

ICJ AO Litigation Notes Digest February 2026

Litigation Note on Challenging Speculative or Harmful
Climate Interventions and Offset-Based Climate
Mitigation Measures



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About this publication

Background

On 23 July 2025, the International Court of Justice (ICJ) delivered its historic unanimous advisory opinion (AO) on States' obligations in relation to climate change. Following the landmark climate advisory opinions from the International Tribunal for the Law of the Sea and the Inter-American Court of Human Rights, the ICJ provided exceptional clarity regarding the scope and content of States' duties under international law in the context of the climate crisis. This clarity has the potential to substantially enhance and inform ongoing climate cases as well as future claims before domestic, regional, and international courts. Indeed, since its issuance, the opinion has already been quietly and pervasively taken up across the litigation landscape.

To translate the ICJ AO's normative clarity into practical litigation tools, a coalition of climate litigation practitioners have developed this compendium of structured "Litigation Notes". These notes are designed to assist lawyers in integrating relevant conclusions of the ICJ AO into ongoing and future cases before domestic, regional, and international courts and quasi-judicial bodies towards advancing climate justice.

The litigation notes break down the opinion by topic, prioritizing topics particularly charged in courts at present and/or critical for evolving strategies and the next "generation" or phase of climate litigation. The notes do not aim to be comprehensive in scope. Each contains sections on:

- Key excerpts (including paragraph numbers and specific references) of the most relevant text from the opinion
- Situating the core findings in examples from the broader jurisprudential landscape to highlight what types of cases and claims could use such excerpts

The compendium also includes a list of selected excerpts of overarching importance.

This thematic brief is part of a broader litigation notes compendium organized by topic; the full compilation is available here: www.ciel.org/reports/icj-litigation-notes-digest

Litigation Note on Challenging Speculative or Harmful Climate Interventions and Offset-Based Climate Mitigation Measures

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Introduction

As the climate crisis worsens and the pressure to phase out fossil fuels mounts, States and private actors have increasingly turned to scientifically uncertain technological fixes and other risky strategies to avoid taking the steps that science shows are necessary and most effective to prevent climate chaos: ending expansion and rapidly decreasing the production and use of oil, gas, and coal. Among the dangerous distractions from these necessary mitigation measures are geoengineering technologies that aim to deflect sunrays or remove carbon dioxide from the atmosphere, carbon capture schemes that claim to catch and seal away carbon dioxide before it's ever emitted, and carbon offsets that purport to balance out continued emissions in one place with climate action in another. Despite their proponents' claims, carbon capture and credit schemes have failed to produce climate mitigation results, and speculative solar and marine geoengineering technologies have under-performed or simply do not exist.⁶⁰ What's more, many pose new and scientifically proven or highly foreseeable, serious – and in some cases potentially

⁵⁸ Center for International Environmental Law (CIEL).

⁵⁹ World's Youth for Climate Justice (WYCJ) and University of Amsterdam respectively.

⁶⁰ See, e.g., CIEL & Heinrich Böll Stiftung, *IPCC Unsummarized: Unmasking Clear Warnings on Overshoot, Techno-fixes, and the Urgency of Climate Justice* (Apr. 21, 2022), www.ciel.org/reports/ipcc-wg3-briefing/; IPCC, *Working Group III Contribution to the IPCC Sixth Assessment Report on Mitigation of Climate Change, Summary for Policymakers*, Fig. SPM.7 at SPM-50 (2022), www.ipcc.ch/report/ar6/wg3/; Taylor Kubota, *Stanford Study casts Doubt on Carbon Capture*, *Stanford News* (October 25, 2019), news.stanford.edu/2019/10/25/study-casts-doubt-carbon-capture/; IEEFA, *Carbon capture: a decarbonisation pipe dream* (Sep. 1, 2022); Michael Buchsbaum and Edward Donnelly, *Fossil Fuel Companies Made Bold Promises to Capture Carbon. Here's What Actually Happened*, *DeSmog* (Sep. 25, 2023), www.desmog.com/2023/09/25/fossil-fuel-companies-made-bold-promises-to-capture-carbon-heres-what-actually-happened/; IEEFA, *The Carbon Capture Crucial: Lessons Learned* (2022), ieefa.org/resources/carboncapture-crux-lessons-learned; CIEL, ETC Group, Heinrich Böll Foundation & Third World Network, "Response to Questionnaire on the impact of new technologies for climate protection on the enjoyment of human rights," pp. 9–10 (2022), www.ohchr.org/sites/default/files/2022-06/Joint-submission-to-HRCAC-GeoengineeringHumanRights-CIELETC-HBF-TWN.pdf.

irreversible – risks to people and the environment.⁶¹ If used at scale, some of these technologies could create additional, unpredictable harm to the climate system. Reliance on such risky and scientifically uncertain strategies can not only delay the phaseout of fossil fuels, increasing the potential for further climate-related harm, but also introduce additional direct injuries and impacts on the climate, biodiversity, and human rights.⁶²

The International Court of Justice (ICJ)'s unanimous [Climate Advisory Opinion](#) (AO) contains numerous conclusions that clarify why States' reliance on technologies or measures that do not address the causes of climate change and introduce new risks may breach international obligations. The ICJ unanimously affirmed that all States, even those not party to one or more of the climate agreements, have obligations under international law to prevent harm to the climate system and other parts of the environment, and remedy its impacts. To satisfy these duties, States must use all the means at their disposal to avoid activities that cause climate change and its adverse effects. Further, not just any measure will do: States must act with stringent due diligence, in line with best available science, and take all necessary measures to keep global temperature rise below 1.5°C. The AO makes clear that fulfilling the prevention obligation, as well as mitigation duties under the UNFCCC and Paris Agreement, requires taking effective measures to curb conduct known to cause climate harm – namely, greenhouse gas (GHG)-emitting activities – eliminating as far as possible the source of risk to the climate system, not merely attenuating its effects.⁶³

The ICJ AO also informs how the precautionary principle should guide climate action consistent with international obligations, particularly the duty to prevent. The precautionary principle emphasizes that effective action to prevent harm should not be delayed due to scientific uncertainty regarding that harm. However, it does not mean that scientific uncertainty regarding the efficacy of a given action in preventing the harm, or its potential to pose further risks, should be ignored. The science around the serious and irreversible harm due to climate change and its principal causes is settled. The science

⁶¹ Advisory Committee to the Human Rights Council, *Impact of new technologies intended for climate protection on the enjoyment of human rights*, U.N. Doc. A/HRC/54/47 (Aug 10, 2023), docs.un.org/en/A/HRC/54/47; Special Rapporteur on the implications for human rights of the environmentally sound management and disposal of hazardous substances and wastes (Marcos Orellana), *The toxic impacts of some proposed climate change solutions*, UN Doc. A/HRC/54/25 (July 13, 2023), docs.un.org/en/A/HRC/54/25; CIEL & Heinrich Böll Stiftung, *Beyond the Limits: New IPCC Working Group II Report Highlights How Gambling on Overshoot is Pushing the Planet Past a Point of No Return* (Feb. 28, 2022), www.ciel.org/reports/ipcc-wg2-briefing; IPCC, *Working Group II Contribution to the IPCC Sixth Assessment Report on Climate Change Impacts, Adaptation and Vulnerability, Summary for Policymakers*, paras. B.5.4, B.5.5 at SPM-19–20 (2002), <https://www.ipcc.ch/report/ar6/wg2/>; AR6 WGII, *Technical Summary*, TS.C.11.10 at TS-40.

⁶² See, e.g., Center for International Environmental Law, *Media Brief: Geoengineering & Human Rights, Authoritative Statements and language from recent human rights expert reports* (Sept. 11, 2023), www.ciel.org/news/media-brief-geoengineering-human-rights; Center for International Environmental Law, *Why Geoengineering is a False Solution to the Climate Crisis*, (Oct. 15, 2024), www.ciel.org/why-geoengineering-is-a-false-solution-to-the-climate-crisis.

⁶³ For more information on what the science says about stopping the source of emissions rather than relying on speculative technologies, see CIEL & Heinrich Böll Stiftung, *Lost in Translation: Lessons from the IPCC's Sixth Assessment on the Urgent Transition from Fossil Fuels and the Risks of Misplaced Reliance on False Solutions* (March 2023), www.ciel.org/reports/lost-in-translation-lessons-from-the-ipcc-sixth-assessment.

around the ability of geoengineering, carbon capture, carbon removal, and carbon offsets to mitigate or prevent climate harm is not. When proven mitigation measures are readily available, resorting to such speculative technologies is inconsistent with the principle of prevention itself. And when there are threats that these same technologies could cause serious and irreversible harm to the environment – directly and/or indirectly through their delay of effective measures to transition away from the fossil fuels driving climate change – precaution counsels against their use. Lack of full scientific certainty about the risk these technologies pose should not delay action to prevent it, including by restricting or prohibiting their use. The Court reinforces this in holding that where a risk can be addressed with readily available technologies, States are expected to use them, and that when technologies pose further risks, States must employ them with prudence and caution. The juxtaposition of these two standards effectively creates a hierarchy of mitigation measures under international law, in which proven approaches for reducing emissions at source must take precedence over speculative interventions whose efficacy is undemonstrated and whose risks remain unquantified.

The AO helps elucidate why responses to climate change that detract from State and corporate action to address the chief cause of the crisis – fossil fuels – or mask the inadequacy of their efforts, and generate significant new adverse effects, undermine States' compliance with their international legal obligations on climate, biodiversity, desertification, the ocean, and human rights.⁶⁴ This litigation note distils some key findings of the ICJ AO relevant to litigation challenging reliance on speculative technologies and offset-based mitigation measures. Two sections follow: key excerpts from the AO and categories of climate litigation for which those excerpts may be relevant.

Relevant Excerpts from the ICJ AO

While the ICJ AO does not directly address all potential or purported climate actions, its overarching finding regarding State duties is that States have an obligation to act in accordance with science, with stringent due diligence, and with precaution, in line with their customary and conventional duties under international law to prevent harm to the climate system. The relative primacy given to the preventive duty in the Court's opinion underscores the priority States must accord to measures that avoid the cause of climate harm at its source. Preventing the harm from occurring, namely by curtailing GHG-emitting activities, is paramount. Every State has a duty to use all the means at its disposal to avoid activities that harm the climate system. Accordingly, a State that diverts means away from or foregoes such preventive action in favor of action that aims instead to manage the

⁶⁴ See generally Philippe Sands & Kate Cook, Joint Opinion, secs. III, IV, V (Mar. 26, 2021), www.ohchr.org/sites/default/files/2022-06/Annex-SubmissionCIEL-ETC-HBF-TWN-Geoengineering-Opinion.pdf (provided as an Annex to Submission to the UN Human Rights Council Advisory Committee on the Response to the Questionnaire on the impact of new technologies for climate protection on the enjoyment of human rights).

effects of harmful GHG-emitting activities could be in breach of its obligations. So, too, could States whose responses to climate change pose new, serious risks to the climate, other parts of the environment, and human rights. Not all measures a State undertakes, permits, finances, or incentivizes private actors to take in the name of addressing climate change or its impacts comport with international law.

A. Relevant Conduct

The conduct most relevant to States' primary obligation to prevent harm to the climate system is what they do or do not do with regard to GHG-emitting activities.

Para. 94: “The Court considers that the material scope of its inquiry encompasses **the full range of human activities that contribute to climate change as a result of the emission of GHGs, including both consumption and production activities.**” (*emphasis added*)

Para. 95: “The Court’s inquiry must therefore have a broad material scope encompassing States’ obligations concerning **all actions or omissions of States, and of non-State actors within their jurisdiction or effective control, that result in the climate system and other parts of the environment being adversely affected by anthropogenic GHG emissions.**” (*emphasis added*)

B. Scientific Basis of the Advisory Opinion

States' climate action must be based on the best available science, reflected in IPCC reports, which confirms that fossil fuels are the primary source of the GHG emissions causing climate change, with serious and irreversible consequences for the environment and human rights dependent on it.

Para. 81: “The IPCC adds that the largest source of CO₂ is combustion of fossil fuels in energy conversion systems such as boilers in electric power plants, engines in aircraft and automobiles, and in cooking and heating within homes and businesses (approximately 64 per cent of emissions). It further observes that fossil fuels are a major source of CH₄, the second biggest contributor to global warming.”

Para. 82: “Furthermore, according to the IPCC, ‘. . . Deep, rapid, and sustained reductions in greenhouse gas emissions would lead to a discernible slowdown in global warming within around two decades, and also to discernible changes in atmospheric composition within a few years’ (IPCC, 2023 Summary for Policymakers, p. 12, Statement B.1).”

Para. 85: “The IPCC defines mitigation as a ‘human intervention to reduce emissions or enhance the sinks of greenhouse gases’ (IPCC 2023 Glossary, p. 126). Mitigation includes

both reducing GHG emissions through measures such as transitioning away from fossil fuels and improving energy efficiency, and enhancing sinks through measures such as reforestation and reduced deforestation.”

Para. 137: “[T]he specific character of the risk of significant harm to the climate system is indisputably established. **The best available science, as presented by the IPCC**, confirms that **cumulative GHG emissions are the primary source of risks arising from anthropogenic climate change** (see paragraphs 72–87 above).” (*emphasis added*) [See also paras 278, 284]

Para. 283: “Scientific information may provide the necessary evidence to assess the probability and seriousness of possible harm, informing the required standard of due diligence.”

Para. 284: “[R]eports by the IPCC constitute comprehensive and authoritative restatements of the best available science about climate change at the time of their publication (see paragraphs 74, 77–83 and 277–279 above).”

State responses to the climate crisis can themselves pose a risk of significant harm to the environment and human rights, a possibility that technical cooperation, knowledge-sharing, environmental impact assessments, and precaution can help minimize.

Para. 212: “Article 4, paragraph 8, of the Convention obliges parties to give full consideration, in implementing their commitments, to ‘what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change **and/or the impact of the implementation of response measures**’.” (*emphasis added*)

Para. 285: “As concerns technical knowledge, the Court notes that **States need to pursue technical co-operation and knowledge-sharing initiatives**. ... This also serves **to minimize the possibility that a particular adaptation or mitigation measure itself poses a risk of significant transboundary harm**.” (*emphasis added*)

Para. 286: “[T]he availability of technological means to prevent or mitigate relevant harm influences what can reasonably be expected of a State. ... **[W]hen technologies pose further risks, States are expected to use them with prudence and caution**.” (*emphasis added*)

Para. 296: “The Court has recognized ... that ‘it may now be considered **a requirement under general international law to undertake an environmental impact assessment**’ (ibid.) and that the “[principle] underlying” this obligation **applies** not only to industrial

activities but “**generally to proposed activities which may have a significant adverse impact in a transboundary context**’.” (*emphasis added*)

C. Relevant State Obligations Under Customary and Conventional Environmental Law

The prevention duty, an obligation to avoid conduct or activities causing significant harm to the environment, requires addressing the source of climate change, not just its effects.

Para. 132: “Participants generally agree that **States have a duty under customary international law to prevent significant harm to the environment**. Indeed, the Court has recognized that “[a] State is . . . obliged to use all the means at its disposal in order to avoid activities which take place in its territory, or in any area under its jurisdiction, causing significant damage to the environment of another State” (*Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Judgment, I.C.J. Reports 2010 (I), p. 56, para. 101).” (*emphasis added*)

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

Para. 273: “The duty to prevent significant harm to the environment also applies to **the climate system, which is an integral and vitally important part of the environment and which must be protected for present and future generations** (see paragraphs 73–74 above).” (*emphasis added*)

Para. 274: “States are subject to the duty to prevent significant harm either where no harm has yet been caused but the risk of future significant harm exists, or where some harm has already been caused and there exists a risk of further significant harm.”

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

The primary mitigation obligation under the UNFCCC and Paris Agreement is to rapidly and urgently reduce emissions at their source, and States must act in line with their highest possible ambition to achieve that aim.

Para. 200: “The Court considers that mitigation lies at the heart of the UNFCCC’s objective, which is to **stabilize GHG concentrations in the atmosphere** at a level that would prevent dangerous anthropogenic interference with the climate system. The Framework Convention seeks to achieve its mitigation objective in two ways: first, by **limiting anthropogenic GHG emissions by sources**, and second, by **preserving and enhancing sinks and reservoirs** of GHGs (Article 4, paragraph 2 (a)).” (*emphasis added*)

Para. 230: “The Court recalls that **mitigation involves human intervention to reduce emissions or enhance carbon sinks** (see paragraph 85 above). ... in order to achieve the temperature goal set forth in Article 2, ‘Parties aim to reach a global peaking of greenhouse gas emissions as soon as possible . . . and to undertake rapid reductions thereafter.’” (*emphasis added*)

Para. 245: “[P]arties are obliged to exercise due diligence and ensure that their NDCs fulfil their obligations under the Paris Agreement and thus, when taken together, are capable of achieving the temperature goal of limiting global warming to 1.5°C above pre-industrial levels, as well as **the overall objective of the ‘stabilization of greenhouse gas concentrations in the atmosphere** at a level that would prevent dangerous anthropogenic interference with the climate system’.” (*emphasis added*)

Para. 246: “In the current context, because of the seriousness of the threat posed by climate change, the standard of due diligence to be applied in preparing the NDCs is stringent (see paragraph 138 above). This means that **each party has to do its utmost to ensure that the NDCs it puts forward represent its highest possible ambition in order to realize the objectives of the Agreement.**” (*emphasis added*)

States’ action on climate must be consistent with their concurrent obligations to present and future generations under human rights law and numerous environmental treaties relevant to the protection of the climate system, including the Convention on Biological Diversity, which has imposed a de facto moratorium on geoengineering.

Para. 316: “There are also other international instruments which contribute to the protection of one or more of the components of the climate system ... The Court considers that this is the case for the instruments referenced in General Assembly resolution 77/276, namely the Ozone Layer Convention, the Montreal Protocol, the Biodiversity Convention, and the Desertification Convention (see paragraphs 125–130 above).”

Para. 317: “In so far as the States parties to [other international] ... instruments have obligations thereunder that are relevant for the protection of the climate system, they **must have due regard to these obligations when taking measures to ensure the protection of the climate system** and other parts of the environment.” (*emphasis added*)

Para. 335: “States parties must therefore take their obligations under these environmental treaties into account when implementing their obligations under the climate change treaties and under customary international law, just as they must take their obligations under the climate change treaties and under customary international law into account when implementing their obligations under these environmental treaties.” (*emphasis added*)

Para. 346: [regarding UNCLOS] “States parties are under an obligation to take all necessary measures to reduce and control pollution, with the ultimate aim of preventing its occurrence altogether, although they are not required to ensure an immediate cessation of marine pollution caused by anthropogenic GHG emissions (see *Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 77, para. 199).”

D. Human Rights Law

Para. 144: “The preamble to the Paris Agreement calls upon States, “when taking action to address climate change, . . . [to] consider their respective obligations on human rights” .”

Para. 373: “The environment is the foundation for human life, upon which the health and well-being of both present and future generations depend (see *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996 (I)*, p. 241, para. 29).”

Para. 375: “Anthropogenic GHG emissions have an adverse impact on the climate system and other parts of the environment...The degradation of the climate system and of other parts of the environment impairs the enjoyment of a range of rights protected by human rights law.” (*emphasis added*)

Para. 393: “The Court thus concludes that, under international law, the human right to a clean, healthy and sustainable environment is essential for the enjoyment of other human rights.”

Para. 403: “Taking into account the adverse effects of climate change on the enjoyment of human rights, the Court considers that the full enjoyment of human rights cannot be ensured without the protection of the climate system and other parts of the environment. In order to guarantee the effective enjoyment of human rights, States must take measures to protect the climate system and other parts of the environment. These measures may include, *inter alia*, taking mitigation and adaptation measures, with due account given to the protection of human rights, the adoption of standards and

legislation, and **the regulation of the activities of private actors**. Under international human rights law, **States are required to take necessary measures in this regard.**" (*emphasis added*)

Para. 404: "States must therefore take their obligations under international human rights law into account when implementing their obligations under the climate change treaties and other relevant environmental treaties and under customary international law, just as they must take their obligations under the climate change treaties and other relevant environmental treaties and under customary international law into account when implementing their human rights obligations." (*emphasis added*)

E. Rights of future generations and intergenerational equity

Para. 157: "Due regard for the interests of future generations and the long-term implications of conduct are equitable considerations that need to be taken into account where States contemplate, decide on and implement policies and measures in fulfilment of their obligations under the relevant treaties and customary international law."

States must act with stringent due diligence to prevent significant harm to the climate system, by using all means at their disposal to regulate activities generating GHGs, through measures available to them and reasonably capable of preventing the harm, including in the long term.

Para. 138: "[T]he **standard of due diligence for preventing significant harm to the climate system is stringent** (see *Climate Change, Advisory Opinion, ITLOS Reports 2024*, pp. 91–92, para. 241, pp. 92–93, para. 243, p. 94, para. 248, pp. 137–138, paras. 398–400, and pp. 152–158, para. 441). ... As concerns climate change, **a heightened degree of vigilance and prevention is required.**" (*emphasis added*)

Para. 281: "The Court recalls that **due diligence requires a State to "use all the means at its disposal in order to avoid activities which take place in its territory, or in any other area under its jurisdiction, causing significant damage to the environment of another State"** (*Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010 (I)*, p. 56, para. 101). This means that States must "put in place a national system, including legislation, administrative procedures and an enforcement mechanism necessary **to regulate the activities in question**, and . . . exercise adequate vigilance to make such a system function efficiently, with a view to achieving the intended objective" (*Climate Change, Advisory Opinion, ITLOS Reports 2024*, p. 89, para. 235)." (*emphasis added*)

Para. 282: "As far as climate change is concerned, **such appropriate rules and measures include, but are not limited to, regulatory mitigation mechanisms that are designed to achieve the deep, rapid, and sustained reductions of GHG emissions that are necessary**

for the prevention of significant harm to the climate system. ... These rules and measures **must regulate the conduct of public and private operators within the States' jurisdiction or control** and be accompanied by effective enforcement and monitoring mechanisms to ensure their implementation.” (*emphasis added*)

Para. 283: “Thus, where there is generally recognized scientific evidence that it is highly probable that significant harm will occur, the standard of due diligence will be more demanding for all States (see paragraph 138 above). **Due diligence also requires States to actively pursue the scientific information necessary for them to assess the probability and seriousness of harm,** in conformity with the common but differentiated responsibilities and respective capabilities principle.” (*emphasis added*)

Para. 286: “[T]he availability of technological means to prevent or mitigate relevant harm influences what can reasonably be expected of a State. **Where a risk can be addressed with readily available technologies, States are expected to use them.**” (*emphasis added*)

States should act in line with the precautionary principle, which dictates that uncertainty about the risk of serious or irreversible harm to the environment should not be grounds to delay effective action to prevent that harm. But the precautionary principle does not counsel deployment of technologies whose capability of preventing climate harm is uncertain and which pose their own risks of serious or irreversible harm, particularly when it's uncertain whether those risks can be prevented.

Para. 293: “Scientific information regarding the probability and the seriousness of possible harm informs the required standard of due diligence (see paragraph 283 above). **States are required to take appropriate measures to prevent significant harm where reliable scientific evidence of a risk of significant harm exists.** However, States should also not refrain from or delay taking actions of prevention in the face of scientific uncertainty [about the risk of significant harm to the environment]. According to Principle 15 of the Rio Declaration, **where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation** (see also Article 3, paragraph 3, of the UNFCCC)” (*emphasis added*) [see also **para. 158**]

Para. 294: “The Court agrees with the conclusion reached by ITLOS that “where there are plausible indications of potential risks”, a State “would not meet its obligation of due diligence if it disregarded those risks” and, in that sense, **the “precautionary approach is also an integral part of the general obligation of due diligence”** under the duty to prevent significant harm to the environment (*Responsibilities and obligations of States with respect to activities in the Area, Advisory Opinion, 1 February 2011, ITLOS Reports 2011*, p. 46, para. 131). Based on the above, **the Court considers that the precautionary approach**

or principle, where applicable, guides States in the determination of the required standard of conduct in fulfilling their customary duty to prevent significant harm.” (*emphasis added*)

F. Legal Consequences Arising from Wrongful Acts and Potential Forms of Remedy

States may face legal consequences for their wrongful conduct that contributes to significant climate harm, including for not taking the effective preventive measures necessary to protect the climate system – primarily, reducing GHG emissions at source.

Para. 409: “With regard to obligations under customary international law, the Court observes that **the most significant primary obligation for States in relation to climate change is the obligation to prevent significant harm to the climate system and other parts of the environment** (see paragraphs 132–139 above), **which applies to all States, including those that are not parties to one or more of the climate change treaties**. Under this obligation, as well as under other obligations of conduct identified under question (a), a State does not incur responsibility simply because the desired result is not achieved; rather, **responsibility is incurred if the State fails to take all measures which were within its power to prevent the significant harm. ... a State that does not exercise due diligence in the performance of its primary obligation to prevent significant harm to the environment, including to the climate system**, commits an internationally wrongful act entailing its responsibility.” (*emphasis added*)

Para. 427: “**Failure of a State to take appropriate action to protect the climate system from GHG emissions – including through fossil fuel production, fossil fuel consumption, the granting of fossil fuel exploration licences or the provision of fossil fuel subsidies – may constitute an internationally wrongful act which is attributable to that State**. The Court also emphasizes that **the internationally wrongful act in question is not the emission of GHGs per se, but the breach of conventional and customary obligations identified under question (a) pertaining to the protection of the climate system from significant harm resulting from anthropogenic emissions of such gases.**” (*emphasis added*)

Para. 428: “In relation to private actors, the Court observes that the obligations it has identified under question (a) include **the obligation of States to regulate the activities of private actors as a matter of due diligence. . . . a State may be responsible where, for example, it has failed to exercise due diligence by not taking the necessary regulatory and legislative measures to limit the quantity of emissions caused by private actors under its jurisdiction.**” (*emphasis added*)

G. Obligation of cessation and non-repetition

Para. 445: “[B]reaches of States’ obligations under question (a) may give rise to the entire panoply of legal consequences provided for under the law of State responsibility. These include obligations of cessation and non-repetition, which are consequences that apply irrespective of the existence of harm, as well as the consequences requiring full reparation, including restitution, compensation and/or satisfaction.” (*emphasis added*)

Para. 448: “The duty of cessation may also require States to employ all means at their disposal to reduce their GHG emissions and take other measures in a manner, and to the extent, that ensures compliance with their obligations. Additionally, in appropriate circumstances, a responsible State could be required to offer appropriate assurances and guarantees of non-repetition (see ILC Articles on State Responsibility, Article 30 (b)).” (*emphasis added*)

Categories of Claims Relevant to the Excerpts

The ICJ’s findings have the potential to help prevent the financing, development, testing, and deployment of scientifically uncertain and risky technologies and offset-based responses to climate change. They may also help hold States and corporations relying on such approaches accountable for failing to take the requisite measures to address the climate crisis at its source, and prevent other environmental and human rights harm. To date, there has been limited litigation challenging reliance upon the technologies and approaches addressed in this note or critically examining their compatibility with international obligations. As proponents continue to push some technologies, like geoengineering, from the margins to the mainstream of climate policy debates, as financing for them increases, and as governments and companies increasingly resort to measures other than phasing out GHG-generating conduct, legal challenges ripen. This section highlights some of the categories of claims against ineffective, speculative, and risky climate measures most likely to be bolstered by the ICJ AO. The case examples provided are for illustrative purposes and do not suggest that the ICJ AO has been invoked or applied in those proceedings. The authoritative weight of the ICJ AO conclusions will vary by jurisdiction and legal system. Please note that the case categories below are not mutually exclusive; cases can fall into one or more of them.

Government “Ambition Gap” or “Effective” Climate Action Claims (framework cases)

Numerous cases challenging government climate plans’ lack of ambition turn on the adequacy of the State’s climate measures to satisfy its international obligations, such as the duty to prevent environmental harm, in line with the precautionary principle and

intergenerational equity. Such cases have often relied on best available science and human rights-based claims, asserting violations of the rights of present and future generations based on insufficient government action to keep temperature rise below 1.5°C, including due to reliance on speculative technologies that delay or detract from proven mitigation measures. The ICJ AO's affirmation of the consensus climate science, emphasis on the primacy of the duty to prevent harm, the obligation to act with the highest level of ambition, and recognition of the duty to assess the negative effects of measures taken in response to climate change, may strengthen similar future legal claims to compel governments to tackle climate change, urgently and at the primary source (the fossil fuel-based, GHG-generating activities themselves). Notably, the AO's finding that States must have due regard to their obligations under the Biodiversity Convention and the Desertification Convention when implementing climate measures opens an additional avenue for framework claims: technologies such as solar radiation management, large-scale bioenergy with carbon capture, and afforestation monocultures for offset purposes carry well-documented risks to biodiversity and land degradation, and reliance on such measures could therefore breach cross-regime obligations that the Court has confirmed must be taken into account.

Examples: In [Neubauer v. Germany](#), the German Constitutional Court acknowledged the problems of reliance on speculative technological interventions, noting that the large-scale deployment of negative emissions technologies was not foreseeable and no reliable carbon credit system existed. Similarly, the Supreme Court of Ireland in [Friends of the Irish Environment v. The Government of Ireland](#) and the Dutch Supreme Court in [Urgenda Foundation v. State of the Netherlands](#) questioned reliance on speculative carbon removal technologies given uncertainty that they would achieve promised climate impacts, and therefore the governments' plans may not be sufficient to prevent climate harm in line with their duties. In [R \(oao Friends of the Earth\) v. Secretary of State for Business Energy and Industrial Strategy](#), the UK Court ruled that the government's net zero strategy was not in compliance with its Climate Change Act as there was insufficient information that the envisaged policies would keep the country's emissions within the "carbon budget." In a [follow-up case](#), the UK's revised strategy was also deemed insufficient as the government failed to rationally assess its ability to achieve what was claimed.

Intergenerational Equity Claims (framework cases)

These framework cases have also often involved youth plaintiffs and evoked the principle of intergenerational equity, noting that youth and future generations will suffer disproportionately due to government action or inaction in the present.

Examples: In both **Neubauer** and **Urgenda**, courts found that the respective government

plans did not equitably distribute the climate change burden and noted that allowing current generations to use so much of the carbon budget now (due to inadequate near-term targets) would hurt future generations' rights.

Claims Concerning Corporate Climate Harm and Inaction

Similar to the government framework cases, there are cases against private actors on human rights, constitutional, and tort/civil law grounds, for their failure to curb fossil fuel production and put in place sufficient strategies for defossilizing. The ICJ AO reinforces such claims in two ways. First, the Court held that States have an obligation to regulate the activities of private actors as a matter of due diligence, and failing to take the necessary regulatory and legislative measures to limit emissions by private actors may itself be a wrongful act (see corporate ...). Second, the AO's finding that where a risk can be addressed with readily available technologies, States are expected to use them, implies that corporate reliance on speculative technologies in lieu of proven mitigation measures is inconsistent with the standard of conduct that States are obliged to enforce.

Example: In [Greenpeace Italy et al. v. ENI S.p.A. et al.](#), Greenpeace, ReCommon, and twelve Italian citizens brought a civil suit against ENI for its contribution to climate change and challenged ENI's decarbonization strategy as insufficient in part due to its reliance on carbon capture storage (CCS) and the purchase of Reduced Emissions from Deforestation and Degradation (REDD)+ offset credits. In late 2025, the Italian court rejected the defendants' jurisdictional challenge, allowing the case to proceed.

Climate-washing or Greenwashing Claims

A growing number of cases accuse corporations of deception and false or misleading advertising when they claim to be carbon neutral or otherwise downplay their climate impacts based on the use of speculative technologies or the purchase of carbon credits to "offset" ongoing emissions. Many of these cases have been successful. In light of the due diligence obligations clarified in the ICJ AO, States arguably have a climate duty to regulate such conduct by private actors, where it contributes to GHG emissions by prolonging the activities generating them, masking their true impacts, or otherwise distracting and detracting from measures that aim directly at the fossil fuels driving climate change. The failure to do so could give rise to claims against the State. The AO's requirement that States actively pursue the scientific information necessary to assess the probability and seriousness of harm may also be deployed as an evidentiary standard in greenwashing proceedings. Corporate claims of carbon neutrality or net-zero status that rest on offsets or carbon capture without adequate scientific verification of their efficacy could be challenged as incompatible with the science-based standard of conduct the ICJ has endorsed.

Examples: In [Greenpeace France and Others v. TotalEnergiesSE & TotalEnergies Electricite et Gaz France](#), the Judicial Tribunal of Paris found that Total's claims related to climate neutrality, including its climate strategies' reliance on carbon offsetting mechanisms, were misleading and a violation of France's consumer protection law. Similarly, in [FossielVrij v. KLM](#), the plaintiffs challenged KLM's claims that flying could be sustainable as customers could compensate for or lower emissions through the purchase of carbon credits. The Amsterdam Court found that KLM's claims were misleading as offsets did not reduce emissions. Recent cases, including [Blumm v. Northwest Natural Gas Co.](#) and [Dib et al v. Apple](#), challenge the integrity of the carbon credits on which the companies rely to make their sustainability claims. In response to one such suit in Australia ([Australian Parents for Climate Action v. EnergyAustralia](#)), the [defendant agreed](#) to a settlement that included a public acknowledgement that offsets do not permanently remove greenhouse gases emitted by fossil fuels and that they should not be used to delay necessary decarbonization measures.

The state's complaint in [Commonwealth of Massachusetts v. Exxon](#) details how Exxon misled the public and investors by failing to disclose its knowledge of the climate harms its products cause while publishing documents focused on technologies, such as carbon capture and geoengineering, that do not address the root cause and enable business-as-usual fossil fuel production (**para. 743**).

Claims Concerning Human Rights Violations Stemming from Carbon Offset Activities

The history of [carbon offset](#) projects is riddled with documented [human rights](#) abuses, especially violations of Indigenous Peoples' rights, which have led to various legal challenges grounded in human rights law.

Examples: In several cases stemming from offset projects in Kenya, courts have found for Indigenous communities. The [African Court of People's and Human Rights](#) affirmed the rights of the Ogiek people in Kenya, who were forcibly evicted from their land due to forest carbon offset projects, denied respect of their right to free, prior, and informed consent, and lacked access to remedy, and found the Kenyan government in non-compliance with previous court orders. In a case before the Environment and Land Court at Isiolo, the court found in favor of the communities that had alleged land rights violations and human rights abuses related to conservation projects. Similarly, in [Peru](#), a court found that the rights of the Kichwa people in Puerto Franco were being violated due to a REDD+ project.

State-to-State Claims

One or more States could bring a case against another State for violating its obligations under a treaty or under customary international law through its reliance on or promotion and deployment of scientifically uncertain, risky, and offset-based responses to climate change. The ICJ AO provides particularly strong doctrinal support for such claims: the confirmation of the duty to prevent harm, the recognition that failure to take appropriate action – including through fossil fuel subsidies – may constitute an internationally wrongful act, and that breaches give rise to the full range of legal consequences under State responsibility, including cessation and reparation. A State that promotes or finances the deployment of geoengineering technologies or relies on offset-dependent NDCs that fail to achieve the deep, rapid, and sustained GHG reductions required by the AO could thus be exposed to inter-State claims, particularly where such measures cause or risk transboundary harm or undermine the collective achievement of the Paris Agreement’s temperature goal.

Examples: The International Tribunal for the Law of the Sea (ITLOS), in its [Advisory Opinion](#), indicated that marine geoengineering could violate the UN Convention on the Law of the Sea (UNCLOS), particularly articles 195 and 196. ITLOS warned that geoengineering may be incompatible with the obligation to take all measures necessary to prevent, reduce, and control marine pollution that results from the use of technologies under a State’s jurisdiction or control and would violate UNCLOS if it transforms one type of pollution into another (para. 231). The UN Special Rapporteur on Climate Change and Human Rights has also stated that geoengineering “should be considered contrary to the Convention when it is incompatible with States’ obligations related to the protection of marine biodiversity.”⁶⁵

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⁶⁵ Elisa Morgera, *Reprioritizing Climate Action Through Human Rights Law* (IISD SDG Knowledge Hub, Oct. 23, 2024), sdq.iisd.org/commentary/guest-articles/reprioritizing-climate-action-through-human-rights-law.