410</sup> shall *inter alia*: “adopt measures to ensure long-term sustainability”;<sup>411</sup> “ensure that such measures are based on the best scientific evidence available” and taking into account “the special requirements of developing States”;<sup>412</sup> “apply the precautionary approach”; “minimize pollution”;<sup>413</sup> “protect biodiversity in the marine environment”;<sup>414</sup> and “implement and enforce conservation and management measures through effective monitoring, control and surveillance.”<sup>415</sup> The Agreement further enshrines the precautionary approach, including that “States shall be more

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<sup>409</sup> Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 24 November 1993, 2221 UNTS 91, Article VII, Annex 119.

<sup>410</sup> 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 UNTS 3 (“**UN Fish Stocks Agreement**”), Article 5, Annex 125.

<sup>411</sup> UN Fish Stocks Agreement, Article 5(a), Annex 125.

<sup>412</sup> UN Fish Stocks Agreement, Article 5(b), Annex 125.

<sup>413</sup> UN Fish Stocks Agreement, Article 5(c), Annex 125.

<sup>414</sup> UN Fish Stocks Agreement, Article 5(f), Annex 125.

<sup>415</sup> UN Fish Stocks Agreement, Article 5(g), Annex 125.

cautious when information is uncertain, unreliable or inadequate” and that “[t]he absence of adequate scientific information shall not be used as a reason for postponing or failing to take conservation and management measures.”<sup>416</sup>

184. Each of these obligations of environmental protection and preservation with respect to areas beyond national control should be understood in light of the recently concluded Draft Agreement 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, already signed by 86 States and the European Union. Among other things, it recalls the UNCLOS provisions on the protection and preservation of the marine environment and espouses the objective of ensuring conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction for the present and in the long-term.<sup>417</sup>
185. The obligation to protect and preserve the marine environment under UNCLOS is broad in scope. It extends beyond measures aimed strictly at controlling marine pollution to include measures necessary to protect and preserve fragile ecosystems.<sup>418</sup> It encompasses obligations to prevent,

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<sup>416</sup> UN Fish Stocks Agreement, Article 6(2), Annex 125.

<sup>417</sup> See Agreement 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, 19 June 2023, A/CONF.232/2023/4, Preamble and Article 2, Annex 159.

<sup>418</sup> See UNCLOS, Article 194(5), Annex 95; *Chagos Marine Protected Area Arbitration (Mauritius v United Kingdom)*, Award, 18 March 2015, PCA Case No. 2011-03, paragraphs 320, 538, Annex 436.

reduce and control pollution, whether direct or indirect,<sup>419</sup> and without any exclusion of new or previously unsuspected pollutants.<sup>420</sup> It must therefore be understood to include obligations to prevent, reduce and control indirect pollution in the form of ocean acidification linked to greenhouse gas emissions. In its application both within and beyond the limits of national jurisdiction, such obligations under UNCLOS to protect and preserve the marine obligation “exten[d] both to ‘protection’ of the marine environment from future damage and ‘preservation’ in the sense of maintaining or improving its present condition.”<sup>421</sup>

186. As the ICJ Statute confirms and as also explained in paragraph 129, the above international conventions constitute a recognised and appropriate source of international law to which this Court should refer.<sup>422</sup> This Court should also have regard to international custom as evidence of State practice accepted as law, as well as judicial decisions and the teachings of the most highly qualified publicists.<sup>423</sup> These sources further confirm the

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<sup>419</sup> See UNCLOS Article 194, read with Article 1(1)(4) (“Pollution of the marine environment means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities”), Annex 95.

<sup>420</sup> See Report of the United Nations Conference on the Human Environment, General Principles for Assessment and Control of Marine Pollution, A/CONF.48/14/Rev.1, 16 June 1972, page 73, Principle 14 (“The development and implementation of control should be sufficiently flexible to reflect increasing knowledge of the marine ecosystem, pollution effects, and improvements in technological means for pollution control and to take into account the fact that a number of new and hitherto unsuspected pollutants are bound to be brought to light”), Annex 469. See also Report on the Work of the United Nations Open-Ended Informal Consultative Process on Oceans and the Law of the Sea at its Fourteenth Meeting, A/68/159, 17 July 2013, paragraphs 9-10, Annex 477.

<sup>421</sup> *South China Sea Arbitration*, paragraph 941, Annex 437.

<sup>422</sup> See ICJ Statute, Article 38.

<sup>423</sup> See paragraph 129 above; ICJ Statute, Article 38.

extension of States' obligations to protect and preserve the environment to areas beyond national control.

187. In 2014, for example, 10 States articulated a common vision for conserving the Sargasso Sea ecosystem – “the majority of which lies beyond national jurisdiction” – for the benefit of present and future generations and determined to collaborate to the extent possible in pursuing its conservation.<sup>424</sup> Even more notably, the United States of America – a non-party to UNCLOS – has consistently recognised and acted in accordance with environmental protection obligations *vis-à-vis* the deep seabed beyond national jurisdiction in its conduct in connection with proposed deep sea mining activities. The Deep Seabed Hard Mineral Resources Act adopted by the United States of America encouraged “international actions necessary to adequately protect the environment from adverse impacts which may result from any exploration for and commercial recovery of hard mineral resources of the deep seabed.”<sup>425</sup> Similarly, the Deep Seabed Mining Regulations for Exploration Licenses specifically restrain the National Oceanic and Atmospheric Administration (“NOAA”) from issuing or transferring any exploration licence unless it has found that the proposed exploration “cannot reasonably be expected to result in a significant adverse effect on the quality of the environment.”<sup>426</sup>

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<sup>424</sup> Hamilton Declaration on Collaboration for the Conservation of the Sargasso Sea, 11 March 2014, paragraphs 1-3, Annex 291.

<sup>425</sup> Deep Seabed Hard Mineral Resources Act, 28 June 1980, as amended to 1 July 2000, Article 1402(b)(2), Annex 272.

<sup>426</sup> National Oceanic and Atmospheric Administration, Deep Seabed Mining Regulations for Exploration Licenses, 15 Code of Federal Regulations § 970.506, 15 September 1981, Annex 247.

188. In 2022, the NOAA of the US Government confirmed that “no at-sea activities may be conducted” pursuant to NOAA deep seabed hard mineral exploration licences “without further environmental review and additional prior written authorization by NOAA.”<sup>427</sup> In particular, the NOAA has repeatedly and consistently confirmed in 2016 and 2022 that:
- a. the NOAA will “conduct an environmental analysis . . . if and when NOAA authorizes . . . exploration activities pursuant to [the Deep Seabed Hard Mineral Resources Act] Licenses USA-1 and USA-4” granted to Lockheed Martin;<sup>428</sup>
  - b. “[a]ny additional authorization by NOAA would occur only after a determination that proposed activities cannot reasonably be expected to result in a significant adverse effect on the quality of the environment”;<sup>429</sup>
  - c. “[d]ecision-making on seabed mining should be guided by the best available scientific information on the marine environment and ecosystem, and the risks posed by mining and associated operational practices”;<sup>430</sup>

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<sup>427</sup> National Oceanic and Atmospheric Administration, Deep Seabed Mining: Approval of Exploration License Extensions, 87 Fed. Reg. 52743, 29 August 2022 (“**Deep Seabed Mining: Approval of Exploration License Extensions**”), page 52744, Annex 262. *See also* National Oceanic and Atmospheric Administration, Deep Seabed Hard Minerals; Request for Extension of Exploration Licenses; Comments Request, 87 Fed. Reg. 15408, 18 March 2022, Annex 261.

<sup>428</sup> *Center for Biological Diversity v Penny Pritzker et al.*, 33 U.S.C. § 1365 (2016), Joint Motion to Dismiss and Proposed Order, 30 November 2016, paragraph 6, Annex 457.

<sup>429</sup> Deep Seabed Mining: Approval of Exploration License Extensions, page 52744, Annex 262.

<sup>430</sup> Deep Seabed Mining: Approval of Exploration License Extensions, page 52744, Annex 262.

- d. “[a]gain, additional activities will be allowed only if NOAA determines that those activities cannot reasonably be expected to result in significant adverse effect on the quality of the environment”;<sup>431</sup> and
- e. the “NOAA recognizes the importance of a stable, science-based, internationally recognized regulatory framework for seabed mining that is harmonious with the U.S. seabed mining regulatory regime and ensures effective protection for the marine environment from harmful effects of seabed mining activities.”<sup>432</sup>

189. As to judicial decisions and the teachings of the most highly qualified publicists, in its *Nuclear Weapons Advisory Opinion*, this Court found that:

the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn. The existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment . . . of areas beyond national control is now part of the corpus of international law relating to the environment.<sup>433</sup>

190. It follows *ipso facto* that the protection and preservation of the environment – not an abstraction and representing quality of life and human health, including for future generations – extends to protection and preservation of the climate system, including in areas beyond national

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<sup>431</sup> Deep Seabed Mining: Approval of Exploration License Extensions, page 52744, Annex 262.

<sup>432</sup> Deep Seabed Mining: Approval of Exploration License Extensions, page 52745, Annex 262.

<sup>433</sup> *Nuclear Weapons Advisory Opinion*, paragraph 29, Annex 392. *See also Pulp Mills*, paragraph 193, Annex 400. *South China Sea Arbitration*, paragraph 941, Annex 437.

control. Consistent with this, the IACtHR has also affirmed that “States must ensure that their territory is not used in such a way as to cause significant damage to the environment . . . of areas beyond the limits of their territory.”<sup>434</sup>

191. In addition, the drafters and endorsers of the Strasbourg Principles<sup>435</sup> agree that States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the areas beyond the limits of national jurisdiction.<sup>436</sup>
192. As set out above, international law confirms that the obligation to protect and preserve the environment, including the climate system, extends as an obligation to areas beyond national control. States are obliged to protect and preserve the climate system and other parts of the environment in areas beyond national control. This obligation, as recognised as a matter of custom and treaty law, encompasses both the obligation to protect the environment beyond national control from future damage and the obligation to maintain and improve the condition of the environment beyond national control.

**D. Obligation to mitigate and repair: States must mitigate and repair harm already caused or that will be caused by anthropogenic greenhouse gas emissions, whether or not they have initially caused such harm**

193. Under international law, States are obligated to mitigate and repair harm. This includes the obligation to mitigate harm already caused or that will

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<sup>434</sup> IACtHR 2017 Advisory Opinion, paragraph 104(f), Annex 372.

<sup>435</sup> See paragraph 145 above.

<sup>436</sup> See Strasbourg Principles, Principle 36, Annex 540.

be caused by their anthropogenic greenhouse gas emissions to the climate system and other parts of the environment, as well as the obligation to repair harm to the environment whether or not the State in question caused the harm.

194. A State's obligation to mitigate and repair harm already caused or that will be caused by their anthropogenic greenhouse gas emissions to the climate system is well-established in treaty law. Mitigation refers to the obligation to address the cause of climate change by limiting and reducing anthropogenic greenhouse gas emissions by sources and by enhancing the removal of greenhouse gases by sinks and storage by reservoirs.<sup>437</sup> It includes, for example, the obligation to develop and transfer technologies to combat the effects of climate change.<sup>438</sup> It is complementary with the related objective of climate change adaptation, a major component of the obligation to repair, being the process of managing as far as possible the consequences of climate change.<sup>439</sup>
195. States have agreed on clear obligations of climate change mitigation and repair under international conventions such as the UNFCCC and the Paris Agreement. The UNFCCC, for example, requires all parties to formulate, implement, publish and regularly update programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks.<sup>440</sup> Consistent with the principle of

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<sup>437</sup> See B. Mayer, *International Law Obligations on Climate Change Mitigation* (Oxford University Press, 2022), page 2, Annex 539.

<sup>438</sup> See Section VII.C.

<sup>439</sup> For example, through facilitated migration, bushfire management and other disaster risk management. B. Mayer, *International Law Obligations on Climate Change Mitigation* (Oxford University Press, 2022), pages 2-3, Annex 539.

<sup>440</sup> See UNFCCC, Article 4(1)(b), Annex 112.



common but differentiated responsibilities and respective capabilities, the UNFCCC further imposes obligations on Annex I parties to adopt national policies and take corresponding measures on climate change mitigation.<sup>441</sup> The UNFCCC also enshrines the obligation to repair climate change harm, *inter alia*, by requiring developed countries to assist developing countries that are particularly vulnerable to climate change adverse effects in meeting costs of adaptation, including by providing financing and promoting and facilitating technology transfer.<sup>442</sup>

196. The Paris Agreement enshrines and develops mitigation obligations further by systematising processes for submitting and implementing greenhouse gas mitigation commitments by States.<sup>443</sup> By establishing clear obligations to support developing countries,<sup>444</sup> the Paris Agreement further confirms the obligation to repair climate change harm whether or not a State has caused such harm. These obligations have been further enhanced through the Kyoto Protocol processes for imposing quantified emission limitation and reduction commitments.<sup>445</sup> These treaty obligations confirm the recognition among States, including developed States, of an obligation to foster climate resilience and make finance flows consistent with a pathway towards low greenhouse gas emissions and

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<sup>441</sup> See UNFCCC, Article 4(2)(a), Annex 112.

<sup>442</sup> See UNFCCC, Articles 4(3)-(5), Annex 112.

<sup>443</sup> See Paris Agreement, Articles 4 and 5, Annex 156.

<sup>444</sup> See Paris Agreement, Article 4(5), Annex 156.

<sup>445</sup> See Kyoto Protocol to The United Nations Framework Convention on Climate Change, 11 December 1997, FCCC/CP/1997/L.7/Add.1 (“**Kyoto Protocol**”), Article 3, Annex 131.

climate-resilient development, specifically for developing countries and small island States.<sup>446</sup>

197. The Paris Agreement and the Kyoto Protocol are mere starting points. They are not by themselves sufficient to discharge States' obligations in respect of climate change.
198. In fulfilment of their obligations to mitigate and repair climate change harm, including through adaptation, States have agreed to operationalise these obligations through the establishment of funds and facilities. For example, the UNFCCC Parties have established an Adaptation Fund to finance concrete adaptation projects and programmes in developing countries that are particularly vulnerable to the adverse effects of climate change.<sup>447</sup> In 2022, 197 States also reached a historic unanimous agreement on the establishment of a loss and damage fund dedicated to assist developing nations most severely affected by climate change.<sup>448</sup>
199. UN General Assembly Resolution 77/165 acknowledges that "adaptation to climate change is an urgent priority and a global challenge faced by all countries, in particular developing countries, especially those that are

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<sup>446</sup> See, e.g., UNFCCC, Article 4(4), Annex 112; Paris Agreement, Articles 2(1)(b) and (c), 9, 10, Annex 156.

<sup>447</sup> See *Funding under the Kyoto Protocol*, Decision 10/CP.7, Report of the Conference of the Parties on Its Seventh Session, held at Marrakesh from 29 October to 10 November 2001, Addendum, Part Two: Action taken by the Conference of the Parties, FCCC/CP/2001/13/Add.1, 21 January 2002, Annex 282. See also Section VII.C below.

<sup>448</sup> See *Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage*, Decision 2/CP.27, Report of the Conference of the Parties on its twenty-seventh session, held in Sharm el-Sheikh from 6 to 20 November 2022, Addendum, Part two: Action taken by the Conference of the Parties at its twenty-seventh session, FCCC/CP/2022/10/Add.1, 17 March 2023, paragraphs 1 and 13, Annex 313.

particularly vulnerable to the adverse effects of climate change.”<sup>449</sup> In this context, it confirms “the importance of the adequacy and predictability of adaptation finance and of the Adaptation Fund and that the provision of scaled-up financial resources should be aimed at achieving a balance between adaptation and mitigation.”<sup>450</sup> Such treaty commitments and State practice reflect widespread recognition of the obligation to mitigate and repair climate change harm for other States and present and future generations, including to repair harm whether or not they have caused such harm.

200. Obligations of climate change mitigation are strongly related to the general obligation under customary international law not to cause transboundary harm, which has been discussed above.<sup>451</sup> The obligation to prevent transboundary harm to other States compels States as a matter of law to reduce, prevent and control foreseeable climate change harm to other States. Insofar as States have themselves caused or contributed to climate change harm in breach of international law, the obligation to mitigate (for example, through carbon sinks) and to repair harm applies as a matter of customary international law as part of the duty to make full

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<sup>449</sup> UN General Assembly Resolution 77/165 (2022), A/RES/77/165, 14 December 2022 (“**UN General Assembly Resolution 77/165**”), Preamble, Annex 229. *See also* UN General Assembly Resolution 77/165, paragraph 10, Annex 229.

<sup>450</sup> UN General Assembly Resolution 77/165, Preamble, Annex 229.

<sup>451</sup> *See* Section VI.A above. Reflecting the universal acceptance of these obligations, as well as the obligation to protect and preserve the environment, States have already moved rapidly to phase out ozone-depleting substances, including through the universally ratified Vienna Convention for the Protection of the Ozone Layer, Annex 98 and the Montreal Protocol on Substances that Deplete the Ozone Layer, 16 September 1987, 1522 UNTS 3, Annex 102. *See also* paragraph 180 above.

reparation for injury caused by wrongful acts, as discussed in further detail below.<sup>452</sup>

201. As set out in **Section VI.B**, climate change-related harm implicates human rights, including the rights to life, adequate food, health, housing, self-determination, access to water and privacy.<sup>453</sup> A State's obligations to mitigate and repair climate change harm, whether or not caused by that State, therefore follow from existing obligations of States under international human rights law. Such obligations apply irrespective of whether the State itself has directly caused the environmental harm impacting free and full exercise of human rights. States are obliged in fulfilling their human rights obligations to have particular regard to communities who will be most acutely impacted, including those already in vulnerable situations owing to poverty, gender, age, indigenous or minority status and disability.<sup>454</sup>
202. International human rights law jurisprudence confirms that failing to mitigate and repair climate change harm, whether or not caused by the State, violates international human rights law. In *Billy v Australia*, the UN Human Rights Committee determined that Australia's climate change inaction violated the rights to privacy, family and home, as well as the right of indigenous peoples to enjoy their traditional territories and continue to enjoy the natural resources traditionally used for their cultural

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<sup>452</sup> See Articles on Responsibility of States, Article 31, Annex 494; Section VII.B.

<sup>453</sup> See UN Human Rights Council Resolution 10/4, Preamble, Annex 222. See also IACtHR 2017 Advisory Opinion, paragraphs 123-124, Annex 372.

<sup>454</sup> See UN Human Rights Council Resolution 10/4 (2009), A/HRC/RES/10/4, 25 March 2009, Preamble, Annex 222. See also Glasgow Climate Pact, Decision 1/CP.26, Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from 31 October to 13 November 2021, Addendum, Action taken by the Conference of the Parties at its twenty-sixth session, FCCC/CP/2021/12/Add.1, 8 March 2022, Annex 309.

identity. Australia’s violations were grounded in its failure to take timely and adequate repair and adaptation action (namely, delays in the construction of seawalls to address coastal erosion and storm surge impacts),<sup>455</sup> without any need to establish any separate connection between the State and the environmental harm caused.

203. Human rights jurisprudence further recognises that failure to take timely and adequate repair and adaptation action in respect of climate change harm can violate the right to life. Thus, in its Views adopted in *Teitiota v New Zealand*, the UN Human Rights Committee confirmed:

[t]he Committee is of the view that without robust national and international efforts, the effects of climate change in receiving States may expose individuals to a violation of their rights under articles 6 or 7 of the Covenant.<sup>456</sup>

204. In *Billy v Australia*, in his individual opinion, Ambassador Duncan Muhumuza Laki of the UN Human Rights Committee held that:

[t]he authors have ably informed the Committee that the current state of affairs and existence in the Torres Strait islands is under imminent threat owing to ongoing climate change and therefore the State party should take immediate adaptive precautionary measures to thwart climate changes and preserve the lives of the islanders, including their health and livelihood. Any further delays or non-action by

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<sup>455</sup> See *Billy v Australia*, paragraph 8.12 (“by failing to discharge its positive obligation to implement adequate adaptation measures to protect the authors’ home, private life and family, the State party violated the authors’ rights under article 17 of the Covenant”) and paragraph 8.14 (“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”), Annex 444.

<sup>456</sup> “Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication No. 2728/2016, *Teitiota v New Zealand*”, CCPR/C/127/D/2728/2016, *UN Human Rights Committee*, 23 September 2020, paragraph 9.11, Annex 442.

the State party will continue to put the lives of the citizens at risk, which is a blatant violation of article 6 (1) of the Covenant.<sup>457</sup>

205. The Supreme Court of the Republic of Colombia has notably ordered the increase of actions to mitigate deforestation on the basis *inter alia* that:

[t]he increasing deterioration of the environment is a serious attack on current and future life and on other fundamental rights; it gradually depletes life and all its related rights. The inability to exercise the fundamental rights to water, to breathe pure air, and to enjoy a healthy environment is making Colombians sick. It also increases the lack of fresh water and decreases the ability to enjoy a dignified life.

(Translated from Spanish original.)<sup>458</sup>

206. In Belgium, a decision from the Court of Appeals of Brussels<sup>459</sup> confirmed a decision of the Tribunal of First Instance of Brussels<sup>460</sup> declaring that the State, through its climate change inaction, violated human rights:

[i]n pursuing their climate policy, [the Belgian State, the Brussels-Capital Region and the Flemish Region] . . . infringe the fundamental rights of the plaintiffs, and more

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<sup>457</sup> Annex I, Individual opinion of Committee member Duncan Laki Muhumuza (dissenting), *Billy v Australia*, paragraph 12, Annex 444.

<sup>458</sup> *Future Generations v Ministry of Environment and Others*, Sentence 4360-2018 of the Supreme Court of Justice of Colombia of 5 April 2018, pages 13-14 and 48 (in original Spanish, “El deterioro creciente del medio ambiente es [sic] atentado grave para la vida actual y venidera y de todos los otros derechos fundamentales; además, agota paulatinamente la vida y todos los derechos conexos con ella. La imposibilidad de ejercer los derechos fundamentales al agua, a respirar aire puro y disfrutar un ambiente sano enferma diariamente a los sujetos de derecho vivientes, aumenta la carencia de agua dulce y disminuye las expectativas de vida digna”), Annex 458.

<sup>459</sup> *Klimaatzak ASBL v Belgium*, Judgment of the French-Speaking Court of Appeal of Brussels of 30 November 2023, paragraphs 183, 209, 211 and 214, Annex 467.

<sup>460</sup> *Klimaatzak ASBL v Belgium*, Judgment of the French-Speaking Court of First Instance of Brussels of 17 June 2021, page 83, Annex 463.

specifically Articles 2 and 8 of the ECHR, by failing to take all necessary measures to prevent the effects of climate change on their lives and privacy.

(Translated from French original.)<sup>461</sup>

207. In assessing the particular content of obligations to mitigate climate change harm, developed States are required in practice to do more in line with the established principle of common but differentiated responsibilities.<sup>462</sup> Along the same lines, the duty of States to comply with their obligations of due diligence requires, in practice, that all States, in particular developed States, take “all appropriate measures” to ensure the free and full exercise of all relevant human rights, including those under the International Covenant on Civil and Political Rights, the ICESCR and the Universal Declaration of Human Rights.<sup>463</sup> The same applies with respect of the duties of States to exercise due diligence in respect of their obligations under the UNFCCC, the Paris Agreement, UNCLOS and the duty to protect and preserve the marine environment. Taken together, the principle of common but differentiated responsibilities and the due diligence standard require States to set their national climate mitigation targets at the level of their highest possible ambition and to pursue effective mitigation measures with the aim of achieving those

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<sup>461</sup> *Klimaatzaak ASBL v Belgium*, Judgment of the French-Speaking Court of Appeal of Brussels of 30 November 2023, page 83 (in French original: “dans la poursuite de leur politique climatique, les parties défenderesses . . . portent atteinte aux droits fondamentaux des parties demanderesses, et plus précisément aux articles 2 et 8 de la CEDH, en s’abstenant de prendre toutes les mesures nécessaires pour prévenir les effets du changement climatique attentatoire à la vie et à leur vie privée”), Annex 467.

<sup>462</sup> See, e.g., paragraph 217.a). See also E. Hey & S. Paulini, “Common but Differentiated Responsibilities” in *Max Planck Encyclopaedia of Public International Law*, 2021, paragraphs 4-8, Annex 551; P. Cullet, *Common but differentiated responsibilities*, in *RESEARCH HANDBOOK ON INTERNATIONAL ENVIRONMENTAL LAW*, eds. Fitzmaurice et al. (2020), pages 215-217, Annex 552.

<sup>463</sup> IACtHR 2017 Advisory Opinion, paragraphs 123-124, Annex 372.

targets. The same applies with equal force to adaptation measures, which must be set at the level of each State's highest possible ambition.<sup>464</sup>

**E. Obligation to cooperate: States must cooperate to protect and preserve the climate system and other parts of the environment**

208. Under international law, States are obligated to cooperate to protect and preserve the climate system and other parts of the environment. The duty to cooperate derives from the principle of good faith in international relations and is essential for the protection of the environment.

209. The Court has previously identified the obligation to cooperate in at least the following cases:

a. the *Nuclear Tests* case:

[o]ne of the basic principles governing the creation and performance of legal obligations, whatever their source, is the principle of good faith. Trust and confidence are inherent in international co-operation, in particular in an age when this co-operation in many fields is becoming increasingly essential . . . Thus interested States may take cognizance of unilateral declarations and place confidence in them, and are entitled to require that the obligation thus created be respected.<sup>465</sup>

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<sup>464</sup> See Annex II, Individual opinion of Committee member Gentian Zyberi (concurring), *Billy v Australia*, paragraph 3, Annex 444.

<sup>465</sup> *Nuclear Tests (Australia v France)*, *Judgment of 20 December 1974*, *I.C.J. Reports 1974*, p. 253, paragraph 46, Annex 388.



b. the *Nuclear Weapons Advisory Opinion*:

[t]he obligation expressed in Article VI of the Treaty on the Non Proliferation of Nuclear Weapons includes its fulfilment in accordance with the basic principle of good faith. This basic principle is set forth in Article 2, paragraph 2, of the Charter. It was reflected in the Declaration on Friendly Relations between States (resolution 2625 (XXV) of 24 October 1970) and in the Final Act of the Helsinki Conference of 1 August 1975. It is also embodied in Article 26 of the Vienna Convention on the Law of Treaties of 23 May 1969, according to which "[e]very treaty in force is binding upon the parties to it and must be performed by them in good faith."<sup>466</sup>

c. the *Pulp Mills* case:

[t]he Court observes that it is by co-operating that the States concerned can jointly manage the risks of damage to the environment that might be created by the plans initiated by one or other of them, so as to prevent the damage in question, through the performance of both the procedural and the substantive obligations laid down by the 1975 Statute.

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The Court notes, moreover, that the 1975 Statute is perfectly in keeping with the requirements of international law on the subject, since the mechanism for co-operation between States is governed by the principle of good faith.<sup>467</sup>

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<sup>466</sup> *Nuclear Weapons Advisory Opinion*, paragraph 102, Annex 392.

<sup>467</sup> *Pulp Mills*, paragraphs 77, 145, Annex 400.

d. the *Gabčíkovo-Nagymaros* case:

[t]he Danube has always played a vital part in the commercial and economic development of its riparian States, and has underlined and reinforced their interdependence, making international co-operation essential . . . The Court is mindful that, in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage.<sup>468</sup>

210. The duty to cooperate has also been recognised by ITLOS in:

a. the *Southern Bluefin Tuna Cases*:

States Parties to the Convention have the duty to cooperate directly or through appropriate international organizations with a view to ensuring conservation and promoting the objective of optimum utilization of highly migratory species.<sup>469</sup>

b. the *MOX Plant Case*:

the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under . . . general international law.<sup>470</sup>

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<sup>468</sup> *Gabčíkovo-Nagymaros*, paragraphs 17, 140, Annex 394.

<sup>469</sup> *Southern Bluefin Tuna Cases (New Zealand/Japan; Australia /Japan) Provisional Measures, Order of 27 August 1999*, ITLOS Reports 1999, p. 280, page 293, Annex 419.

<sup>470</sup> *The MOX Plant Case (Ireland/The United Kingdom) Provisional Measures, Order of 3 December 2001*, ITLOS Reports 2001, p. 95, paragraph 82, Annex 420.

211. The duty to cooperate is also recognised in numerous treaties, for instance:

a. the UN Charter:

[t]he [p]urposes of the United Nations are: . . .  
. [t]o achieve international co-operation in solving international problems of an economic, social, cultural, or humanitarian character, and in promoting and encouraging respect for human rights and for fundamental freedoms for all without distinction as to race, sex, language, or religion . . .<sup>471</sup>

As explained by the UN High Commissioner for Human Rights:

[t]he UN Charter . . . and other . . . instruments impose upon States the duty to cooperate to ensure the realization of all human rights. Climate change is a human rights threat with causes and consequences that cross borders; thus, it requires a global response, underpinned by international solidarity. States should share resources, knowledge and technology in order to address climate change. International assistance for climate change mitigation and adaptation should be additional to existing . . . commitments.<sup>472</sup>

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<sup>471</sup> UN Charter, Article 1(3), Annex 66. *See also* UN Charter, Articles 13(1)(b), 55, 62(2), Annex 66.

<sup>472</sup> “Understanding Human Rights and Climate Change”, Submission of the Office of the High Commissioner for Human Rights to the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, 2015, page 3, Annex 480. *See also* “General Comment No. 25 (2020) – On science and economic, social and cultural rights”, E/C.12/GC/25, *UN Committee on Economic, Social and Cultural Rights*, 30 April 2020, paragraph 77 (“The duty to cooperate internationally towards the fulfilment of all economic, social and cultural rights, established in article 2 of the Covenant and in articles 55 and 56 of the Charter of the United Nations”), Annex 449; ICESCR, Articles 15 (1)(b), (2), (3) and (4), Annex 73.

b. the UNFCCC:

[t]he Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change.<sup>473</sup>

c. the Paris Agreement:

Parties recognize the importance of support for and international cooperation on adaptation efforts and the importance of taking into account the needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change.<sup>474</sup>

d. the Kyoto Protocol:

[e]ach Party . . . in order to promote sustainable development, shall . . . cooperate with other such Parties to enhance the individual and combined effectiveness of their policies and measures adopted under this Article.<sup>475</sup>

e. UNCLOS:

States shall cooperate on a global basis and, as appropriate, on a regional basis . . . for the

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<sup>473</sup> UNFCCC, Article 3(5), Annex 112. *See also* UNFCCC, Articles 4(1)(c), 4(1)(e), 4(1)(g), Annex 112.

<sup>474</sup> Paris Agreement, Article 7(6), Annex 156. *See also* Paris Agreement, Preamble, Articles 6, 8, 10, 11, 12 and 14, Annex 156.

<sup>475</sup> Kyoto Protocol, Article 2(1)(B), Annex 131.

protection and preservation of the marine environment.<sup>476</sup>

- f. the UN Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa:

the Parties shall . . . promote cooperation among affected country Parties in the fields of environmental protection and the conservation of land and water resources, as they relate to desertification and drought.<sup>477</sup>

212. The obligation of States to cooperate (in environmental matters) has also been propounded by, among others:

- a. the UN General Assembly, which has urged States and international organisations to “treat climate change as a priority issue, to undertake and promote specific, co-operative action-oriented programme and research so as to increase understanding on all sources and causes of climate change” and to “collaborate in making every effort to prevent detrimental effects on climate”;<sup>478</sup>
- b. the Bridgetown Declaration:

[The Forum of Ministers]

*Reiterate* the importance of international and regional cooperation that would serve as a

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<sup>476</sup> UNCLOS, Article 197, Annex 95. *See also* UNCLOS, Articles 192, 198-201, Annex 95.

<sup>477</sup> United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, 14 October 1994, 1954 UNTS 3 (“UNCCD”), Article 4(2)(d), Annex 123.

<sup>478</sup> UN General Assembly Resolution 43/53, paragraphs 6 and 9, Annex 215.

mechanism to mitigate the countries' vulnerabilities, build resilience and maximize opportunities for sustainable development and contribute to the economic and environmental recovery of our Region.

*Take note* that the global response to the COVID-19 pandemic teaches us to work together to combat the common challenges to planet and humanity, recognising that coordinated and time-oriented efforts can strengthen sustainability and form the basis for the creation of adequate strategies for long-term benefit including sustainable environmental management and joint efforts between countries and organizations, oriented to such objectives, alike.

*Strengthen* sustainability efforts and formulate strategies among countries and multilateral organizations for long term benefits, recognizing joint and coordinated efforts, including a global response to address common challenges that threaten ecosystems and humankind due to the COVID 19 pandemic.

*Stress* the need to promote on-going dialogues and exchange of information among Latin America and the Caribbean on best practices for natural resource management, including sustainable forest management, and the implementation of ecosystem- based approaches, among other relevant approaches that provide adaptation benefits, mitigation co-benefits and foster the conservation of biodiversity.<sup>479</sup>

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Bridgetown Declaration, Report XXII Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean, 1-2 February 2021, Annex III, UNEP/LAC-IG.XXII/7, 5 February 2021, paragraphs 28-31, Annex 307.

- c. the Rio Declaration, adopted by 179 States:

States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem"); Principle 27 ("States and people shall cooperate in good faith and in a spirit of partnership in the fulfilment of the principles embodied in this Declaration and in the further development of international law in the field of sustainable development.<sup>480</sup>

- d. the Joint Statement of Latin American and Caribbean Parliamentarians at COP27, signed by 14 States:

[w]e agree to promote the development of the financial structure that allows the raising of public and private funds, as well as international cooperation funds, for adaptation, mitigation and loss and damage projects, as well as working on urban and rural resilience, capable of facing the climate crisis.<sup>481</sup>

- e. the Declaration on China-Africa Cooperation on Combating Climate Change, made by the Republic of China, adopted by 53 African countries and the African Union Commission:

[w]e decide to establish a China-Africa partnership of strategic cooperation of the new era for the fight against climate change.<sup>482</sup>

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<sup>480</sup> Rio Declaration, Principle 7, Annex 281.

<sup>481</sup> Joint Statement of the Latin American and Caribbean Parliamentarians at COP 27, 10 November 2022, page 3, Annex 312.

<sup>482</sup> Declaration on China-Africa Cooperation on Combating Climate Change, 2 December 2021, paragraph 5, Annex 308.

f. the Stockholm Declaration, adopted by 113 States:

[i]nternational matters concerning the protection and improvement of the environment should be handled in a cooperative spirit by all countries, big and small, on an equal footing. Cooperation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.<sup>483</sup>

g. the San Jose Declaration, adopted by at least 26 Ministers of Environment comprising the Forum of Ministers of Environment of Latin America and the Caribbean:

[w]e are firmly committed to accelerating action against climate change, in line with the objectives, commitments and principles of the UNFCCC and its Paris Agreement, [i]n addition to being committed to strengthening cooperation with a view to the adoption of an ambitious package of decisions for COP 28 . . .

We recognize the need to address in an integrated manner, with a preventive approach, the different forms of pollution, including air, soil, ocean, and plastics and microplastics pollution. . .<sup>484</sup>

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<sup>483</sup> Stockholm Declaration, Principle 24, Annex 469.

<sup>484</sup> San Jose Declaration, XXIII Meeting of the Forum of Ministers of Environment of Latin America and the Caribbean, 26 October 2023, paragraphs 5 and 26, Annex 356.



- h. the Ibero-American Environmental Charter,  
adopted by 22 States:

[t]he environmental challenges of the Ibero-American Community can be overcome, to a great extent, by intensifying and reinforcing the already existing collaboration channels, broadening the channels to share the wealth of capabilities, knowledge and experiences that the Ibero-American Community has in environmental matters.

(Translated from Spanish original.)<sup>485</sup>

213. The obligation of cooperation has also been recognised by the UN Committee on Economic, Social and Cultural Rights in the context of economic, social and cultural rights under the ICESCR.<sup>486</sup> In addition, by the 1974 OECD Recommendation of the Council on Principles concerning Transfrontier Pollution, the Council of the OECD (made up of ambassadors from Member States of the OECD) recommended that Member States “co-operate in developing international law applicable to transfrontier pollution.”<sup>487</sup>

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<sup>485</sup> The Ibero-American Environmental Charter, adopted in the XXVIII Ibero-American Summit of Heads of State and Government, 25 March 2023, page 5, Annex 162 (in original Spanish, “[l]os retos ambientales de la Comunidad Iberoamericana pueden ser superados, en gran medida, intensificando y reforzando las vías de colaboración ya existentes, ampliando los cauces para compartir el patrimonio de capacidades, conocimientos y experiencias que la Comunidad Iberoamericana alberga en materia ambiental”).

<sup>486</sup> See ICESCR, Articles 15 (1)(b), (2), (3) and (4), Annex 73. See also “General Comment No. 25 (2020) – On science and economic, social and cultural rights”, E/C.12/GC/25, *UN Committee on Economic, Social and Cultural Rights*, 30 April 2020, paragraphs 77-84 (“The duty to cooperate internationally towards the fulfilment of all economic, social and cultural rights, established in article 2 of the Covenant and in articles 55 and 56 of the Charter of the United Nations”), Annex 449.

<sup>487</sup> “OECD, Recommendation of the Council on Principles concerning Transfrontier Pollution”, OECD/LEGAL/0133, *OECD*, 14 November 1974, page 4, Annex 507.

214. The customary status of the obligation to cooperate is confirmed by the ILC in its Draft Guidelines on the Protection of the Atmosphere, under which States “have the obligation to cooperate . . . for the protection of the atmosphere from atmospheric pollution and . . . degradation.”<sup>488</sup>
215. The existence of the obligation of cooperation in international law also finds support in scholarly works. For example, Benoit Mayer notes that “customary international law includes obligations of particular relevance to climate change such as . . . to cooperate in protecting global environmental resources.”<sup>489</sup> Dr Margaretha Wewerinke-Singh and Dr Curtis Doebbler note that “mitigation and adaptation measures must be supported by climate financing” and that “[a]ll States have obligations to cooperate with each other to realize the right to health based on customary international law.”<sup>490</sup>
216. Finally, it follows from States’ overarching obligation of cooperation in the environmental context that larger States responsible for the acceleration of climate change have a duty to finance adaption and mitigation efforts of small island States. The obligation to cooperate, in context, also implies an obligation to finance adaption and mitigation efforts of small island States.

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<sup>488</sup> “Draft Guidelines on the Protection of the Atmosphere with Commentaries”, A/76/10, *International Law Commission*, 2021, Guideline 8: International Cooperation, page 35, Annex 498.

<sup>489</sup> B. Mayer, *International Law Obligations on Climate Change Mitigation* (Oxford University Press, 2022), page 27, Annex 539.

<sup>490</sup> M. Wewerinke-Singh & C. Doebbler, “Protecting Human Health from Climate Change: Legal Obligations and Avenues of Redress under International Law”, *International Journal of Environmental Research and Public Health*, 2022, pp. 1-13, pages 3-4, Annex 537.

217. This position finds support in various treaties and declarations, for instance:
- a. under the Rio Declaration, adopted by 179 States, States have decided that “[i]n view of the different contributions to global environmental degradation, States have common but differentiated responsibilities” and “[t]he 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>491</sup> Further, they recognise that “States should cooperate to promote a supportive and open international economic system” to enable “economic growth and sustainable development in all countries, to better address the problems of environmental degradation”;<sup>492</sup>
  - b. under the Paris Agreement, 195 States recognise “the importance of support for and international cooperation on adaptation efforts,” as well as “the importance of taking into account the needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change”;<sup>493</sup> and
  - c. most prominently, the UNFCCC:

[t]he Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable

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<sup>491</sup> Rio Declaration, Principle 7, Annex 281.

<sup>492</sup> Rio Declaration, Principle 12, Annex 281.

<sup>493</sup> Paris Agreement, Article 7(6), Annex 156.

economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

...

All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall formulate, implement, publish and regularly update national and, where appropriate, regional programmes containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol, and measures to facilitate adequate adaptation to climate change.

...

All Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for coastal zone management, water resources and agriculture, and for the protection and rehabilitation of areas, particularly in Africa, affected by drought and desertification, as well as floods.

...

The developed country Parties and other developed Parties included in annex II shall also assist the developing country Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects.<sup>494</sup>

218. The substantive content of the obligation of cooperation in the context of environmental protection should also be understood as encompassing at least the following elements: the duty to notify, the duty to consult and negotiate and the duty to exchange information.
219. Regarding the duty to notify:
- a. the UN General Assembly recognised that duties of cooperation should include a duty to notify as long ago as 1973, when issuing Resolution 3129(XXVIII), which stated that the sharing of natural resources “must be developed on the basis of a system of

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<sup>494</sup> UNFCCC, Articles 3(5), 4(1)(b), 4(1)(e) and 4(4), Annex 112. The UNFCCC also draws special attention of the Parties to needs of these developing countries, especially small island countries (*see* UNFCCC, Article 4(8) (“In the implementation of the commitments in this Article, the Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures, especially on (a) Small island countries; (b) Countries with low-lying coastal areas; (c) Countries with arid and semi-arid areas, forested areas and areas liable to forest decay; (d) Countries with areas prone to natural disaster (e) Countries with areas liable to drought and desertification; (f) Countries with areas of high urban atmospheric pollution; (g) Countries with areas with fragile ecosystems, including mountainous ecosystems; (h) Countries whose economies are highly dependent on income generated from the production, processing and export, and/or on consumption of fossil fuels and associated energy-intensive products and (i) Land-locked and transit countries. Further, the Conference of Parties may take actions, as appropriate with respect to this paragraph”), Annex 112).

information and prior consultation within the framework of the normal relations between them”;<sup>495</sup>

- b. the obligation to notify as an element of the broader obligation of cooperation is also expressly recognised in the Rio Declaration in the following terms:

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.<sup>496</sup>

- c. as reflected in the ILC Commentaries on the Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, “the requirement of notification is an indispensable part of any system designed to prevent transboundary harm or at any event to minimize the risk thereof”;<sup>497</sup>
- d. per the judgment of the Court in the *Pulp Mills* case (in the context of interpreting notification obligations contained in the

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<sup>495</sup> UN General Assembly Resolution 3129 (1973), A/RES/3129(XXVIII), 13 December 1973, Annex 210; *See also* D. G. Partan, “The “Duty to Inform” in International Environmental Law”, *Boston University International Law Journal*, 1988, pp. 43-88, page 63, Annex 515.

<sup>496</sup> Rio Declaration, Principle 19, Annex 281.

<sup>497</sup> “Commentaries on the Draft articles on Prevention of Transboundary Harm from Hazardous Activities”, Report of the Commission to the General Assembly on the work of its fifty-third session, Yearbook of the International Law Commission, A/CN.4/SER.A/2001/Add.1 (Part 2), *International Law Commission*, 10 August 2001, Article 8, paragraph 2 (“Article 8 calls on the State of origin to notify States likely to be affected by the planned activity. The activities here include both those that are planned by the State itself and those planned by private entities. The requirement of notification is an indispensable part of any system designed to prevent transboundary harm or at any event to minimize the risk thereof”), Annex 496.

Statute of the River Uruguay), “the obligation to notify is intended to create the conditions for successful co-operation between the parties”,<sup>498</sup> and

- e. regarding the timing of the duty to notify, as the Court explained in *Pulp Mills*, a State must notify the other State “as soon as it is in possession of a plan which is sufficiently developed to . . . make the preliminary assessment . . . of whether the proposed works might cause significant damage to the other party”;<sup>499</sup> similarly, UNCLOS provides that the duty arises when the State becomes aware of certain potential risks.<sup>500</sup>

220. Regarding the duty to consult and negotiate, in *Pulp Mills*, the Court held:

[t]he obligation to notify is . . . an essential part of the process leading the parties to consult in order to assess the risks of the plan and to negotiate possible changes which may eliminate those risks or minimise their effects.<sup>501</sup>

221. The duty to consult and even negotiate with other States potentially affected by certain activities is found in various treaties, including:

- a. under the Convention on the Law of the Non-navigational Uses of International Watercourses, 41 States agree that:

[w]atercourse States shall exchange information and consult each other and, if

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<sup>498</sup> *Pulp Mills*, paragraph 113, Annex 400.

<sup>499</sup> *Pulp Mills*, paragraph 105, Annex 400.

<sup>500</sup> See UNCLOS, Article 198 (“When a State becomes aware of cases in which the marine environment is in imminent danger of being damaged or has been damaged by pollution, it shall immediately notify other States it deems likely to be affected by such damage, as well as the competent international organisations”), Annex 95.

<sup>501</sup> *Pulp Mills*, paragraph 115, Annex 400.

necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.<sup>502</sup>

...

1. If a communication is made under article 15 that implementation of the planned measures would be inconsistent with the provisions of article 5 or 7, the notifying State and the State making the communication shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation.

2. The consultations and negotiations shall be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State.

3. During the course of the consultations and negotiations, the notifying State shall, if so requested by the notified State at the time it makes the communication, refrain from implementing or permitting the implementation of the planned measures for a period of six months unless otherwise agreed.<sup>503</sup>

- b. under the Convention on the Transboundary Effects of Industrial Accidents, 44 States and the European Union agree that:

Parties concerned shall, at the initiative of any such Party, enter into discussions on the identification of those hazardous activities that are, reasonably, capable of causing

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<sup>502</sup> Convention on the Law of the Non-navigational Uses of International Watercourses, Article 11, Annex 128.

<sup>503</sup> Convention on the Law of the Non-navigational Uses of International Watercourses, Article 17, Annex 128.



transboundary effects. If the Parties concerned do not agree on whether an activity is such a hazardous activity, any such Party may, unless the Parties concerned agree on another method of the question, submit that question to an inquiry commission in accordance with the provisions of Annex II hereto for advice.<sup>504</sup>

- c. under the Convention on the Prohibition of Military or any other Hostile Use of Environmental Modification Techniques, 94 States agree that:

[t]he States Parties to this Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of scientific and technological information on the use of environmental modification techniques for peaceful purposes. States Parties in a position to do so shall contribute, alone or together with other States or international organizations, to international economic and scientific co-operation in the preservation, improvement and peaceful utilization of the environment, with due consideration for the needs of the developing areas of the world.<sup>505</sup>

222. As to the content of the obligation to consult and negotiate:

- a. as the Court found in *Gabčíkovo-Nagymaros*, the consultation and negotiation process calls for the mutual willingness of the States

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<sup>504</sup> Convention on the Transboundary Effects of Industrial Accidents, 17 March 1992, 2105 UNTS 457 (“**Convention on the Transboundary Effects of Industrial Accidents**”), Article 4 (2), Annex 110.

<sup>505</sup> Convention on the Prohibition of Military or any Other Hostile Use of Environmental Modification Techniques, 10 December 1976, 1108 UNTS 151, Article III (2), Annex 85.

to discuss actual and potential environmental risks in good faith;<sup>506</sup> and

- b. as the Court found in *Pulp Mills*, during the time when such consultations and negotiations are taking place, the State initiating the proposed activity is obliged not to authorise such potentially harmful activity and not to carry it out.<sup>507</sup>

223. The duty to exchange information as a constituent element of the broader duty of cooperation is recognised in several international legal instruments including:

- a. the Paris Agreement:

Parties should strengthen their cooperation on enhancing action on adaptation, taking into account the Cancun Adaptation Framework, including with regard to . . . Sharing information, good practices, experiences and lessons learned, including, as appropriate, as these relate to science, planning, policies and

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<sup>506</sup> See *Gabčíkovo-Nagymaros*, paragraph 112 (“The obligations contained in Articles 15, 19 and 20 are by definition, general and have to be transformed into specific obligations of performance through a process of consultation and negotiation. Their implementation thus requires a mutual willingness to discuss in good faith actual and potential environmental risks”), Annex 394.

<sup>507</sup> See *Pulp Mills*, paragraphs 144 (“Consequently, in the opinion of the Court, as long as the procedural mechanism for co-operation between the parties to prevent significant damage to one of them is taking its course, the State initiating the planned activity is obliged to authorize such work and, *a fortiori*, not to carry it out”) and 147 (“In the view of the Court, there would be no point to the co-operation mechanism provided for by Articles 7 to 12 of the 1975 Statute if the party initiating the planned activity were to authorize or implement it without waiting for that mechanism to be brought to a conclusion. Indeed, if that were the case, the negotiations between the parties would no longer have any purpose”), Annex 400.

implementation in relation to adaptation actions.<sup>508</sup>

b. the UNFCCC:

[t]he Conference of the Parties, as the supreme body of this Convention, shall keep under regular review the implementation of the Convention and any related legal instruments that the Conference of the Parties may adopt, and shall make, within its mandate, the decisions necessary to promote the effective implementation of the Convention. To this end, it shall [p]romote and facilitate the exchange of information on measures adopted by the Parties to address climate change and its effects, taking into account the differing circumstances, responsibilities and capabilities of the Parties and their respect respective commitments under the Convention.<sup>509</sup>

c. the Convention on the Physical Protection of Nuclear Material:

[i]n the case of theft, robbery or any other unlawful taking of nuclear material or of credible threat thereof, States Parties shall, in accordance with their national law, provide co-operation and assistance to the maximum feasible extent in the recovery and protection of such material to any State that so requests. In particular(,) [a]s appropriate, the States Parties concerned shall exchange information with each other or international organizations with a view to protecting threatened nuclear material, verifying the integrity of the shipping container, or recovering unlawfully taken nuclear material and shall: (i) Co-

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<sup>508</sup> Paris Agreement, Article 7(7)(a), Annex 156.

<sup>509</sup> UNFCCC, Article 7(2)(b), Annex 112.

ordinate their efforts through diplomatic and other agreed channels; (ii) Render assistance, if requested; (iii) Ensure the return of nuclear material stolen or missing as a consequence of the above-mentioned events.<sup>510</sup>

- d. the Convention on the Law of the Non-Navigational Uses of International Watercourses:

[w]atercourse States shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.<sup>511</sup>

- e. the Rio Declaration:

States shall provide prior and timely notification and relevant information to potentially affected States on activities that may have a significant adverse transboundary environmental effect and shall consult with those States at an early stage and in good faith.<sup>512</sup>

- f. the Stockholm Declaration:

[i]nternational matters concerning the protection and improvement of the environment should be handled in a co-operative spirit by all countries, big and small, on an equal footing. Co-operation through multilateral or bilateral arrangements or other appropriate means is essential to effectively control, prevent, reduce and

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<sup>510</sup> Convention on the Physical Protection of Nuclear Material, 26 October 1979, 1456 UNTS 125, Article 5(2)(b), Annex 88.

<sup>511</sup> Convention on the Law of the Non-navigational Uses of International Watercourses, Article 11, Annex 128.

<sup>512</sup> Rio Declaration, Principle 19, Annex 281.

eliminate adverse environmental effects resulting from activities conducted in all spheres, in such a way that due account is taken of the sovereignty and interests of all States.<sup>513</sup>

224. The purpose for such exchange of information is to prevent or reduce transboundary harm. It follows that the principles applicable in that context (and the corresponding ILC articles) are also relevant here, as explained in **Section VI.A** above. On the issue of exchange of information, the Draft Articles on Prevention of Transboundary Harm state that:

[w]hile the activity is being carried out, the States concerned shall exchange in a timely manner all available information concerning that activity relevant to preventing significant transboundary harm or at any event minimizing the risk thereof. Such an exchange of information shall continue until such time as the States concerned consider it appropriate even after the activity is terminated.<sup>514</sup>

225. As to the timing of exchange of information, as follows from the foregoing excerpt from the ILC articles, information should be exchanged “in a timely manner.” This should be interpreted as meaning at such time that the information in question can be effectively utilised by the recipient State in its efforts to prevent or reduce transboundary harm in the context of climate change. While the requirement to exchange information in order to properly carry out cooperation obligations will vary depending on the context, such information and knowledge exchange could well be of

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<sup>513</sup> Stockholm Declaration, Principle 24, Annex 469.

<sup>514</sup> “Draft Articles on Prevention of Transboundary Harm from Hazardous Activities”, Report of the Commission to the General Assembly on the work of its fifty-third session, Yearbook of the International Law Commission, A/CN.4/SER.A/2001/Add.1 (Part 2), *International Law Commission*, 10 August 2001, Article 12, Annex 493.

critical importance in the context of the efforts of small island States such as Barbados to mitigate the effects of climate change.

226. The obligation of States to cooperate includes a requirement on States to offer aid to other States to address climate change. Under the UN Charter, all UN Member States are required to “take joint and separate action in co-operation with the [UN]” to promote “higher standards of living,” “conditions of economic and social progress and development” and “solutions of international economic, social, health, and related problems.”<sup>515</sup> International human rights instruments further specify that States must cooperate to realise human rights progressively. For example:
- a. under the ICESCR, 171 States must “take steps, individually and through international assistance and co-operation, especially economic and technical, to the maximum of its available resources, with a view to achieving progressively the full realization of the rights recognized in the present Covenant by all appropriate means, including particularly the adoption of legislative measures”;<sup>516</sup>
  - b. under the African Charter on Human and Peoples’ Rights, 55 States must “individually or collectively . . . ensure the exercise of the right to development”;<sup>517</sup> and

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<sup>515</sup> UN Charter, Articles 55-56, Annex 66.

<sup>516</sup> ICESCR, Articles 2(1) and 22, Annex 73 (including the Committee on Economic, Social and Cultural Rights’ interpretation of the Articles: “General Comment No. 3 (1991) – On the Nature of States Parties’ Obligations”, E/1991/23, *UN Committee on Economic, Social and Cultural Rights*, 14 December 1990, paragraph 13, Annex 446; “General Comment No. 2 (1990) – On International technical assistance measures”, E/1990/23, *UN Committee on Economic, Social and Cultural Rights*, 2 February 1990, Annex 445).

<sup>517</sup> African Charter on Human and Peoples’ Rights, Article 22(2), Annex 92.

- c. under the American Convention on Human Rights, 25 States must “adopt measures, both internally and through international cooperation, especially those of an economic and technical nature, with a view to achieving progressively, by legislation or other appropriate means, the full realization of the rights implicit in the economic, social, educational, scientific, and cultural standards set forth in the Charter of the Organization of American States as amended by the Protocol of Buenos Aires.”<sup>518</sup> The IACtHR notes that the American Convention on Human Rights acknowledges that not every State may have the necessary financial resources at its disposal to comply with the international commitments it makes and so requires States, among other things, to cooperate to progressively realise human rights.<sup>519</sup>

**F. Obligation to compensate: States must pay for loss and damage caused by their anthropogenic gas emissions**

227. Under international law, States are obligated to compensate for loss and damage caused by their own anthropogenic gas emissions.
228. This Section explains that States must pay compensation for loss and damage on a strict liability basis, i.e., both when their acts that caused damage are not otherwise wrongful under international law (*see* sub-section (i)) and also when those acts are otherwise wrongful under international law (*see* sub-section (ii)). Therefore, whether or not States’

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<sup>518</sup> American Convention on Human Rights, Article 26, Annex 62. *See also*, e.g., OAS Charter, Articles 3(k)-(m) and 30, Annex 64.

<sup>519</sup> *See Case of Acevedo Buendía et al. v Peru. Reparations and Costs*. Judgment of July 1, 2009. Series C No. 198, paragraphs 101-103, Annex 378.

acts in emitting or permitting emissions of anthropogenic greenhouse gas were otherwise considered wrongful under international law at the time of those acts except by virtue of the damage they caused, States must compensate for loss and damage arising from those acts.

(i) States must pay compensation for such loss and damage on a strict liability basis

229. As further discussed in **Section VI.A**, States must prevent transboundary harm and act with due diligence. However, as the ILC explained, “even if the relevant State fully complies with its prevention obligations, under international law, accidents or other incidents may nonetheless occur and have transboundary consequences that cause harm and serious loss to other States and their nationals.”<sup>520</sup> It is therefore important that “those who suffer harm or loss as a result of such incidents involving hazardous activities are not left to carry those losses and are able to obtain prompt and adequate compensation.”<sup>521</sup> That is why States also have a primary obligation to pay compensation for loss and damage caused by their anthropogenic gas emissions on the basis of strict liability.
230. Strict liability is not a novel concept of international law. For example, under customary international law, States are obligated to pay compensation when they expropriate property of non-nationals (even though the expropriation is, subject to certain conditions, lawful).

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<sup>520</sup> ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, General Commentary, page 59, Annex 497.

<sup>521</sup> ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, General Commentary, page 59, Annex 497.



231. In fact, the obligation to compensate for environmental harm is found in the earliest legal authorities:
- a. the Treaty of Mesilim is an international convention between Umma and Lagash (Sumerian States in Mesopotamia), inscribed on a stone in about 2550 BC. It is currently in the British Museum in London.<sup>522</sup> Under this convention, Umma promised to repair the land of Lagash after Umma caused environmental harm to Lagash during a war between them;<sup>523</sup>
  - b. as noted above, ancient Hindu law, as documented in the Manusmriti (sometimes ascribed a date of 2000 BC), also acknowledges that environmental harm must be remedied. But it adds that such redress is required on a strict liability basis. Manusmriti, ch 8, verse 288 provides that “[one] who damages the goods of another, be it intentionally or unintentionally, shall give satisfaction to the (owner) and pay to the king a fine equal to

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<sup>522</sup> See British Museum catalogue, *Cylinder*, undated, Annex 182; J. Pickford, “British Museum reveals first recorded account of border conflict”, *Financial Times*, 21 November 2018, Annex 183.

<sup>523</sup> See P. H. Sand, *Origin and History*, in THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW, eds. L. Rajamani and J. Peel (Oxford University Press, 2021), page 52, Annex 205; A. Altman, “Tracing the Earliest Recorded Concepts of International Law. The Early Dynastic Period in Southern Mesopotamia”, *Journal of the History of International Law*, 2004, pp. 153-172, pages 161, 165, Annex 206.

the (damage).”<sup>524</sup> Verse 289 proceeds then to explain this concept of *sic utere* to damage to “flowers, roots, and fruit”;<sup>525</sup> and

- c. the Code of Hammurabi, ruler of Babylon between 1795 and 1750 BC,<sup>526</sup> requires a neighbour to pay compensation for harm to another’s fields, corn pastures and plantations.<sup>527</sup>

232. States that have historically contributed to anthropogenic gas emissions are obligated under international conventions to provide financial resources to developing States and climate change funds:

- a. under the UNFCCC, 197 States and the European Union agree that “the developed country Parties should take the lead in combating climate change and the adverse effects” and “developed country Parties and other developed Parties included

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<sup>524</sup> J.L. Shastri, *Manusmṛti of Kullūka Bhaṭṭa* (Motilal Banarsidass, 2000), page 324, as translated in G. Bühler, “The Laws of Manu”, in *The Sacred Books of the East*, Oxford University Press, 1886, reprinted by Motilal Banarsidass, 1964, Vol. XXV, page 305, paragraph 288, Annex 170.

<sup>525</sup> J.L. Shastri, *Manusmṛti of Kullūka Bhaṭṭa* (Motilal Banarsidass, 2000), page 324, as translated in G. Bühler, “The Laws of Manu”, in *The Sacred Books of the East*, Oxford University Press, 1886, reprinted by Motilal Banarsidass, 1964, Vol. XXV, page 305, paragraph 289, Annex 170.

<sup>526</sup> *See Hammurabi, Code of Hammurabi, Translated by L. W. King 1910* (Kessinger Publishing, 2004), Introduction, Annex 184. The Code of Hammurabi appears on a stele in the Louvre Museum in Paris (*see Louvre catalogue, Code de Hammurabi*, undated, Annex 185).

<sup>527</sup> *See Hammurabi, Code of Hammurabi, Translated by L. W. King 1910* (Kessinger Publishing, 2004) (“53. If any one be too lazy to keep his dam in proper condition, and does not so keep it; if then the dam break and all the fields be flooded, then shall he in whose dam the break occurred be sold for money, and the money shall replace the corn which he has caused to be ruined. 54. If he be not able to replace the corn, then he and his possessions shall be divided among the farmers whose corn he has flooded. 55. If any one open his ditches to water his crop, but is careless, and the water flood the field of his neighbor, then he shall pay his neighbor corn for his loss. 56. If a man let in the water, and the water overflow the plantation of his neighbor, he shall pay ten gur of corn for every ten gan of land”), Annex 184.

in Annex III [to the UNFCCC] shall also assist the developing countries Parties that are particularly vulnerable to the adverse effects of climate change in meeting costs of adaptation to those adverse effects”;<sup>528</sup>

- b. under the Kyoto Protocol, 192 States agree that developed country Parties “shall” provide new and additional resources to meet the agreed full costs incurred by developing country Parties in meeting climate change targets;<sup>529</sup>
- c. under the Paris Agreement, 195 States agree that “[d]eveloped country Parties shall provide financial resources to assist developing country Parties” and “[o]ther Parties are encouraged to provide or continue to provide such support voluntarily.”<sup>530</sup> States also agree to cooperate under the Warsaw International Mechanism for Loss and Damage recognising the importance of “averting, minimizing and addressing loss and damage associated with the adverse effects of climate change”;<sup>531</sup> and
- d. under the UNCCD, 192 States agree, given the central importance of financing, to ensure that adequate financial resources are available for programmes to combat desertification and mitigate

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<sup>528</sup> UNFCCC, Articles 3(1), 4(4), Annex 112.

<sup>529</sup> Kyoto Protocol, Article 11, Annex 131.

<sup>530</sup> Paris Agreement, Articles 9, Annex 156.

<sup>531</sup> Paris Agreement, Article 8, Annex 156. Note that the Conference of the Parties clarified that “Article 8 of the Agreement does not involve or provide a basis for any liability or compensation” (Adoption of the Paris Agreement, Decision 1/CP.21, Report of the Conference of the Parties on its Twenty-First Session, held in Paris from 30 November to 13 December 2015, Addendum, Part two: Action taken by the Conference of the Parties at its Twenty-First Session, FCCC/CP/2015/10/Add.1, 29 January 2016, paragraph 52, Annex 293).

the effects of drought. In particular, developed country States undertake to “mobilize substantial financial resources, including grants and concessional loans.”<sup>532</sup>

233. Funds and resources provided by developed countries must also be used to compensate those affected by the adverse impacts of climate change.<sup>533</sup>

234. Further, this obligation to compensate is supported by international conventions under which States promise to compensate other States when they cause significant harm to the environment. For example:

- a. under the Convention on the Law of the Non-Navigational Uses of International Watercourses, 41 States agree to “prevent the causing of significant harm to other watercourse States.”<sup>534</sup>

However:

[w]here significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.<sup>535</sup>

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<sup>532</sup> UNCCD, Article 20(2), Annex 123.

<sup>533</sup> See Section VII.C(i).

<sup>534</sup> Convention on the Law of the Non-Navigational Uses of International Watercourses, Article 7(1), Annex 128.

<sup>535</sup> Convention on the Law of the Non-Navigational Uses of International Watercourses, Article 7(2), Annex 128.

- b. under the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, 52 States agree to be guided by the polluter pays principle “by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter”;<sup>536</sup>
- c. under the Antarctic Environmental Protocol, 46 States agree that an operator (which may be a State) is liable for environmental emergencies (i.e., events that result or threaten to result in significant and harmful impacts on the Antarctic environment) and that “liability shall be strict”;<sup>537</sup>
- d. under the Convention on Third Party Liability in the Field of Nuclear Energy, 12 States agree that an operator (which may be a State) shall be “liable in accordance with this Convention for damage caused by a nuclear incident occurring thereafter and involving the nuclear substances.”<sup>538</sup> Moreover, they also agree that “if an action is brought against a Contracting Party as an operator liable under this Convention, such Contracting Party may not invoke any jurisdictional immunities before the court competent”;<sup>539</sup>

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<sup>536</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Article 2(5)(b), Annex 109.

<sup>537</sup> Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty, Liability Arising from Environmental Emergencies, 17 June 2005, Articles 2(b), 2(c), 6(1) and 6(3), Annex 145.

<sup>538</sup> Convention on Third Party Liability in the Field of Nuclear Energy and Additional Protocol to the said Convention, 29 July 1960, 956 UNTS 251 (“**1960 Paris Convention**”), Article 4(b), Annex 71.

<sup>539</sup> 1960 Paris Convention, Article 13 (f), Annex 71.

- e. under the Vienna Convention on Civil Liability for Nuclear Damage, 44 States agree that “the liability of the operator [which may be a State] for nuclear damage under this Convention shall be absolute.”<sup>540</sup> Furthermore, they also agree that “except in respect of measures of execution, jurisdictional immunities under rules of national or international law shall not be invoked in actions under this Convention before the courts competent pursuant to article XI”;<sup>541</sup>
- f. under the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, 135 States agree that “each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air or in outer space, including the moon and other celestial bodies”;<sup>542</sup>
- f. under the Convention on the International Liability for Damage Caused by Space Objects, 117 States agree to “be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight”;<sup>543</sup>

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<sup>540</sup> Vienna Convention on Civil Liability for Nuclear Damage, 21 May 1963, 1063 UNTS 265, Article IV (1), Annex 72.

<sup>541</sup> Vienna Convention on Civil liability for Nuclear Damage, 21 May 1963, 1063 UNTS 265, Article XIV, Annex 72.

<sup>542</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies, 27 January 1967, 610 UNTS 205, Article VII, Annex 75.

<sup>543</sup> Convention on the International Liability for Damage Caused by Space Objects, 29 March 1972, 961 UNTS 187, Article II, Annex 79.

- g. under the Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources, 9 States agree that “the operator [which may be a State] of the installation at the time of an incident shall be liable for any pollution damage resulting from the incident”,<sup>544</sup>
- h. under the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 8 States agree that “the owner [which may be a State] at the time of an incident shall be liable for damage caused by any hazardous and noxious substances in connection with their carriage by sea on board the ship, provided that if an incident consists of a series of occurrences having the same origin the liability shall attach to the owner at the time of the first of such occurrences”,<sup>545</sup>
- i. under the International Convention on Civil Liability for Bunker Oil Pollution Damage, 106 States agree that “the shipowner [which may be a State] at the time of an incident shall be liable for pollution damage caused by any bunker oil on board or originating from the ship, provided that, if an incident consists of a series of occurrences having the same origin, the liability shall attach to the shipowner at the time of the first of such occurrences”,<sup>546</sup>

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<sup>544</sup> Convention on Civil Liability for Oil Pollution Damage resulting from Exploration for and Exploitation of Seabed Mineral Resources, 1 May 1977, Article 3(1), Annex 86.

<sup>545</sup> International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea “2010 HNS Convention”, 30 April 2010, Article 7(1), Annex 150.

<sup>546</sup> International Convention on Civil Liability for Bunker Oil Pollution Damage, 23 March 2001, UK Treaty Series No. 47 (2012), Article 3(1), Annex 137.

- j. under the International Convention on Civil Liability for Oil Pollution Damage (as amended by its 1992 Protocol), 44 States agree that the “owner [which may be a State] of a ship at the time of an incident . . . shall be liable for any pollution damage caused by the ship as a result of the incident”;<sup>547</sup> and
  - k. under the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, 9 States agree that an operator (which may be a State) is liable for damage caused by specific dangerous activities.<sup>548</sup>
235. Under international conventions, States also agree to make up the difference up to the limit of a non-State operator’s liability not covered by their insurance or other financial securities by setting up compensation funds.<sup>549</sup> For example:
- a. under the Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage, 25 States agree that “the Installation

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<sup>547</sup> International Convention on Civil Liability for Oil Pollution Damage, 29 November 1969, 973 UNTS 3, Article III(1), Annex 77 (amended by the Protocol to the International Convention on Civil Liability for Oil Pollution Damage, 27 November 1992, 1956 UNTS 255, Article 4(1), Annex 115).

<sup>548</sup> See Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, 21 June 1993, European Treaty Series No. 150 (“**Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment**”), Article 6(1), Annex 117.

<sup>549</sup> See, e.g., the Compensation Funds for Marine Oil Pollution Damage established by the International Convention on Civil Liability for Oil Pollution Damage, 29 November 1969, 973 UNTS 3 (amended by the Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 27 November 1992, 1956 UNTS 255, Annex 115); the Compensation Fund for Nuclear Damage established by the Convention on Supplementary Compensation for Nuclear Damage, 12 September 1997, 3038 UNTS 41, Article III(1); a fund created by Annex VI to the Protocol on Environmental Protection to the Antarctic Treaty, Liability Arising From Environmental Emergencies, 17 June 2005, Article 12, Annex 145; HNS Fund established by the International Convention on Liability and Compensation for Damage in Connection with



State . . . may establish a lower amount of liability of the operator, provided that in no event shall any amount so established be less than 5 million SDRs, and provided that the Installation State ensures that public funds shall be made available up to the amount established pursuant to paragraph 1”;<sup>550</sup>

b. under the Convention on Supplementary Compensation for Nuclear Damage, 22 States agree that “beyond the amount made available under sub-paragraph (a), the Contracting Parties shall make available public funds according to the formula specified in Article IV”;<sup>551</sup> and

c. under the Protocol of 1992 to amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 121 States agree to establish an international fund with the aim “to provide compensation for pollution damage to the extent that the protection afforded by the 1992 Liability Convention is inadequate.”<sup>552</sup>

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the Carriage of Hazardous and Noxious Substances by Sea “2010 HNS Convention”, 30 April 2010.

<sup>550</sup> Protocol to Amend the Vienna Convention on Civil Liability for Nuclear Damage, 12 September 1997, 2241 UNTS 270, Article 7, Annex 129.

<sup>551</sup> Convention on Supplementary Compensation for Nuclear Damage, 12 September 1997, 3038 UNTS 41, Article III(1)(b), Annex 130.

<sup>552</sup> Protocol of 1992 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 27 November 1992, 1953 UNTS 330 (“**1992 Protocol to Amend the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage**”), Article 3(1)(a), Annex 116.

236. In addition, international conventions require States to adopt rules and procedures to determine liability and compensation for damage resulting from pollution.<sup>553</sup>
237. In fact, this obligation to compensate is supported by State practice.
238. First, in declarations, States promote cooperation to develop international law regarding liability and compensation for the victims of pollution and other environmental damages caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction:
- a. in the Stockholm Declaration, 113 States promise to “co-operate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage caused by activities within the jurisdiction or control of such States to areas beyond their jurisdiction”;<sup>554</sup>

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<sup>553</sup> See, e.g., Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 24 March 1983, 1506 UNTS 157, Article 14, Annex 96; Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Eastern African Region, 21 June 1985, OJ C 253/10, Article 15, Annex 99; Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 24 April 1978, 1140 UNTS 133, Article 13, Annex 87; Protocol on the prevention of pollution of the Mediterranean Sea by transboundary movements of hazardous wastes and their disposal, 1 October 1996, 2942 UNTS 155, Article 14, Annex 127; Agreement on the Protection of the Marine Environment and the Coastal Area of the South-East Pacific, 12 November 1981, 1648 UNTS 3, Article 11(1), Annex 93; Convention for Co-operation in the Protection and Development of the Marine and Coastal Environment of the West and Central African Region, 23 March 1981, Article 15, Annex 91; Amended Nairobi Convention for the Protection, Management and Development of the Marine and Coastal Environment of the Western Indian Ocean, 31 March 2010, UNEP/(DEPI)/EAF/COP8/2015/10, Article 16, Annex 149; Framework Convention for the Protection of the Marine Environment of the Caspian Sea, 4 November 2003, Article 29, Annex 144; Noumea Convention, Article 20, Annex 101.

<sup>554</sup> Stockholm Declaration, Principle 22, Annex 469.

- b. in the Rio Declaration, 179 States promise to “develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction”;<sup>555</sup>
- c. in the Declaration on the Right to Development adopted by the UN General Assembly, States promise to “formulate appropriate national development policies that aim at the constant improvement of the well-being of the entire population and of all individuals, on the basis of their active, free and meaningful participation in development and in the fair distribution of the benefits resulting therefrom”<sup>556</sup> and to “take steps, individually and collectively, to formulate international development policies with a view to facilitating the full realization of the right to development”;<sup>557</sup>
- d. in the Universal Declaration of Human Rights, States promise that “[e]veryone is entitled to a social and international order in which

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<sup>555</sup> Rio Declaration, Principle 13, Annex 281.

<sup>556</sup> UN General Assembly Resolution 41/128 (1986), A/RES/41/128, 4 December 1986, Article 2(3), Annex 214.

<sup>557</sup> UN General Assembly Resolution 41/128 (1986), A/RES/41/128, 4 December 1986, Article 4(1), Annex 214.

the rights and freedoms set forth in this Declaration can be fully realized”,<sup>558</sup> and

- e. in the COP 28 UAE Declaration on Climate, Relief, Recovery and Peace, 74 States agreed to “strengthen coordination, collaboration, and partnerships,” notably by “[o]ptimizing complementarity of mandates and expertise across climate, development, humanitarian, disaster risk management, and peace actors to further the efficiency, sustainability, and effectiveness of short- and long-term investments, including by providing earlier and more timely support, with the aim to yield cumulative increases in the adaptive capacity, recovery, and resilience of people and communities” and additionally by “[s]trengthening operational partnerships and synergies across governments, international and regional organizations, financial institutions and mechanisms, civil society, local communities, the private sector, and other actors to tailor climate action to context and needs, and to deliver coordinated, inclusive programs and sustainable solutions for greater impact.”<sup>559</sup>

239. Second, States’ submissions before the IACtHR in 2023 have also confirmed that the obligation to compensate is part of general international law and relevant in the context of climate change harm.<sup>560</sup>

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<sup>558</sup> Universal Declaration of Human Rights, Article 28, Annex 208.

<sup>559</sup> UAE Declaration on Climate, Relief, Recovery and Peace (COP 28), 3 December 2023, PDF page 5, Annex 367.

<sup>560</sup> In the IACtHR Second Climate Change Advisory Opinion, *see, e.g.*, Written Observations of the Republic of Colombia, 18 December 2023, paragraph 72, Annex 353 bis; Written Observations of the United Mexican States, 18 December 2023, paragraphs 296-306, Annex 355 bis.

240. Third, there is practice among States of making *ex gratia* payments to other States as compensation for environmental harm, which supports this obligation.<sup>561</sup> For example, the United States of America made a payment to Japan for compensation for the injuries or damages sustained due to the thermonuclear tests near the Marshall Islands.<sup>562</sup> Australia also agreed to make an *ex gratia* payment to Nauru for the rehabilitation of phosphate mines administrated by Australia before Nauru reached independence, while at the same time stressing that such compensation was “without prejudice to Australia’s long-standing position that it bears no responsibility for the rehabilitation of the phosphate lands worked out before 1 July 1967.”<sup>563</sup>
241. The obligation to compensate is supported by judicial decisions. For example, in the *Trail Smelter Arbitration*, Canada was requested to pay compensation to the United States of America for environmental harm.<sup>564</sup>

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<sup>561</sup> However, jurists disagree whether this practice supports an obligation to compensate whether or not a State has committed a wrongful act under international law (*see, e.g.,* M. Montjoie, *The Concept of Liability in the Absence of an Internationally Wrongful Act*, in *THE LAW OF INTERNATIONAL RESPONSIBILITY*, eds. James Crawford et al. (Oxford University Press, 2010), page 507, Annex 522).

<sup>562</sup> *See* “International liability for injurious consequences arising out of acts not prohibited by international law”, Report of the Commission to the General Assembly on the work of its forty-seven session, Yearbook of the International Law Commission, A/CN.4/SER.A/1995/Add.1 (Part 1), *International Law Commission*, 23 June 1995, paragraph 179, Annex 491. However, it is unclear whether this was a payment for “legal liability” (*see* P. Sands & J. Peel, *Principles of International Environmental Law* (Cambridge University Press, 2018) (“**Principles of International Environmental Law**”), page 752, Annex 528, citing E. Margolis, “The Hydrogen Bomb Experiments and International Law”, *The Yale Law Journal*, 1955, pp. 629-647, page 639), Annex 511.

<sup>563</sup> Agreement Between Australia and the Republic of Nauru for the Settlement of the Case in the International Court of Justice Concerning Certain Phosphate Lands in Nauru, (Australia and the Republic of Nauru), 10 August 1993, Article I(1), Annex 118.

<sup>564</sup> *See Trail Smelter Arbitration*, page 1965, Annex 433.

242. The obligation to compensate is further supported by the “polluter pays” principle. This is a general principle of international law recognised by States in international conventions,<sup>565</sup> declarations<sup>566</sup> and in national

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<sup>565</sup> See, e.g., Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, 21 June 1993, European Treaty Series No. 150, Preamble, Annex 117; Consolidated version of the Treaty on the Functioning of the European Union, 26 October 2012, OJ C 326/47, Articles 191(2) and 192(5), Annex 153; ASEAN Agreement on the Conservation of Nature and Natural Resources, 9 July 1985, Article 10(d), Annex 100; Convention on the protection of the Alps, 7 November 1991, 1917 UNTS 135, Article 2, Annex 108; Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Article 2(5)(b), Annex 109; Convention for the Protection of the Marine Environment of the North-East Atlantic, 22 September 1992, 2354 UNTS 67, Article 2(2)(b), Annex 114; Convention on Co-operation for the Protection and Sustainable Use of the River Danube, 29 June 1994, OJ L 342, Article 2(4), Annex 121; the Energy Charter Treaty, 14 June 1994, 2080 UNTS 95, Article 19(1), Annex 120; Framework Convention on the Protection and Sustainable Development of the Carpathians, 22 May 2003, 3372 UNTS 1, Article 2(2)(b), Annex 142; International Convention on Oil Pollution Preparedness, Response and Co-operation, 30 November 1990, 1891 UNTS 78, Preamble, Annex 106; Convention on the Transboundary Effects of Industrial Accidents, Preamble, Annex 110; Protocol amending the Agreement between Canada and the United States of America on Great Lakes water quality, 1978 as amended on October 16, 1983 and November 18, 1987, 7 September 2012, 3125 UNTS 1, Article 2, Annex 152. However, treaties may derogate from this principle (see, e.g., *Case Concerning the Auditing of Accounts Between the Kingdom of the Netherlands and the French Republic pursuant to the Additional Protocol of 25 September 1991 to the Convention on the Protection of the Rhine Against Pollution by Chlorides of 3 December 1976 (Netherlands v France)*, Award, 12 March 2004, PCA Case No. 2000-02, paragraph 103, Annex 434, in which the tribunal was also of the view that this principle was not part of general international law).

<sup>566</sup> See, e.g., Rio Declaration, Principle 16, Annex 281; “OECD Recommendation on Guiding Principles concerning International Economic Aspects of Environmental Policies”, OECD/LEGAL/0102, *OECD*, 26 May 1972, Annex 503; “OECD Recommendation of the Council on the Implementation of the Polluter-Pays Principle”, OECD/LEGAL/0132, *OECD*, 14 November 1974, Annex 504; “OECD Recommendation concerning the Application of the Polluter-Pays Principle to Accidental Pollution”, OECD/LEGAL/0251, *OECD*, 7 July 1989, Annex 505; Declaration of the Council of the European Communities and of the representatives of the Governments of the Member States meeting in the Council on the programme of action of the European Communities on the environment, OJ C 112/1, 22 December 1973, Chapter I, A(4) and B(7), Annex 279; Annex, Plan of Implementation of the World Summit on Sustainable Development, Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002, A/CONF.199/20, 2002, paragraph 15(b), Annex 473.

jurisdictions.<sup>567</sup> According to this principle, the costs of any pollution should be borne by the person responsible for causing the pollution (which includes States or entities whose conduct is assumed by or attributed to the State).<sup>568</sup>

243. This obligation to compensate is also supported by the principles of equity and fairness in human rights law. International and regional human rights treaties require States to provide effective remedies, including compensation, for harm (discussed in **Section VII**).<sup>569</sup> This obligation of States to provide a remedy to victims of human rights violations resulting from climate change within its jurisdiction demonstrates the need and equitable nature for inter-State reparations for the same. If a State that caused harm to another State would not need to pay reparations to that second State, the compensating State would be forced to shoulder the cost of the internationally wrongful acts of the polluting State. This would go against the international law principle of equity and the principle of fairness.

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<sup>567</sup> See ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, Principle 3, pages 74, 75, footnote 401, Annex 497.

<sup>568</sup> See Principles of International Environmental Law, page 240, Annex 528; R. Chemain, *The 'Polluter Pays' Principle* in THE LAW OF INTERNATIONAL RESPONSIBILITY, eds. J. Crawford et al. (Oxford University Press, 2010), page 879, Annex 535.

<sup>569</sup> Decisions of human rights bodies demonstrate that States should offer reparations for human rights violations resulting in environmental damage. For example, the African Commission on Human and Peoples' Rights requested Nigeria "to ensure protection of the environment, health and livelihood of the people of Ogoniland" by different means, and notably "[e]nsuring adequate compensation to victims" (African Commission Decision on Communication 155/96, page 15, Annex 455).

244. This obligation to compensate is further supported by the most highly qualified publicists:
- a. the ILC’s 1996 Draft Articles for International Liability for Injurious Consequences Arising out of Acts not Prohibited by International Law state that “liability arises from significant transboundary harm caused by an activity referred to in article 1 and shall give rise to reparation”,<sup>570</sup>
  - b. the ILC’s 2006 Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities acknowledge the existence of a strict liability regime primarily attached to the operator (which may be a State), not requiring proof of fault for the damages caused, supported where necessary by additional compensation funding;<sup>571</sup>
  - c. the Institut de Droit International, an organisation of international lawyers devoted to studying and developing international law, acknowledged that the “obligation to reestablish the original position or to pay compensation” may arise “from a rule of international law providing for strict responsibility on the basis of

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<sup>570</sup> Twelfth report on international liability for injurious consequences arising out of acts not prohibited by international law, by Mr. Julio Barboza, Special Rapporteur, A/CN.4/475/ and Add.1, 13 May 1996, Article 8, page 35, and paragraph 24.2, page 33, Annex 472.

<sup>571</sup> See ILC Commentaries on the Draft Principles on the Allocation of Loss in the Case of Transboundary Harm arising out of Hazardous Activities, Principle 4(2), Annex 497. See also X. Hu, “The doctrine of liability fixation of State responsibility in the convention on transboundary pollution damage”, *International Environmental Agreements: Politics, Law and Economics*, 2020, page 187, Annex 531; Principles of International Environmental Law, page 747, Annex 528.



harm or injury alone” and this is “particularly in the case of ultra-hazardous activities”;<sup>572</sup> and

- d. the Brundtland special commission report called on States to “take all reasonable precautionary measures to limit the risk when carrying out or permitting certain dangerous but beneficial activities and shall ensure that compensation is provided should substantial transboundary harm occur even when the activities were not known to be harmful at the time they were undertaken.”<sup>573</sup>

245. Whether the requirement under the obligation not to pay compensation is for the harm to be “significant” (which is debateable), it is clearly met as described in **Section IV** for the reasons in paragraph 147.

(ii) In addition, States must also pay compensation for loss and damage caused by anthropogenic gas emissions where they have breached another international law obligation

246. As further discussed in **Section VII**, States are liable to make full reparation for wrongful acts. This includes compensating for loss and damage caused by anthropogenic gas emissions.

247. In this regard, this Court has correctly already awarded compensation for breaches of international law that cause environmental harm. For

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<sup>572</sup> “Responsibility and Liability under International Law for Environmental Damage”, Session of Strasbourg, *Institut de Droit International Resolution*, 1997 (“**Responsibility and Liability under International Law for Environmental Damage**”), Article 1, Annex 518. *See also* Responsibility and Liability under International Law for Environmental Damage, Article 4, Annex 518.

<sup>573</sup> “Report of the World Commission on Environment and Development - Our Common Future”, *Brundtland Commission*, 1987, Annex 1, paragraph 11, Annex 489 bis.

example, in *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, this Court decided that “it is consistent with the principles of international law governing the consequences of internationally wrongful acts, including the principle of full reparation, to hold that compensation is due for damage caused to the environment, in and of itself, in addition to expenses incurred by an injured State as a consequence of such damage.”<sup>574</sup> This Court also asserted that “that damage to the environment, and the consequent impairment or loss of the ability of the environment to provide goods and services, is compensable under international law.”<sup>575</sup>

248. Notably, as this Court itself asserted, States must compensate for such harm even where there is an absence of adequate evidence as to the extent of material damage.<sup>576</sup> After all, as the Tribunal in the *Trail Smelter Arbitration* noted, it would be a “perversion of fundamental principles of justice to deny relief” where the act “itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty.”<sup>577</sup> In such case, this Court, the IACtHR and the ECtHR, among many others, award compensation on the basis of “equitable considerations.”<sup>578</sup>

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<sup>574</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 41, Annex 407.

<sup>575</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 42, Annex 407.

<sup>576</sup> *See Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 35, Annex 407.

<sup>577</sup> *Trail Smelter Arbitration*, page 1920, Annex 433 (citing *United States Supreme Court in Story Parchment Company v Paterson Parchment Paper Company* (1931), 282 U. S. 555, Annex 456).

<sup>578</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 35, Annex 407. *See also e.g., Ahmadou Sadio Diallo (Republic of Guinea v Democratic Republic of the Congo), Compensation, Judgment of 19 June 2012,*

**VII. QUESTION (B): WHAT ARE THE LEGAL CONSEQUENCES UNDER THESE OBLIGATIONS FOR STATES WHERE THEY, BY THEIR ACTS AND OMISSIONS, HAVE CAUSED SIGNIFICANT HARM TO THE CLIMATE SYSTEM AND OTHER PARTS OF THE ENVIRONMENT, WITH RESPECT TO (I) STATES, INCLUDING, IN PARTICULAR, SMALL ISLAND DEVELOPING STATES, WHICH DUE TO THEIR GEOGRAPHICAL CIRCUMSTANCES AND LEVEL OF DEVELOPMENT, ARE INJURED OR SPECIALLY AFFECTED BY OR ARE PARTICULARLY VULNERABLE TO THE ADVERSE EFFECTS OF CLIMATE CHANGE; (II) PEOPLES AND INDIVIDUALS OF THE PRESENT AND FUTURE GENERATIONS AFFECTED BY THE ADVERSE EFFECTS OF CLIMATE CHANGE**

**ANSWER**

249. *Ubi jus, ibi remedium*: every right carries a remedy in breach. This classic legal principle animates this advisory opinion.
250. As a preliminary matter, this question presupposes that the harm to the climate system or other parts of the environment must be significant. However, it is well-established that States must provide full reparation where they breach an international obligation, whether or not the harm itself is significant. This is a separate and different question as to whether the obligation not to cause transboundary harm is limited to significant

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*I.C.J. Reports 2012*, p. 324, paragraphs 33, 36, Annex 402; *Case of Chaparro Alvarez and Lapo Iñiguez v Ecuador. Preliminary Objections, Merits, Reparations and Costs*. Judgment of November 21, 2007. Series C No. 170, paragraphs 240, 242, Annex 376; *Lupsa v Romania* [2006] ECHR 604, paragraph 72, Annex 426.

harm or whether the obligation to compensate arises only when the harm is significant.<sup>579</sup> For the reasons in paragraph 147 above, harm to the climate system or other parts of the environment is necessarily significant harm.

251. This Section sets out the legal consequences under the obligations set out in **Section VI** for States where they, by their acts and/or omissions, have caused harm to the climate system and other parts of the environment. Those legal consequences are that: (a) States must provide full monetary reparation to other States for climate change damage caused by their wrongful acts in breach of obligations (*see Section VII.A*); (b) States must offer full monetary reparation to other States for acts and omissions attributable to them in whole or in part (*see Section VII.B*); (c) States must offer other redress for damage due to climate change by *inter alia* contributing to climate change funds, offering financial resources and ensuring transfers of technology (*see Section VII.C*); and (d) full reparation and other assistance to address climate change must take account of the circumstances of affected States and peoples (*see Section VII.D*).

**A. States must provide full monetary reparation to other States for climate change damage**

252. A State must make full reparations for damage to the environment caused by that State's internationally wrongful act, i.e., for a violation of the obligations in relation to climate change set out in **Sections VI.A-F** above.

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<sup>579</sup> See, e.g., F. Vicuna, "Responsibility and Liability for Environmental Damage under International Law: Issues and Trends", *Georgetown International Environmental Law Review*, 1998, pp. 279-308, page 295, Annex 554.

The principle of strict liability includes liability for transboundary harm without other fault. States are thus obligated to provide reparations on this strict liability basis, or otherwise, under general international law (*see* sub-section (i)) and international environmental law (*see* sub-section (ii)).

(i) States must provide full monetary reparation under general international law

253. As stated in the *Chorzów Factory* case, the principle of full reparation requires the State to “wipe out all the consequences of the illegal act and re-establish the situation which would, in all probability, have existed if that act had not been committed.”<sup>580</sup> This formulation is universally accepted.<sup>581</sup> As recognised by this Court in its judgment on the merits in the *Armed Activities* case:

[t]he Court observes that it is well established in general international law that a State which bears responsibility for an internationally wrongful act is under an obligation to make full reparation for the injury caused by that act.<sup>582</sup>

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<sup>580</sup> *Case Concerning the Factory at Chorzów (Claim for Indemnity) (Merits), Judgment of 13 September 1928*, PCIJ, Series A-No. 17, page 47, Annex 423.

<sup>581</sup> *See Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v Uganda), Reparations, Judgment of 9 February 2022, I.C.J. Reports 2022*, p. 13 (“**Armed Activities Reparations Judgment**”), paragraphs 69, 99-100, Annex 409; *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v Uganda), Merits, Judgment of 19 December 2005, I.C.J. Reports 2005*, p. 168, paragraph 259, Annex 398; *Gabčíkovo-Nagymaros*, paragraphs 150 and 152, Annex 394; *Avena and Other Mexican Nationals (Mexico v United States of America), Judgment of 31 March 2004, I.C.J. Reports 2004*, p. 12, paragraph 119, Annex 397; Articles on Responsibility of States, Article 31, Annex 494.

<sup>582</sup> *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v Uganda), Merits, Judgment of 19 December 2005, I.C.J. Reports 2005*, p. 168, paragraph 259, Annex 398. *See also Gabčíkovo-Nagymaros*, paragraph 152 (“It is a well-established rule of international law that an injured State is entitled to obtain compensation from the State which has committed an internationally wrongful act for the damage caused by it”), Annex 394.

254. The principle of full reparations is also incorporated in the Articles on Responsibility of States.<sup>583</sup> Article 31 states that “the responsible State is under an obligation to make full reparation for the injury caused by the internationally wrongful act,” specifying that the “[i]njury includes any damage . . . caused by the internationally wrongful act of a State.”<sup>584</sup>

255. Likewise, in the specific context of environmental damage, the Institut de Droit International has stipulated that:

[t]he breach of an obligation of environmental protection established under international law engages responsibility of the State (international responsibility), entailing as a consequence the obligation to reestablish the original position or to pay compensation.<sup>585</sup>

256. Breaching States are collectively responsible for damage caused by climate change. In this respect, Article 47(1) of the Articles on Responsibility of States provides that “[w]here several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act.”<sup>586</sup> As stated in subsequent Article 47(2)(b), this collective responsibility “is without prejudice to any right of recourse against the other responsible States.”<sup>587</sup> The Guiding Principles on Shared Responsibility in International Law likewise provide that “[t]he commission by multiple international persons of one or more internationally wrongful acts that contribute to an

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<sup>583</sup> See J. Crawford, *State Responsibility* (Cambridge University Press, 2013), pages 480-482, Annex 525.

<sup>584</sup> Articles on Responsibility of States, Article 31, Annex 494.

<sup>585</sup> Responsibility and Liability under International Law for Environmental Damage, Article 1, Annex 518.

<sup>586</sup> Articles on Responsibility of States, Article 47(1), Annex 494.

<sup>587</sup> Articles on Responsibility of States, Article 47(2)(b), Annex 494.

indivisible injury entails shared responsibility.”<sup>588</sup> These guidelines also note that each party sharing responsibility for such an international wrongful act “is under an obligation to make full reparation for the indivisible injury caused by the single or multiple internationally wrongful acts, unless its contribution to the injury is negligible.”<sup>589</sup>

257. Climate change loss that is subject to reparations includes damage to the environment (i.e., “pure” environmental damage such as ecosystem changes or the destruction of biological diversity) and damage to people and property (i.e., defined economic assets including the cost of any adaptation measures<sup>590</sup>).<sup>591</sup> The obligation to repair “pure” environmental damage is supported by the Articles on Responsibility of States. Article 31(2) of the Articles on Responsibility of States provides that “[i]njury includes any damage, whether material or moral, caused by the internationally wrongful act of a State.”<sup>592</sup> In *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, this Court confirmed that “pure” environmental damage is recoverable. It held that:

it is consistent with the principles of international law governing the consequences of internationally wrongful acts, including the principle of full reparation, to hold that compensation is due for damage caused to the environment,

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<sup>588</sup> A. Nollkaemper et al., “Guiding Principles on Shared Responsibility in International Law”, *The European Journal of International Law*, 2020 (“**Guiding Principles on Shared Responsibility in International Law**”), Principle 2(1), Annex 530.

<sup>589</sup> Guiding Principles on Shared Responsibility in International Law, Principle 10, Annex 530.

<sup>590</sup> See C. Voigt, *State Responsibility for Damages associated with Climate Change*, in RESEARCH HANDBOOK ON CLIMATE CHANGE LAW AND LOSS & DAMAGE, eds. Meinhard Doelle & Sara L. Seck (Edward Elgar Publishing Limited, 2021), page 181, Annex 536.

<sup>591</sup> See M. Fitzmaurice et al., *International Environmental Law, Text, Cases and Materials* (Edward Elgar Publishing Limited, 2022), page 424, Annex 538.

<sup>592</sup> Articles on Responsibility of States, Article 31(2), Annex 494.

in and of itself, in addition to expenses incurred by an injured State as a consequence of such damage . . .<sup>593</sup>

The Court is therefore of the view that damage to the environment, and the consequent impairment or loss of the ability of the environment to provide goods and services, is compensable under international law. Such compensation may include indemnification for the impairment or loss of environmental goods and services in the period prior to recovery and payment for the restoration of the damaged environment.<sup>594</sup>

258. The UN Security Council has similarly recognised that States are liable for “pure” environmental damage resulting from an international wrongful act. In 1991, it affirmed that Iraq was liable “under international law” for *inter alia* “environmental damage and the depletion of natural resources . . . occurring as a result of its unlawful invasion and occupation of Kuwait.”<sup>595</sup>
259. Full reparations in international law can take the form of restitution, compensation or satisfaction.<sup>596</sup> In the field of climate change, compensation plays an important role. Environmental damage, as well as

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<sup>593</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraphs 41-42, Annex 407.

<sup>594</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 42, Annex 407.

<sup>595</sup> UN Security Council Resolution 687 (1991) reaffirming that Iraq was “liable under international law for any direct loss, damage, including environmental damage and the depletion of natural resources . . . occurring as a result of its unlawful invasion and occupation of Kuwait” (UN Security Council Resolution 687 (1991), S/RES/687, 8 April 1991, paragraph 16, Annex 217).

<sup>596</sup> *See* Articles on Responsibility of States, Article 34 (“Full reparation for the injury caused by the internationally wrongful act shall take the form of restitution, compensation and satisfaction, either singly or in combination”), Annex 494. In accordance with Article 36(2) of the Articles on State Responsibility, monetary compensation must “cover any financially assessable damage including loss of profits insofar as it is established.” *See also* Guiding Principles on Shared Responsibility in International Law, Principle 11, Annex 530.



other damage resulting from climate change, is frequently irreversible,<sup>597</sup> making restitution impossible. In *Gabčíkovo-Nagymaros*, this Court noted this “often irreversible character of damage to the environment.”<sup>598</sup> This Court has confirmed repeatedly that in such circumstances, when restitution is not possible, reparation may take “the form of compensation or satisfaction, or even both.”<sup>599</sup> In the *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, this Court added that compensation for environmental damage includes “indemnification for the impairment or loss of environmental goods and services in the period prior to recovery and payment for the restoration of the damaged environment.”<sup>600</sup> It also held that compensation for restoration should reflect that “active restoration measures may be required in order to return the environment to its prior condition . . .”<sup>601</sup>

260. The obligation to make full reparations is not diminished by the complexities of climate change. Reparations of environmental harm raise various complexities, such as how to quantify the harm, causation, the significant amount of compensation required, attribution of the harm among polluting States, the ongoing and unpredictable nature of the harm

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<sup>597</sup> The precautionary principle, as formulated in the UNFCCC includes the “threats of serious or irreversible damage” from climate change (see UNFCCC, Article 3(3), Annex 112).

<sup>598</sup> *Gabčíkovo-Nagymaros*, paragraph 140 (“in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage”), Annex 394.

<sup>599</sup> *Pulp Mills*, paragraph 273, Annex 400; *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 31, Annex 407.

<sup>600</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 42, Annex 407.

<sup>601</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 43, Annex 407.

and other evidentiary difficulties.<sup>602</sup> None of these complexities, however, excuse a State from meeting its international law obligation to make reparations.<sup>603</sup> In such cases, where due to the nature and circumstances of the internationally wrongful act the available evidence might be imprecise or carry other defects, compensation can be calculated by, first, agreement between States and, failing that, approximation if needed. This is supported by the following seminal paragraph from the *Trail Smelter Arbitration*, which has been cited approvingly by this Court and other international courts and tribunals:<sup>604</sup>

[w]here the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it

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<sup>602</sup> See, e.g., Section VI.F(ii) above. In *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, this Court stated that: “the absence of adequate evidence as to the extent of material damage will not, in all situations, preclude an award of compensation for that damage” (*Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 35, Annex 407). The *Trail Smelter Arbitration* award, which quotes the US Supreme Court in *Story Parchment Company v Paterson Parchment Paper Company* states: “[w]here the tort itself is of such a nature as to preclude the ascertainment of the amount of damages with certainty, it would be a perversion of fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer from making any amend for his acts. In such case, while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although the result be only approximate” (*Trail Smelter Arbitration*, page 1965, Annex 433).

<sup>603</sup> See *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraphs 34-35, Annex 407.

<sup>604</sup> See *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 41, Annex 407. See also *Armed Activities Reparations Judgment*, paragraphs 106, 360, Annex 409; *Ahmadou Sadio Diallo (Republic of Guinea v Democratic Republic of the Congo), Compensation, Judgment of 19 June 2012, I.C.J. Reports 2012*, p. 324, paragraph 33, Annex 402; *Judgments of the Administrative Tribunal of the ILO upon complaints made against the UNESCO, Advisory Opinion of 23 October 1956, I.C.J. Reports 1956*, p. 77, page 100, Annex 386; *Eritrea-Ethiopia Claims Commission, Final Award*, 17 August 2009, PCA Case No. 2001-02 (“**Eritrea-Ethiopia Final Award**”), paragraphs 37,40, Annex 435; *The Prosecutor v Ahmad Al Faqi Al Mahdi, Reparations Order of 17 August 2017*, ICC Case No. ICC-01/12-01/15, paragraphs 116-127, Annex 438; *Case of the Kichwa Indigenous People of Sarayaku v Ecuador*, paragraph 315 (“The Court underlines that the probative elements submitted

would be a perversion of fundamental principles of justice to deny all relief to the injured person, and thereby relieve the wrongdoer from making any amend for his acts. In such case, while the damages may not be determined by mere speculation or guess, it will be enough if the evidence show the extent of the damages as a matter of just and reasonable inference, although the result be only approximate.<sup>605</sup>

261. In the same vein, this Court in the *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment* found that “[i]n respect of the valuation of damage . . . the absence of adequate evidence as to the extent of material damage will not, in all situations, preclude an award of compensation for that damage.”<sup>606</sup> The Eritrea-Ethiopia Claims Commission (the “EECC”) relied on “the best estimates possible on the basis of the available evidence” and it recalled that “when obligated to determine appropriate compensation, it must do so even if the process involves estimation, or even guesswork, within the range of possibilities indicated by the evidence.”<sup>607</sup> In this respect, the Commission also noted that determining “the appropriate compensation for each such violation . . . require[s] exercises of judgment and approximation.”<sup>608</sup>

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are not sufficient or specific enough to determine the loss of earnings by members of the Sarayaku People . . . However, in the circumstances of this case, it is reasonable to presume that these events led to a series of expenses and loss of earnings . . .”), Annex 379; “Report and Recommendation made by the Panel of Commissioners Concerning the Fifth Instalments of F4 Claims”, S/AC.26/2005/10, *Governing Council, United Nations Compensation Commission*, 30 June 2005, paragraph 80, Annex 439.

<sup>605</sup> *Trail Smelter Arbitration*, page 1920, Annex 433.

<sup>606</sup> *Certain Activities Carried Out by Nicaragua in the Border Area Compensation Judgment*, paragraph 35, Annex 407. In the *Corfu Channel* case, the Court accepted the UK’s “figures and estimates” of its damages, adjudging whether these figures were “reasonable” (*Corfu Channel (United Kingdom of Great Britain and Northern Ireland v Albania)*, *Compensation, Judgment of 15 December 1949*, I.C.J. Reports 1949, p. 244, page 260, Annex 385).

<sup>607</sup> *Eritrea-Ethiopia Final Award*, paragraph 37, Annex 435.

<sup>608</sup> *Eritrea-Ethiopia Final Award*, paragraphs 37, 85, Annex 435.

(ii) States must provide full monetary reparation under international environmental law

262. The obligation of States to offer reparations for environmental damage is also supported in international environmental law. Two early influential expressions of the obligation to offer compensation for such damage are the Stockholm Declaration and the Rio Declaration. Principle 22 of the Stockholm Declaration calls on States to develop international law on compensation for environmental damage. It affirms that:

States shall cooperate to develop further the international law regarding liability and compensation for the victims of pollution and other environmental damage.<sup>609</sup>

263. Principle 13 of the Rio Declaration similarly declares that States need to develop international law on the compensation for environmental damage and adds that they should also develop national laws regarding the same. It provides that:

States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.<sup>610</sup>

264. Principle 7 of the Rio Declaration further recognises the particular responsibility of developed States. It states: “developed countries acknowledge the responsibility that they bear in the international pursuit

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<sup>609</sup> Stockholm Declaration, Principle 22, Annex 469.

<sup>610</sup> Rio Declaration, Principle 13, Annex 281.

of sustainable development in view of the pressures their societies place on the global environment.”<sup>611</sup>

265. Under Article 8(1) of the Paris Agreement, States unequivocally recognised “the importance of averting, minimising and addressing loss and damage associated with the adverse effects of climate change.”<sup>612</sup> However, the decision adopting the Paris Agreement provides that Article 8 of the Paris Agreement “does not involve or provide a basis for any liability or compensation.”<sup>613</sup> Importantly, this clause does not “exclude liability on the basis of other articles of the Paris Agreement, other treaties, the general principles of law, or on the basis of customary international law.”<sup>614</sup> Neither does the clause exclude the application of general rules of international law that provide for the obligation to repair climate change damage resulting from the internationally wrongful acts of States, set out in **Section VI.D** above.<sup>615</sup>

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<sup>611</sup> Rio Declaration, Principle 7, Annex 281.

<sup>612</sup> Paris Agreement, Article 8(1), Annex 156.

<sup>613</sup> Adoption of the Paris Agreement, Decision 1/CP.21, Report of the Conference of the Parties on its Twenty-First Session, held in Paris from 30 November to 13 December 2015, Addendum, Part two: Action taken by the Conference of the Parties at its Twenty-First Session, FCCC/CP/2015/10/Add.1, 29 January 2016, paragraph 51, Annex 293.

<sup>614</sup> C. Voigt, *State Responsibility for Damages associated with Climate Change*, in RESEARCH HANDBOOK ON CLIMATE CHANGE LAW AND LOSS & DAMAGE, eds. Meinhard Doelle & Sara L. Seck (Edward Elgar Publishing Limited, 2021), page 167, Annex 536.

<sup>615</sup> See Cook Islands, Ratification of the Paris Agreement, 1 September 2016, C.N.609.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 297; Republic of the Marshall Islands, Ratification of the Paris Agreement, 22 April 2016, C.N.173.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 295; Federated States of Micronesia, Ratification of the Paris Agreement, 15 September 2016, C.N.626.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 298; Republic of Nauru, Ratification of the Paris Agreement, 22 April 2016, C.N.179.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 296; Niue, Ratification of the Paris Agreement, 28 October 2016, C.N.807.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 301; Republic of the Philippines, Ratification of the Paris

266. States have also committed through various international conventions that they will pay for specific loss and damage to the environment, such as due to:

- a. oil pollution;<sup>616</sup>
- b. nuclear damage;<sup>617</sup>
- c. damage to the marine environment;<sup>618</sup>

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Agreement, 23 March 2017, C.N.149.2017.Treaties-XXVII.7.d (Depositary Notification), Annex 302; Solomon Islands, Ratification of the Paris Agreement, 21 September 2016, C.N.650.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 299; Tuvalu, Ratification of the Paris Agreement, 22 April 2016, C.N.183.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 294; Republic of Vanuatu, Ratification of the Paris Agreement, 21 September 2016, C.N.653.2016.Treaties-XXVII.7.d (Depositary Notification), Annex 300.

<sup>616</sup> See, e.g., International Convention on Civil Liability for Oil Pollution Damage, 29 November 1969, 973 UNTS 3, Annex 77 (amended by the Protocol of 1992 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 27 November 1992, 1956 UNTS 255, Articles 2 and 3, Annex 115); International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 18 December 1971, 1110 UNTS 57 (“**International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage**”), Article 2, Annex 78 (amended by the 1992 Protocol to Amend the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Article 3, Annex 116); International Convention on Civil Liability for Bunker Oil Pollution Damage, 23 March 2001, UK Treaty Series No. 47 (2012), Article 3, Annex 137.

<sup>617</sup> See, e.g., 1960 Paris Convention, Article 6(a), Annex 71; Vienna Convention on Civil Liability for Nuclear Damage, 1063 UNTS 265, 21 May 1963, Article 2, Annex 72.

<sup>618</sup> See, e.g., Kuwait Regional Convention for Co-operation on the Protection of the Marine Environment from Pollution, 24 April 1978, 1140 UNTS 133, Article XIII, Annex 87; The Regional Convention for the Conservation of the Red Sea and Gulf of Aden Environment, 14 February 1982, Article XIII, Annex 94; Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region, 24 March 1983, 1506 UNTS 157, Article 14, Annex 96; Noumea Convention, Article 20, Annex 101; Convention on the Protection of the Marine Environment of the Baltic Sea Area, 22 March 1974, 1507 UNTS 166, Article 17, Annex 84; Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 29 December 1972, 1046 UNTS 120, Article X, Annex 82; Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 29 January 2000, 2226 UNTS 208, Article 27 (giving rise to the

- d. hazardous waste;<sup>619</sup> and
- e. other environmental damage.<sup>620</sup>

267. The obligation to offer reparations for environmental damage is encompassed in well-established principles of international environmental law, in particular, the polluter pays principle and the no-harm principle. The polluter pays principle is a foundational principle of international environmental law that, as noted in **Section VI.F** above, is recognised by States in treaties, declarations and in national jurisdictions. The polluter pays principle is a general principle of international law, as recognised by several treaties.<sup>621</sup> In essence and as described in the Rio Declaration, the polluter pays principle entails that the State causing environmental pollution should “bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”<sup>622</sup> The

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Nagoya-Kuala Lumpur Supplementary Protocol on Liability and Redress, 15 October 2010, 3240 UNTS 1, Annex 151), Annex 135.

<sup>619</sup> See, e.g., Basel Protocol on Liability and Compensation for Damage Resulting from Transboundary Movements of Hazardous Wastes and their Disposal, 10 December 1999, Article 6, Annex 134.

<sup>620</sup> See, e.g., Antarctic Environmental Protocol, Article 16 (the parties committed to elaborate rules and procedures relating to liability for damage arising from activities taking place in the Antarctic and covered by the Protocol), Annex 107; International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea “2010 HNS Convention”, 30 April 2010, Article 23, Annex 150 (replacing the 1996 International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 3 May 1996).

<sup>621</sup> See, e.g., International Convention on Oil Pollution Preparedness, Response and Co-operation, 30 November 1990, 1891 UNTS 78, Preamble, page 79, Annex 106; Convention on the Transboundary Effects of Industrial Accidents, Preamble, page 461, Annex 110; Protocol on Civil Liability and Compensation for Damage Caused by the Transboundary Effects of Industrial Accidents on Transboundary Waters to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes and to the 1992 Convention on the Transboundary Effects of Industrial Accidents, 21 May 2003, Preamble, Annex 141.

<sup>622</sup> Rio Declaration, Principle 16, Annex 281.

principle shifts the costs for pollution onto the polluter, which is a key tenet of environmental fault-based liability and aligned with the principle of equity and the principle of fairness under international law.<sup>623</sup>

268. Inter-State reparations for climate change damage are also a corollary of the no-harm principle,<sup>624</sup> which is a general principle of international environmental law that has been incorporated into various international environmental law instruments.<sup>625</sup> Breach of the no-harm principle has resulted in international courts and tribunals ordering the payment of compensation. For example, in the *Trail Smelter Arbitration*, one of the first cases in which environmental damage was addressed, an international arbitral tribunal ordered Canada to pay the United States of America compensation for the transboundary environmental harm caused.<sup>626</sup>
269. Last, the work of esteemed scholars in the field of international environmental law supports that States are to provide compensation for harm caused by their international wrongful acts. For example, Principle 21 of the Legal Principles for Environmental Protection and Sustainable

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<sup>623</sup> See Directive of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage, 21 April 2004, 2004/35/EC, Article 1 (“The purpose of this Directive is to establish a framework of environmental liability based on the ‘polluter-pays’ principle, to prevent and remedy environmental damage”), Annex 256. See also E. Hey & S. Paulini, “Common but Differentiated Responsibilities” in *Max Planck Encyclopaedia of Public International Law*, 2021, paragraph 5, Annex 551.

<sup>624</sup> See M. Fitzmaurice et al., *International Environmental Law, Text, Cases and Materials* (Edward Elgar Publishing Limited, 2022), page 424, Annex 538.

<sup>625</sup> See Rio Declaration, Principle 16, Annex 281; Stockholm Declaration, Principle 21, Annex 469. See also UNFCCC, Preamble, recital 8, Annex 112; Convention on the Law of the Non-Navigational Uses of International Watercourses, Article 7, Annex 128; UNCCD, Preamble, page 110, Annex 123; Stockholm Convention on Persistent Organic Pollutants, 22 May 2001, 2256 UNTS 119, Preamble, page 215, Annex 138; International Tropical Timber Agreement, 2006, 27 January 2006, 2797 UNTS 75, Preamble, recital (d), Annex 147.

<sup>626</sup> See *Trail Smelter Arbitration*, Annex 433.



Development adopted by the World Commission on Environment and Development Experts Group on Environmental Law, stipulates under the heading “State Responsibility” that “States shall cease activities which breach an international obligation regarding the environment and provide compensation for the harm caused.”<sup>627</sup>

**B. States must offer full monetary reparation to other States for climate change caused by acts and omissions attributable to them in whole or in part**

270. As discussed in **Sections VI.A, VI.B, VI.C**, States are required to protect and preserve the environment and prevent transboundary harm. This includes preventing harm to the climate system and other parts of the environment from private parties, such as companies and individuals.

271. States should also offer full monetary reparation to other States for acts and omissions attributable to them in whole or in part under the rules of State responsibility. This includes providing full monetary reparation for acts and omissions of the State’s organs, persons or entities empowered by the State with governmental authority and others acting on the instructions of the State. States regularly act through such parties (e.g., State-owned corporations), which can be large emitters of greenhouse gases.

272. This Court has confirmed that acts or omissions that may be attributed to the State, in violation of the norms of international law, engage the international responsibility of the State.<sup>628</sup> This Court has also stated that

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<sup>627</sup> “Report of the World Commission on Environment and Development - Our Common Future”, *Brundtland Commission*, 1987, Annex 1, Principle 21, Annex 489 bis.

<sup>628</sup> *See Corfu Channel (United Kingdom of Great Britain and Northern Ireland v Albania)*, *Merits, Judgment of 9 April 1949, I.C.J. Reports 1949*, p. 4, pages 22–23, Annex 384;

States may be found internationally responsible for acts or omissions attributed to them within their territory and also for those acts or omissions committed outside their territory, but under their jurisdiction.<sup>629</sup>

273. This is consistent with established rules of international law, as articulated by the ILC in the Articles on Responsibility of States.<sup>630</sup> The Articles on Responsibility of States are regularly cited by this Court and other international courts and tribunals.<sup>631</sup> Under the Articles on Responsibility of States, an act or omission may be attributed to a State if it is one of:

a. an organ of a State.<sup>632</sup> This Court has confirmed that this is a rule of customary international law;<sup>633</sup>

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*United States Diplomatic and Consular Staff in Tehran, Judgment of 24 May 1980, I.C.J. Reports 1980, p. 3, paragraphs 63-67, Annex 415.*

<sup>629</sup> *See Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion of 9 July 2004, I. C. J. Reports 2004, p. 136, paragraphs 109, 111, Annex 417. See also IACtHR 2017 Advisory Opinion, paragraphs 77-78, Annex 372.*

<sup>630</sup> *See Articles on Responsibility of States, Articles 1 and 2(a), Annex 494. See also Commentary to the Articles on Responsibility of States, Article 2, page 35, paragraph 4, Annex 495.*

<sup>631</sup> *See, e.g., Armed Activities Reparations Judgment, paragraphs 70 and 98, Annex 409; Ilasçu and others v Russia and Moldova, [2004] ECHR 318, paragraph 320 (“Another recognised principle of international law is that of State responsibility for the breach of an international obligation, as evidenced by the work of the ILC”), Annex 425.*

<sup>632</sup> This includes the responsibility of an insurrectional movement that becomes the new government (*see* Articles on Responsibility of States, Article 10, Annex 494).

<sup>633</sup> *See Difference Relating to Immunity from Legal Process of a Special Rapporteur of the Commission on Human Rights, Advisory Opinion of 29 April 1999, I.C.J. Reports 1999, p. 62, paragraph 62, Annex 396. See also Articles on Responsibility of States, Article 4, Annex 494.*

- b. persons or entities which are “empowered by the law of that State to exercise elements of governmental authority”;<sup>634</sup>
- c. persons acting on the instructions or under the direction or control of the State in carrying out the conduct. This Court has confirmed that this is a rule of customary international law;<sup>635</sup> and
- d. any actors when States adopt or acknowledge their conduct as their own.<sup>636</sup>

274. Treaty bodies (including those whose findings are binding on States) confirm that conduct of State-owned entities causing harm to the environment is attributable to States. For example:

- a. the Committee on Economic, Social and Cultural Rights noted that States should refrain from unlawfully polluting through industrial waste “from State-owned facilities”;<sup>637</sup>

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<sup>634</sup> Articles on Responsibility of States, Article 5, Annex 494. Conduct of organs placed at the disposal of a State may also be attributed to a State (*see* Articles on Responsibility of States, Article 6, Annex 494).

<sup>635</sup> *See Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v Serbia and Montenegro)*, Judgment of 26 February 2007, *I.C.J. Reports 2007*, p. 43, paragraph 398, Annex 399, citing Articles on Responsibility of States, Article 8, Annex 494. This Court already decided in 1986 that States may be responsible in this way (*see e.g., Military and Paramilitary Activities in and against Nicaragua (Nicaragua v United States of America)*, Merits, Judgment of 27 June 1986, *I.C.J. Reports 1986*, p. 14, paragraph 109, Annex 390).

<sup>636</sup> *See* Articles on Responsibility of States, Article 11, Annex 494.

<sup>637</sup> General Comment No. 14, paragraph 34, Annex 447. *See also* ICESCR, Article 12, Annex 73.

- b. the IACtHR decided that States are obligated to refrain from unlawfully polluting through industrial waste “from State-owned facilities”,<sup>638</sup>
- c. the African Commission on Human Rights determined that the Government of Nigeria had violated human rights, even though the acts were conducted by its State-owned oil company;<sup>639</sup> and
- d. the ECtHR held a State responsible for the conduct of coal facilities owned by the State, given the State’s involvement in and presumed awareness of their operations.<sup>640</sup> Similarly, the ECtHR explicitly considered that the State should be held responsible for the acts or omissions of a State-owned mine.<sup>641</sup>

275. Further, the UN Human Rights Council recognises that an abuse of human rights committed by a business enterprise that is controlled by the State may entail a violation of the State’s own international law obligations.<sup>642</sup>

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<sup>638</sup> IACtHR 2017 Advisory Opinion, paragraph 117, Annex 372.

<sup>639</sup> See African Commission Decision on Communication 155/96, paragraphs 66, 54-68, Annex 455.

<sup>640</sup> See *Case of Dubetska and Others v Ukraine* [2011] ECHR 13, paragraphs 120, 123, Annex 428.

<sup>641</sup> See *Dimitar Yordanov v Bulgaria* [2018] ECHR 9 paragraph 60, Annex 430.

<sup>642</sup> See Report of the Special Representative of the Secretary-General on the issue of human rights and transnational corporations and other business enterprises, John Ruggie, A/HRC/17/31, 21 March 2011, Annex, principle 4, Annex 476. The UN Human Rights Council adopted the UN Guiding Principles on Business and Human Rights by unanimous consent (see UN Human Rights Council Resolution 17/4 (2011), A/HRC/RES/17/4, 16 June 2011, paragraph 1, Annex 223).

276. As noted above, the Republic of Colombia explained in its submissions to the IACtHR just a few months ago that States have a positive obligation to prevent territory being used for acts contrary to the rights of other States:

. . .at the international level there is an obligation not to cause transboundary damage, which refers not only to the negative obligation or “not to do”, but the duty to ensure that all activities carried out under the jurisdiction and control of a State do not cause damage to the environment in areas beyond its jurisdiction. This is also configured as a positive obligation for States, in the sense of preventing their territory from being used for acts contrary to the rights of other States.

(Translated from Spanish original.)<sup>643</sup>

277. The obligation to provide full reparation for acts and omissions attributable to the State is further supported by judicial decisions. In the *Trail Smelter Arbitration*, for example, Canada was required to compensate the United States of America for pollution by fumes caused in Canada’s territory by a corporation.<sup>644</sup> Canada assumed international responsibility for the corporation’s damage to the United States of America.<sup>645</sup>

278. This obligation is further supported by the most highly qualified publicists. For example, as noted above, the ILC considers that the acts

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<sup>643</sup> In the IACtHR Second Climate Change Advisory Opinion, *see* Written Observations of the Republic of Colombia, 18 December 2023, paragraph 71 (in original Spanish, “. . . a nivel internacional existe la obligación de no causar daño transfronterizo, la cual hace referencia no solo a la obligación negativa o “de no hacer”, sino el deber de velar por que todas las actividades realizadas bajo la jurisdicción y control de un Estado no causen daños al medio ambiente en áreas más allá de su jurisdicción. Lo anterior se configura también como una obligación positiva para los Estados, en el sentido de impedir que su territorio sea utilizado para actos contrarios a los derechos ed los otros Estados”), Annex 353 bis. *See also* IACtHR 2017 Advisory Opinion, paragraph 101, Annex 372.

<sup>644</sup> *See Trail Smelter Arbitration*, page 1933, Annex 433.

<sup>645</sup> *See Trail Smelter Arbitration*, page 1963, Annex 433.

and omissions of third parties (such as State-owned entities) may be attributable to States.<sup>646</sup>

**C. States must offer other redress for damage due to climate change by *inter alia* contributing to climate change funds, offering other financial resources and ensuring transfers of technology**

279. **Section VI.D** above discusses the obligation of States to assist other States to mitigate and repair climate change. Further to that Section, this Section sets out how States must do so through: (a) the financial contributions that States should make to redress the damage caused by the climate emergency, regardless of whether they are liable for an internationally wrongful act (*see* sub-section (i)); (b) the obligations of States to ensure the transfer of technology to other States affected by the climate emergency (*see* sub-section (ii)); and (c) investment in research on climate change (*see* sub-section (iii)).

(i) States should contribute to collective climate change funds and offer other financial resources to other States affected by the climate emergency

280. States should act to guarantee the right to redress for climate change damage by contributing to collective climate change funds. Such climate change funds have been established for developing States in light of the climate emergency through the Paris Agreement and other international conventions and initiatives and reflect considerations of equity, justice and sustainability.

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<sup>646</sup> *See* Commentary to the Articles on Responsibility of States, Article 5, page 43, paragraph 3, Annex 495.

281. Agreements relating to both financial assistance and collective climate change compensation are well-established in international environmental law. In the context of climate change, they reflect the principle of common but differentiated responsibilities<sup>647</sup> and follow from the obligation to cooperate to conserve, protect and restore the environment.<sup>648</sup> They also follow from the obligations under international law to provide full reparation and to compensate for loss and damage, taking into account the situation of vulnerable or specially affected States including small island developing States and the particular situations of impacted peoples.<sup>649</sup> Respect for these obligations is of utmost importance for Barbados, a small island developing State that has been greatly affected by the negative impacts of climate change and will need to expend considerable funds to ensure redress and mitigation.<sup>650</sup>
282. As the UNFCCC and Paris Agreement confirm, the global nature of climate change calls for the widest possible cooperation, with developed States to take the lead in combating climate change and its adverse effects.<sup>651</sup> As part of effective action against anthropogenic climate

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<sup>647</sup> See Section VI.D above.

<sup>648</sup> See Section VI.E above.

<sup>649</sup> See Section VII.D above.

<sup>650</sup> See Section IV.B(vi) above.

<sup>651</sup> See UNFCCC, Preamble and Article 3(1), Annex 112; Paris Agreement, Article 9(3), Annex 156.

change, the UNFCCC enshrines specific obligations on developed country Parties and other developed parties:

- a. to provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations;
- b. to provide such financial resources needed by the developing country Parties to meet the agreed full incremental costs of implementing agreed covered measures, with implementation taking into account the need for adequacy and predictability in the flow of funds and the importance of appropriate burden sharing among developed country Parties; and
- c. to assist developing State parties that are particularly vulnerable to the adverse effects of climate change in meeting the cost of adaptation to those adverse effects.<sup>652</sup>

283. The Paris Agreement further enshrines this by articulating express obligations on developed country Parties to provide financial resources to assist developing country Parties with respect to both mitigation and adaptation, recognising this to form part of existing obligations under the UNFCCC.<sup>653</sup>

284. The above obligations are operationalised in practice in a number of ways, including through climate change funds. Established in 2001 at the 7<sup>th</sup> session of the Conference of the Parties to the UNFCCC and officially launched in 2007, the Adaptation Fund provides adaptation-related

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<sup>652</sup> See UNFCCC, Articles 4(3) and 4(4), Annex 112.

<sup>653</sup> See Paris Agreement, Article 9(1), Annex 156.



funding to developing countries party to the Kyoto Protocol and Paris Agreement that are particularly susceptible to climate change adverse impacts.<sup>654</sup> It holds particular importance for the Caribbean region, which is particularly vulnerable to climate change impacts, including increasingly extreme weather patterns.

285. Following approval by the Conference of the Parties to the UNFCCC in 2011, the Green Climate Fund was launched with the aim of supporting developing countries within the broader global climate framework.<sup>655</sup> Barbados was honoured in 2019 to launch and move to implementation the first Green Climate Fund-financed project.<sup>656</sup> In Barbados, the Green Climate Fund has already contributed an estimated USD 151.5 million to

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<sup>654</sup> See Funding under the Kyoto Protocol, Decision 10/CP.7, Report of the Conference of the Parties on Its Seventh Session, held at Marrakesh from 29 October to 10 November 2001, Addendum, Part Two: Action taken by the Conference of the Parties, FCCC/CP/2001/13/Add.1, 21 January 2002, paragraph 1, Annex 282. See also Adaptation Fund, Decision 1/CMP.3, Report of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol on its third session, held in Bali from 3 to 15 December 2007, FCCC/KP/CMP/2007/9/Add.1, 14 March 2008, paragraphs 1 and 4, Annex 285. See also Matters relating to the Adaptation Fund, Decision 13/CMA.1, Report of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement on the third part of its first session, held in Katowice from 2 to 15 December 2018, FCCC/PA/CMA/2018/3/Add.2, 15 December 2018, paragraph 1, Annex 304.

<sup>655</sup> See Governing instrument for the Green Climate Fund, Annex, Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011, FCCC/CP/2011/9/Add.1, 15 March 2012, paragraphs 2 (“In the context of sustainable development, the Fund will promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change”) and 3 (“The Fund will play a key role in channelling new, additional, adequate and predictable financial resources to developing countries”), Annex 288.

<sup>656</sup> See “Barbados launches first Caribbean climate resilience project”, *Green Climate Fund*, 13 May 2019, Annex 305.

date in funding and facilitated important initiatives, including in green finance and water sector resilience.<sup>657</sup>

286. Other key climate change funds include the Special Climate Change Fund, established *inter alia* to assist developing country economic diversification,<sup>658</sup> the Least Developed Countries Fund, established to support adaptation in least developed countries<sup>659</sup> and the CARICOM Resilience Fund, established in a partnership between the CARICOM Development Fund and the United States of America to fund initiatives for building resilience across the Caribbean in the face of climate change.<sup>660</sup>
287. These funds will be supplemented in the future by the establishment of a loss and damage fund on which States reached historic and unanimous consensus at the 27<sup>th</sup> Conference of the Parties to the UNFCCC. These new funding arrangements will be established:

for assisting developing countries that are particularly vulnerable to the adverse effects of climate change, in responding to loss and damage, including with a focus on

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<sup>657</sup> See “Barbados”, *Green Climate Fund*, 2023, Annex 354.

<sup>658</sup> See Funding under the Convention, Decision 7/CP.7, Report of the Conference of the Parties on its Seventh Session, held at Marrakesh from 29 October to 10 November 2001, FCCC/CP/2001/13/Add.1, 21 January 2002, paragraph 2, Annex 283.

<sup>659</sup> See Funding under the Convention, Decision 7/CP.7, Report of the Conference of the Parties on its Seventh Session, held at Marrakesh from 29 October to 10 November 2001, FCCC/CP/2001/13/Add.1, 21 January 2002, paragraph 6 (“Decides also that a least developed countries fund shall be established, which shall be operated by an entity entrusted with the operation of the financial mechanism, under the guidance of the Conference of the Parties, to support a work programme for the least developed countries. This work programme shall include, *inter alia*, national adaptation programmes of action in accordance with Section II, ‘Implementation of Article 4, paragraph 9, of the Convention’, of decision 5/CP.7”), Annex 283.

<sup>660</sup> See “Caricom Development Fund and the United States Partner to Launch US\$100 Million Fund for Regional Development”, *US Embassy in Barbados*, Annex 357.

addressing loss and damage by providing and assisting in mobilizing new and additional resources<sup>661</sup>

and acknowledging:

the urgent and immediate need for new, additional, predictable and adequate financial resources to assist developing countries that are particularly vulnerable to the adverse effects of climate change in responding to economic and non-economic loss and damage associated with the adverse effects of climate change, including extreme weather events and slow onset events, especially in the context of ongoing and ex post (including rehabilitation, recovery and reconstruction) action.<sup>662</sup>

288. Barbados is proud to have served on the Transitional Committee established for the operationalisation of the new funding arrangements and fund for assisting developing countries that are particularly vulnerable to the adverse effects of climate change in responding to loss and damage. Barbados's term, as one of the three designated developing country Party representatives for Latin America and the Caribbean on the Transitional Committee, ran from July to December 2023.<sup>663</sup>
289. Both the new loss and damage fund and other obligations assumed nearly universally by States under the UNFCCC and its associated Protocols

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<sup>661</sup> Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage, Decision 2/CP.27, Report of the Conference of the Parties on its Twenty-Seventh Session, held in Sharm el-Sheikh from 6 to 20 November 2022, FCCC/CP/2022/10/Add.1, 17 March 2023, paragraph 2, Annex 313.

<sup>662</sup> Funding arrangements for responding to loss and damage associated with the adverse effects of climate change, including a focus on addressing loss and damage, Decision 2/CP.27, Report of the Conference of the Parties on its Twenty-Seventh Session, held in Sharm el-Sheikh from 6 to 20 November 2022, FCCC/CP/2022/10/Add.1, 17 March 2023, paragraph 1, Annex 313.

<sup>663</sup> See "Membership - Transitional Committee", *United Nations Climate Change*, 9 October 2023, Annex 355.

have long-standing roots in international law. For example, the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage notes “the dangers of pollution posed by the world-wide maritime carriage of oil in bulk,” “the need to ensure that adequate compensation is available to persons who suffer damage caused by” such pollution and “the need to elaborate a compensation and indemnification system . . . with a view to ensuring that full compensation will be available to victims of oil pollution incidents.”<sup>664</sup> Contributions to the fund are to be made by all persons receiving crude oil and fuel oil in Contracting States.<sup>665</sup> Consistent with the principle of common but differentiated responsibilities, the Convention and its successor Protocol set contributions in respect of each Contracting State with reference to the total tonnage of crude oil and fuel oil received by a relevant individual or corporate person, including a State or any of its constituent subdivisions.<sup>666</sup> In addition to paying compensation to victims of oil pollution damage, the fund provides assistance to Contracting States threatened or affected by pollution

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<sup>664</sup> International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Preamble, Annex 78. *See also* 1992 Protocol to Amend the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Annex 116. *See also* Protocol of 2003 to the International Convention on the establishment of an international fund for compensation for oil pollution damage, 1992, 16 May 2003, 3432 UNTS 1, Annex 140.

<sup>665</sup> *See* International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Articles 10, 11 and 12(2), Annex 78. *See also* 1992 Protocol to Amend the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Annex 116.

<sup>666</sup> *See* International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Articles 10, 11 and 12(2), Annex 78. *See also* 1992 Protocol to Amend the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Articles 10 and 12, Annex 116.

wishing to take measures against it, including in the form of personnel or material aid, credit facilities or other assistance.<sup>667</sup>

290. In 1990, the London Amendment to the Montreal Protocol established the Multilateral Fund for the Implementation of the Montreal Protocol for the “purposes of providing financial and technical cooperation”<sup>668</sup> and on the basis that the mechanism would “meet all agreed incremental costs of such Parties in order to enable their compliance with the control measures” for ozone-depleting substances under the Montreal Protocol.<sup>669</sup> Since its establishment in 1991, the Multilateral Fund has disbursed more than USD 3.6 billion in grant funding to help developing countries decrease consumption and trade of ozone-depleting substances.<sup>670</sup>
291. Consistent with the principle of common but differentiated responsibilities, the 196 Contracting Parties to the Convention on Biological Diversity have committed to provide relevant financial support and incentives in accordance with each Contracting Party’s capabilities.<sup>671</sup> To that end, developed country Parties are obliged to provide new and additional financial resources to enable developing country Parties to meet the agreed full incremental costs of implementing measures under the Convention.<sup>672</sup> The Convention also establishes a financial mechanism to

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<sup>667</sup> See International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Article 4(7), Annex 78.

<sup>668</sup> Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, 29 June 1990, 1598 UNTS 469, Article 10(1), Annex 105.

<sup>669</sup> Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, 29 June 1990, 1598 UNTS 469, Article 10(1), Annex 105.

<sup>670</sup> See “A global challenge, universal solidarity”, *Multilateral Fund for the Implementation of the Montreal Protocol*, May 2023, page 2, Annex 489.

<sup>671</sup> See Convention on Biological Diversity, Article 20, Annex 113.

<sup>672</sup> See Convention on Biological Diversity, Article 20(2), Annex 113.

provide financial resources to developing country Parties, with contributions to take into account the need for predictability, adequacy and timely flow of funds.<sup>673</sup> Along similar lines, the UNCCD commits its Contracting Parties to promote the availability of financial mechanisms and to encourage such mechanisms to maximise available funding for developing country Parties affected by serious drought and/or desertification.<sup>674</sup>

292. Consistent with established obligations of reparations, compensation, cooperation and environmental protection (including extraterritorially),<sup>675</sup> States, in particular developed States, should act by contributing to such climate change and environmental protection funds to guarantee the right to redress for damage caused in relation to the climate emergency.

293. States widely acknowledge that further and additional financial assistance is required for developing States to ensure that they are able to mitigate climate change effects and adapt to them, among other things. For example, just at the Conference of the Parties of the UNFCCC in December 2023, States recognised that:

scaling up new and additional grant-based, highly concessional finance, and non-debt instruments remains critical to supporting developing countries, particularly as they transition in a just and equitable manner, and . . . that there is a positive connection between having sufficient fiscal space, and climate action and advancing on a pathway towards low emissions and climate-resilient development, building on existing institutions and mechanisms such as the Common Framework;

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<sup>673</sup> See Convention on Biological Diversity, Article 21(1), Annex 113.

<sup>674</sup> See UNCCD, Article 21(1), Annex 123.

<sup>675</sup> See Sections VI.A-VI.F above.

...

that developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention and that other Parties are encouraged to provide or continue to provide such support voluntarily;

...

the ongoing challenges faced by many developing country Parties in accessing climate finance and encourages further efforts, including by the operating entities of the Financial Mechanism, to simplify access to such finance, in particular for those developing country Parties that have significant capacity constraints, such as the least developed countries and small island developing States.<sup>676</sup>

294. As explained further in **Section VII.D** below, the financial assistance offered by developed countries including through climate change funds must take into account the circumstances of affected States and peoples. This includes the particular situation of small island developing States such as Barbados, a small country that is especially vulnerable to rising sea levels, natural disasters such as hurricanes and other adverse climate change effects.
295. In the context of the particular situation of Barbados, Barbados is proud to have achieved a progressively higher Human Development Index (“**HDI**”) ranking—most recently at 70<sup>th</sup> out of 191 countries, categorising Barbados as a “High” human development country.<sup>677</sup> However, while Barbados is

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<sup>676</sup> Outcome of the first global stocktake, Decision -/CMA.5, Conference of the Parties serving as the meeting of the Parties to the Paris Agreement at its fifth session, Advance unedited version, UN Climate Change Conference – United Arab Emirates Nov/Dec 2023, UNFCCC, paragraphs 69, 71, 75, Annex 358.

<sup>677</sup> See “Barbados: Human development summary”, *United Nations Development Programme*, 8 September 2022, Annex 488.

proud to have achieved this favourable HDI ranking, the HDI's logarithmic focus on income and gross domestic product is inadequate and projects an incomplete picture of Barbados's development challenges, particularly in the context of climate change.<sup>678</sup> Rather, climate change funds and other forms of financial assistance by developed countries must take into account the vulnerability and resilience challenges, including in respect of climate change, facing Barbados. Specifically, highly-indebted countries such as Barbados require support to regain access to the types of financing suitable for maintaining hard-won social and economic gains.<sup>679</sup> Such considerations should be mainstreamed as part of innovative and non-traditional measures to address the high debt burdens facing Barbados and other vulnerable small island developing States as part of broader strategies for successful debt management and unlocking economic growth and other developmental goals.<sup>680</sup> Only such holistic approaches that look beyond mere income levels will ensure appropriate, inclusive and equitable financial assistance to States and peoples that are particularly affected by and vulnerable to the adverse effects of climate change.

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<sup>678</sup> See Statement by Senator the Honourable Darcy Boyce Minister in the Prime Minister's Office Barbados, General Debate of the Third International Conference on Financing for Development, 15 July 2015, Addis Ababa ("**Statement by Senator the Honourable Darcy Boyce Minister**"), pages 3 and 4, Annex 292.

<sup>679</sup> See Statement by Senator the Honourable Darcy Boyce Minister, pages 3 and 4, Annex 292.

<sup>680</sup> See Statement by Senator the Honourable Darcy Boyce Minister, page 4, Annex 292.



(ii) States should ensure the transfer of technology to other States affected by the climate emergency

296. States have the obligation to ensure the transfer of technology to other States affected by the climate emergency.<sup>681</sup> As the UN High Commissioner for Human Rights noted, “States should share resources, knowledge and technology in order to address climate change” and “[t]echnology transfers between States should take place as needed and appropriate to ensure a just, comprehensive and effective international response to climate change.” It recommended working towards a goal of “[e]quitable access to technology, including, if necessary, [through] the lowering of intellectual property standards and facilitation of technology transfer.”<sup>682</sup>

297. The IPCC defined the term “transfer of technology” in its Special Report on Methodological and Technological Issues in Technology Transfer as “a broad set of processes covering the flows of know-how, experience and equipment for mitigating and adapting to climate change amongst

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<sup>681</sup> See, e.g., UNFCCC, Article 4(1)(c), Annex 112; Paris Agreement, Article 10, Annex 156; OAS Charter, Article 38, Annex 64; Stockholm Declaration, Principle 20, Annex 469; Rio Declaration, Principle 9, Annex 281.

<sup>682</sup> “Understanding Human Rights and Climate Change”, Submission of the Office of the High Commissioner for Human Rights to the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, 2015, pages 3, 4 and 27, Annex 480. See also, e.g., Universal Declaration of Human Rights, Article 27, Annex 208; ICESCR, Article 15, Annex 73; American Declaration of the Rights and Duties of Man, OAS Resolution XXX, adopted by the Ninth International Conference of American States (1948), reprinted in Basic Documents Pertaining to Human Rights in the Inter-American System, OEA/Ser.L.V/II.82 doc.6 rev.1 at 17 (1992), Article XIII, Annex 274; Additional Protocol to the American Convention on Human Rights in the area of Economic, Social, and Cultural rights “Protocol of San Salvador”, 17 November 1988, OAS Treaty Series No. 69, Article 14, Annex 63.

different stakeholders such as governments, private-sector entities, financial institutions, non-governmental organizations (NGOs) and research/education institutions.”<sup>683</sup> In the transfer of technology process that takes place across borders, there are two parties to this process: providers and recipients. The providers are often from developed States, whereas recipients are often in developing States.<sup>684</sup>

298. The transfer of technology for adaptation to climate change is an important element of reducing vulnerability to climate change.<sup>685</sup> It represents one of the most vital supports to the successful dissemination of green innovations within and among States.<sup>686</sup> It aids developing States to meet their development needs and comply with international climate commitments.<sup>687</sup>
299. Climate emergencies are “circumstances where severe consequences of climate change occur too rapidly to be significantly averted by even immediate mitigation efforts.”<sup>688</sup> The environmental effect of climate

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<sup>683</sup> “Special Report – Methodological and Technological issues in Technological Transfer. Summary for Policy Makers”, *Intergovernmental Panel on Climate Change*, 2000, page 3 Annex 36.

<sup>684</sup> See Z. Yang, “An Analysis of Technology Transfer as a Response to Climate Change”, *Copenhagen Consensus on Climate*, 2009 (“**An Analysis of Technology Transfer as a Response to Climate Change**”), page 6, Annex 38.

<sup>685</sup> See C. Karakosta et al., “Technology transfer through climate change: Setting a sustainable energy pattern”, *Renewable and Sustainable Energy Reviews*, 2010, pp. 1546-1557, page 1547, Annex 40.

<sup>686</sup> See R. Burrell et al., “Intellectual Property Rights, Climate Technology Transfer and Innovation in Developing Countries”, *INET Oxford Working Paper No. 2023-14*, 2023, page 79, Annex 542.

<sup>687</sup> See R. Burrell et al., “Intellectual Property Rights, Climate Technology Transfer and Innovation in Developing Countries”, *INET Oxford Working Paper No. 2023-14*, 2023, page 60, Annex 542.

<sup>688</sup> J. J. Blackstock et al., *Climate Engineering Responses to Climate Emergencies* (Novim, 2009), page 1, Annex 39.

change includes droughts, expansion of deserts and, in warm climatic conditions, the heat from the air aid storms in absorbing more heat, resulting in them becoming faster and turning into violent hurricanes.<sup>689</sup> As a result, the effect climate change imposes on humans represents a significant threat to human prosperity and human life.<sup>690</sup> Technology transfer plays a pivotal role in climate change policies as it is essential for both mitigating and adapting to climate change, since both aspects rely on the adoption and sharing of technological advancements. The transfer of technology is an integral and inseparable element within any policy approach addressing greenhouse gas mitigation and climate change adaptation.<sup>691</sup> Supporting greenhouse gas mitigation efforts in developing States with technology transfers from developed States leads to incremental benefits that play a significant role in addressing the complex challenge of climate change, offering opportunities for developing States to achieve their climate obligations.<sup>692</sup>

300. In the UNFCCC, developed countries agreed generally to “take all practicable steps to promote, facilitate and finance, as appropriate, the transfer of, or access to, environmentally sound technologies and know-how” to developing countries, and to “support the development and enhancement of [their] endogenous capacities and technologies.”<sup>693</sup> On technology transfer in particular, Articles 4(1)I, 4(3), 4(5), and 4(7) establish special and differentiated treatment for developing countries.

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<sup>689</sup> See Section IV.

<sup>690</sup> See Section IV.

<sup>691</sup> See An Analysis of Technology Transfer as a Response to Climate Change, preface, Annex 38.

<sup>692</sup> See An Analysis of Technology Transfer as a Response to Climate Change, page 11, Annex 38.

<sup>693</sup> UNFCCC, Article 4(5), Annex 112.

Article 4(2) establishes commitments that only apply to “developed countries and others in Annex I.” The UNFCCC also establishes a group of Annex II countries that have financial and technological support obligations on top of mitigation commitments under Article 4 generally. These countries are the traditional OECD group of early industrialisers. However, apart from the UNFCCC, there are other instruments which recognise the State’s duty towards ensuing free flowing technology transfer to deal with issues of climate change.<sup>694</sup>

301. Moreover, in 2010, the Conference of the Parties to the UNFCCC established the Technology Mechanism with the objective of accelerating and enhancing climate technology development and transfer. It consists of two complementary bodies that work together – the Technology Executive Committee and the Climate Technology Centre and Network. The mechanism will also serve the Paris Agreement.
302. Governments recognise the importance of technology transfer in dealing with problems of climate change. The final ministerial declaration from the second World Climate Conference in December 1990 stated that

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<sup>694</sup> See Kyoto Protocol, Article 10(c), Annex 131; Paris Agreement, Articles 10 and 13(9), Annex 156; Convention on Biological Diversity, Articles 16-20 and 25, Annex 113; Montreal Protocol on Substances that Deplete the Ozone Layer, 16 September 1987, 1522 UNTS 3, Articles 5(2) and 9, Annex 102; Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, 22 March 1989, 1673 UNTS 57, Articles 10(2)(d) and (e), 10(3), 10(4) and 14, Annex 103; Convention on the Protection of the Black Sea against Pollution, 21 April 1992, 1764 UNTS 3, Article 15(6), Annex 111; Amendments to the Convention for the Protection of the Mediterranean Sea Against Pollution (the title of the Convention was amended as: Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean), 10 June 1995, OJ L 322, Article 4(4)(b), Annex 124; Convention to ban the importation into Forum island countries of hazardous and radioactive wastes and to control the transboundary movement and management of hazardous wastes within the South Pacific Region (Waigani Convention), 16 September 1995, 2161 UNTS 91, Article 10(2)(d), Annex 126. See also S. Alam, *Technology Transfers and Assistance*, in THE OXFORD HANDBOOK OF INTERNATIONAL ENVIRONMENTAL LAW, eds. L. Rajamani & J. Peel (Oxford University Press, 2021), pages 960-967, Annex 553.

“[t]here is a need, to meet the requirements of developing countries, that adequate and additional financial resources be mobilized and the best available environmentally sound technologies be transferred expeditiously on a fair and most favourable basis.”<sup>695</sup> Much of State practice demonstrates an obligation to ensure technology transfers are thus mandated by legal and institutional frameworks.

303. Apart from the UNFCCC and the Paris Agreement, there are other initiatives that reiterate the need for and importance of technology transfer in the context of climate change action. Among other initiatives, it is worth noting the US Climate Technology Partnership – a continuation of the former Technology Cooperation Agreement Pilot Project, active in Brazil, China, Egypt, Korea, Mexico and the Philippines. This initiative focuses on identifying country-driven technology priorities and assisting partner countries in “implementing integrated market transformation strategies” for these priority technologies.<sup>696</sup>

304. The importance of the transfer of technology in the context of climate change has been recognised by the UN General Assembly, which has emphasised “the urgency of scaling up action and support, including finance, capacity-building and technology transfer, to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change in line with the best available science, taking into account the priorities

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<sup>695</sup> Report of the Secretary General, Protection of global climate change for present and future generations, Progress achieved in the implementation of resolution 44/207 on protection of global climate for present and future generations of mankind, A/45/696/ADD.1, 8 November 1990, page 17, Annex 470.

<sup>696</sup> “International energy technology collaboration and climate change mitigation”, *OECD Environment Directorate & International Energy Agency*, COM/ENV/EPOC/IEA/SLT(2004)1, 2004, pages 23-24, Annex 506.

and needs of developing country parties.”<sup>697</sup> This has also been recalled by the UN Economic and Social Council.<sup>698</sup> The UN Human Rights Council has also called upon States to: “continue and enhance international cooperation and assistance, in particular in financing, the transfer of technology and capacity-building, for mitigation and adaptation measures to assist developing countries, especially those that are particularly vulnerable to the adverse effects of climate change.”<sup>699</sup> The importance of the transfer of technology was also underlined in various COP decisions.<sup>700</sup>

(iii) States should invest in research on climate change

305. Small island developing States, like Barbados, are at risk of, among other things, flooding from sea level rises and natural disasters caused by climate change.<sup>701</sup> Full redress requires not only financing for loss and damage caused by climate change and for the implementation of mitigation and adaptation policies. It also requires investment in research on climate change to find methods for adapting to the adverse effects of climate change and for mitigating those effects.

306. As discussed in **Section VI.E**, States must cooperate to protect and preserve the climate system and other parts of the environment. This

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<sup>697</sup> UN General Assembly Resolution 77/165, paragraph 18, Annex 229.

<sup>698</sup> See UN Economic and Social Council 2023/4 (2023), E/RES/2023/4, 7 June 2023, Annex 239.

<sup>699</sup> UN Human Rights Council Resolution 44/7 (2020), A/HRC/RES/44/7, 16 July 2020, paragraph 5, Annex 224.

<sup>700</sup> An overview is provided in Decision enhancing climate technology development and transfer through the Technology Mechanism, Decision 18/CP.27, Report of the Conference of the Parties on its twenty-seventh session, held in Sharm el-Sheikh from 6 to 20 November 2022, FCCC/CP/2022/10/Add.2, 17 March 2023, Annex 368.

<sup>701</sup> See Section IV.

includes investing in research on climate change and methods for adapting to it and mitigating its effects. In international conventions, States agree to invest in research on climate change. For example:

- a. under the Paris Agreement, 194 States and the European Union agree to share information and good practices on adaption actions;<sup>702</sup> strengthen scientific knowledge on climate, including research, systematic observation of the climate system and early warning systems;<sup>703</sup> and assist developing States in identifying effective adaptation practices;<sup>704</sup>
- b. under the UNFCCC, 197 States and the European Union agree to promote and cooperate in scientific and other research related to the climate system,<sup>705</sup> including by “financing research”;<sup>706</sup>
- c. under the Kyoto Protocol, 192 States agree to:

[c]ooperate in scientific and technical research and promote the maintenance and the development of systematic observation systems and development of data archives to reduce uncertainties related to the climate system, the adverse impacts of climate change and the economic and social consequences of various response strategies, and promote the development and strengthening of endogenous capacities and capabilities to participate in international and intergovernmental efforts,

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<sup>702</sup> See Paris Agreement, Article 7(7)(a), Annex 156.

<sup>703</sup> See Paris Agreement, Article 7(7)(c), Annex 156.

<sup>704</sup> See Paris Agreement, Article 7(7)(d), Annex 156.

<sup>705</sup> See UNFCCC, Article 4(1)(g), Annex 112.

<sup>706</sup> UNFCCC, Article 5(a), Annex 112.

programmes and networks on research and systematic observation.<sup>707</sup>

- d. under the Convention on Biological Diversity, 195 States and the European Union agree to promote and encourage research that contributes to the conservation and sustainable use of biological diversity, particularly in developing countries;<sup>708</sup>
- e. under the Vienna Convention for the Protection of the Ozone Layer, 197 States and the European Union agree to cooperate in legal, scientific and technical fields, including by “taking into account, in particular the needs of the developing countries, in promoting, directly or through competent international bodies, the development and transfer of technology and knowledge” and to “co-operate in . . . the conduct of research and scientific assessments on” *inter alia* (i) “physical and chemical processes that may affect the ozone layer”; (ii) “human health and other biological effects deriving from any modifications of the ozone layer”; (iii) “[c]limatic effects deriving from any modifications of the ozone layer; and (iv) “[a]lternative substances and technologies.”<sup>709</sup> Under this agreement, they also commit, “in accordance with the means at their disposal and their capabilities,” to cooperate through:

systemic observations, research and information exchange in order to better understand and assess the effects of human activities on the ozone layer and the effects on human health and the

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<sup>707</sup> Kyoto Protocol, Article 10(d), Annex 131.

<sup>708</sup> See Convention on Biological Diversity, Articles 12(b) and (c), Annex 113.

<sup>709</sup> Vienna Convention for the Protection of the Ozone Layer, Articles 4, 3(1)(a), (b), (c) and (f), Annex 98.



environment from modification of the ozone layer.<sup>710</sup>

- f. under the Convention on long-range transboundary air pollution, 52 States and the European Union commit to exchange information on *inter alia* “technical measures aimed at combating, as far as possible, the discharge of air pollutants which may have adverse effects, thereby contributing to the reduction of air pollution including long-range transboundary air pollution.”<sup>711</sup> They also agree to “initiate and co-operate in the conduct of research into and/or development” of, among other thing: “[e]xisting and proposed technologies for reducing emissions of sulphur compounds and other major air pollutants”; “[i]nstrumentation and other techniques for monitoring and measuring emission rates and ambient concentrations of air pollutants”; and “improved models for a better understanding of the transmission of long-range transboundary air pollutants”;<sup>712</sup>
- g. under the Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 172 States and the European Union agree to “cooperate in the development and/or strengthening of human resources and institutional capacities in biosafety, including biotechnology to the extent that it is required for biosafety . . . in

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<sup>710</sup> Vienna Convention for the Protection of the Ozone Layer, Article 2(2)(a), Annex 98.

<sup>711</sup> Convention on long-range transboundary air pollution, Article 4, Annex 89.

<sup>712</sup> Convention on long-range transboundary air pollution, Article 7, Annex 89.

particular the least developed and small island developing States among them, and . . . Parties with economies in transition”;<sup>713</sup> and

- h. under the UNCCD, 192 States commit to “promote and facilitate access by affected country Parties, particularly affected developing country Parties, to appropriate technology, knowledge and know-how.”<sup>714</sup> States also undertake “to promote, finance and/or facilitate the financing of the transfer, acquisition, adaptation and development of environmentally sound, economically viable and socially acceptable technologies” and to facilitate technology cooperation through financial assistance and other means, to “take appropriate measures to create domestic market conditions and incentives, fiscal or otherwise, conducive to the development, transfer, acquisition and adaptation of suitable technology, knowledge, know-how and practices” and to facilitate access “in particular by affected developing country Parties, on favourable terms, including on concessional and preferential terms” to such technologies.<sup>715</sup> In addition, States agree to international cooperation “to ensure the promotion of an enabling international environment” which “cover[s] fields of technology transfer as well as scientific research and development, information collection and dissemination and financial resources.”<sup>716</sup>

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<sup>713</sup> Cartagena Protocol on Biosafety to the Convention on Biological Diversity, 29 January 2000, 2226 UNTS 208, Article 22, Annex 135.

<sup>714</sup> UNCCD, Article 6(e), Annex 123.

<sup>715</sup> UNCCD, Article 18, Annex 123.

<sup>716</sup> UNCCD, Article 12, Annex 123.

307. Although it is not a State that contributed to climate change, Barbados voluntarily dedicates its own resources, and also receives external funding, towards scientific research on climate change. Barbados participates in, for example, the Caribbean Regional Climate Outlook Forum, tasked with assessing shifts in the weather; the Climate Modelling, and Impact and Economic Modelling Implementation Plan, to predict changes in climate and their impacts (including socio-economic effects) in the Caribbean; and the Caribbean Regional Climate Change Center, which monitors climate change in the Caribbean and produces forecasts.<sup>717</sup>
308. States must therefore proactively invest funds in research on climate change, including adaptation to it and mitigation.

**D. Full reparation and assistance must take account of the circumstances of affected States, peoples and individuals**

309. This Section explains that under international law full reparation and other assistance to address climate change must take account of: (a) the circumstances of affected States, including in particular small island States (*see* sub-section (i)); and (b) peoples and individuals of present and future generations affected by the adverse effects of climate change (*see* sub-section (ii)).

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<sup>717</sup> *See* Barbados' Second National Communication under the United Nations Framework Convention on Climate Change, April 2018, pages 83-85, Annex 359; Caribbean Regional Climate Center, *About the Caribbean Regional Climate Centre*, undated, Annex 360.

- (i) Full reparation and assistance must take account of the particular situation of States, including in particular small island developing States that are injured or specially affected by or are particularly vulnerable to the adverse effects of climate change
310. Full reparation and other assistance to address climate change must take account of the vulnerable position of small island States due to the significant impact of climate change on such States.
311. International environmental law treaties and other instruments repeatedly emphasise the need to offer in particular assistance to small island States as well as to developing States, which are both particularly vulnerable to the adverse effects of climate change.
312. The UNFCCC preamble recognises that “low-lying and other small island countries . . . are particularly vulnerable to the adverse effects of climate change.”<sup>718</sup> Article 4(9) of the UNFCCC gives effect to this recognition by requiring that States “take full account of the specific needs and special situations of the least developed countries in their actions with regard to funding.”<sup>719</sup> Article 4(8) of the UNFCCC likewise requires that States “especially consider the adverse effects of climate change and/or the impact of the implementation of response measures on *inter alia* small island States.”<sup>720</sup>
313. The UN General Assembly, in 1992, convened a global conference on the sustainable development of small island developing States. Notably, it recognised that “small island developing States and islands supporting

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<sup>718</sup> UNFCCC, Preamble, page 4, Annex 112.

<sup>719</sup> UNFCCC, Article 4(9), Annex 112.

<sup>720</sup> UNFCCC, Article 4(8)(a), Annex 112.

small communities are a special case with regard to both environment and development [and] that they are ecologically fragile and vulnerable”; expressed that “small island developing States are considered extremely vulnerable to the impact of potential climate change and sea-level rise, with certain small low-lying island developing States facing the increasing threat of the loss of their entire national territories”; and noted its “grave concerns that most tropical islands are currently experiencing the more immediate impacts of an increasing frequency of cyclones, storms and hurricanes associated with climate change, which are causing major setbacks to their socio-economic development.”<sup>721</sup>

314. The Declaration of Barbados and the Barbados Programme of Action,<sup>722</sup> adopted by the Global Conference on the Sustainable Development of Small Island Developing States,<sup>723</sup> emphasise the vulnerability of small island developing States to climate-change-induced adverse effects:

[w]hile small island developing States are among those that contribute least to global climate change and sea level rise, they are among those that would suffer most from the adverse effects of such phenomena and could in some cases become uninhabitable. Therefore, they are among those particularly vulnerable States that need assistance under the United Nations Framework Convention on Climate

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<sup>721</sup> UN General Assembly Resolution 47/189 (1993), A/RES/47/189, 10 March 1993, page 2, Annex 240.

<sup>722</sup> The UN General Assembly endorsed the Declaration of Barbados and the Barbados Programme of Action and called “upon Governments, as well as the organs, organizations and bodies of the United Nations system and other intergovernmental and non-governmental organizations to implement all commitments reached and recommendations made at the Conference and to take the action necessary for effective follow-up to the Programme of Action” (UN General Assembly, Resolution 49/122 (1995), A/RES/49/122, 27 February 1995, page 2, Annex 241).

<sup>723</sup> Global Conference on the Sustainable Development of Small Island Developing States, Resolution A/CONF.167/9, Bridgetown, Barbados, from 25 April to 6 May 1994 (“**Declaration of Barbados**”) Annex 369.

Change, including adaptation measures and mitigation efforts.

...

The international community should cooperate with small island developing States in the implementation of the Programme of Action for the Sustainable Development of Small Island Developing States by providing effective means, including adequate, predictable new and additional financial resources.<sup>724</sup>

315. The Barbados Programme of Action further recognises that “small island developing States are particularly vulnerable to global climate change, climate variability and sea level rise”<sup>725</sup> and calls for international action to mitigate the adverse impact of climate change in small island developing States by providing:

[i] improved access to financial and technical resources for monitoring variability and change of climate and sealevel rise, for assessing the impacts of climate change, and for developing and implementing response adaptation strategies in a timely manner, recognizing the specific vulnerabilities and disproportionate cost borne by small island developing States

...

Improved access to financial and technical resources to assist small island developing States, which are particularly vulnerable to the adverse effects of climate change, in meeting the costs associated with the development of national and regional strategies, measures and

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<sup>724</sup> Declaration of Barbados, pages 4-5, Annex 369.

<sup>725</sup> Declaration of Barbados, Annex II (Barbados Programme of Action), page 10, Annex 369.

methodologies to facilitate adequate adaptation to climate change.<sup>726</sup>

316. The Mauritius Declaration<sup>727</sup> reaffirms the “commitment to support the sustainable development strategies of small island developing States through technical and financial cooperation, regional and interregional institutional assistance and an improved international enabling environment”<sup>728</sup> and adopts the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States. This strategy recognises the need for adaptation to adverse impacts of climate change:

[t]he adverse effects of climate change and sea-level rise present significant risks to the sustainable development of small island developing States, and the long-term effects of climate change may threaten the very existence of some small island developing States. Based on the Secretary-General’s report and other available data, small island developing States believe that they are already experiencing major adverse effects of climate change. Adaptation to adverse impacts of climate change and sea-

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<sup>726</sup> Declaration of Barbados, Annex II (Barbados Programme of Action), pages 11-12, Annex 369.

<sup>727</sup> The UN General Assembly endorsed the Mauritius Declaration and Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, and urged “Governments and all relevant international and regional organizations, United Nations funds and programmes, the specialized agencies, regional economic commissions, international financial institutions, the Global Environment Facility, as well as other intergovernmental organizations and major groups, to take timely actions to ensure the effective implementation of and follow-up to the Mauritius Declaration and the Mauritius Strategy for Implementation” (UN General Assembly, Resolution 59/311 (2005), A/RES/59/311, 5 August 2005, page 3, Annex 242).

<sup>728</sup> International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, A/CONF.207/L.6, Port Louis, Mauritius, Mauritius Declaration, 13 January 2005, page 1, Annex 370.

level rise remains a major priority for small island developing States.<sup>729</sup>

317. The SAMOA Pathway, adopted by the International Conference on Small Island Developing States,<sup>730</sup> also calls for a comprehensive plan of action to assist small island developing States in their sustainable development efforts:

We recognize and call for the strengthening of the long-standing cooperation and support provided by the international community in assisting small island developing States to make progress in addressing their vulnerabilities and supporting their sustainable development efforts.

...

We also reaffirm that climate change is one of the greatest challenges of our time, and we express profound alarm that emissions of greenhouse gases continue to rise globally. We are deeply concerned that all countries, particularly developing countries, are vulnerable to the adverse impacts of climate change and are already experiencing an increase in such impacts, including persistent drought and extreme weather events, sea-level rise, coastal erosion and ocean acidification, further threatening food security and efforts to eradicate poverty and achieve sustainable development. In this regard, we emphasize that adaptation to climate change represents an immediate and urgent global priority.

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<sup>729</sup> International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, A/CONF.207/CRP.7, Port Louis, Mauritius, Mauritius Strategy for the further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, 13 January 2005, page 3, Annex 371.

<sup>730</sup> The UN General Assembly endorsed the “SIDS Accelerated Modalities of Action (SAMOA) Pathway” (UN General Assembly Resolution 69/15 (2014), A/RES/69/15, 15 December 2014, page 1, Annex 243).



We urge all countries to fulfil their commitments to small island developing States, including through the provision of financial resources, to support the Barbados Programme of Action, the Mauritius Strategy and the Samoa Pathway.<sup>731</sup>

318. The Paris Agreement similarly contains provisions singling out the needs of developing States and small island developing States in the context of resources to address the adverse effects of climate change. It first recognises “the specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, as provided for in the [UNFCCC].”<sup>732</sup> The agreement then provides that the provision of scaled-up financial resources should take into account *inter alia* “the priorities and needs of developing country Parties especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints, such as the least developed countries and small island developing States.”<sup>733</sup> The Paris Agreement also notes that the institutes serving the agreement “shall aim to ensure efficient access to financial resources through simplified approval procedures and enhanced readiness support for developing country Parties, in particular for the least developed countries and small island developing States.”<sup>734</sup> Further,

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<sup>731</sup> UN General Assembly, Resolution 69/15 (2014), A/RES/69/15, 15 December 2014, Annex, paragraphs 19, 32, 104, Annex 243.

<sup>732</sup> Paris Agreement, page 1, Annex 156. The Paris Agreement also invites “least developed countries and small island developing States may prepare and communicate strategies, plans and actions for low greenhouse gas emissions development reflecting their special circumstances” (Paris Agreement, Article 4(5), Annex 156).

<sup>733</sup> Paris Agreement, Article 9(4), Annex 156.

<sup>734</sup> Paris Agreement, Article 9(9), Annex 156.

capacity-building under the Paris Agreement is meant to enhance the capacity of this same set of States.<sup>735</sup>

319. The UN General Assembly, in 2019, in a Resolution following up the implementation of the SAMOA Pathway and the Mauritius Strategy, “call[ed] for urgent and ambitious global action, in line with the Paris Agreement, to address the threat and impact of climate change on small island developing States”.<sup>736</sup> The UN General Assembly also reaffirmed:

[t]he need for urgent action to address the adverse impacts of climate change, including those related to sea level rise and extreme weather events, which continue to pose a significant risk to small island developing States and to their efforts to achieve sustainable development and, for many, represent the gravest of threats to their survival and viability, including, for some, through loss of territory, as well as through threats to water availability and food security and nutrition.

[t]hat official development assistance, both technical and financial, can foster resilient societies and economies, and calls upon the international community to mobilize additional development finance from all sources and at all levels to support small island developing States’ efforts.<sup>737</sup>

320. The recent San Jose Declaration also reaffirms the Latin American and Caribbean States’ commitment to scale-up efforts to implement actions for the protection of small island developing States, “recognizing their high

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<sup>735</sup> See Paris Agreement, Article 11, Annex 156.

<sup>736</sup> UN General Assembly, Resolution 74/217 (2020), A/RES/74/217, 21 January 2020, page 3, Annex 244.

<sup>737</sup> UN General Assembly, Resolution 74/217 (2020), A/RES/74/217, 21 January 2020, pages 2 and 4, Annex 244.

vulnerability to environmental threats, from sea level rise to biodiversity loss [and] their unique economic and ecological challenges.”<sup>738</sup>

321. States also recognise the importance of providing damages to States particularly affected by climate change through decisions taken at the Conference of the Parties of the UNFCCC, including:
- a. the Bali Action Plan, which contains a provision similarly singling out the interest of “countries that are particularly vulnerable to the adverse effects of climate change.”<sup>739</sup> The comprehensive process to enable the full, effective and sustained implementation of the UNFCCC, launched by the Bali Action Plan, identified as one of its topics “Enhanced Action on Adaptation,” including “means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change”,<sup>740</sup>
  - b. the Cancun Agreement, under which States agreed to establish a “work programme in order to consider . . . approaches to address loss and damage associated with climate change impacts in

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<sup>738</sup> The San Jose Declaration, paragraph 45, Annex 356.

<sup>739</sup> Bali Action Plan, Decision 1/CP.13, Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007, Addendum Part Two: Action taken by the Conference of the Parties at its thirteenth session, FCCC/CP/2007/6/Add.1, 14 March 2008, paragraph 1(c)(iii), Annex 286. *See also* paragraph 1(c)(ii).

<sup>740</sup> Bali Action Plan, Decision 1/CP.13, Report of the Conference of the Parties on its thirteenth session, held in Bali from 3 to 15 December 2007, Addendum Part Two: Action taken by the Conference of the Parties at its thirteenth session, FCCC/CP/2007/6/Add.1, 14 March 2008, para 1(c)(iii), Annex 286.

developing countries that are particularly vulnerable to the adverse effects of climate change”;<sup>741</sup>

- c. the Warsaw International Mechanism associated with Climate Change Impacts was created in 2013 “to address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change”;<sup>742</sup> and
- d. the Conference of the Parties in Dubai in December 2023 acknowledged:

the fiscal constraints and increasing costs to adapt to the adverse effects of climate change and, in this context, *reiterates* the need for public and grant-based resources for adaptation in developing country Parties, especially those that are

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<sup>741</sup> The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Decision 1/CP.16, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010, Addendum, Part Two: Action taken by the Conference of the Parties at its sixteenth session, FCCC/CP/2010/7/Add.1, 15 March 2011, paragraphs 26 and 25 (“Recognizes the need to strengthen international cooperation and expertise in order to understand and reduce loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow onset events” (footnote omitted)), Annex 287.

<sup>742</sup> Warsaw international mechanism for loss and damage associated with climate change impact, Decision 2/CP.19, Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013 Addendum Part two: Action taken by the Conference of the Parties at its nineteenth session, FCCC/CP/2013/10/Add.1, 31 January 2014, paragraph 1, Annex 290. The same decision that established the Warsaw International Mechanism also called on States “to work through the United Nations and other relevant institutions, specialized agencies and processes...to promote coherence at all levels in approaches relevant to addressing loss and damage” (Warsaw international mechanism for loss and damage associated with climate change impact, Decision 2/CP.19, Report of the Conference of the Parties on its nineteenth session, held in Warsaw from 11 to 23 November 2013 Addendum Part two: Action taken by the Conference of the Parties at its nineteenth session, FCCC/CP/2013/10/Add.1, 31 January 2014, paragraph 12, Annex 290).

particularly vulnerable and have significant capacity constraints, such as the least developed countries and small island developing States.<sup>743</sup>

(Emphasis in the original.)

322. Moreover, it is in accordance with the international law principle of equity and the principle of fairness that reparations, compensation and other resources to address the adverse effects of climate change take account of the particular circumstances of small island States. As **Section IV.B** above describes, these States are especially vulnerable to the negative impact of climate change and suffer its disastrous consequences most greatly and immediately. Yet, they have relatively not contributed nearly in the same proportion to the occurrence of climate change. As such, it is fair and equitable that the needs of small island States in addressing climate change are considered appropriately.

(ii) Full reparation and assistance must take account of the particular situations of peoples and individuals of present and future generations affected by the adverse effects of climate change

323. As discussed in **Section IV**, certain peoples and individuals are particularly affected by the adverse effects of climate change. The international community recognises that any reparation and compensation must take account of the particular situations of those affected by these adverse effects. This Section explains, in turn, that States must take account of present generations and also future generations for full reparation and compensation.

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<sup>743</sup> Long-term climate finance, Draft decision -/CP.28, Advance unedited version, UN Climate Change Conference – United Arab Emirates Nov/Dec 2023, UNFCCC, paragraph 12, Annex 361.

324. First, full reparation and compensation must take account of the particular situations of peoples and individuals of present generations. States must take account of all damage arising from their actions, even where that damage is either to their own peoples and individuals or those of other States.
325. Environmental problems may be felt with greater intensity by certain groups in vulnerable situations, such as indigenous peoples and communities that depend economically or for their survival on environmental resources.<sup>744</sup> Therefore, States must confront such vulnerabilities based on the principles of equality and non-discrimination.<sup>745</sup>
326. States commit in international conventions to take account of peoples and individuals affected by the adverse effects of climate change. For example:
- a. under the Paris Agreement, 194 States and the European Union agree that they:
- should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality,

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<sup>744</sup> See, e.g., *Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina*, paragraph 209, Annex 380 (citing the IACtHR 2017 Advisory Opinion, Annex 372).

<sup>745</sup> See, e.g., *Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina*, paragraph 209, Annex 380 (citing the IACtHR 2017 Advisory Opinion, Annex 372).

empowerment of women and intergenerational equity.<sup>746</sup>

- b. under the Stockholm Convention on Persistent Organic Pollutants, 184 States recognise the need to take account of the particular circumstances of women and indigenous peoples, acknowledging:

the health concerns, especially in developing countries, resulting from local exposure to persistent organic pollutants, in particular impacts upon women and, through them, upon future generations,

[and] that the Arctic ecosystems and indigenous communities are particularly at risk because of the biomagnification of persistent organic pollutants and that contamination of their traditional foods is a public health issue.<sup>747</sup>

- c. under the Convention on Biological Diversity, 195 States and the European Union acknowledge the particular circumstances of women and indigenous peoples:

the close and traditional dependence of many indigenous and local communities embodying traditional lifestyles on biological resources, and the desirability of sharing equitably benefits arising from the use of traditional knowledge, innovations and practices relevant to the conservation of biological diversity and the sustainable use of its components,

. . . also the vital role that women play in the conservation and sustainable use of biological diversity and affirming the need for the full

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<sup>746</sup> Paris Agreement, page 2, Preamble, recital 11, Annex 156.

<sup>747</sup> Stockholm Convention on Persistent Organic Pollutants, 22 May 2001, 2256 UNTS 119, Preamble, recitals 2-3, Annex 138.

participation of women at all levels of policy-making and implementation for biological diversity conservation.<sup>748</sup>

- d. under the Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, 14 States recognise that, in giving effect to the duty to cooperate in the establishment of conservation and management measures for fishery resources:

the members of the Commission shall take into account the special requirements of developing State Contracting Parties in the region, in particular the least developed among them and small island developing States, and territories and possessions in the region, in particular

. . . the need to avoid adverse impacts on, and ensure access to fisheries by, subsistence, small-scale and artisanal fishers and women fish workers, as well as indigenous people in such developing States Parties, and territories and possessions.<sup>749</sup>

327. In addition, States have agreed during meetings on climate change impacts to take account of individuals and peoples affected by the adverse effects of climate change. For example:

- a. the Conference of the Parties in Doha acknowledged that:

the further work to advance the understanding of and expertise on loss and damage . . . [h]ow loss and damage associated with the adverse effects of climate change affects those

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<sup>748</sup> Convention on Biological Diversity, Preamble, recitals 12-13, Annex 113.

<sup>749</sup> Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean, 14 November 2009, 2899 UNTS 211, Article 19(2), Annex 148.



segments of the population that are already vulnerable owing to geography, gender, age, indigenous or minority status, or disability, and how the implementation of approaches to address loss and damage can benefit those segments of the population.<sup>750</sup>

- b. in the Cancun Agreements, the Conference of the Parties acknowledged that:

responses to climate change should be coordinated with social and economic development . . . taking fully into account the legitimate priority needs of developing country Parties . . . and the consequences for vulnerable groups, in particular women and children”<sup>751</sup> and requested developed countries Parties “to implement urgent, short-, medium- and long-term adaptation actions, plans, programmes and projects at the local, national, subregional and regional levels, in and across different economic and social sectors and ecosystems, as well as to undertake the activities.<sup>752</sup>

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<sup>750</sup> Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity, Decision 3/CP.18, Report of the Conference of the Parties on its eighteenth session, held in Doha from 26 November to 8 December 2012, FCCC/CP/2012/8/Add.1, 28 February 2018, paragraph 7(a)(iii), Annex 303.

<sup>751</sup> The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Decision 1/CP.16, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010, FCCC/CP/2010/7/Add.1, 15 March 2011, Preamble to section on social and economic response measures, recital 3, Annex 287. The Paris Agreement also requires that adaptation action should “tak[e] into consideration vulnerable groups, communities and ecosystems” (Paris Agreement, Article 7(5), Annex 156).

<sup>752</sup> The Cancun Agreements: Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention, Decision 1/CP.16, Report of the Conference of the Parties on its sixteenth session, held in Cancun from 29 November to 10 December 2010, FCCC/CP/2010/7/Add.1, 15 March 2011, paragraph 18, Annex 287.

- c. under the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts, the Conference of the Parties recognised that technical assistance through the network is to be developed through an:

inclusive and country-driven process, taking into account the needs of vulnerable people, indigenous peoples and local communities.<sup>753</sup>

- d. in the Glasgow Pact, the Conference of the Parties recognised the:

important role of indigenous peoples, local communities and civil society, including youth and children, in addressing and responding to climate change and highlighting the urgent need for multilevel and cooperative action” and acknowledged that “climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity.<sup>754</sup>

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<sup>753</sup> Santiago network for averting, minimizing and addressing loss and damage associated with the adverse effects of climate change under the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts, Decision 11/CP.27, Report of the Conference of the Parties on its twenty-seventh session, held in Sharm el-Sheikh from 6 to 20 November 2022, FCCC/CP/2022/10/Add.1, 17 March 2023, paragraph 26, Annex 314.

<sup>754</sup> Glasgow Climate Pact, Decision 1/CP.26, Report of the Conference of the Parties on its twenty-sixth session, held in Glasgow from 31 October to 13 November 2021, FCCC/CP/2021/12/Add.1, 8 March 2022, Preamble, recitals 9, 6, Annex 309.

328. This is reinforced by human rights and indigenous rights obligations to provide effective remedies to peoples and individuals. As discussed in **Section VI.B**, States recognise that there is a link between the state of the environment and the fulfilment of human rights, including the rights of indigenous peoples.<sup>755</sup> This is why treaty bodies, including those whose decisions are binding on States, interpret human rights as including the duty to take account of the specific situations of those with greater vulnerabilities to climate change effects.<sup>756</sup> Similarly, as 173 States party to the International Covenant on Civil and Political Rights agree, all peoples have the right to self-determination and “[i]n no case may a people be deprived of its own means of subsistence.”<sup>757</sup> This requires States to take positive actions to realise this right, even outside a State’s

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<sup>755</sup> See “General Comment No. 21 (2009) – Right of everyone to take part in cultural life (Article 15, paragraph 1a of the Covenant on Economic, Social and Cultural Rights”, E/C.12/GC/21, *UN Committee on Economic, Social and Cultural Rights*, 21 December 2009, paragraph 3, Annex 448.

<sup>756</sup> See, e.g., paragraph 162. There are cases concerning the rights of those vulnerable to the effects of climate change currently pending before the ECtHR (see “Factsheet – Climate change”, *European Court of Human Rights*, January 2024, Annex 509). See also 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, HRI/2019/1, 14 May 2020, paragraph 3, Annex 485. See further UN Human Rights Council Resolution 10/4, 25 March 2009, Preamble, recital 8 (“Recognizing that while these implications affect individuals and communities around the world, the effects of climate change will be felt most acutely by those segments of the population who are already in vulnerable situations owing to factors such as geography, poverty, gender, age, indigenous or minority status and disability”), Annex 222; IACtHR 2017 Advisory Opinion, paragraph 67, Annex 372 (“[i]t has been recognized that environmental damage will be experienced with greater force in the sectors of the population that are already in a vulnerable situation . . . Various human rights bodies have recognized that indigenous peoples, children, people living in extreme poverty, minorities, and people with disabilities, among others, are groups that are especially vulnerable to environmental damage, and have also recognized the differentiated impact that it has on women”).

<sup>757</sup> International Covenant on Civil and Political Rights, 16 December 1966, 999 UNTS 171, Article 1(2), Annex 74.

jurisdiction.<sup>758</sup> States must also realise the rights of minorities, such as not denying their right “in community with the other members of their group, to enjoy their own culture, to profess and practice their own religion, or to use their own language.”<sup>759</sup> Indigenous peoples are minorities whose lives are often closely associated with territory and the use of its resources, including traditional activities, such as fishing or hunting.<sup>760</sup> Their rights to subsistence and cultural identity may be adversely affected by the effects of climate change.<sup>761</sup> For example, in *Billy v Australia*, the UN Human Rights Committee observed that:

the authors – as members of peoples who are the longstanding inhabitants of traditional lands consisting of small, low-lying islands that presumably offer scant opportunities for safe internal relocation – are highly exposed to adverse climate change impacts. It is uncontested that the authors’ lives and cultures are highly dependent on the availability of the limited natural resources to which they have access, and on the predictability of the natural phenomena that surround them. The Committee observes that in light of their limited resources and location, the authors would likely be unable to finance adequate adaptation measures themselves, on an individual or community level, to adjust to actual or expected climate and its effects in order to moderate harm. The Committee therefore considers that the authors are among those who are extremely vulnerable to intensely

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<sup>758</sup> See “General Comment No. 12 (1984) – Article 1 (Right to Self-determination), The Right to Self-determination of Peoples”, HRI/GEN/1/Rev.9 (Vol. I), *UN Human Rights Committee*, 13 March 1984, paragraph 6, Annex 440.

<sup>759</sup> International Covenant on Civil and Political Rights, 16 December 1966, 999 UNTS 171, Article 27, Annex 74.

<sup>760</sup> See *Billy v Australia*, paragraph 8.13, Annex 444.

<sup>761</sup> See, e.g., *Billy v Australia*, paragraph 8.14, Annex 444; “Views adopted by the Committee under article 5 (4) of the Optional Protocol, concerning communication”, No. 2552/2015, CCPR/C/132/D/2552/2015, *UN Human Rights Committee*, 21 September 2022, paragraph 8.6, Annex 443.

experiencing severely disruptive climate change impacts.<sup>762</sup>

329. States universally accept that “[e]veryone has the right to an effective remedy by the competent national tribunals for acts violating the fundamental rights granted him by the constitution or by law.”<sup>763</sup> Therefore, States commit to provide effective remedies under international conventions and declarations:

- a. under the European Convention on Human Rights, 46 States agree that “[e]veryone whose rights and freedoms as set forth in this Convention are violated shall have an effective remedy before a national authority notwithstanding that the violation has been committed by persons acting in an official capacity.”<sup>764</sup> The ECtHR has clarified that an effective remedy is one that allows a person to “enforce the substance of the Convention rights . . . in whatever form they may happen to be secured in the domestic legal order.”<sup>765</sup> The remedy must, for example, take account of the personal circumstances of the aggrieved;<sup>766</sup>
- b. under the American Convention on Human Rights, 25 States agree that the right to simple and proper recourse should be available

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<sup>762</sup> *Billy v Australia*, paragraph 8.13, Annex 444. See also *Billy v Australia*, paragraph 8.14, Annex 444.

<sup>763</sup> Universal Declaration of Human Rights, Article 8, Annex 208.

<sup>764</sup> European Convention on Human Rights, Article 13, Annex 69.

<sup>765</sup> See *Hatton v United Kingdom* [2003] ECHR 338, paragraph 140, Annex 431. See also *Vilvarajah and Others v United Kingdom* [1991] ECHR 47, paragraphs 117-127, Annex 432.

<sup>766</sup> See European Convention on Human Rights, Article 35(1), Annex 69; “Guide on Article 13 of the European Convention on Human Rights”, *European Court of Human Rights Registry*, 31 August 2022, paragraph 43, Annex 508; *Glas Nadezhda EOOD and Elenkov v Bulgaria* [2007] ECHR 804, paragraph 69, Annex 427.

“even though such violation may have been committed by persons acting in the course of their official duties.”<sup>767</sup> The IACtHR has decided that “the absence of an effective remedy for violations of the rights recognized by the Convention is itself a violation of the Convention”<sup>768</sup> and that the right to an effective remedy is linked to the State’s general duty to ensure and protect the enjoyment of human rights.<sup>769</sup> The IACtHR has already recognised that environmental problems may be felt with greater intensity by certain groups in vulnerable situations, such as indigenous peoples and communities that depend economically for their survival on environmental resources.<sup>770</sup> Therefore, States must confront such vulnerabilities based on the principles of equality and non-discrimination;<sup>771</sup>

- c. under the African Charter on Human and Peoples’ Rights, 54 States acknowledge that they have a “duty to guarantee the independence of the Courts and shall allow the establishment and improvement of appropriate national institutions entrusted with the

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<sup>767</sup> American Convention on Human Rights, Article 25(1), Annex 62.

<sup>768</sup> *Judicial Guarantees in States of Emergency (Arts. 27(2), 25 and (8) American Convention on Human Rights)*. Advisory Opinion OC-9/87 of October 6, 1987. Series A No. 9, paragraph 24, Annex 373.

<sup>769</sup> *See Case of Ivcher Bronstein v Peru. Merits, Reparations and Costs*. Judgment of February 6, 2001. Series C No. 74, paragraph 135, Annex 374.

<sup>770</sup> *See Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina*, paragraph 209, Annex 380 (citing the IACtHR 2017 Advisory Opinion, Annex 372).

<sup>771</sup> *See Case of the Indigenous Communities of the Lhaka Honhat Association (Our Land) v Argentina*, paragraph 209, Annex 380 (citing the IACtHR 2017 Advisory Opinion, Annex 372).

promotion and protection of the rights and freedoms guaranteed by the present Charter”;<sup>772</sup>

- d. under the ASEAN Human Rights Declaration, 10 countries agree that “[e]very person has the right to an effective and enforceable remedy, to be determined by a court or other competent authorities, for acts violating the rights granted to that person by the constitution or by law”;<sup>773</sup>
- e. under the Charter of Fundamental Rights of the European Union, all 27 member States of the European Union agree that there should be a “[r]ight to an effective remedy and to a fair trial – this includes a right to legal aid where you are deemed to lack sufficient resources”;<sup>774</sup> and
- f. under the Arab Charter on Human Rights, 22 States undertake “to ensure that any person whose rights or freedoms as herein recognized are violated shall have an effective remedy, notwithstanding that the violation has been committed by persons acting in an official capacity.”<sup>775</sup>

330. Therefore, States must take account of these vulnerabilities of present generations of individuals and peoples when providing full reparation and compensation.

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<sup>772</sup> African Charter on Human and Peoples’ Rights, Article 26, Annex 92.

<sup>773</sup> ASEAN Human Rights Declaration (AHRD) and the Phnom Penh Statement on the Adoption of the AHRD, 18 November 2012, paragraph 5, Annex 289.

<sup>774</sup> Charter of Fundamental Rights of the European Union, OJ C 364/1, 2 October 2000, Article 47, Annex 136.

<sup>775</sup> Arab Charter on Human Rights, CHR/NONE/2004/40/Rev.1, 22 May 2004, Article 23, Annex 146.

331. Second, full reparation and compensation must also take account of the particular situations of peoples and individuals of future generations.
332. Late Judge Christopher Weeramantry, previous Vice-President of this Court, in his separate opinion in *Gabčíkovo-Nagymaros*, discussed the ancient origins of the principle of intergenerational equity.<sup>776</sup>
333. This Court has already recognised the relevance of future generations in the *Nuclear Weapons Advisory Opinion*, stating that nuclear weapons have the “potential to destroy all civilization and the entire ecosystem of the planet” and that their use “would be a serious danger to future generations.”<sup>777</sup> Therefore, this Court recognised it would be “imperative” for it to take account of the ability of nuclear weapons “to cause damage to generations to come.”<sup>778</sup> It also noted that “the environment is not an abstraction but represents the living space, the quality of life and the very health of human beings, including generations unborn.”<sup>779</sup>
334. Late Judge Christopher Weeramantry and late Judge Antônio Augusto Cançado Trindade in multiple cases of this Court underscored the rights of future generations and recognised the existence of an international law principle of intergenerational equity.<sup>780</sup> For example, Judge Christopher

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<sup>776</sup> See *Gabčíkovo-Nagymaros*, Separate Opinion of Vice-President Weeramantry, page 110, Annex 395.

<sup>777</sup> *Nuclear Weapons Advisory Opinion*, paragraph 35, Annex 392.

<sup>778</sup> *Nuclear Weapons Advisory Opinion*, paragraph 36, Annex 392.

<sup>779</sup> *Nuclear Weapons Advisory Opinion*, paragraph 29, Annex 392. The ICJ also referred to these statements and underscored their importance in a subsequent case (see *Gabčíkovo-Nagymaros*, paragraph 53, Annex 394).

<sup>780</sup> See *Maritime delimitation in the Area Between Greenland and Jan Mayen (Denmark v Norway)*, Judgment of 14 June 1993, *I.C.J. Reports 1993*, p. 38, Separate Opinion of



Weeramantry's separate opinion in *Gabčíkovo-Nagymaros* noted that ancient traditions had already recognised the idea of the rights of future generations being served through the harmonisation of human development work with respect to the natural environment.<sup>781</sup> In his dissenting opinion in the *Nuclear Weapons Advisory Opinion*, he added that the Court "must, in its jurisprudence, pay due recognition to the rights of future generations" given that these rights "have passed the stage when they were merely an embryonic right struggling for recognition" and "have woven themselves into international law through major treaties, through juristic opinion and through general principles of law recognised by civilized nations."<sup>782</sup> By 2010, Judge Antônio Augusto Cançado Trindade declared that "it can hardly be doubted that the acknowledgement of inter-generational equity forms part of conventional wisdom in International Environmental Law."<sup>783</sup>

335. In fact, under the UNFCCC, 197 States and the European Union affirm that they are "[d]etermined to protect the climate system for present and future generations."<sup>784</sup> Under the Paris Agreement, 194 States and the European Union acknowledge that climate change is a concern of humankind and they "should, when taking action to address climate

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Judge Weeramantry, Annex 391; *Nuclear Weapons Advisory Opinion*, Dissenting Opinion of Judge Weeramantry, page 233, Annex 393; *Pulp Mills*, Separate opinion of Judge Cançado Trindade, paragraph 122, Annex 401; *Whaling in the Antarctic (Australia v Japan: New Zealand intervening)*, Judgment of 31 March 2014, I.C.J Reports 2014, p. 226, Separate Opinion of Judge Cançado Trindade, paragraph 60, Annex 405.

<sup>781</sup> See *Gabčíkovo-Nagymaros*, Separate Opinion of Vice-President Weeramantry, page 106, Annex 395.

<sup>782</sup> *Nuclear Weapons Advisory Opinion*, Dissenting Opinion of Judge Weeramantry, page 233, Annex 393.

<sup>783</sup> *Pulp Mills*, Separate opinion of Judge Cançado Trindade, paragraph 122, Annex 401.

<sup>784</sup> UNFCCC, Article 3, Annex 112.

change, respect, promote and consider their respective obligations on human rights . . . and intergenerational equity.”<sup>785</sup> Many other international conventions refer to the requirement to consider and protect future generations from adverse climate change effects.<sup>786</sup>

336. In addition, States acknowledge the need to take account of the interests of future generations, as a general practice accepted by law, through declarations, joint statements and charters.<sup>787</sup> They also do so through UN General Assembly resolutions.<sup>788</sup> For example, by UN General Assembly Resolution 35/8 in 1980, UN Member States “proclaim[ed] the historical responsibility of States for the preservation of nature for present and future generations” and urged States to take specific actions to preserve the environment “in the interests of present and future generations.”<sup>789</sup> In

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<sup>785</sup> Paris Agreement, Recitals, Annex 156.

<sup>786</sup> See, e.g., International Convention for the Regulation of Whaling, 2 December 1946, 161 UNTS 72, Preamble, Annex 68; African Convention on the Conservation of Nature and Natural Resources, 15 September 1968, 1001 UNTS 3, Preamble, Annex 76; Convention for the Protection of the World Cultural and Natural Heritage, 16 November 1972, 1037 UNTS 151, Article 4, Annex 81; Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Article 2(5)(c), Annex 109; UNCCD, Preamble, Annex 123; Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters “Aarhus Convention”, 25 June 1998, 2161 UNTS 447, Preamble and Article 1, Annex 132; Convention on International Trade in Endangered Species of Wild Fauna and Flora, 3 March 1973, 993 UNTS 243, Preamble, Annex 83; Convention on Biological Diversity, Preamble and Article 2, Annex 113; UNFCCC, Preamble, Article 3, Annex 112; Inter-American Democratic Charter, AG/RES. 1838 (XXXI-O/01), 11 September 2001, Article 15, Annex 275.

<sup>787</sup> See, e.g., UNESCO General Conference, Declaration on the Responsibilities of the Present Generations Towards Future Generations, Resolution 44, 29 C/Resolutions + CORR, 12 November 1997, Annex 218; UN General Assembly Resolution 37/7 (1982), A/RES/37/7, 29 October 1982, “World Charter for Nature”, Preamble, Annex 213; UN General Assembly Resolution 3281(XXIX) (1974), A/9946, 12 December 1974, Article 30, Annex 211; Stockholm Declaration, Principles 1 and 2, Annex 469; Rio Declaration, Principle 3, Annex 281.

<sup>788</sup> See, e.g., UN General Assembly Resolution 43/53, Preamble, Annex 215.

<sup>789</sup> UN General Assembly Resolution 35/8 (1980), A/RES/35/8, 30 October 1980, paragraphs 1, 3, Annex 212.

addition, 159 UN Member States voted in favour of a resolution committing themselves to protect and preserve the health, productivity and resilience of oceans and marine ecosystems, to maintain their biodiversity, enabling their conservation and sustainable use for present and future generations.<sup>790</sup>

337. Further, the requirement to take account of future generations is supported by State practice through legislation, constitutions and national court decisions.<sup>791</sup> For example:
- a. the German Constitutional Court ruled that the Basic Law of Germany requires Germany to take climate action for the benefit of future generations and gives rise to an objective duty to protect

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<sup>790</sup> See UN General Assembly Resolution 77/248 (2022), A/RES/77/248, 30 December 2022, paragraph 207, Annex 231.

<sup>791</sup> See, e.g., Well-being of Future Generations (Wales) Act 2015, 29 April 2015, Annex 259; the UK is also in the process of discussing equivalent legislation (see Wellbeing of Future Generations Bill [HL], Parliamentary Bills, *UK Parliament*, 8 February 2022, Annex 260); Constitution of the Republic of South Africa, 8 May 1996, as amended on 11 October 1996, Article 24 (b) (“[e]veryone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures”), Annex 253; Constitution of the Federative Republic of Brazil, 5 October 1988 as amended from time to time through 2022 (English translation), Article 225 (“[t]he Government and the community have a duty to defend and to preserve the environment for present and future generations”), Annex 249; Constitution of the Kingdom of Bhutan, 18 July 2008, Article 5 (“[e]very Bhutanese is a trustee of the Kingdom’s natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation”), Annex 257.

the life and health of future generations against risks posed by climate change;<sup>792</sup>

- b. the Dutch Supreme Court decided that the Netherlands must reduce its greenhouse gas emissions even if the risk to the welfare of Dutch residents will only materialise in a few decades;<sup>793</sup>
- c. the Nepalese Supreme Court considered it imperative to address climate justice concerns for both current and future generations (invoking the principle of intergenerational equity) and required the State to enact comprehensive climate legislation that aligns with its international legal commitments;<sup>794</sup> and
- d. the Colombian Supreme Court considered that Amazon deforestation infringes the intergenerational equity principle and highlighted the duty of authorities to respond to this problem by adopting corrective and palliative measures.<sup>795</sup>

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<sup>792</sup> See *Neubauer v Germany*, Order of the First Senate of 24 March 2021, German Federal Constitutional Court – 1 BvR 2656/18, operative part of decision and, e.g., paragraphs 146, 197, Annex 461.

<sup>793</sup> See *Urgenda Foundation v the State of the Netherlands*, Judgment of the Supreme Court of the Netherlands of 20 December 2019, paragraph 5.6.2, Annex 460. See also *Milieudefensie v Royal Dutch Shell*, Judgment of the Hague District Court of 26 May 2021, paragraph 4.2.4, Annex 462.

<sup>794</sup> See *Shrestha v Office of the Prime Minister et al.*, Order of the Nepali Supreme Court of 25 December 2018, NKP Part 61, Vol. 3, page 11, paragraph 2, Annex 459.

<sup>795</sup> See *Future Generations v Ministry of Environment and Others*, Sentence 4360-2018 of the Supreme Court of Justice of Colombia of 5 April 2018, paragraphs 11.2, 11.3, Annex 458.

338. Judicial decisions of the IACtHR support the requirement to take account of future generations.<sup>796</sup> The IACtHR has decided that the right to a healthy environment is a universal value that is owed to both present and future generations.<sup>797</sup> It has also recognised the interests of future generations, noting that indigenous communities’ relations with the land are a “material and spiritual element which they must fully enjoy, even to preserve their cultural legacy and transmit it to future generations.”<sup>798</sup> In addition, the IACHR (another body in the OAS system) recognises that “[b]ased on the principle of intergenerational equity, all children and adolescents have the right to enjoy a healthy environment and to live on a planet equal to or in better conditions than their ancestors.”<sup>799</sup>
339. Teachings of highly qualified publicists support the requirement for the principle of intergenerational equity to be taken into account.<sup>800</sup> Professor

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<sup>796</sup> There are cases concerning the rights of future generations with respect to climate change action currently pending before the ECtHR (see “Factsheet – Climate change”, *European Court of Human Rights*, January 2024, Annex 509).

<sup>797</sup> See IACtHR 2017 Advisory Opinion, paragraph 59, Annex 372.

<sup>798</sup> See *Case of the Mayagna (Sumo) Awas Tingni Community v Nicaragua. Merits, Reparations and Costs*. Judgment of August 31, 2001. Series C No. 79, paragraph 149, Annex 375.

<sup>799</sup> “Climate Emergency: Scope of Inter-American Human Rights Obligations”, Resolution 3/2021, Inter-American Commission on Human Rights, 31 December 2021, paragraph 21, Annex 273. The resolution also recognises that “climate change is one of the greatest threats to the full enjoyment and exercise of human rights of present and future generations, to the health of ecosystems and all species that inhabit the planet” (“Climate Emergency: Scope of Inter-American Human Rights Obligations”, Resolution 3/2021, Inter-American Commission on Human Rights, 31 December 2021, page 8).

<sup>800</sup> See, e.g., A. Venn, *Social Justice and Climate Change*, in *MANAGING GLOBAL WARMING*, ed. T. Letcher (Academic Press, 2019), pages 711-728, Annex 529; C.Y. Keong, *Global Environmental Sustainability: Case Studies and Analysis of the United Nations’ Journey toward Sustainable Development* (Elsevier, 2020), page 27, Annex 532; A. Opal & J. Nathwani, *Global energy transition risks: Evaluating the intergenerational equity of energy transition costs*, in *ENERGY DEMOCRACIES FOR SUSTAINABLE FUTURES* ed. M. Nadesan et al. (Academic Press, 2023), pages 301-310, Annex 543; E.B. Weiss, *In Fairness to Future Generations: International Law, Common*

Dire Tladi considers that the principle of intergenerational equity requires the protection of the environment for future generations.<sup>801</sup> The Institut de Droit International recognised that the principle of intergenerational equity influences responsibility and liability.<sup>802</sup> The Maastricht Principles, adopted by scholars such as Professor Sandra Liebenberg and Dr Margaretha Wewerinke-Singh and endorsed widely by publicists such as David R. Boyd (UN Special Rapporteur on Human Rights and the Environment) and Soledad García Muñoz (former IACHR’s Special Rapporteur on Economic, Social, Cultural, and Environmental Rights), identify intragenerational and intergenerational human rights obligations of States to preserve the environment for future generations.<sup>803</sup>

340. As a final observation, it is not permissible for a State to avoid its obligations of redress, repair and mitigation (as set forth in this written statement) on purported grounds that doing so would cause inconvenience to its population or be politically difficult. Notably, the ILC did not include an exception to the Articles of State Responsibility to take into

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*Patrimony and Intergenerational Equity* (United Nations University, 1989), page 293 (“all members of each generation of human beings, as a species, inherit a natural and cultural patrimony from past generations, both as beneficiaries and as custodians under the duty to pass on this heritage to future generations. As a central point of this theory the right of each generation to benefit from this natural and cultural heritage is inseparably coupled with the obligation to use this heritage in such a manner that it can be passed on to future generations in no worse condition than it was received from past generations”), Annex 516.

<sup>801</sup> See D. Tladi, “Of Course for Humans: A Contextual Defence of Intergenerational Equity”, *South Africa Journal of Environmental Law and Policy*, 2002, pp. 177-186, page 184, Annex 519.

<sup>802</sup> See Responsibility and Liability under International Law for Environmental Damage, page 2, Annex 518.

<sup>803</sup> See “The Maastricht Principles on the Human Rights of Future Generations”, *Maastricht Centre for Human Rights*, 3 February 2023, principle 7(a) and 8(b), Annex 550.

account the economic capacity of a State.<sup>804</sup> This is consistent with this Court’s own approach. In the *Armed Activities Reparations Judgment*, this Court considered the question of whether it should take into account the financial burden on Uganda only after it established the amount of reparations payable by Uganda<sup>805</sup> – and also noted that “questions of reparation are often resolved through negotiations between the parties concerned.”<sup>806</sup>

341. Furthermore, a State that seeks to excuse its obligation to provide redress on the basis of inconvenience must (a) not only provide proof of that fact *onus probandi incumbit actori*,<sup>807</sup> but also (b) provide sufficient proof demonstrating that redress would destitute its population – indeed, in the ILC’s view, to the stringent requirements of necessity.<sup>808</sup> This Court and the EECC similarly both considered they could only reduce reparations where the ultimate financial burden imposed on the responsible State would be so excessive, given its economic condition and ability to pay, as to compromise its ability to meet its peoples’ “basic needs” under human rights obligations applicable to that State.<sup>809</sup>

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<sup>804</sup> See Third Report on State responsibility by James Crawford, Special Rapporteur, A/CN.4/507, *International Law Commission*, 15 March 2000, paragraphs 38, 41, Annex 492.

<sup>805</sup> *Armed Activities Reparations Judgment*, paragraphs 110, 405-407, Annex 409.

<sup>806</sup> *Armed Activities Reparations Judgment*, paragraph 67, Annex 409.

<sup>807</sup> See *Pulp Mills*, paragraph 162, Annex 400.

<sup>808</sup> See Third Report on State responsibility by James Crawford, Special Rapporteur, A/CN.4/507, *International Law Commission*, 15 March 2000, paragraphs 38, 42, Annex 492.

<sup>809</sup> See *Armed Activities Reparations Judgment*, paragraph 110, Annex 409; *Eritrea-Ethiopia Final Award*, paragraph 22, Annex 435.

342. Indeed, it would be virtually impossible for any State, much less one that has developed through anthropogenic gas emissions, to ever prove the destitution of its population if it satisfied its obligations of redress and reparation for climate change. The reason for this is simple. All States are impacted by climate change. The costs to any State of failing to provide full redress for climate change will be, inevitably, far more severe to its own populations than any supposed short-term burden of doing so. As such, political inconvenience must bow to physical reality: the costs of failing to act on climate change far exceed the costs of doing so.



## VIII. CONCLUSION

343. For the reasons described above, Barbados respectfully invites the Court to make an advisory opinion:

- a. in answer to the first question (What are the obligations of States under international law to ensure protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases for States and for present and future generations?), that States are obliged under international law to:
  - i. ensure that activities within their jurisdiction and control do not harm the environment of other States;
  - ii. protect and preserve their own internal environment and their own peoples from activities within their jurisdiction and control;
  - iii. protect and preserve the climate system and the other parts of the environment in areas beyond national control;
  - iv. mitigate and repair harm already caused or that will be caused by anthropogenic greenhouse gas emissions, whether or not they have initially caused such harm;
  - v. cooperate to protect and preserve the climate system and other parts of the environment; and
  - vi. pay for loss and damage caused by their anthropogenic gas emissions;

- b. in answer to the second question (what are the legal consequences under these obligations for States where they, by their acts and omissions, have caused significant harm to the climate system and other parts of the environment, with respect to (i) States, including, in particular, small island developing States, which due to their geographical circumstances and level of development, are injured or specially affected by or are particularly vulnerable to the adverse effects of climate change; (ii) peoples and individuals of the present and future generations affected by the adverse effects of climate change), that States are obliged under international law to:
- i. provide full monetary reparation to other States for climate change damage caused by their wrongful acts in breach of the obligations;
  - ii. provide full monetary reparation to other States for harm attributable to them, in whole or in part;
  - iii. offer other redress for damage due to climate change by *inter alia* contributing to climate change funds, offering other financial resources and ensuring transfers of technology; and
  - iv. take account of the circumstances of affected States and peoples, including in particular small island States that are particularly affected or vulnerable to the adverse effects of climate change as well as future generations, in order to fulfil the requirement to make full reparation and other assistance to address climate change.

22 March 2024

A handwritten signature in black ink that reads "François Jackman". The signature is written in a cursive style and is positioned above a horizontal dotted line.

Ambassador François Jackman, Ambassador and Permanent Representative,  
Permanent Mission of Barbados to the United Nations

Representative of Barbados

A handwritten signature in black ink that reads "Robert G. Volterra". The signature is written in a cursive style and is positioned above a horizontal dotted line.

Professor Robert G Volterra, Partner at Volterra Fietta and Visiting Professor of  
International Law at University College London

Co-Representative of Barbados