

INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA

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

**(CASE NO. 31)**

WRITTEN STATEMENT OF THE REPUBLIC OF RWANDA

17 JUNE 2023

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## CHAPTER 1 INTRODUCTION

### I. Overview

1. The Government of the Republic of Rwanda welcomes the request by the Commission of Small Island States on Climate Change and International Law (“**COSIS**” or the “**Commission**”) for an advisory opinion by the International Tribunal for the Law on the Sea (“**ITLOS**” or the “**Tribunal**”) on specific legal questions concerning the obligations of State Parties to the United Nations Convention on the Law of the Sea (“**UNCLOS**” or the “**Convention**”) in respect of climate change (“the **Request**”).<sup>1</sup>
2. Rwanda is mindful of, and motivated by, the shared global responsibility to protect and preserve the marine environment, and the pressing urgency of this task. Rwanda provides this submission in that context in order to assist the Tribunal, and as part of Rwanda’s leadership and collaborative engagement in respect of environmental matters generally and matters of marine pollution and climate change in particular.
3. Notwithstanding that – as a developing and landlocked State – it has contributed comparatively little to the degradation of the marine environment through anthropogenic pollution, Rwanda is among the States most vulnerable and most impacted by the effects of climate change. It is also keenly aware of its own responsibility to do its part to tackle this critical issue. If rapid corrective action is not taken urgently, further natural disasters caused by climate change are certain to occur with ever greater frequency across the world, including in Rwanda.
4. Equally, Rwanda recognises the imperative for genuine global cooperation in this context, and recalls that this must be based on established principles of environmental law, of which the key ones must be the “*polluter pays*” principle, as introduced by the OECD in 1972,<sup>2</sup> and the principle of common but differentiated responsibilities (“**CBDR**”).
5. The international community of States continues to work towards giving effect to these principles and mobilising to meet the scale and urgency of the climate crisis – including ongoing discussions as to technical and financial assistance, reparations and giving effect to the Loss and Damage Fund agreed at the UN Climate Change Conference COP27 in November 2022. Rwanda re-affirms its commitment to continuing to work constructively with its international partners on these important issues.
6. Rwanda’s efforts in this regard include the country’s partnership with those investing responsibly and sustainably in Rwanda, in line with the country’s 2011 Green Growth and Climate Resilience Strategy. This Strategy sets out the country’s actions and

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<sup>1</sup> Decisions of the Third Meeting of the Commission, 26 August 2022, para. 1.

<sup>2</sup> OECD, ‘Background note: The implementation of the Polluter Pays Principle’, March 2022, p. 5: “The Polluter Pays Principle is introduced by the OECD: it states that polluters should bear the expenses of carrying out the pollution prevention and control measures introduced by public authorities in order to ensure that the environment is in an acceptable state”.

priorities on climate change relating to both mitigation and adaptation and how these are to be mainstreamed within its broader economic plan, Vision 2050.

7. Meanwhile, Rwanda is of the view that expert and authoritative judicial guidance from the Tribunal in response to the specific questions put to it in respect of the obligations of States in the domain of the law of the sea could – and should – constitute a major step forward in translating the substantial scientific consensus as to the causes and negative effects of climate change (and the developing consensus between States), into an authoritative statement of the content of States’ obligations and responsibilities in this regard. This is a critical next step and Rwanda is pleased to have the opportunity to contribute this submission for the Tribunal’s consideration.

## **II. Global context**

8. The publications of the Intergovernmental Panel on Climate Change (“**IPCC**”) represent a comprehensive and authoritative assessment of the causes and impacts of climate change, prepared on behalf of, and as a critical resource for, the international community. The most recent report of the IPCC, its sixth, painted a bleak but not entirely hopeless picture of the immensity of the challenge that the international community collectively faces, including in respect of the degrading marine environment.
9. In presenting the National Statement on behalf of Rwanda at COP27, His Excellency President Paul Kagame reflected upon the findings of the Sixth IPCC Assessment Report, noting that they “show that a more sustainable future remains within our reach” even in the face of “growing evidence that the damage of global warming will soon become irreversible”.<sup>3</sup>
10. Rwanda shares the view that the scientific evidence concerning anthropogenic climate change, as articulated by the IPCC and other experts – including as to the impact on, and the role of, the ocean in particular – is indisputable.
11. Rwanda also agrees with COSIS that in considering the obligations of State Parties to UNCLOS, the Tribunal should focus on its Part XII, including in particular Articles 192 and 194 *et seq* – respectively, the obligation to protect and preserve the marine environment and obligations relating to the prevention, reduction and control of pollution of the marine environment.
12. Rwanda further submits that in delineating the scope of these obligations in the context of the present proceedings, the Tribunal should have regard not only to other provisions in UNCLOS – including the substantive provisions contained in Articles 197, 206, 207 and 212, and the various procedural requirements contained in Part XII – but also to other relevant applicable rules and principles of international law and specific obligations assumed by States under other international agreements which inform how the relevant obligations in UNCLOS are to be interpreted. Those applicable rules include, in particular, those under the United Nations Framework

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<sup>3</sup> Republic of Rwanda, National Statement by President Paul Kagame at COP 27, see [here](#) [accessed 5 June 2023].

Convention on Climate Change<sup>4</sup> (“UNFCCC”) and the 2015 Paris Agreement,<sup>5</sup> as well as relevant rules of customary international law, including those embodied in the 1992 Rio Declaration and the 1972 Stockholm Declaration. In this context, Rwanda notes the crucial and guiding role of the aforementioned CBDR principle, and the resulting specific obligations of developed States.

13. Crucially, these rules imply obligations on State Parties to adopt not only mitigation measures, but also measures of adaptation, both of which must be prioritised.

### III. Rwanda

14. Rwanda has a stake in the marine environment, notwithstanding – and indeed precisely because of – its landlocked, high-altitude, mountainous terrain with significant tropical rainforest coverage. Rwanda’s physical geography means the country is naturally vulnerable to flooding and wildfire – a factor recognised in the IPCC’s Sixth Assessment Report.<sup>6</sup> This vulnerability has increasingly become a feature of the country’s experience of climate change, with tragic consequences.
15. A further element of Rwanda’s interest in the present proceedings is its entitlement, as a landlocked country, to participate on an equitable basis in the exploitation of living resources in the exclusive economic zones of nearby coastal States, and its corresponding right of access to the sea. As a result, Rwanda shares (as do other landlocked States) the interests of coastal States in protecting and preserving the marine environment.
16. In this submission, Rwanda seeks to highlight and draw the Tribunal’s attention to the clear links between the impacts of climate change on the marine environment and impacts felt by landlocked States.
17. In addition, together with other developing States, Rwanda – in the words of the Organisation for Economic Co-operation and Development (“OECD”) – is “likely to bear the greatest burden of climate change in terms of loss of life and relative effect on investment and the economy”.<sup>7</sup>
18. Reflecting these geographic and development factors, Rwanda is part of the Landlocked Developing Countries (“LLDC”) group of States, and in 2024 will host the Third UN Conference on Landlocked Developing Countries. Rwanda does not seek to distract from the pressing needs of Small Island States. Rather, it supports the COSIS initiative, whilst additionally seeking to present a complementary perspective in its own capacity.

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<sup>4</sup> United Nations Framework Convention on Climate Change, May 9, 1992, S. Treaty Doc No. 102-38, 1771 U.N.T.S. 107.

<sup>5</sup> Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

<sup>6</sup> IPCC, Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II, to the Sixth Assessment Report, ‘Cross-Chapter Paper 5: Mountains’, (2022), p. 2281.

<sup>7</sup> OECD, ‘Poverty and Climate Change: Reducing the Vulnerability of the Poor through Adaptation’, p. 5, see [here](#) [accessed 6 June 2023].

19. This submission is also intended to cohere with and complement Rwanda’s other domestic and international policy contributions in the environmental field. These include, for example:
- (a) As part of maintaining Rwanda’s place as the cleanest country in Africa, and taking account of the fact that pollution originating in Rwanda will often end up in the ocean, thereby affecting other States, Rwanda banned plastic bags back in 2008 – among the very first States to take this step. Subsequently, in 2019, Rwanda banned the manufacture, import, use and sale of single-use plastics;
  - (b) Looking beyond its own borders, since 2021, Rwanda – together with the Republic of Peru – has taken a leading role in proposing a robust and legally binding global agreement to address plastic pollution, with a view to reducing the discharge of plastics into the environment. Negotiations on “the Rwanda-Peru treaty” continue, most recently with promising progress at the second session of the Intergovernmental Negotiating Committee on Plastic Pollution, held from 29 May to 2 June 2023;
  - (c) Rwanda hosted the 28<sup>th</sup> Meeting of the Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer, resulting in the Kigali Amendment, signed on 15 October 2016. Whereas the Montreal Protocol originally focused only on limiting chlorofluorocarbons (“CFCs”), the Kigali Amendment added hydrofluorocarbons (“HFCs”) to the list of restricted chemicals on the basis that they are greenhouse gases and so contribute to climate change.
  - (d) Rwanda is a co-sponsor of UN General Assembly (“UNGA”) Resolution 77/276, *Request for an advisory opinion of the International Court of Justice on the obligations of States in respect of climate change*, adopted on 29 March 2023,<sup>8</sup> which Rwanda regards as complementary to the present proceedings.
20. As His Excellency President Kagame told COP27, “Rwanda, like the rest of Africa, is ready to prioritise renewable energy”.<sup>9</sup> As with these other examples of Rwandan leadership and constructive engagement on environmental matters, through this submission Rwanda seeks to drive meaningful action on climate change and marine degradation while continuing to achieve development through green technology and sustainable and responsible investment. These two priorities are mutually reinforcing, rather than mutually exclusive: Rwanda is committed to meeting the energy needs of those within its jurisdiction while meeting its international obligations in respect of climate change, including those under UNCLOS.

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<sup>8</sup> UNGA, 77th Session, Resolution Adopted by the General Assembly on 29 March 2023, (4 April 2023), UN Doc A/RES/77/276, see [here](#) [accessed 13 June 2023].

<sup>9</sup> Republic of Rwanda, National Statement by President Paul Kagame at COP 27, see [here](#) [accessed 5 June 2023].

#### IV. Structure of the Written Statement

21. In this written statement, Rwanda:
- (a) Makes observations as to the Tribunal’s jurisdiction in the present proceedings to provide the advisory opinion requested (**Chapter 2**);
  - (b) Makes certain preliminary observations concerning the vulnerability of the marine environment to the principal drivers of climate change, in particular greenhouse gases (“**GHGs**”) and black carbon as pollutants of the ocean, and as to the broader environmental impacts of the deleterious effects of climate change on the marine environment (**Chapter 3**);
  - (c) Sets out its position as to the content of the legal obligations of States parties to UNCLOS under Part XII, namely:
    - i) The general overarching obligation to protect and preserve the marine environment regardless of the source, cause or vector of harm (**Chapter 4**);
    - ii) The specific obligation thereunder to prevent, reduce and control pollution of the marine environment through anthropological GHG emissions, (paragraph a of the COSIS Request) (**Chapter 5**); and
    - iii) The specific obligation to protect and preserve the marine environment from all effects of climate change that result in harm to the marine environment, (paragraph b of the COSIS Request) (**Chapter 6**); and
  - (d) Outlines key considerations for Rwanda as a developing landlocked State and concerning the specific additional responsibilities of developed States (**Chapter 7**).



## CHAPTER 2

### PRELIMINARY LEGAL ISSUES

#### I. The Jurisdiction of the Tribunal to render an Advisory Opinion

##### A. Overview

22. The jurisdiction of the Tribunal in the present proceedings to provide the Advisory Opinion requested by COSIS derives from the Tribunal's Statute, read in conjunction with the Agreement for the Establishment of the Commission (the "**COSIS Agreement**").

23. The relevant provision in the Statute is Article 21, which defines the jurisdiction of the Tribunal. It provides:

The jurisdiction of the Tribunal comprises all disputes and all applications submitted to it in accordance with this Convention and all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal.<sup>10</sup>

24. As for the COSIS Agreement, the key provision is Article 2(2), which expressly empowers the Commission to request advisory opinions from ITLOS on any legal question within the scope of UNCLOS.

25. As concluded by the Tribunal in its Advisory Opinion on the Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission (the "**SRFC Advisory Opinion**"), the words "all matters..." in Article 21 of the Statute are not to be restrictively interpreted as being limited to "disputes", but are sufficiently wide to encompass advisory proceedings, where jurisdiction is conferred on the Tribunal by another international agreement:

The words "all matters" ("*toutes les fois que cela*" in French) should not be interpreted as covering only "disputes", for, if that were to be the case, Article 21 of the Statute would simply have used the word "disputes". Consequently, it must mean something more than only "disputes". That something more must include advisory opinions, if specifically provided for in "any other agreement which confers jurisdiction on the Tribunal".<sup>11</sup>

26. In this context, the Tribunal has previously clarified in respect of Article 21 of the Statute that:

[T]he expression "all matters specifically provided for in any other agreement which confers jurisdiction on the Tribunal" does not by itself establish the advisory jurisdiction of the Tribunal. In terms of

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<sup>10</sup> ITLOS Statute, Art. 21 [Emphasis added].

<sup>11</sup> SFRC Advisory Opinion, para. 56.

Article 21, it is the “other agreement” which confers such jurisdiction on the Tribunal”.<sup>12</sup>

27. As a consequence, Article 21 and the “other agreement” conferring jurisdiction on the Tribunal are “interconnected”;<sup>13</sup> it is their combined effect that “constitute[s] the substantive legal basis of the advisory jurisdiction of the Tribunal”.<sup>14</sup>
28. Therefore, when another agreement – in the present case, the COSIS Agreement – confers advisory jurisdiction on the Tribunal, the Tribunal is “rendered competent to exercise such jurisdiction with regard to ‘all matters’ specifically provided for ‘in the other agreement’”.<sup>15</sup>
29. Article 138 of the Tribunal’s Rules is also of relevance in this context; it provides that:
  1. The Tribunal may give an advisory opinion on a legal question if an international agreement related to the purposes of the Convention specifically provides for the submission to the Tribunal of a request for such an opinion.
  2. A request for an advisory opinion shall be transmitted to the Tribunal by whatever body is authorized by or in accordance with the agreement to make the request to the Tribunal.
  3. The Tribunal shall apply *mutatis mutandis* Articles 130 to 137.<sup>16</sup>
30. As the Tribunal observed in the *SRFC Advisory Opinion*, while Article 138 is not itself a source of the Tribunal’s advisory jurisdiction, it “furnishes the prerequisites that need to be satisfied before the Tribunal can exercise its advisory jurisdiction”.<sup>17</sup>
31. As identified by the Tribunal, those prerequisites are that:
  - (a) “[A]n international agreement related to the purposes of the Convention specifically provides for the submission to the Tribunal of a request for an advisory opinion”,<sup>18</sup>
  - (b) “[T]he request must be transmitted to the Tribunal by a body authorized by or in accordance with the agreement [...]”; and
  - (c) The advisory opinion requested must be on “a legal question”.<sup>19</sup>

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<sup>12</sup> SFRC Advisory Opinion, para. 58.

<sup>13</sup> *Ibid.*

<sup>14</sup> *Ibid.*

<sup>15</sup> *Ibid.*, para 58.

<sup>16</sup> Rules, Article 138.

<sup>17</sup> SRFC Advisory Opinion, para. 59.

<sup>18</sup> SRFC Advisory Opinion, para. 60.

<sup>19</sup> SRFC Advisory Opinion, para. 60.

## **B. Compliance of the Request with the Prerequisites under Article 138 of the Rules**

32. For the reasons set out below, Rwanda is of the view that each of the prerequisites for the existence of jurisdiction of the Tribunal to provide a response to the Commission's request for an advisory opinion (as set out in Article 138 of the Rules) is satisfied in the present case.

### ***1. The COSIS Agreement is an international agreement related to the purposes of the Convention, and specifically provides for the submission to the Tribunal of a request for an advisory opinion***

33. The first prerequisite comprises two interrelated elements, namely that:

- (a) The request should be submitted pursuant to “an international agreement related to the purposes of the Convention”; and
- (b) The relevant international agreement must “specifically provide [...] for the submission to the Tribunal of a request for an advisory opinion”.

34. As regards the first element, Rwanda submits that the COSIS Agreement undoubtedly constitutes an international agreement “related to the purposes of” UNCLOS.

35. The preamble to the COSIS Agreement evidences its particular focus on matters related to the marine environment. Its key paragraphs read as follows:

- (a) “*Mindful* of the fundamental importance of the ocean as a sink and reservoir of greenhouse gases and the devastating impact for Small Island States of related changes in the marine environment”;<sup>20</sup>
- (b) “*Acknowledging* the importance of maritime zones and the significant reliance of Small Island States on marine living resources within such zones, as well as the impacts of climate change on the marine environment including marine living resources”;<sup>21</sup>
- (c) “*Affirming* that maritime zones, as established and notified to the Secretary-General of the United Nations in accordance with the 1982 United Nations Convention on the Law of the Sea, and the rights and entitlements that flow from them, shall continue to apply, without reduction, notwithstanding any physical changes connected to climate change-related sea-level rise”;<sup>22</sup> and
- (d) “*Determined* to take immediate action to protect and preserve the climate system and marine environment based on equity and the common but differentiated responsibilities of States to combat climate change”.<sup>23</sup>

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<sup>20</sup> COSIS Agreement, preambular paragraph (“PP”) 3.

<sup>21</sup> COSIS Agreement, PP4.

<sup>22</sup> COSIS Agreement, PP5.

<sup>23</sup> COSIS Agreement, PP8.

36. Further, in establishing the Commission, an international organisation having separate international legal personality,<sup>24</sup> Article 1(3) of the COSIS Agreement defines its purpose and mandate as being:

[T]o promote and contribute to the definition, implementation, and progressive development of rules and principles of international law concerning climate change, including, but not limited to, the obligations of States relating to the protection and preservation of the marine environment [...].<sup>25</sup>

37. The purpose and mandate of the Commission is mirrored in the description of its activities set out in Article 2(1) as including, amongst other things, assisting small island States:

[T]o promote and contribute to the definition, implementation and progressive development of rules and principles of international law concerning climate change, in particular the protection and preservation of the marine environment, including through the jurisprudence of international courts and tribunals.<sup>26</sup>

38. The “protection and preservation of the marine environment” are matters that clearly and indisputably fall within the scope of UNCLOS, in particular under Part XII. As such, insofar as the purpose, mandate and activities of COSIS focus on the “definition, implementation and progressive development” of international law, including in particular the rules and principles of international law relating to the “protection and preservation of the marine environment”, the COSIS Agreement is unambiguously an agreement “related to the purposes of the Convention”.

39. As regards the second element, the COSIS Agreement specifically and unambiguously confers on the Commission competence to submit a request for an advisory opinion to the Tribunal. Article 2(2) of the COSIS Agreement explicitly empowers the Commission to submit requests for an advisory opinion to the Tribunal; it authorises the Commission to:

“[R]equest advisory opinions from the International Tribunal for the Law of the Sea (“ITLOS”) on any legal question within the scope of the 1982 United Nations Convention on the Law of the Sea, consistent with Article 21 of the ITLOS Statute and Article 138 of its Rules”.<sup>27</sup>

40. As a corollary of the Commission’s power as set out in Article 2(2) of the COSIS Agreement to request advisory opinions from ITLOS, the same provision consequently “confers jurisdiction on the Tribunal” for the purposes of Article 21.<sup>28</sup>

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<sup>24</sup> COSIS Agreement, Article 1(1) and (2).

<sup>25</sup> COSIS Agreement, Article 1(3) [Emphasis added].

<sup>26</sup> *Ibid*, Article 2(1) [Emphasis added].

<sup>27</sup> *Ibid*, Article 2(2).

<sup>28</sup> SRFC Advisory Opinion, para. 58.

**2. *The Request has been transmitted to the Tribunal by a body authorised by the COSIS Agreement, and in accordance with the COSIS Agreement***

41. As regards the second prerequisite, it is established that the Request was transmitted to the Tribunal by a body authorised by the COSIS Agreement, and in accordance with the COSIS Agreement.
42. The letter from the Co-Chairs of COSIS dated 12 December 2022, notifying the Tribunal of the Request, specifies that at a duly constituted meeting held on 26 August 2022, the Members of COSIS unanimously decided in accordance with Article 3(5) of the COSIS Agreement “to refer the following legal questions to the Tribunal for an advisory opinion”.
43. This is substantiated by the enclosed document setting out the Decisions of the Third Meeting of the Commission dated 26 August 2022 (the “**Decision**”). Paragraph 1 of that document records the decision of the Commission to approve the recommendation of COSIS’s Committee of Legal Experts to “request the following Advisory Opinion from ITLOS consistent with Article 2(2) of the Agreement”, in the terms subsequently communicated to the Tribunal (i.e. the Request).<sup>29</sup>
44. As regards compliance with the COSIS Agreement, Article 3(5) of the Agreement stipulates that the decisions of the Commission “shall be made in principle by consensus, or otherwise by a majority of Members present and voting”. In this regard, the Decision states clearly that all decisions at the Third Meeting were adopted unanimously.<sup>30</sup>
45. As such, the Decision clearly evidences the unanimous decision adopted by the Commission to request an advisory opinion.
46. In undertaking the essentially ministerial act of transmitting the Request adopted by the Commission to the Tribunal in the letter of 12 December 2022, the Co-Chairs were acting on behalf of the Commission, as foreseen by, and in accordance with, the COSIS Agreement, Article 3(3) of which expressly stipulates that the Commission “shall be represented by a Chair, or by co-Chairs”.

**3. *The Request seeks to obtain an advisory opinion “on a legal question”***

47. As regards the third prerequisite (i.e. that the advisory opinion requested should concern “a legal question”), the Tribunal has previously endorsed and relied upon<sup>31</sup> the approach of the International Court of Justice (“**ICJ**”) to the effect that questions:

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<sup>29</sup> Decisions of the Third Meeting of the Commission, 26 August 2022, para. 1.

<sup>30</sup> *Ibid.*

<sup>31</sup> SRFC Advisory Opinion, para. 65; see previously, *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, p. 10, at p. 25, para. 39.

“framed in terms of law and rais[ing] problems of international law [...] are by their very nature susceptible of a reply based on law”.<sup>32</sup>

48. In the *SRFC Advisory Opinion*, the Tribunal observed that the SRFC’s request (which, among other things, requested an advisory opinion from the Tribunal on “the rights and obligations of the coastal State in ensuring the sustainable management of shared stocks and stocks of common interest”)<sup>33</sup> had “been framed in terms of law”.<sup>34</sup>
49. In concluding that the questions submitted were thus indeed “of a legal nature”,<sup>35</sup> the Tribunal observed that:
- To respond to these questions, the Tribunal will be called upon to interpret the relevant provisions of the Convention and of the MCA Convention and to identify other relevant rules of international law.<sup>36</sup>
50. In the present case, the Request is likewise focussed on questions arising under UNCLOS, which are framed in terms of law, and are similarly “of a legal nature”.
51. In particular, the *chapeau* of the Request asks the Tribunal to provide an advisory opinion on the “specific obligations of State Parties to [UNCLOS], including under Part XII”,<sup>37</sup> whilst the two sub-paragraphs highlight two specific obligations in this regard, namely:
- (a) Obligations relating to the prevention, reduction and control of pollution of the marine environment (i.e. the obligations under Article 194 *et seq.* of UNCLOS); and
  - (b) The obligation to protect and preserve the marine environment (i.e. the obligation under Article 192 and, more generally, Part XII of UNCLOS).
52. As such, the Request is clearly and unambiguously focused on the legal obligations of State Parties to UNCLOS, including in particular those under Part XII, in respect of the impacts of climate change. Further, provision of a response to the Request will require the Tribunal to interpret relevant provisions of UNCLOS and (as discussed further below in Section III) identify other relevant rules of international law.

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<sup>32</sup> *Accordance with International Law of the Unilateral Declaration of Independence in Respect of Kosovo*, Advisory Opinion, 22 July 2010, ICJ Reports 2010, p. 415, para. 25 (quoting *Western Sahara*, Advisory Opinion, I.C.J. Reports 1975, p. 12, para. 15); see also previously, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996, p. 226, para. 13. Most recently, in the *Chagos* Advisory Opinion, the ICJ stated even more succinctly that “a request ... for an advisory opinion to examine a situation by reference to international law concerns a legal question”: *Legal Consequences of the Separation of the Chagos Archipelago from Mauritius in 1965*, Advisory Opinion, I.C.J. Reports 2019, pp. 95-141, para. 58.

<sup>33</sup> *SRFC Advisory Opinion*, 27 March 2013, p. 2.

<sup>34</sup> *SRFC Advisory Opinion*, para. 65.

<sup>35</sup> *Ibid*, para. 66.

<sup>36</sup> *Ibid*, para. 65.

<sup>37</sup> Request, p. 2.

53. Insofar as that is the case, Rwanda is of the view that the questions in the Request should undoubtedly be characterised as being “framed in terms of law and rais[ing] problems of international law”, such that they “are by their very nature susceptible of a reply based on law”.<sup>38</sup> As such, the questions on which an opinion is sought are of a “legal nature”,<sup>39</sup> and the Request is one for “an advisory opinion on a legal question” within the meaning of Article 138(1) of the Tribunal’s Rules.

## II. Scope of Jurisdiction

54. In the *SRFC Advisory Opinion*, the Tribunal considered “to what matters the advisory jurisdiction extends”.<sup>40</sup> It noted that Article 21 of the Statute specifies that the Tribunal’s advisory jurisdiction “extends to ‘all matters specially provided for in any other agreement which confers jurisdiction on the Tribunal’”, and that “there is no reason why the words “all matters specifically provided for in any other agreement” in Article 21 of the Statute should be interpreted restrictively”.<sup>41</sup>
55. Rwanda submits that there are no difficulties in respect of the scope of the jurisdiction conferred on the Tribunal pursuant to the COSIS Agreement insofar as that jurisdiction is expressly defined by reference to UNCLOS itself.
56. First, the Commission’s authority to request advisory opinions pursuant to Article 2(2) of the COSIS Agreement is closely tied to – and defined by reference to – the scope of UNCLOS itself. As noted above, Article 2(2) authorises the Commission to submit requests for an advisory opinion to the Tribunal “on any legal question within the scope of the 1982 United Nations Convention on the Law of the Sea”.<sup>42</sup>
57. Similarly, no issue arises in respect of the scope of the Request itself, which expressly seeks an advisory opinion on questions falling squarely within the scope of UNCLOS (and, consequently, within the Commission’s competence under Article 2(2) of the COSIS Agreement). The Request is expressly framed with reference to, and asks the Tribunal to provide its advisory opinion on, “the specific obligations of States Parties to [UNCLOS] including under Part XII” of UNCLOS in light of climate change, and more particularly:
- (a) The obligation relating to the prevention, reduction and control of pollution of the marine environment (i.e. Article 194 of UNCLOS); and
  - (b) The obligation to protect and preserve the marine environment (i.e. Article 192 and more generally Part XII of UNCLOS).
58. Rwanda notes that, despite the broader scope of the mandate of COSIS as contained in Article 1(3) of the COSIS Agreement, the Request is limited to seeking clarification as to the content of the relevant obligations under UNCLOS, and does not seek the

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<sup>38</sup> SRFC Advisory Opinion, para. 65, quoting *Responsibilities and obligations of States with respect to activities in the Area*, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, para. 39.

<sup>39</sup> SRFC Advisory Opinion, para. 66.

<sup>40</sup> *Ibid*, para. 67.

<sup>41</sup> *Ibid*, para. 67-68.

<sup>42</sup> Article 2(2), COSIS Agreement; Request, p. 1.

Tribunal's opinion on any question of responsibility for injury arising from internationally wrongful acts as a result of the breach of those relevant obligations or of reparations in that regard.

### III. The Tribunal's Discretion to Render the Advisory Opinion

59. Given that Article 138(1) of the Rules provides that the Tribunal "may" give an advisory opinion, it is well established that it bestows upon the Tribunal a discretion as to whether it is appropriate to render an advisory opinion in a particular case.
60. In the *SRFC Advisory Opinion*, the Tribunal made clear that Article 138 of the Rules "should be interpreted to mean that the Tribunal has a discretionary power to refuse to give an advisory opinion even if the conditions of jurisdiction are satisfied".<sup>43</sup> Relying on the observations of the ICJ in its *Nuclear Weapons Advisory Opinion*, the Tribunal concluded that it "is well settled that a request for an advisory opinion should not in principle be refused to except for 'compelling reasons'".<sup>44</sup>
61. In that regard, in *Nuclear Weapons Advisory Opinion*, the ICJ also observed
- There has been no refusal, based on the discretionary power of the Court, to act upon a request for advisory opinion in the history of the present Court; in the case concerning the *Legality of the Use by a State of Nuclear Weapons in Armed Conflict*, the refusal to give the World Health Organization the advisory opinion requested by it was justified by the Court's lack of jurisdiction in that case. The Permanent Court of International Justice took the view on only one occasion that it could not reply to a question put to it, having regard to the very particular circumstances of the case, among which were that the question directly concerned an already existing dispute, one of the States parties to which was neither a party to the Statute of the Permanent Court nor a Member of the League of Nations, objected to the proceedings, and refused to take part in any way (*Status of Eastern Carelia*, P. C.I. J., Series B, No. 5).<sup>45</sup>
62. In Rwanda's view, there exist no compelling reasons for ITLOS to depart from the default position that, in principle, the Request for an advisory opinion submitted by the Commission should not be refused.
63. In particular, no objection could plausibly be raised based on the argument, which was unsuccessful advanced in the *Nuclear Weapons Advisory Opinion*,<sup>46</sup> that the questions posed in the Request are vague or abstract. To the contrary, the Request is clear and

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<sup>43</sup> SRFC Advisory Opinion, para. 71.

<sup>44</sup> *Ibid* citing *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996, pp. 226-267, para. 14.

<sup>45</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996, pp. 226-267, para. 14.

<sup>46</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Reports 1996, p.267, paras. 15-16.



specific: it seeks an advisory opinion squarely addressing the content of the obligations of State Parties pursuant to UNCLOS in respect of climate change.

64. Moreover, although the underlying scientific evidence relating to climate change is undoubtedly complex, there exists very substantial scientific consensus, as embodied in the publications of the IPCC, as to the causes of climate change and the mechanisms by which it produces negative effects, including its negative effects on the marine environment, and broad consensus among States in this regard. Even if (which is not Rwanda's position) the existence of such a *factual* dispute could be said to constitute a compelling reason for declining a request for an advisory opinion, there is in this case no obvious dispute among States as to the key factual matters in respect of climate change, and thus the Request cannot be viewed as entailing an attempt to circumvent the proper determination of matters in dispute through a contentious process.
65. Further, rendering an advisory opinion would not give rise to any problematic issues in respect of State consent: the opinion requested does not touch upon any pre-existing underlying legal dispute between States, and thus the issue of State consent "simply does not arise".<sup>47</sup> Further, as the Tribunal emphasised in the *SRFC* Advisory Opinion, "in advisory proceedings, the consent of States not members of the [requesting international organization] is not relevant",<sup>48</sup> because, among other things, the advisory opinion is given to the requesting organisation.<sup>49</sup>
66. Similarly, in Rwanda's view, the fact that UNGA by Resolution 77/276 has subsequently requested an advisory opinion from the ICJ on the topic of climate change does not constitute a compelling reason for the Tribunal to decline to render the opinion requested by COSIS.
67. The scope of UNGA's request to the ICJ is materially different to the scope of the Request before the Tribunal; the former is framed in broad terms and requests the Court to provide its opinion on the obligations of States generally "under international law", as well as on the legal consequences for contributing States. Whilst UNGA's request admittedly mentions both UNCLOS generally, and "the duty to protect and preserve the marine environment" more specifically, it also refers to a wide variety of other international obligations, including, among others, obligations under the UN Charter, in the field of international human rights law, and under general international environmental law.
68. In contrast, the Request before the Tribunal is significantly narrower. It focuses solely on the content of the obligations arising specifically in the law of the sea, including in particular, as considered above, the obligations of States under relevant provisions of UNCLOS in respect of marine pollution and protection and preservation of the marine environment.
69. As such, the Request before the Tribunal falls squarely within the core subject area of UNCLOS and of the Tribunal's specialist competence. Rwanda submits that it would

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<sup>47</sup> *SRFC* Advisory Opinion, para. 75.

<sup>48</sup> *Ibid*, para. 76, citing *Interpretation of Peace Treaties with Bulgaria, Hungary and Romania*, First Phase, Advisory Opinion, I.C.J. Reports 1950, p. 65, para. 71.

<sup>49</sup> *SRFC* Advisory Opinion, para. 76.

be entirely appropriate for ITLOS, as the international judicial body created under UNCLOS and possessing specific and specialised expertise in the law of the sea, to render the opinion sought by COSIS.

70. Indeed, the existence of the pending request to the ICJ for an advisory opinion constitutes a compelling reason weighing in favour of the Tribunal providing the opinion sought. Such a considered, expert opinion is most likely to be of significant assistance to the ICJ in its consideration of the substance of the request presented to it in Resolution 77/276, especially in respect of the content of the relevant obligations in the law of the sea (including UNCLOS).

#### **IV. Applicable law**

71. The law to be applied by the Tribunal comprises, first and foremost, the relevant provisions of UNCLOS, in particular the provisions of Part XII, and notably Articles 192 and 194.

72. Additionally, the Tribunal may be required to identify and consider other rules of international law that are “not incompatible” with UNCLOS, insofar as they are relevant and necessary/required in order for it to provide a response to the Request.

73. In this regard, Article 293(1) specifies that courts or tribunals having jurisdiction under Part XII:

shall apply this Convention and other rules of international law not incompatible with this Convention.

74. Also of relevance is Article 311(2), which provides:

This Convention shall not alter the rights and obligations of States Parties which arise from other agreements compatible with this Convention and which do not affect the enjoyment by other States Parties of their rights or the performance of their obligations under this Convention.

75. Pursuant to Article 138(3) of the Rules (quoted above), in advisory proceedings the Tribunal is to apply *mutatis mutandis* Articles 130 to 137 of the Rules (governing the advisory jurisdiction of the Seabed Disputes Chamber).

76. In this regard, Article 130(1) of the Rules provides:

In the exercise of its functions relating to advisory opinions, the Seabed Disputes Chamber shall apply this section and be guided, to the extent to which it recognizes them to be applicable, by the provisions of the Statute and of these Rules applicable in contentious cases.

77. In turn, Article 23 of the Statute stipulates that the Tribunal “shall decide all disputes and applications in accordance with article 293”.

78. Accordingly, Article 293(1) is applicable to advisory proceedings before the Tribunal.<sup>50</sup>
79. In the *Arctic Sunrise* arbitration, the Annex VII Tribunal explained that the purpose of Article 293 is to ensure that “in exercising its jurisdiction under the Convention, a tribunal can give full effect to the provisions of the Convention. For this purpose, some provisions of the Convention directly incorporate other rules of international law”.<sup>51</sup>
80. The tribunal subsequently further articulated the role played by other rules of international law falling outside the scope of UNCLOS pursuant to Article 293 as follows:

In order properly to interpret and apply particular provisions of the Convention, it may be necessary for a tribunal to resort to foundational or secondary rules of general international law such as the law of treaties or the rules of State responsibility.

In the case of some broadly worded or general provisions, it may also be necessary to rely on primary rules of international law other than the Convention in order to interpret and apply particular provisions of the Convention. Both arbitral tribunals and ITLOS have interpreted the Convention as allowing for the application of relevant rules of international law. Article 293 of the Convention makes this possible. For instance, in *M/V “SAIGA” No. 2*, ITLOS took account of general international law rules on the use of force in considering the use of force for the arrest of a vessel [...].<sup>52</sup>

81. Such an interpretative approach parallels and reflects the principle of “systemic integration”<sup>53</sup> enshrined in Article 31(3)(c) of the Vienna Convention on the Law of Treaties (“VCLT”), pursuant to which a treaty is to be interpreted taking into account “any relevant rules of international law applicable in the relations between the parties”.<sup>54</sup>

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<sup>50</sup> See previously in this sense, SRFC Advisory Opinion, paras. 80-84.

<sup>51</sup> PCA Case No. 2014-02, *The Arctic Sunrise Arbitration (Netherlands v. Russian Federation)*, Award on the Merits, 14 August 2015, ¶ 188

<sup>52</sup> *Ibid.*, paras. 190-1 (internal citations omitted), referring to *M/V “Saiga” (No. 2) (Saint Vincent and the Grenadines v. Guinea)*, Judgment of 1 July 1999, ITLOS Reports 1999, at p. 61, para. 155. See also *South China Sea*, Award on Jurisdiction and Merits, para. 176. PCA Case No. 2013-19, *The South China Sea Arbitration (Jurisdiction and Admissibility)* Award, Award of 29 October 2015, para. 176.

<sup>53</sup> ILC, Final Report of the Study Group on Fragmentation of International Law: Difficulties Arising from the Diversification and Expansion of International Law (2006), U.N. Doc. A/CN.4/L.682, p. 84, para. 413 and see generally Ch. V (pp. 84-98, paras. 410-480).

<sup>54</sup> Article 31(3)(c), Vienna Convention on the Law of Treaties. The ICJ has held that Article 31(3)(c) is to be regarded as a codification of customary international law: see *Kasikili/Sedudu Island (Botswana/Namibia)*, Judgment, I.C.J. Reports 1999 (II), pp. 1059, ¶ 18 and 1075, para. 48; *Oil Platforms (Islamic Republic of Iran v. United States of America)*, Judgment, I.C.J. Reports 2003, p. 182, para. 41; *Certain Questions of Mutual Assistance in Criminal Matters (Djibouti v. France)*, Judgment, I.C.J. Reports 2008, p. 219, para. 212.

82. For example, in the *South China Sea Arbitration*, the Annex VII Tribunal was:

“[S]atisfied that Article 293(1) of the Convention, together with Article 31(3) of the Vienna Convention on the Law of Treaties, enables it in principle to consider the relevant provisions of the CBD for the purposes of interpreting the content and standard of Articles 192 and 194 of the Convention”.<sup>55</sup>

83. As a consequence, in responding to the Request, the law to be applied by the Tribunal includes not only the provisions of UNCLOS itself but also, to the extent that they are relevant and that it is necessary for the purposes of furnishing its opinion on the relevant obligations under UNCLOS in response to the Request, any other treaties, rules of customary international law, and general principles of law which are not incompatible with UNCLOS.<sup>56</sup>

84. As further developed in Chapters 5 to 7, below, Rwanda submits that, in interpreting the provisions of UNCLOS in the climate change context, the Tribunal should pay particular attention to the UNFCCC and Paris Agreement, as these are among the most obviously relevant rules of international law. In this regard, Rwanda notes that, with 197 and 194 parties, respectively, the memberships of the UNFCCC and the Paris Agreement encompass essentially all States party to UNCLOS.

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<sup>55</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Jurisdiction and Admissibility), Award of 29 October 2015, para. 176.

<sup>56</sup> Ferrara, P., Article 293, *United Nations Convention on the Law of the Sea: A Commentary*, ed., Proelss, A., (2017), pp. 1893-1896.

### CHAPTER 3 PRELIMINARY OBSERVATIONS

85. In this Chapter, Rwanda makes some preliminary observations on:
- (a) The vulnerability of the marine environment to climate change impacts (**Section I**);
  - (b) Feedback effects and interaction between harm to the marine environment and climate change (**Section II**);
  - (c) The specific ways in which Rwanda is affected (**Section III**); and
  - (d) Mitigation and adaptation (**Section IV**).
86. It is not the purpose of this Chapter to summarise the vast body of scientific literature on these issues, but only to put some of these issues into sharper relief before setting out Rwanda’s legal submissions on the questions in the Request.

#### **I. Vulnerability of the marine environment to climate change impacts**

87. As declared in the Preamble to the UNFCCC, “change in the Earth’s climate and its adverse effects are a common concern of human kind”, with human activities having “substantially increase[ed] the atmospheric concentrations of [GHGs]”.<sup>57</sup> As the UNFCCC also recalls, this increase in atmospheric concentrations of GHGs “will result on average in an additional warming of the Earth’s surface and atmosphere and may adversely affect natural ecosystems and humankind”.<sup>58</sup>
88. The impact of climate change upon the marine environment, in particular, is irrefutable and extremely pronounced, as concluded across multiple assessment cycles completed by the IPCC.
89. As the UN body tasked with the development of “international coordinated scientific assessments of the magnitude, timing and potential environmental and socio-economic impact of climate change and realistic response strategies”,<sup>59</sup> the work and publications produced by the IPCC deserve special regard. They are the preeminent authoritative resource – based on the participation of hundreds of international experts, disseminating detailed expert scientific information, collated from thousands of research contributors. The periodic reports of the IPCC have accordingly been described by the UNFCCC as “widely recognised as the most credible sources of information on climate change” and constitute the best available assessment of the current state of scientific knowledge.<sup>60</sup>

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<sup>57</sup> UNFCCC, Preamble, p. 1.

<sup>58</sup> UNFCCC, Preamble, p. 1.

<sup>59</sup> UNGA Res. para. 43/53 of 6 December 1988, para. 5.

<sup>60</sup> Recognition of the IPCC assessment reports as the “most credible sources of information on climate change” is attested to by, *inter alia*, Article 21.2 of the UNFCCC, which establishes a close cooperation between the Secretariat and the IPCC to ensure that the Panel can respond to the need for objective scientific and technical advice. Likewise, the Conference of Parties has repeatedly expressed its appreciation for the IPCC’s work, recognising the relevance of the IPCC’s reports and their role in providing scientific information to support the UNFCCC process. See UNFCCC Website, “Background – Cooperation with the IPCC”, see [here](#) [accessed 10 June 2023]; UNFCCC, ‘Science in the UNFCCC negotiations’, see [here](#) [accessed 5 June 2023]. COP, Report of the Conference of the

90. The IPCC’s Working Group II Co-Chair has stated:

[T]he cumulative scientific evidence is unequivocal: Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.<sup>61</sup>

91. The IPCC’s findings on the impacts of climate change indicate that the catastrophic effects of climate change in respect of the marine environment will continue to worsen. It states unambiguously: “[a]nthropogenic climate change has exposed ocean and coastal ecosystems to conditions that are unprecedented over millennia, and this has greatly impacted life in the ocean and along its coasts”.<sup>62</sup>

#### **A. The Deleterious Effects of Anthropogenic GHG emissions**

92. “GHGs” refers broadly to gases that, upon being released into the atmosphere, prevent heat energy deriving from solar radiation from escaping the atmosphere, trapping it and thereby increasing global temperatures. While the term refers generically to any gas which contributes to this atmospheric heat-trapping effect, the predominant GHGs are carbon dioxide (“CO<sub>2</sub>”), methane (CH<sub>4</sub>), and nitrous oxide (NO<sub>2</sub>), as well as industrial fluorinated gases such as HFCs, perfluorocarbons, CFCs and sulphur hexafluoride.<sup>63</sup>

93. Scientific research into the primary sources of anthropogenic GHG emissions into the atmosphere have identified a number of key sectors to which the bulk of emissions can be attributed. Of these, the principal sources identified by the IPCC include:<sup>64</sup>

(a) The Energy Sector: The burning of fossil fuels such as coal, oil, and natural gas for electricity generation, heating, transportation, and industrial processes is the

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Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011, Addendum: Part Two: Action taken by the Conference of the Parties at its seventeenth session, (15 March 2012), p. 3: “Further decides that the process shall raise the level of ambition and shall be informed, inter alia, by the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, the outcomes of the 2013–2015 review and the work of the subsidiary bodies”. See also, COP, 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, (31 January 2014), p. 3: “Expressing serious concern that the warming of the climate system is unequivocal and since the 1950s, many of the observed changes are unprecedented over decades to millennia, as indicated by the findings contained in the contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change”.

<sup>61</sup> IPCC, ‘Climate change: a threat to human wellbeing and health of the planet. Taking action now can secure our future’, 28 February 2022, see [here](#) [accessed 12 June 2023].

<sup>62</sup> IPCC, Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Sixth Assessment Report,, ‘Chapter 3: Oceans and Coastal Ecosystems and Their Services’, (2022), p. 381.

<sup>63</sup> Our World in Data, ‘Greenhouse gas emissions’, see [here](#) [accessed 23 May 2023].

<sup>64</sup> IPCC, Climate Change 2014: Mitigation of Climate Change, Contribution of Working Group III to the Fifth Assessment Report, (2014); IPCC, Global Warming of 1.5°C: An IPCC Special Report, ‘Annex I: Glossary’, (2018).

largest contributor to global GHG emissions. This includes emissions from power plants, vehicle and aircrafts, and industries that rely on fossil fuels;<sup>65</sup>

- (b) Deforestation and Land Use Change: When forests are cleared for agriculture, livestock grazing, or urbanisation, the carbon stored in trees and vegetation is released into the atmosphere as CO<sub>2</sub>, increasing global emissions of GHGs. Deforestation and land-use change, in particular in tropical regions, account for a substantial portion of emissions;
- (c) Agriculture: A variety of agricultural practices result in greenhouse gas emissions, notably livestock production, rice cultivation, and the use of synthetic fertilisers. During digestion, livestock, particularly cattle, produce methane (CH<sub>4</sub>), whilst flooded paddy fields used for rice cultivation produce methane.<sup>66</sup> In addition, the production and use of synthetic fertilisers result in the emission of nitrous oxide (NO<sub>2</sub>), a potent greenhouse gas;<sup>67</sup>
- (d) Industrial Processes: Certain industrial activities result, either directly or indirectly, in the emission of GHGs. The production and/or use of cement, steel, and certain chemicals, for instance, involve chemical reactions that emit CO<sub>2</sub>. In addition, the production and use of certain chemicals, such as CFCs and HFCs, which are themselves GHGs, contribute both to total greenhouse gas emissions as well as resulting in atmospheric ozone depletion; and
- (e) Organic waste decomposition in landfills produces methane, a potent greenhouse gas, and improper waste management practices, such as insufficient landfill gas capture systems, can lead to substantial methane emissions.<sup>68</sup> In addition, waste incineration results in the emission of CO<sub>2</sub> and other greenhouse gases.<sup>69</sup>

94. Rwanda has already expressed special concern and coordinated international action in respect of the contribution to climate change of plastic pollution, use and management – particularly as a result of the GHG emissions resulting from the production of plastic products – as well as more broadly, by marine litter and the presence of micro plastics in the ocean. From extraction of raw materials, through refinery and manufacture, to disposal, each step of the plastic life-cycle exacerbates climate change, and further deepens the climate crisis resulting from atmospheric GHG emissions.<sup>70</sup>

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<sup>65</sup> UNEP, 2018-2019 Frontiers Report, see [here](#) [accessed 11 June 2023].

<sup>66</sup> UNEP, Global Methane Assessment, 2021, see [here](#), p. 29 [accessed 11 June 2023].

<sup>67</sup> UNEP, 2018-2019 Frontiers Report, see [here](#) [accessed 11 June 2023].

<sup>68</sup> UNEP, Global Methane Assessment, 2021, see [here](#), pp. 9, 27 (“In the waste sector, landfills and wastewater make up about 20 per cent of global anthropogenic emissions”) [accessed 11 June 2023]. See also, UNEP, 2018-2019 Frontiers Report, see [here](#) [accessed 11 June 2023].

<sup>69</sup> Center for International Environmental Law (“**CIEL**”), ‘Plastic & Climate – The Hidden Costs of a Plastic Planet’, (May 2019), p. 19: “greenhouse gas emissions from plastic incineration could add another 4.2 Gt CO<sub>2</sub>e to the atmosphere by 2050, bringing total emissions production and incineration alone to more than 56 Gt CO<sub>2</sub>e. Thus, plastic alone could consume from 10-13 percent of the earth’s remaining carbon budget, undermining urgent global efforts to keep warming below 1.5°C and making even a 2°C target nearly impossible”. See [here](#) [accessed 13 June 2023].

<sup>70</sup> *Ibid*, pp. 1-2: “Nearly every piece of plastic begins as a fossil fuel, and greenhouse gases are emitted at each of each stage of the plastic lifecycle: 1) fossil fuel extraction and transport, 2) plastic refining and manufacture, 3) managing plastic waste, and 4) its ongoing impact in our oceans, waterways, and



95. As previously articulated by Rwanda in the draft resolution it drafted with the Republic of Peru in 2022, of the estimated total of over 8.3 billion tons of plastic produced since the early 1950s “about 60% [...] has ended up in either a landfill or the natural environment”.<sup>71</sup> While plastic biodegrades slowly in landfill sites (a process which itself results in the release of GHGs into the atmosphere), recycling plastic assists with offsetting global needs for the production of new plastic, thereby reducing GHG emissions resulting from the extraction and refinery of oil and gas which constitute the principal raw materials for plastics, as well as the emissions resulting from the manufacturing processes for plastic products made from virgin plastic.<sup>72</sup>
96. In this Section, Rwanda focuses on the wider ways in which the global marine environment is suffering, at an increasing rate, from significant deleterious effects caused by anthropogenic GHG emissions. These effects are far-reaching, manifesting as three specific phenomena which are of particular concern, namely: (1) ocean warming; (2) sea level rise; and (3) ocean acidification. A high-level summary of the concerns associated with each is set out in turn below.
97. Without adequate global responses, the impacts of these effects will be exacerbated exponentially.

### *1. Ocean warming*

98. As recognised in the IPCC’s *Special Report on the Ocean and Cryosphere in a Changing Climate*, the marine environment has experienced consistently increasing ecological pressures owing to excess global heat resulting from the presence of increased levels of GHGs in the atmosphere. The vast majority of this heat is absorbed by the marine environment, resulting in a rise in ocean temperatures. In this regard, the Special Report found that “[i]t is virtually certain that the global ocean has warmed unabated since 1970 and has taken up more than 90% of the excess heat in the climate system”<sup>73</sup> and that “[s]ince 1993, the rate of ocean warming has more than doubled”.<sup>74</sup>
99. The effects of temperature increases in the global marine environment as a result of absorbing excess heat are far-reaching and severe. The accelerated and increased warming of the marine environment is recognised by the IPCC to lead to ‘thermal stress’,<sup>75</sup> which entails serious impacts, including:

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landscape”. See also OECD, ‘Plastic leakage and greenhouse gas emissions are increasing’, see [here](#) [accessed 11 June 2023]. “In 2019, plastics generated 1.8 billion tonnes of [GHG] emissions -3.4% of global emissions - with 90% of these emissions coming from their production and conversion from fossil fuels. By 2060, emissions from the plastic lifestyle are set to more than double, reaching 4.3 billion tonnes of GHG emissions”.

<sup>71</sup> Rwanda-Peru Draft Resolution on an Internationally Legally Binding Instrument on Plastic Pollution, p. 1.

<sup>72</sup> Royer, S.J., Ferrón, S, Wilson, S.T., Karl, D.M., ‘Production of methane and ethylene from plastic in the environment’, PLoS ONE 13(8), (2018).

<sup>73</sup> IPCC, *Special Report on the Ocean and Cryosphere in a Changing Climate*, ‘Summary for Policymakers’, (2019), p. 9. (High confidence).

<sup>74</sup> *Ibid.* (Likely).

<sup>75</sup> IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Fifth Assessment Report, Part B: Regional Aspects, ‘Chapter 30: The Ocean’, (2014), pp. 1655-1731.



- (a) Changes in the biogeography of organisms ranging from phytoplankton<sup>76</sup> to marine mammals,<sup>77</sup> leading to changes in the composition of communities<sup>78</sup> and, in some cases, changes in how organisms interact with each other in the ocean,<sup>79</sup>
  - (b) Warming-induced range expansion of tropical species to higher latitudes, which has changed the structure of the ecosystems of some coral reefs, rocky reefs, seagrass meadows, and epipelagic ecosystems;<sup>80</sup>
  - (c) Impact on the growth, reproduction and survival of fish stocks,<sup>81</sup> leading to an average decrease of approximately 3% per decade in fisheries population replenishment;<sup>82</sup>
  - (d) Changes in spatial distribution and abundance of fish stocks, which have already challenged the management of important fisheries;<sup>83</sup> and
  - (e) Occurrence of harmful algal blooms and pathogenic organisms has increased in coastal areas in response to warming, deoxygenation and eutrophication, with negative impacts on food provisioning, tourism, the economy and human health.<sup>84</sup>
100. Furthermore, as set out below, the wider effects of ocean warming are understood to include sea level rise, coral bleaching, more intense extreme weather events, including intensified hurricanes and tropical storm wind speeds and changes to “ocean health and biochemistry”.<sup>85</sup>

## 2. *Sea level rise*

101. Recognising that anthropogenic GHG emissions are a direct cause of excess atmospheric heat, which the global marine environment then absorbs, the IPCC has underlined the significant connection between increased GHG emissions and serious physiological impacts upon the marine environment, including sea level rise.

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<sup>76</sup> All marine organisms depend directly or indirectly on plankton for their food. Therefore, disruptions to planktonic communities have consequences on all marine food chains and threaten the existence of many species.

<sup>77</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 5: Changing Ocean, Marine Ecosystems, and Dependent Communities’, (2019), p. 450. (High confidence).

<sup>78</sup> *Ibid.* (High confidence).

<sup>79</sup> *Ibid.* (Medium confidence).

<sup>80</sup> *Ibid.*, 451. (Medium confidence).

<sup>81</sup> *Ibid.* (High confidence).

<sup>82</sup> *Ibid.* (Very likely).

<sup>83</sup> *Ibid.* (High confidence).

<sup>84</sup> *Ibid.* (High confidence).

<sup>85</sup> NASA, ‘Vital Signs: Ocean Warming’, see [here](#) [accessed 26 May 2023]; Center for Climate and Energy Solutions, ‘Hurricanes and Climate Change’, see [here](#) [accessed 11 June 2023].

102. Firstly, the additional heat energy in the ocean causes it to expand, a phenomenon known as “thermal expansion”,<sup>86</sup> and has contributed about 43% of the observed global mean sea level rise between 1970-2015.<sup>87</sup>
103. Secondly, a direct impact of the heat-trapping effect of increased GHG levels in the atmosphere is the melting of ice in the Earth’s polar regions. The IPCC considers it likely that, over recent decades, Arctic surface air temperatures have “likely increased by more than double the global average over the last two decades” and that increased ocean warming has directly contributed to the thinning of Arctic sea ice, with “[a]pproximately half the observed sea ice loss [...] attributable to increased atmospheric greenhouse gas concentrations”.<sup>88</sup> The depletion of ice sheets through global warming has also already contributed to an identifiable year-on-year increase in the global mean sea level.<sup>89</sup>
104. The risks resulting from sea level rise are highly concerning, particularly – but not exclusively – in terms of the far-reaching consequences for coastal communities and low-lying islands and settlements. As the IPCC has summarised:

Rising mean and increasingly extreme sea levels threaten coastal zones through a range of coastal hazards including (i) the permanent submergence of land by higher mean sea levels or mean high tides; (ii) more frequent or intense coastal flooding; (iii) enhanced coastal erosion; (iv) loss and change of coastal ecosystems; (v) salinisation of soils, ground and surface water; and (vi) impeded drainage. At the century scale and without adaptation, the vast majority of low-lying islands, coasts and communities face substantial risk from these coastal hazards, whether they are urban or rural, continental or island, at any latitude, and irrespective of their level of development.<sup>90</sup>

105. More specifically, the direct effects of sea level rise on coastal ecosystems have been observed through monitoring its measurable impacts on specific species of flora and fauna globally. For example, the consequences of sea level rise have been identified as a major concern in relation to the preservation of habitats that act as natural coastal defences, and associated impacts on the preservation of biodiversity in a range of biomes. Coastal ecosystems such as saltmarshes, coral reefs, mangroves and sand dunes offer important habitats to diverse collections of organisms while also providing naturally-occurring protections for coastal environments as buffers against tides,

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<sup>86</sup> Thermal expansion is a corollary effect of ocean warming: as the ocean's temperature rises, seawater becomes less dense and expands, causing sea levels to rise.

<sup>87</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 5: Changing Ocean, Marine Ecosystems, and Dependent Communities’, (2019), p. 457.

<sup>88</sup> See IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 3: Polar Regions’, p. 205: The areal proportion of thick ice at least 5 years old has declined by approximately 90% (very high confidence). Approximately half the observed sea ice loss is attributable to increased atmospheric greenhouse gas concentrations. (Medium confidence).

<sup>89</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 4: ‘Sea Level Rise and Implications for Low-Lying Islands’, Coasts and Communities, (2019), p. 323.

<sup>90</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 4: Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities’, (2019), p. 328. (High confidence).

storms, flooding, and other adverse coastal hazards which are intensified by the effects of sea level rises and climate change more broadly.

106. As sea levels rise, these habitats are progressively less able to adapt and continue providing these ecosystem services.<sup>91</sup> Depending on the level of sea level rise, the IPCC projects that 20-90% of coastal wetlands, which often also act as carbon storage sinks, will be lost.<sup>92</sup>
107. Further, the IPCC has noted the detrimental effects that sea level rise continues to pose to freshwater ecosystems, as a result of the fact that “saline water intrusion into coastal aquifers and surface water and soils is expected to be more frequent and enter further landwards”.<sup>93</sup> Referencing studies completed in Bangladesh, the IPCC observed that: “some freshwater fish species are expected to lose their habitat with increasing salinity, with profound consequences on fish-dependent communities”; the intrusion of saltwater was shown to “cause shifts in the diatom assemblages, with expected cascading effects through the food web”; and salinisation of surface water “may lead to limitations in drinking water supply”.<sup>94</sup> The consequences of sea level rise on freshwater ecosystems are, therefore, of critical importance.
108. Accordingly, the IPCC has confirmed that global coastal communities are particularly vulnerable to the risks resulting from the climate effects of anthropogenic GHG emissions, while emphasising the urgency of corrective action. In this regard, the IPCC has predicted “that failure to mitigate GHG emissions or to adapt to [sea level rise] will cause major disruptions to many low-lying coastal communities and jeopardise achievement of all UN SDGs and other societal aspirations” and that “immediate and ambitious GHG emissions reduction” is necessary.<sup>95</sup>
109. Further, as emphasised by the President of the General Assembly during the UN Security Council’s 9260th meeting, held on 14 February 2023: “much of global agriculture is concentrated on coastal plains and low-lying islands”.<sup>96</sup> As such, the perils of continued sea level rises are clear, with the flooding and destruction of agricultural space and climate change impacts on marine biodiversity contributing directly to food shortages and associated economic detriments.

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<sup>91</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 4: Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities’, (2019), p. 323.

<sup>92</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Summary for Policymakers’, (2019), p. 24: “Globally, 20–90% of current coastal wetlands are projected to be lost by 2100, depending on projected sea level rise, regional differences and wetland types, especially where vertical growth is already constrained by reduced sediment supply and landward migration is constrained by steep topography or human modification of shorelines”. (High confidence).

<sup>93</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 4: Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities’, (2019), p. 378: “saline water intrusion into coastal aquifers and surface waters and soils is expected to be more frequent and enter farther landwards. Salinisation of groundwater, surface water and soil resources also increases with land-based drought events, decreasing river discharges in combination with water extraction and SLR”. (High confidence).

<sup>94</sup> *Ibid.*

<sup>95</sup> *Ibid.*, p. 410.

<sup>96</sup> United Nations Security Council, Meetings Coverage: Security Council, 9260<sup>th</sup> Meeting, see [here](#) [accessed 11 June 2023].

110. As a result, as climate change continues to exacerbate serious humanitarian concerns, and acutely affects coastal communities, so too will the broader environment increasingly be affected by the consequences of enforced displacement and involuntary migration of climate refugees affected by global sea level rises, and food insecurity.

### 3. *Ocean acidification*

111. As levels of atmospheric CO<sub>2</sub> increase, so too do the levels absorbed by the ocean. According to IPCC estimates, “the ocean has taken up between 20-30% of total anthropogenic CO<sub>2</sub> emissions since the 1980s”.<sup>97</sup>
112. The ocean’s uptake of anthropogenic carbon affects its chemistry in a process referred to as “ocean acidification”,<sup>98</sup> which increases the concentrations of aqueous CO<sub>2</sub>, bicarbonate and hydrogen ions, and decreases pH, carbonate ion concentrations and calcium carbonate mineral saturation states.<sup>99</sup>
113. Ocean acidification affects a variety of biological processes with, for example, lower calcium carbonate saturation states reducing net calcification rates for some shell-forming organisms and higher CO<sub>2</sub> concentrations increasing photosynthesis for some phytoplankton and macroalgal species.<sup>100</sup>
114. In addition, coral reefs are among the ecological systems that suffer most acutely from ocean acidification, which, combined with the impact of ocean warming, results in ‘coral bleaching’, a process in which coral polyps react negatively to temperature increases, expelling algae from within their tissue and disrupting a vital symbiotic biological relationship between the algae and the coral.
115. Consequently, the coral, which is highly sensitive, loses a major source of food, turns white (thus disrupting the role of coral reefs as key camouflage to certain marine species), and becomes more susceptible to disease, thereby placing it at increased risk of death.<sup>101</sup> According to the IPCC, “anthropogenic climate change is driving higher frequencies and intensities of mass coral bleaching and mortality”.<sup>102</sup>
116. As significant numbers of marine species rely upon coral reefs as their natural habitat, the impacts of mass coral bleaching are severe, with the IPCC in some cases

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<sup>97</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Summary for Policymakers’, (2019), p. 9. (Very likely).

<sup>98</sup> *Ibid*, p. 9: “By absorbing more CO<sub>2</sub>, the ocean has undergone increasing surface acidification (Virtually certain). A loss of oxygen has occurred from the surface to 1000 m”. (Medium confidence).

<sup>99</sup> IPCC, , Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Sixth Assessment Report, ‘Chapter 3: Oceans and Coastal Ecosystems and Their Services’, (2022).

<sup>100</sup> IPCC, Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Sixth Assessment Report, ‘Chapter 3: Oceans and Coastal Ecosystems and Their Services’, (2022).

<sup>101</sup> National Ocean Service, ‘What is Coral Bleaching?’, see [here](#) [accessed 26 May 2023].

<sup>102</sup> IPCC, Climate Change 2014: Impacts, Adaptation, and Vulnerability, Contribution of Working Group II to the Fifth Assessment Report, Part B: Regional Aspects, ‘Chapter 30: The Ocean’, (2014), p. 1683: “the mass coral bleaching and mortality that occurred in 1996 and 1998 were a direct result of the sensitivity of reef-building corals to unusually elevated sea temperatures” (High confidence).

attributing the loss of fish species that rely upon coral-based invertebrates to the loss of coral habitats.<sup>103</sup>

117. Such effects on biodiversity in coral ecosystems, and the consequent reduction in the abundance of prey for marine organisms, can have cascading effects on wider ecosystems, and result in challenging conditions for both commercial fisheries and local fishing communities, which are reliant on marine resources for their food and livelihoods.
118. As a result of these impacts, climate change and ocean acidification are already affecting marine ecosystems around the globe. Overall, the IPCC has concluded that:

Since about 1950, many marine species across various groups have undergone shifts in geographical range and seasonal activities in response to ocean warming, sea ice range and biochemical changes, such as oxygen loss, to their habitats (high confidence). This has resulted in shifts in species composition, abundance and biomass production of ecosystems, from the equator to the poles. Altered interactions between species have caused cascading impacts on ecosystem structure and functioning (medium confidence).<sup>104</sup>

### **B. Other causes of harm to the marine environment**

119. As noted above, anthropogenic GHG emissions are causing profound and lasting impacts on marine biodiversity and ecosystems.
120. But GHG emissions are not the sole climate change element damaging the marine environment. Multiple sources of additional anthropogenic carbon emissions severely affect the ocean, such as the deleterious effects of the deposition of certain anthropogenic aerosol emissions.<sup>105</sup>
121. Of these, ‘black carbon’, a sooty black material emitted from gas and diesel engines, coal-fired power plants, and other sources that burn fossil fuels,<sup>106</sup> is recognised as a

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<sup>103</sup> *Ibid.*

<sup>104</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Summary for Policymakers’, (2019), p. 12.

<sup>105</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 5: Changing Ocean, Marine Ecosystems, and Dependent Communities’, (2019), p. 456: “The global scale warming and acidification trends are readily detectable in oceanic observations, well understood scientifically, and consistently projected by ESMs. Each of these has been directly attributed to anthropogenic forcing from changing concentrations of greenhouse gases and aerosols” (emphasis added). See also Wang, R., et al, Geophys, ‘Influence of anthropogenic aerosol deposition on the relationship between oceanic productivity and warming’, (2015) Environmental Research Letters pp. 10,745–10,754.

<sup>106</sup> The IPCC’s scientific definition reads as follows: a “primary aerosol emitted directly at the source from incomplete combustion processes such as fossil fuel and biomass burning”. See IPCC, Climate Change 2007: the Physical Science Basis, ‘Contribution of Working Group I to the Fourth Assessment Report of the IPCC’, p. 163.

major contributor to global climate change, with its negative effects to the environment considered second in gravity only to those of CO<sub>2</sub>.<sup>107</sup>

122. Black carbon particles absorb sunlight, converting solar radiation into atmospheric heat, thereby dramatically increasing air temperature, altering cloud formation and changing regional circulation and rainfall patterns.<sup>108</sup> In this way, highly absorbent black carbon aerosol emissions are known to cause acute harm to the marine environment through their contribution to global warming.<sup>109</sup>
123. Studies further suggest that black carbon is also a significant factor contributing to the accelerated melting of Arctic sea ice, as it lowers its albedo (see **Section II.C** of this Chapter 3, below),<sup>110</sup> contributing to increases in ocean warming and to sea level rise, resulting in potentially irreversible damage.
124. Moreover, these climate induced global changes are compounded by the impacts of further anthropological activities. In particular, as noted by the IPCC, certain fishing techniques, pollutions, the introduction of invasive species, land-use change, soil degradation and urbanisation are additional stressors threatening marine ecosystems and hindering their ability to adapt to and support the effects of climate change.<sup>111</sup>

## **II. Feedback Effects and Interaction**

125. The impacts of climate change on the marine environment also constitute a grave threat to the environment globally owing to their potential to generate feedback effects that in turn exert global influence on climate change.

### **A. Feedback effects through changes to Ocean Circulation**

126. Climate change may alter ocean circulation patterns, such as thermohaline circulation (also known as the “global conveyor belt”).<sup>112</sup> Changes in sea surface temperatures and salinity can disrupt these currents, influencing heat distribution and energy transport within the ocean. Altered ocean circulation can affect the distribution of heat and moisture globally, in turn affecting weather patterns on land.<sup>113</sup> For example, changes in the Atlantic Meridional Overturning Circulation (AMOC) can influence the North Atlantic Oscillation (NAO), which in turn results in modifications to

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<sup>107</sup> Bond, T. C., et al, ‘Bounding the role of black carbon in the climate system: a scientific assessment’, *Journal of Geophysical Research* (2013), pp. 5380-5552, p. 5388: “[o]ur best estimate of black carbon forcing ranks it as the second most important individual climate-warming agent after carbon dioxide”.  
<sup>108</sup> Centre for Climate and Energy Solutions, “What is black carbon?” (April 2010). See [here](#) [accessed 11 June 2023].

<sup>109</sup> Climate and Clean Air Coalition, “Black Carbon”. See [here](#) [accessed 11 June 2023].

<sup>110</sup> Arctic Council, “Black Carbon and Methane”. See [here](#) [accessed 11 June 2023].

<sup>111</sup> IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, ‘Chapter 5: Changing Ocean, Marine Ecosystems, and Dependent Communities’, (2019), p. 545. See also Ocean & Climate Platform, ‘What ocean for tomorrow? Marine ecosystems in a changing climate – Insights from the IPCC’s Sixth Assessment Report’, March 2023, p. 19. See [here](#) [accessed 12 June 2023].

<sup>112</sup> National Geographic, ‘Ocean Currents and Climate’. See [here](#) [accessed 12 June 2023].

<sup>113</sup> National Oceanic and Atmospheric Administration, Ocean Exploration, ‘How does the ocean affect climate and weather on land?’. See [here](#) [accessed 11 June 2023].

weather systems in Europe.<sup>114</sup> These altered weather patterns can further modify climate conditions and contribute to climate change feedbacks.<sup>115</sup>

127. These feedback effects highlight the interconnectivity between the marine environment and the global climate system. Changes in the marine environment resulting from climate change in turn amplify the drivers of climate change themselves, creating a complex system of interactions that accelerate and intensify global climate change which in turn, increases the deleterious effects on the marine environment.

### **B. The marine environment's role as a carbon sink**

128. The ocean is one of the largest sinks in the Earth's system for anthropogenic CO<sub>2</sub> emissions; consequently, climate change can result in feedback effects, which exacerbate and in turn accelerate climate change.
129. As mentioned, ocean acidification is highly likely to impair the ability of marine organisms, such as corals and phytoplankton, to build their shells and skeletons,<sup>116</sup> which in turn reduces their capacity to sequester carbon through processes such as calcification. Consequently, less carbon is stored in the ocean, which in turn leads to higher atmospheric CO<sub>2</sub> levels and further contributes to the effects of climate change.
130. This phenomenon highlights the need also to protect marine ecosystems that sequester CO<sub>2</sub> from further vectors of harm that hinder their ability to mitigate climate change.
131. For example, it is suggested that (micro) plastic not only affects the phytoplankton cells that absorb CO<sub>2</sub> from the ocean's surface, but that it may also harm the zooplankton (microscopic animals) that help transport that carbon to the deep ocean. Just as phytoplankton are the primary fixers of carbon in ocean ecosystems, zooplankton are the first and most important consumers of phytoplankton.
132. More importantly from the climate perspective, zooplankton are instrumental in taking the carbon fixed by the phytoplankton and transporting it to the deep ocean in the form of fecal pellets. Studies have shown that the effects of microplastic pollution extend to the contamination of zooplankton fecal pellets, whereby contaminated fecal pellets result in decreased 'sink rates' and are more likely to be fragmented than uncontaminated pellets.<sup>117</sup> As such, the proportion of sequestered carbon in sea water is reduced, with this phenomenon directly correlating to increasing ocean plastic concentrations.<sup>118</sup>

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<sup>114</sup> Hyo-Jeon Kim, Soon-II An, Jae-Heung Park, Mi-Kyung Sung, Daehyun Kim, Yeonju Choi and Jin-Soo Kim, 'North Atlantic Oscillation impact on the Atlantic Meridional Overturning Circulation shaped by the mean state', *Climate and Atmospheric Science*, (25 March 2023).

<sup>115</sup> *Ibid.*

<sup>116</sup> IPCC, *Climate Change 2014: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Fifth Assessment Report, Part B: Regional Aspects, 'Chapter 30: The Ocean', (2014), p. 1710.

<sup>117</sup> Wieczorek et al, 'Microplastic ingestion by gelatinous zooplankton may lower efficiency of the biological pump', (2019), *Environment Science and Technology* 53, pp. 5387-5395.

<sup>118</sup> Shen, M., et al, 'Can microplastics pose a threat to ocean carbon sequestration?', *Marine Pollution Bulletin* 150, (2020), p. 3.



### C. Positive feedback loop resulting from the Ice-Albedo Effect

133. One of the most important feedback effects contributing to climate change is the ‘ice-albedo’ feedback. Albedo denotes the fraction of solar energy that is diffusely reflected by a body back to space. Ocean water has an albedo of only 0.06 while the albedo of ice is 0.7 – in other words, the ocean reflects only 6% of solar radiation, compared to surface ice which reflects 70%. The rest of the energy is absorbed as heat. Ice has a high albedo because it is light coloured and reflective.
134. As sea ice and snow-cover melt and retreat in a warming climate, the global surface albedo of the Earth decreases and a larger proportion of the incoming solar radiation is absorbed by the Earth’s surface and converted into heat.<sup>119</sup> Effects of reduced global ice area include an increase in the area of dark ocean surfaces in particular, which absorb more solar radiation instead of reflecting it away from the atmosphere. The increased absorption of solar energy leads to further global warming, accelerating the melting of ice and creating a positive feedback loop.<sup>120</sup> This amplified warming not only affects the marine environment, but also affects global climate patterns, changing precipitation temperature and weather systems on land.

### III. The Role of the Ocean in Regulating the Climate and the Specific Impact of Climate Change on Rwanda

135. It is well established that the ocean serves as the Earth’s predominant climate regulatory mechanism, responsible for the uptake and distribution of anthropogenic CO<sub>2</sub> in the atmosphere, driving our weather patterns and influencing our climate.<sup>121</sup>
136. For instance, the ocean has a direct influence upon the global climate, including through its role in absorbing solar radiation and slowly releasing heat. This mechanism drives atmospheric circulation as the source, through surface evaporation, of much of the water that falls on land as rain, and, as set out above, by absorbing and sequestering CO<sub>2</sub> from the atmosphere.<sup>122</sup>
137. It follows that, though landlocked, Rwanda remains highly vulnerable to the broader effects of climate change on the marine environment, particularly in relation to impacts on the marine environment contributing to ‘positive feedback loops’, which further intensify climate change impacts and create a cycle of climate harm, including far beyond coastal States. Notwithstanding its lack of direct access to the ocean, Rwanda is suffering – and will suffer – as a result of these feedback loops and the ocean’s diminished ability to regulate our shared climate.<sup>123</sup>

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<sup>119</sup> Abe M, Nozawa T, Ogura T and Takata K, ‘Effect of retreating sea ice on Arctic cloud cover in simulated recent global warming’, *Atmos. Chem. Phys.* 16, (2016), pp. 14343–14356, p. 14343.

<sup>120</sup> A feedback that increases an initial warming is called a "positive feedback." A feedback that reduces an initial warming is a "negative feedback".

<sup>121</sup> NASA, ‘Climate Variability’, see [here](#) [accessed 11 June 2023]; IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate (2019), ‘Technical Summary’, p. 43.

<sup>122</sup> NASA, ‘Climate Variability’, see [here](#) [accessed 11 June 2023].

<sup>123</sup> Zhou, J., Zheng, Y., Hou, L. et al, ‘Effects of acidification on nitrification and associated nitrous oxide emission in estuarine and coastal water’, *Nature Communications* 14, 1380, (2023), p. 8; Barford, E, ‘Rising ocean acidity will exacerbate global warming’, *Nature* (2013).



138. Further, given that the entirety of Rwanda’s territory is located at high altitude, and that a significant portion of its territory is covered by tropical rainforests located in mountainous regions, the country’s topographical features place it at heightened risk of impacts from the effects of climate change.
139. As identified by the IPCC, “[e]xtreme precipitation in major mountain regions is projected to increase, leading to consequences such as floods and landslides”.<sup>124</sup> Such projected increases to mountain region precipitation aligns with broader global trends, including the relationship, identified by various studies, between intensified ocean warming and the greater frequency (and severity) of precipitation, including extreme weather.<sup>125</sup>
140. Consistent with this, existing data has shown that, over the last 30 years, parts of Rwanda have experienced unusual irregularities in climate patterns, including significant variability in rainfall frequencies and intensity, and the persistence of extremes such as heavy rainfall in the north, and drought in the eastern and southern areas.<sup>126</sup> The analysis of rainfall trends show that rainy seasons are tending to become shorter with higher intensity.<sup>127</sup> These trends have led to decreases in agricultural production, as well as events such as droughts in dry areas, and floods or landslides in areas experiencing heavy rains.<sup>128</sup>
141. In higher altitude regions, such as Rwanda, floods and landslides are the principal disasters, which occur mainly during the rainy seasons.<sup>129</sup> For example, in May 2023, Rwanda suffered a devastating national tragedy in the State’s Western Province, with the loss of over 130 lives owing to flash floods and landslides caused by torrential rains following a period of drought.
142. As reported by Deutsche Welle, Rwanda – “one of the most climate-impacted nations on Earth” – has become a flashpoint for climate-fuelled, flood-related disasters, amidst broader trends of a 134% increase in these disasters globally.<sup>130</sup>

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<sup>124</sup> IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II, to the Sixth Assessment Report, ‘Cross-Chapter Paper 5: Mountains’*, (2022), p. 2292. (Medium confidence).

<sup>125</sup> Aumann, H. H., Behrangi, A., & Wang, Y., ‘Increased frequency of extreme tropical deep convection: AIRS observations and climate model predictions’, *Geophysical Research Letters*, 45, (2018), pp. 13,530–13,537; Wang, X., et al, ‘The strengthening of Amazonian precipitation during the wet season driven by tropical sea surface temperature forcing’, *Environmental Research Letters*, 13, (2018); Risser, M. D., & Wehner, M. F., ‘Attributable human-induced changes in the likelihood and magnitude of the observed extreme precipitation during Hurricane Harvey’, *Geophysical Research Letters*, 44, (2017), pp. 12,457–12,464.

<sup>126</sup> Rwandan Environment Management Authority (“REMA”), *Rwanda State of Environment and Outlook Report*, Chapter IX Climate change and natural disasters, see [here](#) [accessed 11 June 2023].

<sup>127</sup> *Ibid.*

<sup>128</sup> *Ibid.*

<sup>129</sup> *Ibid.*

<sup>130</sup> DW, ‘Rwanda floods, landslides fuelled by climate change’, see [here](#) [accessed 26 May 2023]. See also, Climate Change Knowledge Portal, ‘Rwanda: Vulnerability’, see [here](#) [accessed 26 May 2023]: The World Bank’s Climate Change Knowledge Portal states that “[o]ver the past 30 years, the frequency, intensity of extreme events such as floods and droughts have increased in Rwanda”, that “Eastern Africa has experienced extreme precipitation changes” and that “[f]loods and landslides were increasingly reported in the high altitude western and northern provinces, whereas droughts made severe damages in the eastern province”.

143. Further, Rwanda’s unique topographical features place the State at high risk of increased forest fires. The IPCC’s Sixth Assessment Report concluded that in “tropical mountain ecosystems, increases in fire activity are potentially linked to changing climate” and that “a significant risk exists of wildfire exacerbating other impacts of climate change on already vulnerable ecosystems in many mountain regions”.<sup>131</sup>
144. This in turn poses a feedback effect on global climate change, with tropical forests identified by the IPCC to be “critical repositories of global carbon”, estimated to hold “about one-third of the [carbon] levels in the atmosphere”.<sup>132</sup> Accordingly, the loss of tropical forest ecosystems, in particular through fire, is particularly damaging to the management of global carbon levels. This is especially the case when coupled with the fact that these biomes are at elevated risk from the effects of climate change, with temperature rise and prolonged droughts cited by the IPCC as “increas[ing] the danger of fires in drained peatlands and tropical forests [...] resulting in large carbon emissions [...] and changes in forest composition and biodiversity”.<sup>133</sup>
145. It is also noted that, as expressed by the National Oceanic and Atmospheric Administration, the creation of layers of ash and burnt top soil during wildfires “enhance flood risk for years that follow [...] until vegetation is restored, which can take up to a decade or longer”.<sup>134</sup> As such, the persistent impacts of climate change-induced wildfires in Rwanda pose an additional threat to the environment, intensifying risks of flooding as a consequence of projected increases to “extreme precipitation in major mountain regions”.<sup>135</sup>
146. The IPCC’s studies also project that “the difficulty of species to migrate through highly fragmented tropical forested regions [...] and ‘non analogue climates’, under a climate change scenario, poses extra pressure on tropical biodiversity to adapt and survive”.<sup>136</sup> As such, there exists an increased risk for tropical forest biomes to become “highly fragmented” as a direct result of organisms encountering difficulties during migration, cascading to serious survival risks, and enforced adaptations to altering habitat conditions.

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<sup>131</sup> IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II, to the Sixth Assessment Report, ‘Cross-Chapter Paper 5: Mountains’*, (2022), p. 2281: “this evidence suggests that a significant risk exists of wildfire exacerbating other impacts of climate change on already vulnerable ecosystems in many mountain regions”. (Medium confidence).

<sup>132</sup> IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Sixth Assessment Report, ‘Cross-Chapter Paper 7: Tropical Forests’*, (2022), pp. 2369-2410, p. 2379.

<sup>133</sup> *Ibid.*, p. 2378.(High confidence). Note that the IPCC specifically linked increased dangers of fires in drained peatlands and tropical forests to occurrences in Southeast Asia and the Amazon, however increased risks of forest fires in tropical forest biomes are understood to be generalised challenges facing ecosystems globally.

<sup>134</sup> National Oceanic and Atmospheric Administration, ‘Cascading Hazards: Wildfires, Post-Fire Flooding and the role of Climate Change, p. 1. See [here](#) [accessed 12 June 2023].

<sup>135</sup> IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II, to the Sixth Assessment Report, ‘Cross-Chapter Paper 5: Mountains’*, (2022), p. 2292.

<sup>136</sup> IPCC, *Climate Change 2022: Impacts, Adaptation and Vulnerability, Contribution of Working Group II to the Sixth Assessment Report, ‘Cross-Chapter Paper 7: Tropical Forests’*, pp. 2369-2410, p. 2379. See World Bank, *Climate Risk Country Profile: Rwanda*, p. 16.

147. The resulting impacts upon biodiversity, and associated negative implications for food chains, are of concern to wider flora and fauna populations in Rwanda. Given that Rwanda is particularly dependent upon its own ecosystem (being an agricultural economy) the potential broader ramifications of significant changes in Rwanda's ecology include risks to food security. Further, as expressed within Rwanda's latest Nationally Determined Contribution, "Rwanda's economy depends primarily on agriculture, which is predominantly rain fed. This makes the country highly vulnerable to climate change".<sup>137</sup> Consequently, the wider impacts of disrupted rainfall patterns, wildfires, deforestation, and a subsequent risk of increased flooding in the State potentially constitute existential issues faced by the State.
148. As is evident from the correspondence between the vulnerabilities identified in the literature and the recent tragic loss of life that Rwanda is still mourning, the ecological impacts of climate change faced are well understood. Sadly, the increased occurrence of such extreme weather events indicate how – without suitable action from all States – similar environmental catastrophes will occur internationally with increasing frequency and severity. As is recognised by the IPCC, "[a] changing climate leads to changes in the frequency, intensity, spatial extent, duration, and timing of weather and climate extremes, and can result in unprecedented extremes".<sup>138</sup> As such, it is increasingly clear that substantive action is crucial to mitigating against the extreme risks of climate change.

#### IV. Climate change mitigation and adaptation

149. As set out in this Chapter, the findings of the IPCC, drawing upon global scientific analysis, are unequivocal that the impacts of climate change upon the marine environment are far-reaching, including serious implications in the form of ocean warming, sea level rise and ocean acidification (among others).
150. Accordingly, without substantial reductions to atmospheric concentrations of GHGs, natural ecosystems – including the marine environment – will continue to suffer from devastating, and increasingly irreversible, environmental repercussions. In that regard, the specific requirement for *collective* action has been emphasised by the IPCC:

Climate change has the characteristics of a collective action problem at the global scale, because most GHGs accumulate over time and mix globally, and emissions by any agent (e.g. individual, community, company, country) affect other agents. Effective mitigation will not be achieved if individual agents advance their own interests independently. Cooperative responses, including international cooperation, are therefore required to effectively mitigate GHG emissions and address other climate change issues.<sup>139</sup>

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<sup>137</sup> Republic of Rwanda, Updated Nationally Determined Contribution, May 2020, p. 45.

<sup>138</sup> IPCC, Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation, 'Chapter 3: Changes in Climate Extremes and their Impacts on the Natural Physical Environment', (2012), p. 115.

<sup>139</sup> IPCC, Climate Change 2014 Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report, 'Summary for Policymakers', (2014), p. 17..

151. Despite this, however, the IPCC has itself recognised that, while mitigation measures are essential to respond to climate change impacts, “[m]any aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped”, and that the “risks of abrupt or irreversible changes increase as the magnitude of the warming increases”.<sup>140</sup>
152. The IPCC has, therefore, emphasised the benefits to States of giving particular consideration to *adapting* to these persistent consequences of climate change.
153. In this regard, the IPCC has highlighted that:

Adaptation, in response to current climate change, is reducing climate risks and vulnerability mostly via adjustment of existing systems. Many adaptation options exist and are used to help manage projected climate change impacts, but their implementation depends upon the capacity and effectiveness of governance and decision-making processes.<sup>141</sup>

154. In particular, the IPCC has highlighted the value of marine Nature-based Solutions (“**NbS**”), which consist of actions designed to protect, restore and sustainably manage marine ecosystems so as to better prepare nature and populations for the impacts of climate change. The IPCC identifies three types of marine NbS:
- (a) Marine Protected Areas (“**MPAs**”), i.e. areas of the ocean set aside for long-term conservation aims. When properly managed, these areas can help restore biodiversity and ecosystem services. They also have the capacity to mitigate the impacts of climate change due to their natural potential to remove carbon from the atmosphere and strengthen the ocean’s resilience.
  - (b) Ecological restoration, i.e. operations intended to assist the regeneration of ecosystems which have been degraded or destroyed. This may include replanting mangroves or rehabilitating salt marshes, while limiting new activities and settlements in coastal areas; and
  - (c) The sustainable management of fisheries to better protect species from the consequences of fishing and climate change, and safeguard the livelihoods of communities that depend on them.<sup>142</sup>

155. Importantly, as the IPCC has stressed:

Adaptation and mitigation are complementary strategies for reducing and managing the risks of climate change. Substantial emissions reductions over the next few decades can reduce climate

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<sup>140</sup> IPCC, Climate Change 2014 Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report, ‘Summary for Policymakers’, (2014), p. 16.

<sup>141</sup> IPCC, Climate Change 2022: Impacts, Adaptation and Vulnerability, Working Group II Contribution to the Sixth Assessment Report, (2022), ‘Summary for Policymakers’, p. 20.

<sup>142</sup> Ocean & Climate Platform, ‘What Ocean for Tomorrow?: Marine Ecosystems in a Changing Climate, Insights from the IPCC’s Sixth Assessment Report’, p. 27.

risks in the 21st century and beyond, increase prospects for effective adaptation, reduce the costs and challenges of mitigation in the longer term and contribute to climate-resilient pathways for sustainable development.<sup>143</sup>

156. Overall, in the view of the IPCC, while:

“Many adaptation and mitigation options can help address climate change [...] no single option is sufficient by itself. Effective implementation depends on policies and cooperation at all scales and can be enhanced through integrated responses that link adaptation and mitigation with other societal objectives”.<sup>144</sup>

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<sup>143</sup> IPCC, Climate Change 2014 Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report, ‘Summary for Policymakers’, p. 17.

<sup>144</sup> IPCC, Climate Change 2014 Synthesis Report, Contribution of Working Groups I, II and III to the Fifth Assessment Report, ‘Summary for Policymakers’, p. 26.

## CHAPTER 4

### THE GENERAL OBLIGATION TO PROTECT AND PRESERVE THE MARINE ENVIRONMENT

157. Article 192 of UNCLOS imposes a substantive, legally binding obligation on States to protect and preserve the marine environment. Rwanda notes that the obligation also forms part of and is reflected in customary international law.<sup>145</sup>
158. Besides establishing the cardinal obligation of States to protect and preserve the marine environment, Article 192 sets the overarching general standard and constitutes the framework within which operates the complex and wide-ranging structure of powers and obligations contained in Part XII.<sup>146</sup> Among the provisions contained in Part XII that expand upon the general obligation under Article 192 are: Article 194, on pollution of the marine environment; Article 197, on cooperation; Articles 204-206, concerning monitoring and environmental assessment; and various other related procedural obligations, for instance the obligations to notify other States of imminent damage to the marine environment (Article 198).

#### **I. Article 192 imposes a binding, substantive obligation on State Parties to protect and preserve the marine environment**

159. Article 192 of UNCLOS provides that “States have an obligation to protect and preserve the marine environment”.
160. Pursuant to Article 31(1) of the VCLT, a treaty is to be interpreted in good faith in accordance with the ordinary meaning to be given to its terms in their context and in light of the object and purpose of the treaty. Applying that approach to Article 192, at a minimum, the use of the term “obligation” serves to underscore the binding, legal character of this duty upon States. It leaves no room for ambiguity.
161. Moreover, the location and prominence of Article 192 as the first provision within Part XII of UNCLOS shows its significance.<sup>147</sup> Had the intention of the drafters been merely to express a political sentiment, they could – for example – have limited this language to the Preamble, which acknowledges the objective of protecting and preserving the marine environment.<sup>148</sup> However, by making Article 192 a specific, separate provision within Part XII – indeed, its first provision – the drafters demonstrated a purpose transcending a mere hortatory statement.<sup>149</sup>

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<sup>145</sup> Birnie P., Boyle A.E., and Redgwell C., *International Law and the Environment*, 3rd edn: OUP, (2009), p. 387.

<sup>146</sup> Czybulka, *UNCLOS Commentary*, Proelss ed., p.1279, at MN 4.

<sup>147</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, p. 373, para. 939; Czybulka, *UNCLOS Commentary*, Proelss ed., Art 192, p. 1284 at MN 20.

<sup>148</sup> UNCLOS Preamble para. 4: “Recognizing the desirability of establishing through this Convention, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment”.

<sup>149</sup> Czybulka, Article 192, *UNCLOS Commentary*, Proelss ed., p. 1284 at MN 19.

162. Although the meaning of Article 192 is clear, recourse to secondary means of interpretation (pursuant to Article 32 of the VCLT) – including the preparatory work of the Convention, and the circumstances of its conclusion – confirms the meaning resulting from the straightforward application of Article 31 of the VCLT.<sup>150</sup>
163. International jurisprudence still further supports the conclusion that Article 192 establishes a substantive, legally binding obligation. In the *Annex VII South China Sea Arbitration* (“*South China Sea*”), the tribunal observed that “[a]lthough phrased in general terms, the Tribunal considers it well established that Article 192 does impose a duty on State Parties”,<sup>151</sup> and later referred to the “general obligation” under Article 192.<sup>152</sup> The Tribunal has also, in its provisional measures orders in both *M/V Louisa*<sup>153</sup> and *Ghana/Cote d’Ivoire*,<sup>154</sup> expressly stated that Article 192 “imposes an obligation”.
164. Rwanda notes that Article 192 applies to all maritime zones or areas. According to the plain and ordinary reading of the provision, the term “marine environment” encompasses the entirety of the ocean, without distinguishing between marine spaces falling within, or beyond, national jurisdiction. Consequently, the general obligation enshrined in Article 192 extends to the entire ocean, including the high seas.
165. In this regard, it is worth noting that the Tribunal, in its *2015 SFRC Advisory Opinion*, expressed the view that “Article 192 applies to all maritime areas”.<sup>155</sup> Further, the Annex VII Tribunal in *South China Sea* noted that “the environmental obligations in Part XII apply to States irrespective of where the alleged harmful activities took place”.<sup>156</sup> It further took note of the fact that:

In the South China Sea, ocean currents and the life cycles of marine species create a high degree of connectivity between the different

<sup>150</sup> Czybulka, “Part XII – Protection and Preservation of the Marine Environment” in Beck C.H., Hart, Nomos, United Nations Convention on the Law of the Sea, Proelss ed., (2017): “The drafting documents show that the ambition of the conference was to establish general principles and obligations to protect the marine environment as a guiding concept for the law of the sea [citing Third Committee UNCLOS III, 3rd Meeting, UN Doc. A/CONF.62/C.3/SR.3 (1974), OR II, 311 (para. 34); Sea-Bed Committee, Decisions of the United Nations Conference on the Human Environment (5- 16 June 1972) Relating to the Preservation of the Marine Environment and Marine Pollution, UN DOC, A/AC.138/SC.III/L.17 (1972), 11 Recommendation 92]”. Therefore, Art. 192 needs to be understood as a legally binding commitment, a principle, and not only a political obligation.

<sup>151</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, p. 373, para. 941.

<sup>152</sup> *Ibid.*, para. 942.

<sup>153</sup> *M/V “Louisa” (Saint Vincent and the Grenadines v. Kingdom of Spain)*, Provisional Measures, Order of 23 December 2010, ITLOS Reports 2008–2010, p. 70, para. 76 (“Considering that article 192 of the Convention imposes an obligation on States to protect and preserve the marine environment”. [Emphasis added]).

<sup>154</sup> *Dispute concerning Delimitation of the Maritime Boundary between Ghana and Côte d’Ivoire in the Atlantic Ocean (Ghana/Côte d’Ivoire)*, Provisional Measures, Order of 25 April 2015, ITLOS Reports 2015, p. 160, para. 69 (“Considering that article 192 of the Convention imposes an obligation on States to protect and preserve the marine environment” [Emphasis added]).

<sup>155</sup> *Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission (SRFC)*, Advisory Opinion, ITLOS Reports 2015, p. 37, para. 120.

<sup>156</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, para. 927.

ecosystems. This means that the impact of any environmental harm occurring at Scarborough Shoal and in the Spratly Islands may not be limited to the immediate area, but can affect the health and viability of ecosystems elsewhere in the South China Sea.<sup>157</sup>

166. The obligation to protect and preserve the marine environment therefore includes not only the immediate area of harmful activities but also broader areas that may be indirectly affected by the activity due to the ocean currents.<sup>158</sup>
167. In light of the interconnected nature of marine ecosystems, it is essential, in Rwanda's view, to recognise that the obligation to protect and preserve the marine environment applies to all harm caused, regardless of its source, cause or vector.
168. Further, in view of the character of the obligation and the interests that it protects, observance of the obligation to protect and preserve the marine environment under Article 192 (and under other substantive obligations under Part XII) constitutes a "common interest" of all States parties to UNCLOS. The existence of such a common or "collective" interest:
- [I]mplics that the obligations in question are owed by any State party to all the other States parties to the relevant convention; they are obligations *erga omnes partes*, in the sense that each State party has an interest in compliance with them in any given case.<sup>159</sup>
169. Insofar as the obligation under Article 192 (and Part XII more generally) forms part of customary international law, it similarly reflects a common or collective interest of the international community as a whole, and as a consequence are owed *erga omnes*.<sup>160</sup>
170. In this connection, Rwanda notes that, in its Advisory Opinion on the Responsibilities and Obligations of States sponsoring persons and entities with respect to activities in the Area (the "**2011 Advisory Opinion**"), the Seabed Disputes Chamber referred to "the *erga omnes* character of the obligations relating to preservation of the environment of the high seas and in the Area".<sup>161</sup> In Rwanda's view, the *2011 Advisory*

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<sup>157</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, p. 322, para. 825 [Emphasis added].

<sup>158</sup> See also, Tanaka Y., "The Ocean as a subject of the law of the sea is one single unit and is essentially characterised by a continuity of marine spaces", (2019), p. 5. See [here](#) [accessed 11 June 2023].

<sup>159</sup> *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, p.36, para. 107; see also, *Questions relating to the Obligation to Prosecute or Extradite (Belgium v. Senegal)*, I.C.J. Reports 2012, p. 422, para. 68: The "common interest implies that the obligations in question are owed by any State party to all the other States parties to the Convention. All the States parties 'have a legal interest' in the protection of the rights involved. ... These obligations may be defined as 'obligations *erga omnes partes*' in the sense that each State party has an interest in compliance with them in any given case".

<sup>160</sup> *Reservations to the Convention on the Prevention and Punishment of the Crime of Genocide*, Advisory Opinion, I.C.J. Reports 1951, p. 15.; *Barcelona Traction, Light and Power Company, Limited* (New Application: 1962) (*Belgium v. Spain*), Second Phase, Judgment, I.C.J. Reports 1970, p. 32, para. 33

<sup>161</sup> *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area (Request For Advisory Opinion Submitted To The Seabed Disputes Chamber)*, Advisory Opinion of 1 February 2011, p. 59, para. 180.



*Opinion* cannot be construed as implying that the *erga omnes* character of the obligations under Article 192 is limited solely to the high seas and the Area, but rather must be understood in light of the fact that the issues on which the Chamber was requested to provide its opinion did not touch on other zones.

171. That conclusion is further buttressed by the fact that the words “marine environment” cover all maritime areas, irrespective of their juridical status.
172. Further, as is recognised in the preamble to UNCLOS, the “problems of ocean space are closely interrelated and need to be considered as a whole”. Rwanda observes that this is particularly the case as regards questions of protection and preservation of the marine environment.
173. In addition, construing the *erga omnes* character of the obligations under Article 192 as being limited only to the high seas and the Area would be inconsistent with the ecosystem-based approach underlying Part XII. While legally the ocean is divided into distinct zones over which States have varying rights and jurisdiction, and those distinctions serve important functions, the limits and boundaries of those zones are essentially arbitrary and irrelevant from a purely environmental and ecological perspective.
174. Logically, then, the *erga omnes* effect of the obligation to protect and preserve the marine environment applies to all areas of the ocean as a whole, and every State Party has an interest in every other State’s compliance with its obligations in this regard.

## **II. Content of the general obligation to protect and preserve the marine environment**

175. The use of the words “protect and preserve” in Article 192 denotes the provision’s comprehensive scope and meaning. In that regard, the *South China Sea* tribunal clarified that:

This general obligation extends both to ‘*protection*’ of the marine environment from future damage and ‘*preservation*’ in the sense of maintaining or improving its present condition. Article 192 thus entails the *positive obligation to take active measures to protect and preserve the marine environment*, and by logical implication, entails the *negative obligation not to degrade the marine environment*.<sup>162</sup>

176. The tribunal further explained that the content of the obligation under Article 192 is “detailed in the subsequent provisions of Part XII, including Article 194, as well as by reference to specific obligations set out in other international agreements, as envisaged in Article 237 of the Convention”.<sup>163</sup> As such, and as is clear from the immediate context of Article 192, including the other provisions within Part XII and the structure of the Part, Article 192 cannot be read in isolation. Rather, its content is furnished by (and takes colour from) other provisions and rules found both within and external to

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<sup>162</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, p. 373, para. 941 [Emphasis added].

<sup>163</sup> *Ibid.*

UNCLOS. As noted above, the same conclusion derives from application of the principle of systemic interpretation under Article 31(3)(c) of the VCLT, and Article 293(1) of UNCLOS.

177. Similarly, general principles of international law, including those under the Stockholm and Rio Declarations, also inform the content of the obligation under Article 192. Adopted by consensus in 1992, the Rio Declaration reaffirms the core principles of the Stockholm Declaration of 1972,<sup>164</sup> regarded as “the most universally endorsed statement of general rights and obligations affecting the environment”.<sup>165</sup> Subsequently, the international community has repeatedly endorsed the principles contained therein and which have thus acquired customary status.<sup>166</sup>
178. Most importantly, Principle 21 of the Stockholm Declaration of 1972<sup>167</sup> and Principle 2 of the Rio Declaration of 1992,<sup>168</sup> both express the common conviction that a State’s right to sovereignty over its natural resources and wealth is not absolute, but is subject to an overarching “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>169</sup> Essentially the same principle also finds expression in Article 193 of UNCLOS, which provides that States have “the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment”.<sup>170</sup>
179. The components of this principle have also been endorsed as representing customary international law. In particular, as the ICJ stressed in its 1996 Advisory Opinion concerning *Legality of the Threat or Use of Nuclear Weapons*:

[T]he 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 other States or of areas

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<sup>164</sup> Sobenes E., Devaney J., ‘The Principles of International Environmental Law Through the Lens of International Courts and Tribunals’ in Sobenes E., Mead S. and Samson B. (eds), *The Environment Through the Lens of International Courts and Tribunals*, Springer, (2022), p. 11.

<sup>165</sup> Birnie P., Boyle A.E., and Redgwell C., *International Law and the Environment*, 3rd edn: OUP, (2009) p. 112 as cited in Harrison J., *Saving the Oceans Through Law: The International Legal Framework for the Protection of the Marine Environment*, OUP, at 1.4.3.

<sup>166</sup> Harrison J., *Saving the Oceans Through Law: The International Legal Framework for the Protection of the Marine Environment*, OUP, at 1.4.3. citing UNGA Resolution 66/288 (2012) Annex, para. 15.

<sup>167</sup> The Stockholm Declaration on the Human Environment, in Report of the United Nations Conference on the Human Environment, UN Doc. A/CONF.48/1.

<sup>168</sup> Rio Declaration on the Environment and Development, in Report of the United Nations Conference on Environment and Development, UN doc. A/Conf.151/26, vol. I.

<sup>169</sup> Sobenes E., Devaney J., ‘The Principles of International Environmental Law Through the Lens of International Courts and Tribunals’, in Sobenes E., Mead S. and Samson B. (eds), *The Environment Through the Lens of International Courts and Tribunals*, Springer, (2022), p. 545.

<sup>170</sup> Article 193, UNCLOS. The principle is also partially reflected in Article 194(2) of UNCLOS. [Emphasis added].

beyond national control is now part of the corpus of international law relating to the environment.<sup>171</sup>

180. This was reaffirmed by the ICJ in its judgment in the *Gabčíkovo-Nagymaros Project* case, where it also stressed “the great significance that it attaches to respect for the environment, not only for States but also for the whole of mankind”.<sup>172</sup>

181. Moreover, in *Pulp Mills*, the Court recognised that:

[T]he principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State in its territory. It is “every State’s obligation not to allow knowingly its territory to be used for acts contrary to the rights of other States” (*Corfu Channel (United Kingdom v. Albania), Merits, Judgment, I.C.J. Reports 1949*, p. 22). 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” (*Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996 (I)*, p. 242, para. 29).<sup>173</sup>

182. Thus, as observed by the Annex VII tribunal in the *South China Sea* arbitration, quoting the ICJ in *Nuclear Weapons*:

[T]he corpus of international law relating to the environment, which informs the content of the general obligation in Article 192, requires that States “ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control”.<sup>174</sup>

183. The Annex VII tribunal further expressed the view that:

Articles 192 and 194 set forth obligations not only in relation to activities directly taken by States and their organs, but also in relation to ensuring activities within their jurisdiction and control do not harm the marine environment.<sup>175</sup>

184. Whilst a substantial part of Part XII is concerned with rules relating to the prevention of “pollution of the marine environment”, Article 194(5), for example, contains an

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<sup>171</sup> *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I. C. J. Reports 8 July 1996, p. 226, at pp. 241-242, para. 29 [Emphasis added].

<sup>172</sup> *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, Judgment, I.C.J. Reports 1997, p. 38, para. 53.

<sup>173</sup> *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, I.C.J. Reports 2010 (I), p. 56, para 101 [Emphasis added].

<sup>174</sup> *The South China Sea Arbitration (Merits) Award*, Award of 12 July 2016, para. 941.

<sup>175</sup> *The South China Sea Arbitration (Merits) Award*, Award of 12 July 2016, para. 944 [Emphasis added].

express obligation to “protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life”.

185. International jurisprudence supports the interpretation that Article 192 (and Part XII more generally) imposes obligations going beyond those in respect of pollution. For example, the Annex VII tribunal in *Chagos Marine Protected Area* rejected the suggestion that Part XII is limited to measures aimed at controlling marine pollution, observing that:

While the control of pollution is certainly an important aspect of environmental protection, it is by no means the only one. Far from equating the preservation of the marine environment with pollution control, the Tribunal notes that Article 194(5) expressly provides that

The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.<sup>176</sup>

186. In this regard, despite formally being a subparagraph of Article 194, it is clear from its formulation that the obligation under Article 194(5) to take appropriate measures to protect and preserve rare or fragile ecosystems and the habitat of depleted, threatened or endangered species applies to all “measures taken in accordance with [Part XII]”, and is not limited to marine pollution.<sup>177</sup>
187. The *South China Sea* Annex VII tribunal further expanded upon the duty of States to protect and preserve the marine environment under Articles 192 and 194(5), finding that the provisions also impose a duty upon States to prevent the harvesting of endangered species as well as action threatening the habitat of vulnerable species, as actions that harm the marine environment:

[I]n addition to preventing the direct harvesting of species recognized internationally as being threatened with extinction, Article 192 extends to the prevention of harms that would affect depleted, threatened or endangered species indirectly through the destruction of their habitats.<sup>178</sup>

188. Similarly, the Tribunal has previously held in both the *Southern Bluefin Tuna* Case and the Tribunal’s *SFRC 2015 Opinion* that the “conservation of the living resources

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<sup>176</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, para. 945. See also, *Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom)*, Award, 18 March 2015, paras. 320, 538.

<sup>177</sup> Czybulka, UNCLOS Commentary, Proelss ed., Article 192, p. 1287 at MN. 25. PCA, *South China Sea Arbitration, Philippines v. China* (Merits) Award, p. 381, para. 959; see also, Czybulka, UNCLOS Commentary, Proelss ed., Article 192, p. 1287 at MN. 25.

of the sea” is “an element in the protection and preservation of the marine environment”.<sup>179</sup>

189. Subsequently, in *M/V Louisa*, the Tribunal stated that “the parties should in the circumstances act with prudence and caution to prevent serious harm to the marine environment”, specifically referring in this regard to the passage in its decision in *Southern Bluefin Tuna*, in which it had stated that the parties should “act with prudence and caution to ensure that effective conservation measures are taken to prevent serious harm to the stock of southern bluefin tuna [...]”.<sup>180</sup>

### III. The due diligence obligation and the standard of conduct required

190. The general obligation under Article 192 to protect and preserve the marine environment is an obligation of due diligence. As noted above, in *Pulp Mills*, the ICJ observed 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”.<sup>181</sup>
191. In its *2011 Advisory Opinion*, the Seabed Disputes Chamber confirmed that the due diligence standard “is not an obligation to achieve, in each and every case” complete compliance with the relevant obligation in question, but “[r]ather, it is an obligation to deploy adequate means to exercise best possible efforts, to do the utmost, to obtain this result”.<sup>182</sup> In this regard, the conduct of a State must also evince a “certain level of vigilance in their enforcement and the exercise of administrative control”.<sup>183</sup>
192. In Rwanda’s view, the due diligence standard must be understood as being a “progressive and evolutionary standard”.<sup>184</sup> Thus, what is understood to be a reasonable standard of care (or the deployment of adequate means) to achieve a particular result may change with time and the circumstances, and in light of developments in the fields of science and technology.<sup>185</sup> The aforementioned point was highlighted by the Seabed Disputes Chamber in its *2011 Advisory Opinion*, where it observed that:

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<sup>179</sup> ITLOS, *Southern Bluefin Tuna Cases, New Zealand v. Japan; Australia v. Japan*, Provisional Measures, ITLOS Reports 1999, pp. 280, 295, para. 70; *Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission (SRFC)*, Advisory Opinion, ITLOS Reports 2015, pp. 14, 61, para. 216.

<sup>180</sup> ITLOS, *M/V “Louisa”, Saint Vincent and the Grenadines v. Kingdom of Spain*, Provisional Measures, ITLOS Reports 2008–2010, pp. 58, 70, para. 77; ITLOS, *Southern Bluefin Tuna Cases, New Zealand v. Japan; Australia v. Japan*, Provisional Measures, ITLOS Reports 1999, pp. 280, 296, para. 77.

<sup>181</sup> *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, 20 April 2010, ICJ Reports 2010 (I), p. 56, para 101 [Emphasis added].

<sup>182</sup> *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area (Request For Advisory Opinion Submitted To The Seabed Disputes Chamber)*, Advisory Opinion of 1 February 2011, para. 110 [Emphasis added].

<sup>183</sup> *Request for an Advisory Opinion submitted by the Sub-Regional Fisheries Commission (SRFC)*, 2 April 2015, p. 41, para 131, quoting *Pulp Mills*, Merits para 197. See also, Kate Parlett, ‘Marine Environment’, in *Judging the Law of the Sea*, OUP, p. 366.

<sup>184</sup> Tanaka, Y., ‘Shared State Responsibility for Land-Based Marine Plastic Pollution’, *Transnational Environmental Law*, Cambridge University Press Law, 1-26, (2023), p. 7 see [here](#) [accessed 11 June 2023]. See also, Besson S., *La due diligence en droit international*, Brill/Nijhoff, (2021), p. 138.

<sup>185</sup> Tanaka, Y., ‘Shared State Responsibility for Land-Based Marine Plastic Pollution’, *Transnational Environmental Law*, Cambridge University Press Law, 1-26, (2023), p. 7, see [here](#) [accessed 11 June 2023]. See also, Kate Parlett, ‘Marine Environment’, in *Judging the Law of the Sea*, OUP, p. 366.

‘[D]ue diligence’ is a variable concept. It may change over time as measures considered sufficiently diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge. It may also change in relation to the risks involved in the activity.<sup>186</sup>

193. In a similar vein, according to the International Law Commission:

What would be considered a reasonable standard of care or due diligence may change with time; what might be considered an appropriate and reasonable procedure, standard or rule at one point in time may not be considered as such at some point in the future. Hence, due diligence in ensuring safety requires a State to keep abreast of technological changes and scientific developments.<sup>187</sup>

194. In determining the relevant standard of conduct, the Tribunal should also have regard to the precautionary principle/approach, which reflects the important relationship between environmental issues and science.<sup>188</sup> Recognised in various international instruments, it has the status of a general principle of international law.

195. In this regard, Principle 15 of the Rio Declaration perhaps most clearly embodies the precautionary principle. It provides that:

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.<sup>189</sup>

196. Rwanda notes that the importance of a precautionary approach has been confirmed by ITLOS in the *Southern Bluefin Tuna Case*,<sup>190</sup> by the Seabed Disputes Chamber in its 2011 Advisory Opinion,<sup>191</sup> and by Judge Wolfrum in his separate opinion in *MOX Plant*.<sup>192</sup>

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<sup>186</sup> *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area (Request For Advisory Opinion Submitted To The Seabed Disputes Chamber)*, Advisory Opinion of 1 February 2011, p. 43, para. 117.

<sup>187</sup> International Law Commission, Draft Articles on Prevention of Transboundary Harm from Hazardous Activities with Commentaries, Report of the ILC on its 53<sup>rd</sup> Session, 23 Apr.–1 June and 2 July–10 Aug. 2001, UN Doc. A/56/10, p. 154, para. 11, Commentary to Art. 3 [Emphasis added].

<sup>188</sup> Atapattu S., *The Environment Through the Lens of International Courts and Tribunals*, eds Sobenes E., Mead S. and Samson B., Springer, (2022), p.16.

<sup>189</sup> Principle 15, The Rio Declaration on Environment and Development, (1992).

<sup>190</sup> *Southern Bluefin Tuna Case, (New Zealand v. Japan; Australia v. Japan)*, 27 August 1999, paras 77-80.

<sup>191</sup> *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area (Request For Advisory Opinion Submitted To The Seabed Disputes Chamber)*, Advisory Opinion of 1 February 2011, para 122.

<sup>192</sup> *MOX Plant, (Ireland v UK)*, Separate Opinion Judge Wolfrum, 3 December 2001, p.133.

#### IV. Corollary procedural obligations

197. Additionally, Rwanda notes that it is well established that a number of procedural obligations exist as corollaries of the general due diligence obligation to prevent significant harm, notably the obligations of information, notification, and cooperation, the obligation to conduct an environmental impact assessment, and the obligation of continuous monitoring.<sup>193</sup>
198. These procedural obligations find concrete expression in Part XII of UNCLOS:
199. Article 197 embodies the obligation of States to cooperate on a global or regional scale. The provision mandates collaborative efforts with a view to addressing environmental concerns and fostering collective action in the preservation and protection of the marine environment. As observed by the Tribunal in the *MOX Plant* case, “the duty to co-cooperate is a fundamental principle in the prevention of the pollution of the marine environment under Part XII and general international law”.<sup>194</sup>
200. Further, as the Tribunal in the aforementioned case expressly recognised, the obligation to cooperate under Article 197 reflects a broader customary principle applicable in environmental matters. In that regard, as observed by Judge Wolfrum in his separate opinion, “the obligation to cooperate is the overriding principle of international environmental law, in particular when the interests of neighbouring States are at stake”.<sup>195</sup> The ICJ, in the context of a bilateral situation concerning a shared resource, has likewise implicitly endorsed the existence of the customary principle of cooperation in *Pulp Mills*, noting that:
- [I]t 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.<sup>196</sup>
201. The core obligation of cooperation under Article 197 is further elaborated upon in Articles 198-201 of UNCLOS (discussed further below in Chapter 5). As noted by the Tribunal in the *Land Reclamation* case, those provisions require States to “establish mechanisms for exchanging information and assessing the risks or effects of [planned activities] and devising ways to deal with them in the areas concerned”.<sup>197</sup> Those obligations ensure that affected States are promptly informed of potential risks or ongoing harm, facilitating timely and effective response mechanisms.

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<sup>193</sup> ICJ, *Case Concerning Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, 20 April 2010, ICJ Reports 2010.

<sup>194</sup> *MOX Plant (Ireland v UK)*, Order, 3 December 2001, p. 110, para. 82.

<sup>195</sup> Separate Opinion Judge Wolfrum, *MOX Plant (Ireland v UK)*, Provisional Measures Order of 3 December 2001, *ITLOS Reports 2001*, p. 135.

<sup>196</sup> *Pulp Mills on the River Uruguay (Argentina v Uruguay)*, Judgment, I.C.J. Reports 2010 (I), p. 49, para. 77; see also *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)*, Judgment, I.C.J. Reports 2015, pp. 707-8, para. 106.

<sup>197</sup> *Case Concerning Land Reclamation By Singapore In And Around The Straits Of Johor (Malaysia V. Singapore)*, Order, 8 October 2003, p. 26, para. 99.

202. In addition, pursuant to Article 204 of UNCLOS, States are under an obligation to monitor the risks and effects of pollution of the marine environment in general, whilst pursuant to Article 205 the results of such monitoring procedures shall be published.
203. Pursuant to Article 206, States are under an obligation to conduct a prior environmental impact assessment in order to assess the potential effects of planned activities under their jurisdiction or control when they have reasonable grounds for believing that such activities may result in substantial pollution or cause other significant and harmful changes to the marine environment.
204. As the Seabed Disputes Chamber has previously recognised,<sup>198</sup> the express obligation under Article 206 mirrors a broader requirement under customary international law, which derives from and forms part of the due diligence obligation of prevention, and which requires the undertaking of an environmental impact assessment where there is a risk that a proposed activity may have “a significant adverse impact in a transboundary context, in particular, on a shared resource”.<sup>199</sup>
205. Pursuant to Article 206 UNCLOS, read with Article 205, there is an obligation to publish the results of an environmental impact assessment, and to communicate them to relevant international organisations, which should then make them available to all States.
206. That obligation also largely parallels procedural obligations under customary international law deriving from the due diligence obligation of prevention and which form part of the wider duty of cooperation. As the ICJ has observed in that regard, where an activity entails:

[A] risk of significant transboundary harm, the State planning to undertake the activity is required, in conformity with its due diligence obligation, to notify and consult in good faith with the potentially affected State, where that is necessary to determine the appropriate measures to prevent or mitigate that risk.<sup>200</sup>

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<sup>198</sup> *Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area (Request For Advisory Opinion Submitted To The Seabed Disputes Chamber)*, Advisory Opinion of 1 February 2011, pp. 50-51, paras. 145-147.

<sup>199</sup> *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment I.C.J. Reports 2010 (I), p. 73, para. 204; *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)*, Judgment, I.C.J. Reports 2015, p. 665; pp. 706-707, para. 104; see also, *ibid.*, at p. 720 para. 153 “a State’s obligation to exercise due diligence in preventing significant transboundary harm requires that State to ascertain whether there is a risk of significant transboundary harm prior to undertaking an activity having the potential adversely to affect the environment of another State. If that is the case, the State concerned must conduct an environmental impact assessment.”

<sup>200</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)*, Judgment, I.C.J. Reports 2015 (II), p. 707, para. 104; see also *Dispute over the Status and Use of the Waters of the Silala (Chile v. Bolivia)*, Judgment of 1 December 2022, para. 114.



## V. Conclusion

207. In summary, Rwanda therefore submits that Article 192 creates a broad, binding due diligence obligation to protect and preserve the marine environment, in all maritime areas.
208. This obligation, which is owed *erga omnes*, is informed by other provisions within UNCLOS and the relevant “corpus of international law”, and applies to all harm caused to the marine environment, regardless of its source, cause or vector.

## CHAPTER 5

### THE OBLIGATION UNDER ARTICLE 194, AND RELATED PROVISIONS OF PART XII, TO PREVENT, REDUCE AND CONTROL POLLUTION OF THE MARINE ENVIRONMENT RESULTING FROM CLIMATE CHANGE

209. The first sub-limb of the Request calls for the Tribunal to express its view on the content of:

[T]he specific obligations of State Parties to [UNCLOS] including under Part XII [...] to prevent, reduce and control pollution of the marine environment in relation to the deleterious effects that result or are likely to result from climate change, including through ocean warming and sea level rise, and ocean acidification, which are caused by anthropogenic greenhouse gas emissions into the atmosphere.

210. As Rwanda interprets the Request, the first sub-limb is concerned with the obligations of States under Part XII, particularly pursuant to Article 194, to prevent, reduce and control such marine pollution (**Section II**, below).
211. In this connection, a key question, and one which it is convenient to address first, is the scope of the notion of “pollution of the marine environment” as defined by Article 1(1)(4) of UNCLOS, and accordingly the extent to which anthropogenic GHG emissions fall within the scope of that definition (**Section I**, below).

#### **I. Anthropogenic GHG emissions constitute pollution of the marine environment**

212. Article 1(1)(4) of UNCLOS defines “pollution of the marine environment” as meaning:

[T]he 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.<sup>201</sup>

213. The definition contained in Article 1(1)(4) must be read together with – and interpreted within the context of – related provisions of UNCLOS regarding marine pollution, particularly Articles 194, 207 and 212, which inform the scope of the definition of “pollution of the marine environment”.<sup>202</sup> In particular, pursuant to Article 194(1), State Parties must take measures to “prevent, reduce and control pollution of the marine environment from any source”,<sup>203</sup> whilst Article 194(3) requires the adoption of measures to address “all sources of pollution”.<sup>204</sup> Further, in

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<sup>201</sup> Article 1(1)(4) of UNCLOS.

<sup>202</sup> Article 31(1) of the VCLT.

<sup>203</sup> Article 194(1) of UNCLOS [Emphasis added].

<sup>204</sup> Article 194(3) of UNCLOS [Emphasis added].

light of Articles 207 to 212, which impose obligations upon States to adopt national legislation to prevent, reduce and control pollution of the marine environment, it is clear that the definition of pollution of the marine environment is sufficiently wide to cover the introduction into the marine environment of substances or energy “from land-based sources” (Article 207) and substances or energy which are introduced into the marine environment “from or through the atmosphere” (Article 212).

214. Consequently, the scope of the definition of “pollution of the marine environment” under Article 1(1)(4) of UNCLOS – and thus the obligations in respect of the prevention, reduction and control of such pollution under Article 194 and other provisions of Part XII – captures pollution of the atmosphere which results (directly or indirectly):
- (a) In the deposit of substances into the seas and ocean which results or is likely to result in deleterious impacts on the marine environment; or
  - (b) In the introduction of energy (including heat) into the seas and ocean, which results or is likely to result in deleterious impacts on the marine environment.
215. Further, the notion of “deleterious effects” is broadly drawn. Notably, in this regard, the illustrative example of “hazards to human health” is not qualified by any requirement that the relevant individuals whose health is put at risk should be engaged in marine activities or that the hazard to their health should derive from or be linked to such activities. That interpretation is reinforced by the separate inclusion in the illustrative list of examples of deleterious effects of “hindrance to marine activities”. As such, on the ordinary meaning of Article 1(1)(4), the words “deleterious effects” are sufficiently wide to include any hazard to the health of individuals, wherever they are located, and encompasses all risks for the health of individuals which are the result of relevant pollution of the marine environment.
216. In light of this, Rwanda is of the view that anthropogenic GHG emissions clearly fall within the definition of pollution of the marine environment under UNCLOS:
- (a) First, as described in Chapter 3, above, the increased concentration of GHGs emitted into the atmosphere as a result of human activities (such as fossil fuel combustion, deforestation and land use change, certain agricultural practices, industrial processes, and waste management processes) has directly resulted in an increase in global atmospheric temperatures. This excess heat in the atmosphere is largely absorbed by the ocean, resulting in the (indirect) introduction of energy (heat) into the marine environment leading to increases in ocean temperature. In turn, rising ocean temperatures result in a variety of deleterious effects, one of the most notable impacts being ‘thermal stress’, resulting in damage to living resources and marine life, including the bleaching and degradation of coral reefs and changes to the spatial distribution of marine species.

In addition, the introduction of heat (energy) into the marine environment results in the ‘thermal expansion’ of the ocean, which, together with losses of mass in ice sheets as a result of increased atmospheric temperatures,

contributes to sea level rise, causing harm to living resources and marine life, as well as representing a hazard to human health.

- (b) Second, and in any event, anthropogenic emissions of CO<sub>2</sub> constitute “pollution of the marine environment”, insofar as increased atmospheric concentrations of CO<sub>2</sub> result in increased absorption of CO<sub>2</sub> by the ocean, which in turn results in ‘ocean acidification’. As explained in Chapter 3, above, ocean acidification is accompanied by significant chemical changes in the marine environment, resulting in deleterious effects of a severity similar to ocean warming. As such, anthropogenic CO<sub>2</sub> emissions result in the introduction of a substance into the marine environment, which results in deleterious effects to the marine environment.

217. The scientific evidence thus establishes a clear causal link between anthropogenic GHG emissions and deleterious effects such as, among other things, harm to living resources and marine life, loss of amenity, hindrance to marine activities and hazards to human health.<sup>205</sup>

## II. Specific obligations to Prevent, Reduce and Control Greenhouse Gas Emissions

### A. Key substantive measures

218. Part XII of the Convention imposes specific obligations on State Parties to take measures to prevent, reduce and control pollution of the marine environment; in this regard, Article 194 is the key provision. Article 194(1) provides that:

States shall take, individually or jointly as appropriate, all measures consistent with this Convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities, and they shall endeavour to harmonize their policies in this connection.<sup>206</sup>

219. Thus, State Parties are under an obligation, amongst other things,
- (a) To take all necessary *individual* measures to ensure that activities under their jurisdiction or control are conducted so as to “prevent, reduce and control” pollution in the form of GHG emissions using the best practicable means. At a minimum, in accordance also with Articles 207 and 212, this requires a State to “adopt laws and regulations” aimed at mitigating GHG emissions from activities taking place within the State’s jurisdiction and control; this

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<sup>205</sup> The IPCC has highlighted the various ways in which climate change impacts on the marine environment, and resulting global feedback effects, can pose hazards to human health. Its reports identify specific health risks such as increased frequency and intensity of heatwaves, changing patterns of infectious diseases, food and water insecurity, and the exacerbation of pre-existing health conditions. The reports emphasise also that vulnerable populations, including those in developing countries with limited resources for adaptation, are particularly susceptible to the health hazards associated with climate change.

<sup>206</sup> Article 194(1) of UNCLOS [Emphasis added].

extends to the activities of both State and non-State actors within the State's jurisdiction and under its control;<sup>207</sup>

- (b) Similarly, to take all necessary *collective* measures to ensure that activities under their jurisdiction or control are conducted so as to “prevent, reduce and control” pollution in the form of GHG emissions using the best practicable means. Such measures may be adopted jointly with one or more other States, and include collective measures to mitigate GHG emissions from activities within their jurisdiction and control;<sup>208</sup> and
- (c) Short of the adoption of collective measures, States must “endeavour to harmonize their policies” in taking individual measures.

220. The language of using “the best practicable means at their disposal and in accordance with their capabilities” reflects the different requirements incumbent upon, on the one hand, developed States, and developing States on the other. As addressed in Chapter 7, below, this approach is aligned with principles of customary international law that informed the drafting of – and apply in parallel with – UNCLOS<sup>209</sup> (particularly the principle of CBDR embodied in Principle 7 of the Rio Declaration (amongst others), which recognises that “in view of the different contributions to global environmental degradation, States have common but differentiated responsibilities” in fulfilling their obligations).<sup>210</sup> As also further developed in Chapter 7, below, the UNFCCC also includes CBDR as one of its guiding principles and the principle plays an important role in the Paris Agreement.

221. Rwanda submits, therefore, that developed States, as the primary historic and present contributors to GHG emissions, are under a *positive obligation* to take the lead in mitigating climate change and are likewise obliged, pursuant to the obligation to take collective measures, to provide appropriate support to developing States in their efforts in that regard.

222. Article 194(2) further provides:

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 the Convention.

223. Article 194(2), mirrors the due diligence obligation of prevention under Article 192, which, as discussed in Chapter 4, itself reflects an obligation under general international law. It makes explicit that the obligations of States include an obligation

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<sup>207</sup> Article 207(1) of UNCLOS.

<sup>208</sup> Article 194(1) of UNCLOS.

<sup>209</sup> Article 31 VCLT.

<sup>210</sup> Rio Declaration, Principle 7. See also, Paris Agreement, Art. 2 (stating that the Agreement “will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances”).

to take necessary steps to ensure that pollution result from activities within the State's jurisdiction or control are so conducted as not to cause damage to other States and their environment, or to areas beyond their jurisdiction. As a consequence, it includes an obligation to take measures to protect areas forming part of the global commons, such as the high seas.<sup>211</sup>

224. Further, when read in conjunction with Article 192, which applies to all maritime areas, Article 194(1) and (2) make clear that the obligation to control, prevent and reduce marine pollution applies also to areas falling within their jurisdiction or in which they exercise sovereign rights.
225. In addition, as already noted, Article 194(3) stipulates that “measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment”.<sup>212</sup> In the context of climate change, Article 194(3)(a) is particularly relevant insofar as it requires that the measures taken to deal with all sources of marine pollution shall include those that “minimize to the fullest possible extent”,<sup>213</sup> *inter alia*, “the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping”.<sup>214</sup>
226. Those general obligations in relation to pollution of the marine environment are expanded upon in further provisions, including Articles 207 to 212 of UNCLOS, which impose obligations to adopt national laws and regulations on the prevention, reduction and control of pollution of the marine environment, and Articles 213 to 222 which impose obligations to enforce such laws as well as to take the measures necessary to adopt laws and regulations in order to implement relevant international rules and standards.
227. In the context of anthropogenic GHG emissions, given that much of the human activity constituting pollution contributing to climate change is land-based and is introduced to the ocean from or through the atmosphere, particular attention must be afforded to Articles 207 and 212.
228. Article 207 reads:
1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources, including rivers, estuaries, pipelines and outfall structures, taking into account internationally agreed rules, standards and recommended practices and procedures.
  2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.
  3. States shall endeavour to harmonize their policies in this connection at the appropriate regional level.

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<sup>211</sup> Czybulka, UNCLOS Commentary, Proelss ed., on Article 192, p. 1284 at MN. 20.

<sup>212</sup> Article 194(3) of UNCLOS.

<sup>213</sup> Article 194(3) of UNCLOS.

<sup>214</sup> Article 194(3)(a) of UNCLOS; see similarly, Article 207(5) of UNCLOS.

4. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development. Such rules, standards and recommended practices and procedures shall be re-examined from time to time as necessary.

5. Laws, regulations, measures, rules, standards and recommended practices and procedures referred to in paragraphs 1, 2 and 4 shall include those designed to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment.<sup>215</sup>

229. Article 212 reads:

1. States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty and to vessels flying their flag or vessels or aircraft of their registry, taking into account internationally agreed rules, standards and recommended practices and procedures and the safety of air navigation.

2. States shall take other measures as may be necessary to prevent, reduce and control such pollution.

3. States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control such pollution.<sup>216</sup>

230. It follows that States should endeavour, as part of the collective measures required, to “establish global and regional rules, standards and recommended practices and procedures”<sup>217</sup> to mitigate GHG emissions.

231. Further, the provisions of section 6 of Part XII work in tandem with the provisions of Articles 207 to 212, in imposing obligations to enforce the laws and regulations adopted, and to take the measures necessary to adopt laws and regulations in order to implement relevant international rules and standards.

232. As regards land-based sources of pollution of the marine environment, Article 213 provides:

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<sup>215</sup> Article 207 of UNCLOS [Emphasis added].

<sup>216</sup> Article 212 of UNCLOS [Emphasis added].

<sup>217</sup> Articles 207 and 212 of UNCLOS. See also Articles 208 and 210.

States shall enforce their laws and regulations adopted in accordance with article 207 and shall adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from land-based sources.

233. Similarly, in respect of pollution of the marine environment from or through the atmosphere, Article 222 imposes an obligation to enforce the laws and regulations adopted pursuant to Article 212(1) to prevent, reduce and control atmospheric pollution, and also to

adopt laws and regulations and take other measures necessary to implement applicable international rules and standards established through competent international organizations or diplomatic conference to prevent, reduce and control pollution of the marine environment from or through the atmosphere [...].

234. As such, where such rules, standards and practice and procedures to prevent, reduce and control pollution have been adopted at a global or regional level, their content becomes a key element in evaluating what constitute the “necessary” measures to prevent, reduce and control pollution of the marine environment under Article 194(1).<sup>218</sup>

235. Also of relevance in this context is the requirement under Article 207(5) that the measures adopted be “designed to minimize, to the fullest extent possible, the release of toxic, harmful or noxious substances, especially those which are persistent, into the marine environment”. Since as noted in **Section I**, deposition of CO<sub>2</sub> and heat into the ocean is harmful and potentially toxic to marine life and ecosystems and will be persistent, it follows that both collective and individual domestic measures must have a measurable, significant, impact in mitigating anthropogenic GHG emissions.

### **B. Corollary procedural obligations**

236. Beyond those substantive obligations, with a view to fostering cooperation in respect of the protection and preservation of the marine environment, as required by Article 197, Section 2 of Part XII imposes further procedural obligations on State Parties that are applicable to the mitigation of anthropogenic GHG emissions, most notably:

- (a) The obligation to notify of imminent or actual environmental damage: Article 198 of UNCLOS stipulates that 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 must immediately notify other States it deems likely to be affected by such damage, as well as the competent international organisations.

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<sup>218</sup> Where States have entered into a binding agreement, it must be taken into account by virtue of Article 31(3)(c) of the VCLT.



- (b) The obligation to formulate contingency pollution plans: Article 199 of UNCLOS provides that States must jointly develop and promote contingency plans for responding to pollution incidents in the marine environment.
- (c) The obligation to engage in research and exchange information and data: Pursuant to Article 200 of UNCLOS, States are obliged to cooperate for the purpose of “promoting studies, undertaking programmes of scientific research and encouraging the exchange of information and data acquired about pollution of the marine environment”.
- (d) The obligation to publish relevant reports: As discussed in Chapter 4, above, Article 205 of UNCLOS provides that States “shall publish reports” of the results of studies undertaken pursuant to Article 204 regarding “risks or effects of pollution of the marine environment,” or provide such reports “at appropriate intervals to the competent international organizations, which should make them available to all States”.
- (e) The obligation to conduct environmental impact assessments: As also discussed above in Chapter 4, Article 206 of UNCLOS contains an obligation to conduct an environmental impact where a State has reasonable grounds to believe that activities under its jurisdiction and control “may cause substantial pollution of or significant and harmful changes to the marine environment”, and to communicate the report of the results of such assessments.

### **C. Relevance of the UN Climate Change Regime**

- 237. As explained above, by virtue of Article 31(3)(c) of the VCLT and pursuant to Article 293(1) of UNCLOS, rules of international law and specific obligations assumed by States under other international agreements that relate to marine environmental protection inform the content and interpretation of the obligations of States to prevent, control and reduce marine pollution and should also be taken into account.
- 238. Further, pursuant to Articles 207, 212, 213 and 222, States are under an obligation to adopt laws and regulations and to take other measures necessary to implement relevant international rules and standards relevant to the prevention, reduction and control of pollution of the marine environment through anthropogenic GHG emissions.
- 239. Thus, the Paris Agreement (which has 193 State Parties, with the European Union also being party), should be taken as informing how the obligation to prevent, control and reduce pollution to the marine environment is to be interpreted in respect of pollution resulting from or constituted by anthropogenic GHG emissions.
- 240. First, the Paris Agreement informs the level of diligence required by States under UNCLOS by establishing a global goal of “[h]olding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels”.<sup>219</sup> The temperature

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<sup>219</sup> Article 2(1) of the Paris Agreement.

goal under the Paris Agreement reflects an international consensus as to the urgency of addressing climate change and should be treated as furnishing a reference point for determination of the actions required in accordance with the obligation of due diligence required of States under Article 194.

241. Second, the Paris Agreement is relevant to, and informs the choice of measures available to States in discharging their obligations of due diligence in respect of protection and preservation of the marine environment, and in respect of the prevention, reduction and control of pollution of the marine environment.
242. As set out in Article 4(1) of the Paris Agreement, the long-term temperature goal established by the Paris Agreement is to be achieved through seeking to reach the global peak of GHG emissions as soon as possible (whilst “recognizing that peaking will take longer for developing country Parties”) with:
- “rapid reductions thereafter in accordance with the best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty”.  
[Emphasis added].
243. The Paris Agreement, therefore, expressly recognises the direct relation between global average temperatures and the concentration of GHG in the atmosphere. Further, in continuity with the UNFCCC, the Paris Agreement also unambiguously identifies that the solution to these issues lies in decreasing the amount of GHG emissions released into the atmosphere and in reducing the current concentration of CO<sub>2</sub> by enhancing carbon sinks. Efforts to reduce emissions and enhance sinks are referred to as “mitigation”.
244. The term “best available science” in Article 4(1) of the Paris Agreement is repeated in several other places throughout the Agreement and recognises the importance of science to climate change policies. In Rwanda’s view, it includes the IPCC Reports, to which Decision 1/CP.21 adopting the Agreement explicitly refers.<sup>220</sup>
245. Mitigation strategies can take a variety of forms and may include policies, incentives schemes and investment programmes which address all sectors, including energy generation and use, transport, buildings, industry, agriculture, forestry and other land use, and waste management. Mitigation measures may consist of, for example, increased usage of renewable energy, the introduction and adoption of new low-emission technologies such as electric cars, or changes in practices or behaviours, such

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<sup>220</sup> Conference of the Parties, Decision 1/CP.21 (FCCC/CP/2015/10/Add.1), 29 January 2016, para. 21: “Invites the Intergovernmental Panel on Climate Change to provide a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways” [Emphasis added]. The decision also provides for the application of IPCC methodologies and guidelines in State Parties’ account for anthropogenic emissions and removals (paras. 7 and 31(a)) and states that the latest IPCC reports are to be included in the ‘global stocktake’ (paras. 99(b) and 100).

as designing and encouraging the use of more efficient cook stoves.<sup>221</sup> Further, they include other measures such as expanding forested areas and other sinks to remove greater amounts of CO<sub>2</sub> from the atmosphere.

246. Further, for States that are party to both UNCLOS and the Paris Agreement, the latter sets a standard for giving effect to the substantive obligations under Articles 192 and 194 of UNCLOS. With respect to GHG emissions affecting the marine environment, it indicates “necessary measures”. In other words, necessary *individual* measures for prevention, reduction and control of pollution of the marine environment under Article 194 of UNCLOS must include, as a *minimum*, compliance with the binding commitments by all Parties to prepare, communicate and maintain nationally determined contributions (“NDC”) and to pursue domestic measures and best efforts to achieve them.<sup>222</sup>
247. For the avoidance of doubt, however, in Rwanda’s view a State’s compliance with its obligations under the Paris Agreement cannot be regarded as being sufficient *alone* to fulfil its obligations under Article 194 of UNCLOS and other relevant provisions relevant to marine pollution and protection and preservation of the marine environment.
248. Indeed, at present, the obligations of States under the Paris Agreement are limited to evaluating the emissions of distinct GHGs exclusively in relation to their impact on climate change, as determined by their global warming potential (“GWP”).<sup>223</sup> The scientific consensus shows that, in the majority of cases, reducing GHG emissions will help mitigate the deleterious effects of these emissions to the marine environment. Crucially, however, this is not always the case.
249. As explained in Chapter 3, CO<sub>2</sub> is the primary cause of ocean acidification. The Paris Agreement, however, does not specifically address the particular detriment inflicted upon the ocean by increased CO<sub>2</sub> in the atmosphere, nor does it provide specific targets for limiting CO<sub>2</sub> emissions.<sup>224</sup> Thus, a State could, in theory, comply with its obligations under the Paris Agreement by significantly reducing its emissions of other GHGs, whilst making no meaningful cuts to its CO<sub>2</sub> emissions.<sup>225</sup> In that regard, while

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<sup>221</sup> UNFCCC Secretariat, Improved Cook Stoves for East Africa – Rwanda, see [here](#) [accessed 11 June 2023].

<sup>222</sup> Article 4(2) (“Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions” [Emphasis added]); Article 4(9) (“Each Party shall communicate a nationally determined contribution every five years in accordance with decision 1/CP.21 and any relevant decisions of the Conference of the Parties serving as the meeting of the Parties to this Agreement and be informed by the outcomes of the global stocktake referred to in Article 14”; and Article 4(13) (“Parties shall account for their nationally determined contributions. In accounting for anthropogenic emissions and removals corresponding to their nationally determined contributions, Parties shall promote environmental integrity, transparency, accuracy, completeness, comparability and consistency, and ensure the avoidance of double counting, in accordance with guidance adopted by the Conference of the Parties serving as the meeting of the Parties to this Agreement”).

<sup>223</sup> Bodansky D., ‘Chapter 12: The Ocean and Climate Change Law’, *Frontiers in International Environmental Law: Oceans and Climate Challenges*, Brill | Nijhoff, (2021), pp. 316-336, p. 335, see [here](#) [accessed 11 June 2023].

<sup>224</sup> *Ibid.*

<sup>225</sup> *Ibid.*

the obligations of States party to the Paris Agreement offer some helpful guidance in interpreting the measures required for compliance with their obligations under Part XII of UNCLOS, compliance with the Paris Agreement is not in and of itself sufficient to ensure compliance with UNCLOS obligations, particularly as regards the obligation to reduce global CO<sub>2</sub> emissions.<sup>226</sup>

250. The due diligence obligation under UNCLOS to “prevent, control and reduce” pollution to the marine environment from GHG emissions is, therefore, not necessarily met even if a State fully complies with its obligations under the Paris Agreement. Rather, in fulfilling their due diligence obligations under Part XII, States must take *all necessary* measures to prevent, reduce and control anthropogenic GHG emissions, which must meet but may go beyond what is required by the Paris Agreement. In light of current scientific knowledge, this implies, amongst other things, taking appropriate measures to reduce global CO<sub>2</sub> emissions.
251. Further, in view of the obligations of States to “endeavour to harmonize their policies in this connection” and to “establish global and regional rules, standards and recommended practices and procedures”, and given the above-mentioned gap in respect of CO<sub>2</sub>, Rwanda wishes to emphasise that it is incumbent upon States to collaborate towards the formulation of a standard for assessing GHG emissions which incorporates their impact on ocean acidification, in addition to broader calculations of climate change effects.
252. Accordingly, Rwanda considers that, in response to Question 1 of the Request and interpreting the obligations of States under UNCLOS as they relate to the prevention, reduction and control of pollution of the marine environment, and the protection and preservation of the marine environment more generally, the Tribunal should take into account: (i) the obligations enshrined in the Paris Agreement; (ii) the Agreement's expression of the international community's consensus on the measures required to mitigate climate change, and (iii) scientific consensus.

### **III. Obligations regarding other pollutants relevant to climate change**

253. In light of the significant impacts of global warming on the oceanic ecosystem via ocean warming, ocean acidification and sea level rise, Rwanda considers that, in carrying out their due diligence obligation to protect and preserve the marine environment, States are required to also acknowledge and recognise the impact of further pollutants such as anthropogenic emissions of strongly absorbing aerosols, of which the most harmful is black carbon.

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<sup>226</sup> According to Article 311(3) of UNCLOS, State Parties may enter into subsequent agreements that modify the operation of UNCLOS between themselves, as long as the subsequent agreement does not affect the application of the convention's basic principles. As a result, the Paris Agreement may only change the operation of the Part XII obligations related to climate change mitigation insofar as the overall goal of marine environment preservation and protection is maintained. See also, McCreath, M., ‘The Potential for UNCLOS Climate Change Litigation to Achieve Effective Mitigation Outcomes’, Cambridge University Press, (6 November 2020), pp. 120-143, p. 130.

254. In that regard, Rwanda notes that, in light of the elements of the definition of “pollution of the marine environment” as discussed above, black carbon inarguably meets each requirement of the definition under Article 1(1)(4) of UNCLOS:
- (a) It is a substance that is “introduce[ed] by man”, being a carbon emission that is principally a product of anthropogenic activity;
  - (b) It constitutes both: (i) the ‘direct’ introduction of a substance into the ocean cryosphere resulting in “deleterious effects such as harm to living resources and marine life” as identified by the direct link between the presence of black carbon and the melting of the ocean cryosphere, resulting in consequent accelerated sea level rise; and (ii) the ‘indirect’ introduction of energy into the marine environment, given that black carbon aerosols in the atmosphere result in higher air temperatures, leading to greater heat energy being absorbed into the marine environment, which in turn result in a variety of deleterious effects.
255. It follows that States are also under obligations pursuant to Part XII of UNCLOS to mitigate emissions of black carbon, both within and outside their jurisdiction, in line with the measures discussed in this chapter.

## CHAPTER 6

### SPECIFIC OBLIGATIONS OF STATES TO PROTECT AND PRESERVE THE MARINE ENVIRONMENT FROM THE IMPACTS OF CLIMATE CHANGE UNDER ARTICLE 192 OF UNCLOS

256. While the first limb of the Request is concerned solely with anthropogenic GHG emissions as “pollution of the marine environment”, its second limb concerns the general obligation imposed by Article 192 “to protect and preserve the marine environment in relation to climate change impacts, including ocean warming and sea level rise, and ocean acidification”.<sup>227</sup>
257. As set out in Chapter 4, above, Article 192 creates a binding, substantive obligation to protect and preserve the marine environment. That obligation applies to all harm caused to the marine environment, regardless of its source, cause or vector (see paras. 167 and 208). Article 192 is thus wide enough to encompass, among other things:
- (a) The protection of marine ecosystems;
  - (b) The conservation of depleted or endangered marine species and habitats; and
  - (c) More generally, the prevention of all physical harm, destruction or alteration of the marine environment, irrespective of whether it results from causes formally falling within the definition of “pollution of the marine environment” in Article 1(1)(4) and thus falls within the specific obligations in respect of marine pollution under Article 194.
258. The scientific evidence summarised in Chapter 3, above, makes clear that the effects of climate change have resulted – and continue to result – in a measurable and considerable negative impact on the marine environment.
259. State Parties to UNCLOS are, therefore, under a positive obligation to take steps to “protect and preserve the marine environment” against these effects of climate change. As addressed in Chapter 4, this obligation imposes a due diligence duty on States to adopt suitable measures to protect and preserve the *entire* marine environment from the harmful effects of climate change, in areas both within and beyond their jurisdiction, regardless of the vector through which these effects occur.
260. Rwanda submits that this broad due diligence obligation gives rise to the following categories of obligations in respect of the effects climate change:
- (a) State Parties are under an obligation to take measures with a view to reducing the effects of climate change so as to protect the marine environment (i.e. *mitigation measures*) – **Section I**, below;
  - (b) State Parties must take measures to assist the marine environment to adapt and adjust to the effects of climate change so as to preserve it (i.e. *adaptation*

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<sup>227</sup> Request.

*measures*). Given that, notwithstanding the efforts of States to mitigate its effects, the scientific evidence is clear that the effects of climate change will continue to negatively affect the marine environment for the foreseeable future, States are also required to adopt and implement suitable *resilience measures* with the aim of protecting and preserving the marine environment – **Section II**, below; and

- (c) Given that the marine environment is the world’s largest carbon sink and thus plays an important role in mitigating excess anthropogenic CO<sub>2</sub> concentrations, States are obliged to take substantive measures to protect marine ecosystems, in particular those that play a significant role in sequestering CO<sub>2</sub>. These measures serve a dual purpose: first, they contribute to the *adaptation* and *resilience* of the relevant species; and, second, they function as mitigation measures by enhancing carbon sequestration in the marine environment, thereby assisting in reducing the impact of anthropogenic CO<sub>2</sub> emissions, benefiting the marine environment as a whole – **Section III**, below.

261. Given the global scale of climate change, the aforementioned measures must, as highlighted by the IPCC (see para. 150 above), involve some form of *coordinated* international response in order to be effective. An express obligation of cooperation in matters relating to the protection and preservation of the marine environment forms part of Part XII, and finds expression in Article 197 of UNCLOS which provides:

States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.

262. As already noted, that obligation is supplemented by the specific provisions of Articles 198-200 of UNCLOS, as well as reflecting a broader obligation or principle under customary international law.
263. As to the standard against which the obligation to protect and preserve the marine environment is to be assessed, Rwanda notes that, as set in Chapter 4, above, the standard is necessarily informed by the current state of scientific knowledge as well as relevant applicable international rules and standards.
264. In recognition of this, and given that climate change poses a threat that the scientific evidence predicts (with a high degree of confidence) will result in serious or irreversible damage to the marine environment, States are required to adopt a precautionary approach in this regard. As a consequence, a lack of scientific certainty that harm will result cannot be invoked as a reason to postpone cost-effective measures with a view to preventing environmental degradation.

## **I. Obligation to mitigate the effects of climate change on the marine environment**

265. As set out above, Article 192 imposes a substantive obligation on States to “protect and preserve the marine environment” from the deleterious effects of climate change, in areas both within and beyond national jurisdiction, and regardless of the vector through which those effects occur.
266. The relevant measures include many of those required under Article 194 in respect of pollution of the marine environment, as discussed in Chapter 5, above. In particular, as discussed, in light of the significant impacts of global warming on the oceanic ecosystem via ocean warming, ocean acidification and sea level rise, Rwanda considers that, in carrying out their due diligence obligation to protect and preserve the marine environment, States are required to acknowledge, recognise and mitigate the impact of:
- (a) Anthropogenic GHG emissions (including notably CO<sub>2</sub>); and
  - (b) Anthropogenic emissions of strongly absorbing aerosols, of which the most harmful is Black Carbon.
267. However, as already discussed in Chapter 4, above, Part XII is “not limited to measures aimed strictly at controlling marine pollution”.<sup>228</sup> As such the obligation to protect and preserve the marine environment applies regardless of whether the cause of harm meets the definition of “pollution of the marine environment” in Article 1(1)(4) of UNCLOS.
268. It follows that, under Article 192 of UNCLOS, States are in any event required to take equivalent measures with a view to protect and preserve the marine environment against ocean warming, sea level rise, and ocean acidification, whatever the source of those impacts, and must comply with the specific substantive and procedural obligations outlined in Chapter 4 in respect of all activities which are liable to result in significant harm to the marine environment.

## **II. Obligation to adopt adaptation and resilience measures**

269. As set out in Chapter 4, above, Article 192 requires States to take positive steps to protect and conserve marine biological diversity, including the duty to take measures “necessary to protect and conserve rare or fragile ecosystems and habitats of depleted, threatened, or endangered species and other forms of marine life”.<sup>229</sup>
270. The adoption of measures aimed at protecting ecosystems against impacts resulting from global warming have as their goal to make those ecosystems more resilient, thereby lessening the deleterious effects of climate change. Thus, conservation measures adopted to comply with the obligations in Articles 192 and 194(5) may serve

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<sup>228</sup> PCA Case No. 2013-19, *The South China Sea Arbitration* (Merits) Award, Award of 12 July 2016, para. 945. *Chagos Marine Protected Area Arbitration (Mauritius v. United Kingdom)*, Award, 18 March 2015, paras. 320, 538.

<sup>229</sup> Article 194(5).



both as adaptation strategies to reduce the effects of climate change, and as measures for the conservation of biological diversity itself.<sup>230</sup>

271. Rwanda observes that, in light of this, the legal regime of UNCLOS is well equipped to address the issue of how the ocean might adapt to the impacts of climate change.<sup>231</sup>

272. This includes, but is not limited to, the following:

(a) *Fisheries*: as set out in paras. 99 and 118 of Chapter 3, above, climate change is expected to result in changes to the distribution of marine species, owing to rising temperatures, acidification and deoxygenation.<sup>232</sup> The most effective way to address such impacts on fisheries – other than measures aiming to limit or reverse climate change and its effects – is by reducing the additional, non-climate stressors on fisheries, such as overfishing and pollution.<sup>233</sup> Rwanda notes in that regard the relevance of Article 117 of UNCLOS, which places an obligation on States to conserve living resources in the high seas.<sup>234</sup>

(b) *Marine biodiversity*: as set out in paras. 105, 108, 117 and 119 of Chapter 3, above, together with overfishing and habitat destruction, the impacts of climate change are among the most powerful drivers of decreases in marine biodiversity. Other important factors include the presence of invasive species and marine pollution.<sup>235</sup> By establishing and implementing appropriate management measures within a specific area with a view to limiting and controlling other stressors and threats to the marine environment, the creation of MPAs may serve as part of an adaptation strategy to climate changes by ensuring resilient ecosystems.<sup>236</sup>

273. Where gaps remain within the framework of UNCLOS, Rwanda notes that the fallback position under UNCLOS is one of global or regional cooperation as provided for by, *inter alia*, Article 197 of UNCLOS, and under customary international law.

### III. Measures relating to the role of the Ocean as a Carbon sink

274. As set out in Chapter 5 and above, the general obligation in Article 192, as elaborated upon in Articles 194, 207 and 212, plainly includes an obligation to take necessary

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<sup>230</sup> Jakobsen, I., ‘Marine Protected Areas and Climate Change’, in E. Johansen, S. Busch, & I. Jakobsen (Eds.), *The Law of the Sea and Climate Change: Solutions and Constraints*, Cambridge University Press, (2020), pp. 234-262.

<sup>231</sup> Bodansky D., ‘Chapter 12: The Ocean and Climate Change Law’, *Frontiers in International Environmental Law: Oceans and Climate Challenges*, Brill | Nijhoff, (2021), pp. 316-336, p. 319.

<sup>232</sup> *Ibid*, p. 332.

<sup>233</sup> *Ibid*, p. 333.

<sup>234</sup> *Ibid*, p. 333.

<sup>235</sup> Jakobsen, I., ‘Marine Protected Areas and Climate Change’, in E. Johansen, S. Busch, & I. Jakobsen (Eds.), *The Law of the Sea and Climate Change: Solutions and Constraints*, Cambridge University Press, (2020), pp. 234-262; R. K. Craig, ‘Marine Biodiversity, Climate Change, and Governance of the Oceans’, (2012), 4 *Diversity*, pp. 224–238.

<sup>236</sup> *Ibid*.

measures to protect the marine environment from pollution caused by anthropogenic emissions.

275. In addition, however, the ocean is the planet's largest carbon sink and plays a fundamental role in regulating the climate and maintaining a healthy global environment. As the IPCC has stated unequivocally, should marine ecosystem sinks suffer further degradation owing to anthropogenic activities, the effects of climate change are likely to be further exacerbated.<sup>237</sup> Consequently, specific measures are required to protect the ocean's role as a carbon sink. Rwanda notes, in this regard, the relevance of the IPCC's guidance on response options to enhance the resilience of coastal blue carbon ecosystems.<sup>238</sup>
276. In this context, under the UNFCCC, with its obligation on State Parties to "take precautionary measures to anticipate, prevent or minimise the causes of climate change", it is stated expressly that in order to comply with this obligation each State's policies and measures should "cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation". Additionally, the UNFCCC stipulates at Article 4(1)(d) that each party shall:
- Promote sustainable management, and promote and cooperate in the conservation and enhancement, as appropriate, of sinks and reservoirs of all greenhouse gases not controlled by the Montreal Protocol, including biomass, forests and oceans as well as other terrestrial, coastal and marine ecosystems.
277. Similarly, and building upon the provisions of the UNFCCC in this regard, Article 5(1) of the Paris Agreement stipulates that State Parties "should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4[(1)(d)] of the [UNFCCC], including forests".
278. In light of States' obligations under the UNFCCC and the Paris Agreement, and pursuant to Article 31(3)(c) of the VCLT, it is clear that appropriate acknowledgement and recognition of the role played by the marine environment in sequestering carbon is required under Article 192 of UNCLOS in discharging the obligation to protect and preserve the marine environment. In Rwanda's view, States are, therefore, required to adopt measures aimed at preserving the ocean's capacity to act efficiently as a carbon sink.
279. It follows that States are required to take measures to protect marine ecosystems that play a role in sequestering CO<sub>2</sub>. As discussed above, such measures include those aimed at mitigating the impacts of other stressors (such as marine pollution) which lessen the ocean's capacity to function as a carbon sink.
280. For example, as set out Chapter 3, above, climate change affects coral reef ecosystems as a result of, amongst other things, the increase in ocean temperatures and ocean

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<sup>237</sup> See Chapter 3, para. 129.

<sup>238</sup> See Chapter 3, para. 154. See also, IPCC, Special Report on the Ocean and Cryosphere in a Changing Climate, 'Chapter 5: Changing Ocean, Marine Ecosystems, and Dependent Communities', Section 5.5 Risk-reduction Responses and their Governance.

acidity, both of which contribute to coral bleaching.<sup>239</sup> Apart from reducing CO<sub>2</sub> emissions and taking steps to limit climate change and its effects, the only known way to protect coral reef systems is by reducing other stressors, such as the effects of coastal runoff, pollution, overfishing, and the presence of invasive species, all of which reduce the resilience of reefs.<sup>240</sup> Since coral reefs are generally associated with – and affected most by – actions of the relevant coastal State, the majority of these measures are best undertaken at the national level by such States.<sup>241</sup>

281. Furthermore, as noted in Chapter 3, above, a major component of the ocean’s capacity to act as a carbon sink is constituted by the role of microscopic phytoplankton, through their use of CO<sub>2</sub> during photosynthesis.<sup>242</sup> The introduction of microplastic pollution seriously undermines the ability of global phytoplankton populations to absorb carbon in the ocean insofar as microplastic pollution is toxic to the organisms to such an extent that it is liable to “disrupt phytoplankton feeding, reproduction, physical ingestion, and metabolism”.<sup>243</sup>
282. Zooplankton are also affected by microplastic pollution in the ocean. As the primary consumer of phytoplankton, and with an instrumental role in the ocean’s function as a carbon sink, zooplankton contribute a critical step to the process through their consumption of phytoplankton (and absorbed carbon), subsequently converting that carbon into fecal pellets, which sink to the deep ocean, removing it from surface waters.<sup>244</sup> The effects of microplastic upon the ability of the ocean to function as a carbon sink are, therefore, profound; beyond the wider ecological harms contributed by this form of pollution, with the impact on phytoplankton of toxic microplastics proving disruptive to the food chain, thereby reducing the ocean’s capacity as a carbon sink and exacerbating associated climate risks as a result.
283. The effects of increased microplastic pollution thus threatens to seriously inhibit (and indeed does already inhibit) the ability of the ocean to act as a carbon sink. This also implicates the obligations of the States party to the UNFCCC and the Paris Agreement.
284. Accordingly, as an indirect contributor to the deleterious impacts of climate change via disruptions to oceanic carbon sink processes, the requirement to address microplastic pollution represents a further example of the wide-ranging character of the due diligence obligation incumbent upon States to take adequate and appropriate measures to respond to the extensive deleterious impacts of climate change.
285. Additionally, Rwanda notes that States are also required – in any event – to address the impacts of increased oceanic microplastic content, given that this plainly falls

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<sup>239</sup> See Chapter 3, para. 113-115.

<sup>240</sup> Bodansky D., ‘Chapter 12: The Ocean and Climate Change Law’, *Frontiers in International Environmental Law: Oceans and Climate Challenges*, Brill | Nijhoff, (2021), pp. 332-333.

<sup>241</sup> See Chapter 3.

<sup>242</sup> CIEL, ‘Plastic & Climate: The Hidden Costs of a Plastic Planet’, (May 2019), p. 74. See [here](#) [accessed 13 June 2023]

<sup>243</sup> *Ibid.*

<sup>244</sup> *Ibid.*

within the definition of marine pollution as established under Article 1(1)(4) of UNCLOS as microplastics:

- (a) Are “introduc[t]ed by man”, being a synthetic substance solely produced by anthropogenic industrial activity;
- (b) Represent the ‘direct’ introduction of a substance into the marine environment as a result of the depositing of plastic material into the ocean and seas; and
- (c) Leads to “deleterious effects such as harm to living resources and marine life”.

286. Notably, the scientific evidence is clear as to the toxic impact of microplastic on living organisms in the marine environment, as well as to the wider implications of the broader effect that microplastic pollution has upon the marine environment’s ability to respond to climate change.

## CHAPTER 7

### KEY CONSIDERATIONS FOR RWANDA AS A DEVELOPING LAND-LOCKED STATE

287. The obligation to protect and preserve the marine environment represents a shared global responsibility to mitigate the deleterious effects of climate change. Nevertheless, it must be recognised that the expectations as to each State's respective contributions in that effort must take proper account of differing resources of States and of their respective global contributions to climate change (**Section I**).
288. In that regard, a variable standard of conduct may be applied in some circumstances in assessing States' obligations to contribute to global responses to climate change. Furthermore, as explained below, in the case of developed countries, the obligations of developed States having greater resources (and with higher historical contributions to climate change and its effects) should include contribution of support to developing nations through financial, technological and capacity building assistance.
289. Finally, Rwanda considers it also to be critical for the Tribunal to take into account the special position, and rights and interests of landlocked countries (**Section II**).

#### I. Specific responsibilities of developed States

##### A. The Principle of Common but Differentiated Responsibility

290. The CBDR principle developed in general international law from the application of considerations of equity, and the recognition that the special needs of developing countries must be considered in the development, application and interpretation of rules of international environmental law. It is embodied in Principle 7 of the Rio Declaration, which provides:

In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit of sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.<sup>245</sup>

291. In acknowledging "the responsibility that [developed countries] bear", Principle 7 of the Rio Declaration places a greater burden on developed countries, which, in light of their large historic contributions to environmental degradation and their extensive technological and financial resources, are expected to take the lead on global measures for the pursuit of sustainable development.
292. A similar principle had been previously endorsed in the 1972 Stockholm Declaration, which provided that international technical and financial assistance should be provided to developing countries to help them meet "any costs which may emanate

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<sup>245</sup> The Rio Declaration on Environment and Development, (1992), Principle 7.

from their incorporating environmental safeguards into their development planning”<sup>246</sup>.

293. Consistent with the Stockholm Declaration, a number of international environmental agreements include terms that differentiate the standards applicable to, respectively, developed and developing States. Among such instruments are the 1987 Montreal Protocol to the Vienna Convention for the Protection of the Ozone Layer (later strengthened by the Kigali Amendment)<sup>247</sup> and the 1991 Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution.<sup>248</sup>

294. Further, the preamble of the UNFCCC acknowledges that:

[T]he global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, in accordance with their common but differentiated responsibilities and respective capabilities and their social and economic conditions.<sup>249</sup>

295. The UNFCCC also expressly recognises that:

[T]he largest share of historical and current global emissions of greenhouse gases has originated in developed countries, that per capita emissions in developing countries are still relatively low and that the share of global emissions originating in developing countries will grow to meet their social and development needs.<sup>250</sup>

296. In light of those factors, the preamble affirms that:

[R]esponses to climate change should be coordinated with social and economic development in an integrated manner with a view to avoiding adverse impacts on the latter, taking into full account the legitimate priority needs of developing countries for the achievement of sustained economic growth and the eradication of poverty.<sup>251</sup>

297. In terms of substantive obligations, Article 3(1) of the UNFCCC, in stipulating the principles that shall guide the Parties in their efforts to combat climate change, reaffirms the principle of CBDR and (expressly) that “the developed country Parties should take the lead in combating climate change and the adverse effects thereof”.

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<sup>246</sup> Stockholm Declaration, June 1972, Principle 12, p. 4.

<sup>247</sup> 1987 Montreal Protocol to the Vienna Convention for the Protection of the Ozone Layer, Article 5(2): “The Parties undertake to facilitate access to environmentally safe alternative substances and technology for Parties that are developing countries and assist them to make expeditious use of such alternatives”.

<sup>248</sup> 1991 Protocol to the 1979 Convention on Long-Range Transboundary Air Pollution.

<sup>249</sup> UNFCCC, Preamble, PP 6.

<sup>250</sup> UNFCCC, Preamble, PP 3.

<sup>251</sup> UNFCCC, Preamble, PP 22.

298. Article 3(2) provides further that the specific needs and special circumstances of developing country Parties should be given “full consideration”.
299. In addition, Article 4(3) states that developed countries “shall provide new and additional financial resources to meet the agreed full costs incurred by developing country Parties in complying with their obligations under Article 12, paragraph 1”.
300. The Paris Agreement also contains references to the CBDR principle both in its preambular recitals,<sup>252</sup> and in the provisions relating to the purpose of the agreement, and long-term low GHG development strategies, and progression. Of these, the most significant provisions are as follows:
- (a) Article 2(2), which provides that “[t]his Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances”; and
  - (b) Article 4, which constitutes the Agreement’s core mitigation provision and states (in paragraph 4) that “[d]eveloped country Parties should continue taking the lead by undertaking economy-wide absolute emission reduction targets. Developing country Parties should continue enhancing their mitigation efforts, and are encouraged to move over time towards economy-wide emission reduction or limitation targets in the light of different national circumstances”.
301. Rwanda observes that the CBDR principle is not inconsistent with UNCLOS. To the contrary, the principle finds expression in the core provisions of Part XII as to the control, reduction and prevention of marine pollution, with Article 194(1) providing that States must take measures to prevent pollution of the marine environment “in accordance with their capabilities”.
302. Additionally, the CBDR principle is implemented in Articles 202 and 203 (addressed further in Section B, below) which recognise that some States may require support from other States to comply with their obligations under Part XII to protect and preserve the marine environment,<sup>253</sup> as well in Article 207(4).<sup>254</sup>
303. In the field of marine environmental protection, the standards with which developing countries must comply under UNCLOS are informed by and must take account of the CBDR principle. As a consequence, in some circumstances, *developing* countries may be expected to bear a lower burden than *developed* countries in taking measures to protect and preserve the marine environment.

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<sup>252</sup> Paris Agreement, Preamble, PP 3, PP 5, PP 6.

<sup>253</sup> Czybulka, UNCLOS Commentary, Proelss ed., p.1347, at MN. 1.

<sup>254</sup> Article 207(4): “States, acting especially through competent international organizations or diplomatic conference, shall endeavour to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing States and their need for economic development ...” [Emphasis added].

304. Rwanda considers this element to be a key consideration that the Tribunal ought to bear in mind when responding to the Request.

### **B. Specific obligations of Developed States**

305. As noted above, the Tribunal recognised in the 2001 *MOX Plant* case that “the duty to cooperate is a fundamental principle in the prevention of pollution of the marine environment under Part XII of the Convention and general international law”.<sup>255</sup> In this regard, as already noted, Article 197 of UNCLOS provides:

States shall cooperate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.<sup>256</sup>

306. Within the context of UNCLOS, Article 197 embodies the idea that the prevention of pollution of the marine environment constitutes a common, transboundary interest which, accordingly, cannot be achieved by a single State. Consequently, international cooperation is an essential general obligation of States for the protection and preservation of the marine environmental protection.

307. As noted above, the obligation of cooperation pursuant to Article 197 is further supplemented by the corollary procedural obligations contained in Articles 198 to 200 of UNCLOS. The principle of cooperation also underlies, and finds concrete expression in Articles 202 and 203:

#### *Article 202 Scientific and technical assistance to developing States*

States shall, directly or through competent international organizations:

(a) promote programmes of scientific, educational, technical and other assistance to developing States for the protection and preservation of the marine environment and the prevention, reduction and control of marine pollution.

Such assistance shall include, inter alia:

- (i) training of their scientific and technical personnel;
- (ii) facilitating their participation in relevant international programmes;
- (iii) supplying them with necessary equipment and facilities;
- (iv) enhancing their capacity to manufacture such equipment;
- (v) advice on and developing facilities for research, monitoring, educational and other programmes;

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<sup>255</sup> *MOX Plant, (Ireland v UK), Provisional Measures Order of 3 December 2001, ITLOS Reports 2001*, para. 82. See also SFRC Advisory Opinion, p. 43, para. 140.

<sup>256</sup> Article 197 of UNCLOS [Emphasis added].



- (b) provide appropriate assistance, especially to developing States, for the minimization of the effects of major incidents which may cause serious pollution of the marine environment;
- (c) provide appropriate assistance, especially to developing States, concerning the preparation of environmental assessments.

*Article 203 Preferential treatment for developing States*

Developing States shall, for the purposes of prevention, reduction and control of pollution of the marine environment or minimization of its effects, be granted preference by international organizations in:

- (a) the allocation of appropriate funds and technical assistance; and
- (b) the utilisation of their specialized services.<sup>257</sup>

308. In accordance with Article 31(3)(c) of VCLT and Article 293(1) of UNCLOS, the interpretation of the obligations incumbent upon State Parties to UNCLOS pursuant to Articles 197, 202, and 203 is to be undertaken in light of relevant rules of international law, most pertinently the Paris Agreement, which supplement and inform their content.

309. In particular, Article 9(1) of the Paris Agreement imposes a binding obligation on developed States to provide financial resources to developing States to assist in mitigation and adaptation:

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. (Emphasis added).

310. The Paris Agreement also provides that the Financial Mechanism of the Convention, including the Green Climate Fund (“GCF”), shall serve the Agreement.

311. In light of the above, and in accordance with Article 197, 202 and 203 of UNCLOS, Rwanda considers that those developed States that are party to UNCLOS *and* the Paris Agreement are thereby *required* to take measures to provide financial resources to developing countries to support their (the latter’s) ability to take the measures described in Chapters 5 and 6, above.<sup>258</sup> For these purposes, the “competent international organisation” within the meaning of Article 197 should be taken to include the GCF.

312. Rwanda further notes that the obligation accepted by developed States to provide financial resources aligns with the scope of Article 194(1) of UNCLOS, which directs States to take measures, individually and collectively, to control, prevent, and reduce marine pollution. By assisting developing States to build their resources and capacities

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<sup>257</sup> Articles 202-203 of UNCLOS [Emphases added].

<sup>258</sup> Rwanda notes in that regard the relevance of Article 26 of the VCLT and Article 300 of UNCLOS, which content should guide States in performing these obligations.

to take measures to mitigate climate change, developed States thereby reinforce and support their own actions in respect of marine environmental protection and mitigation of climate change.

313. Additionally, Article 2(1)(c) of the Paris Agreement encourages States to make “finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development”. In Rwanda’s view, fulfilment of States’ obligations under Articles 194 and 197 of UNCLOS, may therefore involve action consistent with Article 2(1)(c) of the Paris Agreement such as the taking of measures by developed States to incentivise foreign investment in developing countries which are designed to support the latter in implementing mitigation, adaptation and resilience measures to combat the effects of climate change.
314. In that regard, Rwanda notes the relevance of the guidance issued by “competent international organizations”,<sup>259</sup> such as the International Monetary Fund (“IMF”), which has recently underscored the necessity of *global cooperation* in utilising green subsidies to tackle climate change and advance sustainable development, while cautioning against a potential race in which developing countries may be left behind.<sup>260</sup> Rwanda notes, in that regard, the relevance of the right to development.<sup>261</sup>

## **II. Rights and interests of landlocked states, in particular developing landlocked States**

315. While landlocked States tend to contribute comparatively less to the degradation of the marine environment through anthropogenic pollution, as seen in Chapter 3, above, they are, nonetheless, negatively impacted by the devastating consequences of climate change to a significant extent.
316. However, in addition to their common interests in the protection and preservation of the marine environment, further specific rights and interests of landlocked States under UNCLOS are also adversely affected by the effects of climate change.
317. Indeed, despite an ostensible lack of direct access to coastal waters, UNCLOS provides landlocked States have “the right of access to and from the sea for the purpose of exercising the rights provided for in this Convention”.<sup>262</sup> Such rights include, *inter alia*, the right of landlocked countries under Article 69 to participate (on an equitable basis) in the exploitation of living resources in the EEZs of coastal states of the same subregion or region.
318. The concrete and tangible impacts of climate change upon the marine environment continue to disrupt the ability of landlocked countries to exercise their right to

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<sup>259</sup> Article 197 of UNCLOS.

<sup>260</sup> IMF, Europe and the World should use green subsidies cooperatively, 11 May 2023, see [here](#) [accessed 12 June].

<sup>261</sup> Principle 3 of the Rio Declaration as well as further relevant instruments (e.g., Article 1 of the International Covenant on Economic Social and Cultural Rights, Article 22 of the African Charter on Human and Peoples’ Rights, and the 1986 Declaration on the Right to Development).

<sup>262</sup> Article 25(1) of UNCLOS; See also, Pecoraro, A., Free access to and from the ocean in the Convention on the Legal Status of the Caspian Sea: the Law of the Sea and the Caspian “Body of Water”, *Asian Journal of International Law*, 11, (2021), pp. 281-298 Cambridge University Press.

participate in the exploitation of such resources, and threatens to do so at an increasing rate as the effects of climate change intensify.

319. As already established in Chapter 3, without the adoption of preventive measures, the deleterious effects of ocean warming, ocean acidification and deoxygenation, pose a profound risk to the ability of landlocked states to access and exploit such resources in the future. For example, the increased frequency and intensity of extreme meteorological events is liable to cause extensive disruptions to the marine ecosystem, leading to significant detrimental effects on fishing practices and industries.
320. Further, changes in available stocks due to the migration of fish populations (caused, among other things, by changes to ocean temperatures) result in a reduction of the allowable catch of living resources, thereby reducing the “appropriate part of the surplus of the living resources” available for exploitation by landlocked states under UNCLOS.<sup>263</sup>
321. As such, given this direct right – under UNCLOS – of landlocked States to exploit resources in the marine environment (including, but not limited to, food resources), the impact of anthropogenic climate change effects, known to disrupt natural habitats, food chains and marine biodiversity, must be recognised as catastrophic not only for landlocked States, as for coastal states.
322. Furthermore, as noted by one commentator, “40 years after UNCLOS 82 was adopted, the provisions on the rights of landlocked and geographically disadvantaged States in African EEZs have remained on paper but have not been implemented”.<sup>264</sup>
323. Given the rate at which climate change is irreversibly harming the marine environment, there is a strong likelihood that – by the time these provisions are fully implemented – the rights of African landlocked States will have been effectively stripped of their content without ever having been enjoyed to any meaningful extent.
324. For these reasons, Rwanda considers it of utmost importance that, in responding to the Request’s questions, the Tribunal should consider the unique interests and rights of landlocked States, and particularly landlocked developing States.

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<sup>263</sup> Swanepoel, E., ‘The Law of the Sea and Landlocked States’, South African Institute of International Affairs Policy Briefing, (August 2020).

<sup>264</sup> Egede, E., ‘UNCLOS 82: Africa’s contributions to the development of modern law of the sea 40 years later’, (2023), Cardiff University, p. 3.

## CHAPTER 8 SUBMISSIONS

For the reasons set out in this Written Statement, Rwanda makes the following submissions:

- (a) The Request falls within the jurisdiction of the Tribunal;
- (b) There are no compelling reasons on the basis of which the Tribunal should exercise its discretion and refuse to give an advisory opinion; and
- (c) The Tribunal should respond to the two questions contained in the Request on the lines set out in Chapters 4 to 7 above.



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