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Supplement

on the Climate Change Advisory Opinions

(16 September 2025; updated 7 October 2025 and 1 September 2026)

(This version includes the 18 September 2025 Concurring and Partially Dissenting Opinions in the Inter-American Court of Human Rights Advisory Opinion on the Climate Emergency, as well as recent judicial decisions discussing the three Advisory Opinions. It also includes additional commentary on the Opinions, as well as expanded Questions and Discussion.)

INTERNATIONAL ENVIRONMENTAL LAW AND POLICY Sixth Edition

David Hunter

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SUPPLEMENT ON THE CLIMATE CHANGE ADVISORY OPINIONS*

16 September 2025; updated 7 October 2025 and 1 September 2026

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* The supplement was prepared by Fielding Burnette, Trina Chiemi, Sebastian Luengo, Rebecca Mitchell, and Katie Super, Staff Attorneys and Law Fellows at the Institute for Governance & Sustainable Development, along with the textbook authors.

I. THREE HIGHEST COURTS, ONE MESSAGE: CLIMATE OBLIGATIONS ARE BINDING

It is an exciting, if challenging, time for international climate law. In the face of halting, often regressive, and only occasionally promising climate action from governments and major corporate actors, the world's leading international courts and tribunals have recently stepped up to the plate to proclaim clearly and forcefully: taking action to prevent climate change is not a *choice*, up to the whim and discretion of States. It is a *legal obligation*.

Such were the conclusions of the International Tribunal for the Law of the Sea (ITLOS), the Inter-American Court of Human Rights, and the International Court of Justice (ICJ) when they issued their separate Advisory Opinions on climate change in May 2024 (ITLOS) and July 2025 (Inter-American Court of Human Rights and ICJ). As of August 2026, a fourth Advisory Opinion Request is pending before the African Court on Human and Peoples' Rights, following a request in May 2025 by the Pan African Lawyers Union seeking clarification of African States' obligations under the African Charter on Human and Peoples' Rights in the climate crisis. This request stands out for its emphasis on adaptation, just transition, and participatory governance.

Although the Opinions have different scopes and emphases, with each judicial body bringing its unique expertise to bear on the multiple sources of international law most relevant to their jurisdiction, their conclusions are strikingly similar. All recognize that climate change poses an urgent existential threat and articulate binding obligations requiring States to curb their emissions and those of corporations under their control.

That three of the world's highest judicial bodies all came to the same conclusion exemplifies the indisputable threat posed by climate change to worldwide peace and security. Of course, they are not the first to adjudicate on climate change: the Grantham Research Institute on Climate Change and the Environment reports that more than 3,600 climate cases have been filed in 62 countries around the world, most within domestic courts, including 249 filed in 2025. Joana Setzer & Catherine Higham, *Global trends in climate change litigation: 2026 snapshot*, Grantham Research Institute on Climate Change and the Environment, 6 (2026). Although confronting individual fragments of climate change's far-reaching effects, these cases have slowly built a patchwork of climate jurisprudence that has worked its way into various areas of law.

The three international Advisory Opinions will accelerate this process. A frank assessment of the scientific reality makes it clear that much faster progress is necessary if the world is to avoid careening off a temperature cliff following the impending activation of numerous self-amplifying feedback loops and climate 'tipping points'. Relying primarily on the scientific assessment of the Intergovernmental Panel on Climate Change (IPCC), all three Opinions observe that "deep, rapid, and sustained" reductions of greenhouse gas (GHG) emissions are necessary to avoid the most devastating impacts of climate change (¶¶ 82, 243, and 282 of the ICJ Advisory Opinion; ¶¶ 65, 77, and 210 of the ITLOS Advisory Opinion; ¶

186 of the Inter-American Court Advisory Opinion). With slow government action leaving humanity exposed to the growing climate emergency, the law is stepping in with a more muscular approach to enforce human and other legal rights to mitigate the threat.

Overarching Themes

Drawing from multiple primary sources of law as well as from the interpretations of multiple judicial bodies (including each other), the climate Advisory Opinions weave these various strands into a stronger, more comprehensive legal fabric. Though each Court follows its own distinct process to respond to the unique set of questions posed to it, in each case by different parties, the Advisory Opinions address a number of similar topics.

For example, the discussions of due diligence warrant special attention. All three Opinions conclude that States' compliance with their climate obligations must be assessed under a higher-than-normal standard of due diligence. Both the ICJ and ITLOS describe a standard of "stringent" due diligence, while the Inter-American Court of Human Rights refers to "enhanced" due diligence. When considering the similarities and differences, if any, between these due diligence standards, it will be useful to analyze the reasoning the Courts employ to conclude that a higher standard must apply.

Advisory Opinions: Binding or Non-Binding?

Unlike contentious cases between a plaintiff and a defendant, advisory opinions do not purport to assess the responsibility of any one State defendant for breach of its international law obligations. Because advisory opinions do not contain specific findings of State responsibility, they cannot result in enforceable legal consequences for a specific State, such as orders to provide restitution, compensation, or satisfaction to an injured State. For this reason, advisory opinions are often referred to as "non-binding."

This terminology is misleading, however. As formal legal pronouncements from the highest judicial authorities on particular sources of international law, advisory opinions are authoritative presentations of *what the law is*. This includes articulating when the law *contains binding obligations*. If a State subsequently fails to comply with those binding obligations, it may find itself part of a contentious case holding it to account for that failure, and that case will inevitably refer to the Advisory Opinions to remind the Court of its own conclusions. (Keep in mind that even decisions in contentious cases before the ICJ do not set binding precedents that must be followed in subsequent cases. *See* Statute of the International Court of Justice Art. 59, June 26, 1945, 59 Stat. 1055, T.S. No. 993, 3 Bevans 1179.)

Within the Inter-American Human Rights System in particular, the legal weight of advisory opinions is underscored by the doctrine of "conventionality control." This doctrine is interpreted by many States to require domestic authorities of State parties to act in conformity with the advisory opinions' interpretations of the American Convention and other relevant international law, just as those same authorities would be obligated to follow their

highest domestic court's interpretation of their national Constitution. (*See generally*, Gastón Medici-Colombo & Armando Rocha, *Chapter 12: The Impact on Domestic Law of Climate Change-Related Advisory Opinions: the Experience of the IACtHR and the ITLOS*, *in* THE ROLE OF ADVISORY OPINIONS IN INTERNATIONAL LAW IN THE CONTEXT OF THE CLIMATE CRISIS, 112 NIJHOFF LAW SPECIALS 306, 313–15 (Maria Antonia Tigre & Armando Rocha eds., 2025).

The three Opinions and separate Opinions, weighing in at more than 700 pages with thousands of citations, are a master class in climate science, policy, and law. The following excerpt from Picolotti *et al.* provides an introduction.

Romina Picolotti, Durwood Zaelke, & Katie Super, *Three Highest Courts, One Message: Binding Climate Obligations Under International Law*

INSTITUTE FOR GOVERNANCE & SUSTAINABLE DEVELOPMENT (September 2025)

> Among the many milestones of the three Advisory Opinions on the Climate Emergency, we note three: the central role of climate science in legal reasoning, the mandatory obligation to include climate considerations in environmental impact assessments, and the articulation of an enhanced due diligence standard. Taken together, these and other elements create a transformative framework that integrates science, governance, and human rights protection in unprecedented ways. * * *
>
> A key contribution of the Advisory Opinions is the integration of climate science into the core of legal reasoning. The three Courts repeatedly cite the findings of the Intergovernmental Panel on Climate Change (IPCC), particularly regarding the dangers of passing the 1.5°C guardrail and the risks of crossing planetary tipping points. These findings are presented as binding benchmarks that shape the scope of States' obligations under international law.
>
> Scientific consensus on the serious and irreversible nature of climate damage thus shapes the legal conclusions of all three Opinions. Both the Inter-American Court of Human Rights and the Law of the Sea Tribunal address the danger of passing abrupt and irreversible tipping points such as the loss of ice caps and tropical forests, while the ICJ notes the IPCC's very high confidence that climate losses and damage will escalate with every additional increment of global warming.
>
> As the Inter-American Court of Human Rights explains, "[States] must take all necessary measures to reduce … risks derived … from the degradation of the global climate system." Because these risks are scientifically measurable, the requirement to follow the "best available science" becomes a legal standard. Climate science thus plays a normative role, defining the content of due diligence, the adequacy of adaptation plans, and the effectiveness of mitigation measures. This approach represents a powerful convergence between law and science. By grounding legal duties in climate science, the Courts establish climate science as a legal foundation for measuring the pace and scale required by State action to respond effectively to the climate crisis. * * *
>
> Another key point of complementarity in the Advisory Opinions is that all three Courts agree that a heightened due diligence standard must be used to assess States' compliance with their climate obligations. This development is critical because it means that whether or not a State's actions are sufficient to fulfill an "obligation of conduct"—this includes many of the climate obligations, under which States are assessed based on the adequacy of their individual

> actions towards achieving the climate goal, rather than based on the actual achievement of that goal—is not subjective, but rather assessed under an objective due diligence standard comprised of specific elements. Failure to satisfy these elements indicates that a State has not conducted itself with due diligence and has violated its obligations. One of these elements, included in all three Advisory Opinions, is the use of environmental impact assessments (EIAs) as a key tool of climate accountability.
>
> The three Courts make clear that due diligence requires States to carry out a thorough, science-based assessment of any activity that could significantly harm the climate system. The ICJ and the Law of the Sea Tribunal confirmed that EIAs are a customary legal duty under the "stringent" due diligence standard, and must cover greenhouse gas emissions and their impacts. Similarly, the Inter-American Court of Human Rights declared that under its "enhanced" due diligence standard, States must conduct EIAs that expressly assess a project's climate impact, particularly within high-emitting sectors like fossil fuels, cement, and agro-industry. * * *
>
> Together, the Advisory Opinions of the ICJ, ITLOS, and the Inter-American Court of Human Rights establish a mutually reinforcing framework that elevates climate obligations under international law . . . The Opinions are a survival guide for humankind and now need to be implemented through national and international courts. If done successfully, civilization will have a fighting chance to continue.

* * *

The following discussions and excerpts of the Advisory Opinions start with the International Court of Justice, followed by the Inter-American Court of Human Rights and the International Tribunal for the Law of the Sea. Questions and Discussion points follow each Advisory Opinion, and, where relevant, refer to the initial cases referencing the Advisory Opinions.

II. INTERNATIONAL COURT OF JUSTICE ADVISORY OPINION ON THE OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE

The International Court of Justice (ICJ), also referred to as the "World Court," issued its *Advisory Opinion on the Obligations of States in Respect of Climate Change* on 23 July 2025. The Court issued the Advisory Opinion in response to a request from the United Nations General Assembly (which itself followed a grassroots advocacy campaign led by Pacific Islander students—*see* Question 1 below). The ICJ received 91 written statements and 62 written comments, and heard oral statements from over 96 States and 11 international organizations, setting a record for the highest level of participation in a proceeding in both the history of the ICJ and that of its predecessor, the Permanent Court of International Justice. ICJ, *Obligations of States in respect of Climate Change: The Court gives its Advisory Opinion and responds to the questions posed by the General Assembly*, Press release (July 23, 2025). The following excerpt provides a brief introduction to the Advisory Opinion, and is followed by a 23-page excerpt of the 140-page ICJ Opinion. (The Court also published a 40-page summary. And there are several individual and joint separate opinions and declarations as well, discussed in the Questions and Discussion section.)

Margaretha Wewerinke-Singh, *Harmonizing Sources, Hardening Duties – Inside the ICJ's Advisory Opinion on Climate Change*

SABIN CENTER BLOGPOST SERIES (Aug. 11, 2025)

> The [ICJ's Advisory Opinion on the Obligations of States in Respect of Climate Change] marks a watershed moment, not just because of what the court says about climate obligations, but also because of how it says it. In responding to the legal question posed to it, the ICJ does not reinvent the law so much as weave together its many threads. Rather than treating treaty, custom, and general principles of law as enclosed, the ICJ reads them together – sometimes cumulatively, sometimes cross-referentially, always purposively. * * *
>
> From the outset, the ICJ rejected attempts to corral climate change law into a self-contained regime . . . a handful of large emitters (e.g. the United States, Japan, Saudi Arabia, Kuwait, Australia) had urged a "climate treaties only" view – that The United Nations Framework Convention on Climate Change (UNFCCC), Kyoto Protocol, and Paris Agreement form a *lex specialis*, displacing broader international law. The ICJ firmly disagreed. It held that the climate accords neither exclude nor exhaust States' obligations under general international law. In other words, the existence of specialized climate treaties does not immunize States from parallel customary duties or other treaty commitments. * * *
>
> The ICJ spelled out in detail how treaty and custom interact, placing these sources in a mutually reinforcing relationship. Treaties are to be read within the "entire legal system prevailing at the time of interpretation," including relevant customary rules; treaty provisions can also shed light on the content of custom or even accelerate its development (para. 311). At the same time, customary norms continuously complement the relevant treaties; they bind even States not party to a specific treaty and fill treaty gaps (para. 315; see also Julian Arato and Justina Uriburu). The ICJ even recognized COP decisions as potentially contributing to the formation of custom; however, it cautioned that each decision must be assessed for the

requisite State practice and *opinio juris* (para. 288). This careful, case-by-case method mirrors the International Law Commission (ILC)'s guidance that no single formula creates or defines custom; rather, one must examine practice and belief in normative obligation.

Why does the ICJ's holistic approach to sources matter? Because it transforms what could have been a modest restatement of obligations into a bold affirmation of international law's capacity to drive equitable climate action at a global scale. By confirming that States must act not only under treaties but also under general international law to avoid and repair climate harm, the ICJ essentially tells the world that our shared norms and principles demand climate justice (though Judge Yusuf, Judge Sebutinde and Judge Charlesworth insisted, from different angles, that the ICJ should have gone further in linking the law to the realities of climate change). This approach frees the entire field of climate law from the constraints of particular agreements and roots it in something larger – the idea of legal duties owed to present and future generations. This idea is further consolidated by the ICJ's finding that climate obligations are *erga omnes* under custom and *erga omnes partes* under the treaties (paras. 439-443). Accordingly, any State can invoke responsibility if these duties have been breached, as per the rule codified in Article 48 of the ILC's Articles on the Responsibility of States for Internationally Wrongful Acts (para. 442; see also Luciano Pezzano). The grounding of all applicable obligations into the general law of State responsibility is precisely where the advisory opinion's cross-source method delivers bite.

For vulnerable States and communities long frustrated by the slow pace of negotiations, this result is vindication. The ICJ's opinion itself is not binding, but as a clarification of binding law from the UN's principal judicial organ, it carries the highest degree of legal weight and political legitimacy (see e.g., Soenke Kreft and Maren Solmecke). In addition to reshaping international relations, it is bound to have deep implications for climate litigation worldwide. Activists and advocates now have authoritative language to bolster cases in domestic courts; for example, national judges seeing that the world's highest court considers failure to regulate greenhouse gas emissions a breach of international law may feel empowered (and indeed obligated) to interpret domestic duties in light of that standard. We can anticipate litigants invoking the ICJ opinion to argue that government inaction violates legal obligations – the due diligence duty to prevent harm, the right to a clean, healthy and sustainable environment, etc. Where governments, courts, or other organs of the State ignore the opinion, they will do so at their own peril. Breaches trigger legal consequences which, if left unaddressed, will accumulate and intensify over time. As noted elsewhere, the new baseline that emerges through this framing marks "a fundamental reset" of how we understand international law's application to climate change. * * *

The ICJ's advisory opinion on climate change may come to be remembered as the moment international law explicitly rose to the climate challenge. Yet, what the opinion offers is not a new edifice but a sturdier legal architecture. By advancing an "all of the above" approach to international law's sources; by treating these sources as interlocking parts of a living legal system; and by recognizing *erga omnes* and *erga omnes* partes duties with concrete consequences for responsibility, the Court has given States, courts and litigants a legally rigorous, source-sensitive map. This map clearly shows how each source can discipline the others: principles channel discretion; custom supplies baselines where treaty text is thin; treaty institutions specify and update standards; human rights ground both interpretation and the content of obligations, including as customary law. That method is not merely elegant. It is action-forcing, because it ties the work of implementation (from enhanced Nationally Determined Contributions to finance and technology transfer) to good-faith co-operation, due diligence and rights-based constraints, and because it makes clear that breaches sound in responsibility with the full suite of consequences. * * *

Following the ICJ Opinion, the United Nations General Assembly adopted a resolution on 20 May 2026, welcoming the ICJ Advisory Opinion. Vanuatu, the State that originally requested the Opinion, proposed the follow-up resolution on implementation. With 90 co-sponsors, it was adopted by a recorded vote of 141 in favour to 8 against with 28 abstentions. As explained by Margaretha Wewerinke-Singh, who served as Lead Counsel for Vanuatu in the ICJ proceedings and has continued to support Vanuatu in the General Assembly follow-up process, the resolution is another important step in developing stronger climate law:

> For litigators, the resolution therefore offers new ammunition. For negotiators, it provides a legal baseline that cannot be negotiated away—even if it is not cited in outcome documents. For Pacific Island States and other climate-vulnerable constituencies, it represents what the Pacific Island Students Fighting Climate Change and the World's Youth for Climate Justice set out to achieve when they imagined bringing climate change before the Court: not just a legal opinion, but a pathway from law to justice. While the pathway is less than straightforward, it is there to be walked. * * *
>
> This resolution will not, by itself, defossilize our economies or provide reparations to those already suffering climate harm. But it establishes, with the imprimatur of the General Assembly, that the conduct responsible for climate change is governed by binding obligations, that breaches carry legal consequences, and that those still refusing to course-correct increasingly do so at their own peril.

Margaretha Wewerinke-Singh, FROM OPINION TO ACTION: THE GENERAL ASSEMBLY VOTES TO OPERATIONALIZE THE ICJ'S CLIMATE ADVISORY OPINION, EJIL: Talk! Blog of the European Journal of International Law (May 22, 2026).

Before you read the Advisory Opinion, spend a few minutes to consider the following questions:

- As the "World Court," the ICJ was invited to opine on multiple different sources of law, each applicable to different sets of States. Spend a few minutes reviewing the detailed table of contents that shows how the Court organized its Advisory Opinion and the different sources of law covered.
    - What obstacles might this have posed to the Court's task? What approach does the Court choose in addressing those obstacles, and which interpretive tools does it employ to arrive at a coherent set of conclusions?
    - How does the Court frame the relationship between the different sources of climate obligations (e.g., between treaty law and customary law)?
- How does the factual background of climate change play a role in how the Court resolves the legal questions before it?
- Which obligations are binding upon which States, and what determines this? Are there any conclusions or obligations that are binding for all States? Are any obligations different for some States than for others?
- What does the Court say regarding the legal consequences for States' breach of their climate obligations? What about this is new?

- What questions does the Court answer in the Advisory Opinion, and what still remains to be determined on a case-by-case basis through contentious cases?

A. International Court of Justice Advisory Opinion of July 23, 2025

Obligations of States in Respect of Climate Change

CHRONOLOGY OF THE PROCEDURE

I. JURISDICTION AND DISCRETION
- A. **Jurisdiction**
- B. **Discretion**

II. GENERAL CONTEXT AND SCIENTIFIC ASPECTS
- A. **Context of the adoption of resolution 77/276**
- B. **Relevant scientific background**

III. SCOPE AND MEANING OF THE QUESTIONS POSED BY THE GENERAL ASSEMBLY
- A. **Scope of the General Assembly's request**
- B. **Meaning and scope of question *(a)***
- C. **Meaning and scope of question *(b)***
  1. "Under these obligations"
  2. "Legal consequences"
  3. Legal consequences "for States" and with respect to States that are "specially affected" or "are particularly vulnerable"
  4. Legal consequences with respect to "peoples and individuals"

IV. QUESTION *(A)* PUT TO THE COURT: OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE
- A. **Applicable law**
  1. Charter of the United Nations
  2. Climate change treaties
  3. United Nations Convention on the Law of the Sea
  4. Other environmental treaties
  5. Customary international law
     (a) *Duty to prevent significant harm to the environment*
     (b) *Duty to co-operate for the protection of the environment*
  6. International human rights law
  7. Other principles
     (a) *Sustainable development*
     (b) *Common but differentiated responsibilities and respective capabilities*
     (c) *Equity*
     (d) *Intergenerational equity*
     (e) *Precautionary approach or principle*
     (f) *"Polluter pays" principle*
     (g) *Conclusion*
  8. Question of *lex specialis*
  9. Conclusion
- B. **Obligations of States under the climate change treaty framework**
  1. General overview of the climate change treaties
  2. Relationship between the UNFCCC, the Kyoto Protocol and the Paris Agreement

3. Obligations of States under the UNFCCC
   (a) *Mitigation obligations under the UNFCCC*
   (b) *Adaptation obligations under the UNFCCC*
   (c) *Obligations of co-operation and assistance under the UNFCCC*
4. Obligations of States under the Kyoto Protocol
5. Obligations of States under the Paris Agreement
   (a) *General observations*
   (b) *Mitigation obligations under the Paris Agreement*
      (i) Obligation to prepare, communicate and maintain nationally determined contributions
      (ii) Content of nationally determined contributions
      (iii) Implementation of nationally determined contributions and domestic mitigation measures
   (c) *Adaptation obligations under the Paris Agreement*
   (d) *Obligations of co-operation, including financial assistance, technology transfer and capacity-building under the Paris Agreement*
      (i) Financial assistance
      (ii) Technology development and transfer and capacity-building

C. Obligations of States under customary international law relating to climate change

1. Duty to prevent significant harm to the environment
   (a) *Risk of significant harm in the environment, including to the climate system*
   (b) *Due diligence as the required standard of conduct*
      (i) Appropriate measures
      (ii) Scientific and technological information
      (iii) Relevant international rules and standards
      (iv) Different capabilities
      (v) Precautionary approach or principle and respective measures
      (vi) Risk assessment and environmental impact assessment
      (vii) Notification and consultation
      (viii) Conclusion
2. Duty to co-operate
3. Relationship between obligations arising from treaties and from customary international law relating to climate change

D. Obligations of States under other environmental treaties

1. Ozone Layer Convention and Montreal Protocol
2. Convention on Biological Diversity
3. United Nations Convention to Combat Desertification

E. Obligations of States under the law of the sea and related issues

1. Obligations of States under the United Nations Convention on the Law of the Sea
2. Obligations of States in relation to sea level rise and related issues
3. Other relevant instruments

F. Obligations of States under international human rights law

1. Adverse effects of climate change on the enjoyment of human rights
2. Right to a clean, healthy and sustainable environment
3. Territorial scope of human rights treaties

V. QUESTION *(B)* PUT TO THE COURT: LEGAL CONSEQUENCES ARISING FROM STATES' ACTS AND OMISSIONS THAT CAUSE SIGNIFICANT HARM TO THE CLIMATE SYSTEM AND OTHER PARTS OF THE ENVIRONMENT

A. Applicable law

B. Determination of State responsibility in the climate change context

1. Questions relating to attribution
2. Questions relating to causation
3. *Erga omnes* character of the underlying obligations

C. Legal consequences arising from wrongful acts

1. Duty of performance
2. Duty of cessation and guarantees of non-repetition
3. Duty to make reparation
   (a) *Restitution*
   (b) *Compensation*
   (c) *Satisfaction*

OPERATIVE CLAUSE

* * *

1. The questions on which the advisory opinion of the Court has been requested are set forth in resolution 77/276 adopted by the United Nations General Assembly . . . on 29 March 2023 . . . The resolution reads [in part] as follows:

> Having particular regard to the Charter of the United Nations, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, the United Nations Framework Convention on Climate Change, the Paris Agreement, the United Nations Convention on the Law of the Sea, the duty of due diligence, the rights recognized in the Universal Declaration of Human Rights, the principle of prevention of significant harm to the environment and the duty to protect and preserve the marine environment,
>
> *(a)* What are the obligations of States under international law to ensure the protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases [GHGs] for States and for present and future generations?
>
> *(b)* What are the legal consequences under these obligations for States where they, by their acts and omissions, have caused significant harm to the climate system and other parts of the environment . . . ? * * *

I. JURISDICTION AND DISCRETION * * *

II. GENERAL CONTEXT AND SCIENTIFIC ASPECTS

[In paragraphs 50-87, the Court acknowledges the severe and far-reaching consequences of climate change as an urgent and existential threat. In its examination, the Court relies primarily on the reports of the Intergovernmental Panel on Climate Change (IPCC) as constituting the best available science, noting the IPCC's conclusion that warming of 1.5°C is not considered safe, and that risks from climate change escalate with every increment of global warming and are significantly higher for warming of 1.5°C and 2°C.]

III. Scope and meaning of the questions posed by the General Assembly * * *

A. Scope of the General Assembly's request * * *

94. . . . In the Court's view, [questions *(a)* and *(b)*] are interrelated and require the Court to identify the obligations of States in respect of activities that adversely affect the climate system, as well as the legal consequences arising from the breach of these obligations . . . The Court considers that the material scope of its inquiry encompasses the full range of human activities that contribute to climate change as a result of the emission of GHGs, including both consumption and production activities. This interpretation is confirmed by the understanding of most of the participants that replied to the question posed by a Member of the Court concerning "the specific obligations under international law of States within whose jurisdiction fossil fuels are produced". These participants submitted that obligations pertaining to the protection of the climate system do not rest exclusively with consumers and end users, but also include activities such as ongoing production, licensing and subsidizing of fossil fuels.

95. . . . In the Court's view, such a broad material scope is particularly apt when addressing legal issues pertaining to a problem of the magnitude of climate change, which the General Assembly has characterized as the "common concern of mankind" (see General Assembly resolution 43/53, 6 December 1988) and an "unprecedented challenge of civilizational proportions" (see General Assembly resolution 77/276). * * *

B. Meaning and scope of question *(a)* * * *

C. Meaning and scope of question *(b)* * * *

110. . . . A unique situation faced by small island States and low-lying coastal States was addressed by many participants that raised concerns over issues of sea level rise, which causes the coasts of such States to recede, thereby potentially affecting the outer limits of their maritime zones or even threatening their very existence . . . [T]hese matters will be addressed in the Court's consideration of the relevant obligations of States under question *(a)* . . .

111. . . . The Court notes . . . that certain treaties enable actors other than States, such as individuals or other private actors, to bring claims against States on the international plane. Thus, whether individuals are entitled to invoke a State's responsibility for failure to comply with obligations identified under question *(a)* depends . . . on the specific treaties and other legal instruments that create procedural and substantive rights and obligations governing the relationship between the States and individuals concerned. * * *

IV. Question (a) put to the Court: obligations of States in respect of climate change * * *

A. Applicable law * * *

114. . . . The Court will therefore identify "the most directly relevant applicable law governing the question[s] of which it [has been] seised" (*Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996 (I)*, p. 243, para. 34). It will first identify those rules which are most directly relevant (see subsections 1-7, paragraphs 115-161, below), and thereafter determine whether any of those rules are excluded by virtue of the interpretative principle of *lex specialis* (see subsection 8, paragraphs 162-171, below). * * *

[In subsections 1–7, the Court identifies and briefly describes the Charter of the United Nations, the United Nations Framework Convention on Climate Change [UNFCCC], the Kyoto Protocol, the Paris

Agreement, UNCLOS, the ozone layer treaties, the Biodiversity Convention, the Desertification Convention, the customary duty to prevent significant harm to the environment and the duty to co-operate for the protection of the environment, and international human rights law, as well as certain guiding principles for the interpretation of various applicable rules and principles (sustainable development, common but differentiated responsibilities and respective capabilities, equity, intergenerational equity, the precautionary approach or principle, and the "polluter pays" principle) as the most directly relevant law.] ***

*1. Charter of the United Nations * * **

*2. Climate change treaties * * **

*3. United Nations Convention on the Law of the Sea * * **

*4. Other environmental treaties * * **

5. Customary international law

(a) Duty to prevent significant harm to the environment

132. Participants generally agree that States have a duty under customary international law to prevent significant harm to the environment. Indeed, the Court has recognized that "[a] State is…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" (*Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010 (I)*, p. 56, para. 101). * * *

134. In its Advisory Opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the Court recognized that:

> "[t]he existence of the general obligation of States to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond national control is now part of the corpus of international law relating to the environment" (*I.C.J. Reports 1996 (I)*, pp. 241-242, para. 29).

This jurisprudence affirms that the duty to prevent significant harm to the environment is not confined to instances of direct cross-border harm and that it applies to global environmental concerns. Therefore, the customary duty to prevent significant harm to the environment also applies with respect to the climate system and other parts of the environment.

135. The duty to prevent significant harm to the environment is an obligation to act with due diligence (see *Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010 (I)*, pp. 55-56, para. 101, and p. 79, para. 197). As the Court has held, while an obligation to prevent "is one of conduct and not one of result, in the sense that a State cannot be under an obligation to succeed, whatever the circumstances, in preventing" harm, "the obligation of [States] is rather to employ all means reasonably available to them, so as to prevent [harm] so far as possible" (Application of the Convention on the Prevention and Punishment of the Crime of Genocide (*Bosnia and Herzegovina v. Serbia and Montenegro), Judgment, I.C.J. Reports 2007 (I)*, p. 221, para. 430). * * *

137. The determination of what is required by due diligence ultimately "calls for an assessment *in concreto*" of what is reasonable under the specific circumstances in which a State finds itself (*Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosnia and Herzegovina v. Serbia and Montenegro), Judgment, I.C.J. Reports 2007 (I)*, p. 221, para. 430). This does not exclude the identification of a required standard of conduct at a general level, depending on

the overall character of the risk to the part of the environment in question. This is particularly apposite with respect to climate change because the specific character of the risk of significant harm to the climate system is indisputably established. The best available science, as presented by the IPCC, confirms that cumulative GHG emissions are the primary source of risks arising from anthropogenic climate change (see paragraphs 72-87 above). All States contribute to that risk, albeit to significantly differing degrees, and all States are affected by the cumulative effects of GHG emissions, depending on their respective situations. Climate change therefore poses a quintessentially universal risk to all States. This risk is of a general and urgent character, requiring the identification of a corresponding general standard of conduct, to be applied subject to the principle of common but differentiated responsibilities and respective capabilities.

138. Under these circumstances, the Court recognizes that the standard of due diligence for preventing significant harm to the climate system is stringent (see *Climate Change, Advisory Opinion, ITLOS Reports 2024*, pp. 91-92, para. 241, pp. 92-93, para. 243, p. 94, para. 248, pp. 137-138, paras. 398-400, and pp. 152-158, para. 441).

139. The Court concludes that the duty of States to prevent significant environmental harm applies in the context of climate change and that this duty forms part of the most directly relevant applicable law.

(b) Duty to co-operate for the protection of the environment

140. . . . In view of the related practice of States, the Court considers that the duty of States to co-operate for the protection of the environment is a rule whose customary character has been established (see *Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 110, para. 296; *MOX Plant (Ireland v. United Kingdom), Provisional Measures, Order of 3 December 2001, ITLOS Reports 2001*, p. 110, para. 82). * * *

6. International human rights law * * *

7. Other principles * * *

8. Question of lex specialis * * *

163. Most participants expressed the view that while the climate change treaties may be the principal instruments relevant to answering the General Assembly's request, they form part of a broader set of rules that needs to be addressed by the Court. According to those participants, the climate change treaties do not constitute *lex specialis* in relation to other rules with respect to climate change. They refer, *inter alia*, to the preamble to General Assembly resolution 77/276 which clearly indicated that the list of instruments and rules contained in the preamble is not exhaustive. Other participants considered that the Court must focus exclusively on the climate change treaties, which constitute *lex specialis* in respect of other rules and principles, including those that are referred to in the preamble to General Assembly resolution 77/276. In their view, the climate change treaties displace any other rules, as those treaties reflect a series of careful compromises which strike a balance among the main sets of competing considerations. According to these participants, the climate change treaties have priority over any other rule of a conventional or customary nature and cannot be superseded or altered by other sources of law. * * *

166. The principle of *lex specialis* is a maxim of interpretation that is used for determining which of several potentially applicable rules is to prevail or whether the rules simply coexist. It is generally accepted that, in some cases, a specific rule, or a specific set of rules, takes precedence over more general or less focused rules, while in other cases the specific rule should be seen as an elaboration of one or more general rules, the latter continuing to play an interpretative role in the background. The application of the *lex specialis* principle depends on the circumstances of each case . . .

167. The International Law Commission has explained that:

> "[f]or the *lex specialis* principle to apply it is not enough that the same subject matter is dealt with by two provisions; there must be some actual inconsistency between them, or else a discernible intention that one provision is to exclude the other. Thus, the question is essentially one of interpretation." (Article 55, paragraph 4 of the commentary, ILC Articles on State Responsibility, p. 140.)

168. The Court cannot find any actual inconsistency between the provisions of the climate change treaties and other rules and principles of international law that may be relevant for the response to question *(a)*. On the contrary, the preambles of the UNFCCC and the Paris Agreement themselves contain references to other rules and principles. The States parties to these treaties have thereby recognized that climate change constitutes a problem for whose solution other rules and principles also play a role.

169. Nor can the Court identify a discernible intention of the parties to the climate change treaties generally to displace other possibly applicable rules or principles. Such an intention may be established by the object and purpose of a treaty. However, the object and purpose of the climate change treaties does not contradict other rules or principles of international law or suggest that these treaties are intended generally to replace such other rules or principles. Even though the climate change treaties are the principal instruments addressing the global problem of climate change, it does not follow that they generally displace other rules and principles of international law.

170. There is, in particular, no indication that the climate change treaties are meant to apply while simultaneously excluding general customary international law or other treaty rules on the protection of the environment. The fact that the climate change treaties have been carefully negotiated and represent a calibrated set of interrelated rules does not, in and of itself, provide such an indication. States parties to the climate change treaties were aware of their normative context and could have expressed a possible intention to displace other rules and principles had they so wished.

171. For these reasons, the Court considers that the argument according to which the climate change treaties constitute the only relevant applicable law cannot be upheld and finds that the principle of *lex specialis* does not lead to a general exclusion by the climate change treaties of other rules of international law.

172. For the reasons given above . . . the Court is of the view that the most directly relevant applicable law consists of the Charter of the United Nations, the UNFCCC, the Kyoto Protocol, the Paris Agreement, UNCLOS, the ozone layer treaties, the Biodiversity Convention, the Desertification Convention, the customary duty to prevent significant harm to the environment and the duty to co-operate for the protection of the environment, and international human rights law, as well as certain guiding principles for the interpretation of various applicable rules and principles (sustainable development, common but differentiated responsibilities and respective capabilities, equity, intergenerational equity, and the precautionary approach or principle). * * *

B. Obligation of States under the climate change treaty framework

1. General overview of the climate change treaties * * *

2. Relationship between the UNFCCC, the Kyoto Protocol and the Paris Agreement

195. In the view of the Court, there is no incompatibility between the three climate change treaties. On the contrary, they are mutually supportive, with the Kyoto Protocol and Paris Agreement providing greater specification to the general obligations contained in the UNFCCC. Indeed, the UNFCCC being

a "framework convention", . . . the subsequent decisions by the parties — including decisions adopting protocols and agreements under the UNFCCC — are intended to interpret or give substance to obligations in the UNFCCC, and not to abrogate or to modify them. Notwithstanding these observations, should there appear to be conflicts between the treaties, the Court is of the view that these should be resolved by applying the rules of treaty interpretation * * *

3. Obligations of States under the UNFCCC

197. The "ultimate objective" of the UNFCCC, as set out in Article 2, is to achieve "stabilization of [GHG] concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system", and to ensure that "[s]uch a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner". In the Court's view, this provision sets the objective "in the light of which the other [t]reaty provisions are to be interpreted and applied" (see *Oil Platforms (Islamic Republic of Iran v. United States of America), Preliminary Objection, Judgment, I.C.J. Reports 1996 (II)*, p. 814, para. 28). * * *

(a) Mitigation obligations under the UNFCCC * * *

201. The main obligations under the Framework Convention concerning mitigation are to be found in Article 4 . . .

202. The Court considers that Article 4, paragraph 1, contains legally binding obligations . . .

203. The Court observes that certain obligations under Article 4, paragraph 1 . . . are obligations of result. These obligations require the parties to bring about a particular result and, in this instance, they also prescribe certain actions, conduct or means specifically determined by the obligation to bring about the result. Other obligations under Article 4, paragraph 1, are obligations of conduct because they do not require parties to bring about a particular result but rather require parties to use their best efforts to achieve certain results relating to mitigation . . . * * *

207. Having identified the mitigation obligations of all parties . . . the Court finds it necessary to recall that all obligations identified above are legally binding upon the parties to which they pertain, regardless of whether the obligation in question is one of result or one of conduct . . .

208. [I]n the case of an obligation of conduct, a State acts wrongfully if it fails to use all means at its disposal to bring about the objective envisaged under the obligation, but will not act wrongfully if it takes all measures at its disposal with a view to fulfilling the obligation even if the desired objective is ultimately not achieved. In the case of an obligation of result, a State acts wrongfully if it fails to bring about the result required under the obligation. At the same time, it cannot be said that an obligation of result, such as an obligation to "adopt national policies and take corresponding measures on the mitigation of climate change", will be met merely by the adoption of any policies and the taking of corresponding measures. To comply with this obligation of result, the policies so adopted and the measures so taken must be such that they are able to achieve the required goal. In other words, the adoption of a policy, and the taking of related measures, as a mere formality is not sufficient to discharge the obligation of result. * * *

*4. Obligations of States under the Kyoto Protocol * * **

*5. Obligations of States parties under the Paris Agreement * * **

(a) General observations

224. As a general matter, the Court notes that while the Paris Agreement provides for limiting the global average temperature increase to well below 2°C above pre-industrial levels as a goal and 1.5°C as an additional effort, 1.5°C has become the scientifically based consensus target under the Paris Agreement. At the twenty-sixth COP . . . parties "[r]ecognize[d] that the impacts of climate change will be much lower at the temperature increase of 1.5°C compared with 2°C and *resolve[d] to pursue efforts to limit the temperature increase to 1.5°C*" (see decision 1/CMA.3, Glasgow Climate Pact, 13 November 2021, UN doc. FCCC/PA/CMA/2021/10/Add.1, p. 4, para. 21 (emphasis added)). Subsequently, at the fifth CMA, parties to the Paris Agreement reiterated this resolve and encouraged all parties to submit

> "ambitious, economy-wide emission reduction targets, covering all greenhouse gases, sectors and categories and aligned with limiting global warming to 1.5°C, as informed by the latest science, in the light of different national circumstances" (decision 1/CMA.5, Outcome of the first global stocktake, 13 December 2023, UN doc. FCCC/PA/CMA/2023/16/Add.1, p. 7, para. 39).

In the Court's view, these decisions express the agreement in substance between the parties regarding the interpretation of Articles 2 and 4 of the Paris Agreement, and thus constitute subsequent agreements in relation to the interpretation of the Paris Agreement within the meaning of Article 31, paragraph 3 *(a)*, of the Vienna Convention on the Law of Treaties . . . Accordingly, the Court considers the 1.5°C threshold to be the parties' agreed primary temperature goal for limiting the global average temperature increase under the Paris Agreement . . . * * *

(b) Mitigation obligations under the Paris Agreement * * *

(i) Obligation to prepare, communicate and maintain nationally determined contributions (NDCs) * * *

236. Given these obligations of result, the failure to prepare, communicate and maintain successive NDCs, to account for them and to register them would constitute a breach of . . . obligations. As the Court has observed in connection with the obligation to "adopt national policies and take corresponding measures", the mere formal preparation, communication and maintenance of successive NDCs is not sufficient to comply with the obligations under Article 4 . . . The content of the NDCs is equally relevant to determine compliance. * * *

(ii) Content of nationally determined contributions * * *

239. The Court observes that Article 4, paragraph 2, is silent on the question of the content of NDCs and the discretion afforded to each party to determine their NDCs . . .

240. However, the Court notes that Article 4, paragraph 3, of the Paris Agreement sets out certain expectations and standards that apply to parties in preparing their NDCs. It reads:

> "Each Party's successive nationally determined contribution will represent a progression beyond the Party's then current nationally determined contribution and reflect its highest possible ambition, reflecting its common but differentiated responsibilities and respective capabilities, in the light of different national circumstances."

While Article 4, paragraph 3, uses the term "will", rather than the prescriptive term "shall" in relation to the content of NDCs, the Court considers that the provision is not to be read as merely hortatory, as suggested by some participants. Rather, the term "will" is used here in a prescriptive sense, reflecting the expectation . . . without prescribing precisely what constitutes a progression, or what reflects a party's highest possible ambition. In these proceedings, it falls on the Court to shed light on the meaning and scope of the terms contained in Article 4, paragraph 3, thereby clarifying for parties their obligations relating to the content of their NDCs.

241. First, that "[e]ach Party's successive nationally determined contribution will represent a progression" beyond that party's current NDCs means that a party's NDCs must become more demanding over time . . .

242. Second, a party's NDCs must reflect "its highest possible ambition" . . . The provision, when interpreted in its context and in light of its object and purpose and the customary obligation to prevent significant harm to the environment, reveals that the content of a party's NDCs must, in fulfilment of its obligations under the Paris Agreement, be capable of making an adequate contribution to the achievement of the temperature goal . . .

243. Additionally, Article 4, paragraph 9, provides that the NDCs must be "informed by the outcomes of the global stocktake referred to in Article 14". In this regard, the outcome of the first global stocktake . . . makes clear that "despite overall progress on mitigation, adaptation and means of implementation and support, Parties are not yet collectively on track towards achieving the purpose of the Paris Agreement and its long-term goals" . . . It also recognizes that "limiting global warming to 1.5°C with no or limited overshoot requires deep, rapid and sustained reductions in global [GHG] emissions . . ."

244. . . . Paragraph 8 of that Article provides that, in communicating their NDCs, parties "shall provide the information necessary for clarity, transparency and understanding . . ." Paragraph 13 of Article 4 requires Parties to account for their NDCs and to do so in a manner that promotes "environmental integrity, transparency, accuracy, completeness, comparability and consistency" . . . In the Court's view, such transparency and accountability provisions would be meaningless if the parties had unfettered discretion in setting their NDCs.

245. In light of the above, the Court considers that the discretion of parties in the preparation of their NDCs is limited. As such, in the exercise of their discretion, parties are obliged to exercise due diligence and ensure that their NDCs fulfil their obligations under the Paris Agreement and thus, when taken together, are capable of achieving the temperature goal of limiting global warming to 1.5°C above pre-industrial levels, as well as the overall objective of the "stabilization of [GHG] concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

246. The Court recalls that the standard of due diligence varies depending on a range of factors (Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS Reports 2011, p. 43, para. 117). In the current context, because of the seriousness of the threat posed by climate change, the standard of due diligence to be applied in preparing the NDCs is stringent . . . This means that each party has to do its utmost to ensure that the NDCs it puts forward represent its highest possible ambition in order to realize the objectives of the Agreement.

247. The obligation to prepare and communicate NDCs capable of realizing the objectives of the Agreement applies to all parties to the Paris Agreement . . . However, consistent with the varying character of due diligence and the principle of common but differentiated responsibilities and respective capabilities, the standard to be applied when assessing the NDCs of different parties will vary depending, *inter alia*, on historical contributions to cumulative GHG emissions, and the level of development and national circumstances of the party in question . . . * * *

*(iii) Implementation of nationally determined contributions and domestic mitigation measures * * **

252. [P]arties are required to act with due diligence in taking necessary measures to achieve the objectives set out in their successive NDCs. Thus, a party's compliance with its obligations to pursue domestic mitigation measures under Article 4, paragraph 2, is to be assessed on the basis of whether

the party exercised due diligence in its efforts and in deploying appropriate means to take domestic mitigation measures, including in relation to activities carried out by private actors . . .

253. . . . The Court considers that the obligation to "pursue domestic mitigation measures" that aim to achieve the objectives of their NDCs requires States to be proactive and pursue measures that are reasonably capable of achieving the NDCs set by them. These measures may include putting in place a national system, including legislation, administrative procedures and an enforcement mechanism, and exercising adequate vigilance to make such a system function effectively, with a view to achieving the objectives in their NDCs . . .

254. It bears recalling in this regard that the standard of due diligence varies depending on . . . the obligation in question, the level of scientific knowledge, the risk of harm and the urgency involved . . . In the present instance, the Court considers that the standard of due diligence attaching to the obligation to pursue domestic mitigation measures is stringent on account of the fact that the best available science indicates that the "[r]isks and projected adverse impacts and related losses and damages from climate change escalate with every increment of global warming (very high confidence)" (IPCC, 2023 Summary for Policymakers, p. 14, Statement B.2) (see paragraphs 138 above and 258-259 below) * * *

(c) Adaptation obligations under the Paris Agreement * * *

(d) Obligations of co-operation, including financial assistance, technology transfer and capacity-building under the Paris Agreement * * *

261. As observed earlier in respect of the obligation to co-operate under the UNFCCC . . . such obligations exist for States both under conventional international law, including Articles 7, 9 and 12 of the Paris Agreement, and customary international law. These coexisting obligations inform each other and, in the present instance, the Court considers that the customary duty to co-operate for the protection of the environment . . . reinforces the treaty-based co-operation obligations under the Paris Agreement . . .

262. . . . The Court notes that States are free to select the means of co-operating, as long as such means are consistent with the obligations of good faith and due diligence. The Court, therefore, does not see it as necessary to highlight one form of co-operation over another. The Court considers, however, that the principal forms of co-operation prescribed by the Paris Agreement are financial assistance, technology transfers and capacity-building. * * *

268. For all these reasons, the Court considers that the climate change treaties establish stringent obligations upon States to ensure the protection of the climate system and other parts of the environment from anthropogenic GHG emissions. The UNFCCC sets the overall objective of "stabilization of [GHG] concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system", without providing any specific, legally binding, quantitative goals for the achievement of that objective. Under the UNFCCC, and based on the principle of common but differentiated responsibilities and respective capabilities, all parties have an obligation to develop and report on national policies, programmes and measures to address climate change (Article 4, paragraph 1), while developed country parties and other parties identified in Annex I have additional obligations to, *inter alia*, adopt policies and take corresponding measures to limit emissions of GHGs and protect and enhance carbon sinks and reservoirs (Article 4, paragraph 2). Moreover, all parties have adaptation obligations prescribed under Article 4, paragraph 1, and developed country parties identified in Annex II, which are a subset of parties identified in Annex I, have an additional obligation to assist developing country parties in meeting the costs of adaptation

(Article 4, paragraph 4). The Framework Convention also sets forth differentiated co-operation obligations regarding the development of technologies to prevent and reduce emissions of GHGs. * * *

270. Most recently, the Paris Agreement sets an objective of primarily holding the increase in the global average temperature to 1.5°C above pre-industrial levels (Article 2). This "temperature goal" is a specification and quantification of the overall objective set in the UNFCCC. The salient features of the Agreement are its obligations pertaining to mitigation (Articles 3 to 6), adaptation (Article 7), loss and damage (Article 8), and co-operation in the form of finance, technology and capacity-building support (Articles 9 to 11). To comply with their mitigation obligations, all parties must take measures, in fulfilment of their obligations under the Paris Agreement, that make an adequate contribution to achieving the collective temperature goal; these measures must be reflected in parties' NDCs which must be adjusted to be more demanding every five years; and these NDCs must, when taken together, be capable of achieving the temperature goal and the purposes of the Agreement. While the scope and content of measures contained in the NDCs may vary in accordance with the means available to parties and their capabilities, parties do not enjoy unfettered discretion in the preparation of their NDCs. Each party has a due diligence obligation to do its utmost to ensure that the NDCs it puts forward represent its highest possible ambition in order to realize the objectives of the Agreement (Article 4, paragraph 2). Consequently, parties have an obligation to undertake best efforts to achieve the content of their NDCs. * * *

C. Obligations of States under customary international law relating to climate change * * *

*1. Duty to prevent significant harm to the environment * * **

273. The duty to prevent significant harm to the environment also applies to the climate system, which is an integral and vitally important part of the environment and which must be protected for present and future generations . . .

(a) Risk of significant harm to the environment, including to the climate system

274. For the duty to prevent to arise, there must be a risk of significant harm to the environment (Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010 (I), pp. 55-56, para. 101; 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. 711, para. 118, and p. 737, para. 217; Dispute over the Status and Use of the Waters of the Silala (Chile v. Bolivia), Judgment, I.C.J. Reports 2022 (II), p. 648, para. 99). The Court has recognized that what constitutes a risk of significant environmental harm depends on the environmental context in which an activity is to be carried out (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), pp. 720-721, para. 155). States are subject to the duty to prevent significant harm either where no harm has yet been caused but the risk of future significant harm exists, or where some harm has already been caused and there exists a risk of further significant harm.

275. Whether an activity constitutes a risk of significant harm depends on "both the probability or foreseeability of the occurrence of harm and its severity or magnitude" and should therefore be "determined by, among other factors, an assessment of the risk and level of harm combined" (*Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 91, para. 239, and p. 137, para. 397). It is necessary to take into account the risks which current activities might pose in the future, including in the long term. In any case, the degree of a given risk of harm is always an important element for the application of the due diligence standard: the higher the probability and the seriousness of possible harm, the more demanding the required standard of conduct.

276. The Court is of the view that a risk of significant harm may also be present in situations where significant harm to the environment is caused by the cumulative effect of different acts undertaken by various States and by private actors subject to their respective jurisdiction or control, even if it is difficult in such situations to identify a specific share of responsibility of any particular State. States must assess the possible cumulative effects of their acts and the planned activities under their jurisdiction or control. Although such "activities may not be environmentally significant if taken in isolation, . . . they may produce significant effects if evaluated in interaction with other activities" (*Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 128, para. 365).

277. The Court notes the assessment by the IPCC that the risk of significant harm to the climate system results from the cumulative impact of various human activities . . . That risk is distinct in the sense that . . . [i]t is the sum of all activities that contribute to anthropogenic GHG emissions over time, not any specific emitting activity, which produces the risk of significant harm to the climate system. This does not mean that individual conduct leading to emissions cannot give rise to the obligation to prevent significant transboundary harm even if such activity is environmentally insignificant in isolation . . .

278. The determination of "significant harm to the climate system and other parts of the environment" must take into account the best available science, which is currently to be found in the reports of the IPCC. These reports identify harms associated with climate change as including sea level rise, extreme weather events and severe consequences for ecosystems and biodiversity (see IPCC, *Climate Change 2023: Synthesis Report*, pp. 46-51, section 2.1.2; see Part II.B above). Informed by the best available science and based on the above considerations, the Court considers that the adverse effects of climate change . . . indicate that the accumulation of GHG emissions in the atmosphere is causing significant harm to the climate system and other parts of the environment. The question whether any specific harm, or risk of harm, to a State constitutes a relevant adverse effect of climate change must be assessed *in concreto* in each individual situation or case.

279. Accordingly, the Court considers that the diffuse and multifaceted nature of various forms of conduct which contribute to anthropogenic climate change does not preclude the application of the duty to prevent significant harm to the climate system and other parts of the environment. This duty arises as a result of the general risk of significant harm to which States contribute, in markedly different ways, through the activities undertaken within their jurisdiction or control. * * *

(b) Due diligence as the required standard of conduct

[States must fulfil their duty to prevent significant harm to the environment by acting with due diligence. The Court identifies the following elements for determining whether a State's conduct conforms with the strict due diligence standard applicable to this duty:]

(i) Appropriate measures

281. The Court recalls that due diligence requires a State 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" (*Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010 (I)*, p. 56, para. 101). This means that States must "put in place a national system, including legislation, administrative procedures and an enforcement mechanism necessary to regulate the activities in question, and…exercise adequate vigilance to make such a system function efficiently, with a view to achieving the intended objective" (*Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 89, para. 235). * * *

(ii) Scientific and technological information

283. The Court considers that the availability of, and the need to acquire and analyse scientific and technological information is another important factor. Scientific information may provide the necessary evidence to assess the probability and seriousness of possible harm, informing the required standard of due diligence. Thus, where there is generally recognized scientific evidence that it is highly probable that significant harm will occur, the standard of due diligence will be more demanding for all States . . . Due diligence also requires States to actively pursue the scientific information necessary for them to assess the probability and seriousness of harm, in conformity with the common but differentiated responsibilities and respective capabilities principle. On the other hand, where a State lacks the capacity to access and properly act on relevant scientific information, including when a State lacks necessary resources, failure to take appropriate preventive measures may not constitute a lack of due diligence. * * *

(iii) Relevant international rules and standards

287. The Court's finding that "[i]n order to evaluate environmental risks, current standards must be taken into consideration" also applies to the determination of the required due diligence in respect of climate change (see *Gabčíkovo-Nagymaros Project (Hungary/Slovakia), Judgment, I.C.J. Reports 1997*, p. 77, para. 140; *Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 107, para. 285). Current standards may arise from binding and non-binding norms. Such standards may therefore not only be contained in treaties and in customary international law, but they may also be reflected in certain decisions of the COPs to the climate change treaties and in recommended technical norms and practices, as appropriate.

288. Several participants emphasized the role of COP decisions. Apart from the relevance of such decisions in connection with the interpretation and implementation of climate change treaties . . . the Court considers that COP decisions may also be relevant for the identification of customary international law, in so far as they reflect State practice and if they express an *opinio juris* of States. Whether a particular COP decision has such legal significance can only be determined *in concreto*. * * *

(iv) Different capabilities * * *

292. While developed States, in the context of climate change, must take more demanding measures to prevent environmental harm and must satisfy a more demanding standard of conduct, the standard required in each case ultimately depends on the specific situation of each State, namely "all the means at its disposal" (see *Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010 (I)*, p. 56, para. 101). The difference between the respective capabilities of States, as one of the factors which determines the diligence required, cannot therefore merely result from a distinction between developed and developing countries, but must also depend on their respective national circumstances. The multifactorial and evolutive character of the due diligence standard entails that, as States develop economically and their capacity increases, so too are the requirements of diligence heightened. Finally, the reference to available means and capabilities cannot justify undue delay or a general exemption from the obligation to exercise due diligence. * * *

(v) Precautionary approach or principle and respective measures

[In accordance with the precautionary approach, where there are threats of serious or irreversible damage, a lack of full scientific certainty shall not be used as a reason for postponing measures to prevent environmental degradation, as a State fails its obligation of due diligence if it disregards plausible indications of potential risks.]

(vi) Risk assessment and environmental impact assessment

[Due diligence encompasses procedural obligations, namely, the requirement to undertake an environmental impact assessment (EIA) for proposed activities which may have a significant adverse impact in a transboundary context. While it is for each State to determine the specific content of the EIA in its domestic legislation, all States must provide for and conduct EIAs for particularly significant proposed activities contributing to GHG emissions, taking into account the specific character of the risk on the basis of the best available science.]

(vii) Notification and consultation

[Due diligence entails an obligation for States to notify and consult in good faith with other States where planned activities create a risk of such harm and consultation is necessary to determine appropriate preventative measures.]

2. Duty to co-operate * * *

304. The Court is of the view that the specific character of climate change requires States to take individual measures in co-operation with other States. The climate change treaties encourage and provide for certain forms of such co-operation . . . While States have obligations to make individual contributions to collective efforts under the duty to prevent significant harm to the environment, the interpretation and fulfilment of their substantive obligations under that duty must also take account of the situation of other States and, as far as possible, be fulfilled in co-operation with other States. The duty to co-operate requires sustained and continuous forms of co-operation, of which treaties and their coordinated forms of implementation are a principal expression. While States are not required to conclude treaties, they are required to make good faith efforts to arrive at appropriate forms- of collective action. In the field of climate change, this requires agreement on forms of bona fide co-operation, such as those contained in the Paris Agreement. However, this does not mean that States discharge their duty to co-operate only by the conclusion and fulfilment of treaties (see *Climate Change, Advisory Opinion, ITLOS Reports 2024*, pp. 85-86, para. 223; see also paragraph 314 below). * * *

308. Climate change is a common concern. Co-operation is not a matter of choice for States but a pressing need and a legal obligation. * * *

3. Relationship between obligations arising from treaties and from customary international law relating to climate change * * *

310. The Court recalls that treaty rules and rules of customary international law, as norms belonging to two sources of international law, retain a separate existence (*Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America), Merits, Judgment, I.C.J. Reports 1986*, p. 95, para. 178). However, when several norms bear on a single issue they should, to the extent possible, be interpreted so as to give rise to a single set of compatible obligations . . . * * *

314. As it is difficult to determine in the abstract the extent to which the climate change treaties and their implementation practice influence the proper understanding of the relevant customary obligations and their application, the Court considers that, at the present stage, compliance in full and in good faith by a State with the climate change treaties, as interpreted by the Court . . . suggests that this State substantially complies with the general customary duties to prevent significant environmental harm and to co-operate. This does not mean, however, that the customary obligations would be fulfilled simply by States complying with their obligations under the climate change treaties (see *Climate Change, Advisory Opinion, ITLOS Reports 2024*, pp. 85-86, para. 223). While the treaties and customary international law inform each other, they establish independent obligations that do not necessarily overlap.

315. It follows from the above that the customary obligations of any State which is not a party to one or more of the climate change treaties at present find expression, at least in part, in the general practice of States which is in accordance with their obligations under the climate change treaties, as interpreted herein . . . Customary obligations are the same for all States and exist independently regardless of whether a State is a party to the climate change treaties. On this basis, the Court considers that it is possible that a non-party State which co-operates with the community of States parties to the three climate change treaties in a way that is equivalent to that of a State party, may, in certain instances, be considered to fulfil its customary obligations through practice that comports with the required conduct of States under the climate change treaties. However, if a non-party State does not co-operate in such a way, it has the full burden of demonstrating that its policies and practices are in conformity with its customary obligations. * * *

D. Obligation of States under other environmental treaties

[The Court considers the obligations under the Ozone Layer Convention, the Montreal Protocol and its Kigali Amendment, the Biodiversity Convention, and the Desertification Convention, viewing them as contributing to the protection of the climate system and other parts of the environment.]

E. Obligation of States under the law of the sea and related issues * * *

F. Obligation of States under international human rights law * * *

373. The environment is the foundation for human life, upon which the health and well-being of both present and future generations depend (see *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996 (I)*, p. 241, para. 29). The Court thus considers that the protection of the environment is a precondition for the enjoyment of human rights, whose promotion is one of the purposes of the United Nations as set out in Article 1, paragraph 3, of the Charter. * * *

375. Anthropogenic GHG emissions have an adverse impact on the climate system and other parts of the environment. The IPCC has underscored the interdependence between the vulnerability of human populations and that of ecosystems . . . The degradation of the climate system and of other parts of the environment impairs the enjoyment of a range of rights protected by human rights law. * * *

393. Based on all of the above, the Court is of the view that a clean, healthy and sustainable environment is a precondition for the enjoyment of many human rights, such as the right to life, the right to health and the right to an adequate standard of living, including access to water, food and housing. The right to a clean, healthy and sustainable environment results from the interdependence between human rights and the protection of the environment. Consequently, in so far as States parties to human rights treaties are required to guarantee the effective enjoyment of such rights, it is difficult to see how these obligations can be fulfilled without at the same time ensuring the protection of the right to a clean, healthy and sustainable environment as a human right. The human right to a clean, healthy and sustainable environment is therefore inherent in the enjoyment of other human rights. The Court thus concludes that, under international law, the human right to a clean, healthy and sustainable environment is essential for the enjoyment of other human rights. * * *

V. Question (b) put to the Court: legal consequences arising from States' acts and omissions that cause significant harm to the climate system and other parts of the environment

405. The Court now turns to question *(b)*, which . . . concerns the legal consequences arising for States that have breached any of the obligations identified in relation to question *(a)*. As the Court noted above . . . the term "legal consequences" in question *(b)* is to be understood as referring to the legal

consequences arising from internationally wrongful acts of States, which are to be ascertained on the basis of the primary rules and the customary rules on State responsibility . . .

406. Additionally, it bears repeating that it is not the Court's task in this Opinion to establish the individual responsibility of a State or group of States for the damage caused to the climate system . . .; such responsibility can only be established on a case-by-case basis. In the Court's view, in respect of question *(b)*, the object of this Opinion is to provide a reply that sets out the general legal framework that governs the responsibility of States for their failure to comply with their obligations "to ensure the protection of the climate system and other parts of the environment from anthropogenic emissions of greenhouse gases". Put differently, the Court's task is to identify, in a general manner, the legal framework under which the conduct of States can be assessed in order to determine whether a State, or a group of States, is responsible for a breach of its obligations pertaining to the protection of the climate system; whether a State, or group of States, can invoke the responsibility of another State or group of States in breach; and the remedies that are available to the injured State or States in case of such a breach. * * *

A. Applicable law * * *

410. The Court observes that participants in these proceedings are divided in their views as to whether the general rules on State responsibility apply in the context of climate change or whether the legal consequences arising from a breach of States' obligations identified under question (a) are solely or primarily governed by the climate change treaty framework . . . This question is not resolved by the conclusion of the Court that the primary obligations under the climate change treaties do not constitute *lex specialis* in respect of the obligations of States under other rules of international law . . .

411. . . . In order for the *lex specialis* maxim to apply, there must be "some actual inconsistency . . . or else a discernible intention that one provision is to exclude the other" (see Article 55, paragraph 4 of the commentary, ILC Articles on State Responsibility, p. 140; see also paragraph 167 above). Whether States derogated from the general rules on State responsibility by agreeing on special rules is a matter of interpretation for each supposedly special régime.

412. Therefore, the Court considers that a discernible intention to establish *lex specialis*, varying or excluding the application of the general rules on State responsibility, must be found in the climate change treaty framework itself . . . * * *

[The Court then looks to the text of the climate change treaties, focusing on the "loss and damage" and "compliance" mechanisms in Articles 8 and 15 of the Paris Agreement, and the dispute settlement mechanism in Article 14 of the UNFCCC.]

418. The Court, therefore, finds that the text, context, and object and purpose of the climate change treaties do not support the proposition that the parties intended to exclude the general rules on State responsibility. In particular, the Court finds no evidence in Articles 8 and 15, or in the procedural mechanisms thereunder, of any discernible intention on the part of the parties to the Paris Agreement to derogate from the customary international law rules on State responsibility for breaches of treaty obligations. * * *

420. Therefore, the Court concludes that responsibility for breaches of obligations under the climate change treaties, and in relation to the loss and damage associated with the adverse effects of climate change, is to be determined by applying the well-established rules on State responsibility under customary international law.

B. Determination of State responsibility in the climate change context

421. The Court recalls that climate change is a highly complex and multifaceted phenomenon involving possible responsibilities for multiple States over long periods of time. The unprecedented nature and scale of harm resulting from climate change give rise to particular issues in relation to the application of the customary rules on State responsibility. That is so because concentrations of GHG emissions are not produced by a single activity or group of activities identifiable or associated with a certain State or States. Moreover, it is the collective and aggregate effects of GHGs, anthropogenic as well as from natural sources, that cause damage to the climate system . . .

422. Chief amongst these issues are questions relating to attribution and causation, which require clarification in view of the special features of climate change. Indeed, the need for such clarifications is self-evident given that, under the rules on State responsibility, only an action or omission attributable to a State can give rise to international responsibility. Moreover, in cases where reparation is claimed, it must be shown that the damage for which reparation is claimed has been factually and legally caused by a State. * * *

1. Questions relating to attribution

425. At the outset, the Court wishes to clarify that the term "attribution" [...] in the context of determining State responsibility denotes "the operation of attaching a given action or omission to a State" under international law. (see Article 2, paragraph 12 of the commentary, ILC Articles on State Responsibility, p. 36). Attribution . . . is one of the elements necessary for finding an internationally wrongful act, and all international claims may be said to require attribution to establish the responsibility of a particular State under international law. * * *

427. . . . In the Court's view, the "well-established rule of international law" that "the conduct of any organ of a State must be regarded as an act of that State" (*Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda), Judgment, I.C.J. Reports 2005*, p. 242, para. 213, citing *Difference Relating to Immunity from Legal Process of a Special Rapporteur of the Commission on Human Rights, Advisory Opinion, I.C.J. Reports 1999 (I)*, p. 87, para. 62) is applicable in the context of climate change. Failure of a State to take appropriate action to protect the climate system from GHG emissions — including through fossil fuel production, fossil fuel consumption, the granting of fossil fuel exploration licences or the provision of fossil fuel subsidies — may constitute an internationally wrongful act which is attributable to that State. The Court also emphasizes that the internationally wrongful act in question is not the emission of GHGs per se, but the breach of conventional and customary obligations identified under question *(a)* pertaining to the protection of the climate system from significant harm resulting from anthropogenic emissions of such gases.

428. Some participants also argued that the conduct of private actors resulting in emissions of GHGs is not attributable to States. In relation to private actors, the Court observes that the obligations it has identified under question *(a)* include the obligation of States to regulate the activities of private actors as a matter of due diligence. Therefore, attribution in this context involves attaching to a State its own actions or omissions that constitute a failure to exercise regulatory due diligence. In such circumstances, the question of attributing the conduct of private actors to a State does not arise . . . Thus, a State may be responsible where, for example, it has failed to exercise due diligence by not taking the necessary regulatory and legislative measures to limit the quantity of emissions caused by private actors under its jurisdiction.

429. The Court further notes that some participants submitted that it is difficult to invoke responsibility in the context of climate change given that the wrongful conduct is cumulative in nature, involving different States over a period of time, and involving a plurality of States that cause injury to

a plurality of injured States. In this respect, the Court observes that while climate change is caused by cumulative GHG emissions, it is scientifically possible to determine each State's total contribution to global emissions, taking into account both historical and current emissions. For instance, since the adoption of the UNFCCC, States are required to communicate information on their emissions. The 2023 IPCC report includes data on cumulative net emissions by region, and other studies include data on current and historical emissions that can be attributed to individual States (IPCC, *Climate Change 2023: Synthesis Report*, p. 45; European Commission, Joint Research Centre Science for Policy Report, *CO_2 Emissions of all World Countries*, 2022, p. 5). Indeed, other courts and tribunals have considered the link between GHG emissions and climate change, the link between climate change and adverse effects suffered by litigants, the link between such harm and the actions or omissions of a particular State, and the attributability of responsibility for such adverse effects . . .

430. The Court acknowledges that the fact that multiple States have contributed to climate change may indeed increase the difficulty of determining whether and to what extent an individual State's breach of an obligation identified in question *(a)* has caused significant harm to the climate system. However, the Court considers that, in principle, the rules on State responsibility under customary international law are capable of addressing a situation in which there exists a plurality of injured or responsible States. Such a situation was recognized by the Court in its Judgment concerning *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda)*, where it observed that "in certain situations in which multiple causes attributable to two or more actors have resulted in injury . . . responsibility for part of such injury should [be] allocated among [the] actors" (*I.C.J. Reports 2022 (I)*, pp. 49-50, para. 98) . . .

431. Therefore, in the climate change context, the Court considers that each injured State may separately invoke the responsibility of every State which has committed an internationally wrongful act resulting in damage to the climate system and other parts of the environment. And where several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act.

432. Thus, the Court considers that the rules on State responsibility admit the possibility of determining the responsibility of States in the climate change context. Factual questions arising in the context of attribution and apportionment of responsibility are to be resolved on a case-by-case basis.

2. Questions relating to causation

433. The Court begins by observing that causation of damage is not a requirement for the determination of responsibility as such. For a finding of State responsibility, what is required is an internationally wrongful act and its attribution to a State, whether the act causes harm or not. Causation or causality is a legal concept that plays a role in determining reparation. Since reparation implies the existence of damage, causation must be established between the wrongful act of a State — or group of States — and particular damage suffered by the injured State or, in the case of a breach of obligations under international human rights law, by the injured individuals. * * *

[The Court rejects arguments that causation is impossible to establish or that it should be presumed.]

436. The existing legal standard for establishing causation, which has been developed in the jurisprudence of the Court, is capable of being applied to the establishment of causation between the internationally wrongful act of non-compliance with States' obligations to protect the climate system from harm caused by anthropogenic GHG emissions and the damage suffered by States as a result of such a wrongful act. This standard requires the existence of "a sufficiently direct and certain causal nexus between the wrongful act . . . and the injury suffered by the Applicant" (*Certain Activities*

Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua), Compensation, Judgment, I.C.J. Reports 2018 (I), p. 26, para. 32; *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda), Reparations, Judgment, I.C.J. Reports 2022 (I)*, p. 48, para. 93). Moreover, as the Court has observed, the "causal nexus" between the wrongful act and the damage in question is not static in nature, and "may vary depending on the primary rule violated and the nature and extent of the injury" (*Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda), Reparations, Judgment, I.C.J. Reports 2022 (I)*, p. 48, para. 93). Accordingly, the Court is of the view that the standard of "a sufficiently direct and certain causal nexus" between an alleged wrongful action or omission and the alleged damage is flexible enough to address the challenges arising in respect of the phenomenon of climate change.

437. In terms of the operation of this legal standard in the climate change context, the Court observes that causation involves two distinct elements. *First*, whether a given climatic event or trend can be attributed to anthropogenic climate change; and *second*, to what extent damage caused by climate change can be attributed to a particular State or group of States. While the second element must be established *in concreto* in respect of specific claims brought by States in respect of damage, in many cases the first element may be addressed by recourse to science. The scientific evidence adduced in these proceedings establishes that significant harm to the climate system and other parts of the environment has been caused as a result of anthropogenic GHG emissions . . . For example, the IPCC's 2023 Synthesis Report includes data clearly linking the human contribution to climate change to observed increases in heatwaves, flooding and drought (p. 48, figure 2.3). As for establishing causality between damage caused and an internationally wrongful act, the Court has observed in the past that

> "[i]n cases of alleged environmental damage, particular issues may arise with respect to the existence of damage and causation. The damage may be due to several concurrent causes, or the state of science regarding the causal link between the wrongful act and the damage may be uncertain. These are difficulties that must be addressed as and when they arise in light of the facts of the case at hand and the evidence presented to the Court. Ultimately, it is for the Court to decide whether there is a sufficient causal nexus between the wrongful act and the injury suffered." (*Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua), Compensation, Judgment, I.C.J. Reports 2018 (I)*, p. 26, para. 34.)

438. In light of the foregoing, the Court concludes that while the causal link between the wrongful actions or omissions of a State and the harm arising from climate change is more tenuous than in the case of local sources of pollution, this does not mean that the identification of a causal link is impossible in the climate change context; it merely means that the causal link must be established in each case through an *in concreto* assessment while taking into account the aforementioned elements outlined by the Court. * * *

*3. Erga omnes character of the underlying obligations * * **

440. . . . In the present context, the Court considers that all States have a common interest in the protection of global environmental commons like the atmosphere and the high seas. Consequently, States' obligations pertaining to the protection of the climate system and other parts of the environment from anthropogenic GHG emissions, in particular the obligation to prevent significant transboundary harm under customary international law, are obligations *erga omnes*. In the treaty context, the Court recalls that the UNFCCC and Paris Agreement acknowledge that climate change is "a common concern of humankind" (UNFCCC, first preambular paragraph; Paris Agreement, eleventh preambular paragraph), requiring "a global response" (Paris Agreement, Article 2). They seek to protect the essential interest of all States in the safeguarding of the climate system, which benefits the international community as a whole. As such, the Court considers that the obligations of States under these treaties are obligations *erga omnes partes*.

441. As the Court has observed in the past, obligations erga omnes are "[b]y their very nature . . . the concern of all States" (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). The Court has also previously found that treaties protecting common interests imply, with respect to some provisions, the existence of obligations erga omnes partes . . . As a result, all States parties have a legal interest in the protection of the main mitigation obligations set forth in the climate change treaties and may invoke the responsibility of other States for failing to fulfil them.

442. The Court recalls that under the rules on State responsibility, "[a]ny State other than an injured State is entitled to invoke the responsibility of another State . . . if . . . the obligation breached is owed to the international community as a whole" (ILC Articles on State Responsibility, Article 48, paragraph 1 *(b)*). It follows that responsibility for breaches of such obligations, such as climate change mitigation obligations, may be invoked by any State when such obligations arise under customary international law. When such obligations arise under the climate change treaties, all parties to the treaty may invoke such responsibility, since every party is deemed to have a legal interest in the protection of these obligations . . .

443. There is, however, a difference between the position of injured States or specially affected States on the one hand, and that of non-injured States on the other, as concerns the availability of remedies. While a non-injured State may pursue a claim against a State in breach of a collective obligation, it may not claim reparation for itself. Rather, it may only make a claim for cessation of the wrongful act and assurances and guarantees of non-repetition, as well as for the performance of the obligation of reparation in the interest of the injured State or of the beneficiaries of the obligation breached. These legal consequences are addressed below. * * *

C. Legal consequences arising from wrongful acts

[The Court recalls that every internationally wrongful act—such as breaching NDC obligations under the Paris Agreement or customary duties like due diligence to prevent significant harm—entails international responsibility. The precise consequences depend on the specific breach and harm, but the Court notes that breaches may give rise to the entire panoply of legal consequences under the law of State responsibility. These include cessation and non-repetition, as well as full reparation (restitution, compensation, and/or satisfaction).]

1. Duty of performance

[A State's breach of its international obligations does not extinguish its underlying duty of performance; the duty continues despite the breach.]

2. Duty of cessation and guarantees of non-repetition

[Under customary international law, a responsible State must cease a continuing wrongful act. This may require revoking relevant administrative and legislative measures and employing all means to reduce GHG emissions to ensure compliance. In appropriate circumstances, the State could be required to offer guarantees of non-repetition.]

3. Duty to make reparation

449. As noted above, reparation implies the existence of damage which must be demonstrated by the injured State or, in the case of a breach of an obligation under international human rights law, by the injured individuals. Therefore, to establish reparation, causation must be established between the wrongful act of a State — or group of States — and particular damage suffered by the injured State, or, in the case of human rights law, by the injured individuals.

450. Article 31 of the ILC Articles on State Responsibility provides that a responsible State is under an obligation to make full reparation for the damage caused by the internationally wrongful act (see also *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, I.C.J. Reports 2004 (I)*, p. 198, para. 152). As stated by the Permanent Court of International Justice in the Factory at Chorzów case, reparation must "wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed" (*Merits, Judgment No. 13, 1928, P.C.I.J., Series A, No. 17*, p. 47). "[F]ull reparation" can be achieved by restitution, compensation, satisfaction or a combination thereof. The appropriate nature and quantum of reparations cannot be assessed in the abstract and depends on the circumstances of a particular case. * * *

452. In the event that restitution should prove to be materially impossible, responsible States have an obligation to compensate. The Court observes that compensation, as a form of reparation, has the function of addressing the losses incurred as a result of the internationally wrongful act. Compensation corresponds to the financially assessable damage suffered by the injured State or its nationals. The Court is not requested in this Advisory Opinion to indicate reparation for specific States or to identify such States individually, nor to proceed to the quantification of compensation to be paid by specific States or a plurality of States. However, the Court considers that it is within the scope of this Opinion, in the context of setting out the applicable legal framework for State responsibility, to consider whether compensation could be owed for significant harm caused by climate change, if a sufficiently direct and certain causal nexus can be shown between the wrongful acts of one or more States and the resulting harm.

453. The Court has previously had occasion to confirm that environmental damage is compensable under international law, and that compensation will be due for both damage caused to the environment, "in and of itself" — which may include "indemnification for the impairment or loss of environmental goods and services in the period prior to recovery" — and expenses incurred by injured States as a consequence of such damage (*Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicaragua), Compensation, Judgment, I.C.J. Reports 2018 (I)*, pp. 28-29, paras. 41-43). With respect to the valuation of the damage caused to the environment, the Court has held that

> "the absence of adequate evidence as to the extent of material damage will not, in all situations, preclude an award of compensation for that damage. For example, in the Ahmadou Sadio Diallo case, the Court determined the amount of compensation due on the basis of equitable considerations" (*ibid.*, pp. 26-27, para. 35).

454. Therefore, where there is uncertainty with respect to the exact extent of the damage caused, compensation in the form of a global sum, within the range of possibilities indicated by the evidence and taking into account equitable considerations, may be awarded on an exceptional basis (see *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v. Uganda), Reparations, Judgment, I.C.J. Reports 2022 (I)*, p. 52, para. 106). In the climate change context, reparations in the form of compensation may be difficult to calculate, as there is usually a degree of uncertainty with respect to the exact extent of the damage caused. * * *

OPERATIVE CLAUSE

457. For these reasons,

THE COURT,

(1) Unanimously,

Finds that it has jurisdiction to give the advisory opinion requested;

(2) Unanimously,

Decides to comply with the request for an advisory opinion;

(3) As regards question *(a)* put by the General Assembly:

A. Unanimously,

Is of the opinion that the climate change treaties set forth binding obligations for States parties to ensure the protection of the climate system and other parts of the environment from anthropogenic [GHG] emissions. These obligations include the following:

(a) States parties to the [UNFCCC] have an obligation to adopt measures with a view to contributing to the mitigation of [GHG] emissions and adapting to climate change;

(b) States parties listed in Annex I to the [UNFCCC] have additional obligations to take the lead in combating climate change by limiting their [GHG] emissions and enhancing their [GHG] sinks and reservoirs;

(c) States parties to the [UNFCCC] have a duty to co-operate with each other in order to achieve the underlying objective of the Convention;

(d) States parties to the Kyoto Protocol must comply with applicable provisions of the Protocol;

(e) States parties to the Paris Agreement have an obligation to act with due diligence in taking measures in accordance with their common but differentiated responsibilities and respective capabilities capable of making an adequate contribution to achieving the temperature goal set out in the Agreement;

(f) States parties to the Paris Agreement have an obligation to prepare, communicate and maintain successive and progressive nationally determined contributions which, *inter alia*, when taken together, are capable of achieving the temperature goal of limiting global warming to 1.5°C above pre-industrial levels;

(g) States parties to the Paris Agreement have an obligation to pursue measures which are capable of achieving the objectives set out in their successive nationally determined contributions; and

(h) States parties to the Paris Agreement have obligations of adaptation and co-operation, including through technology and financial transfers, which must be performed in good faith;

B. Unanimously,

Is of the opinion that customary international law sets forth obligations for States to ensure the protection of the climate system and other parts of the environment from anthropogenic [GHG] emissions. These obligations include the following:

(a) States have a duty to prevent significant harm to the environment by acting with due diligence and to use all means at their disposal to prevent activities carried out within their jurisdiction or control from causing significant harm to the climate system and other parts of the environment, in accordance with their common but differentiated responsibilities and respective capabilities;

(b) States have a duty to co-operate with each other in good faith to prevent significant harm to the climate system and other parts of the environment, which requires sustained and continuous forms of co-operation by States when taking measures to prevent such harm;

C. Unanimously,

Is of the opinion that States parties to the Vienna Convention for the Protection of the Ozone Layer and to the Montreal Protocol on Substances that Deplete the Ozone Layer and its Kigali Amendment, the Convention on Biological Diversity and the United Nations Convention to Combat Desertification … have obligations under these treaties to ensure the protection of the climate system and other parts of the environment from anthropogenic [GHG] emissions;

D. Unanimously,

Is of the opinion that States parties to [UNCLOS] have an obligation to adopt measures to protect and preserve the marine environment, including from the adverse effects of climate change and to co-operate in good faith;

E. Unanimously,

Is of the opinion that States have obligations under international human rights law to respect and ensure the effective enjoyment of human rights by taking necessary measures to protect the climate system and other parts of the environment;

(4) As regards question *(b)* put by the General Assembly:

Unanimously,

Is of the opinion that a breach by a State of any obligations identified in response to question *(a)* constitutes an internationally wrongful act entailing the responsibility of that State. The responsible State is under a continuing duty to perform the obligation breached. The legal consequences resulting from the commission of an internationally wrongful act may include the obligations of:

(a) cessation of the wrongful actions or omissions, if they are continuing;

(b) providing assurances and guarantees of non-repetition of wrongful actions or omissions, if circumstances so require; and

(c) full reparation to injured States in the form of restitution, compensation and satisfaction, provided that the general conditions of the law of State responsibility are met, including that a sufficiently direct and certain causal nexus can be shown between the wrongful act and injury.

Done in French and in English, the French text being authoritative, at the Peace Palace, The Hague, this twenty-third day of July, two thousand and twenty-five . . .

B. Questions and Discussion

1. For a description of the student-led campaign that initiated the request for this Advisory Opinion, *see* Brooke Jarvis, *How a Group of Students in the Pacific Islands Reshaped Global Climate Law*, THE NEW YORK TIMES (Sept. 10, 2025). How does understanding this

backstory—the motivations of the Pacific Islander students and the political challenges they faced—deepen your appreciation of the Court's legal analysis? What does the campaign suggest about the ways that climate-vulnerable actors can exercise agency within a system otherwise characterized by considerable asymmetries in material power? For an early discussion of the international strategy that low-lying islands might pursue to slow climate change, including seeking an ICJ Advisory Opinion, *see* Durwood Zaelke & James Cameron (1990), *Global Warming and Climate Change - An Overview of the International Legal Process*, AM. U. INT'L L. REV. 249–290 (Winter 1990). While civil society played a critical role in initiating the ICJ Advisory Opinion, note that of the 91 written statements, 62 written comments, and oral statements from over 96 States and 11 international organizations, none were from civil society. Why? Compare this with the Inter-American Court of Human Rights *Advisory Opinion on the Climate Emergency and Human Rights*, discussed in the next section, where that Court received over 260 written briefs, including from 17 Indigenous and other communities, more than 90 NGOs and think tanks, 70 academic institutions, and 45 special experts, as well as 36 States and public institutions.

2. The ICJ rejected the argument that the climate change treaties constitute *lex specialis* that would displace other rules of international law. ICJ Advisory Opinion, ¶¶ 162–71. What were the main arguments for the climate treaties being *lex specialis*? Which participants may have argued in favor of a finding of *lex specialis*, and why? *See e.g.* Written statement of the United States of America from 22 March 2024. What would have been the consequences had the ICJ accepted *lex specialis*? How does this compare with the fossil fuel industry's argument that lawsuits by U.S. states and localities violate the dormant Commerce Clause and are preempted based on unique federal interests, the prohibition on extraterritorial state regulation, the Clean Air Act ("CAA"), and the Foreign Affairs doctrine? The most recent preemption case is *Cnty. Comm'rs of Boulder Cnty. v. Suncor Energy USA, Inc.*, 2025 CO 21, 586 P.3d 161 (Colo. 2025), *cert. granted sub nom. Suncor Energy (U.S.A.) Inc. v. County Comm'rs of Boulder County*, No. 25-170 (U.S. Feb. 23, 2026). The U.S. Supreme Court will hear arguments on 5 October 2026, the Court's opening day for its new term. The argument against preemption is presented in the Brief for Respondents, *Suncor Energy (U.S.A.) Inc. v. Cnty. Comm'rs of Boulder Cnty.*, No. 25-170 (U.S. filed July 27, 2026).

3. In its discussion of State responsibility, the ICJ was careful to specify that it was not, in the present Advisory Opinion, evaluating the individual responsibility of any one State or group of States. On this basis, it declined to address a number of questions which it considered could only be determined *in concreto*, or on a case-by-case basis. The following exercise prompts you to reflect on the task of successfully arguing an individual contentious case following the Advisory Opinion. What elements of your argument does the Advisory Opinion clarify? What elements still involve significant uncertainty?

4. ***Exercise:*** **Advising a Small Island State**. Assume you represent Vanuatu, a small island State in the Pacific seriously threatened by climate change. Following the issuance of the

ICJ's Advisory Opinion, the Prime Minister asks for a memorandum outlining a legal strategy against a major historical emitter (e.g., "Country X") that is also a party to the Paris Agreement, but has submitted a critically insufficient Nationally Determined Contribution. Prepare an outline of the legal claims, principles, and treaty/customary law precedents from the ICJ AO you would use to argue for State responsibility. Specifically, how would you overcome the challenges of causation? How would you frame the "sufficiently direct and certain causal nexus" between Country X's historical emissions and the specific harm Vanuatu is facing (e.g., loss of territory due to sea-level rise)? *See* ICJ Advisory Opinion, ¶¶ 433–38. What specific remedies would you demand? Go beyond simple compensation and consider restitution, cessation, and guarantees of non-repetition, as framed by the ICJ in paragraphs 446–55. (*See also para. 14 & 15 below,* for decisions discussing the ICJ Advisory Opinion.)

5. The Court addresses the status of the right to a clean, healthy, and sustainable environment under international human rights law. ICJ, ¶¶ 369–404. While stopping short of declaring it a standalone customary right, the Court instead concludes that a healthy environment is a "precondition" for the enjoyment of other rights and that the right itself is "inherent in the enjoyment of other human rights." ICJ, ¶ 393. What is the legal and practical difference between a right that is "inherent in" other rights, as the ICJ frames it, versus a stand-alone, autonomous right as recognized by other courts like the Inter-American Court of Human Rights? Why this more cautious formulation? How does this approach affect the legal basis for future human rights-based climate litigation?

6. The Court defines its scope as encompassing an inquiry into the "full range of human activities that contribute to climate change...including both consumption and production activities," and notes with approval that participants argued obligations "include activities such as ongoing production, licensing and subsidizing of fossil fuels." ICJ, ¶ 94. The Court later identifies a State's failure to regulate "fossil fuel production, fossil fuel consumption, the granting of fossil fuel exploration licences or the provision of fossil fuel subsidies" as potentially constituting an internationally wrongful act attributable to that State. ICJ, ¶ 427. How does the expansive definition of relevant State conduct in paragraphs 94 and 427 go beyond the text of the UNFCCC or Paris Agreement, which focuses primarily on emissions? What sources of international law does the Court implicitly or explicitly rely on to justify including upstream activities like licensing and subsidies?

7. ***Exercise:*** **Evaluating State Actions as a Whole.** Assume a State ("Country A") is on track to meet its NDC targets under the UNFCCC, primarily through carbon capture technologies and purchasing international offsets. However, it is also massively expanding its state-owned oil company's exploration and extraction activities for export. Could another State ("Country B," a climate-vulnerable nation) argue that Country A is in breach of its international obligations, even if its domestic emissions are technically declining? What would be the strongest arguments for and against such a claim?

8. Notwithstanding the ICJ's unanimous delivery, the Advisory Opinion is accompanied by judges' individual and joint separate opinions and declarations. Foremost among these is Judge Yusuf's separate opinion, which critiques the majority for adopting an "excessively formalistic approach." He argues that the Court deliberately avoided the historical realities of greenhouse gas emissions and failed to meaningfully address the principle of common but differentiated responsibilities inherent in Question (b). As Judge Yusuf pointedly notes:

> The General Assembly did not ask for a learned scholarly dissertation on the obligations of States in relation to climate change and the legal consequences that may theoretically arise from a breach of such obligations. Its questions deserved more concrete and tangible replies capable of engaging with their material scope, the context in which they were posed and the objectives underlying the request for an advisory opinion.

Sep. Op. of Judge Yusuf, ¶ 2.

Judge Yusuf contends that by applying a single, abstract framework to all States regardless of their historical contributions or vulnerabilities, the Court embraced a form of "'majestic equality'" that is "completely detached from the empirical realities and the scientific findings relating to the causes and consequences of climate change…" *Id.* ¶ 8 (citing the famous remark by Anatole France that "[t]he law, in its majestic equality, forbids the rich as well as the poor to sleep under bridges, to beg in the streets, and to steal bread.").

Do you agree with Judge Yusuf that the Court's reinterpretation of Question *(b)* to avoid addressing the specific legal consequences in respect of injured States represents an attempt to "dodge, elude and avoid" its mandate that "borders on the unreal"? *Id.* ¶ 6.

9. Judge Bhandari's separate opinion, while concurring in the result, argues for greater normative clarity and a more concrete articulation of legal consequences. He laments the "insufficient treatment of the 'polluter pays' principle" as a "critical normative tool" and suggests the Court should have delineated specific forms of cessation (e.g., discontinuing fossil fuel extraction) and restitution (e.g., "continu[ing] recognition...of the maritime entitlements and sovereign rights of States adversely affected by sea-level rise"). Sep. Op. of Judge Bhandari, ¶¶ 2, 5, 7. He goes on to recommend the establishment of remedial mechanisms such as claims commissions to systematically address the "potentially vast number of claims." *Id.* ¶ 8.

Do you agree with Judge Bhandari? Or with any of the other Judges in their declarations and separate opinions?

10. Since ICJ advisory opinions are non-binding, how can domestic litigators use the Court's reasoning to shape local statutes and court decisions? What primary legal hurdles—such as standing, political question doctrines, or legislative discretion—might prevent domestic courts from turning these international statements into binding local law?

Reflecting on the legal strategy and the consequences of the ICJ Advisory Opinion, Margaretha Wewerinke-Singh, who served as Lead Counsel for Vanuatu in the ICJ proceedings, and Jorge Viñuales conclude:

> From inside the campaign and legal strategy process, the expected impact of an ambitious advisory opinion could not be confined to symbolism; however, important symbolism may be in a case of this scale. Nor was it confined to what the Advisory Opinion might mean for the climate regime or for the institutional practice of the United Nations. A central consideration was to secure the clarification of existing law that could assist domestic institutions and be translated into ordinary legislative, administrative, and judicial action.
>
> That helps explain why certain questions loomed so large in the drafting and pleading strategy. The individualization of the relevant conduct was crucial because domestic law operates through attributable acts and omissions. The clarification of project-level assessment was key because permitting systems are everyday gateways through which fossil fuel expansion is either enabled or constrained. The clarification of adaptation obligations was also important because it turns a field long treated as programmatic into one of reviewable legal duty, with significant implications for finance and cost allocation. And the harnessing of human rights was fundamental because it connects climate change to some of the ordinary remedial frameworks available in domestic law.
>
> The Advisory Opinion itself does not bind parties like a judgment in a contentious case. But it states, with unusual clarity and with the full authority of a unanimous opinion, what the Court regards as the international law in force. Its most significant effects may therefore emerge incrementally: in an EIA that must now consider downstream effects; in an adaptation plan that is now a requirement and whose costs may increasingly become the subject of domestic allocation and recovery mechanisms; in a rights-based claim where the applicability of human rights law to climate harm, and the availability in principle of reparation for injured peoples and individuals, has now been authoritatively confirmed by the World Court; or in modernized tort claims shaped by customary international law, including human rights. The incremental changes brought by these and other potentialities may, if and when they reach a certain threshold of acceptance, tip existing domestic frameworks in the direction signalled by the advisory opinion. The sign that such a threshold has been crossed will not be a single spectacular ruling, but repetition across ordinary sites of legal decision-making. Fundamental change does not always come from fundamental reform; knocking a first domino may go a long way.

Margaretha Wewerinke-Singh & Jorge E. Viñuales, BRACING FOR IMPACT: THE ICJ ADVISORY OPINION ON CLIMATE CHANGE AND THE ACTIVATION OF LEGAL TIPPING POINTS, Journal of Environmental Law (June 19, 2026). (*See also para. 14 & 15 below,* for decisions discussing the ICJ Advisory Opinion.

11. How might the ICJ Advisory Opinion influence the lawmaking process, including the upcoming 31st Conference of the Parties to the UNFCCC in Türkiye? Consider, for example, the Court's discussion of the legal significance of COP decisions in paragraphs 287 and 288.

12. How might the ICJ's Advisory Opinion influence U.S. jurisprudence? Will U.S. judges take the Opinion into account in their reasoning, and if so, what weight will it carry? Consider, for reference, the U.S. Supreme Court decision in *Medellín v. Texas,* 552 U.S. 491 (2008), responding to the ICJ's decision in *Avena and Other Mexican Nationals (Mexico v. United States of America).* In *Avena*, the ICJ held that the United States, by convicting and sentencing 51 Mexican nationals without notifying them that they could contact the Mexican consulate according to the Vienna Convention on Consular Notification, violated the Vienna Convention and was "obligated" to review and reconsider the cases without regard to state

procedural rules. Later, in *Medellín,* SCOTUS held that "while the ICJ's judgement in *Avena* creates an international law obligation on the part of the United States, it does not of its own force constitute binding federal law that pre-empts state restrictions on the filing of successive habeas petitions." *Medellín* at 501–03. Consider also the U.S. Supreme Court decision in *Roper v. Simmons*, 543 U.S. 575 (2005), in which it observed "the stark reality that the United States is the only country in the world that continues to give official sanction to the juvenile death penalty." In deciding to forbid the juvenile death penalty, SCOTUS cited international law but was careful to clarify that the international consensus "does not become controlling." *Id.* at 575. What room does this leave for lower courts in the U.S. to engage with international law developments such as the ICJ Advisory Opinion? Do you think the current Supreme Court will take the same approach? On February 27, 2026, the United States officially notified the United Nations of its formal withdrawal from the United Nations Framework Convention on Climate Change (UNFCCC), initiating a mandatory one-year waiting period that sets the U.S. exit to take effect in February 2027. How could this affect the influence of the ICJ Advisory Opinion?

13. Unlike the Inter-American Court of Human Rights, the ICJ did not explicitly discuss tipping points, only briefly mentioning nonlinear risks in ¶ 82. How should the ICJ's conception of due diligence (paragraphs 135–139, 246–252, 275, 279–292) adapt when science shows that risks may escalate suddenly rather than gradually? Should the Court's due diligence standard require earlier or more precautionary action once tipping-point risks are identified? For more on the science of tipping points, *see* the *Global Tipping Points Report 2025*, a landmark assessment discussed in detail in the last section of this Supplement.

14. Several domestic cases have now discussed the ICJ Opinion, including *Notre Affaire à Tous et al. v. TotalEnergies SE*, No. 22/03403, Portalis No. 352J-W-B7GCWN5A (Tribunal judiciaire de Paris [Paris Judicial Court], 34ème ch., June 25, 2026). In this case, four NGOs together with the City of Paris, as a voluntary intervener, challenged the adequacy of TotalEnergies' vigilance plan under France's 2017 Duty of Vigilance Law. The plaintiffs argued that the plan identified only Scope 1 and 2 emissions and excluded Scope 3 emissions—those generated by the combustion of the products the company sells—from its risk mapping, and that the company's strategy was incompatible with the objectives of the Paris Agreement. TotalEnergies countered that climate change was a systemic global issue outside the scope of the Duty of Vigilance Law and that it could not be held responsible for the independent actions of its customers.

On June 25, 2026, the *Tribunal judiciaire de Paris* held that the term "environment" within the meaning of the Law must be read in its broadest sense to include climate change. It reached that conclusion principally through the legislative history of the 2017 Law, the EU Corporate Sustainability Due Diligence Directive, the UN Guiding Principles and the OECD Guidelines for Multinational Enterprises on which the Duty of Vigilance Law was modeled, and by invoking the ICJ's Advisory Opinion, alongside the European Court of Human Rights'

KlimaSeniorinnen judgment, as supplementary confirmation that climate risk poses a serious threat to human rights and must therefore be identified in a vigilance plan.

Crucially, the *Tribunal judiciaire de Paris* then established a strong causal link between the extraction of fossil fuels and their eventual combustion, concluding that Scope 3 emissions are an "adverse impact" resulting from the company's activities. While the Tribunal ordered TotalEnergies to update its vigilance plan within six months to include Scope 3 mapping and measures relating to them, it refused to mandate specific emission reduction targets. It reasoned that the legislature intended for companies to retain the "corporate discretion" to determine which specific "reasonable" measures are most appropriate for their operations, rather than having judges act as managers. An appeal is pending before the Paris Court of Appeal [Cour d'appel de Paris]; the appeal does not stay the trial court's order, so TotalEnergies must still submit a revised vigilance plan by December 25, 2026, pending a January 2027 review hearing.

The *Tribunal judiciaire de Paris* relied on the ICJ's Advisory Opinion to interpret the scope of a domestic statute. Does the *TotalEnergies* judgment signal a fundamental shift where domestic courts now view international environmental consensus as a binding baseline for corporate conduct, or does the Tribunal's refusal to set specific reduction targets suggest that domestic litigation remains an incomplete tool for enforcing the Paris Agreement's 1.5°C goal?

15. Several other domestic courts cite the ICJ Advisory Opinion, including the following:

- **Canada**. *Dini Ze' Lho'imggin v. His Majesty the King in Right of Canada*, 2025 FC 1586 (Can. Fed. Ct. Sept. 26, 2025). In an interlocutory ruling on the Crown's motion to strike, the Federal Court of Canada discussed the ICJ Advisory Opinion in this constitutional climate challenge. While the Court ultimately struck the plaintiffs' initial Statement of Claim for drafting deficiencies—granting leave to amend—the Court explicitly acknowledged that while the ICJ Advisory Opinion is non-binding, its pronouncements on States' obligations under customary international law can significantly influence how domestic courts interpret domestic laws and constitutional rights (¶ 44). The Court cited the Advisory Opinion to connect States' climate obligations to the customary duties to prevent significant environmental harm and to cooperate for protection of the environment, together with human rights recognized under customary international law (¶ 61).
- **The Netherlands.** *Stichting Greenpeace Nederland v. De Staat Der Nederlanden, Rechtbank Den Haag* [Rb. Den Haag] [District Court of The Hague], Jan. 28, 2026, Case No. C/09/659832 / HA ZA 24-53 (Neth.). In this case regarding the protection of the residents of Bonaire, the District Court of the Hague referred to the ICJ Advisory Opinion's findings on obligations of conduct and result. The Court used the ICJ's reasoning (¶ 5.26, *citing* ICJ's Advisory Opinion ¶¶ 175, 208) to interpret the Netherlands' international climate commitments, emphasizing that a mere formal

adoption of policy is insufficient to fulfill a State's obligation to achieve a required climate goal. An appeal is pending before the Hague Court of Appeal [Gerechtshof Den Haag].

- **Mexico.** *Amparo en Revisión 450/2025*, Suprema Corte de Justicia de la Nación [SCJN] [Supreme Court], Feb. 24, 2026 (Mex.). The Mexican Supreme Court reversed a lower court's dismissal of a challenge to the government's failure to protect Benito Juárez National Park. The Court relied on the ICJ Advisory Opinion to reaffirm that a healthy environment is a prerequisite for human rights for present and future generations (¶¶ 35–36, *citing* ICJ's Advisory Opinion ¶¶ 373, 380, 388, 391–393). The Court then recognized the application of the precautionary principle and dynamic burdens of proof in environmental rights litigation. The Court held that residents of an "adjacent environment" possess standing to demand judicial protection of nearby ecosystems without proving direct individual harm, and remanded the case to the district court for further fact-finding and a new trial-level determination.
- **South Africa.** *Sustaining the Wild Coast NPC and Others v. Minister of Mineral Resources and Energy and Others; Natural Justice and Another v. Minister of Mineral Resources and Energy and Others*, Constitutional Court of South Africa [CC], Aug. 14, 2026, Case Nos. CCT 194/24 & CCT 196/24, [2026] ZACC 33 (S. Afr.). In this matter concerning the legality of oil and gas exploration rights along the Wild Coast, the majority judgment situated its interpretation of domestic environmental rights within an emerging and coherent body of international climate jurisprudence, citing the three recent Advisory Opinions of the ICJ, ITLOS, and the Inter-American Court of Human Rights on climate change (¶¶ 20–24). Drawing on the ICJ's Advisory Opinion, the Court affirmed that States are bound by treaty and customary international law to prevent significant environmental harm and to act with due diligence, informed by science, international commitments, and the foreseeable effects of emissions on present and future generations (¶ 23). On the operative question—whether the Supreme Court of Appeal's (SCA) order suspending invalidation of the exploration right pending a third renewal was a just and equitable remedy—the majority held that it was not: a consultation process grafted onto the renewal stage could not cure defects in the original 2014 grant, including the failure to consider climate change, the Integrated Coastal Management Act, and the precautionary principle. The Court set aside the SCA's order and reinstated the High Court's order invalidating the exploration right and its two renewals.

16. The ICJ Advisory Opinion has generated considerable commentary, including:

- Margaretha Wewerinke-Singh, *Harmonizing Sources, Hardening Duties – Inside the ICJ's Advisory Opinion on Climate Change*, CLIMATE LAW: A SABIN CENTER BLOG (Aug. 11, 2025).
- Markus Gehring, *When Custom Binds All States: Reflections on Customary International Law in the ICJ Climate Advisory Opinion*, VERFASSUNGSBLOG (Aug. 15,

2025).

- *The ICJ's Advisory Opinion on Climate Change* (Maria Antonia Tigre, Maxim Bönnemann & Antoine De Spiegeleir eds., Verfassungsbooks) (2025).
- Sam Bookman, *The International Court of Justice's Climate Opinion and What it Means for the US*, Harvard Law School Environmental & Energy Law Program (Sept. 15, 2025).
- Margaretha Wewerinke-Singh & Jorge E Viñuales, *Bracing for Impact: The ICJ Advisory Opinion on Climate Change and the Activation of Legal Tipping Points*, J. ENVIRON. LAW (June 19, 2026).
- Benoit Mayer, *The ICJ's Application of Customary International Law to Climate Change Mitigation*, J. ENVIRON. LAW (Apr. 20, 2026).
- Felix Lange & Julian Schophaus, *A New Point of Departure: Reflections on the ICJ's Advisory Opinion on Climate Change*, 56(1-2) ENVIRON. POLICY LAW (Dec. 8, 2025).

Other commentary addresses all three climate Advisory Opinions:

- Phillip Paiement & Corina Heri, *Strengthening International Climate Obligations beyond Paris: Situating the ICJ's Opinion within a Comparative Legal Context*, VÖLKERRECHTSBLOG (Aug. 14, 2025).
- David M. Scott, *Timing the Environment in International Law: Reflections on Temporality in the Three Advisory Opinions on Climate Change*, VÖLKERRECHTSBLOG (Aug. 12, 2025).
- Christina Voigt, *Doing the Utmost: Due Diligence as the Standard of Conduct in International Climate Law*, VERFASSUNGSBLOG (Sept. 3, 2025).
- Jorge Alejandro Carrillo Bañuelos & Susan Ann Samuel, *Judicial Convergence on Climate Change: The Advisory Opinions of the ICJ, the IACtHR, and the ITLOS*, VERFASSUNGSBLOG (Sept. 16, 2025).
- Cecilia I. Silberberg, *Building a Corpus Iuris Climatis: Making Sense of the ICJ and the IACtHR Advisory Opinions on Climate Emergency*, ENVIRON. POLICY LAW (Nov. 24, 2025).
- Dominic Coppens & Nicolas Lockhart, *Wayfinders for Climate Change Action: The ICJ, ITLOS, and IACtHR Advisory Opinions on Climate Change*, 72 NETH. INT. L. REV. 301 (May 6, 2026).
- Catherine Amirfar, David Freestone, Development Pickard & Beth Walton, *When Science Meets Law: Climate Law and International Environmental Adjudication After the ICJ and ITLOS Advisory Opinions*, CLIMATE LAW (Jun. 15, 2026, published online ahead of print 2026).
- Margaret A. Young & Beatriz Martínez Romera, *The Advisory Opinions' Remarkable Significance for International Law*, CLIMATE LAW (Jul. 15 2026, published online ahead of print 2026).

III. INTER-AMERICAN COURT OF HUMAN RIGHTS ADVISORY OPINION ON THE CLIMATE EMERGENCY AND HUMAN RIGHTS

On 3 July 2025, the Inter-American Court of Human Rights published its *Advisory Opinion on the Climate Emergency and Human Rights* in response to a joint request from the then liberal governments of Chile and Colombia. The Court received over 260 written briefs, submitted by 36 States and public institutions, 17 Indigenous and other communities, more than 90 NGOs and think tanks, 70 academic institutions, and 45 special experts. Because the Court has historically embraced broad participation, it is often known as "The People's Court." After holding seven days of hearings in Bridgetown, Barbados (April 22-25), and Brazil (Brasilia and Manaus, May 24-29), the Court issued its decision on July 3.

The Inter-American Court of Human Rights is a regional and autonomous human rights court whose objective is to interpret and apply the American Convention on Human Rights. It adjudicates cases and issues advisory opinions that guide the protection of human rights in the Americas. Its advisory opinions provide authoritative legal guidance to all 34 States that are members of the Organization of American States. Under its doctrine of "conventionality control," discussed later (see question 9, *infra*), all domestic authorities of these States must act in conformity with the Court's advisory opinions. Most of the Court's legal conclusions are unanimous, but four of the seven judges filed concurring opinions, and three filed partially dissenting opinions that were published 18 September 2025. These are discussed in Questions and Discussion.

The following essay provides an introduction to the 219-page Advisory Opinion (with 1,092 footnotes)—truly a *tour de force* on climate science, policy, and law. This is followed by a 33-page excerpt, then Questions and Discussion.

Romina Picolotti, Durwood Zaelke, and Sebastian Luengo, ***From Climate Science to Climate Justice: The Mandatory Inclusion of Climate Considerations in Environmental Impact Assessments and Its Connection to Enhanced Due Diligence***

CEJIL BLOGPOST SERIES (Sept. 12, 2025)

> In July 2025, the Inter-American Court of Human Rights issued its long-awaited Advisory Opinion on Human Rights and the Climate Emergency. . . a master class in climate science, policy, and law. For the first time, the Court treated the climate crisis not merely as an issue of environmental protection, but as a foundational challenge for the entire human rights system of the Americas. In addition to declaring the right to a healthy climate, it lays out detailed legal obligations for States and private actors to protect the climate system.
>
> The Court emphasizes the risks of crossing tipping points such as the collapse of the Atlantic Meridional Overturning Circulation and highlights the Montreal Protocol and Kigali Amendment as a global successful governance model of rapid mitigation, particularly in phasing down super climate pollutant HFCs. The Court also underscores the imperative of addressing methane to slow the rate of warming in the near term.

The Advisory Opinion on the Climate Emergency stands alongside two other recent opinions . . . that converge on a single point: climate change constitutes an urgent existential threat requiring binding, enforceable action by governments and corporations under their control. Collectively, this trifecta of opinions reflects a shared understanding by the world's most esteemed jurists that climate change presents an existential risk, and judicial engagement is essential to address this risk. Significantly, every international court asked about the responsibilities of governments and corporations in the climate emergency has found them to be mandatory, setting clear standards for judges and advocates. * * *

Science as Legal Foundation

A key contribution of the Advisory Opinion on the Climate Emergency is its integration of climate science into the core of legal reasoning. The Court repeatedly cites the findings of the Intergovernmental Panel on Climate Change (IPCC), particularly the dangers of passing the 1.5°C guardrail and the risks of crossing planetary tipping points. These findings are presented as binding benchmarks that shape the scope of States' obligations under the American Convention on Human Rights.

As the Court explains, "[States] must take all necessary measures to reduce … risks derived … from the degradation of the global climate system." Because these risks are scientifically measurable, the requirement to follow the "best available science" becomes a legal standard. Climate science thus plays a normative role, defining the content of due diligence, the adequacy of adaptation plans, and the effectiveness of mitigation measures. This approach represents a powerful convergence between law and science. By grounding legal duties in climate science, the Court ensures that the human rights system responds to the crisis at the pace and scale required.

1.5°C and Tipping Points as Human Rights Thresholds

One of the most consequential findings is the Court's legal anchoring of the 1.5°C limit and climate tipping points as human rights thresholds. The Advisory Opinion holds that the 1.5°C guardrail is not safe for most of the world's people and should be considered a minimum starting point, not an end goal. The Inter-American Court recognizes that exceeding these thresholds would result in severe harm to all substantive rights, including the right to life, personal integrity, and health, among others.

The Court shifts the debate from what is politically negotiable to what is legally non-negotiable. Preserving the 1.5°C threshold is no longer merely a policy aspiration—it is a legal duty to protect human dignity and prevent existential harm. The same is true for tipping points in ecosystems such as the Amazon rainforest or polar ice systems, where, as the Court recognizes, the continuing increase in the temperature increases the probability of exceeding them. Crossing them would trigger cascading effects that no adaptation measures could fully address.

The Strategic Importance of Short-Lived Climate Pollutants (SLCPs)

One of the most sophisticated elements of the Advisory Opinion is its explicit recognition of short-lived climate pollutants (SLCPs) such as methane, black carbon, and hydrofluorocarbons (HFCs). These pollutants are far more potent than CO_2 in the short term but persist in the atmosphere for a much shorter period. Reducing them delivers rapid climate and health benefits, particularly for vulnerable communities exposed to air pollution. * * *

Enhanced Due Diligence

The Court established an enhanced **due diligence standard** for States to comply with their duty to prevent climate harm and protect human rights, given the extreme gravity and urgency of climate impacts. In line with the International Tribunal for the Law of the Sea

Advisory Opinion, it emphasizes that due diligence is a variable standard, dependent on the level of scientific and technological knowledge available, as well as the risks and urgency of potential damage. Similarly, the International Court of Justice has also characterized due diligence as a variable obligation—one that must adjust to evolving scientific knowledge, state capacity, and the urgency of the risks at stake.

In practical terms, this standard requires comprehensive identification and assessment of risks, coupled with proactive and ambitious preventive measures to avoid the worst climate scenarios. It demands that States use the best available science in the design and implementation of climate actions, while integrating a human rights perspective into policies and measures so as not to create or deepen vulnerabilities. Enhanced due diligence also entails permanent monitoring of adopted measures, democratic participation, transparency, accountability, and strict compliance with procedural rights such as access to information and justice. The Court further stresses the need for effective regulation and supervision of corporate due diligence and calls for enhanced international cooperation in areas such as technology transfer, financing, and capacity building.

The Obligation to Conduct Climate Impact Assessments

The Court makes clear that enhanced due diligence requires States to carry out a thorough, science-based assessment of any activity that could significantly harm the climate system before granting approval. This means that projects must be evaluated against the best available scientific knowledge, as well as the mitigation strategies and targets the State has already defined. Because many climate impacts are irreversible once they occur, the Court emphasizes the need for a precautionary approach: the strongest possible safeguards must be adopted to avoid long-term damage to the climate system. The Court elevates climate impact assessments into a binding obligation and central tool for ensuring that State decisions align with human rights and climate protection.

The Advisory Opinion explicitly places environmental and climate impact assessments at the heart of States' obligations to prevent human rights violations in the context of the climate emergency. Traditionally, environmental impact assessments (EIAs) functioned as procedural safeguards to identify and mitigate environmental harm before projects move forward. * * *

This obligation applies in particular to sectors responsible for emitting super climate pollutants that is methane, black carbon and HFCs. These are short-lived climate pollutants with disproportionate impacts on near-term warming. In other words, under the Court's due diligence standard, any sector or project that emits at least one of these super pollutants must undergo a climate impact assessment.

While the Court recognizes that States retain discretion to determine which projects and activities must undergo climate impact assessments, it makes clear that this discretion is tightly bounded by the obligation to rely on the best available science. In other words, States cannot arbitrarily exempt high-emitting sectors from scrutiny: science dictates the scope of the duty.

The Court reinforces this point by going further in paragraph 353, where it explicitly identifies a baseline list of sectors—"exploration, extraction, transportation and processing of fossil fuels, cement manufacture, agro-industrial activities, and other inputs used in those activities"—that must, at a minimum, be supervised, monitored, and subjected to climate impact assessments. By combining the scientific standard with this explicit enumeration, the Court significantly narrows State discretion and establishes a mandatory framework in which activities most responsible for greenhouse gasses, including SLCPs emissions. cannot escape rigorous climate evaluation. * * *

From paragraph 353 to 363, the Court insists on both procedural rigor and substantive depth. EIAs must be carried out by technically qualified and independent entities, cover cumulative and long-term impacts, and incorporate the participation of affected communities, including Indigenous Peoples. They must include clear contingency plans, mitigation measures, and transparent decision-making—ensuring that climate assessments are not box-ticking exercises but real determinants of whether a project proceeds. Importantly, the Court warns against practices such as **greenwashing,** requiring that States set binding regulatory conditions to ensure credibility and accountability. By tying this obligation to the enhanced due diligence standard, the Court underscores that these assessments are not optional good practices but enforceable legal duties. Failure to conduct or properly regulate climate impact assessments would constitute a breach of States' human rights obligations under the American Convention. * * *

Conclusion

The Advisory Opinion on Human Rights and the Climate Emergency marks a turning point in the jurisprudence of the Inter-American Court of Human Rights. It acknowledges the climate emergency as an existential threat to human rights and provides a framework for States to respond with urgency, ambition, and accountability.

The Opinion transforms climate science into a legal compass. It operationalizes the right to science, elevates the 1.5°C threshold and tipping points into human rights standards, recognizes the centrality of fast action on SLCPs, and expands due diligence obligations to match the gravity of the crisis through pivotal environmental institutions such as EIAs. For judges, policymakers, and advocates across the Americas, this is a new jurisprudential roadmap—one that binds law to science and science to human rights.

As the highest authoritative interpretation of binding human rights obligations in the Americas, the Advisory Opinion is legally binding on States under the doctrine of *conventionality control*. This doctrine, developed by the Inter-American Court, requires all domestic authorities—judicial, legislative, and executive—to act in conformity with the Court's pronouncements. Where a national law conflicts with the American Convention on Human Rights, judges must set aside the conflicting provision and apply the Convention as interpreted by the Court.

The challenge now is to translate this Advisory Opinion into domestic law, regulatory frameworks, and other concrete actions. Civil society, Indigenous peoples, and communities on the frontlines of the climate emergency will play a decisive role in doing this to hold their governments and corporations accountable.

* * *

Before you read the Advisory Opinion, spend a few minutes on the very detailed table of contents and then consider the following questions as you read:

- How does the Court describe the climate emergency? What sources were used to help reach the Court's conclusions on the science of the climate emergency?
- What are the sources of law that the Inter-American Court utilizes for its interpretation? What are the non-legal sources the Court relies on?
- Why does the Court divide its analysis of State obligations into substantive rights, procedural rights, and the differentiated rights of vulnerable groups?
- How does the Court address access to justice?

- What does the Court say are general obligations of States under the American Convention and the Protocol of San Salvador in respect of climate change (e.g., to respect, guarantee, adopt legislative measures, cooperate)?

A. Inter-American Court of Human Rights Advisory Opinion AO-32/25 of May 29, 2025 [published July 3, 2025]

Requested by the Republic of Chile and the Republic of Colombia

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VII. OPINION

[Text is the official English translation of the authoritative Spanish original text. Footnotes are omitted. In some places, minor grammatical corrections have been made.]

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I. PRESENTATION OF THE REQUEST

1. On January 9, 2023, the Republic of Chile and the Republic of Colombia (hereinafter "Chile" and "Colombia" or "the requesting States") submitted a request for an advisory opinion concerning State

obligations in response to the climate emergency within the framework of international human rights law pursuant to Article 64(1) of the American Convention . . . * * *

II. PROCEEDINGS BEFORE THE COURT * * *

III. JURISDICTION AND ADMISSIBILITY * * *

IV. PRELIMINARY CONSIDERATIONS

A. The Purpose of the Advisory Opinion and the Questions Posed by the Requesting States * * *

28. [T]he questions are reformulated as follows:

> What is the scope of the obligations to respect and to guarantee rights and to adopt the necessary measures to ensure their exercise (Articles 1(1) and 2 of the American Convention and Articles 1 and 2 of the Protocol of San Salvador) in the case of substantive rights such as the right to life and to health (Article 4(1) of the American Convention and Article 10 of the Protocol of San Salvador), personal integrity (Article 5(1) of the American Convention), private and family life (Articles 11(2) and 17(1) of the American Convention and Article 15 of the Protocol of San Salvador), property (Article 21 of the American Convention), freedom of movement and residence (Article 22 of the American Convention), housing (Article 26 of the American Convention), water (Article 26 of the American Convention), food (Article 26 of the American Convention and 12 of the Protocol of San Salvador), work and social security (Article 26 of the American Convention and Articles 6, 7 and 9 of the Protocol of San Salvador), culture (Article 26 of the American Convention and 14 of the Protocol of San Salvador), education (Article 26 of the American Convention and 13 of the Protocol of San Salvador), and enjoyment of a health environment (Article 26 of the American Convention and 11 of the Protocol of San Salvador), in relation to the impact or threats caused or exacerbated by the climate emergency?
>
> What is the scope of the obligations to respect and to guarantee rights and to adopt the necessary measures to ensure their exercise (Articles 1(1) and 2 of the American Convention and Articles 1 and 2 of the Protocol of San Salvador) in the case of the procedural rights, such as access to information (Article 13 of the American Convention), the right to participation (Article 23(1)(a) of the American Convention) and access to justice (Articles 8(1) and 25 of the American Convention) in relation to the harm caused or exacerbated by the climate emergency?
>
> What is the scope of the obligations to respect and to guarantee rights and to adopt the necessary measures to ensure their exercise without discrimination (Articles 1(1) and 2 of the American Convention and Articles 1, 2 and 3 of the Protocol of San Salvador) in the case of environmental defenders, women, Indigenous Peoples, Afro-descendant and peasant farmer communities, as well as other vulnerable groups, in the context of the climate emergency? * * *

B. The Structure of the Advisory Opinion * * *

C. The Sources used by the Court

33. The Court notes that the climate emergency is based on a robust and extensive body of technical and scientific knowledge . . . To establish the relevant facts supporting its legal analysis in the context of its interpretative entrusted mandate, the Court will primarily rely on the reports prepared by the Intergovernmental Panel on Climate Change [IPCC], . . . The Court considers these reports to be the most authoritative source of scientific guidance on climate change.[27] * * *

D. The Scope of the Advisory Opinion * * *

V. THE CLIMATE EMERGENCY

42. The climate emergency forms part of the broader context of the so-called "triple planetary crisis" stemming from the relationship and mutual reinforcement among three ongoing phenomena: climate change, pollution, and biodiversity loss.[38] This triple crisis "threatens the well-being and survival of millions of people throughout the world".[39] Based on the terms of the request, the Court will concentrate its analysis on the emergency directly related to climate change, without this implying a disregard for the context of the triple crisis in which it is embedded. * * *

A. Climate Change and its Causes * * *

*A.1. Greenhouse Gas Emissions from Human Activities * * *

46. Science has demonstrated that human activities have influenced the global climate since around 1750[44] – the approximate start of the industrial era[45] – and that they have been primarily responsible for global warming[46] since the mid-twentieth century.[47] . . . The [greenhouse gases (GHGs)] that have contributed most to global warming are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O).[48]

47. Carbon dioxide emissions are produced mainly by combustion of fossil fuels such as petroleum, coal and natural gas and, to a lesser extent, by land-use changes.[49] The latter category relates to activities that transform the ground cover which releases stored CO_2 so that the land can be used for other purposes such as agriculture, livestock, urban development or industry purposes.[50] Between 1750 and 2019, the concentration of CO_2 in the atmosphere increased by 47%.[51] . . .

48. Methane emissions are mainly generated by agriculture, livestock, fossil fuel production and distribution, and decomposition of organic matter, in landfills for example. In the case of livestock, methane is produced by ruminants such as cows, buffalos, sheep, goats and camels. Between 1850 and 2019, atmospheric methane concentrations more than doubled.[53] . . .

49. The third of the main GHG, nitrous oxide, is produced by human activities related to agriculture, including the use and management of synthetic fertilizers and animal manure, as well as by industrial activities, in particular, certain chemical manufacturing processes, wastewater treatment, and fossil fuel combustion. Carbon dioxide and nitrous oxide are "long-lived" GHG because they persist in the atmosphere for decades or centuries after being emitted.[55]

50. In addition to the above mentioned GHGs, other atmospheric agents known as "short-lived climate pollutants" [SLCPs] . . . also contribute to climate change. . . . Several SLCPs, such as methane, tropospheric ozone, halogenated gases such as hydrofluorocarbons and black carbon are some of the main contributors to global warming other than CO_2.[56] These agents have a much shorter lifetime in the atmosphere than carbon dioxide; however, their global warming potential is significantly greater than the latter while they remain in the atmosphere.[57] . . . [M]ethane has a warming effect that is approximately 80 times more potent than the same amount of carbon dioxide over a 20-year timeframe.[58] * * *

B. The Impacts of Climate Change

64. According to the best available science (*infra* paras. 486-487), the magnitude of the impacts of climate change at the global level is undeniable. This Court recognizes that all such impacts are deeply interconnected and are evolving rapidly. In this understanding, and bearing in mind that distinctions between the various types of impact, as well as between the harm caused to natural systems and to individuals, are relevant solely for explanatory purposes, the Court will describe, on the basis of the best available science at the time of adoption of the present decision . . .

B.1. The Impacts of Climate Change

65. Scientific knowledge has established that, when the GHG emissions responsible for climate change accumulates in the atmosphere, they trigger a series of geophysical processes. These processes are exacerbated as emissions increase and they persist long after such emissions have been released.[81] These processes manifest in: (1) global temperatures and meteorological phenomena; (2) the oceans; (3) the cryosphere, and (4) ecosystems and biodiversity. * * *

[The Court then presents an extensive 19-page analysis describing climate impacts on natural systems, individuals, and vulnerable territories in the Americas. On impacts on natural systems, the Court references the IPCC's conclusion that human activity is "almost exclusively responsible" for global temperature rise since the 1800s. The Court describes recent observations and future projections on global temperature rise, extreme weather events, sea level rise, ocean acidification, coral reef die-off, ocean circulation disruption, glacier melt, biodiversity extinction, and ecosystem damage.]

87. Climate change has caused significant and irreversible damage to ecosystems throughout the world.[132] These significant damages include the loss and extinction of species, an increase in diseases and events of mass mortality among plants and animals, an increase in the areas devastated by forest fires, and a decrease in crucial ecosystem services. The increase in global warming impacts the integrity of physical and terrestrial ecosystems, expedites the retreat of the Andean glaciers and exacerbates the reduction in the net primary production of tropical forests. Moreover, an increase in global warming affects the oceanic and coastal ecosystems in the region. Central and South America host ecosystems that are found nowhere else on the planet and a considerable percentage of global biodiversity, both of which will be strongly impacted by climate change.[133]

88. In sum, based on the aforementioned scientific reports, this Tribunal warns that climate change generates a series of alterations that will drastically change the physical and chemical processes of our planet. As will be described in the following section, these alterations have a severe and direct impact on human beings' living conditions.

B.2. The Impacts on Individuals

89. Environmental risks and the disinformation[134] that surround them represent one of the main threats that humanity currently faces.[135] According to the IPCC, climate change produces a series of consequences that have a profound impact on individuals, in relation to aspects such as a dignified existence, health, food and water security, and economic situation.[136] These consequences inevitably impact human rights.

90. Indeed, climate change impacts the conditions required for human beings to enjoy a **dignified existence**. The exposure to extreme climate events such as heatwaves, floods, droughts, forest fires,[137] and air pollution[138] can, among others, lead to injury and death.

91. The World Health Organization (WHO) estimates that, by 2030, heat stress, malaria, diarrhea, and malnutrition will cause approximately 250,000 climate-related deaths per year.[139] In addition, **health** will be affected due to the increase in food, vector, and water-borne diseases and respiratory tract infections.[140] . . .

92. Likewise, climate change increases diseases arising from inadequate access to food, water, clean air, and livelihoods.[142] Climate change can also cause emotional anguish, new mental health problems, and/or an exacerbation of the situation of those already living with such conditions.[143]

93. Climate change also results in a reduction in food production[144] because more frequent and/or more prolonged droughts and less rainfall translate into a decrease in the yields of crucial crops that may undermine **food security**.[145] Moreover, the decrease in the seasonal availability of water may result in **water insecurity.**[146]

94. Additionally, climate disasters can lead to irrevocable losses of sense of belonging,[147] and endanger sites that are the cultural[148] and natural heritage of humanity,[149] which would culminate in a violation of human beings' right to access and enjoy cultural heritage. Indeed, certain extreme climate disasters could cause significant damage to sites that have been declared the cultural or natural heritage of humanity pursuant to the 1972 UNESCO Convention, thereby affecting the material conditions for the exercise of the right "to take part in cultural life" in the words of Article 15 of the International Covenant on Economic, Social and Cultural Rights (ICESCR). In contexts in which such sites constitute essential elements of the collective identity of peoples or communities, their degradation may have repercussions on the continuity of cultural practices, livelihoods, and territorial links, which deserve special attention by States within the framework of their obligations to protect and preserve rights (*infra* paras. 448-450).

95. Furthermore, climate disasters may have consequences such as damages to infrastructure, the suspension of basic services, the destruction of housing, and the loss of jobs and income; they may also lead to the interruption of livelihoods and to involuntary displacement and migration.[150] In addition to their devastating impact on the lives of those affected, the aforementioned consequences result in **extraordinary economic losses**. The main losses arise from damage to property and infrastructure, and interruptions to the supply chain owing to extreme climate events.[151] Similarly, the impact on crop yields, water availability, and outdoor labor productivity due to heat stress, among other effects, affect diverse sectors of the economy. The most significant economic losses occur in sectors with high direct exposure to the climate, including agriculture, forestry, fisheries, energy and regional tourism.[152] * * *

97. Impacts of climate change such as growing food insecurity, the economic downturn, migrations, water scarcity, and extreme weather events also create a challenge for **democracy.**[155] As a "threat multiplier," climate change also exacerbates underlying factors of conflict, exercises pressure on public finances, aggravates resource inequalities, and increases political and social tensions.[156] * * *

99. Even though the impacts of climate change are not distributed uniformly, their severity depends on both physical exposure and the institutional and economic capacity to prevent, mitigate or adapt to the risk. Activities such as agriculture and fishing, fundamental for many local economies, face significant risks due to extreme events. The correlation between fewer emissions and greater vulnerability observed by the IPCC should not be interpreted as a direct causal relationship, but rather as a reflection of structural asymmetries in access to infrastructure, climate financing, and adaptation capabilities.

100. It is the poorest and most unequal regions of the world that are the most susceptible to experiencing the most severe consequences of climate change; precisely because their means of subsistence are more climate sensitive, they have fewer resources and capabilities to address those consequences, they have limited access to basic services and resources, they usually face greater governance challenges, and they are more likely to experience violent conflicts.[161] These circumstances explain why more than 91% of deaths caused by disasters relating to climate change over the last 50 years have affected the people of the poorest countries.[162] In brief, it is people living in poverty, who have least contributed to emissions and who have the least adaptation capabilities, who will be the hardest hit by climate change.[163] * * *

103. The inhabitants of the small island States face a growing risk of having to relocate due to increasing difficulties relating to access to food and water, and the decrease in habitable land.[168] As extreme climate events intensify, large-scale displacement will become more pronounced. In 2021, it was already calculated that, in Latin America, there would be 17.1 million displaced persons owing to climate change (2.6% of the total population). The World Bank estimates that, by 2050, 216 million people from the poorest regions and those most vulnerable to the climate will be displaced by events related to climate change.[169]

104. The aforementioned impacts are particularly severe in the region of Latin America and the Caribbean[170] owing to factors such as the dependence on coastal ecosystems for food and livelihoods,[171] the existence of areas that are highly vulnerable to extreme climate events,[172] and the region's susceptibility to natural catastrophes.[173] Moreover, Latin America and the Caribbean is also the most unequal region in the world, with high poverty levels.[174] The World Bank calculates that, in the region, the richest 10% accumulate 77% of the wealth and the poorest 50% accumulate only 1%.[175] By 2019, in Latin America, consumption by the richest 1% of the population had concentrated 92.03% of CO_2 emissions per capita, while the rest of the population had generated merely 7.97%.[176] Furthermore, the consumption of the wealthiest 0.1% was responsible for 70.41% of CO_2 emissions per capita, while the poorest 50% was responsible for 0.27% of annual emissions.[177]

B.3. Climate Impacts in Territories with Special Vulnerability in the Americas

105. While not ignoring the important impacts predicted for other regions and ecosystems of the Americas, the Court will refer, in particular, to those that are projected to affect the Amazon region and the small island States of the Caribbean.

B.3.1. The Amazon

106. The Amazon, covering approximately 5.8 million square kilometers, constitutes the largest river basin,[178] and the most biological diverse area on the planet,[179] hosting the greatest number of plants and animals in Latin America.[180] The Court underscores the global importance of the Amazonian ecosystems, which regulate the climate through evapotranspiration – removing latent heat from the surface and releasing it to the atmosphere through condensation and cloud formation- and also function as carbon sinks, especially in the undisturbed regions of the Amazon lowland forest in which between 150 and 200 billion tons of carbon are stored.[181]

107. Climate change is causing the transition from humid to drier forests in the region[182], undermining – to "a point of no return"[183] – the potential of the Amazon tropical forests to function as carbon sinks.[184] This is due, in particular, to fires, forest degradation, and the long-term loss of forest structure.[185] During the public hearings held by the Court, it was informed that the dry season in the southern part of the Amazon had lengthened by from four to five weeks over the past 40 years, with concerns raised that if it extends to six weeks, the climate could shift towards that of a tropical savannah. It was argued that, in order to avoid a point of no return, it was essential to halt deforestation and fires, encourage reforestation, and take advantage of the knowledge of the Indigenous Peoples.[186] According to the IPCC, it is predicted that, by 2050, climate change is projected to have greater impact than deforestation on the loss of tree species in the Amazon.[187] Biodiversity loss is further accelerated by pollution, ecosystem fragmentation, overexploitation and the effects of climate change.[188]

108. Eighty percent of the population of the Amazon basin […] resides in flood-prone areas, heightening their vulnerability. In particular, the Indigenous Peoples, whose subsistence depends on natural resources, face even greater risks from extreme climate events that affect their food systems. The presence of endemic diseases in the region intensifies the disproportionate impacts […] suffered by these communities.[189]

109. Among the expected effects of climate change in Central America and South America, including Amazonia, comprise: (i) food insecurity due to droughts; (ii) risk to life and infrastructure resulting from events such as flooding and landslides; (iii) water insecurity; (iv) severe health impact due to […] increased incidence of epidemics (in particular, vector-borne diseases), and (v) large-scale changes and alterations in the region's biome.[190]

110. Protected areas and Indigenous territories are one of the cornerstones of conservation, self-determination and land rights of Indigenous Peoples and local communities. These areas show lower

deforestation rates relative to unprotected forests, despite the continuous threats from the expansion of the agricultural expansion infrastructure development, extractive concessions, and policies aiming at modifying their boundaries and level of protection.[191]

B.3.2. Insular Territories and the Caribbean States

111. The Secretary-General of the United Nations has recognized the Caribbean as the "ground zero" of the global climate emergency, owing to the intensity of climate-related disasters and the degradation cause[d] by slow-onset events, such as sea level[…] rise, in the region.[192] Islands and small insular States share common challenges arising from climate change. Chief among them is sea level rise, which constitute[s] one of the most significant threats to the survival of small island States.[193] In addition, these territories share a number of challenges such as their dependence on natural resources, exposure to fluctuations in global trade, natural disasters, high transportation and communication costs, and mounting pressure on their coastal and marine environments.[194]

112. Rising global temperature is generating direct and disproportionate impacts on the insular territories and Caribbean States,[195] owing specifically to their low land mass and fragile marine environment.[196] These impacts include an increase in tropical cyclones[197] — which will become more frequent and destructive[198] — storm surges, droughts, changes in rainfall patter[n]s, coral bleaching, and the presence of invasive species, especially in coastal towns and rural communities. All these threats cause significant harm to their population, infrastructure, economy[199] and culture of the region.[200]

113. Moreover, nearly 50% of the terrestrial species currently considered at risk of global extinction are located within these regions.[201] Water security i[n] small islands faces increasing risk, particularly in contexts where resource demand relates to factors such as population growth, urbanization, and tourism.[202] In addition, coastal flood risk is projected to rise rapidly and incrementally over the coming decades and this, in turn, would adversely affect elements such as public and private infrastructure, and the food security of small island States.[203] Indeed, it is estimated that sea level rise[204] could result in the flooding of nearly all port facilities and docks[205] in the Caribbean.[206] The heightened risk stemming from rising sea levels has also exacerbated major challenges to protecting coastal assets and properties.[207]

114. The sea constitutes one of the main sources of employment and livelihood in the countries of the Caribbean. In addition to the critical role of fisheries in sustaining regional economies,[208] it is estimated that half of the gross domestic product of these countries comes from tourism linked to coral reefs. Revenues from reef diving alone are estimated to exceed USD 2 billion in net value.

115. The Caribbean island States face potential transboundary and interregional climate impacts and risks such as: (i) large, distant-origin ocean waves that cause considerable seasonable damage to beaches, marine ecosystems and coast infrastructure across the Caribbean; (ii) the influx of sargassum seaweed, resulting in the massive algal deposits that harm coastal habitats and cause die-offs of seagrass meadows and associated coral reefs; (iii) the movement and impact of introduced […] invasive species across boundaries; (iv) transcontinental dust clouds, especially Saharan dust transported across the Atlantic that may interact with the climate conditions of the Caribbean to contribute to the appearance of asthma cases;[209] (v) the spread of pests and pathogens within and between island regions, such as the Black Sigatoka disease of bananas, and (vi) transboundary risks to food security.[210]

116. In light of the foregoing, certain areas of the Caribbean are projected to become almost uninhabitable as a result of climate change. In this regard, it is notable that, between 2012 and 2022, approximately 5.3 million people in the Caribbean region were internally displaced due to natural disasters, and projections indicate that this figure is likely to rise.[211] The Small Island Developing

States (SIDS) of the Caribbean are among the regions with the highest levels of internal displacement per capita globally.[212]

117. These effects are disproportionate in view of the minimal contribution of Caribbean States to global GHG emissions. These States face outsized climate challenges due to their geographical location, economies that are heavily reliant on limited natural resources and tourism, and constrained capacity to adapt […] to adverse environmental changes.[213]

118. In sum, the adverse effects of climate change are, and will increasingly become, pervasive across all aspects of human life worldwide. These adverse effects constitute threats to and violations of human rights, the consequences of which will not be evenly distributed across regions or population sectors. States in Latin America and the Caribbean are particularly vulnerable, not only because of their geographical position, but also because of their direct dependence on natural resources to ensure the subsistence of broad sectors of their population and their commodity-based economies. Such risks are further exacerbated by conditions of development and marginalization within the different States. As a result, vast sectors of the population of [the] region are especially vulnerable to the most devastating effects of climate change; particularly those residing in the Amazon region and in the Caribbean Island States. * * *

C. The International Response to the Climate Emergency * * *

122. Although the establishment of an international regime specifically dedicated to addressing climate change began with the adoption of the **United Nations Framework Convention on Climate Change** [UNFCCC] in 1992, two earlier developments merit particular mention. First, the adoption, in 1985, of the **Vienna Convention on the Protection of the Ozone Layer** followed two years later by the **Montreal Protocol on Substances that Deplete the Ozone layer** – both instruments aimed at preventing the adverse effects that the ozone layer depletion, including those affecting the global climate.[215] The Montreal Protocol became the first and only environmental treaty to be ratified by all the States in the world. Its implementation has led to the elimination of approximately 99% of the ozone-depleting substances.[216] The Protocol was amended by the **Kigali Amendment** aimed at the elimination of the production and use of hydrofluorocarbons (HFC), compounds that replaced ozone-depleting substances, but possess a global warming potential significantly higher than that of carbon dioxide, and that are damaging for the climate.[217] It is believed that the Montreal Protocol – widely regarded as one of the world's most successful environmental treaties,[218] will permit the ozone layer to recover to 1980 levels by the middle of this century[219] and to close the ozone hole over Antarctica around the year 2060s.[220] * * *

D. Normative Developments in OAS Member States * * *

E. Climate Litigations and Judicial Decisions * * *

F. The Climate Emergency Landscape * * *

182. [T]he Court finds that, according to the best available scientific evidence, climate change is a phenomenon accelerated by greenhouse gas (GHG) emissions resulting from human activities (see *supra* paras. 45–50). Its impacts are numerous and constitute an unprecedented risk to both individuals and natural systems (see *supra* paras. 65–103). In view of the need to take action, States and international organizations have advanced diverse initiatives, reflected in international treaties and other instruments (see *supra* paras. 120–159), primarily aimed at reducing GHG emissions (mitigation), adopting measures to address the effects of climate change (adaptation), and providing support in the face of irreversible impacts (loss and damage).

183. Despite progress in each of these areas, the Court notes, as emphasized by the requesting States, that the current situation may indeed be considered a climate emergency. In the Court's view, consistent with the best available science, this emergency results from the accelerated increase in global temperature caused by various anthropogenic activities, which incrementally affect and severely threaten humanity—particularly those in situations of heightened vulnerability. . . . This climate emergency can only be adequately addressed through urgent, effective, and coordinated actions, guided by human rights considerations and framed within the concept of resilience.

184. [T]he climate emergency is characterized by the confluence and interrelation of three factors: the urgency of effective action, the severity of the impacts, and the complexity of the required responses . . .

*F.1. The Urgency of Effective Actions * * **

F.1.1. Mitigation and Future Scenarios

186. In 2018, the IPCC stated that the level of emissions reductions achieved during this decade and the next would largely determine the feasibility of limiting warming to below 1.5°C or 2°C relative to pre-industrial level.[401] It further indicated that limiting warming to 1.5°C would not only require rapid and sustained reductions in GHG emissions, but would also necessitate achieving so-called "carbon neutrality"[402] around the year 2050—that is, ensuring that GHG emissions are balanced by those removed from or absorbed by the atmosphere. . . .

187. Two elements are particularly useful for understanding the scale of this challenge. First, the concept of "carbon budget" should be considered. This budget determines the maximum amount of gigatonnes of CO_2 (derived from net human-caused global emissions) that can accumulate in the atmosphere without significantly jeopardizing the 1.5°C or 2°C temperature increase target above pre-industrial levels. [404] To maintain warming below 1.5°C (with a 66% probability), emissions must not exceed 420 $GtCO_2$, and to remain below the same threshold with a probability greater than 50%, they must not exceed 580 $GtCO_2$.[405]

188. Second, the urgency of mitigation is underscored by considering the "emissions gap," calculated annually by UNEP. According to 2024 forecasts, if emissions continue following the trajectory derived from current policies, there is a 10% probability that the temperature increase will exceed 3.6°C above pre-industrial levels, and a 66% probability that the increase will reach up to 3.1°C within this century. . . .

189. Accordingly, as of the date of adoption of this decision, the implementation of effective measures to accelerate mitigation is more urgent than ever; and the longer such measures are delayed, the more difficult it will become to achieve the targets set under the Paris Agreement. * * *

F.2. The Severity of Climate Impacts

195. In the Court's opinion, the second factor that should be taken into account to define the climate emergency is the extreme s*everity* of climate impacts. Indeed, with each additional gigaton of GHG emitted, and each degree of increase in the global temperature, the number of people exposed to disease, displacement, cultural losses, hunger, water insecurity, unemployment, poverty and, in general, inhuman living conditions increases exponentially. . . . As a result of [the processes of political, economic and cultural marginalization], those who have contributed least to the climate crisis are those who have the fewest resources to confront its most devastating consequences and, therefore, it is they who suffer these consequences most intensely (*supra* paras. 60-63). * * *

197. That said, the severity is accentuated when it is considered that, with each increase in the global average temperature, the risks and interactions also increase and this results in compound and cascading risks that will be increasingly complex and difficult to address.[415] The increase in the global average temperature also increases the probability of exceeding the **tipping points**, understood as the critical thresholds that, when exceeded, produce "[a] level of change in the system properties beyond which a system reorganizes, often abruptly, and does not return to the initial state even if the drivers of the change are abated."[416] The risks inherent in exceeding the tipping points, such as the instability of ice caps or the loss of tropical forest ecosystems, become "high risk" with temperatures of between 1.5°C and 2.5°C, and "very high risk" when these range from 2.5°C to 4°C.[417] The feedback between these crucial points could increase the risk of triggering a global cascade in which other tipping points are exceeded, including the uncontrolled release of carbon from permafrost and the devastation of coral reefs.

198. Apart from these considerations, the Court notes that, even if the targets are met, the limits to temperature increase established in the Paris Agreement are not sufficient to prevent the impact of climate change on human rights. The IPCC has warned that "warming of 1.5°C is not considered 'safe' for most nations, communities, ecosystems and sectors, and poses significant risks to natural and human systems."[418] In this context, effective response mechanisms are required to provide reparation for the damage caused as a result of climate impacts. * * *

*F.3. The Complexity of the Responses Required * * **

F.3.1. Coordination around Resilience

205. The Court notes that, to respond appropriately to the climate emergency, it is not sufficient to concentrate only on mitigation, adaptation and reparation actions; rather measures aimed at the structural circumstances that led to this emergency and at building resilience to confront its effects should also be included. Such measures entail important changes.[427] In this regard, the IPCC has underscored the need to combine adaptation and mitigation with efficient institutions in order to achieve sustainable development. According to the IPCC, efforts of this sort lead to climate resilience. This concept, crucial in this context, articulates the hope that climate action processes will permit a decrease in the disruptions caused by climate change and promote opportunities addressed at sustainable development.[428] * * *

211. [I]t is worth recalling that every human person and all peoples are entitled to participate in, contribute to, and enjoy development,[435] understood as "comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well-being of the entire population."[436] Therefore, this development must be sustainable; in other words, based on a balance between economic development, social development, and environmental protection.[437] * * *

216. Based on the foregoing considerations, the task of interpretation with which this Court has been entrusted on this occasion will be undertaken under the guidance not only of the principles inherent in the international protection of human rights, such as the *pro persona* principle, the best interests of the child, the principle of progressivity, and the prohibition of discrimination; but also, taking into consideration fundamental principles and obligations in the context of the climate emergency such as the *pro natura* principle, the precautionary and prevention principles, the polluter pays principle, intra- and inter-generational equity, common but differentiated responsibilities, the obligation of cooperation, and the prohibition of transboundary damage. The Court will also take into account the relevance of the best available science and key concepts such as climate resilience. * * *

VI. STATES' OBLIGATIONS IN THE CONTEXT OF THE CLIMATE EMERGENCY * * *

A. The Scope of the General Human Rights Obligations in the Context of the Climate Emergency * * *

*A.1. The Obligation to Respect Rights * * **

221. [I]n general, to comply with the obligation to respect human rights in the context of the climate emergency, States must refrain from any conduct that results in a setback or delay or that limits the results of measures required to protect human rights from the impacts of climate change. . . .

222. Furthermore, in compliance with the obligation of respect, States must refrain from adopting retrogressive measures. This obligation derives from the principle of progressivity and non-retrogression which is applicable to all the rights that are under threat in this context, and requires than any setback in climate and environmental policies that harm human rights must be exceptional, duly justified based on objective criteria, and comply with the standards of necessity and proportionality.[447]

223. Finally, based on the general duty of respect and non-discrimination established in Article 1(1) of the American Convention, States must refrain from acts or omissions that, directly or indirectly, obstruct, restrict or harm effective access, in equal conditions, to the enjoyment of human rights of individuals affected by the climate emergency. This obligation includes preventing both formal and substantive discriminatory practices that may arise . . . In particular, States must adopt differentiated and reasonable measures to ensure that vulnerable individuals and groups . . . can exercise their rights in equal conditions in the face of the effects of climate change and state responses to address this. * * *

*A.2. The Obligation to Guarantee Rights * * **

A.2.1. The Obligation of Guarantee in the Context of Climate Emergency

225. The obligation of guarantee requires . . . all the powers of the State, in both its domestic and international sphere of action, to be coordinated so as to protect the human rights threatened and affected by this phenomenon.

226. [The duty of guarantee] is fulfilled when, in situations of real and immediate risk where the State is, or should be, aware of and has a reasonable possibility of preventing or avoiding said risk, the State adopts measures addressed at guaranteeing the rights of the individual or group of individuals who are at risk.[451]

227. [T]o comply with the obligation of guarantee, States must take all necessary measures to reduce, on the one hand, the risks derived, on the one hand, from the degradation of the global climate system and, on the other, from exposure and vulnerability to the effects of this degradation.

228. In this context, the obligation of prevention is supplemented by the application of the precautionary principle. The Court has observed that, in relation to the environment, this principle has been incorporated into domestic law and into the case law of high courts of various OAS Member States,[452] and it has also been established in diverse international instruments including the UNFCCC. The latter establishes that the lack of full scientific certainty cannot be used as a reason for postponing the prevention of climate change and reducing its adverse effects.[453]

229. Thus . . . based on the *pro persona* principle and the obligation of due diligence, even in the absence of scientific certainty, States must adopt "effective" measures that are required to prevent severe or irreversible damage to the environment.[454] . . . States are obligated to guarantee human rights when they are, or should be, aware of the possibility that the acts or omissions of their agents or of private

individuals may create a risk of severe and irreversible damage, within or outside their territory, even when they lack absolute certainty in this regard. . . .

230. [T]he State complies with the obligation of prevention when it: (i) regulates, (ii) supervises, and (iii) monitors the activities of private individuals that entail risks for the human rights recognized in the American Convention and other treaties for which it has jurisdiction.[456] Bearing in mind the special nature of environmental damage, the State must also (iv) require and adopt environmental impact assessments (*infra* paras. 358-363) (v); establish contingency plans, and (vi) mitigate situations in which environmental damage has occurred. In the context of the climate emergency, the last two obligations are complied with when the State plans and executes its response to the impacts of climate change on both the environment (*infra* paras. 269-376.), and the individual (*infra* paras. 377-457).

A.2.2. The Standard of Enhanced Due Diligence

231. The Court recalls that, in keeping with its case law, the obligation of guarantee and, consequently, the obligation of prevention is one of means or conduct. Therefore, non-compliance is not demonstrated by the mere fact that a right has been violated,[457] but rather, by the application of a standard of due diligence . . . Under international human rights law, the duty to act with due diligence has been addressed, in particular, in relation to actions to prevent human rights violations, and the progressive adoption of "all appropriate means" to achieve the full effectiveness of economic, social, cultural and environmental rights (ESCER) (*infra* paras. 238-243).[461]

232. This Court has held that the standard of due diligence must be appropriate and proportionate to the level of risk of environmental damage.[462] Thus, the Court concurs with the International Tribunal for the Law of the Sea in that due diligence is a variable concept that depends on the specific circumstances, available scientific and technological information, relevant international rules and standards, the risk of harm, and the urgency involved.[463]

233. [T]he Court finds that States must act with enhanced due diligence to comply with the obligation of prevention arising from the obligation to guarantee the rights protected by the American Convention in the context of the climate emergency. * * *

236. [T]he Court notes that, in general, enhanced due diligence requires . . . (i) identification and thorough, detailed and in-depth assessment of the risks; (ii) adoption of proactive and ambitious preventive measures to avoid the worst climate scenarios; (iii) utilization of the best available science in the design and implementation of climate actions (*infra* paras. 486-487); (iv) integration of the human rights perspective into the formulation, implementation and monitoring of all policies and measures related to climate change to ensure that they do not create new vulnerabilities or exacerbate preexisting ones (*infra* paras. 341, 342 and 388); (v) permanent and adequate monitoring of the effects and impacts of the adopted measures (*infra* paras. 349, 354, 355, 366, 389, 528, 560, 578 and 579); (vi) strict compliance with the obligations arising from procedural rights (*infra* paras. 471-587.), in particular, access to information, participation, and access to justice; (vii) transparency and accountability in relation to State climate action; (viii) appropriate regulation and supervision of corporate due diligence (*infra* paras. 345-351), and (xi) enhanced international cooperation, particularly regarding technology transfer, financing, and capacity-building (*infra* para. 264).

237. The necessary measures to comply with this standard may vary over time, for example, based on scientific discoveries, new technologies, or the identification of new forms of risk.[464] The scale and cost of those measures are also determined by the principle of common but differentiated responsibility, as well as by the particular circumstances of each State. However, the existence of this obligation does not depend on States' level of development; in other words, the obligation of prevention applies equally to developed and developing States,[465] . . . * * *

A.3. The Obligation to Adopt Measures to Ensure the Progressive Development of the ESCE

240. [T]he Court has indicated that two types of obligations are applicable to the ESCER based on the content of Article 26. On the one hand, the obligation to adopt progressive measures and, on the other, the obligation to adopt immediate measures. The former results in a specific and constant duty to advance as effectively and expeditiously as possible towards the full realization of the rights. This does not mean that, while they are being implemented, these obligations lack specific content or that States can indefinitely delay the adoption of measures to make the rights in question effective. Moreover, in the case of such measures, there is a duty of non-retrogression in relation to the level of realization of such rights. The Court has clarified that retrogression in environmental matters may constitute a violation of the obligation of progressive development if it is not adequately justified, in relation to the best available science and reasonable criteria of proportionality and necessity[469] (*infra* para. 283).

241. The obligations of an immediate nature require the adoption of effective measures in order to guarantee access, without discrimination, to the services recognized for each right. These measures must be adequate, deliberate and concrete, to ensure the full realization of such rights. * * *

A.4. The Obligation to Adopt Domestic Legislative Provisions

244. Article 2 of the American Convention establishes a general obligation for the State Parties to adopt, in accordance with their constitutional processes and the provisions of this Convention, such legislative or other measures as may be necessary to give effect to those rights or freedoms protected by the Convention.[472] . . .

245. This obligation entails the adoption of two types of measures. On the one hand, the elimination of laws and practices of any nature that entail violations of the guarantees established in the Convention[473] and, on the other, the enactment of laws and the implementation of practices leading to the effective observance of such guarantees.[474] . . .

246. The Court notes that it is essential to adapt the law to address the climate emergency, because the law . . . establishes legal obligations for private individuals, including business enterprises, whose activities may have significant effects on the environment, leading to legal consequences in cases of non-compliance. The laws and regulations adopted in this context should provide guidance to the States and to the individuals subject to their jurisdiction on how to address the causes and consequences of climate change effectively and comprehensively, ensuring the adequate evolution of such norms based on the best available science and their firm and coherent application in accordance with relevant international commitments.

A.5. The Obligation of Cooperation

247. The obligation for States to cooperate in good faith forms part of customary international law and derives from the principle of good faith in international relations.[475] * * *

251. [T]he Court notes that, in addition to being essential to achieve the objectives they indicate, cooperation is an obligation established in binding legal instruments in both the regional and the universal sphere. Therefore, it has binding legal force, and is essential for the effective implementation of international commitments and for guaranteeing compliance with the objectives established at the global level.

252. . . . Consequently, in the context of the climate emergency, international cooperation must be implemented in good faith, which excludes evasive, retrogressive or merely declarative conduct that thwarts the effective realization of the rights and principles established in the treaties.

253. Furthermore, the Court notes that the obligation of environmental cooperation is not restricted solely to situations of transboundary threat or harm, which this Court has already examined.[490] * * *

256. That said, the Court underscores that cooperation is also referred to in the American Convention and in the Protocol of San Salvador. These two instruments establish the duty of State Parties to adopt the necessary measures, both internally and through international cooperation, especially those of an economic and technical nature, with a view to progressively achieving, via legislation or other appropriate means, the full realization of the ESCER (*supra* paras. 238-243). . . .

257. Bearing in mind these provisions and the scope of the obligation of cooperation . . . the Court has established that, in order to guarantee the rights to life and personal integrity, States have the obligation to cooperate, in good faith, to protect against environmental harm.[498] . . .

258. In this context, the obligation of cooperation must be interpreted in light of the principles of equity and common but differentiated responsibilities. The Court considers that States have the obligation to cooperate in good faith to make progress towards the respect and guarantee of the progressive development of the human rights threatened or violated by the climate emergency, taking into account their differentiated responsibilities in relation to the causes of climate change; their respective capabilities, particularly with regard to economic and technical matters; and their specific needs in order to achieve sustainable development.

259. States must cooperate effectively and also receive cooperation because the opportune and comprehensive response to the multiple causes and effects of the climate emergency depend on this. The Court emphasizes that, since the protection of human rights in the context of the climate emergency is not limited to mitigation and adaptation actions, or to responding to loss and damage, the obligation of cooperation encompasses all the measures required to respond integrally to the climate emergency. * * *

264. Therefore, the obligation of cooperation entails, *inter alia*: (i) financial and economic aid to the least developed countries to contribute to a just transition; (ii) technical and scientific cooperation involving communication and common enjoyment of the benefits of progress; (iii) implementation of mitigation, adaptation and reparation actions that can benefit other States; and (iv) establishment of international forums and formulation of collaborative international policies. * * *

B. Obligations Arising from Substantive Rights * * *

B.1. The Right to a Healthy Environment * * *

B.1.1. A Healthy Environment in the Jurisprudence of the Court

270. The Court has indicated that the right to a healthy environment is one of the rights protected by Article 26 of the American Convention, under the obligation of States to achieve the "integral development" of their people, which arises from Articles 30, 31, 33 and 34 of the OAS Charter.[507] * * *

272. The human right to a healthy environment has been understood as a fundamental right for the existence of humanity, with both individual and collective connotations. In its collective dimension, this right constitutes a universal value that is owed to both present and future generations. That said, the right to a healthy environment also has an individual dimension insofar as its violation may have direct or indirect repercussions on the individual owing to its connectivity with other rights, such as the rights to health, personal integrity and life, among others.[511]

273. This Court also reiterates that, as an autonomous right, the right to a healthy environment protects the components of the environment, such as forests, rivers, and seas, as legal rights in

themselves, even in the absence of certainty or evidence of the risk to the individual. This means that it protects nature, not only because of the effects that its degradation may have on other human rights, but because of its vital interdependence with other living organisms that make life on this planet possible.[512] In this regard, the Court has noted a tendency to recognize legal personhood and, consequently, rights to Nature in constitutions and court judgments (see *infra* para. 286).

274. . . . Consequently, protection of the right to a healthy environment necessarily results in the protection of substantive human rights.

275. That said, this Court has recognized that the obligation to guarantee rights and, specifically, the duty of prevention, acquires a specific content in relation to the right to a healthy environment. In this context, the Court has indicated that the principle of prevention forms part of customary international law[513] and imposes on States "the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction."[514] This obligation is linked to the international obligation of due diligence to avoid causing or allowing damage to the environment of other States.[515] * * *

B.1.2. The Protection of Nature as a Subject of Rights

279. . . . Recognition of Nature's right to conserve its essential ecological processes contributes to strengthening a truly sustainable development model that respects planetary limits and ensures the availability of crucial resources for present and future generations. . . .

280. This recognition allows us to transcend inherited legal concepts that conceived Nature exclusively as an object of ownership or an exploitable resource. Recognition of Nature as a subject of rights also emphasizes its structural role in the vital balance of the conditions that make this planet inhabitable. . . .

281. . . . Indeed, the protection of Nature, as a collective subject of general interest, provides an appropriate framework for States – and other relevant stakeholders – to advance towards building a global legal system for sustainable development. Such a system is essential to preserve the conditions that support life on our planet and to guarantee a decent and healthy environment, essential for the realization of human rights.[520] This understanding is coherent with a harmonious interpretation of the *pro natura* and *pro persona* principles.

282. The Court recalls that, pursuant to Article 29 of the American Convention, the interpretation of the rights protected by the Inter-American system must be guided by an evolutive perspective in keeping with the progressive development of international human rights law.[521] Thus, recognition of Nature as a subject of rights does not introduce content that is alien to the Inter-American *corpus juris* but rather represents a contemporary expression of the principle of the interdependence between human rights and the environment. This interpretation is also aligned with advances in international environmental law which has established structural principles such as inter-generational equity, the precautionary principle, and the duty of prevention, all aimed at preserving the integrity of the ecosystems in the face of current and future threats.

283. Based on this understanding, the Court underscores that States must not only refrain from acting in a way that causes significant environmental damage, but have the positive obligation to adopt measures to guarantee the protection, restoration and regeneration of ecosystems (*infra* paras. 364-367 and 559). These measures must be compatible with the best available science and recognize the value of traditional, local and indigenous knowledge. Additionally, they must be guided by the principle of non-retrogressivity and ensure the full exercise of procedural rights (*supra* para. 240 and *infra* paras. 468, 478 and 480). * * *

B.1.3. The Jus Cogens Nature of the Obligation Not to Cause Irreversible Damage to the Climate and the Environment

289. As the best available science has established, the rupture of the vital equilibrium of our common ecosystem – caused by those conducts that give rise to irreversible damage – progressively and jointly modify the conditions for the healthy life of the species that inhabit our plant interdependently, to the point of generating consequences of existential proportions. Based on the foregoing, the anthropogenic contribution to climate change and the consequent irreversible deterioration of the common ecosystem constitute risks of an existential nature that call for a universal and effective legal response (*supra* paras. 65-119).

290. Given that the equilibrium of the conditions for healthy life in the common ecosystem is a requirement for the present and future habitability of the planet, its legal protection is essential for the protection of the legal rights already protected by international law, including those relating to officially designated non-derogable prohibitions. A contrario sensu, if it was considered that there was no peremptory prohibition under international law regarding anthropogenic conducts with irreversible impacts on the vital equilibrium of the planetary ecosystem, this would, logically, undermine the conditions required sine qua non for the enforceability of fundamental human rights that are already protected under international law by peremptory provisions. Therefore, the obligation to preserve this equilibrium should be interpreted as a peremptory international obligation.

291. The existential interests of all individuals and species of all kinds – given their temporal and geographical importance – whose rights to life, personal integrity, and health have already been recognized by international law, crystallize the obligation to abandon anthropogenic conducts that pose a critical threat to the equilibrium of our planetary ecosystem. The prohibitions arising from the obligation to preserve our common ecosystem, as a precondition to the enjoyment of other rights that have already been identified as fundamental, are of peremptory importance and are, therefore, of a jus cogens nature. * * *

294. In conclusion, the principle of effectiveness added to the considerations of dependence, necessity, the universality of the underlying values and the fact that there is no conflict with current law, forms the legal grounds for recognition of the peremptory prohibition to generate massive and irreversible damage to the environment, and it contributes to compliance with existing obligations recognized by international law. Therefore, and given the nature of jus cogens norms, the Court finds that all States should cooperate to end conducts that violate the prohibitions derived from peremptory norms of general international law that protect a healthy environment.[542]

B.1.4. Protection of the Global Climate System

295. The Court considers that there can be no doubt that the global climate system . . . is an essential part of the environment, because the harmonious development of the many processes that are essential for the conservation of life at the global level depend on it. Consequently, harm to the climate system is a specific form of environmental damage. . . .

296. Consequently, the obligation of prevention of environmental damage includes also the duty to adopt measures to prevent climate damage. Such measures should be addressed at reducing GHG emissions (*infra* paras. 321-363). Compliance with the obligation of prevention in relation to climate damage is subject to the standard of enhanced due diligence (*supra* paras. 231-237). Furthermore, according to this Court's case law, the violations of treaty-based rights as a result of climate damage are subject to the jurisdiction of the State in which it originated, or which contributed to the production of the damage if there is a causal link between this fact and the violation of the human rights of individuals outside its territory.[543] * * *

B.1.5. The Right to a Healthy Climate

298 . . . The Court notes that, consequently, the individual and collective dimensions of the right to a healthy environment protect both the environment as a whole and the diverse systems and elements that compose it.

299. The climate system forms part of this whole and, consequently, even though it is necessarily connected to other components of the environment, its protection should be understood as a specific objective in the context of protecting the environment. Indeed, protection of the climate system acquires specific and differentiated characteristics based on its functions at the global level, the elements that compose it, and the necessary dynamics to ensure its equilibrium. The Court underscores that harm to the climate system constitutes a form of environmental damage that, even though related, can and should be distinguished from other forms of environmental damage such as those resulting from pollution or harm to biodiversity.

300. This distinction acquires special relevance in the context of the climate emergency owing to the urgency, specificity and complexity of the actions required to protect the global climate system. In view of this situation, the Court considers that recognition of a human right to a healthy climate as an independent right – derived from the right to a healthy environment – responds to the need to endow the Inter-American legal order with a base, within its own entity, on which the specific State obligations in relation to the climate crisis can be clearly delimited and compliance with them required independently of other duties related to environmental protection. . . .

301. Climate protection has been recognized as a substantive element of the right to a healthy environment by the Committee on the Rights of the Child,[546] CEDAW,[547] and the Special Rapporteur on the issue of human rights obligations relating to the enjoyment of a safe, clean, healthy and sustainable environment.[548] Likewise, the Inter-American Commission has considered that States have the obligation to reduce GHG emissions "to guarantee a safe climate that makes it possible to exercise rights.""[549] This position has been adopted by domestic courts which have recognized that, in response to climate change, protection is not a contingent issue, but rather an obligation derived from the obligation of environmental protection, because the consequences of the planet's warming jeopardize human survival on Earth.[550] They have also stated that the right to a healthy environment derives from the right to a climate system that sustains life[551] and that this right is essential for a free and orderly society.[552]

302. As a substantive element of the right to a healthy environment, the right to a healthy climate has both individual and collective connotations. In the collective sphere, this right protects the collective interest of present and future generations of human beings and other species in preserving a climate system that is suitable for ensuring their well-being and the equilibrium between them vis-à-vis the severe existential threats from the effects of the climate emergency. The entitlement to this dimension of the right to a healthy climate belongs indivisibly and non-exclusively to the groups composed of those who share in this collective interest. Non-compliance with the international obligations aimed at protecting the global climate system necessarily affects this interest and gives rise to State responsibility. Therefore, the measures aimed at ending the violation, avoiding its repetition, and redressing the consequences should simultaneously benefit present and future humanity, as well as Nature as a whole (*infra* paras. 557-560).

303. Conversely, in its individual sphere, the right to a healthy climate protects the possibility of each individual being able to live in a climate system free of dangerous anthropogenic interference.[553] Therefore, its protection acts as a precondition for the exercise of other human rights. In this regard the individual sphere of the right will be violated when the State's non-compliance with its obligations

concerning the protection of the global climate system affects, not only this system, but also leads to the direct violation of the particular rights of one or several individuals . . .

304. In addition to violating the individual dimension of the right to a healthy climate, non-compliance with the State's general obligations in relation to the causes of climate change (paras. 219-365) can also affect other collective interests . . .

i. Equity and Protection of Present and Future Humanity

305. As the Court noted in [*La Oroya v. Peru*], the principle of intergenerational equity is derived from different instruments of international law,[554] including the UNFCCC, and the Paris Agreement. It has also been taken into consideration by different international bodies[555] and courts such as the International Court of Justice,[556] the International Tribunal for the Law of the Sea,[557] and the European Court of Human Rights,[558] as well as by domestic courts.[559] References to intergenerational equity by treaty bodies of the United Nations system should also be noted[560] and also the special procedures of its Human Rights Council.[561] * * *

308. This Court has already pointed out that, pursuant to the principle of intergenerational equity, States are required to actively contribute through the creation of environmental policies[566] aimed at ensuring that current generations leave behind a stable environment that will allow future generations similar opportunities for development.[567] In this way, this principle is closely related to the principles of prevention, precaution and progressivity.

309. That said, in the context of the climate emergency, intergenerational equity is reinforced by the principles of intragenerational equity and common but differentiated responsibilities . . .

310. Based on these principles, States should ensure an equitable distribution of the burden of climate action and climate impacts, taking into account their contribution to the causes of climate change and their respective capabilities. This distribution should avoid the imposition of disproportionate burdens on members of both future and present generations. The former may occur if, for example, climate action is unjustifiably postponed, leaving the damage and cost to future generations.[569] . . .

311. The Court underscores that the purpose of the obligations arising from the right to a healthy climate is to protect the global climate system for the benefit of humanity as a whole, and both present and future generations are part of this. The Court notes that, even though international human rights law recognizes that everyone is a possessor of non-derogable rights, the ethical and legislative grounds for this transcend those who inhabit the planet today, extending also to humanity as a legal and moral community that endures over time. The protection of this community has been established in international instruments such as those relating to the common heritage of humanity.[570]

312. Taking into account that human generations exist within an unbroken continuum that is continually renewed and redefined as untold new members join the living human community,[571] their protection requires the adoption of measures that ensure equity in both the effective enjoyment of rights by present generations, and in their transmission to future generations . . .

313. Consequently, the guarantee of intra- and intergenerational equity is essential for the interpretation and implementation of the obligations arising from the right to a healthy climate because this right, in its collective dimension, seeks the comprehensive protection of humanity as a whole. * * *

ii. The Protection of Nature

315. [T]he right to a healthy climate relates not only to present and future generations, but also to Nature, conceived as the physical and biological foundation of life. Protection of the global climate system requires safeguarding the integrity of ecosystems and the living and non-living components. Preserving climate conditions compatible with life is essential for maintaining equilibrium and functionality within ecosystems. This reciprocal interdependence between climate stability and ecological equilibrium reinforces the need for integrated legal approach, capable of uniting the protection of human rights and the rights of Nature within a legal framework coherently aligned with the harmonious interpretation of the *pro persona* and *pro natura* principles (*supra* para. 281).

316. The Court notes that this form of protection acquires particular significance in relation to the climate emergency, as it enables the consolidation of a robust standard of protecting the right to a healthy climate . . . To this end, it is necessary to adopt a systemic and integrated perspective that will be significantly strengthened when Nature is recognized as a subject of rights. The Court observes that the promotion by States – at the domestic and international level – of legal concepts and protection mechanisms (*supra* paras. 284-286) which transcend the traditional anthropocentric approach and recognize Nature and its components – including the climate system – as entities entitled to autonomous legal protection, strengthens the State response to the challenges posed by the climate emergency. * * *

B.1.6. Obligations Arising from the Right to a Healthy Environment in the Context of Climate Emergency

320. This Court finds that, in the context of the climate emergency, specific obligations arise from the right to a healthy climate related to: (i) actions to address the causes of climate change and, in particular, mitigation of GHG emissions. Moreover, specific obligations also arise from the right to a healthy environment in relation to: (ii) the protection of Nature and its components, and (iii) gradual progress towards sustainable development.

i. Mitigation of GHG Emissions

321. To protect the global climate system and prevent human rights violations resulting from its alteration, States are obliged to mitigate their GHG emissions. This requires them not only to limit emissions from human activities within their jurisdiction, but also to protect the carbon sinks within it.[573] Therefore, in order to guarantee the right to a healthy climate, States are obliged to (a) regulate, (b) supervise and monitor, and (c) require and adopt environmental impact assessments.

a) Regulation of Climate Mitigation

322. States must take diverse actions to comply with the obligation to regulate mitigation, in particular: (1) define a mitigation target; (2) define a human rights-based strategy to achieve it and keep it updated, and (3) regulate corporate conduct.

323. According to the legal framework established by the UNFCCC and the Paris Agreement, State Parties are obliged to establish and report on their mitigation target or NDC, and periodically update it. . . . This instrument also establishes that the NDCs must be progressive and reflect [the States'] highest possible ambition, in accordance with . . . common but differentiated responsibilities and respective capabilities in the light of different national circumstances.[575] Consequently, developed countries should take the lead by undertaking economy-wide absolute emission reduction targets; while developing countries are encouraged to do the same, in light of their different national circumstances.[576]

324. As established in the Paris Agreement, this Court considers that, in the context of its regulation duty, States should establish a target for reducing greenhouse gas (GHG) emissions, and its definition should be guided, above all, by the principles of progressivity and common but differentiated responsibilities. * * *

337. Bearing in mind the gravity and urgency that characterizes the climate emergency, mitigation strategies should necessarily include measures to advance in progressive reduction of GHG emissions from fossil fuels, agriculture, livestock, deforestation, and other land use,[583] as well as to eliminate SLCP emissions as quickly as possible.[584] In their regulations, States should also consider GHG-emitting activities and sectors both within and outside their territory.

338. In this regard, the Court stresses the importance of commitments and agreements on the elimination of certain GHG emissions such as those included in the Montreal Protocol (*supra* para. 122) and the Global Methane Pledge.[585] The Court underlines the importance of the road map traced by the first of these instruments as a benchmark for international cooperation. Indeed, the Montreal Protocol reveals that it is possible to successfully address one of the anthropogenic causes of atmospheric change – such as the emission of substances that destroy the ozone layer – by the adoption of coordinated, verifiable and progressive measures. * * *

343. Lastly, this Court emphasizes that States should avoid their acts or omissions becoming direct or indirect obstacles to effective compliance with mitigation targets or to the implementation and progressive updating of their strategies in this regard. This updating should respond to the State's capabilities, the relevant changes in its circumstances, and advances in the best available science.

344. Taking into account the standard of enhanced due diligence to which they are subject, States have the obligation to ensure coherence between their domestic and international commitments and their obligations concerning the mitigation of climate change. Consequently, they should adopt measures that permit coherent international action across all sectors contributing to the achievement of their mitigation strategy, in particular with regard to foreign investment, finance, and international trade. To the same end, at the domestic level, States should guarantee normative coherence and avoid domestic legal provisions contradicting the mitigation objectives that the State has proposed to achieve. Therefore, among other measures, States should ensure that public finance and incentives aimed at activities that generate GHG emissions are conditioned on strict compliance with national mitigation norms and policies. * * *

347. Thus, States must: (i) urge all business enterprises domiciled or operating in their territory and jurisdiction to take effective measure to combat change and its related impacts on human rights; (ii) Enact legislation that requires business enterprises to conduct human rights and environmental due diligence to identify and address human rights and environmental impacts, including climate change-related impacts, across the entire value chain; (iii) require public and private businesses to disclose in an accessible way the greenhouse gas emissions along their value chain; (iv) require business enterprises to take measures to reduce such emissions, and to address their contribution to the climate and to climate mitigation targets, throughout their operations,[591] and (v) adopt a range of regulations to discourage greenwashing and undue corporate influence in the political and regulatory domains in this regard, and to support the actions of human rights defenders.[592]

348. In accordance with their obligation to guarantee the effective exercise of the human rights recognized in the American Convention, States must adopt the necessary administrative, regulatory and legislative measures to ensure that business enterprises establish and implement effective due diligence processes with regard to environmental and human rights matters. Such processes must be appropriate to the size, sector and operating context of each enterprise and encompass all its operations, products and services, including domestic and international supply chains. The purpose is

to identify, prevent, mitigate and, when applicable, remedy the possible adverse impacts of business activities on the environment or on human rights, pursuant to the United Nations Guiding Principles on Business and Human Rights and the most recent developments in international and comparative law.[593] * * *

b) Mitigation Supervision and Monitoring

352. The obligation to prevent environmental damage involves monitoring the effective implementation and compliance with environmental protection regulations,[599] and ensuring active transparency and accountability of both the public and the private sector.[600] . . .

353. Bearing in mind the standard of enhanced due diligence in relation to the prevention of damage to the climate system, States are obliged to strictly supervise and monitor public and private activities that generate GHG emissions, as established in their mitigation strategy . . . [I]t is the State's duty to supervise and monitor, at the very least: exploration, extraction, transportation and processing of fossil fuels, cement manufacture, agro-industrial activities, and other inputs used in those activities. Also, taking into account the differentiated responsibility of some enterprises in light of their current and cumulative GHG emissions, States must ensure a more demanding supervision and monitoring of their activities and, in particular, their compliance with the obligations imposed as a result of those responsibilities (*supra* para. 350).

354. To comply with the foregoing, States must have strong and independent mechanisms, whether administrative, quasi-judicial or judicial, equipped with sufficient personnel, resources and technical capabilities to ensure satisfactory monitoring of the activities subject to oversight. These mechanisms must also respect and guarantee the procedural rights of those involved in them (*infra* paras. 540-551).

355. The mechanisms established by States should periodically monitor progress towards the mitigation target and make the necessary recommendations to ensure that this target is met. They should also have the required capabilities to take special monitoring actions when this is justified, or when any interested third party justifies them . . .

356. Furthermore, monitoring should include the possibility of investigating, prosecuting and sanctioning those who fail to comply with the laws and regulations in this regard, including business enterprises. Taking into account that any conduct of private individuals that is not aligned with the national mitigation strategy will result in harm to the global climate system, States should establish the corresponding legal consequences . . .

357. [T]he Court underscores that, in the context of the climate emergency, the obligation of prevention in relation to business-related activities necessarily signifies the duty to prevent and to punish acts of corruption that seek to weaken the effective execution of measures of mitigation and adaptation measures to climate change. * * *

c) Determination of Climate Impact

359. In view of the fact that harm to the climate system constitutes environmental damage that States are obliged to prevent, environmental impact assessments should explicitly include an evaluation of the potential effects on this system. In particular, those projects or activities that pose a risk of generating significant GHG emissions should be subject to a climate impact assessment . . .

360. The Court highlights the existence of best practices adopted under self-regulatory framework in certain sectors, regions and countries.[607] Moreover, it considers that such best practices should be taken into account and incorporated, when appropriate, within the regulatory framework developed

by States. This regulation must, in any case, establish binding conditions to avoid practices such as greenwashing.

361. In accordance with this Court's jurisprudence, the regulation of environmental impact assessments, which should also encompass the assessment of climate impact, must be clear, at a minimum, as regards: (i) the proposed activities and the impact that must be assessed (areas and aspects to be covered); (ii) the process for conducting an environmental impact assessment (requirements and procedures steps); (iii) the responsibilities and duties of project promotors, competent authorities and decision-making bodies (responsibilities and duties); (iv) how the environmental impact assessment process to determine the climate impact and the results will be used to obtain approval of the proposed actions (relationship to decision-making), and (iv) the steps and measures to be taken in the event that due process is not followed when conducting the environmental impact assessment or implementing the approval terms and conditions (compliance and implementation).[608]

362. The Court has indicated that environmental impact assessments should be carried out regardless of whether a project is implemented directly by the State or by private natural or legal persons,[609] and this obligations also applies to environmental impact assessments that should include the impact on the climate system. . . . The assessments must be carried out by independent entities with the relevant technical capacity, under the State's supervision; they must cover the cumulative impact, include the participation of interested parties, respect the traditions and culture of Indigenous Peoples, and be based on the best available science. The assessments should include specific content on the nature and size of the project, as well as its possible impact on the climate system. This content should include a contingency plan and measures to mitigate any possible harm to the climate system.[610]

363. The Court also considers that, in compliance with the standard of enhanced due diligence, States must conduct a meticulous assessment of activities that could result in significant harm to the climate system before granting approval. In this regard, they should consider the best available science and knowledge, the mitigation strategy and target which they should have defined previously, and the irreversible nature of climate impacts. All of this to adopt the best prevention measures in relation to potential harm to the global climate system.[611]

ii. Protection of Nature and its Components

364. The Court has established that, in the event that environmental harm occurs, the State must mitigate this, even if the incident occurs despite the adoption of all necessary preventive measures and, to this end, it must "rely upon the best available scientific data and technology."[612] This duty related to the measures for preventing climate harm indicated above (*supra* paras. 358-363). According to this Court's case law, these measures should be taken immediately, even if the origin of the pollution is unknown.[613]

365. The Court notes that, even though harm to the climate system constitutes environmental damage, measures to contain or control such harm such as clean-up operations or those aimed at limiting the geographical effects – which are applicable to other forms of pollution – are not effective in this context.

366. [I]n compliance with their general obligations concerning the right to a healthy environment, States must: (i) design and implement mechanisms to identify and record the main challenges to ecosystemic resilience at the local and national levels; (ii) establish and implement strategies and policies for the protection of ecosystems harmed by the effects of the climate emergency, and to expand protected areas and terrestrial, maritime and coastal biological corridors; (iii) design and implement strategies and policies that accord priority to the protection of ecosystems that the IPCC has identified as particularly susceptible experiencing impacts of climate change in the region of Latin America and

the Caribbean . . .; (iv) cooperate with other States to establish and implement mechanisms for the protection of transboundary ecosystems . . .; (v) establish regional platforms for climate information sharing, impact and risk assessments, planning of appropriate adaptation measures based on science and traditional, local and indigenous knowledge, and (vi) establish and implement monitoring and assessment mechanisms for the strategies and policies that have been developed. * * *

iii. The Step-by-step Progress towards Sustainable Development

369. The climate emergency is characterized by its complexity. To confront it effectively, measures must be promoted to address the structural circumstances that led to it (*supra* paras. 204-216). Thus, the main obligation imposed on States to ensure the progressive realization of the human rights that are threatened or violated by climate change consists in promoting a transition towards on sustainable development. * * *

376. In summary, the Court notes that . . . measures that are unjustified or blatantly contrary to the aim of advancing towards sustainable development are contrary to the obligation of respect (Article 1(1) of the American Convention) for the right to a healthy environment (Articles 26 of the American Convention, 11 of the Protocol of San Salvador, and 30, 31, 33 and 34 of the OAS Charter). Likewise, the absence of enhanced due diligence in the steps taken towards that goal constitutes a violation of the obligation to ensure rights (Article 1(1) of the American Convention) or to adopt measures (Article 1 of the Protocol of San Salvador) in relation to the same right. In all these cases, there is also a violation of the obligation to adapt domestic legislation (Article 2 of the American Convention and of the Protocol of San Salvador) when this is the cause of the State's failure to comply with its obligations. * * *

C. Obligations Arising from Procedural Rights * * *

*C.1. Democracy and Procedural Rights in the Context of Climate Emergency * * **

469. . . . States are called upon to (i) promote climate action for empowerment[815] through environmental education, capacity building for all people, and support for the work of civil society, environmental law associations and other non-state actors that contribute to addressing deficiencies in state environmental governance systems;[816] (ii) facilitate dialogue, through open channels of participation at all stages of planning, implementation and monitoring of climate- related policies and programs;[817] (iii) ensure environmental auditing, reporting and other mechanisms of transparency, ethics and integrity to prevent and combat corruption in environmental management.[818] Finally, and in relation to the right to a healthy climate, (iv) promote mechanisms to integrate the interests of nature[819] and future generations[820] in their climate actions. * * *

*C.2. The Right to Science and to the Recognition of Local, Traditional and Indigenous Knowledge * * **

473. [T]he Court emphasizes that the right to science includes every person's access to the benefits of scientific and technological progress, as well as opportunities for them to contribute to scientific activity, without discrimination. To that extent, the Court stresses that, although the right to science has a substantive dimension, in the context of environmental protection and, specifically, of the climate emergency, it can also be considered a procedural right. Indeed, this right constitutes an essential means for effective access to fundamental rights, including the capacity to meet "the needs common to all humanity" and to address possible "adverse consequences for integrity, dignity and the human rights of the individual,"[831] as well as one of the objective bases for public decision-making.

474. In developing the right to science, States must: (i) provide science education and report on major scientific discoveries and their applications, regardless of borders;[832] (ii) ensure an environment

conducive to the preservation, development and dissemination of science and technology;[833] (iii) promote participation in science,[834] including the right to acquire a scientific culture, access to scientific professions, opportunities to contribute to scientific progress and participate in science-related policy decisions; (iv) encourage the development of science in relation to key aspects of the climate emergency;[835] (v) ensure that the benefits of science are physically available and are economically affordable without discrimination,[836] and (vi) ensure that technological innovation measures are not applied in a way that affects the most vulnerable individuals and groups.[837]

475. The Court further notes that, in order to be effective, the right to science entails a significant commitment from States in terms of international cooperation, particularly with regard to technology transfer (*supra* para. 264) . . .

476. The Court also points out that scientific knowledge coexists with other forms of knowledge, such as local, traditional and indigenous knowledge.

477. Bearing in mind the intrinsic value and characteristics of each type of knowledge, the Court considers that, according to an evolutionary interpretation, the "right to science" not only encompasses access to benefits obtained from science in the strict sense, but also, as indicated in the title of Article 14 of the Protocol of San Salvador, access to culture or, more precisely, to the benefits that may be obtained from forms of knowledge related to it, that is, from local, traditional and indigenous knowledge. * * *

483. Thus, the Court recognizes that the protection of the right to science extends also to the intellectual and practical developments that Indigenous Peoples, Afro-descendant and local communities have maintained and safeguarded over the years. Traditional and local knowledge systems, "as dynamic expressions of perceiving and understanding the world, can make . . . a valuable contribution to science and technology."[853] . . .

484. Therefore, States must: (i) adopt measures to protect local, traditional and indigenous knowledge through appropriate mechanisms; (ii) take all measures to respect and protect the rights of Indigenous Peoples, particularly their land, their identity, and the moral and material interests resulting from the knowledge of which they are authors, individually or collectively,[854] and (iii) support the compilation of local, traditional and indigenous knowledge related to climate change, the environment and human rights.[855]

485. That said, the Court has already ruled that, as a corollary to their duty to disseminate the benefits of science,[856] States have an obligation to use the best available science in environmental matters . . .

486. According to the Court, in order to determine what constitutes the best available science, States must consider, among other criteria, whether the knowledge at their disposal: (i) is the most up-to-date; (ii) is based on peer-reviewed methodologies, practices and internationally recognized scientific standards, where such standards exist; (iii) is disseminated through rigorous review processes by high-quality peers or equivalent organizations; (iv) clearly communicates the uncertainties and assumptions in the scientific basis of its conclusions;[859] (v) is verifiable and reproducible through the publication of the non-confidential data and models used to reach its conclusions; (vi) accurately presents its sources of information, based on relevant, empirically tested, and up-to-date scientific literature, without omitting, altering or misrepresenting relevant data and literature, and (vii) accurately derives its conclusions from the available data, without omitting, altering or misrepresenting relevant results.

487. In this regard, the Court reiterates, in line with the findings of other international courts,[860] that currently the best science available on climate change is compiled in the IPCC reports (*supra* para. 33). * * *

*C.3. The Right to Access Information in the Context of Climate Emergency * * **

500. The Court underscores that the effective guarantee of access to climate-related information constitutes an essential condition for the protection, inter alia, of the rights to life, personal integrity, health, a healthy environment, and a healthy climate. Such information enables participation in public management through social oversight made possible by such access,[899] while simultaneously fostering transparency in State activities and promoting accountability of public officials regarding their public duties.[900] In the context of the climate emergency, access to information also enables the activation of disaster protection mechanisms, enhances citizen control and participation, and is indispensable for defining targets, plans, and strategies for mitigation and adaptation, as well as for adopting reparation measures. The Court will now address the content and scope of the obligations to: (1) produce information; (2) disseminate and facilitate access to information; and (3) adopt measures against disinformation. * * *

C.3.1. Production of Climate Information * * *

504. . . . It is incumbent upon the State, therefore, to generate complete, accurate, truthful, useful, and timely information to identify and mitigate threats to human rights arising both from the adverse impacts of climate change and from the measures adopted to address them.

505. Consequently, the Court considers that the right of access to information imposes upon States the obligation to establish appropriate systems and mechanisms for the production, collection, analysis, and dissemination of information relevant to the protection of human rights within the framework of the climate emergency. This includes comprehensive, general, and specific information disaggregated by population and sector; early warning systems providing timely information on disaster risks; as well as data necessary to establish, implement, and update mitigation and adaptation targets, plans, and strategies (*supra* paras. 314, 335, and 384). Such information must be used to promote the broadest possible public participation in climate action. * * *

C.3.2. Disclosure of Information

519. The Court has established that the right of access to information is complemented by a corresponding positive obligation on the part of the State to supply such information.[919] Owing to its importance, information relating to the causes and impacts of climate change and the measures taken to address them constitutes a matter of public interest and must be governed by the principle of maximum disclosure. Therefore, access to such information must not be conditioned upon demonstrating a direct interest or a personal affectation, except in those cases where a legitimate restriction is aplicable.[920] The State must guarantee that access to this information is affordable, effective, and timely.[921] This includes information produced by, or in the possession of, the State. * * *

521. States must establish clear strategies for the regular publication and dissemination of information . . . Likewise, they must inform the public regarding the causes, effects, and actual and potential sources of climate-related harm . . . To this end, States must implement and promote comprehensive mechanisms for disseminating climate information . . .

C.3.3. Adoption of Measures Against Disinformation * * *

526. The Court notes that Article 13 of the American Convention protects not only the expression of ideas but also the fundamental right of society to receive truthful information from diverse sources, essential for informed and democratic decision-making. Disinformation concerning climate change directly undermines this right by distorting the dissemination of scientific consensus, fostering public confusion, and hindering effective climate action . . .

527. In this regard, States are required to adopt progressive measures to counter climate-related disinformation, in order to guarantee access to information and protect substantive rights threatened in the context of the climate emergency. * * *

*C.4. The Right to Public Participation * * **

535. Within the framework of the climate emergency, the Court reaffirms that, in light of Article 23.1(a) of the Convention, States must guarantee meaningful participation processes for persons under their jurisdiction in decision-making and policymaking that may affect the climate system. Public participation in climate matters extends to the formulation of policies and direct involvement in decision-making processes concerning the mitigation target and strategy, the adaptation and risk management plans and strategies, climate financing, international cooperation, and the reparation of damage in the context of the climate emergency.[945]

536. Accordingly, it is incumbent upon the State to establish or adapt appropriate participation mechanisms to ensure the broadest involvement of the public in decisions relating to the State's response to climate change. . . . States must ensure public participation without discrimination, giving priority to persons, communities, and indigenous peoples who are particularly affected by climate harm, as well as by the measures taken by the State to prevent and respond to such harm. * * *

*C.5. The Right of Access to Justice * * **

C.5.1. The Provision of Adequate Resources

542. First, considering the characteristics of disputes that may arise in the context of the climate emergency, the Court considers that States must establish the necessary procedural and substantive regulations to: (i) provide ongoing training to justice administrators and operators on climate change, its causes and impacts on human rights, the measures adopted by other public authorities in the context of the climate emergency, and the legal tools and standards applicable to ensure the protection of human rights; (ii) incorporate an intercultural and interdisciplinary approach, allowing decisions to be made based on the best available science; (iii) provide sufficient resources to competent bodies and authorities to promptly resolve requests submitted to them; (iv) consider the creation of administrative and jurisdictional bodies specializing in environmental and climate matters; (v) provide administrators of justice with timely and sufficient access to the best scientific knowledge available, and (vi) guarantee equal access to justice for people in vulnerable situations, including free legal assistance for people affected by the climate emergency, upon demonstration of their inability to afford the costs of litigation.[953]

C.5.2. The Application of the Pro Actione Principle

543. Secondly, given the serious nature of the risks arising from climate impacts and the way in which they affect particularly vulnerable individuals and groups to a greater extent, the Court believes that the conduct of judicial proceedings relating to such risks and impacts should be guided by the application of the *pro actione* principle. According to this principle, the interpretation or application of procedural rules must not unjustifiably prevent or hinder a court from hearing and ruling on the claims submitted to it in accordance with the law, and the interpretation most favorable to access to justice must always prevail. Consequently, judicial bodies must interpret and apply the relevant rules in such a way as to effectively guarantee access to substantive justice for those who require it in the context of the climate emergency.

C.5.3. Promptness and Reasonable Time

544. Access to a simple and expeditious remedy, as referred to in Article 25, is also related to the corresponding obligation to ensure that cases are processed and resolved and judgments are executed within a reasonable time, as established in Article 8(1) of the American Convention. According to this Court's jurisprudence, reasonable time must be determined based on factors such as (i) the complexity of the matter;[954] (ii) the procedural activity of the interested party;[955] (iii) the conduct of the judicial authorities,[956] and (iv) the impact on the legal situation of the person involved in the proceedings.[957] In the context of the climate emergency, these considerations must be fairly applied in accordance with the subject matter, type and phases of the litigation, including the processing of complaints, resolution of judgments and precautionary measures, and the enforcement of judicial decisions. * * *

C.5.4. Active Legal Standing

546. The Court considers that, in light of the urgency, gravity, and complexity of the climate emergency, judicial authorities must apply the *pro actione* principle with respect to the admissibility of actions, appeals filed, and requirements regarding standing that could undermine the guarantee of the right of access to justice in collective and individual claims. * * *

i. Claims of a Collective Nature * * *

548. The Court emphasizes that guaranteeing access to justice in collective claims implies ensuring that civil society and State institutions empowered to seek justice have real possibilities for action. In addition to enforcing the other procedural rights set forth in the present Advisory Opinion, this means that States must provide the technical, budgetary, and personnel resources necessary to enable the public entities designated to exercise this function to do so adequately.

549. The Court also notes that, given the collective nature of climate issues, States should move forward with the creation of procedural mechanisms within their domestic regulations that allow for broad forms of standing, such as procedural institutions of collective, public, or popular standing, which may be used to request measures to protect the environment and the climate system, without the need to demonstrate an individual interest or impact. * * *

ii. Individual Claims * * *

551. The Court recalls that climate damage is, by its nature, transboundary (*supra* para. 295) and that States must provide prompt, adequate and effective redress to individuals and States that are victims of transboundary harm resulting from activities carried out in their territories or under their jurisdiction, when there is causal link between the damage caused and the act or omission of the State of origin in relation to activities in its territory or under its jurisdiction or control.[960] Consequently, the Court stresses that the guarantee of access to justice involves the legal standing of people and entities that do not reside in the State's territory.

C.5.5. The Evidence

552. The Court notes that, given the complexity inherent in climate litigation, the strict application of certain general provisions on evidentiary matters could represent an unjustified obstacle to effective access to justice. In this context, it corresponds to the judicial authorities to adopt an approach that takes into account the characteristics of this type of litigation . . . These factors require an interpretation of the evidentiary rules based on the principles of availability of evidence, and procedural cooperation, *pro persona*, *pro natura* and *pro actione*.

553. Regarding the first of these factors, the Court notes that access to justice calls for the adoption of alternative probative standards that permit establishing the causal relationship based on the best available science, considering the generation or tolerance of significant risks owing to the omission of measures of prevention, and the real exposure of individuals or groups to such risks, without necessarily requiring proof of a direct causal link.[961] In this regard, the Court draws attention to the possibility of presuming the causal link between GHG emissions and the degradation of the climate system, as well as the one that exists between this degradation and the resulting risks for natural systems and people.

554. In line with the foregoing, the Court considers that provisions concerning the admissibility, reliability and assessment of evidence should be interpreted flexibly to avoid them becoming unjustified procedural barriers for victims; particularly for those in a special situation of vulnerability in the context of the climate emergency. This calls for a detailed assessment of the possible asymmetries between the parties and the adoption of appropriate measures – such as the reversal of the burden of proof – that allow effective access to justice to be guaranteed. * * *

C.5.6. Measures of Reparation * * *

557. In the context of the climate emergency, States are obliged to establish effective administrative and judicial mechanisms that allow victims access to comprehensive redress. These mechanisms and the measures of reparation they establish should be adapted to the nature of the harm and consider the particular circumstances of its effects on individuals and on Nature . . .

558. Consequently, the Court notes the need to establish, as appropriate: (i) measures of restitution aimed at restoring the climate system and the ecosystems by increasing mitigation commitments, as well as funding and implementing conservation or restoration plans and actions; (ii) measures of rehabilitation which include opportune, accessible, acceptable, quality, and culturally adapted medical care, which respects the autonomy of the individual, for diseases linked to or exacerbated by climate change; (iii) compensation measures based on appropriate methodologies to assess the losses suffered in this context, and (iv) guarantees of non-repetition addressed at reducing vulnerability, monitoring compliance with existing obligations, and enhancing the resilience of natural and human systems within the framework of sustainable development.

559. All these measures must be: (i) based on the best available science and knowledge, and (ii) designed and implemented fully guaranteeing the procedural and substantive rights of the individuals and communities concerned (*infra* paras. 604 and 613). Lastly, the Court also draws the attention of States and domestic and international authorities and jurisdictions that determine measures of reparation in the context of the climate emergency to the need to consider the necessity and pertinence of not limiting reparation to pecuniary measures of compensation, and evaluating the opportunity to establish mechanisms to monitor or follow-up on the implementation of any measures of reparation that require this owing to the circumstances of the case.

C.5.7. Application of Inter-American Standards

560. Finally, the Court recalls that, when deciding litigations and legal issues that may arise in the context of the climate emergency, the competent authorities should conduct due control of conventionality based on the standards developed by the Court in its case law and, in particular in this Advisory Opinion, to ensure adequate protection of human rights. These standards also result from the American Declaration, the OAS Charter, and the Inter-American Democratic Charter and are, therefore, applicable in all member countries of the inter-American system.

C.6. The Right to Defend Human Rights and Protection of Environmental Defenders

561. The Court has indicated that, as an autonomous right, the right to defend human rights protects the real possibility of exercising freely, without limitations or risks of any kind, different activities and tasks aimed at the advancement, monitoring, promotion, dissemination, education, defense, claim for or protection of the universally recognized human rights and fundamental freedoms. Consequently, imposing unlawful restrictions or obstacles to the free and safe implementation of such activities by defenders due precisely to their condition as such and to the work they carry out, can lead to the violation of this right. * * *

D. The Obligations Arising from the Principle of Equality and Non-Discrimination * * *

VII. OPINION

For the reasons outlined above. . . :

THE COURT DECIDES

unanimously, that,

1. It has jurisdiction to issue this Advisory Opinion pursuant to paragraphs 14 to 23.

AND IS OF THE OPINION,

unanimously, that,

1. Pursuant to the best available science, the present situation constitutes a **climate emergency** due to the accelerated increase of global temperature, as a result of diverse activities of anthropogenic origin, produced in an unequal manner by the States of the international community, which are having incremental effects and represent a severe threat to humanity and, in particular, the most vulnerable. This climate emergency can only be addressed adequately by urgent and effective mitigation and adaptation actions, and by making progress towards sustainable development with a human rights perspective, coordinated around resilience, in accordance with paragraphs 183 and 205 to 216.

unanimously, that,

2. Pursuant to the **general obligation to respect rights**, States have the obligations indicated in paragraphs 219 to 223.

unanimously, that,

3. Pursuant to the **general obligation to guarantee rights**, States have the obligation to act in accordance with the standard of enhanced due diligence to counteract the human causes of climate change and to protect the persons subject to their jurisdiction from climate-related impacts, in particular those who are most vulnerable, in accordance with paragraphs 225 to 237.

By six votes to one, that,

4. Pursuant to the **general obligation to ensure the progressive development** of the economic, social, cultural and environmental rights, States must allocate the maximum of available resources to protect individuals and groups that, because of their vulnerable situation, are exposed to the most severe impacts of climate change, in accordance with paragraphs 238 to 243.

Dissenting Judge Patricia Pérez Goldberg.

unanimously, that,

5. Pursuant to the **general obligation to adopt domestic legal provisions**, States should incorporate into their domestic legal framework the necessary regulations to ensure the respect, guarantee and progressive development of human rights in the context of the climate emergency, in accordance with paragraphs 244 to 246.

unanimously, that,

6. Pursuant to the **obligation of cooperation**, States are obligated to cooperate in good faith to make progress in the respect, guarantee and progressive development of the human rights threatened or affected by the climate emergency, in accordance with paragraphs 247 to 265.

By four votes to three, that,

7. **Recognition of Nature and its components as subjects of rights** constitutes a normative development that permits reinforcing the protection of the long-term integrity and functionality of the ecosystems, providing effective legal tools to confront the triple planetary crisis, and facilitating the prevention of existential damage before it becomes irreversible. This concept represents a contemporary expression of the principle of the interdependence between human rights and the environment, and reflects a growing tendency at the international level aimed at strengthening the protection of ecological systems in the face of present and future threats, in accordance with paragraphs 279 to 286.

Dissenting Judge Nancy Hernández López, Judge Humberto Sierra Porto and Judge Patricia Pérez Goldberg.

By four votes to three, that,

8. Pursuant to the principle of effectiveness, the peremptory prohibition of anthropogenic conducts that could irreversibly harm the interdependence and vital equilibrium of the common ecosystem that makes the life of the species possible constitutes a **norm of jus cogens**, in accordance with paragraphs 287 to 294.

Dissenting Judge Nancy Hernández López, Judge Humberto Sierra Porto and Judge Patricia Pérez Goldberg.

By five votes to two partially dissenting votes, that,

9. The **right to a healthy climate**, understood as a component of the right to a healthy environment protects present and future humanity in its collective dimension, as well as Nature, in accordance with paragraphs 298 to 316.

Partially dissenting Judge Nancy Hernández López and Judge Patricia Pérez Goldberg.

By six votes to one partially dissenting vote, that,

10. Pursuant to the right to a healthy climate, States should protect the global climate system and prevent violations of human rights resulting from its alteration. Therefore, they should mitigate GHG emissions, which entails: (i) adopting the relevant regulations that define a mitigation target and a mitigation strategy based on human rights, as well as regulating the conduct of business enterprises, in accordance with paragraphs 323 to 351; (ii) adopting mitigation supervision and

monitoring measures in accordance with paragraphs 352 to 357, and (iii) determining the climate-related impact on projects and activities when appropriate, in accordance with paragraphs 358 to 363.

Partially dissenting Judge Patricia Pérez Goldberg.

unanimously, that,

11. Pursuant to the **right to a healthy environment**, States should: (i) protect Nature and its components from the impacts of climate change, and (ii) establish a strategy for progress towards sustainable development, in accordance with paragraphs 364 to 376.

By six votes to one partially dissenting vote, that,

12. Pursuant to the rights to life, personal integrity, health, private and family life, property and housing, freedom of residence and movement, water and food, work and social security, culture and education, as well as the other substantive rights threatened by climate impacts, States have the immediately enforceable obligation to define and update, based on the highest possible goals, their national adaptation plan and their target, in accordance with paragraphs 384 to 391, as well as the duty to act with enhanced due diligence in complying with the specific duties established in paragraphs 400 to 457.

Partially dissenting Judge Patricia Pérez Goldberg.

unanimously, that,

13. Pursuant to the democratic principle, States should reinforce the democratic rule of law as an essential framework to protect human rights, the effectiveness of public action, and open and inclusive public participation, also ensuring the full exercise of procedural rights, in accordance with paragraphs 460 to 469.

By six votes to one partially dissenting vote, that,

14. Pursuant to the **human right to science and to the recognition of local, traditional and indigenous knowledge**, protected by Articles 26 of the Convention and 14(2) of the Protocol of San Salvador, everyone has the right to have access to the benefits of measures based on the best available science and on the recognition of local, traditional and indigenous knowledge, in accordance with paragraphs 471 to 487.

Partially dissenting Judge Patricia Pérez Goldberg.

unanimously, that,

15. Pursuant to the **right of access to information**, States have obligations relating to: (i) production of climate information, in accordance with paragraphs 501 to 518; (ii) disclosure of relevant information for the protection of human rights in the face of climate change, in accordance with paragraphs 519 to 523, and (iii) adoption of measure to counter disinformation, in accordance with paragraphs 524 to 527.

unanimously, that,

16. Pursuant to the **right to political participation**, States should guarantee processes that ensure the significant participation of the persons subject to their jurisdiction in decision-making

and policies on climate change, as well as guarantee prior consultation of indigenous and tribal peoples when applicable, in accordance with paragraphs 530 to 539.

By four votes to three partially dissenting votes, that,

17. Pursuant to the **right of access to justice**, States should ensure crucial aspects concerning: (i) provision of sufficient resources for the administration of justice in this context; (ii) application of the pro actione principle; (iii) promptness and a reasonable time in judicial proceedings; (iv) adequate provisions with regard to legal standing; (v) evidence and (vi) reparation, and (vii) application of Inter- American standards, in accordance with paragraphs 542 to 560.

Partially dissenting Judge Nancy Hernández López, Judge Humberto Sierra Porto and Judge Patricia Pérez Goldberg.

unanimously, that,

18. Pursuant to the **right to defend human rights**, States have a special duty to protect environmental defenders and this results in specific obligations, including protecting them and investigating and, as appropriate, punishing any attacks, threats or intimidation they suffer, and to counteract the "criminalization" of environmental defense, in accordance with paragraphs 566, 567 and 575 to 587.

unanimously, that,

19. States should adopt measures to address the way in which the climate emergency exacerbates inequality and has a differentiated impact on those living in multidimensional poverty, in accordance with paragraphs 626 and 627.

By four votes to three partially dissenting votes, that,

20. States have specific obligations in relation to situations of special vulnerability such as those faced by: (i) children; (ii) indigenous and tribal peoples, Afro-descendants, peasant farmer communities, and fishermen, and (iii) people who suffer differentiated impacts in the context of climate-related disasters, in accordance with paragraphs 599 to 602, 604, 606 to 613, and 614 to 618. In addition, States should adopt measures to protect individuals who do not belong to the traditionally protected categories, but who are vulnerable due to dynamic or contextual reasons, in accordance with paragraphs 628 and 629.

Partially dissenting Judge Nancy Hernández López, Judge Humberto Sierra Porto and Judge Patricia Pérez Goldberg.

DONE, at San José, Costa Rica, on May 29, 2025, in the Spanish language.

Judge Nancy Hernández López, Judge Humberto Antonio Sierra Porto and Judge Patricia Pérez Goldberg advised the Court of their partially dissenting opinions. Judge Rodrigo Mudrovitsch, Judge Eduardo Ferrer Mac-Gregor Poisot, Judge Ricardo C. Pérez Manrique and Judge Verónica Gómez advised the Court of their concurring opinions.

B. Questions and Discussion

1. Civil society played a critical role in this Advisory Opinion. In addition to the briefs from 36 States, the Court received briefs from 17 Indigenous communities, over 90 NGOs and

think tanks, 70 academic institutions, and 45 special experts, representing a significant portion of the total of over 260 briefs that were submitted. UN human rights experts lauded the Court for "leading the most participatory process in the history of any international tribunal . . . the Court set a powerful example of inclusive, global justice." *See* Office of the High Commissioner, *UN experts hail landmark Inter-American Court opinion on States' extensive duties to protect the climate*, United Nations Human Rights (July 11, 2025). Compare this with the ICJ Advisory Opinion, which received 91 written submissions and oral statements from more than 96 States and 11 international organizations, but none from civil society or other non-State actors. (NGO briefs were deposited directly into the ICJ library.) What is the significance of the broader participatory process before the Inter-American Court of Human Rights?

2. Youth climate organizations participated in the consultative process for this Advisory Opinion. *See e.g.,* the submission from FACE Intergenerational Justice and the Center for Human Rights and Environment, which was endorsed by nearly 30 youth organizations. This youth-led amicus brief was part of a larger campaign that included raising awareness of the Inter-American Court Advisory Opinion process, gathering youth demands and personal testimonies to incorporate in the amicus brief, participating in the hearings before the Court, and organizing efforts to urge for stronger climate action. The FACE amicus brief starts with this introduction:

> 1. Youth climate activist Greta Thunberg warned States at the World Economic Forum in 2019 that "our house is on fire" – referring to the emergency posed by climate change . . . The world still has not listened: despite this and many other (much earlier) warnings, States across the world have failed to take appropriate measures to protect children, the youth, and the planet from this threat. That State inaction has set the world on a collision course with its own life-sustaining environment. With current policies, global warming could surpass the 1.5°C guardrail by the end of this decade. Beyond 1.5°C, many climate impacts are predicted to become non-linear, abrupt, irreversible, and catastrophic – pushing us closer to a "hothouse" climate state where billions of people live in places that become too hot for human habitation. This would be catastrophic . . .
>
> 2. This climate emergency represents an imminent human rights crisis, for both current and especially future generations. . . . The youth, children, and future generations are also disproportionally harmed, both because children and the youth are particularly vulnerable to certain impacts of climate change, as well as because the groups will live farther into a future plagued by more devastating climate change impacts than those occurring today. . . . Human rights and the principle of intergenerational justice therefore mandate that immediate action is taken to mitigate climate change and keep the planet livable for children, the youth, and future generations.
>
> 3. . . . States must act *now* to limit overall warming to 1.5°C. Anything less will present tremendous risks of irreversible feedback loops and tipping points that will derail the climate system and seriously threaten human rights worldwide. . . . All States must promptly take ambitious and robust mitigation action, including through the regulation of private actors, which must include (i) an urgent structural shift in energy, agricultural, and industrial policies that will allow society to live within a much tighter carbon budget, as well as (ii) emergency measures that slow the rate of warming in the near-term – known as fast

> mitigation – in the form of cutting emissions of short-lived climate pollutants (SLCPs) and preserving natural carbon sinks. * * *
>
> 5. This Court is uniquely situated to define a path to reverse the spiral of State inaction, delay, and excuses. The required mitigation measures are not the voluntary efforts that States have chosen to undertake; rather they follow from States' binding human rights obligations, which this Court, as well as domestic courts, have the power to enforce. The *Amici* therefore respectfully request this Court advise States that their binding obligations to respect and ensure numerous human rights enshrined in the American Convention and its Protocols require (i) their executive and legislative branches to immediately implement the required mitigation measures consistent with ensuring global warming is limited to 1.5°C and (ii) their domestic courts to enforce the human rights that require these mitigation measures.

In paragraph 28, they assert:

> 28. The fact that climate change has been caused by past and current generations but disproportionately harms future generations, raises severe consequences for intergenerational fairness. A failure to effectively reduce GHG emissions now (i) commits future generations to higher levels of risk that limiting warming to acceptable levels will become impossible; (ii) if reaching those acceptable levels of warming is possible, commits future generations to steeper and more challenging GHG emissions reductions in the coming decades to reach them; (iii) commits future generations to rely on the wide-spread deployment of at-present unproven and controversial technologies to actively remove GHGs from the atmosphere; and (iv) creates an imminent risk that it will be impossible to "make up" for lost mitigation opportunities, thereby undermining the sustainable and safe livelihood of future generations.

CORRECTED COMMUNICATION BY THE CENTER FOR HUMAN RIGHTS AND ENVIRONMENT (CHRE) AND FACE INTERGENERATIONAL JUSTICE (FACE), at 7–9 (Spanish); 122–24 (English) (Apr. 5, 2025). *English translation begins on p. 116.*

According to this amicus, how does the principle of intergenerational equity necessitate fast and ambitious mitigation? What did the Court say about these issues? What legal arguments can compel States to prioritize immediate mitigation efforts, particularly when faced with political resistance?

3. Consider this excerpt from an amicus brief submitted by another NGO, focusing on the self-amplifying feedback loops, irreversible tipping points, and the role of short-lived climate pollutants (SLCPs) to slow near-term warming:

> 28. Due to their powerful global warming potential and comparatively short atmospheric lifetimes, rapidly reducing the short-lived super climate pollutants, in parallel with reducing CO_2, is the only plausible way to stop the Earth from warming above 1.5℃ within the next 10–15 years. Fast mitigation of SLCPs [methane, HFC refrigerants, black carbon soot, and tropospheric ozone] is critical to prevent massive human rights violations, as it can avoid nearly four times more warming by 2050 than strategies targeting reductions in CO_2 alone.
>
> 29. Methane mitigation, in particular, is the most powerful lever to reduce near-term warming. Methane is around 82.5 times more powerful than CO_2 over a 20-year time frame and reducing methane using all available mitigation measures will reduce future warming three times as much as decarbonization alone . . .

> 30. Another critical fast mitigation strategy is the protection and restoration of forests . . . like the Amazon . . .
>
> 31. In sum, to stay below 1.5℃, to ensure and respect human rights, and to prevent massive human rights violations both in the near and long term, States must at a minimum, act on the best available science and best available technology and take urgent actions to:
>
> 31.1 Rapidly reduce super climate pollutants . . .
>
> 31.2 Stop the destruction of forests and other natural carbon sinks and restore and expand these sinks . . .
>
> 31.3 Rapidly decarbonize energy systems to achieve net zero by 2050 or sooner and to stabilize the climate system by the end of the century.
>
> 32. What sets apart the harm caused by climate change is "not just its magnitude but its irreversibility." * * *
>
> 34. The science is also clear that we are locking in future harm from passing tipping points as warming approaches 1.5℃. Once tipping points are passed, some of climate change's future harm will be irreversible and potentially catastrophic. In other words, tomorrow's harm is locked in by today's failure to adequately mitigate emissions and protect carbon sinks. * * *
>
> 36. When faced with this unique kind of harm, the institutional response from courts, as well as other human rights tribunals and bodies, must be prevention, precaution, and non-discrimination. Any other approach will imperil human rights in the present and the future, and the harm will fall disproportionately upon vulnerable individuals and groups already enduring systemic inequalities and discrimination.

AMICUS BRIEF SUBMITTED BY THE INSTITUTE FOR GOVERNANCE & SUSTAINABLE DEVELOPMENT, at 18–21 (Apr. 5, 2024).

How much of this brief is reflected in the Advisory Opinion? Considering the potential of SLCPs to reduce the risk of triggering irreversible climate tipping points, how should future courts interpret a State's enhanced due diligence obligation? What specific and immediate actions on SLCPs would be deemed mandatory under this standard, and in light of the requirement to use the best available science?

4. The Inter-American Court of Human Rights Advisory Opinion adopted two of its most groundbreaking positions by a narrow 4–3 margin: (i) recognizing the prohibition of irreversible anthropogenic harm to ecosystems as a *jus cogens* norm (¶¶ 287–294), and (ii) recognizing Nature and its components as subjects of rights (¶¶ 279–286). Why do you think these issues divided the Court? In your analysis, consider the doctrinal, institutional, and political implications of elevating environmental protection to *jus cogens* status and of extending legal rights to Nature.

5. The Advisory Opinion from the Inter-American Court of Human Rights also stands out for its analysis of how procedural rights—such as the rights of access to justice and to information—are implicated by the climate emergency. Consider the Court's willingness, in Section C.3.1 of the Advisory Opinion, to elaborate specific human rights obligations pertaining to States' production and dissemination of accurate climate information to the public, as well as its declaration that States must adopt progressive measures to counter

disinformation on climate change. Targeted campaigns by major fossil fuel producers to mislead the public about the causes and consequences of climate change have been well-documented by investigative journalism (such as the 2015 Exxon series from Inside Climate News, the 2010 book *Merchants of Doubt* by Naomi Oreskes and Erik Conway, and the work of journalist Amy Westervelt), and have inspired public campaigns such as #ExxonKnew. What implications might such climate disinformation campaigns have for human rights, both substantive (such as the rights to life and health) and procedural (such as the right to information)? How might the Inter-American Court have addressed climate disinformation as distributed by private actors, including polluting corporations and individual users of social media, keeping in mind that the Court can only declare legal obligations for State (public) actors? For an extended discussion of this topic, *see* Katie Super, *Climate Disinformation as Addressed by the Three Climate Advisory Opinions*, Institute for Governance & Sustainable Development (Aug. 14, 2026).

6. Several domestic cases have now discussed the Inter-American Court opinion, including a Brazilian case decided just weeks after the Advisory Opinion, *Núcleo Amigos da Terra Brasil et al. v. União et al.*, Public Civil Action No. 5050920-75.2023.4.04.7100 (9ª Vara Federal de Porto Alegre [9th Federal Court of Porto Alegre], Aug. 22, 2025). In this action, several Brazilian NGOs challenged the continued operation and environmental licensing of the Candiota coal mine and the Candiota III coal-fired power plant, arguing that federal and state authorities had systematically failed to implement Brazil's climate laws by excluding climate impacts, including greenhouse gas emissions, from the licensing process. The plaintiffs alleged that this omission violated Brazil's National Policy on Climate Change, the Paris Agreement, and Rio Grande do Sul's climate legislation, while allowing highly polluting coal projects to continue operating without adequate climate assessment.

On August 22, 2025, the 9th Federal Court of Porto Alegre suspended the projects' operating licenses until climate conditions—including Scope 3 emissions and cumulative value-chain impacts—are incorporated into the licensing process. Relying heavily on the Inter-American Court's Advisory Opinion on the Climate Emergency and Human Rights, the 9th Federal Court held that climate impact assessment is now a mandatory component of environmental licensing, and rejected the exclusion of downstream emissions from coal combustion. It also ordered the Union and the State of Rio Grande do Sul to prepare a Just Energy Transition Plan for the State's mineral sector, while promoting greater public participation in climate governance. The decision is currently under appeal.

The Candiota decision explicitly relies upon the Inter-American Court Advisory Opinion to redefine environmental licensing processes in Brazil, identifying a structural problem wherein environmental agencies ignore the climate component of large-scale projects. Unlike in the *TotalEnergies* decision in France (*see* ICJ Advisory Opinion on the Obligations of States in Respect of Climate Change, Questions and Discussion, ¶ 12), which allowed Total to continue its operations while updating its vigilance plan to account for the climate impacts

of its Scope 1, 2, and 3 emissions, the Brazilian Court suspended active operational licenses until a comprehensive value chain analysis—including Scope 3—is conducted. Does the Brazilian Court's willingness to halt ongoing economic activities based on international enhanced due diligence standards signal a more robust model of climate constitutionalism, or does the Court's mandate for a Just Energy Transition Plan represent an impermissible judicial interference in national energy policy?

7. Other decisions from domestic courts citing the Inter-American Court Advisory Opinion include the following:

- **Colombia.** *Santurbán Páramo*, Tribunal Administrativo de Santander [Administrative Tribunal of Santander], July 21, 2025, Exps. Nos. 680012333000-2018-00196-00 & 680012333000-2020-00138-00 (Colombia). The Administrative Tribunal of Santander recognized the Santurbán páramo—a critical water source, carbon sink, and biodiversity hotspot—as a subject of rights, explicitly relying on the Inter-American Court's Advisory Opinion to support an ecocentric approach to environmental protection (¶ 4.iii., citing the Inter-American Court's Advisory Opinion ¶¶ 279–286). The Tribunal drew on the Advisory Opinion's recognition of the intrinsic value of Nature and States' obligations to prevent climate harm, as well as Colombia's evolving jurisprudence on rights of Nature, to conclude that the páramo required heightened legal protection. The decision ordered the Ministry of Environment to serve as the legal guardian of the ecosystem, prohibited the issuance of new mining authorizations within the páramo, and required the adoption of a Reinforced Protection Plan to address ongoing threats, including illegal mining and agro-industrial expansion. The decision is currently under appeal before Colombia's Council of State (*Consejo de Estado*).
- **Costa Rica**. *Citizen Mario Peña Chacón v. Costa Rica,* Sala Constitucional de la Corte Suprema de Justicia [Constitutional Chamber], June 17, 2026, Judgment No. 2026-022147 (Costa Rica). In an amparo action, the Constitutional Chamber upheld a challenge to the omission of climate considerations in Costa Rica's environmental impact assessment (EIA) framework. The petitioner argued that the failure of the Executive Branch and the National Environmental Technical Secretariat (SETENA) to require the assessment of climate risks, greenhouse gas impacts, and adaptation and mitigation measures violated constitutional and international obligations to protect the right to a healthy environment and the rights of present and future generations. The Constitutional Chamber ordered the Ministry of Environment and Energy (MINAE) and SETENA to incorporate the examination of climate risks and impacts, as well as corresponding mitigation and adaptation measures to be implemented by project developers, into the regulatory framework governing EIAs within eighteen months. Relying on the Inter-American Court Advisory Opinion, the decision reinforces the obligation of States to integrate climate considerations into preventive environmental governance and to ensure that environmental decision-

making is informed by the best available science.

- **Chile.** *Request for Unconstitutionality Against the Framework Law on Sectoral Authorizations*, Tribunal Constitucional [T.C.] [Constitutional Court], July 24, 2025, Case No. 16625-25-CPT (Chile) (dissenting opinion). The case centered on a constitutional challenge brought by a group of Chilean members of Congress against the Framework Law on Sectoral Authorizations (LMAS), commonly known as the "Permitting Law." This legislation aimed to fast-track and streamline investment project approvals—such as those for mining, energy, and infrastructure—by eliminating overlapping reviews, imposing strict deadlines, and utilizing automatic approvals through administrative silence. Challengers raised concerns over how these expedited administrative processes could undermine environmental safeguards and constitutional protections. While the majority dismissed this challenge on procedural grounds, a powerful dissent invoked the pro actione principle from the Advisory Opinion, arguing that procedural rules must be interpreted to expand rather than restrict access to environmental justice, particularly when constitutional rights such as health and environmental protection are at stake. Dissident vote ¶ 22, citing Inter-American Court's Advisory Opinion ¶ 543.

For an ongoing list of domestic courts citing the Inter-American Court Advisory Opinion, *see* IGSD, *Judicial Responses to the Advisory Opinion from the Inter-American Court of Human Rights on the Climate Emergency*, Institute for Governance & Sustainable Development (Last update: July 27, 2026).

8. The Advisory Opinion also unlocks new avenues for litigation by recognizing climate obligations as grounded in intergenerational justice and the rights of Nature. Domestic and regional courts could be asked to invalidate State actions—such as a license for a project that has significant climate emissions, as in the Candiota power plant case—that shift disproportionate climate burdens onto future generations or cause irreversible ecological damage. In such cases, litigants could frame State inaction as violating not only human rights but also *jus cogens* norms that prohibit conduct leading to irreversible ecosystem harm. This creates fertile ground for cases in courts that could reinforce both constitutional and human rights protections.

Contentious litigation may increasingly target States' failures to implement or strengthen their Paris Agreement Nationally Determined Contributions (NDCs). The Inter-American Court's finding that NDCs constitute legally binding obligations requiring ambition, progression, and codification in domestic law opens the door to judicial review of NDC adequacy. Future plaintiffs could demand that courts compel governments to align their climate targets with the 1.5°C goal and adopt concrete short- and medium-term mitigation measures, with particular emphasis on reducing the short-lived climate pollutants. In this way, the Advisory Opinion not only provides normative authority but also equips litigants with a robust framework for challenging climate inaction at multiple governance levels.

9. Under the Inter-American Court's doctrine of "conventionality control," domestic judges and other public authorities, including the legislative and executive branches, must ensure that their respective national laws, policies, and judicial decisions comply with the American Convention on Human Rights, as interpreted by the Inter-American Court. *Climate Emergency and Human Rights, Advisory Opinion OC-32/25*, Inter-Am. Ct. H.R. (ser. A), ¶ 560 (May 29, 2025); *Gelman v. Uruguay*, Inter-Am. Ct. H.R., Order of the Court, ¶¶ 65–66 (Mar. 20, 2013). In cases where national law conflicts with the Convention, domestic judges must set aside the conflicting national provision and instead apply the human rights norm as interpreted by the Court's jurisprudence and advisory opinions. For an extended discussion of this topic, *see* Rebecca Mitchell, *The Inter-American Court of Human Rights' Doctrine of Conventionality Control*, Institute for Governance & Sustainable Development (Aug. 26, 2026).

10. One distinction between advisory opinions and contentious cases is that in contentious cases, "the reasoning of the court or tribunal is analytically connected with the intricate facts of the dispute." *See* Question 1, *infra*, in the discussion of ITLOS. The Inter-American Court does a deep dive into the facts of climate science (¶¶ 42–216). What is the legal force of this rich presentation of facts? Is it similar to the Findings of Fact in U.S. cases, such as the trial court's decision in a landmark youth climate case in Montana? *See* Order, *Held v. State of Montana*, CDV-2020-307, pp. 9–86 (Mont. Dist. Ct. Aug. 14, 2023); *upheld in Held v. State*, 419 Mont. 403, 418 (Mont. Sup. Ct. Dec. 18, 2024).

11. Relying on the best available science from the Intergovernmental Panel on Climate Change (IPCC), the Inter-American Court acknowledges the climate emergency is an "existential threat," a scientifically established, human-induced phenomenon caused by multiple GHGs, including short-lived climate pollutants (¶¶ 182–83, 45–50, 302). The Court also reaffirms the importance of the 1.5°C threshold of the Paris Agreement, emphasizing how relevant it is to prevent irreversible harm to human rights and ecosystems (¶¶ 69, 79, 86, 198). Moreover, the Court recognizes how critical it is to avoid irreversible climate tipping points and the heightened risk of surpassing them without rapid mitigation measures (¶ 197).

The Court then declares that States have an obligation to integrate scientific findings into their climate-related human rights obligations and to use the best available science and knowledge (¶¶ 204, 236, 240, 246, 283, 326–27, 331, 336, 343, 362–64, 367, 388, 478, 485, 525, 539, 542, 559, 599–600). According to the Court, the best available science should meet various criteria, including being up-to-date, peer-reviewed, transparent in its uncertainties and assumptions, verifiable, reproducible, and accurate (¶ 486). The Court accepts the IPCC reports as the best available science on climate change (¶ 487), even though the IPCC reports are only issued every five or six years, with the next one, AR7, not expected until 2029 at the earliest. *See* Ayesha Tandon et al., *Ongoing failure to agree AR7 timeline is 'unprecedented' in IPCC history*, CARBON BRIEF (Nov. 7, 2025). In the meantime, climate scientists are publishing new papers at the rate of over 33,000 publications per year for 2019–2023. *See*

Roberto Schaeffer et al., *Ten New Insights in Climate Science 2024*, ONE EARTH (June 20, 2025).

If you were litigating a climate case today, how would you identify the best available science, and how would you demonstrate to a court that your sources meet that standard? As a starting point review the current edition of the annual scientific stocktakes that update the record the Court had before it, such as: William J. Ripple et al., *The 2025 State of the Climate Report: A Planet on the Brink*, 75 BIOSCIENCE 1016 (2025); the World Meteorological Organization's annual State of the Global Climate *2025*; the UNEP *Emissions Gap Report 2025: Off Target – Continued Collective Inaction Puts Global Temperature Goal at Risk* (Nov, 4, 2025); and UNEP, *Adaptation Gap Report 2025: Running on Empty* (Oct. 29, 2025), among other annual updates.

For further discussion of the best available science, *see* AMICUS BRIEF SUBMITTED BY THE INSTITUTE FOR GOVERNANCE & SUSTAINABLE DEVELOPMENT, at 7-11 (Apr. 5, 2024).

12. The Inter-American Court Advisory Opinion has generated considerable commentary, including the following:

- Center for Justice and International Law, *The Inter-American Court of Human Rights and the Climate Emergency: An Analytical Summary of Advisory Opinion AO-32/25* (July 2025).
- Maria Antonia Tigre, Maxim Bönnemann, & Korey Silverman-Roati, *A Blueprint for Rights-Based Climate Action: The Inter-American Court of Human Rights' Advisory Opinion on the Climate Emergency*, VERFASSUNGSBLOG (July 9, 2025).
- César Rodríguez-Garavito, *Climate change on trial: The Inter-American Court of Human Rights' opinion on global warming*, OPEN GLOBAL RIGHTS (July 25, 2025).
- Center for International Environmental Law (CIEL), IGSD et al., *Climate Justice and Human Rights: Legal Standards and Tools from the Inter-American Court's Advisory Opinion 32/25* (October 2025).
- Verena Kahl & José Daniel Rodríguez Orúe, *A Rights Revolution in the Anthropocene: Reflections on the IACtHR Advisory Opinion on the Climate Emergency*, 56(3-4) ENVIRON. POLICY LAW 105 (2026).
- For an updated list of domestic and regional judicial decisions engaging with the Inter-American Court Advisory Opinion, *see*: IGSD, *Judicial Responses to the Advisory Opinion from the Inter-American Court of Human Rights on the Climate Emergency*, Institute for Governance & Sustainable Development (Last update: July 27, 2026).

13. Consider this excerpt from the *Global Tipping Points Report 2025*, a major scientific assessment discussed in detail in the last section of this Supplement, which analyzes how climate tipping points will affect human rights:

> ESTPs [Earth-system tipping points] give rise to two very different kinds of human rights risks: first, direct harms caused by abrupt and massive biophysical changes in the environment; second, indirect adverse human rights impacts from state and non-state

> responses to ESTPs risks. The direct biophysical ESTPs risks include, among others: widespread global shrinkage of crop growing areas; disruption of monsoons (e.g. West Africa); forest dieback in the Amazon Basin; degradation of savanna and drylands; die-off of coral reefs; die-off of mangrove forests; water eutrophication; and linked adverse impacts on global and regional food security, water availability, human health, housing and cultural identity (see Table 1.4.1).
>
> Indirect human rights impacts include, among a wide range of adverse societal consequences, rising authoritarianism and crackdowns on civil liberties, the use of racist and discriminatory criteria in adaptation responses, further marginalisation of vulnerable populations, and the potentially adverse impacts of geoengineering (on the latter, see Lazard et al., 2025). * * * If resettlement programs and other large scale adaptations are discriminatory, poorly designed, delayed through mismanagement, corruptly administered, imposed without meaningful stakeholder engagement (Buhmann et al., 2025), or carried out without the free, prior and informed consent of indigenous peoples (Hanna & Vanclay, 2013), there is a risk that ESTPs mitigation efforts themselves may violate human rights.

Timothy M. Lenton et al. (eds), THE GLOBAL TIPPING POINTS REPORT 2025, University of Exeter (2025), 83.

How would the Inter-American Court incorporate this research regarding how climate tipping points will affect food systems, migration patterns, financial security, and social cohesion into the Court's analysis of what measures States must take to protect vulnerable populations?

For a comprehensive mapping of specific tipping points to their effects on specific human rights, *see* Table 1.4.1 in the *Global Tipping Points Report 2025*.

C. Discussion of the Inter-American Court of Human Rights' Separate Concurring and Partially Dissenting Opinions on the Climate Emergency

The majority opinion was joined by all seven judges on the Inter-American Court of Human Rights. In addition, four judges filed concurring opinions—Rodrigo Mudrovitsch, Eduardo Ferrer Mac-Gregor Poisot, and Ricardo C. Pérez Manrique jointly, and Verónica Gómez separately—and three judges filed opinions partially dissenting from some of the majority's more ambitious conclusions: President Nancy Hernández López, Humberto Sierra Porto, and Patricia Pérez Goldberg, each writing individually.

These separate opinions were not released alongside the majority opinion. The Court publicly read the Advisory Opinion on July 3, 2025, but the separate opinions did not appear until September 18, 2025, roughly eleven weeks later. Some of the separate opinions are published only in Spanish; when available, we have used the official English translation, and where unavailable, we have provided our own English translations with the original Spanish in footnotes.

We discuss the concurring opinions first, then the partially dissenting opinions.

The Concurring Opinions

The four separate concurring opinions from Judge Gómez and Judges Mudrovitsch, Ferrer Mac-Gregor, and Pérez Manrique express their agreement with the majority opinion and elaborate on some of its conclusions. Judge Gómez, for example, draws a connection between the climate Advisory Opinion (OC 32/25) and the immediately preceding Advisory Opinion (OC 31/25) on the "right to care," in which the Inter-American Court "declares the existence of models of care organization based on traditional, local, and Indigenous knowledge about the inseparable relationship between caring for people and caring for the environment." Sep. Op. of Judge Gómez (Concurring), ¶ 9. Judges Mudrovitsch, Ferrer Mac-Gregor, and Pérez Manrique contextualize the Opinion's findings on the *jus cogens* norm and the rights of Nature through a lens of global fraternity and international solidarity.

The Partially Dissenting Opinions

In addition to the concurring opinions, some of the Inter-American Court's more ambitious conclusions drew dissenting votes—unlike the ICJ's Advisory Opinion, which the full bench of fifteen judges adopted unanimously in its entirety. While the partial dissents supported the majority of the opinion, the dissenters took issue with the holding that the prohibition against causing irreversible damage to the global climate system has crystallized into a norm of *jus cogens*: a peremptory rule of international law binding on all States regardless of consent, from which no treaty or domestic practice may derogate. This is the first time any international court has assigned *jus cogens* status to an environmental obligation, and it is precisely this conclusion—and the recognition of Nature as a subject of rights—that drove the three partially dissenting judges to write separately.

Judge Pérez Goldberg and Judge Hernández López used their partially dissenting opinions to clarify the reasons for their votes, while also noting their agreement with the majority on many points. Both Judge Pérez Goldberg and Judge Hernández López highlighted their dissent from the majority's conclusions on the rights of Nature and the *jus cogens* norm. In a separate 62-page partial dissent, Judge Pérez Goldberg explains:

> "[W]hile I share the pressing need to act in the fight against anthropogenic-driven climate change, I am of the view that the majority overstepped the bounds of the Court's authority in several of the issues addressed in this Opinion, and made errors of legal assessment in others. This risks compromising the soundness of Court arguments and may result in potentially inconvenient consequences for environmental law and the standing of human rights across the region."

Sep. Op. of Judge Pérez Goldberg (Partially Dissenting), at p. 1.

***Exercise:* Judicial Debate on *Jus Cogens*.** Consider the following excerpts from the separate opinions, both concurring and partially dissenting, on the *jus cogens* norm. Drawing upon these excerpts, as well as the majority opinion's discussion of *jus cogens* (¶¶ 289–91, 294), imagine that you are a judge of the Inter-American Court of Human Rights. Take a position in the *jus cogens* debate and defend it. In your response, be sure to support your

argument using specific references to the separate opinions and address both the doctrinal and practical dimensions of the classification of *jus cogens* norms.

> ***Judges Mudrovitsch, Ferrer Mac-Gregor, and Pérez Manrique (Concurring):*** [S]ince 1972 through numerous international declarations and treaties on environmental protection. These agreements are based on statements—drafted by the international community through consensus-based diplomacy—on the imperative to protect the environment. This represents, therefore, a collective expression of the duty to protect. The robust body of soft law treaties and instruments on the matter demonstrates the required "acceptance and recognition" of the "international community as a whole," which must be qualitatively majoritarian without needing all States to agree. Regarding protection of the climate specifically, the broad support for the Paris Agreement […] is strong evidence of the development of a minimum consensus on the existence of international obligations on climate protection. Furthermore, subsidiary mechanisms such as decisions issued by international courts and tribunals, decisions of domestic courts, resolutions of specialized bodies created by States or international organizations, and teachings of well-known publicists from various jurisdictions, play a significant role in the formation and consolidation of the "acceptance and recognition" of a norm as jus cogens. […] Beyond the structural or formal aspects of the identification of a general international legal norm on environmental protection, the norm exhibits the ontological and axiological conditions that allow it to be classified as a jus cogens norm. […] jus cogens "is presented as the legal expression of the international community as a whole, based on universal and superior values, which embodies basic standards that guarantee essential or fundamental human values related to life, human dignity, peace and security." In this regard, the duty to protect the environment—with its consequent duty to not cause harm—becomes essential for human survival and for world peace, with human rights its very foundation. […] Now, in the midst of 2025's global climate emergency, in a qualitative leap appropriate for a court that prides itself on its "human rights" role, the Court unhesitatingly—though not unanimously—affirmed the international peremptory nature of the norm. We not only agree; we also celebrate the fact that the majority has finally come to agree with our position.

Sep. Op. of Judges Mudrovitsch, Ferrer Mac-Gregor, & Pérez Manrique (Concurring), at ¶¶ 17–25.

> ***Judge Gómez (Concurring):*** Firstly, the States of the International Community have made progress in establishing common goals for greenhouse gas emissions and in recognizing the human right to a healthy environment, as detailed in OC32. However, they have not made progress in explicitly prohibiting behaviors that are incompatible with the recognition of the climate crisis as an existential risk and with the obligations to prevent irreversible damage to the environment that jeopardizes the habitability of our planet [...] In this Advisory Opinion, the majority of the Court sought to remedy this omission by invoking the institution of *jus cogens* as the legal basis for prohibiting conduct with irreversible impacts on the climate [...] I agreed with my colleagues' decision with the aim of helping to overcome the legal vacuum of an explicit prohibition on conduct capable of causing irreversible damage to the environment [...] Given the existential dimension of the climate crisis and the irreversible damage that anthropogenic conduct could cause, this prohibition constitutes a *conditio sine qua non* for the validity of other fundamental rights of individuals and nature.

Sep. Op. of Judge Gómez (Partially Dissenting), at ¶ 13 [transl. from Spanish].*

> ***Judge Hernández López (Partially Dissenting):*** Although I share the legitimate concern about the need to prevent irreversible damage to the environment and the climate, I do not consider it legally sustainable to assert that this obligation has acquired the character of *a jus cogens* norm [...] First, there is currently no clear, uniform, and consolidated consensus among States that would allow us to consider that the obligation to prevent irreversible environmental damage has been accepted and recognized by the international community *as a whole* as a norm that does not admit of any agreement to the contrary, as required by Article 53 of the Vienna Convention on the Law of Treaties [...] Second, at the doctrinal level, [...] it lacks the absoluteness characteristic of *jus cogens* norms. Unlike the prohibition of torture or genocide, which operate with peremptory and non-derogable effects, environmental law is structured around principles of reasonableness, proportionality, and deliberation [...] The fact that environmental protection may involve collective interests that concern all of humanity does not, in itself, authorize the conclusion that it is a peremptory norm. The distinction between the two categories has been recognized by international doctrine and jurisprudence, with all *jus cogens* norms also being *erga omnes,* but not vice versa [...] premature classification of the right to a healthy environment [...] as a rule of *jus cogens* can have disproportionate legal effects. Therefore, it requires a degree of legal consolidation that environmental law has not yet achieved.

Sep. Op. of Judge Hernández López (Partially Dissenting), at ¶¶ 29–35 [transl. from Spanish].†

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* *Original text*: "En primer lugar, los Estados de la Comunidad Internacional han avanzado en el establecimiento de metas comunes en materia de emisión de gases efecto invernadero y en el reconocimiento del derecho humano a un medioambiente sano, según narra en detalle la OC32. Sin embargo, no han avanzado en la prohibición explícita de conductas incompatibles con el reconocimiento de la crisis climática como un riesgo existencial y con las obligaciones en materia de prevención de daños irreversibles al medioambiente que ponen en riesgo la habitabilidad de nuestro planeta [...] En la presente Opinión Consultiva, la mayoría de la Corte buscó saldar esta omisión invocando la institución del *Jus Cogens* como base legal para la prohibición de conductas con impacto irreversible en el clima [...] acompañé la decisión de mis colegas con el objetivo de contribuir a superar el vacío legal de una prohibición explícita frente a conductas capaces de generar daños irreversibles al ambiente [...] Dada la dimensión existencial de la crisis climática y de los daños de carácter irreversible que las conductas antropogénicas podrían causar, esta prohibición se constituye como una *conditio sine qua non* para la vigencia de otros derechos fundamentales de las personas y de la naturaleza."

† *Original text*: "Aunque comparto la preocupación legítima por la necesidad de prevenir daños irreversibles al medio ambiente y al clima, no considero jurídicamente sostenible afirmar que esta obligación haya adquirido el carácter de norma de *ius cogens*. [...] En primer lugar, no existe actualmente un consenso claro, uniforme y consolidado entre los Estados que permita considerar que la obligación de prevenir daños ambientales irreversibles ha sido aceptada y reconocida por la comunidad internacional, *en su conjunto,* como norma que no admite acuerdo en contrario, tal como lo exige el artículo 53 de la Convención de Viena sobre el Derecho de los Tratados [...] En segundo lugar, a nivel doctrinario [...] carece de la absolutidad característica de las normas *ius cogens*. A diferencia de la prohibición de la tortura o del genocidio, que operan con efectos perentorios e inderogables, el derecho ambiental se estructura en torno a principios de razonabilidad, proporcionalidad y ponderación [...] El hecho de que la protección del ambiente pueda involucrar intereses colectivos que conciernen a toda la humanidad no autoriza, por sí solo, a concluir que se trata de una norma imperativa. La distinción entre ambas categorías ha sido reconocida por la doctrina y la jurisprudencia internacional, siendo todas las normas *ius cogens* también *erga omnes*, pero no a la inversa. [...] una calificación prematura del derecho a un ambiente sano […] como norma de *ius cogens* puede generar

> ***Judge Pérez Goldberg (Partially Dissenting):*** Holding the ban on irreversible environmental harm to be jus cogens without demonstrating universal State acceptance and recognition, or support from a general rule of international law […] is an argumental leap of faith that undermines legal certainty. Such unsupported assertions tend to blur the very concept of jus cogens and risk turning a rigorous legal category into a rhetorical tool. As the ILC notes, a key precondition for a norm of general international law to be deemed jus cogens is to be accepted and recognized by the international community of States. This precondition is not met through a simple majority or tally of willing States. The ILC has been adamant in noting that this requires a majority that is representative of the wide-ranging diversity of legal systems, regions and cultural contexts making up the international community. Rather than quantitative, this assessment is essentially qualitative. A count of willing and unwilling States does not suffice; it requires a review of the depth and breadth of consensus, including the State practices, official statements, domestic laws, diplomatic acts and court decisions that validate acceptance and recognition of the peremptory nature of the norm. Beyond recognition under general international law, the standard requires rules to be specifically acknowledged as non-derogable, i.e., norms that allow no agreement to the contrary and are only modifiable by a norm of equal rank. Such extent of acceptance and qualified recognition sets jus cogens apart from other rules of general international law.

Sep. Op. of Judge Pérez Goldberg (Partially Dissenting), at pp. 7–8.

efectos jurídicos desproporcionados. Por ello, requiere un grado de consolidación jurídica que el derecho ambiental aún no ha alcanzado."

IV. INTERNATIONAL TRIBUNAL FOR THE LAW OF THE SEA ADVISORY OPINION ON CLIMATE CHANGE AND INTERNATIONAL LAW

In 2022, the Commission of Small Island States on Climate Change and International Law asked the International Tribunal for the Law of the Sea (ITLOS) to provide an advisory opinion on the legal implications of climate change under the 1982 United Nations Convention on the Law of the Sea (UNCLOS). Written statements were presented by 34 States and 9 intergovernmental organizations, followed by oral statements from 33 States and 4 intergovernmental organizations. ITLOS issued its Advisory Opinion on 21 May 2024. It was adopted unanimously by all 21 judges.

However, five judges appended individual declarations to the unanimous Opinion with different nuances: Judges Jesus, Pawlak, Kulyk, Kittichaisaree, and Infante Caffi. Judges Pawlak and Infante Caffi argued that the Opinion should have engaged more directly with international human rights law rather than addressing it only in passing. Judge Kittichaisaree raised a similar point regarding human rights, but highlighted that a breach of the due diligence obligations identified by the Tribunal would necessarily trigger Article 235 of UNCLOS on State responsibility and liability—a question the Tribunal declined to reach given the framing of the request. Judge Jesus took a distinct view on Article 194(2), arguing that it also entails an obligation of result, beyond simply an obligation of conduct with due diligence. Finally, Judge Kulyk's declaration urged the Tribunal to spell out its advisory jurisdiction more fully and emphasized the balancing role of Article 193, which preserves States' sovereign rights to exploit their natural resources subject to the duty to protect and preserve the marine environment.

ITLOS is an independent judicial body established under UNCLOS. It hears disputes over the interpretation or application of UNCLOS and also has the power to issue advisory opinions. UNCLOS imposes obligations on its 170 States Parties to protect and preserve the marine environment (under Part XII), but does not expressly reference climate change or greenhouse gas (GHG) emissions. The following essay provides a brief introduction to the Advisory Opinion, and is followed by a 25-page excerpt of the 153-page Opinion, and then Questions and Discussion.

Christina Voigt, *Reflections on the ITLOS Advisory Opinion: Overview and noteworthy elements of the advisory opinion*

BRITISH INSTITUTE OF INTERNATIONAL AND COMPARATIVE LAW (May 30, 2024)

The ITLOS advisory opinion went beyond what many commentators expected it to do, both defining GHG emissions as marine pollutants and cementing UNCLOS as a legal basis for states' obligations to address climate change alongside the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. With that in mind, eight

distinct aspects of the opinion contribute to its potential ramifications on policy and legal work regarding climate change.

First, the opinion was unanimously adopted by all 21 judges. There was no substantive dissent, and five separate declarations by judges seemed to advocate for interpreting the treaty even more broadly by way of including considerations of human rights into the advisory opinion deliberations. This represents a remarkable, unanimous willingness among the judiciary to interpret UNCLOS in a dynamic manner in the context of climate change.

Second, the opinion's core legal finding held that anthropogenic GHG emissions constitute 'pollution,' either directly as substances in the ocean or indirectly as energy by contributing to global warming. This finding has immensely far-reaching consequences, as it covers all sources of GHG emissions within the parameters of UNCLOS, including from land-locked states or land-based activities.

Third, by finding that GHG emissions fall under the definition of pollutants, the Tribunal opened the legal gates to Article 194 of UNCLOS and those articles addressing specific sources of pollution. The Tribunal clearly specified that states must take all 'necessary measures' to prevent, reduce, and control pollution,[6] [UNQLOS art 194, para 2.] as well as to avoid transboundary harm to other states and the marine environment.[7] [Ibid art 192; ibid art 194, para 2.] The Tribunal set out factors relevant in assessing 'necessary measures,' namely (i) science, pointing to the Intergovernmental Panel on Climate Change (IPCC) Report, and (ii) relevant international rules and standards, defining the primary legal instruments addressing climate change: UN Climate Treaties, the United Nations Framework Convention on Climate Change, and the Paris Agreement. In particular, the Tribunal referred to the 1.5 degree temperature goal of the Paris agreement and the corresponding timelines for emission pathways as most relevantly informing the substance of 'necessary measures.'

Fourth, the Tribunal notes that the nature of this obligation to take necessary measures is one of 'due diligence,' and sets out factors and objective criteria for determining due diligence. The Tribunal cites factors like risk of harm; the urgency involved; scientific and technological information; and relevant international rules and standards. This turns away from understanding 'due diligence' as subjectively determined by states. The Tribunal emphasizes a heightened, stringent understanding of 'due diligence' in the context of UNCLOS, most especially with regards to parties' transboundary obligations to other states.

Fifth, the Tribunal addresses the variation in states' respective capacities for environmental 'due diligence.' A state's responsibility might be informed by its capacity: the advisory opinion noted that 'due diligence' may vary according to states' different capabilities and available resources. While all states have a responsibility to do the best they can, states with greater capacity for climate intervention have a more stringent 'due diligence' responsibility.

Sixth, ITLOS established a systemic approach to international treaties, aiming to integrate different fields of international law. In interpreting UNCLOS, the Tribunal noted the relevance not only of other climate treaties but also of the Chicago Convention, The International Convention for the Prevention of Pollution from Ships (MARPOL), the Montreal Protocol, and others. These treaties' rules need to be taken into account when interpreting UNCLOS, which helps limit any further fragmentation or contradiction regarding states' international legal obligations.

Seventh, the Tribunal took a notably limited view of what the Paris Agreement requires. The advisory opinion seems to suggest that the Paris Agreement was a formality, leaving states to determine their own responsibility. This is an unfortunate reading of the Agreement, as it does not address the 'legal architecture' of the Paris Agreement, namely normative

parameters like the progression that parties must put into their Nationally Determined Contributions (NDCs) and the need to reflect their highest possible ambition.

Finally, eighth, the Tribunal takes an expansive reading of Article 192 of UNCLOS. Article 192 provides a general responsibility for states to protect and preserve the marine environment. ITLOS interpreted this article to primarily focus on adaptation measures like preserving the marine environment, protecting ecosystem health, and restoring degraded ecosystems that have been impacted by climate change. This reading of Article 192 has far-reaching consequences in and of itself, as it provides a clear confirmation that UNCLOS is a legal basis of states' obligations to address climate change through both mitigation and adaptation. Ultimately, the advisory opinion has both legal and normative repercussions, and illuminates the legal and policy work to be done in the coming years.

* * *

Before you read the ITLOS Advisory Opinion, spend a few minutes on the very detailed table of contents and then consider the following questions as you read:

- What are the sources of law that the Tribunal uses in interpreting States' obligations under Part XII of UNCLOS? Does the Tribunal rely on any non-legal sources?
- How does the Tribunal organize States' obligations? Does this organization make sense to you?
- Why do you think the Tribunal views it as essential to ensure that UNCLOS "serves as a living instrument"?
- The Tribunal indicates that "there are various factors States should consider in their objective assessment of necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions." What are these factors?

A. International Tribunal for the Law of the Sea Advisory Opinion No. 31 of May 21, 2024

Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law

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* * *

I. INTRODUCTION

1. By letter dated 12 December 2022, received electronically by the Registry of the Tribunal on the same day, the Co-Chairs of the Commission of Small Island States on Climate Change and International Law [COSIS] . . . transmitted to the Tribunal a request for an advisory opinion . . . pursuant to a decision of the third meeting of the Commission held on 26 August 2022. The originals of that letter [—which posed a set of questions—] and of the decision of the Commission were filed with the Registry on 20 December 2022. * * *

102. [T]he questions read as follows:

> What are the specific obligations of State Parties to the United Nations Convention on the Law of the Sea ('UNCLOS'), including under Part XII:
>
> (a) to prevent, reduce and control pollution of the marine environment in relation to the deleterious effects that result or are likely to result from climate change, including through ocean warming and sea level rise, and ocean acidification, which are caused by anthropogenic greenhouse gas emissions into the atmosphere?

(b) to protect and preserve the marine environment in relation to climate change impacts, including ocean warming and sea level rise, and ocean acidification? * * *

II. BACKGROUND * * *

III. JURISDICTION AND DISCRETION * * *

IV. APPLICABLE LAW * * *

125. The Tribunal refers . . . to article 23 of the Statute [of the Tribunal], which provides that "[t]he Tribunal shall decide all disputes and applications in accordance with article 293."

126. Article 293, paragraph 1, of the Convention [or UNCLOS] reads.

> A court or tribunal having jurisdiction under this section shall apply this Convention and other rules of international law not incompatible with this Convention

127. Therefore, the Tribunal concludes that the Convention, the COSIS Agreement and other relevant rules of international law not incompatible with the Convention constitute the applicable law in this case.

V. INTERPRETATION OF THE CONVENTION AND THE RELATIONSHIP BETWEEN THE CONVENTION AND EXTERNAL RULES

128. [T]he Tribunal will now proceed to the question of the interpretation of the Convention and the relationship between the Convention and other relevant rules of international law (external rules). The questions posed by the Commission to the Tribunal relate to the interpretation of the Convention. The rules governing treaty interpretation are codified in articles 31 to 33 of the Vienna Convention on the Law of Treaties (hereinafter "VCLT") and form part of the applicable law in this case. * * *

130. The Tribunal notes that many participants in the present proceedings have emphasized the open character of the Convention and its constitutional and framework nature. In the Tribunal's view, coordination and harmonization between the Convention and external rules are important to clarify, and to inform the meaning of, the provisions of the Convention and to ensure that the Convention serves as a living instrument. The relationship between the provisions of Part XII of the Convention, entitled "Protection and Preservation of the Marine Environment", and external rules is of particular relevance in this case.

131. In this regard, the Tribunal points out the following mechanisms through which a relationship between the provisions of Part XII of the Convention and external rules is formed. First, the Convention contains certain provisions – also called rules of reference – that refer to external rules . . .

132. Second, article 237 of the Convention clarifies the relationship of Part XII of the Convention with other treaties relating to the protection and preservation of the marine environment . . .

133. Article 237 of the Convention reflects the need for consistency and mutual supportiveness between the applicable rules. On the one hand, Part XII of the Convention is without prejudice to the specific obligations of States under special conventions and agreements concluded previously in this field and to agreements which may be concluded in furtherance of the general principles of the Convention. On the other hand, such specific obligations should be carried out in a manner consistent with the general principles and objectives of the Convention. * * *

135. Third, article 31, paragraph 3(c), of the VCLT . . . requires that account be taken, together with the context, of any relevant rules of international law applicable in the relations between the parties.

This method of interpretation ensures, as observed by the International Court of Justice (hereinafter "the ICJ"), that treaties do not operate in isolation but are "interpreted and applied within the framework of the entire legal system prevailing at the time of the interpretation" (*Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970), Advisory Opinion, I.C.J. Reports 1971*, p. 16, at p. 31, para. 53). The term "any relevant rules of international law "includes both relevant rules of treaty law and customary law.

136. The Tribunal is of the view that, subject to article 293 of the Convention, the provisions of the Convention and external rules should, to the extent possible, be interpreted consistently . . .

137. [The Tribunal notes that] there is an extensive treaty regime addressing climate change that includes the UNFCCC, the Kyoto Protocol, the Paris Agreement, Annex VI to MARPOL [the International Convention for the Prevention of Pollution from Ships], Annex 16 to the Chicago Convention, and the Montreal Protocol, including the Kigali Amendment. The Tribunal considers that, in the present case, relevant external rules may be found, in particular, in those agreements. * * *

VII. QUESTION (A) * * *

A. Clarification of terms and expressions * * *

B. Whether anthropogenic GHG emissions fall within the definition of marine pollution under the Convention

159. In responding to Question (a), the first issue that should be addressed is whether anthropogenic GHG emissions into the atmosphere fall under the definition of "pollution of the marine environment" under article 1, paragraph 1, subparagraph 4, of the Convention. * * *

161. Article 1, paragraph 1, subparagraph 4, of the Convention reads:

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

This definition does not provide a list of pollutants or forms of pollution of the marine environment. Instead, it sets out three criteria to determine what constitutes such pollution: (1) there must be a substance or energy; (2) this substance or energy must be introduced by humans, directly or indirectly, into the marine environment; and (3) such introduction must result or be likely to result in deleterious effects. These criteria are cumulative; all of them must be satisfied to meet the definition. The definition is general in that it encompasses whatever satisfies these criteria.

162. The Tribunal will now examine whether anthropogenic GHG emissions satisfy the criteria set out above. * * *

164. [After analyzing the definitions of "substance" and "energy," the Tribunal concludes that] the first criterion of the Convention's definition of "pollution of the marine environment" is satisfied. * * *

173. [T]he Tribunal concludes that anthropogenic GHG emissions satisfy the second criterion of the "pollution of the marine environment" definition.

174. To fall within the definition of marine pollution, the introduction of substances or energy must result or be 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". The Tribunal notes that the "deleterious effects" illustrated in article 1, paragraph 1, subparagraph 4, of the Convention are not exhaustive . . . and, in any case, are not limited to the marine environment. This is clear, considering, for instance, that effects on human health, marine activities or amenities are mentioned. The definition also points to actual ("results") or potential ("likely to result") deleterious effects. The Tribunal further notes that the definition neither qualifies the "likelihood" of the deleterious effects nor specifies the level of "harm" that can be considered a deleterious effect.

175. The introduction of excess heat (energy) into the marine environment due to the accumulation of GHGs in the atmosphere results in ocean warming. Being itself a component of climate change, ocean warming, according to the IPCC findings made with high confidence, "accounted for 91% of the heating in the climate system" (WGI 2021 Report, p. 11). Anthropogenic GHG emissions thereby cause climate change, which includes ocean warming and sea level rise. The introduction of anthropogenic GHGs into the marine environment also causes ocean acidification . . . In turn, climate change, including ocean warming and sea level rise, and ocean acidification, interacting with other climatic and non-climatic factors, produce multiple deleterious effects on the marine environment and beyond. These effects of climate change and ocean acidification are observed and explained by the science and are widely acknowledged by States . . . In particular, adverse effects of climate change are recognized by international climate treaties.

176. The UNFCCC has already acknowledged that human activities have been substantially increasing the atmospheric concentrations of GHGs, that this will result on average in an additional warming of the Earth's surface and atmosphere and may adversely affect natural ecosystems and humankind, and that climate change has adverse effects (UNFCCC, first and second preambular paragraphs). This has been further recognized in the Kyoto Protocol and the Paris Agreement.

177. The UNFCCC defines the adverse effects of climate change as changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare. (UNFCCC, Article 1, para. 1)

178. The adverse effects of climate change and ocean acidification satisfy the criterion relating to "deleterious effects" provided in article 1, paragraph 1, subparagraph 4, of the Convention. Thus, through the introduction of carbon dioxide and heat (energy) into the marine environment, anthropogenic GHG emissions cause climate change and ocean acidification, which results in the deleterious effects illustrated in the definition of pollution of the marine environment.

179. In light of the above, the Tribunal concludes that anthropogenic GHG emissions into the atmosphere constitute pollution of the marine environment within the meaning of article 1, paragraph 1, subparagraph 4, of the Convention.

C. Part XII of the Convention and marine pollution

180. [T]he Tribunal will now turn to the specific obligations of States Parties to the Convention to prevent, reduce and control such pollution. * * *

184. Article 192 of the Convention, the first article of Part XII, provides that "States have the obligation to protect and preserve the marine environment." While article 192 imposes upon States a legal obligation, this provision is, at the same time, a statement of principle upon which the legal order for the protection and preservation of the marine environment under the Convention is based.

185. Article 193 of the Convention 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.

186. These two articles together reflect, in the context of the protection and preservation of the marine environment, a principle of international environmental law, which has its origin in the Stockholm Declaration on the Human Environment adopted on 16 June 1972 . . . Principle 21 of the Stockholm Declaration reads:

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

This principle was further developed in Principle 2 of the Rio Declaration on Environment and Development adopted on 14 June 1992 . . . which refers to the sovereign right of States to exploit their own resources pursuant to their own environmental and "developmental" policies.

187. It should be noted that, while article 193 of the Convention recognizes the sovereign right of States to exploit their natural resources pursuant to their environmental policies, it further provides that States must exercise such right "in accordance with their duty to protect and preserve the marine environment." This article thus places a constraint upon States' exercise of their sovereign right. This shows the importance the Convention attaches to the protection and preservation of the marine environment.

188. The approach of the Convention to the protection and preservation of the marine environment is manifest in the subsequent provisions of Part XII. Those provisions impose upon States, among other obligations, those to prevent, reduce and control pollution of the marine environment. While the obligation to protect and preserve the marine environment is much broader in scope than the obligation to prevent, reduce and control marine pollution, the latter obligation constitutes the main component of the former obligation under the Convention.

189. Many provisions of Part XII of the Convention are directly or indirectly concerned with the prevention, reduction and control of pollution of the marine environment. They are structured in such a way as to provide for what may be called the regime for regulating marine pollution. The key provision in this regard is article 194 of the Convention, which requires States, *inter alia*, to take all necessary measures to prevent, reduce and control pollution of the marine environment from "any source". Thus, this article lays down an obligation common to all sources of pollution with which States must comply.

190. This obligation under article 194 of the Convention is complemented and elaborated upon by provisions in section 5 of Part XII (articles 207 to 212), which address the obligations of States with respect to specific sources of pollution. Those provisions are essentially concerned with the adoption of national legislation and the establishment of international rules and standards to regulate marine pollution. Section 6 of Part XII (articles 213 to 222), which corresponds to source-specific obligations under section 5, addresses the obligations of States to enforce national legislation and to implement international rules and standards. * * *

D. Obligations applicable to any source of pollution under article 194 of the Convention

193. Article 194 of the Convention is the primary provision in the marine pollution regime set out in Part XII. This article provides for obligations to prevent, reduce and control marine pollution applicable to any source . . .

194. Article 194 of the Convention reads:

> Measures to prevent, reduce and control pollution of the marine environment
>
> 1. States shall take, individually or jointly as appropriate, all measures consistent with 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.
>
> 2. States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.
> * * *
>
> 5. The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

195. This article provides for three main obligations of States: first, the obligation under paragraph 1 to take necessary measures to prevent, reduce and control marine pollution; second, the obligation under paragraph 2 to take necessary measures to ensure that certain situations relating to pollution do not occur; and third, the obligation under paragraph 5 to take necessary measures 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. * * *

1. Obligation under article 194, paragraph 1, of the Convention

197. Article 194, paragraph 1, of the Convention imposes upon States an obligation to take all necessary measures to prevent, reduce and control marine pollution from any source, regardless of the specific sources of such pollution. This obligation is applicable to any kind of pollution. As anthropogenic GHG emissions into the atmosphere constitute pollution of the marine environment, it follows that article 194, paragraph 1, applies to such pollution . . .

(a) Scope and content of the obligation

198. The aim of the obligation to take all necessary measures under article 194, paragraph 1, of the Convention is to "prevent, reduce and control" pollution of the marine environment from any source. As the objective of prevention refers to preventing pollution from occurring at all, it necessarily applies to pollution that has not yet occurred, namely, future or potential pollution. On the other hand, the objective of reducing and controlling pollution presupposes the existence of pollution. Thus, the objective of preventing, reducing and controlling pollution means preventing future or potential pollution and reducing and controlling existing pollution. The compound objective to prevent, reduce and control marine pollution should be understood in the context of the comprehensive nature of the obligation under article 194, paragraph 1, to prevent, reduce and control any kind of pollution from any source. It is also a reflection of the reality that prevention of pollution from all sources at all times is, in practice, not possible.

199. In relation to anthropogenic GHG emissions, the objective of preventing, reducing and controlling marine pollution should be appreciated on the basis of the scientific assessment that, even if anthropogenic GHG emissions were to cease, the deleterious effects on the marine environment would nevertheless continue owing to the extent of GHGs already accumulated in the atmosphere. The obligation under article 194, paragraph 1, of the Convention requires States to take all necessary measures with a view to reducing and controlling existing marine pollution from such emissions and eventually preventing such pollution from occurring at all. Therefore, this obligation does not entail the immediate cessation of marine pollution from anthropogenic GHG emissions. * * *

202. In relation to marine pollution from anthropogenic GHG emissions, given the global and transboundary nature of such pollution, joint actions should be actively pursued. It was contended in this regard that it is only through joint action that global levels of GHG emissions in the atmosphere and the consequent pollution of the marine environment can be prevented, reduced and controlled. While the importance of joint actions in regulating marine pollution from anthropogenic GHG emissions is undisputed, it does not follow that the obligation under article 194, paragraph 1, of the Convention is discharged exclusively through participation in the global efforts to address the problems of climate change. States are required to take all necessary measures, including individual actions as appropriate.

203. Article 194, paragraph 1, of the Convention requires States to take "all measures . . . that are necessary" to prevent, reduce and control pollution of the marine environment . . . In the context of this provision, "necessary" should be understood broadly. Such understanding is consistent with the expansive scope of the obligation under article 194, paragraph 1 [and] the inclusive definition of "pollution of the marine environment" set forth in article 1, paragraph 1, subparagraph 4, of the Convention. Accordingly, necessary measures include not only measures which are indispensable to prevent, reduce and control marine pollution but also other measures which make it possible to achieve that objective.

204. However, such measures must be "consistent with [the] Convention", as stated in article 194, paragraph 1, of the Convention. It is clear that measures to prevent, reduce and control marine pollution must be consistent with the Convention, in which rights and duties of the coastal State or flag State in various maritime zones are set out. In addition, necessary measures must not deny or unjustifiably interfere with the rights of States recognized by the Convention, such as navigational rights . . .

205. Article 194, paragraph 1, of the Convention does not provide for any specific criteria as to what constitutes necessary measures. However, paragraph 3 of this article gives some indication about the kinds of measures that States must take with respect to specific sources of pollution. Among such measures, there are those designed to minimize, to the fullest possible extent, the release of toxic, harmful or noxious substances, especially those which are persistent. In the context of climate change, those measures are commonly known as "mitigation measures". Central to such measures is the reduction of anthropogenic GHG emissions into the atmosphere.

206. While article 194, paragraph 1, of the Convention leaves it to each State to determine what measures are necessary to prevent, reduce and control marine pollution, this does not mean that such measures are whatever measures States deem necessary to that end. Rather, necessary measures should be determined objectively . . .

207. In the Tribunal's view, there are various factors States should consider in their objective assessment of necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions. It is evident that the science is particularly relevant in this regard. International

rules and standards relating to climate change are another relevant factor. There are other factors that may be considered, such as available means and capabilities of the State concerned.

208. With regard to climate change and ocean acidification, the best available science is found in the works of the IPCC which reflect the scientific consensus . . . [T]he Tribunal considers that the assessments of the IPCC relating to climate-related risks and climate change mitigation deserve particular consideration. * * *

212. The Tribunal considers that in the determination of necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions, the science undoubtedly plays a crucial role, as it is key to understanding the causes, effects and dynamics of such pollution and thus to providing the effective response. However, this does not mean that the science alone should determine the content of necessary measures. In the Tribunal's view, as indicated above, there are other relevant factors that should be considered and weighed together with the best available science.

213. The Tribunal wishes to add at this juncture that in determining necessary measures, scientific certainty is not required. In the absence of such certainty, States must apply the precautionary approach in regulating marine pollution from anthropogenic GHGs. While the precautionary approach is not explicitly referred to in the Convention, such approach is implicit in the very notion of pollution of the marine environment, which encompasses potential deleterious effects . . .

For marine pollution arising from anthropogenic GHG emissions, the precautionary approach is all the more necessary given the serious and irreversible damage that may be caused to the marine environment by such pollution, as is assessed by the best available science.

214. Relevant international rules and standards are another reference point for assessing necessary measures. In the context of climate change, such international rules and standards are found in various climate-related treaties and instruments. The UNFCCC and the Paris Agreement stand out in this regard as primary treaties addressing climate change. Annex VI to MARPOL, which was amended in 2011 and 2021 with a view to reducing GHG emissions from ships, is also relevant . . . The Montreal Protocol, including the Kigali Amendment, is also of relevance.

215. [T]he Tribunal considers the global temperature goal [of limiting the temperature increase to to 1.5°C above pre-industrial levels] and the timeline for emission pathways [to achieve that goal] set forth in the Paris Agreement particularly relevant. They are based upon the best available science . . . * * *

222. In the view of the Tribunal, the UNFCCC and the Paris Agreement, as the primary legal instruments addressing the global problem of climate change, are relevant in interpreting and applying the Convention with respect to marine pollution from anthropogenic GHG emissions. In particular, the temperature goal and the timeline for emission pathways set out in the Paris Agreement inform the content of necessary measures to be taken under article 194, paragraph 1, of the Convention. However, the Paris Agreement does not require the Parties to reduce GHG emissions to any specific level according to a mandatory timeline but leaves each Party to determine its own national contributions in this regard.

223. The Tribunal does not consider that the obligation under article 194, paragraph 1, of the Convention would be satisfied simply by complying with the obligations and commitments under the Paris Agreement. The Convention and the Paris Agreement are separate agreements, with separate sets of obligations. While the Paris Agreement complements the Convention in relation to the obligation to regulate marine pollution from anthropogenic GHG emissions, the former does not supersede the latter. Article 194, paragraph 1, imposes upon States a legal obligation to take all necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG

emissions, including measures to reduce such emissions. If a State fails to comply with this obligation, international responsibility would be engaged for that State.

224. The Tribunal also does not consider that the Paris Agreement modifies or limits the obligation under the Convention. In the Tribunal's view, the Paris Agreement is not *lex specialis* to the Convention and thus, in the present context, *lex specialis derogat legi generali* has no place in the interpretation of the Convention. Furthermore, as stated above, the protection and preservation of the marine environment is one of the goals to be achieved by the Convention. Even if the Paris Agreement had an element of *lex specialis* to the Convention, it nonetheless should be applied in such a way as not to frustrate the very goal of the Convention. * * *

227. In the context of marine pollution from anthropogenic GHG emissions, States with greater means and capabilities must do more to reduce such emissions than States with less means and capabilities. The Tribunal notes in this regard that both the UNFCCC and the Paris Agreement recognize the principle of common but differentiated responsibilities and respective capabilities as a key principle in their implementation. . . * * *

229. The Tribunal considers that while the obligation under article 194, paragraph 1, of the Convention does not refer to the principle of common but differentiated responsibilities and respective capabilities as such, it contains some elements common to this principle. Thus, the scope of the measures under this provision, in particular those measures to reduce anthropogenic GHG emissions causing marine pollution, may differ between developed States and developing States. At the same time, it is not only for developed States to take action, even if they should "continue taking the lead". All States must make mitigation efforts.

230. Article 194, paragraph 1, of the Convention imposes an obligation upon States to endeavour to harmonize their policies in taking necessary measures to prevent, reduce and control marine pollution. The word "endeavour" indicates that States must make every effort to harmonize their policy but are not required to achieve such harmonization. Given the nature of marine pollution, it is not difficult to see the need for, and the benefit of, harmonization of policies. Lack of harmonization may make the anti-pollution policy of each State less effective. This is particularly true for marine pollution arising from anthropogenic GHG emissions, in light of its diffused causes and global effects. * * *

(b) Nature of the obligation

232. The Tribunal will now turn to the question of the nature of the obligation under article 194, paragraph 1, of the Convention. This obligation requires States to take all measures that are necessary to prevent, reduce and control pollution of the marine environment . . .

233. In the view of the Tribunal, what is required of States under this provision is not to guarantee the prevention, reduction and control of marine pollution at all times but to make their best efforts to achieve such result. In the words of the Seabed Disputes Chamber in the *Area Advisory Opinion*, this is "an obligation of conduct", and not "an obligation of result". As such, it is an obligation "to deploy adequate means, to exercise best possible efforts, to do the utmost" to obtain the intended result (see *Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS Reports 2011*, p. 10, at p. 41, para. 110). It is thus the conduct of a State, not the result which would be entailed by the conduct, that will determine whether the State has complied with its obligation under article 194, paragraph 1, of the Convention.

234. Since article 194, paragraph 1, of the Convention provides for an obligation of conduct, it requires States to act with "due diligence" in taking necessary measures to prevent, reduce and control marine pollution . . .

235. The obligation of due diligence requires a State to put in place a national system, including legislation, administrative procedures and an enforcement mechanism necessary to regulate the activities in question, and to exercise adequate vigilance to make such a system function efficiently, with a view to achieving the intended objective . . .

236. This obligation of due diligence is particularly relevant in a situation in which the activities in question are mostly carried out by private persons or entities. The obligation to regulate marine pollution from anthropogenic GHG emissions is a primary example in this respect. In that situation, it would not be reasonable to hold a State, which has acted with due diligence, responsible simply because such pollution has occurred. * * *

239. It is difficult to describe due diligence in general terms, as the standard of due diligence varies depending on the particular circumstances to which an obligation of due diligence applies. There are several factors to be considered in this regard. They include scientific and technological information, relevant international rules and standards, the risk of harm and the urgency involved. The standard of due diligence may change over time, given that those factors constantly evolve. In general, as the Seabed Disputes Chamber stated, "[t]he standard of due diligence has to be more severe for the riskier activities" (*ibid.*). The notion of risk in this regard should be appreciated in terms of both the probability or foreseeability of the occurrence of harm and its severity or magnitude. * * *

241. Best available science informs that anthropogenic GHG emissions pose a high risk in terms of foreseeability and severity of harm to the marine environment. . . [T]he IPCC, in its 2023 Synthesis Report, concludes that "[r]isks and projected adverse impacts and related losses and damages from climate change escalate with every increment of global warming (*very high confidence*)" (2023 Synthesis Report, p. 14). There is also broad agreement within the scientific community that if global temperature increases exceed 1.5°C, severe consequences for the marine environment would ensue. In light of such information, the Tribunal considers that the standard of due diligence States must exercise in relation to marine pollution from anthropogenic GHG emissions needs to be stringent. However, its implementation may vary according to States' capabilities and available resources. Such implementation requires a State with greater capabilities and sufficient resources to do more than a State not so well placed. Nonetheless, implementing the obligation of due diligence requires even the latter State to do whatever it can in accordance with its capabilities and available resources to prevent, reduce and control marine pollution from anthropogenic GHG emissions.

242. The obligation of due diligence is also closely linked with the precautionary approach. As the Seabed Disputes Chamber stated in the *Area Advisory Opinion*, the precautionary approach is "an integral part of the general obligation of due diligence" (see *Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS Reports 2011*, p. 10, at p. 46, para. 131). Therefore, States would not meet their obligation of due diligence under article 194, paragraph 1, of the Convention if they disregarded or did not adequately account for the risks involved in the activities under their jurisdiction or control. This is so, even if scientific evidence as to the probability and severity of harm to the marine environment of such activities were insufficient. Accordingly, States must apply the precautionary approach in their exercise of due diligence to prevent, reduce and control marine pollution from anthropogenic GHG emissions. * * *

2. Obligation under article 194, paragraph 2, of the Convention

244. The Tribunal will now proceed to consider the obligation under article 194, paragraph 2, of the Convention in relation to anthropogenic GHG emissions. This provision sets out the obligation of States in the situation of transboundary pollution. It imposes upon States a particular obligation applicable to the transboundary setting in addition to the obligation to prevent, reduce and control marine pollution under article 194, paragraph 1.

245. Article 194, paragraph 2, of the Convention requires States to take all measures necessary to ensure that the following two situations do not occur: first, activities under their jurisdiction or control do not cause damage by pollution to other States and their environment; and second, pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights. * * *

(a) Scope and content of the obligation

247. The phrase "activities under their jurisdiction or control" refers to activities carried out by both public and private actors. In addition, there should be a link of jurisdiction or control between such activities and a State. The concept of "jurisdiction or control" of a State in this context is a broad one, encompassing not only its territory but also areas in which the State can, in accordance with international law, exercise its competence or authority. Such areas include, for example, a State's exclusive economic zone and continental shelf. Activities carried out on board ships or aircraft which are registered in a State may also be considered activities under the jurisdiction of that State.

248. The Tribunal notes that while "damage" is mentioned in the first situation of transboundary pollution involving two or more States, there is no such reference in the second situation. Given that the notion of pollution involves both actual and potential deleterious effects on the marine environment, the obligation in the former situation should be understood as requiring the prevention of actual damage by pollution, whereas the obligation in the latter situation extends not only to damage that actually occurred but also to damage that is likely to occur. In this sense, article 194, paragraph 2, of the Convention imposes a more stringent obligation by requiring States to prevent the "spread" of pollution than the principle laid down in the Stockholm Declaration and the Rio Declaration which refers to "damage" to the environment of other States and of areas beyond the limits of national jurisdiction.

249. [I]n the view of the Tribunal . . . the scope and content of necessary measures under article 194, paragraph 2, may differ among States in accordance with the availability of means and capabilities . . . [T]his obligation is an obligation of due diligence, and its implementation may vary in relation to several factors, including the capabilities of each State.

250. In the context of anthropogenic GHG emissions causing marine pollution, article 194, paragraph 2, of the Convention requires States to take all necessary measures to ensure that GHG emissions under their jurisdiction or control do not cause damage to other States and their environment, and that pollution arising from such emissions under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights . . . The Tribunal has stated above that the temperature goal of 1.5°C is one of the relevant factors to consider in determining necessary measures under article 194, paragraph 1, but that it is not the only such factor. In the Tribunal's view, this finding applies equally to the obligation under article 194, paragraph 2. * * *

252. The Tribunal has concluded above that anthropogenic GHG emissions into the atmosphere fall under the definition of pollution of the marine environment within the meaning of article 1, paragraph 1, subparagraph 4, of the Convention. It follows that the obligations under article 194 thus apply to marine pollution from such emissions. In the Tribunal's view, there appears to be no convincing reason to exclude the application of article 194, paragraph 2, to such pollution. It is acknowledged that, given the diffused and cumulative causes and global effects of climate change, it would be difficult to specify how anthropogenic GHG emissions from activities under the jurisdiction or control of one State cause damage to other States. However, this difficulty has more to do with establishing the causation between such emissions of one State and damage caused to other States and their environment. This should be distinguished from the applicability of an obligation under article 194, paragraph 2, to marine pollution from anthropogenic GHG emissions.

253. . . . The Tribunal considers that article 194, paragraph 2, imposes upon States a particular obligation in the context of transboundary pollution.

(b) Nature of the obligation

254. The obligation under article 194, paragraph 2, of the Convention requires States to take all measures necessary to ensure that activities under their jurisdiction do not cause damage by pollution to other States and their environment and that pollution arising from their activities does not spread beyond the limits of their national jurisdiction. The Tribunal considers that this obligation is an obligation of due diligence for the same reason stated in the context of the obligation under article 194, paragraph 1 . . . * * *

256. [T]he standard of due diligence is variable, depending upon relevant factors, including risks of harm involved in activities. With respect to transboundary pollution affecting the environment of other States, the standard of due diligence can be even more stringent.

257. In this regard, the Tribunal wishes to emphasize that an obligation of due diligence should not be understood as an obligation which depends largely on the discretion of a State or necessarily requires a lesser degree of effort to achieve the intended result. The content of an obligation of due diligence should be determined objectively under the circumstances, taking into account relevant factors. In many instances, an obligation of due diligence can be highly demanding . . . * * *

E. Obligations applicable to specific sources of pollution

259. [T]he Tribunal will now proceed to examining obligations relating to pollution from specific sources. The relevant provisions in this regard are found in sections 5 and 6 of Part XII of the Convention. * * *

262. The initial issue the Tribunal should consider is how to characterize pollution of the marine environment from anthropogenic GHG emissions in terms of specific sources of pollution. This is necessary because the scope and content of the obligations of States under section 5 of Part XII vary depending on the specific source of pollution [and section 6 also follows this source-specific approach] . . . * * *

264. While there are multiple sources of GHG emissions into the atmosphere, the Tribunal considers that the types of pollution most relevant to the present proceedings are confined to marine pollution caused by anthropogenic GHG emissions into the atmosphere from land-based sources, vessels and aircraft. The relevant provisions under the Convention addressing such pollution are found in articles 207 (pollution from land-based sources), 211 (pollution from vessels) and 212 (pollution from or through the atmosphere). The corresponding provisions for enforcement are articles 213 (enforcement with respect to pollution from land-based sources), 217 (enforcement by flag States) and 222 (enforcement with respect to pollution from or through the atmosphere).

1. Obligations to adopt national legislation and establish international rules and standards

265. At the outset, the Tribunal wishes to reiterate that articles 207, 211 and 212 of the Convention complement and elaborate the obligations common to all sources of pollution set out in article 194. The interpretation of these articles, therefore, should be consistent with that of article 194. The Tribunal notes that the findings it made in interpreting and applying article 194 in relation to marine pollution from anthropogenic GHG emissions are equally applicable with respect to articles 207, 211 and 212.

(a) Obligations under article 207 of the Convention

266. The Tribunal will now consider the obligations under article 207 of the Convention [on pollution from land-based sources] . . .

267. Article 207 of the Convention imposes upon States three main obligations: first, the obligation to adopt national legislation; second, the obligation to take other necessary measures; and third, the obligation to endeavour to establish international rules, standards and practices and procedures. Those obligations are mostly concerned with establishing the legal framework, both national and international, necessary to prevent, reduce and control marine pollution from land-based sources.

268. . . . Article 207, paragraph 3, requires States to endeavour to harmonize their policies at the appropriate regional level. This obligation is consistent with the obligation to endeavour to harmonize policies under article 194, paragraph 1. Article 207, paragraph 5, which requires States to take measures to minimize the release of toxic, harmful or noxious substances, reiterates what is prescribed in article 194, paragraph 3, subparagraph (a).

269. Article 207, paragraph 1, of the Convention requires States to adopt laws and regulations to prevent, reduce and control marine pollution from land-based sources. Such laws and regulations are a formal means to give effect to necessary measures States must take under article 194 of the Convention . . .

270. In adopting laws and regulations, States are required to take into account "internationally agreed rules, standards and recommended practices and procedures". There is no definition of this phrase in the Convention . . . In the context of climate change, [international law norms] include those contained in climate change treaties such as the UNFCCC and the Paris Agreement. Accordingly, States Parties to the Convention have an obligation to take into account those norms in adopting their laws and regulations to prevent, reduce and control marine pollution from GHG emissions.

271. The phrase "taking into account" should be understood to mean that States are not required to adopt such rules, standards and practices and procedures in their national laws and regulations. However, States must, in good faith, give due consideration to them. In any case, States must comply with internationally agreed rules and standards, which are binding upon them.

272. Article 207, paragraph 2, of the Convention requires States to take other measures as may be necessary to prevent, reduce and control such pollution . . .

273. Article 207, paragraph 4, of the Convention imposes upon States an obligation to endeavour to establish global and regional rules, standards and recommended practices and procedures to regulate pollution from land-based sources. Thus, States are required to make every effort in good faith to establish such rules, standards and practices and procedures, but are not required to succeed in establishing them. In this respect, States should act through competent international organizations or diplomatic conference. The efforts of States must be on a continuing basis. In the context of marine pollution from anthropogenic GHG emissions, this obligation means that States, which are parties to relevant international agreements such as the UNFCCC and the Paris Agreement, are required to participate in the process under those agreements with a view to "strengthen[ing] the global response to the threat of climate change", as stated in Article 2, paragraph 1, of the Paris Agreement.

(b) Obligations under article 212 of the Convention

274. The Tribunal will now consider the obligations under article 212 of the Convention [on pollution from or through the atmosphere] . . .

275. Article 212 of the Convention imposes upon States three obligations: first, the obligation to adopt national legislation to prevent, reduce and control marine pollution from or through the atmosphere; second, the obligation to take other necessary measures; and third, the obligation to endeavour to establish international rules, standards and practices and procedures.

276. There is no substantial difference between the obligations under article 212 of the Convention and those under article 207 in terms of their scope . . .

277. The content of the obligations under article 212 of the Convention is similar to that of the obligations under article 207. Thus, the findings the Tribunal made above with respect to the obligations under article 207 apply *mutatis mutandis* to those under article 212. In this regard, "internationally agreed rules and standards and recommended practices and procedures" relevant to pollution from or through the atmosphere include not only those contained in climate change treaties but also those in instruments such as Volume IV of Annex 16 to the Chicago Convention establishing a carbon offsetting and reduction scheme for international aviation . . .

(c) Obligations under article 211 of the Convention

278. The Tribunal will now consider the obligations relating to marine pollution from vessels. Those obligations are found in article 211 of the Convention . . .

279. Article 211, paragraph 2, of the Convention imposes upon States the obligation to adopt laws and regulations to prevent, reduce and control marine pollution from vessels flying their flag or of their registry . . . This provision, therefore, provides for the minimum threshold national legislation must meet. States may adopt more stringent laws and regulations than generally accepted international rules and standards. This requirement stands in contrast with the requirement to "take into account" internationally agreed rules and standards under articles 207 and 212.

280. . . . In the context of marine pollution from GHG emissions from vessels, the Tribunal notes in this regard that the IMO adopted amendments to Annex VI to MARPOL in 2011 and 2021 with a view to reducing GHG emissions from ships.

2. Obligation of enforcement

281. The Tribunal now turns to the obligation of enforcement under articles 213, 217 and 222 of the Convention. * * *

(a) Obligations under articles 213 and 222 of the Convention * * *

283. [Articles 213 and 222] address, respectively, the enforcement of national legislation and the implementation of applicable international rules and standards with respect to pollution from land-based sources and pollution from or through the atmosphere. States have two obligations in this regard: first, the obligation to enforce their laws and regulations; and second, the obligation to adopt laws and regulations and take other measures necessary to implement applicable international rules and standards.

284. The first obligation requires States to enforce their laws and regulations to prevent, reduce and control pollution of the marine environment from land-based sources or from or through the atmosphere. The word "enforce" is a broad term, [and] may include, for example, monitoring and inspection, administrative guidance, investigation and prosecution for breaches of laws, and judicial or quasi-judicial proceedings. The Tribunal notes in this regard that article 235, paragraph 2, of the Convention provides for the obligation of States to "ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage

caused by pollution of the marine environment by natural or juridical persons under their jurisdiction." Section 7 of Part XII of the Convention provides for various safeguards relating to the institution of proceedings and the exercise of powers of enforcement.

285. The second obligation requires States to adopt laws and regulations and take other measures necessary to implement applicable international rules and standards. The term "applicable international rules and standards" should be understood to refer to those rules and standards which are binding upon the State concerned either as treaty or customary international law. Accordingly, they are to be distinguished from "internationally agreed rules, standards and recommended practices and procedures", which States must "[take] into account" in adopting national laws and regulations under articles 207 or 212 of the Convention. Such rules, standards and practices and procedures do not have to be binding upon the States. Applicable international rules and standards must be established through competent international organizations or diplomatic conference. Such rules and standards must be implemented in accordance with the legal system of each State.

286. In the context of marine pollution from anthropogenic GHG emissions, articles 213 and 222 of the Convention should be interpreted as imposing an obligation to adopt laws and regulations and to take measures necessary to implement, among others, rules and standards set out in climate change treaties and other relevant instruments. If a State Party to the Convention, which is bound by those rules and standards, fails to take such measures, its international responsibility would be engaged for breach of the obligations under article 213 or 222 of the Convention.

(b) Obligations under article 217 of the Convention

287. Article 217 of the Convention provides for enforcement by States with respect to marine pollution from vessels flying their flag or of their registry. The Convention, in particular articles 218 and 220, also provides for enforcement by port States and coastal States. However, . . . the Tribunal will confine itself to . . . [the most relevant provision, article 217, paragraph 1] for the purpose of the present proceedings.

288. Article 217, paragraph 1, of the Convention imposes upon States the obligation to ensure that vessels flying their flag or of their registry comply with applicable international rules and standards and their laws and regulations. To this end, it requires States to adopt laws and regulations and take other measures necessary to implement such international rules and standards as well as their national laws and regulations.

289. "[A]pplicable international rules and standards" refer to those rules and standards that are binding upon the States concerned. Such rules and standards must be established through the competent international organization or general diplomatic conference. The findings made by the Tribunal in this regard in relation to article 211 of the Convention equally apply to the present paragraph. The national "laws and regulations" to be implemented must be adopted in accordance with the Convention, in particular article 211, paragraph 2.

290. The means of implementation include laws and regulations, and other necessary measures. Such measures may be wide-ranging and include administrative and judicial measures.

291. In the context of marine pollution from anthropogenic GHG emissions from vessels, applicable international rules and standards may be found, *inter alia*, in Annex VI to MARPOL, as amended in 2011 and 2021.

F. Other obligations

292. The Tribunal will now proceed to examine other obligations relevant to its response to Question (a). Such obligations may be found in Part XII of the Convention, section 2 on global and regional cooperation, section 3 on technical assistance, and section 4 on monitoring and environmental assessment.

293. At the outset, the Tribunal points out that its findings in this regard apply not only in response to Question (a) but also in response to Question (b). * * *

*1. Global and regional cooperation * * **

297. In the Tribunal's view, the duty to cooperate is reflected in and permeates the entirety of Part XII of the Convention. This duty is given concrete form in a wide range of specific obligations of States Parties, which are central to countering marine pollution from anthropogenic GHG emissions at the global level. In this respect, the Tribunal notes the finding of the IPCC that

> [c]limate 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. Collective responses, including international cooperation, are therefore required to effectively mitigate GHG emissions and address other climate change issues.
>
> (2014 Synthesis Report, Summary for Policymakers, p. 17) * * *

321. [T]he Tribunal finds that articles 197, 200 and 201, read together with articles 194 and 192 of the Convention, impose specific obligations on States Parties to cooperate, directly or through competent international organizations, continuously, meaningfully and in good faith in order to prevent, reduce and control marine pollution from anthropogenic GHG emissions. In this regard, first, States Parties are required to cooperate in formulating and elaborating rules, standards and recommended practices and procedures, consistent with the Convention and based on available scientific knowledge, to counter marine pollution from such emissions. Second, States Parties are required to cooperate to promote studies, undertake scientific research, and encourage the exchange of information and data on marine pollution from anthropogenic GHG emissions, its pathways, risks and remedies, including mitigation and adaptation measures. Third, States Parties are required to establish appropriate scientific criteria on the basis of which rules, standards and recommended practices and procedures are to be formulated and elaborated to counter marine pollution from such emissions.

2. Technical assistance

322. The Tribunal now turns to the specific obligations contained in Part XII, section 3, of the Convention, namely, article 202 on scientific and technical assistance to developing States and article 203 on preferential treatment for developing States. * * *

339. [T]he Tribunal is of the view that articles 202 and 203 of the Convention set out specific obligations to assist developing States, in particular vulnerable developing States, in their efforts to address marine pollution from anthropogenic GHG emissions. Article 202 provides for the obligation of appropriate assistance, directly or through competent international organizations, in terms of capacity-building, scientific expertise, technology transfer and other matters. Article 203 reinforces the support to developing States, in particular those vulnerable to the adverse effects of climate change, by granting them preferential treatment in funding, technical assistance and pertinent specialized services from international organizations.

3. Monitoring and environmental assessment

340. The Tribunal will now turn to the specific obligations of States stipulated in Part XII, section 4, of the Convention. Article 204 addresses the monitoring of the risks or effects of pollution; article 205, the publication of reports; and article 206, the assessment of potential effects of activities. * * *

367. [T]he Tribunal is of the view that articles 204, 205 and 206 of the Convention impose specific obligations on States Parties to monitor the risks or effects of pollution, to publish reports and to conduct environmental impact assessments as a means to address marine pollution from anthropogenic GHG emissions. Under article 204, paragraph 1, States Parties are required to endeavour to observe, measure, evaluate and analyse the risks or effects of pollution of the marine environment from anthropogenic GHG emissions. Under article 204, paragraph 2, States Parties have the specific obligation to keep under continuing surveillance the effects of activities they have permitted, or in which they are engaged, in order to determine whether such activities are likely to pollute the marine environment through anthropogenic GHG emissions. Article 205 requires States Parties to publish the results obtained from monitoring the risks or effects of pollution from anthropogenic GHG emissions or to communicate them to the competent international organizations for their dissemination. Article 206 sets out the obligation to conduct environmental impact assessments. Any planned activity, either public or private, which may cause substantial pollution to the marine environment or significant and harmful changes thereto through anthropogenic GHG emissions, including cumulative effects, shall be subjected to an environmental impact assessment. Such assessment shall be conducted by the State Party under whose jurisdiction or control the planned activity will be undertaken with a view to mitigating and adapting to the adverse effects of those emissions on the marine environment. The result of such assessment shall be reported in accordance with article 205 of the Convention.

VIII. QUESTION (B)

368. The Tribunal will now turn to the second question posed by the Commission . . . * * *

370. . . . Question (b) is broader in scope than Question (a) . . .Question (b) is formulated in terms that invoke article 192 of the Convention, which provides that "States have the obligation to protect and preserve the marine environment." The obligation is comprehensive in nature and encompasses obligations contained in other provisions of the Convention, including article 194, which set out more specific obligations. The views of the Tribunal on Question (a) are fully applicable to Question (b). * * *

372. The Tribunal confines its observations herein to the specific obligations to protect and preserve the marine environment in relation to climate change impacts and ocean acidification that were not previously identified in its response to Question (a). * * *

A. Clarification of terms and expressions * * *

B. Relevant provisions of the Convention * * *

C. Obligations to protect and preserve the marine environment in relation to climate change impacts and ocean acidification

1. Obligation under article 192 of the Convention

(a) Scope of the obligation * * *

385. The Tribunal is of the view that the obligation contained in article 192 of the Convention has a broad scope, encompassing any type of harm or threat to the marine environment. The obligation under this provision has two distinct elements. The first element is the obligation to protect the marine

environment. It is linked to the duty to prevent, or at least mitigate, environmental harm. . . The second element is the obligation to preserve the marine environment, which entails maintaining ecosystem health and the natural balance of the marine environment.

386. Where the marine environment has been degraded, the Tribunal is of the view that the term "preservation" may include restoring marine habitats and ecosystems. The term "restoration" is not used in article 192 of the Convention but flows from the obligation to preserve the marine environment where the process of reversing degraded ecosystems is necessary in order to regain ecological balance.

387. The two distinct elements of article 192 of the Convention have been expressed in the following:

> 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.
>
> (The South China Sea Arbitration between the Republic of the Philippines and the People's Republic of China, Award of 12 July 2016, RIAA, Vol. XXXIII, p. 153, at p. 519, para. 941)

388. Article 192 of the Convention does not specify the relevant harms and threats to which it applies. The open-ended nature of the obligation means that it can be invoked to combat any form of degradation of the marine environment, including climate change impacts, such as ocean warming and sea level rise, and ocean acidification. Article 192 does not specify how the marine environment must be protected and preserved against present and future harms. Other provisions of the Convention and external rules inform the content of article 192 and shape the types of measures that may be implemented to protect and preserve the marine environment. In this regard, the Tribunal has addressed the relevance of international instruments on climate change, including the UNFCCC and the Paris Agreement, to the questions before it . . . Other agreements, such as the Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks . . . and the CBD, may also provide relevant guidance. * * *

(b) Measures * * *

390. The Tribunal has drawn attention to the role of the ocean in storing heat trapped in the atmosphere caused by increasing concentrations of GHGs and storage of excess carbon dioxide. . . The ocean is the world's largest sink. Coastal "blue carbon" ecosystems, such as mangroves, tidal marshes, and seagrass meadows, are also important sinks and can contribute to ecosystem-based adaptation . . . The obligation to protect and preserve the marine environment is therefore of dual significance in that it promotes the conservation and resilience of living marine resources, while also mitigating anthropogenic GHG emissions by enhancing carbon sequestration through measures to restore the marine environment (see also Article 4, paragraph 1(d), of the UNFCCC and Article 5, paragraph 1, of the Paris Agreement).

391. The obligation to take mitigation measures to reduce anthropogenic GHG emissions has been addressed in the response to Question (a). Article 192 of the Convention also requires States to implement measures to protect and preserve the marine environment in relation to climate change impacts and ocean acidification that include resilience and adaptation actions as described in the climate change treaties.

392. The Convention does not use the term "adaptation measures". As defined by the IPCC, adaptation is "the process of adjustment to actual or expected *climate* and its effects, in order to moderate harm or exploit beneficial opportunities. In *natural systems*, . . . human intervention may facilitate

adjustment to expected *climate* and its effects" (WGII 2022 Report, Annex II, p. 2898). The ultimate objective of the UNFCCC, as stated in its Article 2, includes the "stabilization of greenhouse gas concentrations in the atmosphere . . . within a timeframe sufficient to allow ecosystems to adapt naturally to climate change". Other provisions of the UNFCCC address measures to facilitate adequate adaptation to climate change. This is further developed in the Paris Agreement.

393. Article 2 of the Paris Agreement, in enhancing the implementation of the UNFCCC, including its objective, aims to strengthen the global response to the threat of climate change by, *inter alia*, "[i]ncreasing the ability to adapt to the adverse impacts of climate change and foster climate resilience". The Paris Agreement establishes the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change in paragraph 1 of Article 7. Paragraphs 5 and 6 of Article 7 of the Paris Agreement address elements of adaptation strategies and read as follows:

> 5. Parties acknowledge that adaptation action should follow a country- driven, gender-responsive, participatory and fully transparent approach, taking into consideration vulnerable groups, communities and ecosystems, and should be based on and guided by the best available science and, as appropriate, traditional knowledge, knowledge of indigenous peoples and local knowledge systems, with a view to integrating adaptation into relevant socioeconomic and environmental policies and actions, where appropriate.
>
> 6. Parties recognize the importance of support for and international cooperation on adaptation efforts and the importance of taking into account the needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change.

394. The Tribunal is of the view that these provisions are compatible with the obligations of the Convention and exemplify how science and other relevant considerations are taken into account by States in implementing adaptation measures. The Tribunal notes that measures of adaptation and resilience-building frequently require significant resources. In this respect, the Tribunal has already addressed the obligations under Part XII of the Convention on the provision of technical assistance to developing States.

(c) Nature of the obligation * * *

396. The Tribunal considers that the obligation to take measures necessary to protect and preserve the marine environment requires States to ensure that non-State actors under their jurisdiction or control comply with such measures. The obligation of the State, in this instance, is one of due diligence.

397. The Tribunal has already addressed the character of a due diligence obligation in responding to Question (a). The content of the due diligence obligation depends on the nature of the specific treaty obligation so qualified and may vary over time. The standard of this obligation is determined by, among other factors, an assessment of the risk and level of harm combined.

398. The impacts of climate change and ocean acidification on the marine environment are described in the IPCC reports as severe. The WGII 2022 Report states that "global sea level rise, as well as warming, ocean acidification and deoxygenation at depth, are irreversible for centuries or longer (*very high confidence*)" (WGII 2022 Report, p. 453). The 2023 Synthesis Report further states that "[t]he likelihood and impacts of abrupt and/or irreversible changes in the climate system, including changes triggered when tipping points are reached, increase with further global warming (*high confidence*)" (2023 Synthesis Report, p. 18). In its Judgment in *Gabčíkovo-Nagymaros Project (Hungary/Slovakia)*, the ICJ observed that "in the field of environmental protection, vigilance and prevention are required on account of the often irreversible character of damage to the environment and of the limitations inherent in the very mechanism of reparation of this type of damage" (*Gabčíkovo-Nagymaros Project*

(Hungary/Slovakia), Judgment, I.C.J. Reports 1997, p. 7, at p. 78, para. 140). In such circumstances, the standard of the due diligence obligation is stringent.

399. The Tribunal holds the view that, given the risks posed to the marine environment, States, in fulfilment of their obligations under article 192 of the Convention, are required to take measures as far-reaching and efficacious as possible to prevent or reduce the deleterious effects of climate change and ocean acidification on the marine environment. The standard of due diligence under article 192 is, as stated above, stringent given the high risks of serious and irreversible harm to the marine environment by climate change impacts and ocean acidification. * * *

*2. Obligation under article 194, paragraph 5, of the convention * * **

402. The Tribunal observes that the obligation under article 192 of the Convention includes the specific obligation to take measures "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", as expressly provided for in article 194, paragraph 5. This paragraph does not provide specific criteria for determining what measures are "necessary" . . . [T]he word "necessary" is to be interpreted in accordance with its ordinary meaning and should be understood broadly. The measures 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 are those which make it possible to achieve that objective. * * *

405. The Tribunal notes that the obligation imposed by article 194, paragraph 5, of the Convention may call for specific measures, such as the enactment and enforcement of laws and regulations or the undertaking of monitoring and assessment . . . These measures are context-specific and call for objectively reasonable approaches to be taken on the basis of the best available science. Their implementation depends on the relevant domestic legal system and allows for the exercise of discretion. However, States do not have absolute discretion with respect to the action that is required. As stated by the Seabed Disputes Chamber in the *Area Advisory Opinion*, a "State must take into account, objectively, the relevant options in a manner that is reasonable, relevant and conducive to the benefit of mankind as a whole. It must act in good faith, especially when its action is likely to affect prejudicially the interests of mankind as a whole" (*Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS Reports 2011*, p. 10, at p. 71, para. 230). * * *

*3. Obligations under other provisions of the Convention * * **

418. [A]rticles 61 and 119 of the Convention impose specific obligations on States Parties to take measures necessary to conserve living marine resources threatened by climate change impacts and ocean acidification. Under article 61, States Parties must ensure that the maintenance of the living resources in the exclusive economic zone is not endangered by overexploitation. Conservation and management measures must be informed by the best available science. States Parties are required to take into account relevant environmental and economic factors, including the impact of climate change and ocean acidification. This entails the application of the precautionary approach and an ecosystem approach. The obligation imposed on States Parties under article 119 of the Convention substantially replicates that of article 61, as the conservation duty of all States in the high seas and of the coastal State in the exclusive economic zone is fundamentally the same. * * *

428. [A]rticles 63, 64, and 118 of the Convention impose specific obligations on States Parties to cooperate, directly or through appropriate international organizations, in implementing conservation and management measures with regard to straddling and highly migratory species and other living resources of the high seas. This obligation requires States Parties, *inter alia*, to consult with one

another in good faith with a view to adopting effective measures necessary to coordinate and ensure the conservation and development of shared stocks, taking into account the impacts of climate change and ocean acidification on living marine resources. Articles 5 and 7 of the Fish Stocks Agreement may provide guidance in responding to distributional changes and range shifts of stocks as a result of climate change and ocean acidification. * * *

436. [Additionally, t]he Tribunal finds that the second clause of article 196, paragraph 1, of the Convention requires States to take appropriate adaptive measures to prevent, reduce and control pollution from the introduction of non-indigenous species as a result of climate change impacts and ocean acidification which may cause significant and harmful changes to the marine environment. This does not affect the application of the Convention regarding the prevention, reduction and control of pollution of the marine environment. * * *

IX. OPERATIVE CLAUSE

441. For these reasons,

THE TRIBUNAL,

(1) Unanimously,

Decides **that it has jurisdiction to give the advisory opinion requested by the Commission.**

(2) Unanimously,

Decides **to respond to the request for an advisory opinion submitted by the Commission.**

(3) Unanimously,

Replies **to Question (a) as follows:**

(a) Anthropogenic GHG emissions into the atmosphere constitute pollution of the marine environment within the meaning of article 1, paragraph 1, subparagraph 4, of the Convention.

(b) Under article 194, paragraph 1, of the Convention, States Parties to the Convention have the specific obligations to take all necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions and to endeavour to harmonize their policies in this connection. Such measures should be determined objectively, taking into account, inter alia, the best available science and relevant international rules and standards contained in climate change treaties such as the UNFCCC and the Paris Agreement, in particular the global temperature goal of limiting the temperature increase to 1.5°C above pre-industrial levels and the timeline for emission pathways to achieve that goal. The scope and content of necessary measures may vary in accordance with the means available to States Parties and their capabilities. The necessary measures include, in particular, those to reduce GHG emissions.

(c) The obligation under article 194, paragraph 1, of the Convention to take all necessary measures to prevent, reduce and control marine pollution from anthropogenic GHG emissions is one of [stringent] due diligence [but implementation may vary per States' capabilities] . . .

(d) Under article 194, paragraph 2, of the Convention, States Parties have the specific obligation to take all measures necessary to ensure that anthropogenic GHG emissions under their jurisdiction or control do not cause damage by pollution to other States and their

environment, and that pollution from such emissions under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights . . . It is also an obligation of due diligence . . . [and can be even more stringent due to the nature of transboundary pollution].

(e) In terms of specific sources of pollution, marine pollution from anthropogenic GHG emissions can be characterized as pollution from land-based sources, pollution from vessels, or pollution from or through the atmosphere.

(f) Under articles 207 and 212 of the Convention, States Parties have the specific obligation to adopt laws and regulations to prevent, reduce and control marine pollution from GHG emissions from land-based sources and from or through the atmosphere, respectively, taking into account internationally agreed rules, standards and recommended practices and procedures contained, *inter alia*, in climate change treaties such as the UNFCCC and the Paris Agreement. To this effect, States Parties have the specific obligations to take other necessary measures . . . to endeavour to establish global and regional rules, standards and recommended practices and procedures.

(g) Under article 211 of the Convention, States Parties have the specific obligation to adopt laws and regulations to prevent, reduce and control marine pollution from GHG emissions from vessels flying their flag or of their registry . . .

(h) Under articles 213 and 222 of the Convention, States Parties have the specific obligation to enforce their national laws and regulations and 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 anthropogenic GHG emissions from land-based sources and from or through the atmosphere, respectively.

(i) Under article 217 of the Convention, States Parties have the specific obligation to ensure compliance by vessels flying their flag or of their registry with applicable international rules and standards . . .

(j) Articles 197, 200 and 201, read together with articles 194 and 192 of the Convention, impose specific obligations on States Parties to cooperate, directly or through competent international organizations, continuously, meaningfully and in good faith, in order to prevent, reduce and control marine pollution from anthropogenic GHG emissions. Under article 197, States Parties have the specific obligation to cooperate in formulating and elaborating rules, standards and recommended practices and procedures, consistent with the Convention and based on available scientific knowledge, to counter marine pollution from anthropogenic GHG emissions. Under article 200, States Parties have the specific obligations to cooperate to promote studies, undertake scientific research and encourage the exchange of information and data on marine pollution from anthropogenic GHG emissions, its pathways, risks and remedies, including mitigation and adaptation measures. Under article 201, States Parties have the specific obligation to establish appropriate scientific criteria on the basis of which rules, standards and recommended practices and procedures are to be formulated and elaborated to counter marine pollution from anthropogenic GHG emissions.

(k) Under article 202 of the Convention, States Parties have the specific obligation to assist developing States, in particular vulnerable developing States, in their efforts to address marine pollution from anthropogenic GHG emissions . . . Article 203 reinforces the support to developing States, in particular those vulnerable to the adverse effects of climate change, by

granting them preferential treatment in funding, technical assistance and pertinent specialized services from international organizations.

(l) Articles 204, 205 and 206 of the Convention impose on States Parties specific obligations of monitoring, publishing the reports thereof and conducting environmental impact assessments as a means to address marine pollution from anthropogenic GHG emissions. Under article 204, paragraph 1, States Parties have the specific obligation to endeavour to observe, measure, evaluate and analyse the risks or effects of pollution of the marine environment from anthropogenic GHG emissions. Under article 204, paragraph 2, States Parties have the specific obligation to keep under continuing surveillance the effects of activities they have permitted, or in which they are engaged, in order to determine whether such activities are likely to pollute the marine environment through anthropogenic GHG emissions. Under article 205, States Parties have the specific obligation to publish the results obtained from monitoring the risks or effects of pollution from such emissions or to communicate them to the competent international organizations for their dissemination. Under article 206, States Parties have the specific obligation to conduct environmental impact assessments . . .

(3) Unanimously,

***Replies* to Question (b) as follows:**

(a) The Tribunal's response to Question (a) is relevant to its response to Question (b) . . .

(b) The obligation under article 192 of the Convention to protect and preserve the marine environment has a broad scope, encompassing any type of harm or threat to the marine environment. Under this provision, States Parties have the specific obligation to protect and preserve the marine environment from climate change impacts and ocean acidification. Where the marine environment has been degraded, this obligation may call for measures to restore marine habitats and ecosystems. Article 192 of the Convention requires States Parties to anticipate risks relating to climate change impacts and ocean acidification, depending on the circumstances.

(c) This obligation is one of due diligence. The standard of due diligence is stringent, given the high risks of serious and irreversible harm to the marine environment from climate change impacts and ocean acidification.

(d) Under article 194, paragraph 5, of the Convention, States Parties have the specific 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 from climate change impacts and ocean acidification.

(e) Under articles 61 and 119 of the Convention, States Parties have the specific obligations to take measures necessary to conserve the living marine resources threatened by climate change impacts and ocean acidification. In taking such measures, States Parties shall take into account, *inter alia*, the best available science and relevant environmental and economic factors. This obligation requires the application of the precautionary approach and an ecosystem approach.

(f) The obligation to seek to agree under article 63, paragraph 1, and the obligation to cooperate under article 64, paragraph 1, of the Convention, require States Parties, *inter alia*, to consult with one another in good faith with a view to adopting effective measures necessary to coordinate and ensure the conservation and development of shared stocks . . . Under article 118 of the Convention, States Parties have the specific obligation to cooperate in taking

> measures necessary for the conservation of living marine resources in the high seas that are threatened by climate change impacts and ocean acidification.
>
> (g) Under article 196 of the Convention, States Parties have the specific obligation to take appropriate measures to prevent, reduce and control pollution from the introduction of non-indigenous species due to the effects of climate change and ocean acidification which may cause significant and harmful changes to the marine environment. This obligation requires the application of the precautionary approach.

Done in English and French, both texts being equally authoritative, in the Free and Hanseatic City of Hamburg, this twenty-first day of May, two thousand and twenty-four. . .

B. Questions and Discussion

1. The ITLOS Advisory Opinion is not binding because the decision was not issued in a contentious case with a specific set of facts. Nevertheless, the "fact-detached" Opinion is an authoritative interpretation of the obligations under UNCLOS, and will have a powerful effect on future contentious cases. As observed by Professor Rocha of Lisbon School of Law:

> Cases make law, but compared with binding judgments, advisory opinions have a greater potential to define States' obligations under international law. Unlike in the case of binding decisions, where the reasoning of the court or tribunal is analytically connected with the intricate facts of the dispute, advisory opinions are an authoritative, facts-detached, *urbi et orbi*[*] interpretation of international law. Accordingly, unless there are compelling reasons to detach from that interpretation, the interpretation adopted in that opinion will likely guide the court or tribunal in future cases.

Armando Rocha, *The Advisory Jurisdiction of the ITLOS in the Request Submitted by the Commission of Small Island States*, CLIMATE LAW: A SABIN CENTER BLOG (Apr. 12, 2023).

2. Philippe Sands, a celebrated British barrister, served as co-counsel for Mauritius, one of the Small Island Developing States. During his oral statement to the Tribunal, Sands referred to the "best available science" throughout his statement. What do you think his goal was with this approach? Consider this excerpt from Sands' oral statement:

> Mr President, for many countries and people, climate change is an existential issue. The law alone will not change the behaviour of States: that requires political will, and more. But the language of international law, our common language, is indispensable in informing the conditions for behaviour and actions. Your opinion can offer an authoritative statement to assist national and international courts, for States, for international organizations, corporations and non-State actors.
>
> The law turns on the facts. Always. On this matter, the facts are principally the science to guide the interpretation and application of the law. If the Tribunal does one significant thing in its advisory opinion, it will be to affirm the centrality of science to the life of the Convention…

[*] *Urbi et orbi* is a Latin phrase meaning "to the city [of Rome] and to the world" given as a papal blessing.

> The science of climate change is clear; it is not in dispute, even if the scale and timing of the effects of climate change are not entirely clear. The IPCC is the best available science: climate change is a real and present danger; it is happening; and it will cause a catastrophe for the maritime environment, for biodiversity, for humans and for States.

Statement of Philippe Sands for Mauritius, *in* ITLOS Case No. 31, Minutes of the Public Sittings (Sept. 11-25 2023), 1-588, at 277.

How does ITLOS treat "best available science"? The term is used 12 times in the Opinion. What content does the Tribunal provide and what sources did it cite? The ICJ Advisory Opinion and the Advisory Opinion from the Inter-American Court of Human Rights also expand on the obligation to use the "best available science." Compare. And note the discussion, *supra*, in paragraph 11 of the Questions and Discussion for the Inter-American Court of Human Rights Advisory Opinion.

3. ITLOS Judge Infante Caffi highlights the importance of legal interlinkages with human rights in ¶ 4 of her *Declaration*:

> The aim of these observations is not to alter the Tribunal's jurisdiction *ratione materiae* but rather to highlight the situations and problems being brought to the attention of international treaty bodies, specialized courts and tribunals that show the interlinkages between the protection of human health and the right to a healthy environment, including the marine environment. This is an instance in which legal regimes on human rights require law of the sea principles to be applied, and likewise, in which the law of the sea requires States to consider the human implications of regulatory measures, policies and enforcement actions.

This passage emphasizes the reciprocal relevance of legal regimes—specifically how human rights obligations intersect with environmental and maritime law. The excerpt also points to the broader necessity for international legal instruments to reference and build upon one another. In this context, how effectively does ITLOS connect UNCLOS with the Paris Agreement? In what ways could this linkage have been strengthened? Consider the critique offered by international law expert Professor Christina Voigt: Christina Voigt, *ITLOS and the importance of (getting) external rules (right) in interpreting UNCLOS*, CLIMATE LAW: A SABIN CENTER BLOG (May 29, 2024).

4. How does ITLOS determine that anthropogenic GHG emissions constitute "pollution of the marine environment" under UNCLOS Article 1(1)(4)? What are the three criteria that must be satisfied? What was the Tribunal's legal reasoning?

5. ***Exercise: A Close Review of Two Declarations***. Review the *Declaration by Judge Kittichaisaree*, taking note of his discussion of the distinction (or in the Judge's view, the lack thereof (*see* ¶¶ 22, 24)) between "obligations of conduct" versus "obligations of result" (*see* ¶¶ 11–24). How does ITLOS characterize the two? Now review the *Declaration by Judge Kulyk*, paying special attention to the distinction made between the obligation to take all necessary measures and how this is actually implemented (*see* IV.1 of his *Declaration*). How do these distinctions shape the scope and stringency of States' obligations?

6. How does ITLOS's interpretation of the precautionary approach shape the scope and content of States' due diligence obligations under UNCLOS Article 194 (1)? In your analysis, consider how these obligations relate to the requirement to conduct environmental impact assessments (EIAs) under UNCLOS Article 206, including the duty to assess the cumulative effects of planned activities on the marine environment. Further, assess whether the precautionary principle, as articulated in ITLOS's Advisory Opinion, could provide a legal basis for a "precautionary pause" or moratorium on deep sea mining (DSM) activities. For background, *see* Earth Negotiations Bulletin, *Summary Report: 2nd Part of the 31st Annual Session of the International Seabed Authority*, IISD (Aug. 21, 2026) (highlighting ongoing tensions between States advocating for a pause in DSM activities until the Draft Exploitation Regulations are finalized, and those seeking to proceed with these activities in the meantime).

7. What significance does ITLOS give to the Montreal Protocol and its Kigali Amendment? The Montreal Protocol is mentioned 9 times and the Kigali Amendment 5 times in the Advisory Opinion. The Montreal Protocol is widely considered the best environmental treaty ever created, having successfully addressed the first great threat to the global atmosphere from chemicals that were destroying the stratospheric ozone layer, and having done more than any other agreement to limit climate emissions, on course to avoid 2.5 degrees Celsius of warming by the end of the century. *See* Paul J. Young *et al.*, *The Montreal Protocol Protects the Terrestrial Carbon Sink*, 596(7872) NATURE 384, 384 (2021). *See also* MONTREAL PROTOCOL FACT SHEET, *Montreal Protocol Is Successfully Tackling Climate Threat After Saving Ozone Layer: 10-year anniversary of Kigali Amendment celebrates avoiding up to 0.5°C of warming*, Institute for Governance and Sustainable Development (August 2026). How does the Tribunal use the Montreal Protocol in its Opinion?

8. *Exercise*: Bringing Climate Litigation Before ITLOS as a Small Island Developing State.

> The principles set out in the [ITLOS] Opinion . . . open the door to direct challenges against activities that contribute to emissions that harm the seas. This could take the form of inter-state litigation before ITLOS in which a small island state sues a major polluter, for example. . . . And because ITLOS is concerned with harm to the marine environment itself rather than harm to humans as a knock-on effect of environmental degradation, the Opinion could be used in cases where there's no identifiable harm to a group of people – such as must be demonstrated in human rights cases – but where there's harm to biodiversity.

International Bar Association, *Climate crisis: ITLOS Advisory Opinion 'effectively' creates new international legal obligations on signatories* (n.d.). Imagine you are counsel for a Small Island Developing State (SIDS). You wish to lodge a contentious case before ITLOS against a major emitting state, alleging violations of UNCLOS obligations related to climate change. What elements do you need to satisfy in order to bring the case? What legal arguments would you raise? Small Island Developing States – and Pacific SIDS in particular – have frequently been characterised as the 'canary in the coal mine' of climate change, foregrounding their

vulnerability and exposure. How do the processes leading to the ICJ and ITLOS Advisory Opinions complicate this framing? What do they suggest about the ways States with limited material power can exercise agency through diplomacy, coalition-building and international institutions?

9. The United States has never ratified UNCLOS, but several administrations following the Clinton Administration have agreed that "much of [UNCLOS] reflects customary international law." *See* Caitlin Keating-Bitonti, *United Nations Convention on the Law of the Sea (UNCLOS): Living Resources Provisions*, Congressional Research Service Report No. R47744, at 3 (*updated* Dec. 19, 2024). *See also* Hunter, Salzman, and Zaelke, INTERNATIONAL ENVIRONMENTAL LAW AND POLICY, at 737 (6th ed. 2022). As a non-Party, the U.S. did not participate in the ITLOS proceedings. Under these circumstances, will the Opinion have any impact in the U.S. in future disputes?

10. ***Exercise: Room for Improvement***. Do you agree with the suggestion by Judge Infante Caffi in her *Declaration*?:

> In this respect, the reasoning of the Advisory Opinion contained in paragraph 66, where it is noted that 'climate change represents an existential threat and raises human rights concerns', could have been supplemented by further arguments. The concern for human health, which may be impaired by pollution to the marine environment, is explicitly referenced in UNCLOS (article 1(1)(4)). It is also echoed and enhanced by the 2015 Paris Agreement, which provides in its preamble that States 'should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities, and people in vulnerable situations.' The 1992 UNFCCC, for its part, had already defined adverse effects of climate change as being 'changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare' (Article 1(1)).

SEPARATE DECLARATION of Caffi, J., at ¶ 2 in ITLOS Advisory Opinion No. 31.

11. After ITLOS issued its Advisory Opinion, the European Court of Human Rights in *Greenpeace Nordic and Others v. Norway*, Application No. 34068/21 (ECtHR, Oct. 28, 2025) discussed the Opinion in its judgment. The *Greenpeace Nordic* case involved an assessment of State procedural obligations concerning climate change, in particular of the duty to conduct an adequate, timely and comprehensive environmental impact assessment (EIA) before authorizing potentially dangerous activities. The Court explicitly acknowledged that its conclusion—that EIAs for petroleum projects must include assessment of anticipated GHG emissions and their compatibility with the State's climate obligations—is "paralleled by recent rulings of other international courts" (¶¶ 318–20). The Court cited the ITLOS Advisory Opinion's conclusion that States are under a specific obligation to carry out EIAs for any planned activity—public or private—which may cause "substantial pollution to the marine environment or significant and harmful changes to it through anthropogenic GHG emissions" (¶¶ 321, 131). By citing this Opinion alongside other international authorities, the European

Court reinforced the requirement that such assessments must include quantification of anticipated GHG emissions, including combustion emissions produced both within the country and abroad (¶¶ 317–19).

12. The ITLOS Advisory Opinion has generated considerable commentary, including:

- British Institute of International and Comparative Law, *Reflections on the ITLOS Advisory Opinion* (May 30, 2024).
- Marta Torre-Schaub, *Why Climate Science Matters for International Law*, VERFASSUNGSBLOG (June 6, 2024).
- Margaretha Wewerinke-Singh & Jorge E. Viñuales, *More than a Sink: The ITLOS Advisory Opinion on Climate Change and State Responsibility*, VERFASSUNGSBLOG (June 7, 2024).
- Christina Voigt, *ITLOS and the importance of (getting) external rules (right) in interpreting UNCLOS*, CLIMATE LAW: A SABIN CENTER BLOG (May 29, 2024).
- H.E. Judge Tomas Heidar, *The Advisory Opinion of ITLOS on Climate Change: A Landmark Decision*, BIICL CLIMATE LAW & LITIGATION BLOG (Mar. 8, 2026).

13. The *Global Tipping Points Report 2025*, discussed previously and examined in detail in the next section, explains that positive social tipping interventions, defined as "small change[s] in forcing that ha[ve] a big, normatively 'positive' effect on a crucial human (social) system feature" (page 287), can rapidly accelerate decarbonization and system-wide transitions. These social tipping points can include mobilizing finance for low-carbon technology and resilient infrastructure, strengthening community stewardship and Indigenous rights, and policy changes to drive sustainable food production and consumption. In addition to accelerating decarbonization, the Report notes that positive social tipping points can simultaneously combat poverty, hunger and inequality, for example, by accelerating access to cheap electricity and benefiting economies of countries that currently rely on imports of fossil fuel. How could this Report's concept of positive social tipping interventions influence ITLOS's understanding of what counts as "pollution," "harm," or "necessary measures" under the Tribunal's due diligence standard? The three Advisory Opinions are a further example of social tipping points, as discussed next.

V. GLOBAL TIPPING POINTS REPORT 2025

The *Global Tipping Points Report 2025,* a landmark scientific assessment on climate tipping dynamics, is the most current analysis of tipping points. Prepared by 160 authors from 87 institutions across 23 countries, the Report concludes that Earth has already crossed its first major tipping point—widespread warm-water coral reef dieback—and warns that several others, including the potential collapse of the Atlantic Meridional Overturning Circulation (AMOC), lie close ahead. The Report also examines positive social tipping points, emphasizing opportunities for governments, businesses, and other stakeholders to shift behaviors, institutions, and land-use practices to mitigate emissions and climate impacts. Included among these positive social tipping points are the three climate Advisory Opinions. The following excerpt introduces the *Global Tipping Points Report's* praise of the Advisory Opinions—specifically the Opinions' pronouncements on the human rights implications of exceeding ecological and systemic tipping points. (The full *Global Tipping Points Report 2025* can be downloaded here.) The excerpt is followed by Questions and Discussion.

A. Global Tipping Points Report 2025 (October 2025)

Introduction * * *

Motivation (Why we need to talk about tipping points)

The world has entered a new climate reality. Global warming will soon overshoot 1.5°C. Already some damaging tipping points are being crossed and others could soon follow – with catastrophic impacts on societies and nature globally. * * * [C]limate action must accelerate radically to eliminate greenhouse gas emissions, to reduce non-climate stressors of ecosystems, and to regenerate nature before it is too late. This calls for actions that trigger positive tipping points, where social, technological and ecological changes toward zero emissions become self-propelling. * * *

1.4.1 The vital role of human rights in ESTP governance

Human rights provide a potentially powerful and globally legitimate overarching normative framework to help guide ESTP [Earth System Tipping Points] governance. The core role that human rights play within the system of global climate norms was underscored by the recent advisory opinions . . . ,as well as the rapid proliferation of strategic litigation efforts around the world * * * . The risks to human rights of crossing ESTPs have been cited as compelling evidence in recent landmark court judgments requiring state actors to act more decisively on reducing greenhouse gas (GHG) emissions. * * *

1.4.3 The overarching human rights obligation to tackle the drivers of ESTPs

The primary positive human rights obligation of states related to ESTPs is the obligation to take science-based steps to prevent and mitigate the adverse effects of climate change and to adapt where necessary (ICJ, 2025, paras 72-87; 268, 273; KlimaSeniorinnen, 2024). Such steps require not only that states take responsibility for their own actions, including the actions of state-owned enterprises, but also that they effectively regulate the economic activity and business conduct of non-state actors (ICJ, 2025, para 428; IACtHR 2025, para 353). The ICJ has explicitly acknowledged "the obligation of

States to regulate the activities of private actors as a matter of due diligence" (ICJ, 2025, para 428). * * *

1.4.4 ESTP science: a trend towards greater judicial acknowledgement of nonlinear risks

The effective protection of human rights today and in the future requires state and non-state actors to be fully informed by the science of ESTPs. As recognised by the ICJ in its 2025 Advisory Opinion (ICJ, 2025), and expressed in Articles 4.1 and 14.1 of the Paris Agreement, states have an obligation to undertake rapid reductions of GHG emissions in accordance with best available science (Paris Agreement, 2015; Ritz, 2024). Integrating best available ESTPs science as summarised in this report has the potential to drive a paradigm shift for global legal advocacy efforts, policymaking, and for ESTPs-aware judicial determinations. Adducing scientific evidence that demonstrates how severe harms to human beings and ecosystems will occur if ESTPs are transgressed helps to boost the legal case for taking urgent action "to pursue a warming limit below likely tipping thresholds" (Ritz, 2024).

As the reach of ESTP-aware jurisprudence expands, governments may be required to incorporate ESTPs science and impacts into their assessments and action plans. This line of argument is supported by the 2024 ITLOS Advisory Opinion on climate change obligations under the UN Convention on the Law of the Sea – the Tribunal referenced scientific evidence on climate tipping points to support its conclusion that the standard of the state due diligence obligation is a stringent one (ITLOS 2024, para 398).

As the cases above indicate, Courts are beginning to take note that the risk of crossing irreversible tipping points poses a threat to the human rights of billions of people, and that this threat increases the urgency of prevention action needed. In line with this trend, the IACtHR explicitly refers to tipping points in its 2025 Advisory Opinion, recognising that, "[t]he increase in the global average temperature also increases the probability of exceeding the tipping points" (IACtHR, 2025, at para 197, emphasis in original). The Court acknowledges the heightened risks of crossing tipping points at 1.5°C and above, and the potential for cascading effects: "[t]he feedback between these crucial points could increase the risk of triggering a global cascade in which other tipping points are exceeded, including the uncontrolled release of carbon from permafrost and the devastation of coral reefs" (para 197). Human rights claimants, their legal advocates, and policymakers in all parts of the world are now in a position to highlight the IACtHR's explicit acknowledgment of the dangerous human rights impacts of transgressing tipping points. * * *

B. Questions and Discussion

1. How do each of the climate Advisory Opinions treat tipping points? For an overview of the science of tipping points, *see* Section 2.2, Earth System Tipping Points and Risks, in *Global Tipping Points Report 2025,* available *here*.

2. Scientific research generally moves much faster than legal jurisprudence does, often resulting in legal opinions that are scientifically conservative and out-of-date. Consider the fact that the *Global Tipping Point Report 2025* was published in October 2025, three months after the most recent climate Advisory Opinion was issued. How should courts applying the three Advisory Opinions approach this new scientific evidence, which falls outside the IPCC's 2023 Sixth Assessment (AR6) on which the Courts expressly relied? Note that while the *Global Tipping Points Report 2025* will be included in the next iteration of IPCC Assessments

(AR7), that report will not be issued until 2029 at the earliest. *See* Ayesha Tandon et al., *Ongoing failure to agree AR7 timeline is 'unprecedented' in IPCC history*, CARBON BRIEF (Nov. 7, 2025).

3. The *Global Tipping Points Report 2025* explains that positive social tipping interventions—"small change[s] in forcing that ha[ve] a big, normatively 'positive' effect on a crucial human (social) system feature," page 287—can rapidly accelerate decarbonization and system-wide transitions. Consider the following excerpt from the Report describing the importance of such tipping points:

> If we wait to cross tipping points before we act, it will be too late. The only credible risk management strategy is to act in advance. But the window for preventing damaging tipping points is rapidly closing. * * *
>
> To achieve such a radical acceleration of action requires triggering positive tipping points that generate self-amplifying change in technologies and behaviours, towards zero emissions. In the two years since the first Global Tipping Points Report was published, there has been a radical acceleration in the uptake of solar power and electric vehicles worldwide. However, there has also been a recent spate of backsliding on commitments in some nations and sectors, including finance.
>
> Nevertheless, a minority can still tip the majority when they have self-amplifying feedback on their side. This is clearly evident in clean technology adoption. Solar PV panels have dropped in price by a quarter for each doubling of their installed capacity. Batteries have improved in quality and plummeted in price the more that are deployed. This encourages further adoption. The spread of climate litigation cases and nature positive initiatives is also self-amplifying. The more people undertaking them the more they influence others to act.
>
> Positive tipping points are also starting to interact and reinforce one another. Policies targeting super-leverage points of interaction can help trigger this cascading positive change. * * * Only with a combination of decisive policy and civil society action can the world turn from facing existential climate tipping point risks to seizing positive tipping point opportunities.

Timothy M. Lenton et al. (eds), THE GLOBAL TIPPING POINTS REPORT 2025, University of Exeter (2025), 6.

To what extent should courts interpret the climate Advisory Opinions as requiring States to actively foster positive tipping points—such as rapid EV adoption, agricultural shifts, or norm changes—rather than simply avoiding harm? Does the legal reasoning in any Opinion imply a duty to *trigger* rather than just prevent tipping processes?

4. The *Global Tipping Points Report 2025* recommends cutting short-lived climate pollutants such as methane and black carbon in the short-term (next 0 to 5 years) to rapidly bring down temperatures and minimize the risk of overshooting rapid tipping points such as a collapse of the Atlantic Meridional Overturning Circulation (AMOC) or die-back of the Amazon Rainforest. Black carbon is a powerful climate forcer that traps heat and is grouped with other short-lived climate pollutants due to its warming impact, but it is not itself a greenhouse gas. Do the Advisory Opinions leave room for courts to obligate States to implement measures that reduce emissions of non-GHG pollutants such as black carbon?

Would ITLOS consider black carbon emissions to "constitute pollution of the marine environment within the meaning of article 1, paragraph 1, subparagraph 4, of [UNCLOS]"?

5. The *Global Tipping Points Report 2025* does not shy away from the uncertainties inherent in climate science. *See, e.g.,* page 21 ("Antarctic sea ice may have a tipping point that could already be underway, although highly uncertain."), page 41 ("The conditions under which SPG [Subpolar Gyre] and AMOC can tip remain uncertain, but we cannot exclude that an AMOC tipping point may already have been passed.), page 108 ("[R]ecent research strengthens the case for North Atlantic convection being capable of tipping, potentially at current warming levels, but large uncertainties remain on if and when they may tip in practice."). Consider also this statement from the Report: "Because tipping points involve the risk of irreversible changes with severe impacts at large scales, uncertainty about their timing or thresholds strengthens - rather than weakens - the case for precautionary action," page 55. Conversely, how would you argue that the uncertainty should lower the due diligence standard?