



INTERNATIONAL COURT OF JUSTICE

**OBLIGATIONS OF STATES IN RESPECT OF CLIMATE CHANGE
(REQUEST FOR ADVISORY OPINION)**

**WRITTEN STATEMENT SUBMITTED BY
THE CENTER FOR INTERNATIONAL ENVIRONMENTAL LAW (CIEL)**

***MEMORANDUM ON THE LEGAL CONSEQUENCES
FOR STATES OF INTERNATIONALLY WRONGFUL ACTS
CAUSING HARM TO THE CLIMATE SYSTEM***

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Introduction

1. This written submission addresses the second question in the request of the United Nations General Assembly for an advisory opinion from the International Court of Justice on the obligations of States in respect of climate change¹ concerning the legal consequences for States that have caused significant harm to the climate system and other parts of the environment, vis-a-vis States, peoples, and individuals of present and future generations. This question encompasses what States must do once it has been established: (i) that they have international obligations to protect the climate system and other parts of the environment from anthropogenic greenhouse gas (GHG) emissions, (ii) that they have breached those obligations through their conduct leading to cumulative GHG emissions that, over time, cause significant harm to the climate system and other parts of the environment, and (iii) that resultant injuries to States, peoples and individuals, and the environment, are attributable to that conduct.
2. What is perhaps most striking about the escalating global climate crisis is not its increasingly severe and devastating impacts on individuals, peoples, ecosystems, and States, inflicting damage through sudden and slow-onset events, alike. Nor is it the fact that those impacts are hitting those in situations of structural vulnerability hardest, compounding inequalities, entrenching impoverishment, and undermining human rights. It is the fact that the world knows and has known for decades what is causing the crisis, and yet those most responsible have failed to act with the urgency and decisiveness required to halt it. In clarifying the law, this Court has an opportunity to elucidate States' obligations and unlock action needed not only to prevent continuing harms, but to remedy those injuries that have fallen, are falling, and will foreseeably continue to fall disproportionately on those least responsible for the planetary emergency.
3. The science is unequivocal: cumulative greenhouse gas emissions, driven overwhelmingly by the production and use of fossil fuels (oil, gas, and coal), have altered the global climate system, leading to increasing average global temperatures, warming of the ocean and sea level rise, ocean acidification, greater severity and frequency of extreme weather events, droughts, floods, and myriad other climate change-related impacts that infringe human rights and threaten ecosystems around the world. Since at least the 1960s, and in some cases earlier, many high-emitting States have known or should have known that, over time, GHG emission-generating conduct within their jurisdictions and control had resulted in, or would result in, significant transboundary harm and/or the risk of such harm. No later than the early 1990s, when the Intergovernmental Panel on Climate Change (IPCC) issued its first reports and when the United Nations Framework Convention on Climate Change (UNFCCC) was adopted, all States have known that climate change, driven by the accumulation of GHG emissions principally from fossil fuels, is causing significant transboundary harm. And the scientific reports published regularly by the IPCC since the 1990s, including as recently as 2023—the findings of which Member States endorse by consensus—have continuously placed States on notice of the causes and consequences of climate change, and of potential responses to it.
4. In the face of the known causes and the foreseeable (or already manifest) consequences of climate change for States, peoples, individuals, and ecosystems around the world, States have international legal

¹ Request for Advisory Opinion, *Obligations of States in Respect of Climate Change*, 2023 I.C.J., No. 187 (Apr. 12, 2023) [hereinafter Request for Advisory Opinion], at p. 2.

obligations to eliminate or reduce those causes, to prevent the associated harm, and minimize the risk thereof. State acts and omissions that breach those international duties, and thereby contribute to significant transboundary environmental harm and associated human rights violations, injurious to States, peoples, and individuals, carry legal consequences—namely the responsibility to cease the wrongful conduct and repair the resultant injuries.

5. As singularly challenging as the problem of climate change may be, it is not so unique or complex as to be beyond the reach of law or legal cognition, under well-established principles that this Court has clarified and applied in countless contexts. The transversal problem of climate change sounds in the law of State responsibility, human rights, and the environment, including the international climate agreements.
6. The elements of State responsibility are present in the face of harm to the climate system. The elements of an internationally wrongful act under the law of State responsibility can be made out in relation to some States' cumulative contributions to and failure to address climate change. Alone or in combination, acts and omissions, attributable to one or more States, have over time generated cumulative GHG emissions that cause significant transboundary harm due to degradation of the atmosphere and ensuing changes to the global climate. That conduct breaches a variety of State obligations under international law, thereby constituting an internationally wrongful act under the law of State responsibility, which triggers legal consequences in the form of secondary obligations to cease the wrongful conduct and provide full reparation of resultant injuries.
7. International law requires States to protect the climate system and other parts of the environment. States have obligations under multiple sources of international law, including *inter alia* longstanding customary international law principles of prevention, precaution, and due diligence, the United Nations Charter, human rights treaties, and various environmental agreements, including the United Nations Convention on the Law of the Sea (UNCLOS), the UNFCCC, the Paris Agreement and decisions taken by the Parties thereto, to prevent transboundary environmental harm and minimize the risk thereof, to protect against foreseeable violations of human rights, and to preserve the global commons for the benefit of present and future generations.
8. State conduct in breach of those obligations constitutes an internationally wrongful act. That conduct—including acts, such as engagement in, authorization of, and direct or indirect financing or other support for, activities that generate greenhouse gas emissions at levels causing significant transboundary harm, and omissions, such as the failure to regulate or constrain those activities so as to prevent, reduce, and control the greenhouse gas emissions causing significant transboundary harm—has, over time, led to cumulative greenhouse gas emissions at levels causing significant transboundary environmental harm and consequent deprivations of human rights and, in some cases, threats to States' very existence, their territorial integrity, and self-determination. Through such composite acts, those States have breached and are breaching not only general principles of international law and custom, but also specific provisions of relevant treaties including but not limited to international climate agreements.
9. Establishment of an internationally wrongful act triggers secondary obligations, under the law of State responsibility, to cease the breach and repair the resultant injury. Even in absence of any injury, States have a duty to cease their wrongful conduct and uphold their international obligations. They also must provide guarantees of non-repetition. Where there is demonstrable injury attributable to State conduct

that breaches international obligations, the State can be held legally responsible and the consequences of that legal responsibility are a duty to make full reparation. A State's breach of international human rights law not only entails responsibility to other States, but also a duty to provide affected peoples and individuals effective remedy for human rights violations. Like the law of State responsibility, the remedial obligation under human rights law requires cessation of the wrong and reparation of injury caused.

10. The injuries due to climate change are of a material and moral character requiring reparation, and evidence can be adduced attributing those injuries to the acts and omissions of States or groups of States. Evidence exists establishing both the link between wrongful State conduct and climate change, and the link between climate change and some of the injuries experienced by other States, peoples, and individuals, making such damage attributable to States' internationally wrongful acts. Evidence of injury is, unfortunately, manifold, and the science linking those injuries to climate change (and logically, thereby to the conduct that has caused climate change) has advanced and continues to advance rapidly. There is ample evidence attributing cumulative GHG emissions over time to different States or groups of States, which makes plain that wealthier, industrialized countries have generated a disproportionate share of global emissions since the industrial era to date. Consensus science, published by the IPCC, demonstrates that associated atmospheric degradation, increased global average temperatures and other perturbations of the global climate system, result therefrom. Multiple sources document when States knew or should have known of the adverse effects of such emissions on the global atmosphere and planetary climate. There is also a growing body of "attribution science" linking specific injuries—both material and moral—to climate change, and thus by extension to the State acts and omissions driving it. These injuries are of the type that this Court has called upon responsible States to remedy in the past.
11. The relevant evidence in a given case will depend on the State or group of States concerned; suffice it to say that available evidence of the type necessary to demonstrate attribution and causation could be adduced. Consistent with human rights law guaranteeing access to justice and effective remedy, and the precautionary principle, the burden of producing such evidence should not be a barrier to justice or remedy for victims of harm, nor should the absence of specific evidence of injury and causation bar recovery, particularly for those in the most vulnerable situations. The burden should be on those who would persist in conduct that has demonstrable adverse impacts or increases the risks of such impacts to demonstrate why doing so is not inconsistent with their international obligations.
12. This submission first lays out basic precepts of the law of state responsibility and human rights law on remedy and reparation, and then examines their application in the context of climate change. Part 1 provides an overview of key elements of an internationally wrongful act and the legal consequences that flow from it, as well as the remedial obligations provided for under human rights law when a State breaches its duties. Part 2 establishes the basis for finding that States have committed internationally wrongful acts in relation to harm to the climate system, in view of the unequivocal science and longstanding knowledge on the causes and consequences of climate change, and the ample evidence of State acts and omissions that, over time, led to cumulative greenhouse gas emissions. Part 3 sets forth the consequences for those States with respect to cessation of the wrongful acts and reparation of resultant injuries to States, peoples, and individuals. It discusses the types of material and moral injuries that have been and are being experienced with ever greater frequency and severity, the evidence linking those impacts to climate change, and the types of measures States may take to satisfy their remedial

obligations. The conclusion underscores that the elements of international legal responsibility may be made out in relation to a State’s contributions to and failure to prevent or minimize harm to the climate system and its consequences for human rights and the environment.

Part 1. The Legal Consequences of an Internationally Wrongful Act and Resultant Injury

A. Under the law of State responsibility, breach of an international obligation triggers duties of cessation and reparation

13. The starting point for an analysis of state obligations in relation to climate change and the legal consequences that flow from any breach thereof is the law of State responsibility. The law of State responsibility is the bedrock of the international legal order. The International Law Commission’s Draft Articles on Responsibility of States for Internationally Wrongful Acts² (hereinafter, ILC Draft Articles on State Responsibility) are widely accepted as a codification of customary international law, and the principles laid out are well established and routinely utilized around the world.³

i. Elements of an internationally wrongful act

14. Legal consequences flow, under international law, when a State commits an internationally wrongful act,⁴ defined as any action or omission attributable to a State under international law⁵ that constitutes a breach of an international obligation of the State.⁶ There are thus “two necessary conditions for an internationally wrongful act—conduct attributable to the State under international law and the breach by that conduct of an international obligation of the State.”⁷ According to the ILC Draft Articles on State Responsibility, “every internationally wrongful act of a State entails the international responsibility of that State.”⁸ This foundational principle of international law has been consistently applied, both by the

² International Law Commission, *Draft Articles on Responsibility of States for Internationally Wrongful Acts, with commentaries*, U.N. Doc A/56/10 (2001) [hereinafter ILC, *Draft Articles on State Responsibility, with commentaries*], at p. 31, para. 1.

³ Many ICJ cases cite to the ILC Articles on State Responsibility as authoritative sources, without discussion of their status in international law. Other cases note that specific provisions in the Articles reflect customary international law (CIL). *See, e.g.*, *Certain Iranian Assets (Iran v. U.S.)*, Judgment, 2023 I.C.J. No. 164 (Mar. 30), at para. 226 (stating that Article 30 reflects CIL); *Armed Activities on the Territory of the Congo (Dem. Rep. Congo v. Uganda) Reparations*, Judgment, 2022 I.C.J. 13 (Feb. 9), at para. 70 (stating that Article 31 reflects CIL); *Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Croatia v. Serbia)*, Judgement, 2015 I.C.J. No. 118, (Feb. 3) [hereinafter *Croatia v. Serbia*, 2015 I.C.J.], at para. 128 (stating that Article 3 reflects CIL); *Case Concerning Application of the Convention on the Prevention and Punishment of the Crime of Genocide (Bosn. & Hertz. v. Serb. & Montenegro)*, Judgment, 2007 I.C.J. 43 (Feb. 26) [hereinafter *Bosn. & Hertz. v. Serb. & Montenegro*, 2007 I.C.J.], at paras. 385, 398, 401, 407 (describing the ILC Articles on State Responsibility as reflecting customary international law (CIL)); *see also* ILC Draft Articles on State Responsibility at Part II, General Principles, cmt. para. 1 (“[T]he rules and institutions of State responsibility are significant for the maintenance of respect for international law and for the achievement of the goals which States advance through law-making at the international level.”).

⁴ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 2.

⁵ *Ibid.*, at art. 2(a).

⁶ *Ibid.*, at art. 2(b).

⁷ *Ibid.*, at art. 2, cmt. para 9.

⁸ *Ibid.*, at art. 1.

ICJ and its predecessor court, the Permanent Court of International Justice, in contentious cases and advisory opinions.⁹

a. Act or omission attributable to the State

15. Both actions and omissions (alone or in combination) can engage State responsibility.¹⁰ The rules of attribution laid out in Articles 4-11 of the ILC Draft Articles on State Responsibility relate not only to acts of States but also omissions (inaction or failures to act) that breach an international obligation. As the ILC Draft Articles on State Responsibility have clarified, “[cases] in which the international responsibility of a State has been invoked on the basis of an omission are at least as numerous as those based on positive acts, and no difference in principle exists between the two.”¹¹
16. Breaches of an international obligation can be due to a single action or omission, or a combination of actions and omissions. The breach of an international obligation occurs when an act or omission of a State is not in conformity with what is required of it.¹² This includes both isolated (non-continuing)¹³ and continuing¹⁴ breaches of an international obligation, as well as composite acts in which multiple acts or omissions, in aggregate, constitute a wrongful act.¹⁵ As set forth in Article 15 of ILC Draft Articles on State Responsibility, a breach may occur through “a series of actions or omissions defined in aggregate as wrongful.” Such a breach transpires “when the action or omission occurs which, *taken with the other actions or omissions*, is sufficient to constitute the wrongful act.”¹⁶ The duration of the breach “extends over the entire period starting with the first of the actions or omissions of the series and lasts for as long as these actions or omissions are repeated and remain not in conformity with the international obligation.”¹⁷ As will be discussed below, this composite act principle is particularly pertinent to the acts and omissions of States that have, over time, led to the accumulation of greenhouse gas emissions in the atmosphere at levels causing significant transboundary harm and violations of human rights.
17. Depending on the circumstances, a broad range of actors’ conduct may be attributed to a State. Conduct attributable to a State under international law includes acts or omissions: of organs of the State;¹⁸ of persons or entities exercising elements of governmental authority;¹⁹ of organs placed at the disposal of the State by another State and exercising elements of the governmental authority of the former State;²⁰ of organs, persons, or entities exercising elements of the governmental authority of the State, even if

⁹ See, e.g. *Phosphates in Morocco (It. v. Fra.)*, 1938 P.I.C.J. (ser. A/B) No. 74 [hereinafter *Phosphates in Morocco*, 1938 P.I.C.J.], at para. 48; *The Corfu Channel Case (U.K. v. Alb.)*, Compensation, Judgment, 1949 I.C.J. 244 (Dec. 15) [hereinafter *Corfu Channel Case, Compensation Judgment*]; *Military and Paramilitary Activities in and Against Nicaragua, Judgment (Nicar. v. U.S.)*, 1986 I.C.J. 14 (June 27) [hereinafter *Nicar. v. U.S.*, 1986 I.C.J.], and *Case Concerning the Gabčíkovo-Nagymaros Project (Hung. v. Slov.)*, Judgement, 1997 I.C.J. 7 (Sept. 25) [hereinafter *Gabčíkovo-Nagymaros Project*], at p. 37.

¹⁰ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 12, cmt. para. 2.

¹¹ *Ibid.*, at art. 2, cmt. para.4.

¹² *Ibid.*, at art. 12.

¹³ *Ibid.*, at art. 14 (1).

¹⁴ *Ibid.*, at art. 14(2).

¹⁵ *Ibid.*, at art. 15.

¹⁶ *Ibid.*, at art. 15(1) (emphasis added).

¹⁷ *Ibid.*, at art. 15(2).

¹⁸ *Ibid.*, at art. 4.

¹⁹ *Ibid.*, at art. 5.

²⁰ *Ibid.*, at art. 6.

they exceed or contravene that authority;²¹ of persons or groups of persons acting under the *de facto* direction or control of the State;²² of persons or groups of persons acting in the absence or default of official authorities;²³ of insurrectional or other movements which become new or successor States;²⁴ or acknowledged and adopted by a State as its own.²⁵

18. States can bear responsibility for failing to regulate private conduct within their jurisdiction or control. The conduct of private persons is not, absent more, attributable to the State.²⁶ In some circumstances, however, a State's failure to undertake measures to prevent or compel such conduct consistent with international law is conduct—an omission—attributable to the State, and thus the State may bear responsibility for injury attributable to that failure. As stated in the ILC commentary to the Draft Articles on State Responsibility, “a State may be responsible for the effects of the conduct of private parties, if it failed to take necessary measures to prevent those effects.”²⁷
19. A State can in some circumstances incur responsibility for its relationship to or role in the conduct of another State. A State that aids or assists another State in the commission of an internationally wrongful act, with knowledge of the circumstances of the internationally wrongful act, or which directs, controls, or coerces another State in the commission of an internationally wrongful act, and in circumstances in which the act would be internationally wrongful if committed by the former State, is internationally responsible for doing so.²⁸

b. That breaches an international obligation

20. An international wrong arises when State conduct (an act or omission attributable to the State) breaches any of the State's international obligations—be it an obligation under customary international law (CIL), convention (treaty) law, or non-treaty law.²⁹ State responsibility is not limited to breaches of a State's bilateral obligations, but applies “to the whole field of the international obligations of States, whether the obligation is owed to one or several States, to an individual or group, or to the international community as a whole.”³⁰ Correspondingly, “some wrongful acts engage the responsibility of the State concerned towards several or many States or even towards the international community as a whole.”³¹ International obligations may include duties established through international agreements between States that enshrine the rights of non-State actors, as do human rights treaties.³² While human rights treaties set out State obligations vis-a-vis peoples and individuals, as the ICJ suggested in *Barcelona Traction*, those “principles and rules concerning the basic rights of the human person” create obligations

²¹ *Ibid.*, at art. 7.

²² *Ibid.*, at art. 8.

²³ *Ibid.*, at art. 9.

²⁴ *Ibid.*, at art. 10.

²⁵ *Ibid.*, at art. 11.

²⁶ *Ibid.*, at art. 8, cmt. para. 1 (“As a general principle, the conduct of private persons or entities is not attributable to the State under international law.”)

²⁷ *Ibid.*, at Chapter II, cmt. para. 4.

²⁸ *Ibid.*, at arts. 16-18.

²⁹ *Ibid.*, at art. 2, cmt. para. 7.

³⁰ *Ibid.*, at general cmt. para. 5.

³¹ *Ibid.*, at art. 1, cmt. para. 4.

³² *Ibid.*, at art. 28, cmt. para. 3.

of an *erga omnes* character³³ because, given “the importance of the rights involved, all States can be held to have a legal interest in their protection.”³⁴ A State that breaches its international human rights obligations may incur responsibility to, and face claims by, *both* injured peoples or individuals (discussed further below), *and* other States or the international community as a whole.³⁵ Unless States expressly specify otherwise when entering into an international agreement or agreeing to be bound by a given international law, the ordinary rules of State responsibility will apply in the event of a breach.³⁶

21. International responsibility may be incurred even in absence of injury.³⁷ A State’s breach of its international obligation, alone, gives rise to State responsibility; injury is not required to establish the international wrongfulness of an act, nor is a State’s acceptance of the jurisdiction of the Court. This follows from the principle of *pacta sunt servanda*.³⁸ When a State violates its obligations, State responsibility is established “as immediately as between two (or more) States.”³⁹ No particular knowledge or mental element is required for a State to incur international responsibility beyond whatever mental element may be required to establish breach of the underlying primary obligation.⁴⁰

c. For which there is no applicable defense

22. The law of State responsibility contemplates defenses that a State may invoke to justify or excuse the breach of an international obligation or otherwise preclude its wrongfulness,⁴¹ such as the consent of the other State or States concerned to the breach,⁴² or necessity.⁴³ The latter requires showing that the impugned acts and omissions that breach international obligations were, both individually and in aggregate: (1) “the only way” (2) “to safeguard” (3) “an essential interest” (4) “against a grave” (5) “and imminent” (6) “peril”.⁴⁴ A State seeking to avoid responsibility bears the burden of proving any defense.⁴⁵

³³ Obligations in whose fulfillment all states have a legal interest because their subject matter is of importance to the international community as a whole. *Erga omnes obligations*, Oxford Reference, <https://www.oxfordreference.com/display/10.1093/oi/authority.20110803095756413>.

³⁴ See *The Barcelona Traction, Light and Power Company, Limited (New Application: 1962) (Belg. v. Spain)*, Judgment, 1970 I.C.J. 3 (Feb. 5), [hereinafter *Belg. Spain*, 1970 I.C.J.], at para. 33.

³⁵ ILC, *Draft Articles on State Responsibility, with commentaries*, at art.1, cmt. para. 4.

³⁶ *Ibid.*, at general cmt. para. 5.

³⁷ *Ibid.*, at art. 2, cmt. para. 9. See also, art. 29, cmt. para. 3 (“[T]he secondary legal relation of State responsibility arises on the occurrence of a breach and without any requirement of invocation by the injured State.”).

³⁸ See e.g., *Croatia v. Serbia*, 2015 I.C.J. at para. 86 [“States are required to fulfill their obligations under international law, including international humanitarian law and international human rights law, and they remain responsible for act contrary to international law which are attributable to them (see, e.g., *Armed Activities on the Territory of the Congo (New Application: 2002) (Democratic Republic of the Congo v. Rwanda)*, *Jurisdiction and Admissibility, Judgment, I.C.J. Reports 2006*, pp. 52-53, para. 127, and *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. 104, para. 148.”]

³⁹ *Phosphates in Morocco*, 1938 P.I.C.J., at para. 48.

⁴⁰ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 2, cmt. para. 10.

⁴¹ *Ibid.*, at Ch. V.

⁴² *Ibid.*, at art. 20.

⁴³ *Ibid.*, at art. 25.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*, at Ch. V, cmt. para. 8.

23. Domestic law is no defense. The lawfulness of the State conduct in question under the domestic law of the State has no bearing on whether it constitutes an internationally wrongful act.⁴⁶ What is salient is whether the impugned State conduct violates an international obligation of the State. As this Court has recognized, the principle that international law governs the characterization of an act as internationally wrongful reflects a “rule of customary law.”⁴⁷ For example, that a polluting activity “was not prohibited domestically” would be irrelevant to its wrongfulness under international law prohibiting transboundary harm, “because it is the causation of harm that is prohibited, not the polluting activity.”⁴⁸
24. State *liability* is, of course, not limited to “internationally wrongful acts.” That is, an act or omission of a State that is not contrary to international law can incur liability—such as in the case of a hazardous activity that is not prohibited, but that causes injury. In such instances, a State affected may demand compliance or damages without establishing that the conduct was prohibited.⁴⁹

ii. Legal consequences of an internationally wrongful act

25. The legal consequences that follow the establishment of an internationally wrongful act entail the obligations (sometimes called “secondary” rules or obligations) of the responsible State to cease the wrongful conduct⁵⁰ and to make full reparation for any resultant injury or injuries caused by the internationally wrongful act.⁵¹ Once an internationally wrongful act is established, legal consequences flow therefrom even in absence of injury. When there is injury, compensation and reparation is owed.

a. Cessation of the wrongful conduct

26. The State responsible for an internationally wrongful act is under an obligation: (a) to cease that act, if it is continuing (or susceptible to recurrence);⁵² and (b) to offer appropriate assurances and guarantees of non-repetition, if circumstances so require.⁵³
27. Cessation might be considered “the negative aspect of future performance, concerned with securing an end to continuing wrongful conduct,” while assurances and guarantees “serve a preventive function and may be described as a positive reinforcement of future performance.”⁵⁴ The function of cessation in the international rule of law is critical, as it protects the interests not only of the injured State or States but the international community as a whole.⁵⁵

⁴⁶ *Ibid.*, at art. 3.

⁴⁷ *Croatia v. Serbia*, 2015 I.C.J., at para. 128.

⁴⁸ Christina Voigt, *State Responsibility for Damages Associated with Climate Change*, in *Research Handbook on Climate Change Law and Loss & Damage* 166 (Meinhard Doelle & Sara L. Seck eds., 1st ed. 2021), [hereinafter Voigt, *State Responsibility for Damages Associated with Climate Change*] at p. 180.

⁴⁹ International Law Commission (ILC), *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, U.N. Doc A/56/10 (2001) [hereinafter ILC, *Draft Articles on Prevention of Transboundary Harm*], at art. 1, cmt. paras. 1-2, 4.

⁵⁰ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 30.

⁵¹ *Ibid.*, at art. 31.

⁵² *Ibid.*, at art. 30, cmt. para. 3.

⁵³ *Ibid.*, at art. 30.

⁵⁴ *Ibid.*, at art. 30, cmt. para.1.

⁵⁵ *Ibid.*, at art. 30, cmt. para. 5.

b. Full reparation of injury attributable to the wrongful act

28. The ILC Draft Articles on State Responsibility provide that once an internationally wrongful act is established, the responsible State or States are under an obligation to make full reparation for the injury caused by such act. Injury includes “any damage, whether material or moral, caused by the internationally wrongful act of a State.”⁵⁶ ‘Material’ damage here refers to damage to property or other interests of the State and its nationals which is assessable in financial terms. ‘Moral’ damage includes such items as individual pain and suffering, loss of loved ones, or personal affront associated with an intrusion on one’s home or private life.⁵⁷
29. As the Permanent Court of International Justice Court explained in the *Factory at Chorzów* case nearly a century ago: “It is a principle of international law that the breach of an engagement involves an obligation to make reparation in an adequate form,” and that “reparation must, as far as possible, 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,” in kind or through a sum corresponding to the value that restitution in kind would bear.⁵⁸ This reflects a broader aim of compliance with obligations.⁵⁹ Full reparation for the injury caused by the internationally wrongful act shall take the form of restitution (restoration of the original state as much as feasible), compensation (payment or redress for harm suffered), and satisfaction (when restitution and compensation are not possible, other means to redress injury for example express acknowledgment of and regret for harm caused), either singly or in combination.⁶⁰
30. The duty to provide reparation exists independent of demonstration of injury or demand for reparation. A State need not establish actual (material or pecuniary) damage before seeking reparation for breach of an international obligation, although damage will inform the form and quantum of reparation owed.⁶¹ Under the Draft Articles of State Responsibility, the notion of “injury” from the breach of an international obligation is broad and can encompass injury, the full extent of which may be “distant, contingent or uncertain.”⁶² Reparation is owed even when it is not claimed by the injured State(s): “The obligation of reparation arises automatically upon commission of an internationally wrongful act and is not, as such, contingent upon a demand or protest by any State, even if the form which reparation should take in the circumstances may depend on the response of the injured State or States.”⁶³

⁵⁶ *Ibid.*, at art. 31 (2).

⁵⁷ *Ibid.*, at art. 31, cmt. para. 5.

⁵⁸ *The Factory at Chorzow (Ger. v. Polish Republic)* 1927 P.C.I.J. (ser. A) No. 9 (July 26) at p. 47.

⁵⁹ Margaretha Wewerinke-Singh, *State Responsibility for Human Rights Violations Associated with Climate Change*, in *Routledge Handbook of Human Rights and Climate Governance* (1st ed., 2018) [hereinafter Margaretha Wewerinke-Singh, *State Responsibility for Human Rights Violations Associated with Climate Change*], at p. 82.

⁶⁰ ILC Draft Articles on State Responsibility, at arts. 34-37.

⁶¹ *Ibid.*, at art. 31, cmt. para. 7.

⁶² *Ibid.*, at art. 31, cmt. para. 8.

⁶³ *Ibid.*, at art. 31, cmt. para. 4.

31. The law of State responsibility requires reparations for damages both ‘material and moral.’⁶⁴ The ICJ has recognized environmental damage as material damage, for which reparation may be claimed.⁶⁵ In *Lusitania* it was held that international law provides compensation for mental suffering, injury to feelings, humiliation, shame, degradation, loss of social position, or injury to credit and reputation, such injuries being “very real, and the mere fact that they are difficult to measure or estimate by money standards makes them nonetheless real and affords no reason why the injured person should not be compensated.”⁶⁶ International tribunals have granted pecuniary compensation for moral injury to private parties.⁶⁷
32. Reparations in cases of moral or other non-material damage clearly go beyond compensation. In the *Rainbow Warrior* case, the tribunal held that, “[T]here is a long established practice of States and international Courts and Tribunals of using satisfaction as a remedy or form of reparation (in the wide sense) for the breach of an international obligation. This practice relates particularly to the case of moral ...damage done directly to the State.”⁶⁸ Satisfaction may take the form of, for example, an apology, disciplinary action, or a declaration of wrongfulness.
33. The duty to provide reparation attaches to those injuries ascribable to the act.⁶⁹ To attribute an injury to a State’s internationally wrongful act, there must be a sufficient causal link between the injury and the State’s wrongful act.⁷⁰ In *Costa Rica v Nicaragua*, a case that involved determining compensation for environmental harm, this Court required a sufficiently “direct and certain causal nexus” between the wrongful act and damage incurred.⁷¹ While the requisite nexus is formulated variously in the case law of this Court and in the resolution of international disputes before other bodies, common to those formulations is the idea that the consequences must not be too indirect, remote, or uncertain to be appraised.⁷² Ultimately, the assessment of that link will be fact-specific,⁷³ and the nature or quantum of

⁶⁴ *Ibid.*, at art. 31, cmt. para. 5.

⁶⁵ See, e.g., Certain Activities Carried Out by Nicaragua in the Border Area (*Costa Rica v. Nicar.*), Compensation, Judgment, 2018 I.C.J. 15 (Feb. 2) [hereinafter *Costa Rica v. Nicar.*, 2018 I.C.J.]

⁶⁶ Opinion in the *Lusitania* Cases, UN Reports of International Arbitral Awards (UNRIAA), 1923, vol. VII, at p. 40.

⁶⁷ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 36, cmt. para 16.

⁶⁸ France-New Zealand Arbitration Tribunal, *Rainbow Warrior (N.Z. v. Fra.)*, 82 I.L.R. 500 (1990) [hereinafter *Rainbow Warrior Case*], at para.122.

⁶⁹ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 31, cmt. para. 9.

⁷⁰ Armed Activities on the Territory of the Congo (*Dem. Rep. Congo v. Uganda*) Reparations, Judgment, 2022 I.C.J. 13 (Feb. 9), at para. 382: “The Court considers that it is not sufficient, as the DRC claims, to show “an uninterrupted chain of events linking the damage to Uganda’s wrongful conduct”. Rather, the Court is required to determine “whether there is a sufficiently direct and certain causal nexus between the wrongful act . . . and the injury suffered by the Applicant”; *Costa Rica v. Nicar.*, 2018 I.C.J., at para 34 (“In 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.”).

⁷¹ *Costa Rica v. Nicar.*, 2018 I.C.J., at para. 72.

⁷² ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 31, cmt. para. 10.

⁷³ *Costa Rica v. Nicar.*, 2018 I.C.J at para. 34.

evidence required will differ depending on the circumstances, including the respective capacities of the parties and their access to information.⁷⁴

34. The existence of multiple States that commit the same wrongful act, or multiple States whose separate wrongful acts contribute to the same damage, does not preclude individual State responsibility. Principle 2 of the Guiding Principles on Shared Responsibility in International Law provides that, “The commission by multiple international persons of one or more internationally wrongful acts that contribute to an indivisible injury entails shared responsibility,” and such contribution “may be individual, concurrent or cumulative.”⁷⁵ Notably, while attribution is rendered complex by “the synergistic effect of diverse pollutants and multiple polluters,”⁷⁶ as the ICJ itself has affirmed, and as has been reaffirmed by other international bodies, the existence of multiple causes, or the involvement of multiple States, does not preclude the establishment of independent responsibility, and when relevant, award of damages.⁷⁷ Where several States are responsible for the same internationally wrongful act, the responsibility of each State may be invoked in relation to that act. Where a plurality of States have committed separate wrongful acts that contribute to causing the same damage, “the responsibility of each participating State is determined individually, on the basis of its own conduct and by reference to its own international obligations.”⁷⁸
35. Much as in national law, concurrent liability (the existence of concurrent causes of injury) does not preclude recovery from each international wrongdoer, or justify reduction of reparation.⁷⁹ This principle applies where the concurrent causes include conduct of non-State actors, against which a State failed to protect the injured parties.⁸⁰ In some instances, the tribunal has placed the burden on the responsible State to show the portion of the injuries for which it is not responsible.⁸¹ A responsible State may have recourse to other responsible States for contribution to reparation, where the acts or omissions of several States in breach of their international obligations contribute to the same injury.⁸²

⁷⁴ See para. 38 below & sources cited therein.

⁷⁵ André Nollkaemper et al., *Guiding Principles on Shared Responsibility in International Law*, The European Journal of International Law, vol. 31, no. 1 (2020), at principle 2, cmt. para 5, <http://ejil.org/pdfs/31/1/3037.pdf> [hereinafter EJIL, *Guiding Principles on Shared Responsibility in International Law*]: “Principle 2 “sets out that an indivisible injury resulting from the conduct of multiple international persons can arise in three types of situations: in the case of an individual contribution, in which a single contribution caused the injury by itself; in the case of concurrent contributions, in which each of the contributions could have caused the injury by itself; and in the case of cumulative contributions, in which the conduct of multiple international persons together results in an injury that none could have caused on their own.” The latter is particularly relevant to climate change.

⁷⁶ Voigt, *State Responsibility for Damages Associated with Climate Change*, at p. 180.

⁷⁷ See, ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 47. This principle has been applied in numerous cases. See, e.g., for example, Trail Smelter Arbitration (U.S. v. Can.), 3 R.I.A.A. 1905 (1941) [hereinafter *Trail Smelter Arbitration*], (on multiple causes); *United States Diplomatic and Consular Staff in Tehran (U.S. v. Iran)*, Jurisdiction & Admissibility, Judgment, 1980 I.C.J. 3 (May 24), para. 317; Corfu Channel Case, Compensation Judgment, para. 4 (on multiple States).

⁷⁸ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 47, cmt. Para 8.

⁷⁹ *Ibid.*, at art. 31, cmt. para. 12

⁸⁰ *Ibid.*

⁸¹ See, e.g., *D. Earnshaw and Others (Great Britain) v. United States (Zafiro case)* UNRIAA, vol. VI (Sales No. 1955. V.3) (1925), pp. 164–165.

⁸² ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 47, cmt. paras. 8, 10.

36. Proportionality bears on the provision of reparations. To ensure that the principle of full reparation does not lead to debilitating requirements in relation to the responsible State, restitution is excluded if it would involve a burden out of proportion to the benefit gained by the injured State or other party. Compensation is limited to damage actually suffered as a result of the internationally wrongful act, while satisfaction must “not be out of proportion to the injury.”⁸³
37. Nor does the existence of multiple injured States preclude responsibility. As set forth in the Draft Articles on State Responsibility, “where several States are injured by the same internationally wrongful act, each injured State may separately invoke the responsibility of the State which has committed the internationally wrongful act.”⁸⁴
38. Standards of evidence are interpreted and applied in a manner so as not to preclude access to justice. The legal duty to provide reparations is “unaffected by a State’s inability to pay or by a claimant’s inability to determine the quantity and value of the losses suffered.”⁸⁵ The absence of adequate evidence as to the extent of material damage will not necessarily preclude an award of compensation for that damage,⁸⁶ though it may affect the court’s assessment of the amount owed. In circumstances where parties have differential access to information and/or where a risk or harm is ongoing or may be repeated, it may be appropriate to shift the burden of proof to require the State to prove a lack of causation, for which there is precedent in environmental matters.⁸⁷
39. The injured State’s contribution to injury may be taken into account when determining the form and extent of reparation owed. Article 39 of the ILC Draft Articles on State Responsibility requires that where the claimant State has through “wilful or negligent” acts or omissions contributed to the injury, the reparation must be assessed accordingly.⁸⁸ Thus, contribution to the damage will not lead to an exculpation of the wrongful act, but may limit, to an extent, the legal consequences flowing from it. As discussed below, this principle is salient in the context of the cumulative greenhouse gases emissions causing harm to the climate system, to which multiple States have contributed to greatly varying degrees. That all States have contributed some amount to GHG accumulation in the atmosphere over time, even

⁸³ *Ibid.*, at art. 34 cmt. para. 5.

⁸⁴ *Ibid.*, at art. 46.

⁸⁵ Margaretha Wewerinke-Singh, *State Responsibility for Human Rights Violations Associated with Climate Change*, at p. 83.

⁸⁶ *Costa Rica v. Nicar.*, 2018 I.C.J., at para. 35.

⁸⁷ See *Tătar v. Romania*, European Court of Human Rights, App. No. 67021/01 (Jan. 1, 2009), paras. 87, 107 (exempting the applicants from proving the certainty of environmental risk because the State was in a better position to prove a lack of causation and show that it had fulfilled its obligations); Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court’s Judgment of 20 December 1974 in the *Nuclear Tests (New Zealand v. France)* Case (N.Z. v. Fra.), Order, 1995 I.C.J. 288 (Sept. 22) [hereinafter 1995 *Nuclear Tests case*] (while the ICJ’s order in the 1995 *Nuclear Tests* case indicated that it was not going to be decided on the merits, in his dissenting opinion Justice Weeramantry wrote, “..burden of proving safety lies upon the author of the act complained of, and the ‘polluter pays principle’, placing on the author of environmental damage the burden of making adequate reparation to those affected”). As articulated in the Maastricht Principles on Human Rights of Future Generations, where there are reasonable grounds for concern that the impacts of conduct may result in the violation of rights, triggering the State duty to protect, “the burden of proof in all circumstances must lie with those who would undertake or persist in the conduct involved, not with those who might be harmed as a result. This burden grows proportionately greater as the scale, scope, and irremediability of threats to rights of future generations increases. See *Maastricht Principles on the Human Rights of Future Generations*, (2023), at principle 9, <https://www.rightsoffuturegenerations.org/the-principles>.

⁸⁸ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 39 & cmt. para 5.

if a *de minimis* or non-material quantity for some States, will not preclude the wrongfulness of the conduct of those that have contributed significantly or exclude the possibility of reparation.

B. Breach of human rights law triggers similar duties to remedy and repair resultant injuries to peoples and individuals

40. An act or omission of a State that breaches its international obligations under human rights law carries consequences both under the law of State responsibility and also directly under the law of human rights. As stated in the ILC Articles on State Responsibility, the responsibility of a State for the breach of an international obligation that is owed to a non-State entity (person or persons) may give rise to recourse by those injured parties outside of the law of State responsibility (without a State intervening): “This is true, for example, under human rights treaties which provide a right of petition to a court or some other body for individuals affected.”⁸⁹
41. The reparatory duties of a State under the law of State responsibility do not supplant its duty to provide effective remedy under human rights law. The law of State responsibility does not displace the accrual of rights to a non-State actor arising from a State’s breach of international obligations.⁹⁰ Where the international obligation breached sets out particular consequences of such a breach (or the corresponding rights of the injured parties in the event of such a breach), those consequences will apply alongside the law of State responsibility.⁹¹ A State’s breach of its international human rights obligations, which can be said to be of an *erga omnes* character because all States have an interest in their protection,⁹² will trigger legal consequences to other States under the law of State responsibility, as well as a duty under human rights law to provide adequate remedy and reparation to those peoples and individuals whose human rights were violated.
42. The legal duties triggered by a breach under human rights law parallel those under the law of State responsibility—namely, the obligations of cessation and reparation. The right to remedy is guaranteed under international human rights law,⁹³ and States have a corresponding duty to make reparation to

⁸⁹ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 33, cmt. para. 4.

⁹⁰ *Ibid.* at art. 33(2).

⁹¹ *Ibid.* at art. 28, cmt. para 3.

⁹² The Barcelona Traction, Light and Power Company, Limited (New Application: 1962) (*Belg. v. Spain*), Judgment, 1970 I.C.J. 3 (Feb. 5) at paras. 33-34 (stating that the “principles and rules concerning the basic rights of the human person” create obligations *erga omnes* because, given “the importance of the rights involved, all States can be held to have a legal interest in their protection”).

⁹³ See, for e.g., Universal Declaration of Human Rights, Dec. 8, 1948, G.A. Res. 217A (III), U.N. Doc. A/810 at 71 (1948) [hereinafter UDHR], at art. 8; International Covenant on Civil and Political Rights, Dec. 16, 1966, 999 U.N.T.S. 171 (entered into force Mar. 28, 1979) [hereinafter ICCPR], at art. 2; and U.N. Office of the High Commissioner on Human Rights, *Guiding Principles on Business and Human Rights*, U.N. Doc. HR/PUB/11/04 (2011) [hereinafter UNGP], at principle 25. Also see, U.N. Human Rights Comm., *General Comment No. 31, The Nature of the General Legal Obligation Imposed on States Parties to the Covenant: International Covenant on Civil and Political Rights*, U.N. Doc. CCPR/C/21/Rev.1/Add.13 (May 26, 2004), paras. 16; *Basic Principles and Guidelines on the Right to a Remedy and Reparation for Victims of Gross Violations of International Human Rights Law and Serious Violations of International Humanitarian Law*, G.A. Res. 60/147, (Dec. 15, 2005) [hereinafter *UN Basic Principles and Guidelines on the Right to a Remedy and Reparation*]; *Maastricht Principles on the Human Rights of Future Generations*, (2023) at para. 30.

individuals and peoples⁹⁴ whose rights have been violated. Discharging the obligation to provide remedy which applies domestically and extraterritorially,⁹⁵ and runs to present and future generations,⁹⁶ requires full reparation of the adverse consequences of human rights violations.

43. Like the law of State responsibility, human rights law provides for remedy and reparation of ‘moral’ or ‘non-material impacts’ of human rights violations, as well as material injury. The right to remedy and corresponding State obligations have both procedural and substantive dimensions, involving (i) the procedures and institutions that may be utilized to enforce a right,⁹⁷ and (ii) ensuring reparations to victims for the negative consequences of those violations.⁹⁸ The procedural dimension of the right to remedy requires remedial mechanisms to be accessible to complainants and capable of providing suitable, effective, and prompt remedy.⁹⁹ Moreover, remedies should be prompt and diligent based on the nature of the violation, the vulnerability of the plaintiff, and the imminence or irreversibility of the harm.¹⁰⁰ The substantive dimension of the right to an effective remedy requires States to provide adequate redress, which can take, and may require, multiple forms, including but not limited to: (i) restitution, (ii) compensation, (iii) rehabilitation,¹⁰¹ (iv) measures of satisfaction, and (v) guarantees of non-repetition.¹⁰² These mirror, for the most part, forms of reparation contemplated under the laws of State responsibility.
44. The next section applies the above-described law in the context of climate change.

Part 2. State Contributions to, and Failures to Prevent, Harm to the Climate System are Internationally Wrongful Acts Triggering Legal Consequences

45. The elements of an internationally wrongful act or acts can be made out with respect to climate change and its resultant impacts—namely: the existence of international obligations, conduct attributable to a State or States that breaches those obligations, and the absence of any applicable defense. This section examines the applicable international obligations and available evidence of State conduct that breaches those obligations, which establishes internationally wrongful acts. State obligations to protect the climate

⁹⁴ *United Nations Declaration on the Rights of Indigenous Peoples*, G.A. Res. 61/295 (Sept. 13, 2007) [hereinafter UNDRIP], at art 28.

⁹⁵ See for example, *Maastricht Principles on the Extraterritorial Obligations* (2023).

⁹⁶ *Maastricht Principles on the Human Rights of Future Generations* (2023), para. 30. See CIEL, Memo on the Rights of Future Generations, in Written Statement submitted to the ICJ in the climate advisory proceedings, March 2024.

⁹⁷ Dinah Shelton, *Human Rights Remedies*, in Max Planck Encyclopedias of International Law (MPEPIL, 2006), at para. 1. In relation to access to justice and remedies in its the UN CRC has noted, “[A]ccess to applicable international and regional human rights mechanisms should be available, including through ratification of the Optional Protocol on a communications procedure. Information about such mechanisms and how to use them should be made widely known to children, parents, caregivers and professionals working with and for children.” Comm. on the Rights of the Child, *General Comment No. 26 (2023) on Children’s Rights and the Environment with a Special Focus on Climate Change*, U.N. Doc. CRC/C/GC/26 (Aug. 22, 2023), para. 90.

⁹⁸ *UN Basic Principles and Guidelines on the Right to a Remedy and Reparation*, at para.VII.

⁹⁹ *Ibid.*, at para. 1 (b)(c);

¹⁰⁰ *San Miguel Sosa et al. v. Venezuela*, Merits, Reparations, and Costs, Judgment, Inter-Am. Ct. H.R. (ser. C) No. 348 (Feb. 8, 2018), at para. 198.

¹⁰¹ Rehabilitation includes, for example, medical and psychological care as well as legal and social services. *UN Basic Principles and Guidelines on the Right to a Remedy and Reparation*, at para. 21.

¹⁰² *UN Basic Principles and Guidelines on the Right to a Remedy and Reparation*, at paras. 18, 23.

system are rooted in, *inter alia*, longstanding customary international law regarding the duty to prevent significant transboundary environmental harm and minimize the risk thereof; human rights law regarding the duties to respect and protect (ensure) human rights against foreseeable violations; and multilateral agreements on international cooperation to “stabilize greenhouse gas concentration in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”¹⁰³ As elaborated, below, there is ample evidence that States or groups of States have breached and are breaching these international obligations through both their inaction and their actions. A State’s failure to take effective measures to prevent and reduce harm due to climate change by curtailing its primary causes, or to minimize resultant injuries by supporting adaptation and resilience, breaches its international obligations. So, too, do State acts that instead augment such harms by increasing dangerous levels of greenhouse gas emissions.

46. Paragraphs 49-90 set out first, States’ international obligations under the transboundary harm principle in customary international law, their application to climate change as a form of significant transboundary environmental harm, and the type of State acts and omissions that have breached or are breaching those obligations by generating and failing to prevent and minimize the cumulative greenhouse gas emissions causing climate change. Next, paragraphs 91-108, address some of the relevant obligations under treaty law pertaining to protection of the climate system, and evidence of their breach. Finally, paragraphs 109-119 address State obligations under international human rights law to protect human rights from violations due to climate change, and those State acts and omissions that, by causing cumulative greenhouse gas emissions and failing to take adequate steps to prevent or reduce such emissions, or to minimize climate impacts and bolster resilience to them, breach those obligations, causing injuries to States, peoples, and individuals. The breach of any one or any number of these primary obligations, individually or in combination, by conduct attributable to a State amounts to an internationally wrongful act, giving rise to secondary obligations of cessation and reparation.
47. Part 3 then examines the consequences that flow from such breaches—namely, the responsibility of States to cease their wrongful conduct and repair the injuries to States, peoples, and individuals attributable to such acts, and the types of measures capable of satisfying those remedial obligations.
48. The multiple relevant rules of international law pertaining to State conduct vis-a-vis climate change and its impacts should be interpreted and applied harmoniously, consistent with the Vienna Convention on the Law of Treaties, articles 30 and 31, as well as rules of customary international law, to give rise to a consistent set of obligations and avoid conflict. [See the previous section of this submission: CIEL, Memo on Applicable Law, in Written Statement submitted to the ICJ in the climate advisory proceedings, March 2024.]

¹⁰³ United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 (entered into force Mar. 21, 1994) [hereinafter UNFCCC], at art. 2.

A. Breaches of the transboundary harm principle under customary international law

i. States must prevent and minimize the risk of significant transboundary environmental harm

49. One of the touchstones of States' international legal obligations with respect to protection of the climate system is the duty of States to prevent and to minimize the risk of significant transboundary environmental harm, which constitutes customary international law.¹⁰⁴ The transboundary harm principle (sometimes called the preventive principle) has its roots in the principle of State territorial sovereignty and control over natural resources, which requires respect of and non-interference in other States' sovereignty.¹⁰⁵ At its core, the principle prohibits States from conducting or allowing others to conduct activities within their territories or subject to their jurisdiction and control, that infringe on the rights of other States.
50. That duty has long been understood to encompass environmental pollution that crosses territorial boundaries, as articulated in the 1941 *Trail Smelter* case, an arbitration dispute between Canada and the United States concerning cross-border pollution.¹⁰⁶ It requires States not only to refrain from causing significant transboundary harm, but also to take measures to prevent significant transboundary harm or to minimize the risk thereof.¹⁰⁷ This application of the transboundary harm principle is enshrined in Principle 21 of the 1972 Stockholm Declaration, and Principle 2 of the 1992 Rio Declaration, which both qualify States' "sovereign right to exploit their own resources," with "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."¹⁰⁸ The duty is also reflected in "the Principles of

¹⁰⁴ International Law Commission (ILC), *Draft Guidelines on the Protection of the Atmosphere, with commentaries*, U.N. Doc. A/76/10 (2021), [hereinafter ILC, *Draft Guidelines on the Protection of the Atmosphere, with commentaries*], at guideline 3, cmt. para 8; International Law Commission (ILC), *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, U.N. Doc A/56/10 (2001), [hereinafter ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*], at general cmt. para. 3; see also *Corfu Channel*, 1949 I.C.J. at p. 22. (grounding the notion that a State must not allow its territory to be used for activities contrary to the rights of other States in "certain general and well-recognized principles").

¹⁰⁵ See Reports of International Arbitral Awards, *Island of Palmas Case (Neth. v. U.S.)*, Vol. II (Apr. 4, 1928) at p. 839 ("Territorial sovereignty ... involves the exclusive right to display the activities of a State. This right has as corollary a duty: the obligation to protect within the territory the rights of other States, in particular their right to integrity and inviolability in peace and in war, together with the rights which each State may claim for its nationals in foreign territory.").

¹⁰⁶ See *Trail Smelter Arbitration*; See also 1995 *Nuclear Tests case*, at para. 29. (observing that the duty to not cause transboundary environmental harm is "now a part of the corpus of international law relating to the environment.").

¹⁰⁷ See also ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, at art. 3.

¹⁰⁸ *Stockholm Declaration on the Human Environment*, UN Doc. A/Conf.48/14, 2, Corr. 1 (1972), [hereinafter *Stockholm Declaration*], at principle 21; *Rio Declaration on Environment and Development*, UN Doc. No. A/CONF.151/26/Rev.1 (1992) [hereinafter *Rio Declaration*], at principle 2. See also ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, general cmt. para. 4. The preventive principle is also enshrined in various other international legal instruments, including, e.g., the 1991 Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) and the 1992 Convention on the Transboundary Effects of Industrial Accidents (Industrial Accidents Convention); and the

conduct in the field of the environment for the guidance of States in the conservation and harmonious utilization of natural resources shared by two or more States, adopted by the Governing Council of UNEP in 1978, which provided that States must: avoid to the maximum extent possible and ... reduce to the minimum extent possible the adverse environmental effects beyond its jurisdiction of the utilization of a shared natural resource so as to protect the environment, in particular when such utilization might: (a) cause damage to the environment which could have repercussions on the utilization of the resource by another sharing State; (b) threaten the conservation of a shared renewable resource; (c) endanger the health of the population of another State.”¹⁰⁹

51. This fundamental obligation has been upheld by the ICJ in numerous cases. In its 1996 advisory opinion on the *Legality of the Threat or Use of Nuclear Weapons*, the ICJ recognized that there is a “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.”¹¹⁰ The ICJ has clarified that this obliges a State not to knowingly allow its territory to be used “for acts contrary to the rights of other States,”¹¹¹ and to use “all means at its disposal in order to avoid activities which take place in its territory, or in any other area under its jurisdiction, causing significant damage to the environment of another State.”¹¹²
52. The Court has affirmed the application of this principle “in a transboundary context, and in particular as regards a shared resource.”¹¹³ The extension of the principle to damage to a shared resource brings within the purview of this Court’s case law degradation of the atmosphere, which, as discussed below, is considered a “shared resource.”¹¹⁴
53. Transboundary harm is not limited to harm between States that share a border, but must be a significant physical consequence of human activity that crosses borders or affects areas beyond national jurisdiction. The “State of Origin” is the place where the activities likely to cause significant harm occur *or are planned*,¹¹⁵ and the State or States likely to be affected may or may not be adjacent to it.¹¹⁶ At its core, the duty is extraterritorial in its reach, running from the State of Origin to other States and the international community as a whole, which has a common interest in shared resources. When an act or omission in a given jurisdiction will foreseeably cause or increase the risk of harm beyond a State’s

Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention).

¹⁰⁹ UNEP, *Environmental Law: Guidelines and Principles, No. 2, Shared Natural Resources* (Nairobi, 1978), at principle 3; *see also* G.A. Res. 2995 (XXVII) (Dec. 15, 1972) on cooperation between States in the field of the environment.

¹¹⁰ 1995 *Nuclear Tests case*, at para. 29.

¹¹¹ *The Corfu Channel Case (U.K. v. Alb.)* Merits, Judgment, 1949 I.C.J. 4 (Apr. 9) [hereinafter *Corfu Channel Case*, Merits Judgment], at p. 22.

¹¹² *Case Concerning Pulp Mills on the River Uruguay (Arg. v. Uru.)*, Judgment, 2010 I.C.J. 14, ¶ 101 (Apr. 20) [hereinafter *Pulp Mills*], at para. 101.

¹¹³ *Dispute over the Status and Use of the Waters of the Silala (Chile v. Bol.)*, Judgment, 2022 I.C.J. Rep. 614 (Dec 1), para. 99.

¹¹⁴ ILC, *Draft Guidelines on the Protection of the Atmosphere, with commentaries*, guideline 5, cmt. para. 1.

¹¹⁵ ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, at art. 2 (emphasis added).

¹¹⁶ *Ibid.*, art. 2(c) (defining “transboundary harm” as “harm caused in the territory of or in other places under the jurisdiction or control of a State other than the State of origin, whether or not the States concerned share a common border”).

borders, the duty is triggered, regardless of where the harm occurs. The harm or damage contemplated, which could be to persons, property, or the environment,¹¹⁷ and must be ‘significant,’ meaning “something more than “detectable” but not necessarily “serious” or “substantial.”¹¹⁸

54. Transboundary harm often occurs through a medium, such as air (as in the *Trail Smelter* case¹¹⁹), or water (as in the *Lac Lanoux* arbitration¹²⁰). Thus, the cause of transboundary harm can operate indirectly to effect legally cognizable injury.
55. The State has a duty to prevent, reduce and control public and private conduct that causes or poses a risk of transboundary harm. States must act to prevent and minimize the risk of harm in other States or in areas beyond national jurisdiction stemming from any conduct within the State’s jurisdiction and control—including not only public acts or omissions, but those of private actors subject to the State’s regulatory authority. Given that adverse environmental effects may stem from the conduct of non-State actors, States have a duty to “ ‘ensure’ that such activities within their jurisdiction or control do not cause significant adverse effects....taking into account the context and evolving standards both of regulation and technology.”¹²¹ The corollary in human rights law, discussed below, is the duty of States to protect against the foreseeable extraterritorial effects on human rights of the activities of both public and private actors within a State’s jurisdiction or subject to its control.
56. A State must deploy “all the means at its disposal” to prevent the harm.¹²² States must take “all appropriate measures to prevent, reduce or control human activities where these activities have or are likely to have significant adverse effects,” which necessitates not only the adoption of appropriate rules and measures but vigilance in their enforcement and exercise of administrative control.¹²³ As outlined in the Draft Articles on State Responsibility, obligations of prevention “require States to take all reasonable or necessary measures to prevent a given event from occurring, but without warranting that the event will not occur.”¹²⁴ The text of Article 3 of the ILC Draft Articles on Prevention of Transboundary Harm from Hazardous Activities provides that States shall “take all *appropriate measures* to prevent significant transboundary harm or at any event to minimize the risk thereof,”¹²⁵ but the commentary clarifies that this “imposes on the State a duty to take *all necessary measures* to prevent significant transboundary harm or at any event to minimize the risk thereof.”¹²⁶
57. Due diligence is a central component of the obligation to prevent transboundary harm.¹²⁷ Indeed, “the principle of prevention, as a customary rule, has its origins in the due diligence that is required of a State.”¹²⁸ It is a variable concept which may “change over time as measures considered sufficiently

¹¹⁷ *Ibid.*, at Art. 2(b).

¹¹⁸ *Ibid.*, at art. 2, cmt. para. 4.

¹¹⁹ *Trail Smelter Arbitration*, at 1917.

¹²⁰ *Lake Lanoux Arbitration* (Fra. v. Spain), 12 R.I.A.A. 281 (Arbitral Tribunal 1957).

¹²¹ See *Draft Guidelines on the Protection of the Atmosphere, with commentaries*, guideline 3, cmt. para. 6.

¹²² *Pulp Mills*, 2010 I.C.J., para. 101.

¹²³ ILC, *Draft Guidelines on the Protection of the Atmosphere*, at guideline 3, cmt. para. 6.

¹²⁴ ARSIWA, Art. 14 (3) commentary para 14.

¹²⁵ ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, at art. 3.

¹²⁶ *Ibid.* at art. 3, cmt. para. 4.

¹²⁷ *Ibid.*, art. 3, cmt. para. 7.

¹²⁸ *Pulp Mills*, 2010 I.C.J., para. 101.

diligent at a certain moment may become not diligent enough in light, for instance, of new scientific or technological knowledge.”¹²⁹

58. The standard of due diligence “has to be more severe for the riskier activities.”¹³⁰ The more irreversible or permanent the consequences of the harm, the more demanding the due diligence required.¹³¹ So while States may have a right to exploit their own resources, that right is checked by States’ duty not to knowingly cause environmental damage to other States or areas beyond national jurisdiction, which necessarily includes the climate, atmosphere, high seas, and other global commons.¹³² “The standard of due diligence against which the conduct of the State of origin should be examined is that which is generally considered to be appropriate and proportional to the degree of risk of transboundary harm in the particular instance.”¹³³
59. The level of due diligence required not only varies with the severity of the potential harm, but also with the capacities of the State—that is, the means at its disposal.¹³⁴ Legal duties framed in due diligence terms require, as upheld by the ICJ in *Pulp Mills*, “not only the adoption of appropriate rules and measures, but also a certain level of vigilance in their enforcement and the exercise of administrative control applicable to public and private operators, such as the monitoring of activities undertaken by such operators, to safeguard the rights of the other party.”¹³⁵ States must adhere to these duties in line with shared and differentiated obligations, and consistent with their concurrent international obligations¹³⁶
60. The assessment of what is foreseeable risk and what constitutes significant harm may change over time, and with scientific developments.¹³⁷ The degree of care required of a State pursuant to the duty of prevention is a function of the degree of harm foreseeable. Foreseeability is an objective standard; a risk is foreseeable unless “no properly informed observer was or could have been aware of that risk at the time the activity was carried out.”¹³⁸ As the ILC notes in the Draft Articles on Prevention of

¹²⁹ Responsibilities and obligations of States with respect to activities in the Area, Case no. 17, Advisory Opinion, ITLOS Rep. 2011 (Feb.1, 2011), para. 117.

¹³⁰ *Ibid.*

¹³¹ *Pulp Mills*, 2010 I.C.J., paras. 185–187; see also ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, at art. 3, cmt. para 18 (“The required degree of care is proportional to the degree of hazard involved.”).

¹³² UN Environment Programme, Division of Environmental Law and Conventions, *IEG of the Global Commons*, <https://cil.nus.edu.sg/wp-content/uploads/2015/12/Ses4-7.-UNEP-Division-of-Environmental-Law-and-Conventions-Global-Commons.pdf> (“The ‘Global Commons’ refers to resource domains or areas that lie outside of the political reach of any one nation State. Thus international law identifies four global commons namely: the High Seas; the Atmosphere; Antarctica; and, Outer Space.”).

¹³³ ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, at art. 3, cmt. para. 11.

¹³⁴ *Pulp Mills*, 2010 I.C.J., para. 101 (“A State is thus obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State.”)

¹³⁵ *Ibid.*, at para. 197.

¹³⁶ Principles such as “common but differentiated obligations and respective capabilities” rooted in international environmental law, including climate law, and the obligation to “use maximum available resource” to meet human rights duties provide guidance in this context.

¹³⁷ See ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, art. 2, cmt. para. 7.

¹³⁸ *Ibid.* at art. 1, cmt. para. 14.

Transboundary Harm from Hazardous Activities, while States are generally not responsible for prevention of harms that are not foreseeable, they do have a continuing obligation to identify activities that pose a risk of harm.¹³⁹ “It is possible that an activity which in its inception did not involve any risk ...might come to do so as a result of some event or development.”¹⁴⁰

61. The clearer the science linking conduct and harm, the stronger the preventive duty. “From a legal point of view, the enhanced ability to trace the chain of causation, i.e. the physical link between the cause (activity) and the effect (harm), and even the several intermediate links in such a chain of causation, makes it also imperative for operators of hazardous activities to take all steps necessary to prevent harm. In any event, prevention as a policy is better than cure.”¹⁴¹ The more knowledge States have of a risk, the stronger the duty to take measures to prevent it. But the preventive duty exists even in the absence of certain knowledge, according to what is known as the precautionary principle.¹⁴²
62. A closely related but distinct duty is the duty of States to reduce the risk of disasters, which may be the result of transboundary pollution or effects of activity within a State or States other than those in which the disaster occurs. This duty applies to both “natural and human-made”¹⁴³ disasters, where disaster means “a calamitous event or series of events resulting in widespread loss of life, great human suffering and distress, mass displacement, or large-scale material or environmental damage, thereby seriously disrupting the functioning of society.”¹⁴⁴ Reducing the risk of disaster requires taking measures, “including through legislation and regulations, to prevent, mitigate, and prepare for disasters.”¹⁴⁵ Insofar as climate change is fueling disasters and compounding the impacts of disasters driven by other factors, measures to reduce climate change (see Part III Section C below) are critical to fulfillment of the duty to prevent disaster.

ii. Cumulative GHG emissions in the global atmosphere and ensuing climate change constitute significant transboundary harm

63. Climate change and its resultant impacts, driven by cumulative greenhouse gas emissions, satisfy the definition of “significant transboundary harm” laid out above.¹⁴⁶ They are the physical consequence of human activity undertaken within the jurisdiction or control of States, that causes adverse effects to people, property, and the environment to other States and to shared global resources in a transboundary

¹³⁹ *Ibid.*, at art. 3, cmt. paras 5, 18.

¹⁴⁰ *Ibid.*, at art. 1, cmt. para. 15.

¹⁴¹ *Ibid.*, at general cmt., para.1.

¹⁴² *Ibid.*, art. 3, cmt. Para. 14. As stated in the Rio Declaration, the precautionary principle provides that “[w]here there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” *Rio Declaration on Environment and Development*, UN Doc. A/CONF.151/26/Rev.1 (1992) (reprinted in 31 I.L.M. 874 (1992)), at principle 15.

¹⁴³ ILC, *Draft Articles on the Protection of Persons in the Event of Disasters, with commentaries*, (2016), at pmb1.

¹⁴⁴ *Ibid.*, at art. 3.

¹⁴⁵ *Ibid.*, at art. 9(1).

¹⁴⁶ See International Law Association, *Washington Conference Report on Legal Principles Relating to Climate Change*, (2014), art. 7, cmt. para. 5, https://www.ila-hq.org/en_GB/documents/conference-report-washington-2014-5 (“Application of the customary law principle of prevention of environmental damage to the situation of climate change damage is supported by State practice and the writings of international jurists.”).

context¹⁴⁷—adverse effects which are not only more than “detectable” but manifestly “serious” and “substantial.”¹⁴⁸ That those adverse effects are mediated through the atmosphere does not break the link between the emissions-generating activities and climate-related harm.

64. The transboundary harm of climate change stems from human activities that generate cumulative emission of GHGs and destroy carbon sinks (which absorb and retain (store) GHGs). The science is unequivocal: climate change is a result of the cumulative emission of GHGs—heat-trapping gases such as carbon dioxide (CO₂) and methane—in the atmosphere. Human activity has increased the concentration of GHGs in the atmosphere¹⁴⁹ to its highest level in at least 800,000 years.¹⁵⁰ Since the industrial revolution, anthropogenic emissions of GHGs to the atmosphere—overwhelmingly from the production and use of fossil fuels (oil, gas, and coal)¹⁵¹—“have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850-1900 in 2011-2020.”¹⁵² For decades, the scientific community has concluded that fossil fuels are the main driver of rising GHG emissions, and predicted the magnitude of current climate impacts.¹⁵³ Predominantly fossil-fueled emissions “have continued to increase, with unequal historical and ongoing contributions,”¹⁵⁴ driving average global temperatures even higher to current levels of approximately 1.2-1.3°C.¹⁵⁵ Last year, 2023, was the hottest

¹⁴⁷ ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, art. 2(b).

¹⁴⁸ *Ibid.*, at art. 2, cmt. para. 4.

¹⁴⁹ IPCC AR6, Summary for Policymakers, para. A.1.

¹⁵⁰ IPCC, 2018: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA [hereinafter IPCC SR1.5], at Chapter 1, Box 1.1; IPCC AR5, SPM, 1.2; see also IPCC AR6 WGI, SPM A.2.1.

¹⁵¹ IPCC AR6, Summary for Policymakers para. A.1, A.1.4; IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, p. 676 [V. Masson-Delmotte et al (eds.)] [hereinafter IPCC AR6 WGI]; United Nations Environment Programme, Emissions Gap Report 2021: The Heat Is On – A World of Climate Promises Not Yet Delivered (2021); Richard Heede, Tracing Anthropogenic carbon dioxide and methane emissions to fossil fuel and cement producers, 1854-2010, 122 *Climatic Change* 229 (2014); U.S. Environmental Protection Agency, Causes of Climate Change, <https://www.epa.gov/climatechange-science/causes-climate-change> (“Burning fossil fuels changes the climate more than any other human activity.”); David Boyd, Pedro Arrojo Agudo, Marcos A. Orellana, Livingstone Sewanyana, Surya Deva & Olivier De Schutter, “Fossil Fuels at the heart of the planetary environmental crisis: UN experts (Nov. 30, 2023), <https://www.ohchr.org/en/press-releases/2023/11/fossils-fuels-heart-planetary-environmental-crisis-un-experts> (UN Special Procedures mandate holders stating that “Fossil fuels are the largest source of greenhouse gas emissions, which have unequivocally caused the climate crisis”).

¹⁵² IPCC, Contribution of Working Groups I, II and III to the Sixth Assessment Report of the IPCC, Synthesis Report, Summary for Policymakers, 2023 [hereinafter IPCC, AR6, Synthesis Report, Summary for Policymakers], at A.1.

¹⁵³ See, e.g., The White House, *Restoring the Quality of Our Environment*, Report of The Environmental Pollution Panel President's Science Advisory Committee (1965), appendix Y4, <https://www.documentcloud.org/documents/3227654-PSAC-1965-Restoring-the-Quality-of-Our-Environment#document/p19/a2420378> [hereinafter The White House, *Restoring the Quality of Our Environment* 1965 report], at pp. 112-131. See also *infra*, paragraphs 84-87.

¹⁵⁴ IPCC, AR6, SYR SPM, at A.1.

¹⁵⁵ National Aeronautics and Space Administration (NASA), *Vital Signs*, <https://climate.nasa.gov/vital-signs/global-temperature> (last visited March 19, 2024) (noting that Earth was about 1.36 degrees Celsius warmer

on record.¹⁵⁶ It was the first year that global average land temperature was more than 2°C above pre-industrial levels and the global average ocean surface temperatures were more than 1°C above pre-industrial levels.¹⁵⁷ Producing and using fossil fuels for more than a century, together with deforestation and destruction of other natural carbon sinks, have released GHG emissions into the atmosphere, warming the planet,¹⁵⁸ altering its climate, leading to sea level rise, ocean acidification, and increasing the frequency, likelihood, and intensity of extreme weather events,¹⁵⁹ among other impacts.

65. Harmful impacts of rising global temperatures and climate change have been visible and documented for years, and are undeniably manifest and mounting around the world today—particularly in those communities and States in the most vulnerable situations. At current levels of global warming, “widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred,”¹⁶⁰ causing “widespread adverse impacts and related losses and damages to nature and people”¹⁶¹ and disproportionately affecting people “who have historically contributed the least to current climate change.”¹⁶² Some losses in human and natural systems are already irreversible and others are approaching irreversibility.¹⁶³ Those impacts will only worsen with every additional fraction of a degree. Warming of 1.5°C is not safe for most people and ecosystems.¹⁶⁴ Scientists have issued increasingly dire

in 2023 than in the late 19th century pre-industrial average); NOAA, Rebecca Lindsey & Luann Dahlman, *Climate Change: Global Temperature* (Jan. 18, 2024), <https://www.climate.gov/news-features/understanding-climate/climate-change-global-temperature>; Raymond Zhong, “Have We Crossed a Dangerous Warming Threshold? Here’s What to Know.”, N.Y. Times (Feb. 8, 2024), <https://www.nytimes.com/2024/02/08/climate/global-warming-dangerous-threshold.html> (stating that while 2023 was approximately 1.5°C warmer, most estimates put average warming between 1.2°C and 1.3°C warmer than pre-industrial levels);

¹⁵⁶ National Oceanic and Atmospheric Administration (NOAA), U.S. Dept. of Commerce, “2023 was the world’s warmest year on record, by far” (Jan. 12, 2024), <https://www.noaa.gov/news/2023-was-worlds-warmest-year-on-record-by-far>; NASA, “NASA analysis confirms 2023 as Warmest Year on Record (Jan. 12, 2024), <https://www.nasa.gov/news-release/nasa-analysis-confirms-2023-as-warmest-year-on-record/>; Raymond Zhong & Keith Collins, “See How 2023 Shattered Records to Become the Hottest Year,” *The N.Y. Times* (Jan. 9, 2024), <https://www.nytimes.com/2024/01/09/climate/2023-warmest-year-record.html>; see also Zeke Hausfather, “State of the Climate: 2023 smashes records for surface temperature and ocean heat,” *Carbon Brief*, www.carbonbrief.org/state-of-the-climate-2023-smashes-records-for-surface-temperature-and-ocean-heat/ (noting that global surface temperature was “between 1.34C and 1.54C above pre-industrial levels across different temperature datasets”).

¹⁵⁷ Zeke Hausfather, Carbon Brief, State of the Climate: 2023 smashes records for surface temperature and ocean heat, Jan 12, 2024, <http://www.carbonbrief.org/state-of-the-climate-2023-smashes-records-for-surface-temperature-and-ocean-heat/>.

¹⁵⁸ IPCC, AR6, Synthesis Report, Summary for Policymakers, at A.1.

¹⁵⁹ IPCC, *Climate Change 2022: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (H.-O. Pörtner, et. al eds., Cambridge University Press, 2022) [hereinafter IPCC, AR6, WGII], at B.1.

¹⁶⁰ IPCC, AR6, Synthesis Report, Summary for Policymakers, at A.2.

¹⁶¹ *Ibid.* (high confidence).

¹⁶² *Ibid.* (high confidence).

¹⁶³ IPCC, *Climate Change 2022: Impacts, Adaptation, and Vulnerability*, Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (H.-O. Pörtner, et. al eds., Cambridge University Press, 2022), Summary for Policymakers [hereinafter IPCC, AR6, WGII: Summary for Policymakers], at B.1.2.

¹⁶⁴ IPCC, 2018: *Global Warming of 1.5°C, An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, Technical Summary, (V. Masson-Delmotte et al, eds., Cambridge University Press, 2018) [hereinafter IPCC,

warnings about the impacts of continued temperature rise, cautioning that any increase above 1.5°C, even if temporary, will cause further irreversible harm and catastrophic consequences for people and ecosystems.¹⁶⁵ It will also increase the frequency, likelihood, and intensity of extreme weather events, as well as the associated harm.¹⁶⁶

66. Beyond altering the atmosphere and thereby the global climate, cumulative greenhouse gas emissions also have significant, direct adverse impacts on another transboundary, shared global resource: the oceans. While climate change and resultant global warming impacts oceans through heat absorption with a host of deleterious effects, the increased atmospheric concentration of CO₂ increases the absorption of CO₂ in the oceans, changing ocean chemistry. Under current GHG emissions trends, by 2100 ocean acidity is projected to be higher than at any point over the last 20 million years and likely much longer.¹⁶⁷ Ocean acidification also adversely affects human systems and well-being, including by reducing access to food sources, livelihoods, and cultural practices,¹⁶⁸ diminishing ecosystem services from coral reefs,¹⁶⁹ and increasing island and coastal vulnerability to storms and sea level rise,¹⁷⁰ among other impacts.
67. In view of these consequences, many of which have been occurring or were foreseeable for years, atmospheric pollution and the atmospheric degradation it engenders trigger State preventive obligations. The ILC Draft Guidelines on the Protection of the Atmosphere describe three existing obligations to protect the atmosphere from atmospheric pollution and degradation under international law: “the obligation to protect the atmosphere (draft guideline 3),” by “exercising due diligence in taking appropriate measures, in accordance with applicable rules of international law, to prevent, reduce or control atmospheric pollution and atmospheric degradation,” “the obligation to ensure that an environmental impact assessment is carried out (draft guideline 4) and the obligation to cooperate (draft guideline 8).”¹⁷¹ Atmospheric pollution means “the introduction or release by humans, directly or indirectly, into the atmosphere of substances or energy contributing to significant deleterious effects extending beyond the State of origin of such a nature as to endanger human life and health and the Earth’s natural environment.”¹⁷² Atmospheric degradation refers to “the alteration by humans, directly or indirectly, of atmospheric conditions having significant deleterious effects of such a nature as to

2018 Special Report, Global Warming of 1.5°C], at 44 (The IPCC’s Special Report on Warming of 1.5°C explicitly states 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 as compared to the current warming of 1°C (high confidence),” especially for “disadvantaged and vulnerable populations.”); IPCC, 2018 Special Report, Global Warming of 1.5°C, Ch. 5 (“Sustainable Development, Poverty Eradication and Reducing Inequalities”), at 447.

¹⁶⁵ IPCC, AR6, WGII: Summary for Policymakers, at B.3; *see also* IPCC, AR6, WGII, at vii (“The assessment underscores the importance of limiting global warming to 1.5°C if we are to achieve a fair, equitable and sustainable world.”); IPCC, AR6, WGII, Technical Summary, at C.1.2.

¹⁶⁶ IPCC, AR6, WGII: Summary for Policymakers, at B.1.

¹⁶⁷ Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 *Marine Policy* (2019), at p. 1.

¹⁶⁸ *Ibid.*

¹⁶⁹ IPCC, 2019, Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA [hereinafter IPCC SR Ocean and Cryosphere], Summary for Policymakers, at B.8.2.

¹⁷⁰ IPCC, AR6, WGII, Ch. 3, at p. 382.

¹⁷¹ ILC, *Draft Guidelines on the Protection of the Atmosphere, with commentaries*, at Guideline 10 cmt. para 5.

¹⁷² *Ibid.*, at Guideline 1(b).

endanger human life and health and the Earth's natural environment"¹⁷³ and is "intended to include problems of ozone depletion and climate change. It covers the alteration of the global atmospheric conditions caused by humans, whether directly or indirectly. These may be changes to the physical environment or biota or alterations to the composition of the global atmosphere."¹⁷⁴ The alteration of the atmosphere due to increased concentrations of GHGs, a form of atmospheric degradation, has changed the global climate and led to myriad adverse impacts.

68. The due diligence required to satisfy those preventive obligations is heightened in view of the severity and irreversibility of climate change impacts. As noted above, the more serious the risk, the stronger the due diligence required to prevent it. There is perhaps no risk more serious than the existential threat posed by climate change, particularly to certain States and communities in the most vulnerable situations such as small island developing States (SIDS). As the science linking emissions-generating conduct to climate change and its resultant harms becomes ever clearer, the more stringent the duty to take preventive action.
69. In sum, cumulative GHG emissions since the industrial era have caused and are causing transboundary harm directly and indirectly, through degradation of the global atmosphere—a shared resource—which triggers climate change, resulting in a variety of material and moral injuries to States, peoples, and ecosystems, from excessive heat and extreme weather events, to sea level rise, marine warming and ocean acidification, droughts, wildfires, desertification, food insecurity, and increased vector-borne diseases, among other impacts. As discussed below, those cumulative emissions and resultant climate impacts can be attributed to State conduct—combined actions and omissions—that has permitted the continued accumulation of greenhouse gases in the shared global atmosphere.

iii. Acts and omissions attributable to the State that have generated and are increasing cumulative emissions breach this preventive obligation

70. In assessing whether an internationally wrongful act in violation of the transboundary harm principle in customary international law has occurred in relation to climate change, the relevant conduct comprises the acts and omissions of individual States or groups of States that have, over time, through their cumulative GHG emissions, directly or indirectly caused significant harm to the climate system—and by extension to the environment, to other States, and/or to peoples and individuals. This is the case whether or not those States are the main cause of the specific harm at issue in a given case.
71. Evidence can be adduced showing that State acts and omissions which, individually or in combination, have led to and/or failed to prevent cumulative greenhouse gas emissions at levels that significantly alter the climate system, and cause or will foreseeably cause climate change impacts, breach the State obligation to prevent significant transboundary harm and minimize the risk thereof. That conduct in breach of customary international law constitutes an internationally wrongful act.

¹⁷³ *Ibid.*, at Guideline 1(c).

¹⁷⁴ *Ibid.*, at Guideline 1 cmt. para 12.

a. Breach results from cumulative, composite acts over time

72. The breach of the transboundary harm principle stems from the composite acts of States. In the case of cumulative greenhouse gas emissions that cause significant transboundary environmental harm, the breach of a State's international obligation is due to a composite act—"a series of actions or omissions defined in aggregate as wrongful."¹⁷⁵ Emissions are cumulative, so by the time that additional emissions crossed a threshold of causing significant harm, they did so because they added onto existing emissions in the atmosphere. The threshold of harm—and therefore breach of the obligation to prevent such harm—is reached "when the action or omission [with respect to greenhouse gas emissions] occurs which, taken with the other actions or omissions [generating previous emissions], is sufficient to constitute the wrongful act."¹⁷⁶
73. In a composite act, prior conduct is legally relevant to establishing the breach. The conduct relevant to establishing the breach of the duty to prevent transboundary harm due to climate change is not simply the last act or omission of the State that leads to increased emissions, but the prior acts and omissions that, over time, combined to create the cumulative stock of GHGs in the atmosphere. Those prior actions and omissions date back to the industrial revolution, when fossil fuels began to be used. As a result, the conduct that breaches customary international law, because it causes or contributes to significant transboundary environmental harm to the climate, encompasses the cumulative emissions up to and including the moment of breach. Thus, while the initial conduct that led to greenhouse gas emissions (chiefly from the production and use of fossil fuels) may not have been internationally wrongful, once the cumulative effect of those acts and omissions was such as to cause or threaten significant harm to the global atmosphere and thereby the climate, the conduct breached the State's international obligations and became internationally wrongful.
74. According to the ILC, the duration of a breach consisting of a composite act "extends over the entire period starting with the first of the actions or omissions of the series and lasts for as long as these actions or omissions are repeated and remain not in conformity with the international obligation."¹⁷⁷ The relevant breach in the context of climate change, then, will pertain to the entire period that cumulative emitters have contributed to emissions at a level causing significant harm to the climate system.
75. The moment in time when a given State or group of States' actions and omissions sufficed to breach their international obligation to prevent transboundary harm will be fact-specific, dependent on their cumulative GHG-generating conduct and the magnitude of the emissions attributable to conduct within the State's jurisdiction or control. At some point in time, the greenhouse gas emissions produced directly or indirectly by a State, including by actors within its jurisdiction and control, met the threshold of causing significant transboundary harm. When a State's contribution to and allowance of GHG emissions at constant or increasing levels—including by undertaking, authorizing, or supporting activities that produce greenhouse gas emissions and by failing to reduce or control those emissions by public and private (non-state) actors within its jurisdiction and control through regulation—caused and/or increased the risk of significant transboundary environmental harm, it can be shown to have breached its international duty. Although many if not most GHG emissions are generated by private

¹⁷⁵ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 15(1).

¹⁷⁶ *Ibid.*

¹⁷⁷ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 15(2).

actors, they can be attributed to the State that has jurisdiction or control over those actors' conduct because their release into the atmosphere is a result of the State authorizing, supporting, facilitating, or failing to regulate or otherwise control the emissions-generating activities or the emissions. (See para. 18 above)

76. A failure to reduce emissions beyond that point when cumulative emissions caused or were known to increase the risk of significant transboundary harm presumptively constitutes a continuing breach. “The breach of an international obligation requiring a State to prevent a given event occurs when the event occurs and extends over the entire period during which the event continues and remains not in conformity with that obligation.”¹⁷⁸ With regard to the duty to prevent transboundary harm and minimize the risk of such harm, then, breach occurs when transboundary harm occurs or when the risk is increased, and extends over the period during which transboundary harm continues or the risk thereof increases. As discussed at paras. 84-87 below, the transboundary harm of climate change has been documented for decades, is clearly continuing and the risk thereof, only mounting.
77. When the State has an obligation to prevent transboundary harm and minimize the risk thereof, any State conduct—be it an act or omission—that increases the risk of such harm is axiomatically at odds with that obligation. State inaction to reduce and control the known drivers of climate change increases transboundary environmental harm and the risk thereof, in breach of customary international law. In the face of mounting climate-related impacts and risk of impacts, States’ failure to rapidly reduce the activity causing the majority of emissions—by curbing fossil fuel production and use within their jurisdiction and control—increases the risk. When both adverse impacts and the threat of such impacts are on the rise, through continually mounting global temperatures, cumulative emissions, and compound and cascading impacts of climate change, doing nothing to alter the status quo can *increase* the risk of harm. The persistence of an industrialized State, for example, in permitting the unregulated emission into the atmosphere of greenhouse gases within its jurisdiction and by actors subject to its jurisdiction and control, with knowledge that such emissions are altering the global climate with manifest and foreseeable adverse effects, violates its international obligations to prevent such transboundary harm and minimize the risk thereof.
78. Moreover, some States are not only failing to reduce GHG emissions steeply and swiftly, they are actively driving them higher, particularly through continued expansion of the production and use of fossil fuels, leading inevitably to consequent emissions at rates incompatible with preventing further climate-related harm. In the face of overwhelming evidence regarding the need for deep emission cuts to avoid catastrophic climate consequences, and the consequent need for a just, rapid and equitable phase out of fossil fuels, according to recent research,¹⁷⁹ GHG emissions are set to increase by almost 9% by 2030, compared to 2010 levels, even though the best available science mandates that “emissions must fall by 45% by the end of this decade compared to 2010 levels to meet the goal of limiting global temperature rise to 1.5 degrees.”¹⁸⁰ In fact, governments in aggregate, plan to produce more than double

¹⁷⁸ *Ibid.*, at art. 14(3).

¹⁷⁹ Secretary-General’s Message - UNFCCC NDC Synthesis Report Launch (Nov. 14, 2023), <https://www.un.org/sg/en/content/sg/statement/2023-11-14/secretary-generals-message-unfccc-ndc-synthesis-report-launch%C2%A0#>; see also UNFCCC Secretariat, Synthesis Report, *Nationally Determined Contributions under the Paris Agreement*, U.N. Doc. FCCC/PA/CMA/2023/12 (Nov. 14, 2023), at para. 8 (b).

¹⁸⁰ Secretary-General’s Message - UNFCCC NDC Synthesis Report Launch (Nov. 14, 2023).

the amount of fossil fuels in 2030 as would be consistent with limiting warming to 1.5°C.¹⁸¹ Analysis shows that just five Global North countries will be responsible for over half (51%) of all planned oil and gas field developments from now to 2050, plans starkly incompatible with a livable future.¹⁸² By driving further climate change, such conduct actually and foreseeably increases transboundary harm and the risk of such harm, in contravention of State duties under customary international law.

79. A State's conduct contributing to cumulative greenhouse gas emissions may be internationally wrongful because it breaches the State's preventive duties, even if that conduct is not the sole, necessary and sufficient, cause of a specific climate-related injury. To the extent that such injury is attributable to climate change—in the sense that it would not have happened at all or to the same degree without climate change—it results from the cumulative contributions of multiple States that have combined to heat the planet. In cases of such cumulative contributions to injury, a contributing State may bear international legal responsibility if its respective contribution constitutes a material contribution—one that played more than a minimal role—in the causation of the injury or is part of a jointly sufficient set of contributions.¹⁸³ In the *Corfu Channel* case, for example, both the action of one State in laying the land mines and the omission of another in failing to warn of them caused the injury, and therefore both States bore legal responsibility.¹⁸⁴

b. Evidence attributes cumulative GHG emissions by State

80. Available evidence attributing cumulative emissions to individual States clearly shows that industrialized, wealthy nations are disproportionately responsible for overall emissions to date. Evidence exists showing the respective cumulative contributions of different States to greenhouse gas emissions over time since the industrial era, and corresponding shares of global average temperature rise (climate change) for which those emissions are responsible.¹⁸⁵ Such evidence could be used to identify those States or groups of States whose cumulative contributions were sufficient to increase atmospheric GHG concentrations to such a level as to cause measurable change to the climate and identifiable adverse effects (injuries). Research quantifying national responsibility for damages related to climate change by

¹⁸¹ Stockholm Environment Institute, Climate Analytics, E3G, IISD & UNEP, *The Production Gap: Phasing down or phasing up? Top fossil fuel producers plan even more extraction despite climate promises* (2023), https://productiongap.org/wp-content/uploads/2023/11/PGR2023_web_rev.pdf, at p. 4 (“Governments, in aggregate, still plan to produce more than double the amount of fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C”) [hereinafter *Production Gap Report 2023*].

¹⁸² Oil Change International, *Planet Wreckers: How Countries' Oil and Gas Extraction Plans Risk Locking in Climate Chaos* (September 2023) <https://priceofoil.org/2023/09/12/planet-wreckers-how-20-countries-oil-and-gas-extraction-plans-risk-locking-in-climate-chaos/>, at p. 15.

¹⁸³ EJIL, *Guiding Principles on Shared Responsibility in International Law*, at Principle 2 cmt. para 9.

¹⁸⁴ *Corfu Channel Case*, Compensation Judgment, at p. 4; see also *Third Report on State Responsibility*, by Mr James Crawford, Special Rapporteur, UN Doc. A/CN.4/507, at para. 31.

¹⁸⁵ See, e.g., Matthew W. Jones, et al., *National contributions to climate change due to historical emissions of carbon dioxide, methane, and nitrous oxide since 1850*, Scientific Data 10 (2023), <https://doi.org/10.1038/s41597-023-02041-1>, at p. 2 (presenting a “dataset of changes in GMST during 1851–2021 resulting from historical emissions of CO₂, CH₄ and N₂O at the global scale and for individual countries”). “National contributions to climate change are closely tied to cumulative emissions of CO₂ in the industrial era because a substantial fraction of emitted CO₂ remains in the Earth's atmosphere for centuries. Consequently, emissions from developed nations have contributed significantly to warming since the industrial revolution.” *Ibid.* See also Greenhouse Gas Emission Data (WRI, April, 2014); Climate Action Tracker; <https://www.climatewatchdata.org/>

looking at national contributions to cumulative CO₂ emissions in excess of the planetary boundary of 350 parts per million (ppm) atmospheric CO₂ concentration has found that countries classified by the UNFCCC as Annex I nations (which includes, most industrialized countries) were collectively responsible for 90% of “excess” emissions, with Global North nations responsible for 92%.¹⁸⁶ Recent research reinforces how the wealthiest countries and within each country, the wealthiest individuals, are responsible for using up a disproportionate share¹⁸⁷ of the so-called “carbon budget,”¹⁸⁸ which represents the estimated remaining amount of GHG (CO₂ equivalent) that can be emitted into the atmosphere without raising global average temperature above a given level. While different approaches may be used to depict the relative contributions of different States to atmospheric change, the fact that data exist documenting GHG emissions over time by State provides a basis for connecting State conduct with climate impacts. That such a connection can be substantiated means that attribution could be made out in a given case, providing a legally sound basis for finding an internationally wrongful act.

81. Adjusting data to reflect cross-border transactions and colonial history increases the share of global emissions attributable to the conduct of industrialized States. Most of the above-referenced data is based solely on territorial emissions, and thus does not capture a State’s responsibility for emissions caused by its exports or the activities of its nationals (including corporate nationals) extraterritorially. It also treats historical emissions as attributable to States in existence today that were not in existence previously, ignoring the control exerted by some colonial States over others in the past. If responsibility for emissions under colonial rule were to be allocated to the colonial rulers as they held ultimate decision-making authority at the time, the share of former colonial powers would grow significantly in terms of attributing responsibility for contributions to global warming.¹⁸⁹ Attributing the conduct of former colonies to colonial powers would be consistent with Articles 16-18 of the ILC Draft Articles on State Responsibility, which provide that a State may be responsible for the conduct of another State that it aids or assists, directs or controls, or coerces into undertaking. (See the discussion at para. 19 above)

c. Evidence establishes requisite State knowledge (foreseeability)

82. The duty to prevent transboundary harm arises when a State knows or should know that certain conduct is likely to cause or contribute to such harm. “In general, in the context of prevention, a State of origin does not bear the risk of unforeseeable consequences to States likely to be affected by [hazardous] activities.”¹⁹⁰ What is foreseeable is not static but necessarily evolves over time with knowledge of risks, and States have an obligation to continuously assess the likelihood of such risks. Moreover, perceptions

¹⁸⁶ Jason Hickel, *Quantifying national responsibility for climate breakdown: an equality-based attribution approach for carbon dioxide emissions in excess of the planetary boundary*, *The Lancet* 4:9 (September 2020), <https://www.thelancet.com/action/showPdf?pii=S2542-5196%2820%2930196-0>, at p. 399,

¹⁸⁷ “Revealed: How colonial rule radically shifts historical responsibility for climate change,” *Carbon Brief* (Nov. 26, 2023), <https://www.carbonbrief.org/revealed-how-colonial-rule-radically-shifts-historical-responsibility-for-climate-change/>.

¹⁸⁸ Joeri Rogelj and P.M. Forster, *Guest post: A new approach for understanding the remaining carbon budget*, *Carbon Brief* (July 17, 2019), <https://www.carbonbrief.org/guest-post-a-new-approach-for-understanding-the-remaining-carbon-budget/>.

¹⁸⁹ Simon Evans & Verner Viisainen, *Revealed: How Colonial Rule Radically Shifts Historical Responsibility for Climate Change*, *CarbonBrief* (Nov. 26, 2023), <https://www.carbonbrief.org/revealed-how-colonial-rule-radically-shifts-historical-responsibility-for-climate-change>

¹⁹⁰ ILC, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, with commentaries*, at art. 3 cmt. para. 5.

of whether a risk poses a threat of harm significant harm and the acceptability of that risk may change over time. (See para. 60 above) As has been powerfully framed by the Supreme Court of the State of Hawaii in relation to action on climate change in 2023, ‘[y]esterday’s good enough has become today’s unacceptable.’¹⁹¹

83. The obligation to prevent is triggered when the harm is reasonably foreseeable, not merely when it is certain or already manifest, as it is now in the case of climate change-related harm. Thus, when a State’s actual contributions to GHG emissions were enough to cause significant harm, and it had at least some level of foresight or knowledge of that harm or risk thereof—which can be established through evidence, as discussed below—then its conduct in enabling and failing to prevent such emissions becomes a breach of international law.
84. States have known of the risks and adverse consequences of the accumulation of GHGs in the atmosphere for decades. Precisely when a State became aware of the risk of transboundary harm to the climate from greenhouse gas emissions varies from country to country, and will ultimately be a question of fact. But ample evidence indicates that States (and corporations¹⁹²) began to understand the drivers of climate change and extent of impacts more than half a century ago: In 1957-1958, nearly seventy governments and thousands of scientists from around the world participated in the International Geophysical Year (IGY), a collaborative initiative to study Earth and its environment, including the atmosphere.¹⁹³ The IGY spawned the monitoring of CO₂ concentrations in the atmosphere at Charles Keeling’s Mauna Loa Observatory in Hawaii, the site of the longest running such measurement in the world.¹⁹⁴ Data from those observations were first published in 1960 in an article that referred to combustion of fossil fuel as the source of the CO₂ accumulation.¹⁹⁵ Those data subsequently formed the basis of the “Keeling Curve,” a geophysical record depicting rising concentrations of carbon dioxide in the atmosphere that spurred the establishment of research on climate impacts in the 1970s.¹⁹⁶
85. In 1965, the report of an advisory committee to the President of the United States discussed the science on the effects of carbon dioxide on the global climate and its potential consequences,¹⁹⁷ including the

¹⁹¹ *In re Hawai’i Electric Light Co, Inc*, No SCOT-22-0000418, Supreme Court of Hawaii (March 13, 2023), <https://cases.justia.com/hawaii/supreme-court/2023-scot-22-0000418.pdf?ts=1678734177>, at p. 9.

¹⁹² Benjamin Franta, *Early Oil Industry Knowledge of CO₂ and Global Warming*, *Nature Climate Change* 8 (November 2018), <https://www.nature.com/articles/s41558-018-0349-9>, at pp. 1024-26; Sara Jerving et al, *What Exxon Knew About the Earth’s Melting Arctic*, *L.A. Times* (Oct. 9, 2015), <https://graphics.latimes.com/exxon-arctic/>; G. Supran, *Assessing ExxonMobil’s global warming projections*, *Science* 379:6628 (Jan. 13, 2023), <https://www.science.org/doi/10.1126/science.abk0063>; Memorandum from James F. Black, Scientific Advisor, Exxon Products Research Division, to F. G. Turpin, Vice President, Exxon research and Engineering Co. (Jun. 6, 1978), <https://insideclimatenews.org/wp-content/uploads/2015/09/James-Black-1977-Presentation.pdf>; Richard Heede, *The Evolution of Corporate Accountability for Climate Change*, in César Rodríguez-Garavito (ed.), *Litigating the Climate Emergency* (Cambridge University Press 2022) at p. 243.

¹⁹³ National Archives, Dwight D. Eisenhower Presidential Library, *International Geophysical Year (IGY)*, <https://www.eisenhowerlibrary.gov/research/online-documents/international-geophysical-year-igy> (last visited March 18, 2024).

¹⁹⁴ See National Oceanic and Atmospheric Administration (NOAA), Global Monitoring Laboratory, *Trends in Atmospheric Carbon Dioxide*, <https://gml.noaa.gov/ccgg/trends/> (last visited March 18, 2024).

¹⁹⁵ Charles D. Keeling, *The concentration and isotopic abundances of carbon dioxide in the atmosphere*, *Tellus* 12:2 (1960), <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.2153-3490.1960.tb01300.x>.

¹⁹⁶ Robert Monroe, *The History of the Keeling Curve*, UC San Diego Scripps Institution of Oceanography (April 3, 2013), <https://keelingcurve.ucsd.edu/2013/04/03/the-history-of-the-keeling-curve/>.

¹⁹⁷ The White House, *Restoring the Quality of Our Environment* 1965 report, at pp. 112-133.

possibility of significant temperature rise by the year 2000, on the order of 0.6 to 4°C, and massive sea level rise.¹⁹⁸ The report specifically examined the impacts of carbon dioxide accumulation from fossil fuels, which it called “the invisible pollutant,”¹⁹⁹ and predicted a 25% increase in CO₂ concentration in the atmosphere due to fossil fuel combustion by 2000.²⁰⁰ Fossil fuels were identified as the principal source of CO₂ being added to the atmosphere, and the report warned that consuming “a little more than half the reserves of fossil fuels” would result in a “doubling of CO₂ in the air” and three times the effect on temperature rise as a 25% increase in atmospheric CO₂ concentrations.²⁰¹ A letter to the President of the United States, highlighting the focus of the research on the climate impacts of CO₂, makes clear that knowledge of the risks to the climate from emissions and by extension, risks to people and the environment, ran to the highest levels of government.²⁰²

86. Similar studies were being developed around that time in other industrialized, high-emitting countries, like Germany, where climate research and greater media attention to global warming took off in the 1970s.²⁰³ In the Soviet Union, scientists published findings on the human influence on the climate system from at least the early 1960s, and a seminal paper by M.I. Budyko published in 1972, *Influence of Humankind on Climate*, which projected future global temperature increases due to anthropogenic activity.²⁰⁴
87. At a 1988 hearing of the U.S. Senate Committee on Energy and Natural Resources addressing the issues of global warming and the greenhouse effect, James Hansen famously testified that “the greenhouse effect has been detected, and it is changing our climate now,”²⁰⁵ placing the issue of global warming squarely at the forefront of public debate. That same year, the Intergovernmental Panel on Climate Change (IPCC) was established²⁰⁶ and one year later, in 1989, governments created a mandate to negotiate a framework convention on climate change, reflecting the fact that international awareness of the problem of anthropogenic climate change and its causes had reached such a level as to necessitate action.²⁰⁷ The IPCC published its first assessment report on the state of climate science, climate impacts,

¹⁹⁸ *Ibid.*, at p.121, 123.

¹⁹⁹ *Ibid.*, at p. 112.

²⁰⁰ *Ibid.*, at p. 126.

²⁰¹ *Ibid.*, at p. 121.

²⁰² *Memorandum for the President [of the United States] from Donald F. Hornig, Special Assistant for Science and Technology*, 13 January 1965, <https://www.documentcloud.org/documents/24231246-memorandum-for-the-president-jan-13-1965>.

²⁰³ Jeannine Cavenger and Jill Jager, *The History of Germany's Response to Climate Change*, International Environmental Affairs (1993), pp. 6-9, https://cbs.umn.edu/sites/cbs.umn.edu/files/migrated-files/downloads/1993_Cavender-Bares_Jaeger_IEA.pdf

²⁰⁴ Jonathan D. Oldfield, *Imagining climates past, present and future: Soviet contributions to the science of anthropogenic climate change, 1953-1991*, *Journal of Historical Geography* 60 (2018) at pp. 45-46, <https://doi.org/10.1016/j.jhg.2017.12.004>.

²⁰⁵ Statement of Dr. James Hansen, Director, NASA Goddard Institute for Space Studies, to the Hearing Before the U.S. Senate Committee on Energy and Natural Resources (June 23, 1988), at p. 2, https://pulitzercenter.org/sites/default/files/june_23_1988_senate_hearing_1.pdf.

²⁰⁶ UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, U.N. Doc. A/RES/43/53, para. 5 (Dec. 6, 1988).

²⁰⁷ UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, U.N. Doc. A/RES/44/207, para. 12 (Dec. 22, 1989).

and responses in 1990.²⁰⁸ And in 1992, States adopted the UNFCCC.²⁰⁹ In concluding that Convention, States recognized that climate change was having “adverse effects,” defined as “changes in the physical environment or biota ... 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.”²¹⁰ Such harm did not start when the UNFCCC was agreed, but predated it. The UNFCCC was not the first instrument in which States expressly recognized the deleterious effects of climate change,²¹¹ but it was the first time they collectively agreed to take action to halt those effects.

88. In sum, evidence will show that some countries, principally industrialized States, were aware of the risk of adverse impacts to the climate from the emission of GHGs, principally from fossil fuels, since at least the middle of the 20th century. Some company research predicted impacts with remarkable precision.²¹² While they may not have had full understanding of the speed of atmospheric change or the full extent or severity of its impacts, many high-emitting countries had sufficient awareness of the risk of harm to trigger their preventive obligations. Consistent with the precautionary principle, absence of scientific certainty or detailed knowledge regarding the extent of the possible harm did not, and does not, excuse inaction to avert the risk.²¹³ Thus by approximately 1960, some States, and by no later than 1992, *all* States across the world were in possession of requisite knowledge regarding climate change to have an obligation to act to prevent harm from climate change and the risk thereof.²¹⁴ Since then, the scientific

²⁰⁸ See Intergovernmental Panel on Climate Change (IPCC), *History of the IPCC*, <https://www.ipcc.ch/about/history/>.

²⁰⁹ United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 (entered into force Mar. 21, 1994) [hereinafter UNFCCC].

²¹⁰ UNFCCC, at pmb., art. 1(1).

²¹¹ See, e.g., UN General Assembly, UN Conference on Environment and Development, U.N. Doc. A/RES/44/228 (Dec. 22, 1989); UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, U.N. Doc. A/RES/43/53 (Dec. 6, 1988); UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, U.N. Doc. A/RES/44/207 (Dec. 22, 1989); UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, U.N. Doc. A/RES/45/212 (Dec. 21, 1990) (establishing a single intergovernmental negotiating process for the framework convention on climate change); UN General Assembly, Protection of Global Climate for Present and Future Generations of Mankind, U.N. Doc. A/RES/46/169 (Dec. 19, 1991); UN General Assembly, Possible Adverse Effects of Sea-level Rise on Islands, and Coastal Areas, particularly Low-lying Coastal Areas, U.N. Doc. A/RES/44/206 (Dec. 22, 1989).

²¹² See, e.g., Geoffrey Supran, Stefan Rahmstorf & Naomi Oreskes, “Assessing ExxonMobil’s global warming projections,” 379(6628) *Science* (Jan. 13, 2023), <https://www.science.org/doi/10.1126/science.abk0063>.

²¹³ Rio Declaration, at Principle 15.

²¹⁴ On foreseeability, the Committee on the Rights of the Child has noted: “[R]egarding the issue of foreseeability, the Committee notes the authors’ uncontested argument that the State party has known about the harmful effects of its contributions to climate change for decades and that it signed both the United Nations Framework Convention on Climate Change in 1992 and the Paris Agreement in 2016. In the light of existing scientific evidence showing the impact of the cumulative effect of carbon emissions on the enjoyment of human rights, including rights under the Convention, the Committee considers that the potential harm of the State party’s acts or omissions regarding the carbon emissions originating in its territory was reasonably foreseeable to the State party.” *Chiara Saachi et al. v. Argentina*, Decision Comm. on Rights of the Child, No. 104/2019, U.N. Doc. CRC/C/88/D/104/2019, para. 10.11 (decision adopted Sept. 22, 2021) [hereinafter *Chiara Saachi et al. v. Argentina*]. See also L. Delta Merner, “From Research to Action: The Growing Impact of Attribution Science,” *The Equation* (Mar. 7, 2023), <https://blog.ucsusa.org/delta-merner/from-research-to-action-the-growing-impact-of-attribution-science/> (noting that “The study of climate attribution began to be more widely accepted in the 1990s”).

evidence in relation to climate change has only grown, and rendered State inaction, or active perpetuation of the causes of climate change, more and more egregious.

89. Accordingly, continuing to increase a State's cumulative emissions and failing to take action to reduce those emissions, after the State knew or should have known that such conduct posed a risk of transboundary environmental harm, is presumptively a breach of international obligations. Presumptively implies that there may be circumstances where such increase could be justified as the only means available to satisfy other human rights obligations or needs of a State, but the onus is on the State to prove that its acts and omissions are not contrary to its international duties. States that have the capacity to prevent conduct that will foreseeably cause transboundary harm and/or foreseeably undermine human rights, have an obligation to do so or to justify their failure to act.
90. In sum, while States are obliged to prevent transboundary harm and minimize the risk thereof, some States have knowingly caused or permitted cumulative greenhouse gas emissions at levels that have altered the global atmosphere and caused climate change. States have increased, and are increasing manifest harm and the risk of further such harm by: (a) failing to reduce emissions within their jurisdiction and control in sufficient quantity and speed, thereby allowing the present trajectory of climate change to continue or accelerate; and (b) affirmatively engaging in, financing, facilitating, or authorizing climate-destructive conduct, such as increased production and use of, or increased dependence on, the fossil fuels driving climate change.

B. Breaches of climate-related obligations under conventional law

91. State acts and omissions that have, over time, allowed for the accumulation of greenhouse gas in the atmosphere at levels causing significant transboundary harm not only contravene customary international law, they also breach other international obligations under conventional law, from the UN Charter, to the UNCLOS, to the UNFCCC and the Paris Agreement. Such violations constitute independent, concurrent bases of State responsibility. The following discussion is not intended to be a comprehensive summary of all treaty-based obligations relevant to protection of the climate system (for example, it does not discuss relevant provisions in the Convention on Biological Diversity, the UN Convention to Combat Desertification, or other environmental instruments). However, it aims to provide an indication of some of breaches of treaty-based law that could form the basis of findings of State responsibility under international law.

i. Relevant obligations under UN Charter, UNCLOS, UNFCCC and Paris

UN Charter

92. The fundamental principles of international cooperation, human rights, and self-determination, reflected in the preamble to and provisions of the UN Charter, give rise to State obligations relevant in the context of climate change. Member States of the UN have a duty to assist "in good faith" the pursuit of the UN's purposes, including the achievement of "international cooperation in solving international problems of an economic, social, cultural, or humanitarian character," such as climate change, "and in promoting and encouraging respect for human rights and for fundamental freedoms," which are threatened by climate

change and its deleterious impacts.²¹⁵ As set out in Articles 55 and 56, Member States must cooperate to promote a) “higher standards of living, full employment, and conditions of economic and social progress and development; b) solutions of international economic, social, health, and related problems; and international cultural and educational cooperation; and c) universal respect for, and observance of, human rights and fundamental freedoms for all without distinction as to race, sex, language, or religion”, with a view toward stability, welfare, and peaceful relations “based on respect for the principle of equal right and self-determination of peoples.”²¹⁶ Those longstanding commitments oblige States to act, both independently and jointly, to ensure that their conduct respects human rights, advances human welfare, progress, and development, and upholds the self-determination of all peoples. Fulfilling those obligations requires States to refrain from contributing to, and take effective action to prevent, climate change, given its adverse impacts on and profound threats to human rights, development, and the very existence of certain States and communities.

UNCLOS

93. The UN Convention on the Law of the Sea, adopted in 1982, entered into force in 1994, and ratified by 169 countries, enshrines the preventive principle in its provisions pertaining to the protection and preservation of the marine environment.²¹⁷ The Convention requires Parties to take all measures necessary to “prevent, reduce, and control pollution of the marine environment from *any* source,”²¹⁸ including “the use of technologies,”²¹⁹ land-based sources,²²⁰ activities in and on the oceans such as seabed activities,²²¹ dumping,²²² and from or through the atmosphere.²²³ To fulfill this duty, States must “take all measures necessary to ensure that activities under their jurisdiction or control” do not cause damage by pollution to other States and that pollution arising within their jurisdiction or control does not spread beyond areas over which they exercise sovereignty.²²⁴ UNCLOS therefore imposes limitations on States’ “sovereign right to exploit their natural resources,” which must be exercised “in accordance with their duty to protect and preserve the marine environment.”²²⁵
94. Anthropogenic GHG emissions constitute a form of “pollution of the marine environment,” under the definition laid out in Article 1(1)(4) of UNCLOS, which States are bound to prevent, reduce and control. First, they entail “the introduction by man, directly or indirectly, of substances or energy into the marine environment.”²²⁶ Specifically, GHG-emitting human activity results in both CO₂ (a “substance”) being deposited directly in the oceans, and oceans absorbing heat (an “energy”) resulting from increased

²¹⁵ U.N. Charter, at arts. 1(3), 2(2), 2(5).

²¹⁶ *Ibid.* at arts. 55, 56.

²¹⁷ United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3 (entered into force on Nov. 16, 1994) [hereinafter UNCLOS] at art. 192.

²¹⁸ *Ibid.* at art. 194(1) (emphasis added).

²¹⁹ *Ibid.* at art. 196(1).

²²⁰ *Ibid.* at art. 207(1)(2).

²²¹ *Ibid.* at art. 208 (1)(2).

²²² *Ibid.* at art. 210 (1)(2).

²²³ *Ibid.* at art. 212(1)(2).

²²⁴ *Ibid.* at art. 194(2); see also *Case Concerning Land Reclamation by Singapore in and Around the Straits of Johor (Malaysia v. Singapore)*, Order of October 8, 2003, Joint Declaration of Judges Ad Hoc Hossain and Oxman, 2003 ITLOS Rep. 10 [hereinafter *Land Reclamation case*].

²²⁵ UNCLOS, at art. 193.

²²⁶ *Ibid.* at art. 1(1)(4).

atmospheric concentrations of GHGs. Second, the introduction of GHGs into the atmosphere “results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, [and] hindrance to marine activities,”²²⁷ among other harms. These deleterious effects include, but are not limited to, marine heatwaves,²²⁸ absorption of CO₂ by oceans, forming carbonic acid and altering ocean chemistry in a process known as ocean acidification,²²⁹ coral death,²³⁰ and sea level rise,²³¹ and the adverse implications of these ecological changes on food security, coastal infrastructure, and oceans-based economies.²³² Measures adopted by States to respond to pollution, pursuant to this duty, must not create a new source of pollution.²³³

International Climate Agreements

95. The multilateral agreements on climate change were written against the backdrop of existing international law and normative frameworks, including *inter alia* the prevention and precautionary principles, human rights law, equity, and international cooperation obligations. The duty to prevent transboundary harm underpins the global climate regime. The preamble to the United Nations Framework Convention on Climate Change contains a full recitation of the transboundary harm principle: “Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental 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.”²³⁴ The Paris Agreement refers to human rights in its preamble: “Acknowledging that climate change is a common concern of humankind, Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as

²²⁷ *Ibid.*

²²⁸ IPCC, 2019, Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)], Cambridge University Press, Cambridge, UK and New York, NY, USA [hereinafter IPCC SR Ocean and Cryosphere], Summary for Policymakers, at para. A.2 (finding that marine heatwaves have “very likely doubled in frequency since 1982 and are increasing in intensity”).

²²⁹ Scott C. Doney et al., *Ocean Acidification: The Other CO₂ Problem?* 6 Wash. J. Env'tl. L. & Pol'y 212 (2016), 217; Ellycia R. Harrould-Kolieb and Ove Hoegh-Guldberg, *A governing framework for international ocean acidification policy*, 102 Marine Policy 10 (2019), at 1 (finding that the increased acidity of oceans is already causing and is expected to cause increased “substantial disruptions to socio-economic systems over the coming decades and centuries, including via reduced access to protein, economic losses from fisheries and tourism, decreased coastal protection and impacts to human health and cultural identity”).

²³⁰ IPCC SR Ocean and Cryosphere, Summary for Policymakers, at para. B.6.4, Ch. 4.3.3.5.2, p. 379; IPCC AR6, Synthesis Report, Longer Report, Section 3.1.2, at p. 36.

²³¹ IPCC SR Ocean and Cryosphere, Summary for Policymakers, at para. A.3.

²³² IPCC, 2022: Summary for Policymakers, para. B.3 (H.-O. Pörtner, et. al eds. 2022), in *Climate Change 2022: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change at Ch. 3, at p. 382 (H.-O. Pörtner, et. al eds., Cambridge University Press, 2022) [hereinafter IPCC, AR6, WGII].

²³³ UNCLOS, at art. 195 (“States shall act so as not to transfer, directly, or indirectly, damage or hazards from one area to another or transform one type of pollution into another.”).

²³⁴ UNFCCC, at pmb1.

gender equality, empowerment of women and intergenerational equity.”²³⁵ Neither agreement supplants or curtails the application of those preexisting and concurrent obligations; rather they build upon and elaborate some of their implications for international cooperation in the context of climate change.

96. The climate agreements clarify that State actions necessary to address climate change must encompass not only mitigation of the emissions driving climate change, but also adaptation²³⁶ to the impacts of climate change, provision of finance²³⁷ and technology transfer²³⁸ for climate action, and addressing loss and damage²³⁹ due to climate change. Those obligations apply differently to States by virtue of their distinct responsibilities and capabilities.
97. The distinct obligations of States in relation to climate change are grounded in the principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR-RC), a core tenet of the climate regime reflecting the notion of equity, which bears on interpretations of climate duties. The principle, first articulated in the Rio Declaration on Environment and Development,²⁴⁰ has been expressed in the UNFCCC as follows: “[T]he Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities. Accordingly, the developed country Parties should take the lead in combating climate change and the adverse effects thereof.”²⁴¹
98. With regard to mitigation, the UNFCCC, which enjoys near universal ratification, binds States Parties to pursue the objective of “stabiliz[ing] of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” and to do so in a timeframe that would allow ecosystems to naturally adapt and not disrupt essential functions.²⁴² In furtherance of that aim, the UNFCCC provides that developed country Parties: “shall adopt national policies and take corresponding measures on the mitigation of climate change, by limiting its anthropogenic emissions of greenhouse gases and protecting and enhancing its greenhouse gas sinks and reservoirs. These policies and measures will demonstrate that developed countries are taking the lead in modifying longer-term trends in anthropogenic emissions consistent with the objective of the Convention,” and aim to return GHG emissions to 1990 levels.²⁴³ The Convention also provides, *inter alia*, that States shall “[p]romote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases”²⁴⁴; and take climate considerations into account with a view to minimizing adverse

²³⁵ Paris Agreement to the United Nations Framework Convention on Climate Change, pmbl., Dec. 12, 2015, 3156 U.N.T.S. (entered into force Nov. 4, 2016) [hereinafter Paris Agreement]. *See also* Conference of the Parties serving as the meeting of the Parties to the UNFCCC, Cancun Agreements, Decision 1/CP.16, UN Doc. No. FCCC/CP/2010/7/Add.1, para. 8 (Mar. 15, 2011) (acknowledging for the first time in a UNFCCC decision that Parties should fully respect human rights in all climate actions) [hereinafter Cancun Agreements].

²³⁶ *Ibid.* at art. 7.

²³⁷ *Ibid.* at art. 9.

²³⁸ *Ibid.* at art. 10.

²³⁹ *Ibid.* at art. 8.

²⁴⁰ Rio Declaration, principle 7.

²⁴¹ UNFCCC, at art. 3(1); *see also* UNFCCC, pmbl., para. 6.

²⁴² *Ibid.* at art. 2.

²⁴³ *Ibid.* at art. 4(2)(a)(b).

²⁴⁴ *Ibid.* at art. 4(1)(c).

effects of mitigation and adaptation actions.²⁴⁵ The UNFCCC also requires State Parties to take measures to “facilitate adequate adaptation to climate change.”²⁴⁶

99. In recognition that Parties’ actions have been insufficient to achieve that ultimate objective, Parties to the UNFCCC adopted the Paris Agreement, which binds States to “strengthen the global response to the threat of climate change.”²⁴⁷ Anchored in repeated references to the objective and principles of the Convention, the Paris Agreement, which has near universal acceptance amongst States,²⁴⁸ commits Parties to pursue efforts toward an identified global temperature target, and to deliver progressively more ambitious climate plans to mitigate and adapt to climate change, ensure financing and technology transfer for, and address the loss and damage resulting from, climate change. Article 2(1) sets forth a long-term temperature goal, obliging States to “pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.”²⁴⁹ The Agreement binds States to prepare and implement, through domestic measures, progressively more ambitious plans to reduce emissions. Article 4 lays out the ambition of States “to reach global peaking of greenhouse gas emissions as soon as possible,”²⁵⁰ and obliges States not only to set nationally determined contributions to climate action that “reflect [a Party’s] highest possible ambition” to achieve the goals of the Agreement,²⁵¹ but specifically to “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.”²⁵² Like the UNFCCC, the Paris Agreement provides that its implementation will reflect the principles of equity and common but differentiated responsibilities and respective capabilities.²⁵³

100. In addition to the mitigation objective, Parties to the Paris Agreement also committed to “increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience,” and established “the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change.”²⁵⁴ The Agreement also expressly recognizes the importance of averting, minimizing, and addressing loss and damage from climate change.²⁵⁵

101. The Paris Agreement aims to ensure finance flows support mitigation and adaptation action and are “consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.”²⁵⁶ This objective requires redirecting finance away from unsustainable, high-GHG

²⁴⁵ *Ibid.* at art. 4(1)(f).

²⁴⁶ *Ibid.* at art. 4(1)(b).

²⁴⁷ Paris Agreement, arts. 2(1).

²⁴⁸ See Marcel Brus, Andre De Hoogh, Panos Merkouris, *The Normative Status of Climate Change Obligations under International Law*, p. 27 (June 2023),

<https://www.europarl.europa.eu/RegData/etudes/STUD/2023/749395/>

[IPOL_STU\(2023\)749395_EN.pdf](#) (pointing out that “With 195 States Parties the Paris Agreement is nearly universally accepted; only Iran, Libya and Yemen have signed but not ratified it”); United Nations Climate Change, Paris Agreement - Status of Ratification, <https://unfccc.int/process/the-paris-agreement/status-of-ratification>.

²⁴⁹ Paris Agreement, at art. 2(1)(a).

²⁵⁰ *Ibid.* at art. 4(1).

²⁵¹ *Ibid.* at arts. 3, 4(1)-4(3).

²⁵² *Ibid.* art. 4(2).

²⁵³ *Ibid.* at art. 2(2); see also *id.* at pmb., arts. 3, 4(1), 4(3), 4(19).

²⁵⁴ *Ibid.* at art. 2.1(b), art. 7.

²⁵⁵ *Ibid.* at Article 8.

²⁵⁶ *Ibid.* at art. 2(1)(c).

emission activities,²⁵⁷ which includes fossil fuels investments and subsidies,²⁵⁸ and to “a decarbonized and resilient economy.”²⁵⁹ In furtherance of that aim, the Agreement binds developed countries to make financing available: “Developed country Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.”²⁶⁰

102. The climate agreements tie requisite State action to evolving science. The UNFCCC recognizes all finance and investment that the measures necessary to prevent “dangerous anthropogenic interference with the climate system,” must evolve with the best available scientific knowledge.²⁶¹ The Paris Agreement reiterates this link to science, in Articles 4(1) and 7(5) of the Paris Agreement, which provide that mitigation and adaptation actions be based on “best available science,” and in Article 14(1), which states that Parties “shall periodically take stock of the implementation of this Agreement to assess the collective progress towards achieving the purpose of this Agreement and its long-term goals” in light of the best available science.²⁶²

103. International climate law, the UNFCCC and the Paris Agreement, are thus relevant to the questions before the Court, as they set forth specific objectives and measures with respect to climate action, but they do not and cannot fully answer those questions. States have concurrent duties under international law, including the law of State responsibility and human rights law, and the Court should draw on these bodies of law in setting out the scope and content of States’ duties in this case and clarifying what constitutes breach of those obligations and its legal consequences. [See CIEL, Memo on Applicable Law, in Written Statement submitted to the ICJ in the climate advisory proceedings, March 2024.]

ii. Acts and omissions attributable to States that breach these obligations

Breaches of the UNFCCC and Paris Agreement

104. The State conduct described above, enabling the cumulative emissions of greenhouse gases at levels causing transboundary harm, presumptively breaches the objectives of the UNFCCC and Paris Agreement, and specific binding provisions within them. States have failed and are failing to take action sufficient to comply with either the ultimate objective of the UNFCCC or the temperature target agreed

²⁵⁷ UNFCCC Standing Committee on Finance, *Fourth (2020) Biennial Assessment and Overview of Climate Finance Flows*, p. 149 (2020) [hereinafter SCF, Fourth (2020) BA].

²⁵⁸ SCF, Fourth (2020) BA, at paras. 45, 46; UNFCCC Standing Committee on Finance, *Third (2018) Biennial Assessment and Overview of Climate Finance Flows* [hereinafter SCF, Third (2018) BA], paras. 343, 351, 358-359 (highlighting the World Bank’s announcement to end funding to the upstream oil exploration and extraction of oil and gas by 2019 as progress and calling on other multilateral banks to “follow this lead.”); Report of the Conference of the Parties held in Sharm el-Sheikh, 27th session, *Revision of the modalities and guidelines for international consultation and analysis*, 5/CP.27, UN Doc. No. FCCC/CP/2020/10/Add.1, para. 46 (2022) [hereinafter UNFCCC COP, Decision 5/CP.26].

²⁵⁹ SCF, Fourth (2020) BA, at para. 476.

²⁶⁰ Paris Agreement, at art. 9(1).

²⁶¹ UNFCCC, pmb. (“Recognizing that steps required to understand and address climate change will be environmentally, socially and economically most effective if they are based on relevant scientific, technical and economic considerations and continually re-evaluated in the light of new findings in these areas”); Cancun Agreements, at para. 4.

²⁶² Paris Agreement, at arts. 4(1), 7(5), 14(1).

in Paris in furtherance of it. In the Paris Agreement, Parties strengthened their emissions reduction commitments, by aiming to keep temperature rise to 1.5°C and by requiring that each State implements policies representing its highest possible ambition. And still emissions are on the rise.

105. According to analyses published by the UNFCCC, plans laid out in States' nationally determined contributions, if implemented, would lead to an increase in GHG emissions of approximately 9% by 2030, and temperature rise of between 2.1 and 2.8°C by 2100.²⁶³ A United Nations Environment Programme report, which provides an “annual, independent science-based assessment of the gap between the pledged greenhouse gas (GHG) emissions reductions and the reductions required to align with the long-term temperature goal of the Paris Agreement, as well as opportunities to bridge this gap,” confirms that State action to date has failed to set emissions on a downward trajectory, as emissions continue to rise years after the adoption of the UNFCCC and Paris Agreement.²⁶⁴ The latest State plans, if implemented, would set the world on a course to temperature rise of nearly 3 degrees.²⁶⁵ Similarly, States' adaptation measures are insufficient in view of commitments under the climate agreements, with “global progress on adaptation ... slowing rather than showing the urgently needed acceleration.”²⁶⁶
106. Moreover, developed countries have not discharged their obligations to provide requisite finance for mitigation and adaptation actions. Despite the obligations enshrined in the Paris Agreement (see article 9(1)),²⁶⁷ climate finance is not being delivered at scale;²⁶⁸ and within international climate negotiations, powerful countries are emphasizing voluntary approaches to the provision of loss and damage finance via the Loss and Damage Fund to the exclusion of the key legal principles of remedy, reparations and accountability.²⁶⁹ Meanwhile the fossil fuel industry is benefitting from subsidies at a rate of \$13 million a minute.²⁷⁰

²⁶³ UNFCCC, Nationally determined contributions under the Paris Agreement: Synthesis report by the secretariat, U.N. Doc. FCCC/PA/CMA/2023/12, para. 15 (Nov. 14, 2023), <https://unfccc.int/ndc-synthesis-report-2023>.

²⁶⁴ United Nations Environment Programme et al, *Emissions Gap Report 2023: Broken Record: Temperatures hit new highs, yet world fails to cut emissions (again)*, p. xvi (2023) [hereinafter UNEP, *Emissions Gap Report 2023*].

²⁶⁵ UNEP, *Emissions Gap Report 2023*, at p. xv (pointing out that “fully implementing and continuing mitigation efforts of unconditional Nationally Determined Contributions (NDCs) made under the Paris Agreement for 2030 would put the world on course for limiting temperature rise to 2.9°C this century.”).

²⁶⁶ United Nations Environment Programme et al, *Adaptation Gap Report 2023: Underfinanced. Underprepared. Inadequate investment and planning on climate adaptation leaves world exposed*, p. XII (2023), <https://www.unep.org/resources/adaptation-gap-report-2023> [hereinafter UNEP, *Adaptation Gap Report 2023*].

²⁶⁷ Paris Agreement, at art. 9(1).

²⁶⁸ See, e.g., IPCC, Press Release, Urgent Climate Action Can Secure a Liveable Future for All (Mar. 20, 2023), <https://www.ipcc.ch/2023/03/20/press-release-ar6-synthesis-report/>; UNEP, *Adaptation Gap Report 2023*, p. XV; Oxfam, *Climate Finance Shadow Report 2023: Assessing the delivery of the \$100 billion commitment* (June 5, 2023), <https://policy-practice.oxfam.org/resources/climate-finance-shadow-report-2023-621500/>.

²⁶⁹ See, e.g., Third World Network, “Loss and Damage Fund outcome adopted by Transitional Committee despite US attempts to veto consensus,” TWN Info Service on Climate Change (Nov23/01) (Nov. 8, 2023), <https://www.twn.my/title2/climate/info.service/2023/cc231101.htm>.

²⁷⁰ Simon Black et al, *IMF Fossil Fuel Subsidies Data: 2023 Update* (Aug. 24, 2023); Damian Carrington, “Fossil fuels being subsidised at rate of \$13m a minute, says IMF,” *The Guardian* (Aug. 24, 2023), <https://www.theguardian.com/environment/2023/aug/24/fossil-fuel-subsidies-imf-report-climate-crisis-oil-gas-coal>.

107. More than thirty years since the adoption of the UNFCCC and nearly ten years after the adoption of the Paris Agreement, persistent non-compliance with the objectives and provisions of the climate agreements can be established by, *inter alia*, clear evidence²⁷¹ of the failure of State Parties, particularly the largest cumulative emitters, to sufficiently reduce their emissions in line with the best available science, and meaningfully support adaptation and building resilience, domestically and extraterritorially. State conduct is clearly contrary to the progressive ambition required by the Paris Agreement. The inaction of some States to curtail the known causes, and adequately respond to the consequences, of climate change constitutes an internationally wrongful act.
108. It is simply not possible to plead ignorance any longer to justify the failure to act with the requisite scale and ambition to address climate change, or the pursuit of conduct that worsen the climate crisis. As the IPCC has said, “the cumulative scientific evidence is unequivocal: Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all. (*very high confidence*).”²⁷²

C. Breaches of human rights law obligations

109. As stated by Judge Weeramantry in the *Gabčíkovo-Nagymaros* case before the Court in 1997, “damage to the environment can impair and undermine all the human rights spoken of in the Universal Declaration and other human rights instruments.”²⁷³ Climate change is doing precisely that. The United Nations Human Rights Council has emphasized how climate change impacts “have a range of implications, both direct and indirect, for the effective enjoyment of human rights.”²⁷⁴ As this section discusses, States have longstanding obligations under international human rights law to take measures to avert and minimize the risk and effects of climate change, given its adverse impacts on, and threat to, human rights.

i. Climate-related obligations under customary and conventional human rights law

110. In addition to the duties outlined above, States also have international legal obligations under both treaty-based and customary human rights law to refrain from causing or contributing to, and to protect against, foreseeable threats to human rights,²⁷⁵ including from environmental degradation and

²⁷¹ See para.104 above.

²⁷² IPCC, AR6, WGII, Summary for Policymakers, at para. D.5.3.

²⁷³ *Case Concerning the Gabčíkovo-Nagymaros Project (Hung. v. Slov.)*, Judgement, 1997 I.C.J. 7 (Sept. 25), Separate Opinion of Vice-President Weeramantry, p. 92 [hereinafter *Gabčíkovo-Nagymaros Project*].

²⁷⁴ Human Rights Council, Resolution 10/4. Human rights and climate change (March 2009).

²⁷⁵ See UN General Assembly, *Declaration on the Right and Responsibility of Individuals, Groups and Organs of Society to Promote and Protect Universally Recognized Human Rights and Fundamental Freedoms*, U.N. Doc. A/RES/53/144, art. 2 (Dec. 9, 1998) (“Each State has a prime responsibility and duty to protect, promote and implement all human rights and fundamental freedoms...”); Human Rights Committee, *General Comment No. 31 - The Nature of the General Legal Obligation Imposed on States Parties to the Covenant*, U.N. Doc. CCPR/C/21/Rev.1/Add.13, para. 7 (Mar. 29, 2004) [hereinafter HRC, GC No. 31]; Committee on Economic, Social and Cultural Rights, *General Comment No. 20 - Non-discrimination in economic, social and cultural rights (art. 2, para. 2, of the International Covenant on Economic, Social and Cultural Rights)*, UN Doc. No. E/C.12/GC/20, para. 8 (July 2, 2009) [hereinafter CESCR, GC No. 20].

climate change.²⁷⁶ Such obligations require States not to engage in, and to regulate so as to prevent and minimize, conduct that foreseeably damages the environment with consequences for the enjoyment of human rights, such as the rights to life, health, water, food, an adequate standard of living, and culture, among other rights. In the words of Judge Weeramantry, “[t]he protection of the environment is likewise a vital part of contemporary human rights doctrine, for it is a sine qua non for numerous human rights such as the right to health and the right to life itself.”²⁷⁷

111. The duties to respect and protect apply to all human rights guaranteed in human rights treaties,²⁷⁸ extend domestically and extraterritorially, and run to both present and future generations. “Neither the Universal Declaration of Human Rights, nor any other human rights instrument contains a temporal limitation or limits rights to the present time. Human rights extend to all members of the human family, including both present and future generations.”²⁷⁹ Fulfillment of these duties requires States not only to refrain from conduct that violates human rights including conduct that interferes “directly or indirectly with the enjoyment of the [] rights by persons outside their territories.”²⁸⁰ They also must address, alleviate, and mitigate foreseeable threats to human rights,²⁸¹ including by regulating the activities of business and other actors subject to their jurisdiction, to ensure “effective protection” against rights

²⁷⁶ See Human Rights Committee, *General Comment No. 36 - Article 6: right to life*, U.N. Doc. CCPR/C/GC/36, para. 62 (Sept. 3, 2019) [hereinafter HRC, GC No. 36]; Joint Statement by the Committee on the Elimination of Discrimination Against Women, the Committee on Economic, Social and Cultural Rights, the Committee on the Protection of the Rights of All Migrant Workers and Members of Their Families, the Committee on the Rights of the Child and the Committee on the Rights of Persons with Disabilities, Statement on “Human Rights and Climate Change,” U.N. Doc. HRI/2019/1, para. 10 (May 14, 2020, originally released Sept. 16, 2019) [hereinafter UN Human Rights Treaty Bodies’ joint statement on human rights and climate change]; IACtHR, *Advisory Opinion OC-23/17*, at paras. 141-145; UN Special Rapporteurs on Human Rights and Climate Change (Ian Fry), Toxics and Human Rights (Marcos Orellana), and Human Rights and the Environment (David Boyd), amicus brief submitted to ITLOS in Case n.3 (2023).

²⁷⁷ *Gabčíkovo-Nagymaros Project*, Separate Opinion of Vice-President Weeramantry, p. 91-92.

²⁷⁸ See, e.g., United Nations Human Rights Office of the High Commissioner, *International Human Rights Law*, <https://www.ohchr.org/en/instruments-and-mechanisms/international-human-rights-law>; see also International Covenant on Civil and Political Rights, art. 2(1), Dec. 16, 1966, 999 U.N.T.S. 171 [hereinafter ICCPR]; HRC, GC No. 36, at paras. 7, 18, 63; Committee on the Elimination of Discrimination against Women, *General recommendation No. 34 on the rights of rural women*, U.N. Doc. CEDAW/C/GC/34, sec. III (Mar. 7, 2016) [hereinafter CEDAW, *General recommendation No. 34*]; Committee on the Rights of the Child, *General Comment No. 16 (2013) on State obligations regarding the impact of the business sector on children’s rights*, U.N. Doc. No. CRC/C/GC/16, para. 24 (Apr. 17, 2013) [hereinafter CRC, GC No. 16].

²⁷⁹ *Maastricht Principles on the Human Rights of Future Generations*, pmbl., para. II (2023), <https://www.rightsoffuturegenerations.org/the-principles>.

²⁸⁰ Committee on Economic, Social and Cultural Rights, *General Comment No. 24 (2017) on State obligations under the International Covenant on Economic, Social and Cultural Rights in the context of business activities*, U.N. Doc. E/C.12/GC/24, para. 26-30 (Aug. 10, 2017) [hereinafter CESCR, *General Comment No. 24*]; see also HRC, GC No. 36, at paras. 22, 63; CEDAW, *General Recommendation No. 34*, at para. 13; *Advisory Opinion OC-23/17*, at para. 81, 101-102.

²⁸¹ See Human Rights Committee, *Daniel Billy v. Australia*, CCPR/C/135/D/3624/2019, para. 8.3 (“The Committee recalls that States parties should take all appropriate measures to address the general conditions in society that may give rise to direct threats to the right to life or prevent individuals from enjoying their right to life with dignity.”) [hereinafter *Daniel Billy v. Australia*]; CEDAW, *General Recommendation No. 34*, at para. 12; HRC GC No. 36, paras. 18, 22, 26, 62; *Budayeva and others v. Russia*, nos 15339/02, 21166/02, 20058/02, 11673/02, 15343/02 (2008), at paras. 128, 130; *Öneryıldız v. Turkey* [GC], no. 48939/99 (2004), at para. 71, 135; *Tătar v. Romania*, no. 67021/01 (2009), at para. 87 (covering public and private conduct).

violations, and hold actors accountable for violations.²⁸² The duty to protect requires States to regulate any actor subject to their jurisdiction to prevent them from violating rights when operating abroad,²⁸³ or undertaking conduct that has the foreseeable effect of infringing rights, regardless of where those infringements occur. In its Advisory Opinion on the *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, the Court addressed the issue of extraterritorial jurisdiction stating “while the jurisdiction of States is primarily territorial, it may sometimes be exercised outside the national territory. Considering the object and purpose of the International Covenant on Civil and Political Rights, it would seem natural that, even when such is the case, State parties to the Covenant should be bound to comply with its provisions.”²⁸⁴

112. The conception of equity is a central tenet of international human rights law. According to the International Covenant for Economic, Social, and Cultural Rights, State responsibilities are differentiated in that States with the requisite capabilities to do so are required to provide international assistance as needed, including extraterritorially, for the realization of human rights.²⁸⁵

113. Those State obligations apply to climate change, which has caused, is causing, and will foreseeably cause further human rights violations. Climate change constitutes one of “the most pressing and serious threats to the ability of present and future generations to effectively enjoy all human rights.”²⁸⁶ Since at least General Assembly resolution 43/53 of December 6, 1988 on the protection of global climate for present and future generations of mankind, the UN has recognized climate change as a “common concern of [human]kind, since climate is an essential condition which sustains life on Earth.”²⁸⁷ The United Nations General Assembly has acknowledged that the impacts of climate change interfere with the enjoyment of the right to a clean, healthy, and sustainable environment and that damage to the environment “has negative implications, both direct and indirect, for the effective enjoyment of all human rights.”²⁸⁸ Recent interpretations of international treaty law has made clear that human rights obligations apply to climate change.²⁸⁹ The United Nations Human Rights Council has

²⁸² CESCR, *General Comment No. 24*, at paras. 14-17, 30; CEDAW, *General Recommendation No. 34*, at para. 13; Committee on the Elimination of Discrimination against Women, *General recommendation No. 39 (2022) on the rights of Indigenous women and girls*, U.N. Doc. CEDAW/C/GC/39, para. 57(d) (Oct. 31, 2022) [hereinafter CEDAW Gen. Rec. No. 39]; HRC, GC No. 36, at paras. 18, 22, 62; IACtHR, *Advisory Opinion OC-23/17*, at para. 118.

²⁸³ See CEDAW, *General Recommendation No. 34*, at para. 13; CESCR, *General Comment No. 24*, at paras. 30-32.

²⁸⁴ *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory*, Advisory Opinion, 2004 I.C.J. 136, para. 109.

²⁸⁵ See International Covenant on Economic, Social and Cultural Rights, art. 2(1), Dec. 16, 1966, 993 U.N.T.S. 3 [hereinafter ICESCR]; see also Amnesty International, *Stop Burning Our Rights! What Governments and Corporations Must do to Protect Humanity from the Climate Crisis*, p. 24, 32-33 (2021), <https://www.amnesty.org/en/documents/pol30/3476/2021/en/>.

²⁸⁶ UN General Assembly, *Resolution 76/300: The human right to a clean, healthy and sustainable environment*, UN Doc. A/RES/76/300, pp. 2-3 (July 28, 2022) [hereinafter UNGA, *Resolution 76/300*].

²⁸⁷ UN General Assembly, *Protection of Global Climate for Present and Future Generations of Mankind*, U.N. Doc. A/RES/43/53 (Dec. 6, 1988); see also International Law Commission (ILC), *Draft Guidelines on the Protection of the Atmosphere, with commentaries*, U.N. Doc. A/76/10 (2021), at pmb., cmt. para. 3.

²⁸⁸ UNGA, *Resolution 76/300*, at pmb.

²⁸⁹ See, e.g., Committee on the Elimination of all Forms of Discrimination against Women, *General recommendation No. 37 on the gender-related dimensions of disaster risk reduction in the context of climate change*, U.N. Doc. CEDAW/C/GC/37 (Mar. 13, 2018) [hereinafter CEDAW, *General Recommendation No. 37*]; Committee on the Rights of the Child, *General Comment No. 26 (2023) on children’s rights and the environment*

repeatedly affirmed the connections between human rights and climate change and the need for State action in more than a dozen resolutions adopted since 2008.²⁹⁰

114. As five U.N. Treaty Bodies expressed in a joint statement, the adverse impacts of climate change “threaten, among others, the rights to life, to adequate food, to adequate housing, to health and to water, and cultural rights.”²⁹¹ Relying on findings by the IPCC, the five treaty bodies recognized that “adverse impacts on human rights are already occurring with 1°C of global warming; every additional increase in temperature will further undermine the realization of rights.”²⁹² Such impacts are disproportionately impacting marginalized populations.²⁹³
115. The most recent Assessment Report released by the IPCC highlights how current impacts of climate change are undermining human rights, indicating the confidence of their conclusions in

with a special focus on climate change, U.N. Doc. CRC/C/GC/26 (Aug. 22, 2023) [hereinafter CRC, *General Comment No. 26*]; HRC, GC No. 36, at para. 62.

²⁹⁰ See UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/RES/7/23 (Mar. 28, 2008); UN Human Rights Council, *Human rights and climate change*, UN Doc. A/HRC/RES/10/4 (Mar. 25, 2009); UN Human Rights Council, *Human rights and climate change*, UN Doc. A/HRC/RES/18/22 (Oct. 17, 2011); UN Human Rights Council, *Human rights and climate change*, UN Doc. A/HRC/RES/26/27 (July 15, 2014); UN Human Rights Council, *Human rights and climate change*, UN Doc. A/HRC/RES/29/15 (July 2, 2015); UN Human Rights Council, *Human rights and the environment*, UN Doc. A/HRC/RES/31/8 (Mar. 23, 2016); UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/RES/32/33 (July 1, 2016); UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/35/20 (June 22, 2017); UN Human Rights Council, *Human rights and climate change*, UN Doc. A/HRC/RES/38/4 (July 5, 2018); UN Human Rights Council, *Human rights and climate change*, UN Doc. A/HRC/RES/41/21 (July 12, 2019); UN Human Rights Council, *Human rights and climate change*, U.N. Doc. A/HRC/RES/44/7 (July 16, 2020); UN Human Rights Council, *Human Rights and Climate Change*, U.N. Doc. A/HRC/RES/47/24 (July 26, 2021); UN Human Rights Council, *Human Rights and Climate Change*, U.N. Doc. A/HRC/RES/50/9 (July 14, 2022); Human Rights Council, *Human Rights and Climate Change*, U.N. Doc. A/HRC/RES/53/6 (July 19, 2023).

²⁹¹ UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, at para. 3.

²⁹² UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, at para. 5; see also Ian Fry (Special Rapporteur on the promotion and protection of human rights in the context of climate change), *Promotion and protection of human rights in the context of climate change mitigation, loss and damage and participation*, UN Doc. No. A/77/226, para. 1 (July 26, 2022) (“Throughout the world, human rights are being negatively affected and violated as a consequence of climate change.”) [hereinafter SR on climate change, Report on the promotion and protection of human rights in the context of climate change].

²⁹³ See Intergovernmental Panel on Climate Change (IPCC), 2023: Summary for Policymakers, in, *Climate Change 2023: Synthesis Report. A Report of the Intergovernmental Panel on Climate Change. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)], paras. A.2.2 (2023) [internal citations omitted] [hereinafter IPCC, AR6, Synthesis Report: Summary for Policymakers]; IPCC, 2018: *Global Warming of 1.5°C, An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*, Ch. 3, at para. B.5.1 (V. Masson-Delmotte et al, eds., Cambridge University Press, 2018) [hereinafter IPCC, 2018 Special Report, Global Warming of 1.5°C] (“Populations at disproportionately higher risk of adverse consequences with global warming of 1.5°C and beyond include disadvantaged and vulnerable populations, some indigenous peoples, and local communities dependent on agricultural or coastal livelihoods (*high confidence*)”); CEDAW, *General Recommendation No. 37*, paras. 1-9. In terms of disproportionate impacts of the climate crisis on children, relevant resources include: Human Rights Council, Report of the Office of the United Nations High Commissioner for Human Rights on the relationship between climate change and human rights, U.N. Doc. A/HRC/10/61, para. 48 (Jan. 15, 2009); UN Independent Expert on human rights and the environment, Mapping Report, U.N. Doc. A/HRC/25/53, paras. 73-75 (Dec. 30, 2013).

parentheticals. Across the globe, more frequent extreme heat,²⁹⁴ powerful Category 4 and 5 tropical cyclones,²⁹⁵ and heavy precipitation driven by changes in Earth’s climate are negatively affecting human rights, putting communities at risk, and exposing millions of people to health risks, acute food insecurity, reduced water availability,²⁹⁶ disease,²⁹⁷ and violence.²⁹⁸ Climate and weather extremes are also increasingly driving human displacement in the Americas region, Africa, and Asia, “with small island states in the Caribbean and South Pacific being disproportionately affected relative to their small population size (high confidence).”²⁹⁹ Additionally, “[u]rban infrastructure, including transportation, water, sanitation and energy systems have been compromised by extreme and slow-onset events, with resulting economic losses, disruptions of services and negative impacts to well-being,”³⁰⁰ particularly impacting “economically and socially marginalised urban residents (high confidence).”³⁰¹

116. Citing “existing scientific evidence showing the impact of the cumulative effect of carbon emissions on the enjoyment of human rights,” the Committee on the Rights of the Child affirmed in *Sacchi et al. v. Argentina et al. (Sacchi)* that, “the potential harm of the State party’s acts or omissions regarding the carbon emissions originating in its territory was reasonably foreseeable to the State party.”³⁰² Reasonable foreseeability of climate change-related harms to human rights triggers States legal duties to take requisite action.

117. Accordingly, pursuant to the duty to protect, States must take all necessary measures to mitigate and regulate conduct that contributes to climate change, and minimize and bolster resilience to climate impacts, in line with their differentiated obligations. In protecting human rights in the face of foreseeable harm, States must “employ all means reasonably available to them” in order to reach the intended outcome “so far as possible.”³⁰³ State acts and omissions contributing to climate change and failing to adequately prevent and minimize it, violate human rights, constituting a breach of human rights treaty law as well as customary international norms pertaining to the prevention of transboundary environmental harm. According to the Human Rights Committee, upholding the right to life under the International Covenant on Civil and Political Rights, in particular a life with dignity, requires States to undertake measures “to preserve the environment and protect it against harm, pollution and climate change caused by public and private actors,” including by implementing and enforcing legislative and administrative frameworks capable of minimizing such threats to the right to life, through environmental impact assessment and regulation.³⁰⁴ The Committee on the Rights of the Child has interpreted the

²⁹⁴ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.5.

²⁹⁵ Category 4 and 5 tropical cyclones are the most powerful and destructive storms on the Saffir-Simpson Hurricane Wind Scale, with sustained wind speeds of 131-155 mph (Category 4) and over 155 mph (Category 5), capable of causing catastrophic damage and posing significant threats to life and property. *See* IPCC, AR6, Synthesis Report (Full Volume), sec. 2, para. 2.1.2.

²⁹⁶ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.2.

²⁹⁷ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.5.

²⁹⁸ IPCC, AR6, Working Group II (WGII), Technical Summary, at para. C.8.1.

²⁹⁹ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.5.

³⁰⁰ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.7.

³⁰¹ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.7.

³⁰² *Chiara Saachi et al. v. Argentina*, at para. 10.11; *see also ibid.* at para. 10.14.

³⁰³ *Application of Convention on Prevention and Punishment of Crime of Genocide (Bosn. & Herz. v. Serb. & Montenegro)*, Judgment of Feb. 26, 2007, 2007 I.C.J. 43, para. 430. *See also* ITLOS, *Seabed Chamber Advisory Opinion*, at para. 110.

³⁰⁴ HRC, GC No. 36, at para. 62; *see also ibid.* at para 21.

Convention on the Rights of the Child, the most widely ratified human rights treaty with 196 State Parties,³⁰⁵ to oblige States to take urgent collective action on mitigation, adaptation and loss and damage.³⁰⁶ As the U.N. Special Rapporteur on the promotion and protection of human rights in the context of climate change (“Special Rapporteur on Human Rights and Climate Change”) explains, “States are obliged to take measures to mitigate climate change and to regulate the emissions of those businesses under their jurisdictions in order to prevent foreseeable negative impacts on human rights.”³⁰⁷

118. Human rights bodies have similarly found States have duties regarding protecting peoples and individuals from the adverse effects of climate change through bolstering resilience to and minimizing climate impacts. For example, the Human Rights Committee in *Billy v Australia* has held that, “by failing to discharge its positive obligation to implement adequate adaptation measures to protect the authors’ home, private life and family, the State party violated the authors’ rights” under the International Covenant on Civil and Political Rights, specifically in relation to arbitrary or unlawful interference with privacy, family, home, or correspondence.³⁰⁸ The Committee further found that the failure to adopt timely adequate adaptation measures to protect the authors’ collective ability to maintain their traditional way of life violates Covenant protected cultural rights.³⁰⁹

119. Human rights obligations with respect to climate change apply domestically and extraterritorially. A State’s duties under human rights law to prevent environmental degradation that infringes on human rights and to refrain from causing or contributing to it apply with equal force within a country’s jurisdiction and control, and to foreseeable extraterritorial consequences of conduct subject to their jurisdiction and control. Regulations must cover the extraterritorial and transboundary activity of actors in the State’s jurisdiction and control. In its *Sacchi* decision, the Committee on the Rights of the Child found that, “it is generally accepted and corroborated by scientific evidence that the carbon emissions originating in the State party contribute to the worsening of climate change, and that climate change has an adverse effect over the enjoyment of rights by individuals both within as well as beyond the territory of the State party. The Committee considers that, through its ability to regulate activities that are the source of these emissions and to enforce such regulations, the State party has effective control over the emissions.”³¹⁰ As UN human rights treaty bodies have confirmed in relation to climate change, regulating businesses whose activities foreseeably threaten human rights includes “holding them accountable for harm they generate both domestically and extraterritorially.”³¹¹

³⁰⁵ Status of Ratification of the Convention on the Rights of the Child, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtmsg_no=IV-11&chapter=4.

³⁰⁶ CRC, *General Comment No. 26*, at paras. 95-106.

³⁰⁷ SR on climate change, Report on the promotion and protection of human rights in the context of climate change, at para. 9; see also Inter-American Commission on Human Rights, *Climate Emergency: Scope of Inter-American Human Rights Obligations*, Res. No. 3/2021, para. 12 (Dec. 31, 2021) [hereinafter IACHR, Res. No. 3/2021].

³⁰⁸ *Daniel Billy v. Australia*, at para. 8.12 (looking specifically at State duties under Article 17: No one shall be subjected to arbitrary or unlawful interference with his privacy, family, home or correspondence, nor to unlawful attacks on his honour and reputation).

³⁰⁹ *Ibid.* at paras. 8.12-8.14.

³¹⁰ *Chiara Sacchi et al v. Argentina*, at para. 10.9.

³¹¹ UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, at para. 12.

ii. Acts and omissions attributable to States that breach these obligations

120. International human rights bodies have clarified that, “failure to take measures to prevent foreseeable human rights harm caused by climate change, or to regulate activities contributing to such harm, could constitute a violation of States’ human rights obligations,”³¹² even if the “threat[] do[es] not result in loss of life.”³¹³ And indeed the failure of States to take all measures within their power to minimize climate change has violated, and is violating, human rights law. To comply with their human rights obligations, States must “adopt and implement policies aimed at reducing emissions (including effectively contributing to phasing out fossil fuels), which reflect the highest possible ambition, foster climate resilience, and ensure that public and private investments are consistent with a pathway towards low carbon emissions and climate resilient development.”³¹⁴ Regional and national tribunals have also observed that the failure to meaningfully address climate change violates human rights.³¹⁵ State acts and omissions in this context violate treaty law, and can constitute a breach of international legal obligations, establishing an internationally wrongful act.
121. Acts that affirmatively contribute to and exacerbate climate change likewise can breach human rights obligations. Authorizing, engaging in, supporting (through financing or otherwise), or acquiescing to conduct that generates significant greenhouse gas emissions, exacerbating climate change and thereby increasing the risk of foreseeable human rights violations, is presumptively contrary to States’ international obligations under human rights law. The onus is on the State to prove that its acts and omissions are not contrary to its international duties. States that have the capacity to prevent conduct that will foreseeably undermine human rights have an obligation to do so or to justify their failure to act.
122. Climate change is a fossil-fueled global crisis resulting in immense transboundary harm and widespread human rights violations. The conduct of some States or groups of States has failed to prevent and has worsened climate change and its impacts on people and the environment. Thus, both State inaction and State action have contributed to the breach of State obligations. As elaborated above, evidence can be adduced linking the acts and omissions of a State or group of States to cumulative quantities of greenhouse gas emissions over time, and thereby to the climate change caused by those emissions. Ample evidence likewise links climate change to deprivations of human rights, substantiating the causal chain from State conduct to climate change to human rights harm. (See paras. 139-140 below) Thus, for those States that have, through their generation of and failure to regulate cumulative emissions over time, caused climate change-related harm or increased the risk of such harm to human rights, the legal elements of a violation of States’ international human rights obligations can be established. As discussed in Part 3, below, that breach gives rise both to remedial obligations vis-a-vis the peoples and

³¹² *Ibid.* at para. 10.

³¹³ HRC, GC No. 36, at para. 7.

³¹⁴ UN Human Rights Treaty Bodies’ joint statement on human rights and climate change, at para 11.

³¹⁵ See, e.g., *Daniel Billy v. Australia*; IACtHR, *Advisory Opinion OC-23/17; Ashgar Leghari v. Federation of Pakistan*, (2015) W.P. No. 25501/2015 (Lahore High Court) (Pak.); *The State of the Netherlands v. Urgenda*, Case. No. 19/00135 (Engels) (Dec. 20, 2019) (English translation) [hereinafter *Urgenda*]; *VZW Klimaatzaak v. Belgium*, Brussels Court of First Instance, 2015/4585/A (Nov. 17, 2021); *PSB et al. v. Brazil (on Climate Fund)*, Supreme Court of Brazil, ADPF 708 (July 1, 2022); *Generaciones Futuras v. Minambiente*, Supreme Court of Colombia, STC. 4360-2018 (Apr. 5, 2018) (Col.).

individuals affected, and responsibility to other States, all of whom have an interest in the protection of human rights.

123. The preceding sections (paras. 91-122) have shown that the elements of an internationally wrongful act can be made out in relation to the environmental and human rights harm of climate change because: (i) States have obligations to refrain from causing, to prevent, and to minimize the risk of climate change and resultant injuries, under multiple sources of international law, both customary and conventional; and (ii) State acts and omissions, over time, have led to cumulative greenhouse gas emissions causing climate change and resultant harms, and increasing the risk of such harms, in violation of their international obligations. A State's conduct can violate its obligations under more than one source of law, as State conduct driving climate change has done and is doing. The next section examines what legal consequences follow from the establishment of one or more such internationally wrongful acts.

Part 3. The Legal Consequences of States' Breaches of Their International Obligations Entail Cessation of the Wrongful Conduct and Full Reparation of Resultant Injuries

124. Fundamental to law's ability to deliver justice is the core legal tenet, *ubi jus, ibi remedium*, or where there's a right, there must be a remedy.³¹⁶ As laid out above, in Part 1, under both the law of State responsibility and international human rights law, once it is established that a State has breached one or more of its international obligations ("primary rules"), it has a duty to cease the wrongful conduct, if it is continuing, and to provide reparation and remedy for resultant injuries. These core secondary rules, the legal consequences triggered by the breach of primary obligations, apply in the context of climate change.

125. The legal elements exist for States, peoples and individuals to demand cessation and reparation for injury due to climate change resulting from other States' internationally wrongful acts. Where a State, through its inaction and action is failing to use all means at its disposal to prevent the significant transboundary harm of climate change, or minimize the risk thereof, to protect against foreseeable human rights violations, and to deliver on its duties to support adaptation, climate finance and technology transfer, cessation of those breaches of international law requires bringing its conduct in conformity with its international obligations. Where there are injuries attributable to such conduct, the State must provide reparation.

126. The Court should interpret the scope and content of States' remediation-related legal duties harmoniously with relevant principles and concurrent obligations under international law. Just as States' various international obligations to prevent and mitigate harm to the climate system should be interpreted harmoniously in light of all relevant principles of international law, so too should the Court's interpretation of the legal consequences States incur when they have caused significant climate harm

³¹⁶ William Blackstone, *Commentaries on The Laws of England* 23 (1768).

with respect to other States, in particular SIDS, and peoples and individuals of present and future generations.³¹⁷

A. Remedial obligations for breaches of climate change-related obligations under the law of State responsibility and human rights law

127. The core components of the secondary obligations under the law of State responsibility and human rights law are parallel. They focus on halting the conduct inconsistent with the State's obligations and righting the wrong, repairing the injuries caused by that breach. Under the law of State responsibility, those States in breach of their obligations, including obligations under customary and conventional environmental and human rights law to prevent and mitigate harm due to cumulative GHG emissions, may be obliged to provide reparations to other States or the international community as a whole, for injuries that can be attributed to that conduct. Under international human rights law, States that have engaged in the same wrongful conduct also may owe remedy and reparation to peoples and individuals of present and future generations whose rights have been infringed. In the case of climate change, that means that States that have breached their obligations to prevent climate harm may owe reparations to those States whose territorial integrity, environments, or populations have suffered injury, and reparations to peoples and individuals whose human rights have been violated by the States' contributions to or failure to prevent cumulative GHG emissions driving climate change.

i. Cessation of wrongful conduct as applied to climate change

128. Where States have breached a preventive obligation, such as the duty to take all reasonable or necessary measures to prevent significant transboundary harm from occurring, that breach continues so long as the measures are not taken and the significant harm occurs. Mounting emissions and escalating global temperatures make clear that the breach of duties to prevent and mitigate the significant transboundary harm of climate change is of an ongoing nature, because the event that States had a duty to prevent (significant transboundary harm and dangerous anthropogenic interference with the climate system) continues and "remains not in conformity with that obligation."³¹⁸

129. Where the breach stems from a failure to act, cessation requires action, such as the adoption of measures capable of satisfying the duties to prevent harm, protect against foreseeable human rights violations, and mitigate interference with the climate system. Where breach stems from action, cessation requires halting the harmful conduct, such as stopping engagement in, authorization of or support for activities known to cause significant transboundary harm or to increase the risk thereof, such as fossil fuel production and use or deforestation.

130. Where the obligation breached is not to prevent an event, but to undertake a given action or provide resources, the breach lasts as long as the State's act (which can be an omission) is not in conformity with that duty. In the case of the failure of certain States to deliver required climate financing or technology transfer, such as that mandated by from developed countries to developing countries under

³¹⁷ See para. 146 below. See also, CIEL, Memo on Applicable Law, in Written Statement submitted to the ICJ in the climate advisory proceedings, March 2024.

³¹⁸ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 14(2).

the UNFCCC and Paris Agreements, that breach is ongoing so long as the States fail to provide support in line with the obligation.

ii. Full reparation of injuries attributable to the wrongful conduct

131. As laid out in Part 1, both the law of State responsibility and human rights law require States that have breached their international obligations to provide full reparation for resultant injuries to States, peoples, and individuals. The human rights framework on remedy and reparations informs what constitutes legally sufficient reparation for the internationally wrongful act of causing harm to the climate system.

132. The right to remedy under human rights law applies in the context of climate change. As we have seen in previous sections, certain acts and omissions of States in relation to climate change may be considered as a breach of their human rights obligations. Attribution science linking the acts and omissions of States with climate-induced human rights violations, makes it easier to establish the violation of human rights standards.³¹⁹ Such a breach of obligations would trigger the right to remedy and reparation, and indeed the UN Human Rights Committee in the recent case of *Daniel Billy v. Australia* upheld the legal duty of States to protect people under their jurisdiction from the impacts of climate change and to compensate and remedy climate-related harms.³²⁰ Meanwhile, the UN Committee on the Rights of the Child has found in the case *Saachi, et al., v Argentina et al.*, that countries have extraterritorial obligations related to carbon pollution.³²¹ The breach of such obligations could in some cases trigger remedial duties.

a. Injuries due to climate change are of a material and moral character requiring reparation

133. The types of injuries caused by climate change, and the conduct driving it, are legally cognizable and capable of reparation, including through compensation. The recognition in the ICJ's jurisprudence, in human rights law, and under longstanding international law that both material and moral injuries can give rise to a duty of reparation and remedy, is particularly significant in relation to climate change. While some climate-related impacts can be readily assessed in terms of financial value, in other instances, the cost of impacts cannot be measured easily, constituting non-economic loss and damage. Such impacts can include, for example, the loss of lives; negative effects on human health and mobility; loss of community networks, access to territories, Indigenous and local knowledge, and societal and cultural identity; as well as loss of biodiversity and ecosystem services.³²²

134. Climate-change induced extreme weather events, including bushfires, cyclones, floods, and droughts, as well as slow-onset processes, such as increasing temperatures and sea level rise, are resulting in destruction, enormously impacting human societies and infrastructure, as well as

³¹⁹ See Part 3 A ii. above.

³²⁰ *Daniel Billy v Australia*, at para. 11.

³²¹ *Chiara Saachi, et al v. Argentina*, paras 10.5-10.10.

³²² See, e.g., UNFCCC, *Non-economic losses in the context of the work programme on loss and damage*, U.N. Doc. FCC/TP/2013/2 (Oct. 9, 2013), <https://unfccc.int/resource/docs/2013/tp/02.pdf>; UNFCCC, Executive Committee of the Warsaw International Mechanism for Loss and Damage, Non-Economic Losses, <https://unfccc.int/process/bodies/constituted-bodies/WIMExCom/NELs>.

ecosystems, and undermining the enjoyment of the rights to life, environment, culture, security, food, water, housing, health, education, livelihood, and other rights.³²³ Especially at stake are the rights of the most marginalized.³²⁴ States, peoples and communities have experienced, are experiencing and will foreseeably experience material and moral injuries due to these and other climate change impacts, which are projected to escalate. The IPCC has found 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*). Climatic and non-climatic risks will increasingly interact, creating compound and cascading risks that are more complex and difficult to manage (*high confidence*).”³²⁵ Some of those impacts cause material damage, including destruction of dwellings and infrastructure, loss of crops, businesses, or other livelihoods. According to some estimates, the cost of climate change damage globally could be between \$1.7 trillion and \$3.1 trillion per year by 2050.³²⁶ Others cause tremendous moral damage, including loss of human life and loss of loved ones, injury, sickness, and cultural losses. Research shows that if warming reaches or exceeds 2°C this century, acts and omissions of mainly developed countries will be “responsible for killing roughly 1 billion humans through anthropogenic global warming.”³²⁷ Climate impacts that cannot be avoided through mitigation and adaptation activities are known as loss and damage.³²⁸

135. Climate change also threatens certain States with loss of territory or their very existence, jeopardizing their sovereignty.³²⁹ The Synthesis Report of the IPCC’s Sixth Assessment Report (AR6), published in March 2023, reaffirmed that “every increment of global warming will intensify multiple and concurrent hazards (*high confidence*)”³³⁰ and that “[v]ulnerability will also rise rapidly in low-lying Small Island Developing States and atolls in the context of sea level rise.”³³¹

136. These injuries are of the type that the ICJ has held compensable in the past. The material and moral damage that has occurred, is occurring, and will foreseeably transpire as a result of climate change are similar to types of damage that the ICJ has considered in past cases, and for which States can be held responsible and remedy can and must be provided, when facts are adduced showing a sufficiently direct and causal link between the acts and/or omissions of that State in contravention of its international legal

³²³ See generally Office of the High Commissioner for Human Rights, *Frequently Asked Questions on Human Rights and Climate Change: Fact Sheet No. 38* (2021); IACHR, Res. No. 3/2021, at p. 5.

³²⁴ See generally Human Rights Council, *The impacts of climate change on the human rights of people in vulnerable situations*, U.N. Doc. A/HRC/50/57 (May 6, 2022); Emmanuel Raju, Emily Boyd & Friederike Otto, “Stop blaming the climate for disasters,” 3 *Communications Earth & Environment* 1 (2022), <https://www.nature.com/articles/s43247-021-00332-2>.

³²⁵ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. B.2.

³²⁶ Paige Bennett, *Climate Change is Costing the World \$16 million per hour: study* (Oct. 12, 2023), <https://www.weforum.org/agenda/2023/10/climate-loss-and-damage-cost-16-million-per-hour/>.

³²⁷ Joshua M. Pearce & Richard Parncutt, “Quantifying Global Greenhouse Gas Emissions in Human Deaths to Guide Policy,” 16(16) *Energies* 2023, p. 1 (Aug. 19, 2023), <https://www.mdpi.com/1996-1073/16/16/6074>; see also Richard Parncutt, “The Human Cost of Anthropogenic Global Warming: Semi-Quantitative Prediction and the 1,000-Tonne Rule,” *Front. Psychol.* (Oct. 16, 2019).

³²⁸ Cynthia Liao et al, *What is Loss and Damage?* (Dec. 6, 2022), <https://www.chathamhouse.org/2022/08/what-loss-and-damage>.

³²⁹ Jonathan Watts, “‘We could lose our status as a state’: what happens to a people when their land disappears,” *The Guardian* (June 27, 2023), <https://www.theguardian.com/environment/2023/jun/27/we-could-lose-our-status-as-a-state-what-happens-to-a-people-when-their-land-disappears>.

³³⁰ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. B.1.

³³¹ IPCC AR6, Synthesis Report (Full Volume), sec. 4, para. 4.3.

duties and the injury suffered. The type of damages attributable to State acts and omissions that have caused, or contributed to, and failed to prevent or worsened climate change, include damages to States of the types that may be compensable, such as damage to public property, and “the costs incurred in responding to pollution damage.”³³² For example, the costs of responding to the damage wrought by excessive greenhouse gas emissions—a form of atmospheric pollution—can include the costs of adaptation (e.g. building sea walls, relocating communities, changing irrigation systems, etc.), and the costs associated with transitioning from polluting practices, which the world can no longer sustain—such as fossil fuel-based energy systems—to those that do not increase the risk of climate-related harm, such as renewable energy.

137. In *Costa Rica v Nicaragua*, the ICJ specifically confirmed the compensability of environmental damage, holding it consistent with principles of international law, and clarifying that “damage to the environment, and the consequent impairment or loss of the ability of the environment to provide goods and services, is compensable under international law...[and] may include indemnification for such impairment or loss or payment for restoration of the damaged environment.”³³³ The Court explicitly acknowledged that ecosystem services (ability of the environment to provide goods and services) as part of the compensable damage to the environment, including both direct and indirect services. This recognition is of particular importance given how climate change impacts not just people, but also entire ecosystems and biodiversity. The biodiversity and climate crises mutually reinforce each other,³³⁴ with very detrimental consequences for public and planetary wellbeing. States must take an ecosystems approach with regard to compensatory measures.

138. Human rights bodies have similarly applied the right to remedy both to material climate impacts and to ‘moral’ or ‘non-material impacts.’ Understanding of the injury shapes the form that reparation takes. As outlined in previous sections, this aspect of redress is essential to address non-economic loss and damage from climate change, and relevant for a range of rights including the rights of Indigenous Peoples and cultural rights. Cultural rights are not a luxury but rather vital to the overall implementation of universal human rights and a critical part of the responses to many current challenges, including climate change.³³⁵ In the *Daniel Billy* case, the Committee notes the Indigenous plaintiffs’ specific descriptions of the ways in which their lives have been adversely affected by flooding and inundation of their villages and ancestral burial lands: (1) destruction or withering of their traditional gardens through salinification; (2) decline of nutritionally and culturally important marine species and associated coral bleaching and ocean acidification; (3) anxiety and distress owing to the impacts of erosion on some homes.³³⁶ The Committee found a violation of cultural rights among other rights, and thus awarded remedy, *inter alia* for non-material climate harm.³³⁷

³³² ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 36, cmt. para 8.

³³³ *Costa Rica v. Nicar.*, 2018 I.C.J. at paras. 42.

³³⁴ See generally *IPBES-IPCC Co-Sponsored Workshop Report on Biodiversity and Climate Change: Workshop Report* (2021), https://files.ipbes.net/ipbes-web-prod-public-files/2021-06/20210609_workshop_report_embargo_3pm_CEST_10_june_0.pdf.

³³⁵ Report of the Special Rapporteur in the field of cultural rights, Karima Bennoune, U.N. Doc. A/75/298, para. 64.

³³⁶ *Daniel Billy v. Australia*, at para 5.2.

³³⁷ *Ibid.* at 8.13, 10-11

b. These climate-related injuries can be attributed to State acts and omissions that violate international obligations

139. These material and moral injuries are attributable to climate change and the conduct that drives it. Recent advances in climate source and event attribution science allow researchers to pinpoint the role of climate change in extreme events³³⁸ and slow-onset events and quantify the contribution of GHG emissions from particular sources.³³⁹ The link between increasing anthropogenic GHG emissions under the laws and policies of States (or lack thereof) and climate change damages is reinforced by near scientific consensus as reflected in the IPCC reports.³⁴⁰ It is increasingly possible to link emissions of a specific country or from a corporation (under the jurisdiction of a specific country)³⁴¹ to specific damage. In terms of establishing a link, given the IPCC reports, the correlation between GHG emissions, atmospheric chemistry, and global warming has been “demonstrated with sufficient confidence” that adjudicators may not require demonstrating specific causation in order to obtain relief.³⁴²
140. Attribution science that identifies and quantifies the contribution of climate change to global climate trends and extreme weather events has gotten stronger.³⁴³ Such science elucidates the impacts of anthropogenic GHG emissions on people and the environment, documenting not just how climate change contributes to sea level rise or ocean acidification, but also how climate change intensifies heat waves or hurricane-induced rainfall.³⁴⁴ Studies have linked climate change to increased wildfires in North America³⁴⁵ and Canada.³⁴⁶ In Latin America, attribution science evinces how climate change has magnified the likelihood and impacts of heatwaves—making the 2013 heatwave in Argentina, which led to more than 1,000 deaths,³⁴⁷ five times more likely³⁴⁸—and flooding—nearly doubling the chances of

³³⁸ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. A.2.1.

³³⁹ Brenda Ekwurzel et al., “The rise in global atmospheric CO₂, surface temperature, and sea level from emissions traced to major carbon producers,” *Climatic Change* 144 (2017), <https://doi.org/10.1007/s10584-017-1978-0>.

³⁴⁰ Christina Voigt, “State responsibility for damages associated with climate change,” in *Research Handbook on Climate Change Law and Loss & Damage* (Meinhard Doelle & Sara L. Seck eds. 2021), at p. 180.

³⁴¹ States may be responsible for the effects of the conduct of private parties, if they failed to take necessary measures to prevent those effects as established in Part 1 of this memorandum.

³⁴² Jacob David Werksman, “Could a Small Island Successfully Sue a Big Emitter? Pursuing a Legal Theory and a Venue for Climate Justice,” in Michael B. Gerrard & Gregory E. Wannier (eds), *Threatened Island Nations: Legal Implications of Rising Seas and a Changing Climate* (Cambridge Univ. Press 2012), at p. 412.

³⁴³ IPCC, AR6, Synthesis Report (Full Volume), sec. 2, para. 2.1.2 (noting that such attribution science has gotten stronger since the IPCC published its Fifth Assessment Report in 2014).

³⁴⁴ Friederike E.L. Otto, “Attribution of weather and climate events,” 42 *Annual Review of Environment and Resources* 627, at p. 628 (2017), <https://www.annualreviews.org/doi/10.1146/annurev-environ-102016-060847>.

³⁴⁵ John T. Abatzoglou & A. Park Williams, *Impact of anthropogenic climate change on wildfire across western US forests*, Proceedings of the National Academy of Sciences 113, pp. 11770–11775 (2016).

³⁴⁶ M.C. Kirchmeier-Young et al, *Attribution of the Influence of Human-Induced Climate Change on an Extreme Fire Season*, 7 *Earth’s Future*, pp. 2–10 (2019).

³⁴⁷ Francisco Chesini et al., *Mortality risk during heat waves in the summer 2013-2014 in 18 provinces of Argentina: Ecological Study*, 27(5) *Ciência & Saúde Coletiva* 2071-86, at p. 76 (May 2022) <https://doi.org/10.1590/1413-81232022275.07502021>; see also Union of Concerned Scientists, *The Fossil Fuels Behind Forest Fires : Quantifying the Contribution of Major Carbon Producers to Increasing Wildfire Risk* (2023).

³⁴⁸ A. Hannart et al, *Causal Influence of Anthropogenic Forcings on the Argentinian Heat Wave of December 2013*, 96(12) *Bulletin of the American Meteorological Society*, at p. S44 (2015), <https://doi.org/10.1175/BAMS-D-15-00137.1>.

flooding in 2017 in the Uruguay River Basin,³⁴⁹ and making 2022 rainfall in Northeast Brazil 20% more intense,³⁵⁰ displacing thousands. Some research ties specific sources of GHG emissions to specific climate impacts. For example, one study connects the 88 largest fossil fuel and cement producers to observed increases in global surface temperature, sea level rise,³⁵¹ ocean acidification,³⁵² and areas burned by forest fire,³⁵³ linking emission-generating conduct subject to the jurisdiction and control of States to climate impacts that are injuring other States, peoples, and individuals.

141. There is a sufficiently “direct and certain causal nexus” between States’ wrongful conduct and the harm.³⁵⁴ But for the acts and omissions of States that have allowed cumulative emissions to reach present levels and that currently maintain or increase those emission trajectories, climate change and the significant harm it is engendering would not be occurring. Thus, acts that engage in, authorize, finance, or facilitate the activities that are the principal drivers of emissions—principally fossil fuel production and use—and omissions including the failure to adopt regulations and policies requiring a phaseout from fossil fuels, are directly and causally linked to climate-related injuries. As discussed above, rather than address the drivers of climate change, developed nations, with often outsized historical and current contributions to the climate crisis,³⁵⁵ have consistently failed in taking meaningful and ambitious climate action,³⁵⁶ and are collectively planning to produce double the amount of emission-generating fossil fuels in 2030 than would be compatible with limiting warming to 1.5°C³⁵⁷ given that projected emissions from existing fossil fuel infrastructure alone will exceed the remaining carbon budget to limit warming to 1.5°C.³⁵⁸

142. Injury attributable to climate change, and the series of acts and omissions that have caused and/or are causing it is “indivisible injury” in the meaning of the term under international law. That is, the contributions to climate change cannot be distinguished using “a factual test of causation” whereby one State’s internationally wrongful act (be it action(s) and/or omission(s)) is the single necessary and

³⁴⁹ Rafael C. de Abreu et al, “Contribution of Anthropogenic Climate Change to April–May 2017 Heavy Precipitation over the Uruguay River Basin,” 100(1) Bulletin of the American Meteorological Society, at p. S37-41 (Jan. 2019), <https://doi.org/10.1175/BAMS-D-18-0102.1>.

³⁵⁰ See Mariam Zachariah et al, “Climate change increased heavy rainfall, hitting vulnerable communities in eastern Northeast Brazil” (July 5, 2022), <https://www.worldweatherattribution.org/climate-change-increased-heavy-rainfall-hitting-vulnerable-communities-in-eastern-northeast-brazil/>.

³⁵¹ Ekwurzel, at p. 586.

³⁵² R. Licker et al, “Attributing ocean acidification to major carbon producers,” 14(12) Environmental Research Letters, p. 2 (2019).

³⁵³ Kristina A. Dahl et al, “Quantifying the contribution of major carbon producers to increases in vapor pressure deficit and burned area in western US and southwestern Canadian forests,” 18(6) Environmental Research Letters 064011 (2023).

³⁵⁴ *Costa Rica v. Nicar.*, at para. 32.

³⁵⁵ See generally Hickel, *Quantifying national responsibility for climate breakdown: an equality-based attribution approach for carbon dioxide emissions in excess of the planetary boundary*.

³⁵⁶ Martin Khor & Meenakshi Raman, *A Clash of Climate Change Paradigms: Negotiations and Outcomes at the UN Climate Convention* (Third World Network, 2020). This failure to act with ambition has also been reflected in cases across the world. 81 cases have been filed against governments seeking to challenge their overall climate policy response. See, e.g., *VZW Klimaatzaak v. Kingdom of Belgium; Friends of the Irish Environment v. The Government of Ireland & Ors.*, [2020] IESC 49 (Ir.); *Commune de Grande-Synthe*, Supreme Administrative Court (Conseil d’Etat) of France, No. 427301 (Nov. 19, 2020).

³⁵⁷ *Production Gap Report 2023*, at p. 4.

³⁵⁸ IPCC, AR6, Synthesis Report, Summary for Policymakers, at para. B.5.

sufficient cause of an injury resulting from climate change.³⁵⁹ It may be that without a single State's internationally wrongful conduct—for example, without the series of actions and omissions that led to or failed to prevent the release of a substantial share of the cumulative global greenhouse emissions — present levels of climate change and resultant harms would not have occurred or be occurring. But that wrongful conduct may nonetheless not be sufficient, on its own, without more or without being in combination with the wrongful acts of other States, to cause a given climate change-related injury.

143. It could also be the case that greenhouse gas emissions attributable to each of two or more States are sufficient on their own to have significantly degraded the atmosphere and caused climate change impacts. In that case, each State's internationally wrongful act or acts may have been sufficient, but not necessary, to the indivisible injury, in which case the responsibility is shared among them.

144. That the harm results from the conduct of a combination of States does not preclude assignment of responsibility or reparation of the resulting injuries. Notwithstanding State arguments to deflect responsibility on the premise that climate change “is a global phenomenon attributable to the actions of many States,” the Human Rights Committee awarded compensation in a case concerning the insufficiency of a State's action to protect rights in the context of climate change.³⁶⁰ The Committee on the Rights of the Child has affirmed that “the collective nature of the causation of climate change does not absolve the State party of its individual responsibility that may derive from the violations that the emissions originating within its territory may cause.”³⁶¹ These decisions reflect the approach of the Dutch Supreme Court in *Urgenda* which held that “each country can be effectively called to account for its share of emissions.”³⁶²

145. The content of the obligation to provide reparation as applied will vary across States depending on their conduct that contributes to the injuries. That responsibility applies with the greatest force to those States in whose jurisdiction or subject to whose control such activities have caused and are causing the greatest portions of the cumulative emissions. A State that did not contribute materially to the situation (or the preceding acts/omissions) that makes an otherwise lawful act or omission trigger a breach of an international duty does not bear responsibility for resultant harm. A State that has not contributed significantly to cumulative global emissions, for example, and therefore cannot be said to have caused significant transboundary harm or created the situation in which further emissions cause such harm, does not incur international responsibility because its emissions combine with the internationally wrongful significant emissions of other States to cause climate change injury.³⁶³

B. International climate agreements present no bar to reparation of climate-related injury

146. International climate law, the UNFCCC and the Paris Agreement do not define or limit remedy and reparations in the context of climate change. States have concurrent duties under international law,

³⁵⁹ See EJIL, *Guiding Principles on Shared Responsibility in International Law*, at principle 2, cmt. para 4.

³⁶⁰ *Daniel Billy v. Australia*, at paras 6.3, 11.

³⁶¹ *Chiara Saachi et al v. Argentina*, at para 10.10 (citing the preamble to the Convention on the Rights of the Child, article 3 of the UNFCCC, and the preamble and articles 2 and 4 of the Paris Agreement).

³⁶² *Urgenda*, at para. 5.7.7.

³⁶³ EJIL, *Guiding Principles on Shared Responsibility in International Law*, at principle 3, cmt. para. 8.

including the law of State responsibility and human rights law, and the Court should draw on these bodies of law in setting out the scope and content of States' remediation duties in its opinion. That States have obligations under multiple existing sources of law is further reinforced by Resolution 77/276 unanimously adopted by the General Assembly on 29 March 2023 requesting an advisory opinion of the International Court of Justice on the obligations of States in respect of climate change.³⁶⁴ The Resolution explicitly emphasizes the importance of several legal frameworks across the spectrum of international law, including international human rights, international environmental law, and relevant obligations of customary international law.

147. The UNFCCC and Paris Agreement do not squarely address remediation duties where States, by their acts and omissions, have caused significant harm to the climate system and other parts of the environment, and by extension SIDS and present and future generations. Article 8 acknowledges that loss and damage exist, and need to be addressed, but does so without discussing the status of loss and damage as injuries resulting from breaches of law by any States and consequent responsibility. While Paragraph 51 of COP Decision 1/CP.21 (the adoption of the Paris Agreement) states that Article 8 does not provide a basis for liability and compensation,³⁶⁵ it does not limit the application of the law of State responsibility (which triggers the obligation to cease and repair harm if internationally wrongful conduct has been established) in any way. Paragraph 51 does not bear on the basis for liability or compensation stemming *not* from the breach of Article 8 of the Paris Agreement, but from the contravention of preexisting and concurrent independent duties. Paragraph 51 reflects compromise text to which countries registered their opposition on the record.³⁶⁶ Notably, the Philippines, in their declaration in adopting the Paris Agreement, expressed that its “accession to and the implementation of the Paris Agreement shall in no way constitute a renunciation of rights under any local and international laws or treaties, including those concerning State responsibility for loss and damage associated with the adverse effects of climate change.”³⁶⁷

148. Significantly, nothing in the text of either agreement (or COP decisions) precludes the imposition of responsibility on those who breach obligations that exist independently of, predate, and survive, the climate regime. Rather, the objectives, principles, and obligations set forth in the UNFCCC and Paris Agreement build on and complement States' concurrent duties under other bodies of

³⁶⁴ UN General Assembly, Resolution adopted by the General Assembly on 29 March 2023, U.N. Doc. A/RES/77/276 (Apr. 4, 2023).

³⁶⁵ UNFCCC Conference of the Parties, *Report of the Conference of the Parties on its Twenty-First Session, Held in Paris from 30 November to 13 December 2015*, Decision 1.CP/21, U.N. Doc FCCC/CP/2015/10/Add.1 (Jan. 29, 2016), at para. 51.

³⁶⁶ Khor & Raman, at p. 191.

³⁶⁷ United Nations Treaty Collection, *Depository: Status of Treaties, Chapter XXVII: Environment, 7.d Paris Agreement, Declarations*, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-7-d&chapter=27&clang=en (emphasis added) [hereinafter *Paris Agreement Ratification Declarations*].

international law,³⁶⁸ including the fundamental duty under human rights law to prevent, minimize, and remediate foreseeable violations of human rights.³⁶⁹

149. Moreover, there is no explicit language expressly abrogating, displacing, or preempting application of the law of State responsibility, or establishing the exclusivity of the climate agreements on matters relating to breach of international obligations. In absence of such carveout, the customary international law of State responsibility applies to breaches of the UNFCCC and Paris Agreement.³⁷⁰ Notably, declarations made by some State parties upon ratification, acceptance, approval, or accession to the UNFCCC reinforced the understanding that the agreements do not derogate from the law concerning state responsibility.³⁷¹

C. Measures that States must take to satisfy their remediation obligations

150. To meet their obligations in relation to remedy and reparation, whether to other States, or to peoples and individuals, States must undertake certain measures in line with equity considerations.³⁷² The following section briefly outlines some of those required measures. The list is not exhaustive by any means, but merely illustrates certain types of measures necessary and capable of satisfying States' remediation obligations in the face of a climate emergency.

i. States should take appropriate measures to ensure access to justice in relation to remedy and reparations

151. Access to justice is an essential element of redress. Procedural measures in this context might include, *inter alia*, shifting the burden of proof to require the responsible State to prove a lack of causation,³⁷³ and/or enabling access to attribution science relevant for States with fewer resources.
152. Procedural measures with respect to ensuring access to justice for peoples and individuals who wish to claim remediation would include, *inter alia*, measures to remove regulatory, social, or economic

³⁶⁸ See, e.g., UNFCCC, at pmbl. (“Recalling also that States have, in accordance with the Charter of the United Nations and the principles of international law, ... the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction”); Paris Agreement, at pmbl.; see also UNFCCC, Decisions 1/CP.27 and 1/CMA.4, at pmbl. (2022) [Sharm el-Sheikh Implementation Plan].

³⁶⁹ In the preamble to the Agreement, the Parties acknowledged that they “should, when taking action to address climate change, respect, promote and consider their obligations on human rights...” Paris Agreement, pmbl. See also Cancun Agreements, para. 8 (acknowledging for the first time in a UNFCCC decision that Parties should fully respect human rights in all climate actions).

³⁷⁰ See, e.g., Communication from the Chairman of the Panel, *Korea - Measures Affecting Government Procurement*, WTO Doc. WT/DS163/6, para. 7.96 (Jan. 25, 2000).

³⁷¹ *Paris Agreement Ratification Declarations*.

³⁷² In its broadest and most general signification, equity denotes “the spirit and the habit of fairness, justness, and right dealing which would regulate the intercourse of men with men.” Equity, Black’s Law Dictionary, <https://thelawdictionary.org/equity/>. In human rights law, equity is understood as rooted in principles such as realization of rights consistent with maximum available resources while in international environmental law, the concept is expressed in the principle of common but differentiated responsibilities and respective capacities.

³⁷³ As discussed above in para. 38.

barriers that prevent or hinder access to justice, adopting an intersectional approach;³⁷⁴ remove procedural barriers limiting the access of youth and children to justice and effective remedies;³⁷⁵ and not deny individual standing based on the diffuse effects of climate change.³⁷⁶ In the context of any reparations program or claim in the service of affected communities, procedural measures would entail consultative processes needed to “ensure that reparation claims accurately reflect the demands of those communities”³⁷⁷ as directly affected individuals and communities affected by climate change are in the best position to identify and develop suitable remedies for violations of human rights.³⁷⁸

ii. States should take appropriate measures for cessation of wrongful conduct and guarantees of non-repetition

153. The measures required for States to meet the obligation of cessation of wrongful conduct and guarantees of non-repetition are determined on the basis of the well-established law of reparation as laid out in Part 1, and will be dependent on the specific facts relevant to a given case.

154. In terms of guarantees of non-repetition, “[W]here the violation results from a state’s failure to prevent the negative human rights impacts of climate change, the duty to offer appropriate assurances and guarantees of non-repetition could entail an obligation to adopt and implement enforceable legislation to protect human rights from future climate impacts.”³⁷⁹ This duty also reinforces procedural obligations to “provide information about the risks and consequences of climate change.”³⁸⁰ Meanwhile, to achieve cessation of wrongful conduct, States have a duty to implement measures capable of rapidly

³⁷⁴ States must ensure substantive equality in the provision of reparations, as well as prevent and redress intersectional discrimination, both in terms of shaping the modalities of remediation and in relation to delivery. (On State obligations in relation substantive equality, UN CESCR has clarified that “[e]liminating discrimination in practice requires paying sufficient attention to groups of individuals which suffer historical or persistent prejudice instead of merely comparing the formal treatment of individuals in similar situations.” International bodies have unequivocally clarified how climate change disproportionately impacts the marginalized. Right-holders experiencing intersecting forms of marginalization merit targeted attention and tailored remediation responses. The CEDAW Committee, for example, has recognized that “intersectionality is a basic concept for understanding the scope of the general obligations of States parties...” while the UN Committee on the Rights of Children has emphasized that, “[R]emedial mechanisms should consider the specific vulnerabilities of children to the effects of environmental degradation, including the possible irreversibility and lifelong nature of the harm.”) The importance of non-discrimination in the context of remedy and reparations is reinforced in the Basic Guidelines on remedy and reparations.) [Add in GC citations!!] See, for example, Anna Kaijser & Annica Kronsell, *Climate change through the lens of intersectionality*, *Environmental Politics*, 23:3, 2014, 417-433, p. 418; UNWG Information Note on Climate Change and UNGPs 2023, para 24. For example, in regards to Indigenous and tribal peoples, States have the obligation to establish and offer appropriate proceedings that provide a real possibility for the indigenous and tribal communities to be able to defend their rights and exercise effective control over their territory. See also IACtHR, *Kaliña and Lokono Peoples v. Suriname*, para. 240.

³⁷⁵ CRC, *General Comment No. 26*, paras. 82-90.

³⁷⁶ See generally Mina Juhn, *Taking a stand: Climate Change Litigants and the viability of constitutional claims*, 89 *Fordham L. Rev.* 2731 (2021).

³⁷⁷ Margaretha Wewerinke-Singh, *State Responsibility for Human Rights Violations Associated with Climate Change*, at p. 83 (Hart Publishing, 2019).

³⁷⁸ *Ibid.*

³⁷⁹ Margaretha Wewerinke-Singh, *Remedies for Human Rights Violations Caused by Climate Change*, 9(3) *Climate Law*, at p. 242 (2019) [hereinafter Margaretha Wewerinke-Singh, *Remedies for Human Rights Violations Caused by Climate Change*].

³⁸⁰ Margaretha Wewerinke-Singh, *State Responsibility, Climate Change and Human Rights under International Law*, p. 136.

halting the emissions driving climate change, and enhancing human and natural resilience to withstand the changing climate.

155. Halting emissions requires curbing the primary drivers of climate change: fossil fuel and agroindustrial activity at source, and not relying on speculative technologies or future action in lieu of immediate, proven mitigation measures. Effective fossil fuel phase-out necessarily precludes States from granting licenses for new oil, gas, and coal exploration and production, as well as for transporting, processing, and burning extracted fossil fuels.³⁸¹ Additionally such phase out necessarily requires States to divest from and stop financing fossil fuel development, regardless of whether it is being led by public or private actors.³⁸² Likewise, indirect support of fossil fuel expansion—in the form of subsidies, which hit record levels in 2022,³⁸³ and other financial incentives—also drives climate change-related societal and planetary destruction.³⁸⁴ States must also ensure that their decisions on whether to advance a proposed activity within their territories or control are based on climate analyses that factor in all foreseeable emissions in their supply or value chain, regardless of where they occur.³⁸⁵ States must not

³⁸¹ See International Energy Association (IEA), *Net Zero by 2050: A Roadmap for the Global Energy Sector* (Oct. 2021), at p. 21; see also International Energy Agency, *Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach* (2023), at p. 16; IPCC, *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*, Technical Summary, p. 85, 89 (P.R. Shukla et al, eds., 2022) [hereinafter IPCC, AR6, WGIII, Technical Summary].

³⁸² UN Human Rights Treaty Bodies' joint statement on human rights and climate change, at para. 12 (“States should also discontinue financial incentives or investments in activities and infrastructure which are not consistent with low greenhouse gas emissions pathways, whether undertaken by public or private actors”). The human rights treaty bodies have also repeatedly expressed concern over public and private investment in the fossil fuel industry in the context of State reporting procedures. See, e.g., Committee on Economic, Social and Cultural Rights, *Concluding observations on the fourth periodic report of Luxembourg*, U.N. Doc. E/C.12/LUX/CO/4, paras. 10-11 (Nov. 15, 2022); Committee on the Rights of the Child, *Concluding observations on the combined fifth and sixth periodic reports of Canada*, U.N. Doc. CRC/C/Can/CO/5-6, para. 37 (June 23, 2022); Committee on Economic, Social and Cultural Rights, *Concluding observations on the fourth periodic report on Switzerland*, U.N. Doc. E/C.12/CHE/CO/4, paras. 18-19 (Nov. 18, 2019). [In terms of international law sources under Article 38 of the Statute of the International Court of Justice, while the work of UN treaty bodies might not easily be characterized either as judicial decisions or scholarly works, the Court has in practice both referenced and relied on treaty body jurisprudence. See, e.g., *Case Concerning Ahmadou Sadio Diallo (Guinea v. Dem. Rep. Congo)*, Judgment, 2010 I.C.J. 639, at para. 66 (Nov. 30). (“The interpretation above is fully corroborated by the jurisprudence of the Human Rights Committee established by the Covenant to ensure compliance with that instrument by the States parties... Since it was created, the Human Rights Committee has built up a considerable body of interpretative case law, in particular through its findings in response to the individual communications which may be submitted to it in respect of States parties to the first Optional Protocol, and in the form of its “General Comments”. Although the Court is in no way obliged, in the exercise of its judicial functions, to model its own interpretation of the Covenant on that of the Committee, it believes that it should ascribe great weight to the interpretation adopted by this independent body that was established specifically to supervise the application of that treaty.); see also *Legal Consequences of the Construction of a Wall in the Occupied Palestine Territory*, Advisory Opinion, 2004 I.C.J. 136, at para. 109 (July 9)].

³⁸³ See Simon Black et al, *IMF Fossil Fuel Subsidies Data: 2023 Update*, at p. 3.

³⁸⁴ See, e.g., Committee on the Rights of the Child, concluding observations on the combined 4th to 6th periodic reports of Greece, *Concluding observations on the combined fifth and sixth periodic reports of Canada*, 90th session, U.N. Doc. CRC/C/GRC/CO/4-6, para. 15(d) (June 28, 2022); SR on climate change, Report on the promotion and protection of human rights in the context of climate change, at para. 92(e)(iv) (recommending a redirection of fossil fuel subsidies).

³⁸⁵ National courts in numerous jurisdictions have recognized the imperative to consider both the direct and indirect GHG emissions of a proposed activity during the decision-making process. See, e.g., *WildEarth*

just regulate industrial activities that generate emissions and erode resilience, but also industry conduct that insulates those harmful activities from scrutiny and regulation.³⁸⁶ Given the threat that the growing use of investor-State dispute settlement (ISDS) mechanisms poses to States taking effective climate action³⁸⁷—in particular, action to regulate and accelerate the phaseout of fossil fuels—States should refrain from entering into agreements with ISDS provisions, amend or terminate existing such agreements, and/or withdraw consent to ISDS.³⁸⁸ Meanwhile, greater international cooperation in terms of climate finance and technology transfer is needed to realize greater mitigation ambition—without means of implementation, fossil fuel phase-out will remain out of reach.

156. Towards enhancing human and natural resilience to withstand the changing climate, States must similarly increase international finance flows and technological transfers required to address these needs.³⁸⁹ UNEP has found that “[A]daptation finance needs are 10–18 times greater than current international public adaptation finance flows,” and “global progress on adaptation is slowing rather than showing the urgently needed acceleration.”³⁹⁰ States must also engage with the need for structural reform in the international financial architecture while concurrently stepping up action on planning and implementation.³⁹¹ Implementation of the reparations focused measures below will also support in building resilience. In line with IPCC recommendations, it is critical for States to pursue climate action

Guardians v. Zinke, 368 F.Supp.3d 41 (D.D.C. 2019) (U.S.A.) (consideration of downstream GHG emissions stemming from authorization of oil and gas leases); *Gray v. Minister for Planning*, 152 LGERA 258 (2006) (Australia) (consideration of burning coal as indirect impact of extraction, citing intergenerational equity concerns); *Gloucester Resources Limited v. Minister for Planning*, NSWLEC 7 (2019) (Australia), para. 490 (discussing the requirement to consider indirect (Scope 3) GHG emissions in assessing the impacts of a fossil fuel project).

³⁸⁶ According to the Working Group on the issue of human rights and transnational corporations and other business enterprises, the obligation of States under the Guiding Principles to protect against foreseeable impacts related to climate change, entails, *inter alia*, adopting “a range of regulations to discourage greenwashing and undue corporate influence in the political and regulatory sphere in this area.” UN Working Group on Business and Human Rights, *Information Note on Climate Change and the Guiding Principles on Business and Human Rights*, paras. 7-8 (June 2023). Also of relevance is that the United Nations’ High-Level Expert Group on the Net Zero Emissions Commitments of Non-State Entities has urgently called for drawing a red line around greenwashing, emphasizing, *inter alia*, that non-state actors cannot claim to be net zero while continuing to build or invest in new fossil fuel supply, and cannot lobby to undermine ambitious government climate policies either directly or through trade associations or other bodies. The Group recommended States adopt clear, enforceable regulations to limit the potential for corporate greenwashing. See United Nations’ High-Level Expert Group On The Net Zero Emissions Commitments Of Non-State Entities, *Integrity Matters: Net Zero Commitments By Businesses, Financial Institutions, Cities And Regions* (2022).

³⁸⁷ Increasingly, when host States take climate action that allegedly adversely affects a foreign investor’s returns, investors are using ISDS proceedings to sue the State for compensation, before unaccountable, often confidential arbitration panels. See Report of the UN Special Rapporteur on Human Rights and the Environment (David Boyd), *Paying Polluters: the catastrophic consequences of investor-State dispute settlement for climate and environment action and human rights*, UN Doc. A/78/168, paras. 16, 21, 23 (July 13, 2023); see also IISD, CIEL & ClientEarth, *Investor-State Dispute Settlement (ISDS) Mechanisms And The Right To A Clean, Healthy, And Sustainable Environment*, pp. 1-2 (2023).

³⁸⁸ See generally Report of the UN Special Rapporteur on Human Rights and the Environment (David Boyd), *Paying Polluters: the catastrophic consequences of investor-State dispute settlement for climate and environment action and human rights*, UN Doc. A/78/168 (July 13, 2023).

³⁸⁹ UNEP, *Adaptation Gap Report 2023* at p. XII.

³⁹⁰ *Ibid.*

³⁹¹ *Ibid.* at p. XVI

and sustainable development in an integrated manner to increase their effectiveness in enhancing human and ecological well-being.³⁹²

iii. States should take appropriate measures to provide full reparation

157. Similar to measures considered in the preceding sub-section, the measures required for States to meet the obligation to provide full reparation are guided by well-established legal standards laid out in Part 1, and will be dependent on specific facts and appropriate to the injury suffered. As the Court noted in *Avena & Other Mexican Nationals*, “[w]hat constitutes ‘reparation in an adequate form’ clearly varies depending upon the concrete circumstances surrounding each case and the precise nature and scope of the injury, since the question has to be examined from the viewpoint of what is the ‘reparation in an adequate form’ that corresponds to the injury.”³⁹³
158. As restitution most closely adheres to the general principle that the responsible State is bound to wipe out the legal and material consequences of its wrongful act by re-establishing the situation that would exist if that act had not been committed, it comes first among the forms of reparation.³⁹⁴ In terms of restitution, in the context of environmental harm, it may not be possible, in many cases, to restore victims to their original situation, such as through return to their place of residence or return of their property.³⁹⁵ In certain contexts, restitution, at least to the extent feasible, is possible and appropriate, for instance, in the case of an “inundation of an island, ... building an artificial island may repair at least some of the harm.”³⁹⁶
159. In the context of injuries due to climate change, restitution could mean either restoring the actual situation where possible (for example, rebuilding destroyed infrastructure in case of a natural disaster) or assisting victims in achieving a situation that is similar to the previous one (for example, planned relocation in the context of slow onset events that render an area inhabitable).³⁹⁷ Restitution measures can restore key environmental functions on which victims depend, such as the guarantees of water protection and access to water and food ordered by the Inter-American Court of Human Rights in its landmark *Lhaka Honhat Association v. Argentina* decision.³⁹⁸

³⁹² See generally IPCC, AR6, WGII, Chapter 18,

https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_Chapter18.pdf.

³⁹³ *Avena and Other Mexican Nationals (Mexico v. United States of America)*, Judgment, I.C.J. Reports 2004 (I), p. 59, para. 119, quoted in *Pulp Mills*, 2010 I.C.J., para 274.

³⁹⁴ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 35.

³⁹⁵ See Frank Haldemann, Thomas Unger, and Valentina Cadelo, eds., *The United Nations Principles to Combat Impunity: A Commentary*, First edition, Oxford Commentaries on International Law (Oxford: Oxford University Press, 2018), at principle 34 [hereinafter UN Principles to Combat Impunity: A Commentary].

³⁹⁶ Margaretha Wewerinke-Singh, *Remedies for Human Rights Violations Caused by Climate Change*, at p. 240; see also John Vidal, “Artificial Island Could Be Solution for Rising Pacific Sea Levels,” *The Guardian* (Sept. 8, 2011), <https://www.theguardian.com/environment/blog/2011/sep/08/artificial-island-pacific-sea-levels>.

³⁹⁷ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 35; see also Center for International Environmental Law & Amnesty International, *Human Rights as a Compass for Operationalizing the Loss and Damage Fund: A Submission*, p. 6 (Feb. 2023).

³⁹⁸ IACtHR, *Case of the Indigenous Communities of the Lhaka Honhat (Our Land) Association v. Argentina*, Judgment of February 6, 2020, (Merits, reparations and costs), paras. 332-333; see also Gino J. Naldi, “Reparations in the Practice of the African Commission on Human and Peoples’ Rights,” 14 *Leiden Journal of International Law* 682, at p. 685 (2001).

160. One of the ways in which restitution can be viewed in the context of climate reparations is through the lens of unjust enrichment, and States as well as individuals and communities, may potentially be able to frame reparations claims or programs on the basis of this principle.³⁹⁹ One of the forms of restitution that may be owed by States that have contributed the most to the climate crisis and have benefited enormously financially from the activities that have caused cumulative emissions, including through profits of fossil fuel corporations and agroindustrial enterprises driving deforestation, headquartered in their countries, could be disgorgement of ill-gotten gains.
161. When full *restitution* is not achievable given irreversible climate-induced damage, States must ensure *compensation* is accessible as a critical component of effective remedy. Compensation, or monetary reparation, is the applicable means of reparation insofar as such damage is not made good by restitution.⁴⁰⁰ Irreversible loss, and damage that cannot be repaired, are frequently a reality in climate change.⁴⁰¹ Providing compensation for both pecuniary harm⁴⁰² (such as damages to goods and trade, including homes destroyed or damaged as a result of an extreme weather or the capacity to earn a living) and non-pecuniary harm⁴⁰³ (including physical and psychological injuries, as well as moral damage such as individual pain or suffering) can be a critical component of remedy. In the *Corfu Channel* case the responsible State compensated individuals from the injured State for non-pecuniary harm.⁴⁰⁴
162. While the law of state responsibility envisages reparations following wrongful conduct, in certain cases compensation can be awarded even in situations precluding wrongfulness, as recognized

³⁹⁹ There are nations and corporations which have gained enormously from acts and omissions worsening the climate crisis, *see* Noah S. Diffenbaugh & Marshall Burke, *Global warming has increased global economic inequality*, PNAS 116 (May 14, 2019), <https://www.pnas.org/doi/10.1073/pnas.1816020116>; while poorer countries with often negligible contributions to the climate crisis, have suffered disproportionately from the impacts. The gains continue to “accrue in the present,” and the numbers are staggering. The oil and gas industry has delivered \$2.8bn (£2.3bn) a day in pure profit for the last 50 years. Damian Carrington, “Revealed: oil sector’s ‘staggering’ \$3bn-a-day profits for last 50 years,” *The Guardian* (July 21, 2022), <https://www.theguardian.com/environment/2022/jul/21/revealed-oil-sectors-staggering-profits-last-50-years>. Meanwhile climate change impacts have wiped out one-fifth of the wealth of the most climate vulnerable economies in the world in the last 2 decades. V20, *Climate Vulnerable Economic Loss Report: 2000-2019*, p. 3 (2022), <https://thecvf.org/resources/publications/climate-vulnerable-economies-loss-report>. While precise correlations are not always possible, it can be said that the structural drivers of the climate crisis, for example fossil fuel production and use, has unjustly enriched certain wealthy nations. Restitutionary remedy, “often termed “disgorgement of profit,” is designed to strip a wrongdoer of ill-gotten gains. Unjust enrichment can be based on enrichment being obtained through wrongdoing but may also apply when there is not wrong-doing. In fact at the national level, always relevant to consider in interpreting international law, this principle of unjust enrichment has formed the foundational basis for multiple climate cases. *See generally* Sabin Center for Climate Change Law, *State Law - Unjust Enrichment*, <https://climatecasechart.com/principle-law/state-law-unjust-enrichment/>; Maytal Gilboa et al, “Climate Change as Unjust Enrichment,” *Georgetown Law Journal* (forthcoming) (July 12, 2023), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4502750.

⁴⁰⁰ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 36.

⁴⁰¹ *See* IPCC, AR6, WGII, Summary for Policymakers, at paras. SPM.B.1, SPM.B.1.2.

⁴⁰² ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 36 cmt. paras. 3-5.

⁴⁰³ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 36, cmt. paras. 18-19; *see also* Douglass Cassel, “The Expanding Scope and Impact of Reparations Awarded by the Inter-American Court of Human Rights,” in *Out of the Ashes: Reparations for Gross Violations of Human Rights*, M. Bossuyt et al. eds. (Intersentia, 2006).

⁴⁰⁴ France-New Zealand Arbitration Tribunal, *Rainbow Warrior (N.Z. v. Fra.)*, 82 I.L.R. 500 (1990), paras.122-127.

in the *Gabčíkovo-Nagymaros* case.⁴⁰⁵ In fact the ILC Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising out of Hazardous Activities (2006) considers that even if the relevant State is considered to have fully complied with its prevention duties, acts and omissions may occur, and have transboundary consequences that cause harm and serious loss to other States and their nationals, and in such cases, there remains an entitlement to prompt and adequate compensation.⁴⁰⁶

163. Compensation should not just draw on public resources. In light of the general obligation of States to protect human rights and the “polluter pays principle”, States should adopt measures that seek to ensure those actors responsible for significant greenhouse gas emissions, such as fossil fuel or agroindustrial businesses, cover costs of emissions reduction, adaptation costs, and remediation of climate change-related violations. States should cooperate on the establishment of international financing mechanisms, such as a fossil fuel levy, or global climate pollution tax, that can secure contributions from polluters to cover human rights violations.⁴⁰⁷

164. Above and beyond the provision of direct compensation, States should also consider redressing harm affecting States or individuals and communities by creating more fiscal space to address climate impacts, through ensuring measures relating to debt and tax justice.⁴⁰⁸

165. While “compensation is perhaps the most commonly sought in international practice,”⁴⁰⁹ and is vital in the climate context, not all climate harm can be addressed through monetary compensation and wherever possible, compensation should not be the sole focus. In the *Costa Rica v. Nicaragua* compensation judgment, Judge Cançado Trindade in his dissenting opinion in the case expressed that reparations must go beyond just monetary compensation and include other forms such as restitution, satisfaction, rehabilitation, and guarantees of non-repetition.⁴¹⁰

166. States must ensure non-compensatory forms of reparation, including *measures of satisfaction*, as well as functional, psychological, social, and vocational *rehabilitation* which could involve holistic medical care as well as legal and social services. Satisfaction entails a broad category of reparations, applied in cases which cannot be redressed through restitution and compensation, often aiming to emphasize the wrongful nature of the harm, publicly and symbolically acknowledge suffering, and respect the dignity of those who have been harmed. This can include recognition of losses or official

⁴⁰⁵ *Gabčíkovo-Nagymaros Project*, at para. 151. See also ILC, *Draft Articles on State Responsibility, with commentaries*, at Chapter V.

⁴⁰⁶ ILC, *Draft Principles on the Allocation of Loss in the Case of Transboundary Harm Arising Out of Hazardous Activities, with commentaries*, p. 59 (2006), https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf (notably, this text is without prejudice to the relevant ILC rules of State responsibility. p. 60).

⁴⁰⁷ See David R. Boyd and Stephanie Keene, *Policy Brief #5. Mobilizing Trillions for the Global South: The Imperative of Human-rights based Climate Finance* (2023) (recommending adoption of a global pollution tax, debt cancellation, global wealth tax, and redirection of fossil fuel subsidies, consistent with the polluter pays principle and a human rights-based approach).

⁴⁰⁸ SR on climate change, Report on the promotion and protection of human rights in the context of climate change, at paras. 92(g)(j); United Nations Human Rights Office of the High Commissioner, *Key Messages on Human Rights and Loss and Damage*, messages 3-4 (2023), <https://www.ohchr.org/sites/default/files/documents/issues/climatechange/information-materials/2023-key-messages-hr-loss-damage.pdf>.

⁴⁰⁹ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 36, cmt. para. 2.

⁴¹⁰ *Costa Rica v. Nicar.* Separate Opinion of Judge Cançado Trindade, at para. 54.

apologies to those who have disproportionately suffered the impacts of climate change.⁴¹¹ For those who experience trauma from climate-induced losses of their cultural heritage and traditions,⁴¹² measures of satisfaction—which aim to recognize wrong, acknowledge suffering, and respect the dignity of victims⁴¹³—can partly restore what cannot be compensated by money.⁴¹⁴ Just as fact-finding inquiries into perpetrators of human rights abuses may contribute to healing,⁴¹⁵ measures related to the “disclosure of the truth and punishment of wrongdoers serve to address the structural causes of climate change and resulting human rights violations.”⁴¹⁶

167. A holistic conception of rehabilitative remedies should be employed in the context of climate emergency, in order to encompass “all sets of processes and services ... to allow a victim of serious human rights violations to reconstruct his/her life plan or to reduce, as far as possible, the violation that has been suffered.”⁴¹⁷ The process of being uprooted due to climate change can cause severe psychological harm to the people who are displaced. For instance, the Guna Yala Indigenous People in Panama will be relocated to the mainland as their island has become unlivable due to the rising sea levels. They have recently expressed their feelings of nostalgia and sadness about leaving their home, as they had learned to live on the island and had many dreams and memories associated with it.⁴¹⁸ As recognized by the Working Group on Business and Human Rights, if people are displaced from their land due to environmental-related harm, holistic rehabilitation measures should also encompass “...a provision for a suitable alternative piece of land...because land can support livelihood for generations.”⁴¹⁹

iv. Mechanisms States may consider towards the establishment of international arrangements and funds to deliver climate reparations

168. The preceding paragraphs have sought to establish that the elements exist for a prima facie case of climate reparations to be made by States or peoples and individuals, depending on specific facts. The

⁴¹¹ ILC, *Draft Articles on State Responsibility, with commentaries*, at art. 37; CIEL & Amnesty, *Human Rights as a Compass for Operationalizing the Loss and Damage Fund: A Submission*, at p. 6.

⁴¹² Chie Sakakibara, “Our Home is Drowning: Inupiat Storytelling and Climate Change in Point Hope, Alaska,” 98(4) *Geographical Review* 456, at p. 471 (2008).

⁴¹³ In a more detailed way, these measures might include: a) the cessation of continuing violations, b) disclosure of truth, c) recovery of bodies, d) an official declaration to restore dignity, e) a public apology and acknowledgment of wrongdoing, e) sanctions of perpetrators, f) commemorations, or g) the inclusion of an account of the violations in educational material. See UN Principles to Combat Impunity: A Commentary, Principle 34.

⁴¹⁴ UNGA Report on Human Rights and Transnational Corporations, at page 15.

⁴¹⁵ *Id.*

⁴¹⁶ Margaretha Wewerinke-Singh, *Remedies for Human Rights Violations Caused by Climate Change*, at p. 242 (pointing out further that “While these forms of satisfaction have so far not been awarded in rights-based climate cases, the Inuit petition did invite the IACHR to hold a hearing to investigate the plaintiff’s claims and prepare a report declaring the United States responsible for violation of its rights. The IACHR agreed to hold a hearing on the impacts of climate change on the enjoyment of human rights despite rejecting the petition.”).

⁴¹⁷ Clara Sandoval, *Rehabilitation as a Form of Reparation under International Law*, Redress Trust, at p. 10 (Dec. 2009).

⁴¹⁸ “Una comunidad indígena se despidió de su isla en el Caribe que será devorada por el mar debido al cambio climático,” *Infobae* (Sept. 5, 2023), <https://www.infobae.com/americas/mundo/2023/09/05/una-comunidad-indigena-se-despidio-de-su-isla-en-el-caribe-que-sera-devorada-por-el-mar-debido-al-cambio-climatico/>

⁴¹⁹ UNGA Report on Human Rights and Transnational Corporations, p. 15.

modalities of providing reparations are also fact-dependent. While direct provision of reparations from responsible States to affected States or Peoples and individuals, including through national level reparation programs, is one way forward, multilateral arrangements are another pathway to consider, given the scale of climate devastation.

169. The ILC's 2006 Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities has expressly considered the establishment of international arrangements and funds if only global efforts can tackle a problem.⁴²⁰ In the last 70 years, numerous international arrangements and funds,⁴²¹ including, *inter alia*, the comprehensive reparation programs for Holocaust survivors,⁴²² the United Nations Compensation Commission (UNCC) to process claims and pay compensation for losses and damage suffered as a result of Iraq's unlawful invasion and occupation of Kuwait in 1990-1991,⁴²³ and the International Oil Pollution Compensation Funds (IOPC Funds),⁴²⁴ which provides financial compensation for oil pollution damage, have been established to create legal frameworks for liability and compensation regarding human rights and environmental harm that can provide foundational guidance in relation to arrangements States could consider to deliver climate reparations.
170. The Loss and Damage Fund, referenced in paragraph 106 above, is currently not rooted in an understanding of remedy or reparations, and its present model of voluntary pledges without any obligation for countries to pay limits the Fund's ability to provide effective remedy. However, if due to litigation or negotiations, for example, specific States or groups of States were to provide climate reparations, including through corporations being held accountable to pay their share of remediation costs, it could be a possibility to consider routing such redress measures via the Loss and Damage Fund. This would depend on the Fund's further operationalization, how it will function in practice, and relevant modalities such as community access to funding and meaningful and effective participation of marginalized groups.
171. The intent here is to simply illustrate that there are different means available to States to provide reparations. While the precise nature of delivery will depend on the facts of a specific situation, reparations-related redress measures must be rooted in legal obligations, in particular human rights

⁴²⁰ ILC, *Draft principles on the allocation of loss in the case of transboundary harm arising out of hazardous activities, with commentaries* (2006),

https://legal.un.org/ilc/texts/instruments/english/commentaries/9_10_2006.pdf, at Principle 7.

⁴²¹ Also relevant: International Convention on Civil Liability for Bunker Oil Pollution Damage, Mar. 27, 2001, 40 I.L.M. 1493 (entered into force Nov. 21, 2008); International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, May 3, 1996, 35 I.L.M. 1406; Nagoya-Kuala Lumpur Supplementary Protocol, Oct. 15, 2010, UNEP/CBD/BS/COP-MOP/5/17, Report of the Fifth Meeting of the Conference of the Parties to the Convention on Biological Diversity Serving as the Meeting of the Parties to the Cartagena Protocol on Biosafety, Decision BS-V/11, 62-71.

⁴²² Ariel Colonomos and Andrea Armstrong, *German Reparations to the Jews after World War II: A Turning Point in the History of Reparations*, in Pablo de Greiff (ed.), *The Handbook of Reparations* (Oxford, 2006; online edn, Oxford Academic, 1 May 2006). See also, *No. 2137 Israel and Federal Republic of Germany Agreement* (with schedule, annexes, exchanges of letters and protocols), signed at Luxembourg on September 10, 1952, <https://treaties.un.org/doc/Publication/UNTS/Volume%20162/volume-162-I-2137-English.pdf>.

⁴²³ For more information, see United Nations, "Security Council Unanimously Adopts Resolution Confirming United Nations Compensation Commission Has Fulfilled Its Iraq-Kuwait Mandate," SC/14801 (Feb. 22, 2022), <https://press.un.org/en/2022/sc14801.doc.htm>.

⁴²⁴ For more information see: <https://iopcfunds.org/>.

principles, including by ensuring access to information, meaningful participation, and access to justice, and advancing substantive equality, and consider lessons from existing mechanisms.

Conclusion

172. The legal elements of an internationally wrongful act and consequent State responsibility to other States, peoples, and individuals affected, can be established with respect to State action and inaction that has, over time, generated cumulative greenhouse gas emissions leading to significant transboundary harm and violations of human rights. For the reasons above, it would be a departure from the Court's firmly established jurisprudence regarding States' secondary obligations were it not to find that legal responsibility attaches to breaches of international obligations to prevent harm to the climate system, that States are obliged to cease their internationally wrongful conduct, and that reparations are owed for resultant injuries.