

SEVEN

SEVEN POLICY BRIEFING

A Fair Fossil Fuel

Phase-Out Is Feasible

International Law, Earth- and Climate System Justice, and Practical Pathways for a Managed Global Transition

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on Transitioning Away from
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Executive Summary

The science is unambiguous, and the law is now clear: States must protect the climate system and other parts of the environment from anthropogenic greenhouse gas emissions, including by regulating fossil fuel production, consumption, licensing, subsidies and public finance.

The International Court of Justice (ICJ) has confirmed that States are bound, under customary international law and treaty law, to protect the climate system and other parts of the environment from anthropogenic greenhouse gas (GHG) emissions. In doing so, the Court expressly identified fossil fuel production, fossil fuel consumption, the granting of fossil fuel exploration licenses, and fossil fuel subsidies as forms of conduct capable of engaging State responsibility where a State fails to take appropriate action to protect the climate system.

This briefing, therefore, uses the term phase-out to capture what international law broadly requires of States regarding fossil fuels. It means a managed, differentiated and rights-consistent transition away from fossil fuel dependence that prevents significant harm to the climate system at source. It includes, at a minimum, a strong presumption against new fossil fuel exploration, production and long-lived infrastructure; a rapid and planned decline of existing fossil fuel production and use; the elimination of subsidies and public finance that prolong avoidable fossil fuel dependence; full assessment of cumulative, downstream and exported emissions; and scaled-up finance, technology and capacity-building sufficient to make low-emission alternatives genuinely available, especially for developing countries with low historical responsibility and high transition need.

Earth-system justice provides insights that make this legal framework more concrete. It suggests that any remaining carbon budget must be allocated first to basic needs and human rights; that high-consuming groups and historically high-emitting, high-capacity States must move fastest to reduce their dependence; and that fossil fuel lock-ins—legal, fiscal, infrastructural, labor, political, behavioral, professional, and epistemic—must be actively dismantled. The social foundation dimension is essential: raising people currently below minimum access thresholds would add only a limited share of pressure compared with the emissions pressure of the richest groups. Equity-compatible phase-out therefore requires both steep reductions by high emitters and increased access to clean energy, infrastructure, food, water and mobility for those still deprived. It also implies that fossil fuel phase-out must be understood not only as forward-looking mitigation, but as part of a broader framework of responsibility that includes preventing further harm, reducing existing emissions rapidly, and addressing the legacy of past emissions through reparative measures.

The feasibility case is strong, but it must be stated carefully. Most modeled 1.5°C pathways rely heavily on carbon capture, carbon dioxide removal, or temporary overshoot, and limiting warming to 1.5°C without overshoot is now widely considered unlikely. At the same time, significant harm is already evident at current levels of warming, and the risk of triggering tipping points continues to increase. These findings reinforce, rather than weaken, the legal case for phase-out: the obligation to prevent significant harm requires immediate and deep reductions in gross emissions at source, not reliance on unproven or uncertain negative-emissions technologies. Renewable power is expanding rapidly, costs have fallen sharply, and global clean-energy investment already substantially exceeds fossil fuel investment. Yet deployment remains constrained by grids, storage, high capital costs in developing countries, debt distress, policy instability, and unequal access to finance. Those constraints are real; they are also precisely why the legal obligation to cooperate, provide finance and remove fossil fuel lock-in matters.

Scaled-up finance and reparative support are politically difficult but economically feasible, given the scale of global capital markets, current fossil fuel subsidies, and the costs of inaction. The new collective quantified goal agreed at COP29 calls on all actors to scale up finance to developing countries to at least USD 1.3 trillion per year by 2035, with developed country Parties taking the lead in mobilizing at least USD 300 billion per year by 2035. Independent expert analysis estimates that emerging markets and developing countries other than China will require around USD 2.4 trillion per year in climate investment by 2030, including around USD 1.6 trillion for clean energy, USD 250 billion for adaptation and resilience, USD 250 billion for loss and damage, and USD 40 billion for a just transition. These figures are large and seem challenging given the rapid reduction in official development assistance, but they are far smaller than the economic, human and ecological costs of delayed mitigation and unmanaged climate harm.

Fossil fuel phase-out is a systemic challenge that requires integrating what is too often kept apart: the legal framework, the justice conditions, the economic constraints, and the scientific evidence. This briefing therefore proposes six integrated packages, based on a Climate System Justice approach: managed decline and no new avoidable expansion, taking account of its North–South dimensions; licensing, assessment and subsidy reform; finance, multilateral development bank reform and a global clean-power feed-in tariff facility; reparations, loss and damage support and fiscal space; investment law reform; and rights-consistent just transition, circular industry and clean energy deployment. Together, these packages provide a realistic pathway for States to implement existing obligations while deepening cooperation toward further international legal and institutional arrangements.

1. Why Santa Marta Matters Now

The First International Conference on Transitioning Away from Fossil Fuels, convened in Santa Marta from 24 to 29 April 2026, is taking place after a decisive legal shift. Until recently, the international climate regime regulated fossil fuels indirectly: emissions were regulated, but the production, financing and legal protection of coal, oil and gas remained politically sensitive and legally underspecified. That position is no longer tenable. The ICJ has confirmed that the climate system is protected by binding international obligations, that the customary duty to prevent significant environmental harm applies to climate change, and that fossil fuel production, consumption, licensing and subsidies are forms of State conduct that can amount to internationally wrongful acts when a State fails to take appropriate action to protect the climate system.¹

The task for Santa Marta is to translate the existing legal obligations into cooperative implementation. The conference can help States clarify what preventing significant harm requires in fossil fuel policy, how differentiated responsibilities should be operationalized, what finance and technology support are necessary, and how legal obstacles such as Investor-State Dispute Settlement (ISDS), fossil fuel subsidies and misaligned public finance can be removed. It can also build a coalition capable of developing further legal instruments where existing cooperation is inadequate.

The climate negotiations remain important. The first global stocktake called on Parties to contribute to transitioning away from fossil fuels in energy systems, in a just, orderly and equitable manner, accelerating action in this critical decade, to achieve net zero by 2050 in keeping with the science.² That language matters because it reflects a negotiated agreement among the Parties to the Paris Agreement and can shed light on the meaning of obligations.³ At the same time, the relevant obligations go beyond merely requiring a “transition away.” States must prevent significant harm at source. They must regulate public and private actors. They must ensure that their nationally determined contributions (NDCs) represent progression and reflect their highest possible ambition. They must cooperate in good faith, including through finance, technology transfer and capacity-building. They must assess climate impacts, including cumulative and downstream emissions where relevant. And where breaches have occurred,

1 ICJ, *Obligations of States in respect of Climate Change* (Advisory Opinion, 23 July 2025) General List No 187, paras 272–292, 409 and 427–428.

2 Decision 1/CMA.5, ‘Outcome of the first global stocktake’ (13 December 2023) UN Doc FCCC/PA/CMA/2023/16/Add.1, para 28(d).

3 ICJ, *Obligations of States* (n 1), paras 176–178 and 224.

they must cease wrongful conduct, provide assurances and guarantees of non-repetition where appropriate, and make reparation for injury caused.⁴

This briefing explains that a just and equitable fossil fuel phase-out is both legally required and practically feasible. It is legally required because continued avoidable expansion, subsidies and public finance for fossil fuel dependence are *prima facie* incompatible with States' obligations to prevent significant harm to the climate system. It is feasible because clean alternatives are available across most energy-use sectors and because the costs of deployment, financing, and compensation are manageable relative to the costs of inaction. But the transition will not be fair, lawful or durable unless it is differentiated, reparative and institutionally supported. Phasing out fossil fuels requires a systemic approach that integrates concerns of law, justice, economics, and science. The sections that follow show how those elements can be brought together.

⁴ Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) 3156 UNTS 79, arts 4.2, 4.3, 4.5 and 9; ICJ, *Obligations of States* (n 1), paras 240–247, 282, 296–298, 304 and 424–456.

2. The Legal Test: Preventing Significant Harm at Source

2.1 Multiple sources of law, interpreted coherently

International law contains no single treaty clause that says “phase out fossil fuels”. The legal foundation is broader, drawn from multiple sources: general principles of law, customary international law, the UNFCCC, the Paris Agreement, other treaties, and the law of State responsibility. These sources must be interpreted coherently and in light of the best available science.

The starting point is the customary duty to prevent significant harm to the environment. The ICJ confirmed that this duty applies to the climate system and other parts of the environment, notwithstanding the global and cumulative nature of climate change. It requires States to use all means at their disposal to prevent activities within their jurisdiction or control from causing significant harm. The duty is one of due diligence: it requires appropriate legal, administrative and enforcement measures, informed by science, proportionate to the risk, and calibrated by the State’s capabilities.⁵

The climate treaties reinforce and specify that duty. The UNFCCC’s objective is to stabilize GHG concentrations at a level that would prevent dangerous anthropogenic interference with the climate system.⁶ The Paris Agreement aims to strengthen the global response to climate change, including by holding the increase in global average temperature to well below 2°C and pursuing efforts to limit it to 1.5°C, increasing adaptive capacity and climate resilience, and making finance flows consistent with a pathway toward low-GHG emissions and climate-resilient development.⁷ The ICJ characterized 1.5°C as the Parties’ agreed primary temperature goal under the Paris Agreement, in light of the treaty text, subsequent decisions and the best available science.⁸

The Paris Agreement couples those temperature goals with concrete, operative obligations. Article 4.2 requires each Party to prepare, communicate and maintain successive NDCs and to pursue domestic mitigation measures with the aim of achieving the objectives of those contributions. Article 4.3 requires each successive NDC to represent progression and reflect the

⁵ ICJ, *Obligations of States* (n 1), paras 132–139, 272–292 and 409.

⁶ United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107, art 2.

⁷ Paris Agreement (n 4), art 2.1(a)–(c).

⁸ ICJ, *Obligations of States* (n 1), paras 224 and 240–247; see also Decision 1/CMA.5 (n 2), paras 4 and 27–28.

Party's highest possible ambition, reflecting CBDR-RC in light of different national circumstances. The ICJ held that formal preparation of an NDC is not enough: the content of an NDC must be capable of making an adequate contribution to the achievement of the Paris Agreement's temperature goal and the UNFCCC objective.⁹

Human rights law reinforces the same conclusions. Climate change affects the rights to life, health, food, water, housing, privacy, family life, culture, self-determination and a clean, healthy and sustainable environment. States must respect, protect and fulfill those rights, including by regulating public and private actors whose conduct causes foreseeable harm to rights-holders.¹⁰ The Inter-American Court has spelled out these obligations in detail, clarifying that they require States to regulate business enterprises, prevent undue corporate influence, protect environmental defenders and ensure access to information, participation and justice.¹¹ Where Indigenous peoples or tribal communities are affected, decision-making must comply with applicable rights to consultation, participation and, where required, free, prior and informed consent.¹²

The legal framework is reinforced by environmental and ocean protection obligations that require rapid reductions in fossil fuel production and use, given that emissions contribute to adverse effects, including ocean warming, acidification, deoxygenation, sea-level rise, and harm to marine biodiversity.¹³ Further, it is shaped by general principles, all of which are underpinned by equity. The principle of permanent sovereignty over natural resources, exercised consistently with prevention and precaution, requires States to manage natural resources in the interests of national development and the well-being of their peoples, while preventing transboundary harm. The principle of common but differentiated responsibilities and respective capabilities, together with sustainable development and intergenerational equity, requires historically high-emitting States to phase out production earlier and provide financial and technical support to fossil-dependent developing States. The principle of non-regression points against backsliding on climate commitments and new measures that increase global fossil fuel output. International cooperation requires good-faith negotiations, information exchange, capacity-building, technology transfer and financial support, especially from developed to developing States.¹⁴

These sources should not be artificially separated. The ICJ emphasized that the climate treaties are not the only sources of international law governing climate change and that relevant rules must be interpreted harmoniously. The result is a coherent legal test: States must prevent

9 Paris Agreement (n 4), arts 4.2 and 4.3; ICJ, *Obligations of States* (n 1), paras 240–247.

10 ICJ, *Obligations of States* (n 1), paras 371, 376–381 and 392–404; UNGA Res 76/300 (28 July 2022) UN Doc A/RES/76/300; Inter-American Court of Human Rights, *Climate Emergency and Human Rights* (Advisory Opinion OC-32/25, 29 May 2025) paras 276, 296, 321 and 345–351.

11 Inter-American Court of Human Rights, *Climate Emergency and Human Rights* (Advisory Opinion OC-32/25, 29 May 2025) paras 276, 296, 321, 345–351 and 458ff.

12 Paris Agreement (n 4), preamble; Committee on the Elimination of Discrimination against Women, General Recommendation No 37, UN Doc CEDAW/C/GC/37 (7 February 2018), paras 32 and 42; Indigenous and Tribal Peoples Convention 1989 (ILO No 169), arts 6 and 15.

13 United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3, arts 192, 194, 207, 211 and 212; ITLOS, *Request for an Advisory Opinion submitted by the Commission of Small Island States on Climate Change and International Law* (Advisory Opinion, 21 May 2024) paras 179, 202–203, 213, 223 and 256.

14 K Bouwer, D Shapovalova and M Fermeglia, 'Towards a Principle-Based Framework for an Equitable Global Fossil Fuel Phase-Out' (2026) 75(1) *International and Comparative Law Quarterly* 195–216.

significant climate harm by taking all appropriate measures within their power, in good faith, in accordance with science, equity and human rights, and with due regard to their historical responsibilities, present capabilities and development circumstances.¹⁵

2.2 Due diligence and fossil fuel governance

The duty to prevent significant harm has direct implications for fossil fuel governance because fossil fuels are the principal source of anthropogenic CO₂ emissions and a major source of non-CO₂ GHGs.¹⁶ The legal issue is not whether a particular CO₂ molecule can be traced to a single harm. The ICJ has rejected the proposition that climate change is too diffuse or cumulative for legal responsibility. The prevention duty applies even where emissions are cumulative and globally dispersed, and State responsibility can be assessed *in concreto*.¹⁷

Three consequences follow. First, States must regulate fossil fuel activity at source. The ICJ stated that failure 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 licenses or fossil fuel subsidies, may constitute an internationally wrongful act attributable to a State. The wrongful act is not the emission as such; it is the breach of obligations to protect the climate system and prevent significant harm.¹⁸ This formulation avoids both overstatement and understatement. The ICJ did not announce a simple universal ban on all fossil fuel production. It did, however, make fossil fuel policy legally reviewable under the prevention, due diligence and State responsibility frameworks.

Second, due diligence requires effective regulatory systems, not aspirational targets alone. States must adopt and implement legal and administrative frameworks capable of preventing significant harm, including regulation of both public and private actors, monitoring, enforcement and risk assessment.¹⁹ In fossil fuel policy, that requires licensing rules, production planning, emissions standards, subsidy reform, public finance rules, corporate disclosure, transition-plan regulation, enforcement powers and remedies. A State cannot satisfy due diligence by announcing a distant target while continuing to license new production, extend fossil infrastructure, subsidize consumption or finance expansion that creates avoidable lock-in.

Third, the content of due diligence is dynamic and science-based. The ICJ confirmed that IPCC reports provide a central reference point for the best available science and that due diligence is heightened by the severity and foreseeability of the risk. The more serious the risk, the more demanding the required conduct. The availability of technology also matters: where a risk can be

15 ICJ, Obligations of States (n 1), paras 168, 171–172, 404 and 419.

16 IPCC, Climate Change 2021: The Physical Science Basis, Working Group I Contribution to the Sixth Assessment Report, Technical Summary, Box TS.5; Shaye Wolf, Robert D Bullard, Jonathan J Buonocore and Nathan Donley, ‘Scientists’ warning on fossil fuels’ (2025) 5(1) Oxford Open Climate Change kgaf011.

17 ICJ, Obligations of States (n 1), paras 276 and 424–437.

18 ICJ, Obligations of States (n 1), paras 427–428.

19 ICJ, Obligations of States (n 1), paras 282, 296–298 and 427–428.

addressed through reasonably available technologies or alternatives, a State is expected to use them; where technologies create further risks, prudence and caution are required.²⁰

Applied to fossil fuels, this means that proven measures that reduce emissions at source must take priority over speculative or high-risk strategies that merely promise future compensation. Carbon capture and storage, carbon dioxide removal, and other negative-emissions techniques may have targeted roles in some hard-to-abate sectors, but they cannot be used to justify avoidable fossil fuel expansion when lower-risk alternatives, demand reduction, and direct electrification are available. The precautionary approach further supports this conclusion: scientific uncertainty about the exact scale of future harm is not a lawful basis for delay where the risk is serious and foreseeable.²¹

The same logic applies to impact assessment. Environmental, social and human rights impact assessments should assess cumulative climate effects, lock-in risks and downstream emissions where the project or policy enables those emissions under review. The ICJ expressly recognized that climate-related risk assessment may require consideration of downstream effects, including where an activity produces fossil fuels that will be combusted elsewhere.²² A licensing regime that assesses only on-site emissions while ignoring exported or downstream combustion is inconsistent with the physical reality of fossil fuel harm and increasingly difficult to reconcile with due diligence.

2.3 Differentiation, cooperation and finance

The obligation to prevent significant harm binds all States, but it does not require identical conduct from all States. The ICJ linked due diligence to a State's capabilities and confirmed that CBDR-RC is relevant to determining the level of diligence required in a particular situation.²³ Historical responsibility, current emissions, economic capacity, technological capacity, dependence on fossil fuel revenues, energy poverty and access to alternatives all matter.

For historically high-emitting, high-capacity States, due diligence requires more demanding and earlier measures. These States have contributed most to cumulative atmospheric GHG concentrations, have greater institutional and financial capacity, and usually have greater access to clean alternatives. They should therefore adopt immediate moratoria on new fossil fuel expansion that cannot be justified under a no-significant-harm standard; legally binding schedules for managed decline of existing production and unabated use; rapid subsidy and public-finance reform; robust regulation of corporations domiciled or operating within their jurisdiction; and enhanced finance, technology and capacity-building support for developing countries.

20 ICJ, *Obligations of States* (n 1), paras 275, 283–287 and 292–294.

21 ICJ, *Obligations of States* (n 1), paras 283–287 and 292–294; IPCC, *Climate Change 2022: Mitigation of Climate Change*, Working Group III Contribution to the Sixth Assessment Report, Summary for Policymakers, C.4 and C.11.

22 ICJ, *Obligations of States* (n 1), paras 296–298.

23 ICJ, *Obligations of States* (n 1), paras 290–292.

For lower-capacity developing States, the same obligation to prevent significant harm applies, but the pace and sequencing of implementation must reflect development needs and available support. A fossil-dependent developing State may face genuine constraints: energy poverty, debt distress, limited grid capacity, reliance on fossil fuel export revenues, or lack of access to affordable capital. Those constraints do not create a license for open-ended expansion. They do mean that lawful phase-out requires finance, technology, capacity-building, debt relief and economic diversification support, particularly for least developed countries, small island developing States and countries highly dependent on fossil fuel rents.

The duty to cooperate is central. The ICJ described cooperation in climate protection as a legal obligation and a pressing need, not a matter of choice. Cooperation must be effective and continuous.²⁴ In the context of fossil fuels, cooperation requires more than conference declarations. It requires shared rules for managed decline, coordinated subsidy reform, technology transfer, concessional finance, support for economic diversification, loss and damage finance, reform of investment treaties and of multilateral development banks. Where existing cooperation is inadequate to prevent significant harm, States should consider whether additional treaty-based or institutional arrangements are necessary.

Finance is not ancillary to this analysis. Article 2.1(c) of the Paris Agreement establishes that the Agreement aims to make finance flows consistent with low-GHG emissions and climate-resilient development. Article 9 requires developed country Parties to provide financial resources to assist developing country Parties with mitigation and adaptation, in continuation of their existing obligations under the Convention. Article 4.5 requires support for developing country Parties in implementing Article 4.²⁵ The global stocktake confirms that Article 2.1(c) is complementary to, and not a substitute for, Article 9.²⁶ The legal implication is that developed States cannot invoke Article 2.1(c) to shift responsibility to private finance or to impose green conditionality while failing to provide public, grant-based and concessional resources.

Article 2.1(c) should also discipline public finance controlled or influenced by States. Export credit agencies, development finance institutions, sovereign wealth funds, public procurement and MDB assessment and voting practices should not support fossil fuel projects that create avoidable lock-in or undermine low-GHG, climate-resilient development. This is not because Article 2.1(c) alone creates a simple, privately enforceable prohibition. It is because Article 2.1(c), read with Articles 4 and 9, the duty to cooperate, due diligence, human rights and CBDR-RC, informs what good-faith implementation of the Paris Agreement requires.

24 ICJ, *Obligations of States* (n 1), paras 141–142, 304 and 457.

25 Paris Agreement (n 4), arts 2.1(c), 4.5 and 9; UNFCCC (n 6), arts 4.3–4.5 and 4.8; ICJ, *Obligations of States* (n 1), paras 217–218, 265, 304 and 457.

26 Decision 1/CMA.5 (n 2), paras 86–90.

2.4 State responsibility: cessation, non-repetition and reparation

The law of State responsibility is essential to a coherent phase-out analysis because significant harm is not merely a future risk. It is already occurring. The ICJ held that where a State has breached its climate-related obligations, the consequences of internationally wrongful acts apply. These include continued performance of the obligation, cessation of the wrongful conduct if it is continuing, assurances and guarantees of non-repetition where appropriate, and full reparation for injury caused by the internationally wrongful act.²⁷

This matters in three ways. First, where continuing fossil fuel policies breach the duty to prevent significant harm, the responsible State's discretion is narrowed by the duty of cessation. Cessation may require revoking, amending or suspending measures that perpetuate wrongful conduct, including licenses, subsidies, public finance or regulatory omissions where those are part of the breach. Second, assurances and guarantees of non-repetition support structural reform. They point toward durable regulatory systems, binding decline schedules, restrictions on future licensing, subsidy reform and safeguards against regulatory backsliding. Third, reparation grounds loss and damage and transition support in legal responsibility, thus complementing obligations under treaty and custom.

The ICJ also confirmed that establishing causation is not impossible in climate cases. Reparation requires a sufficiently direct and certain causal nexus between the wrongful act and the injury, assessed *in concreto*. The plurality of responsible States does not preclude responsibility; each responsible State may be required to repair the injury attributable to its wrongful conduct, with apportionment determined by the facts and applicable law.²⁸ This is particularly significant for historically high-emitting States and major fossil fuel producers, whose cumulative contributions, continued support for fossil fuel activity, or failure to regulate corporate actors can be assessed against specific harms.

The *erga omnes* (owed toward all) and *erga omnes partes* (owed toward all parties to a treaty) character of climate obligations strengthens accountability. The ICJ held that obligations to protect the climate system from anthropogenic GHG emissions, including the customary duty to prevent significant harm, are owed to the international community as a whole, and that core obligations under the UNFCCC and Paris Agreement are owed to all Parties.²⁹ This means that all States have a legal interest in compliance. States invoking responsibility in the collective interest may seek cessation, assurances of non-repetition and performance of reparation in the interest of injured States or beneficiaries.³⁰

27 International Law Commission, Articles on Responsibility of States for Internationally Wrongful Acts (2001), arts 29–31 and 34–37; ICJ, Obligations of States (n 1), paras 447–456.

28 ICJ, Obligations of States (n 1), paras 424–437 and 451–456.

29 ICJ, Obligations of States (n 1), paras 440–446.

30 ILC Articles (n 27), art 48.

For Santa Marta, the practical implication is clear. The obligations of cessation, non-repetition and reparation reinforce, rather than distract from, the phase-out agenda. They justify a stronger presumption against expansion by States with high historical responsibility; support finance and technology transfer as part of compliance, not generosity; and strengthen claims for loss and damage support, adaptation finance, debt relief, and compensation for communities and States already harmed by climate change and fossil fuel extraction. In the fossil fuel context, this includes not only compensation for climate-related harms but also obligations to remediate environmental damage associated with extraction, transport, and processing.

The polluter pays principle, long recognized in international environmental law, supports the expectation that States and, through them, corporate actors responsible for fossil fuel activities bear the costs of environmental cleanup and restoration, particularly where such activities have taken place in developing countries. This dimension of responsibility is integral to a lawful and just phase-out: it ensures that the transition does not externalize the environmental and social costs of past fossil fuel dependence onto already vulnerable communities.

2.5 Investment law and regulatory space

A lawful phase-out must confront the risk that investment treaties and ISDS will chill or penalize climate regulation. Fossil fuel investors have used ISDS to challenge measures such as coal phase-outs, offshore drilling restrictions and limitations on unconventional oil and gas extraction.³¹ The IPCC has recognized that investment protection may lead States to delay or refrain from mitigation policies, including fossil fuel phase-out.³²

Both co-hosts of the Santa Marta Conference are directly affected. The Netherlands has faced claims under the Energy Charter Treaty (ECT) arising from coal phase-out measures, as well as new claims from ExxonMobil and Shell relating to the closure of the Groningen gas field. Colombia has numerous oil and gas projects covered by ISDS provisions and has faced investment arbitration claims related to extractive activities.³³ These are not isolated examples. Research has documented the scale of fossil fuel investor-State disputes, high compensation awards and the use of valuation methods that can inflate claims for future profits.³⁴

International investment law often protects investor expectations and lost profits more extensively than domestic legal systems, and claims can be brought before arbitral tribunals rather than domestic courts. This can make climate regulation appear legally and financially

31 See eg RWE AG and RWE Eemshaven Holding II BV v Kingdom of the Netherlands (ICSID Case No ARB/21/4); Rockhopper Italia SpA and others v Italian Republic (ICSID Case No ARB/17/14); Lone Pine Resources Inc v Canada (ICSID Case No UNCT/15/2); Kyla Tienhaara and others, 'Investor-State disputes threaten the global green energy transition' (2022) 376 Science 701.

32 IPCC, Climate Change 2022: Mitigation of Climate Change (n 21) 1499.

33 ExxonMobil Petroleum & Chemical BV v Kingdom of the Netherlands (ICSID Case No ARB/24/44); Glencore International AG v Republic of Colombia (ICSID Case No ARB/21/30); UNCTAD, Investment Dispute Settlement Navigator.

34 Lea Di Salvatore, Investor-State Disputes in the Fossil Fuel Industry (IISD 2021); David R Boyd, Paying Polluters: The Catastrophic Consequences of Investor-State Dispute Settlement for Climate and Environment Action and Human Rights, UN Doc A/78/168 (2023).

risky even where it is legally required, creating a legal architecture that, unless reformed, can reward fossil fuel dependence and penalize the transition away from it.

The ICJ's findings strengthen the legal argument for preserving regulatory space. Obligations to protect the climate system are *erga omnes* and *erga omnes partes*. Investment protections owed to a narrower class of investors should not be interpreted or applied to prevent States from complying with obligations to the international community, to all Parties to the climate treaties, and to affected rights-holders. This does not mean that all compensation claims disappear automatically. It does mean that investment treaties must be interpreted in light of relevant rules of international law, including climate, human rights and environmental obligations, and that States should coordinate reform to remove obstacles to compliance.

Santa Marta should make investment law reform an implementation work stream. Practical measures include coordinated treaty review, interpretative declarations, climate carve-outs, exclusion of fossil fuel investments from ISDS, neutralization of sunset clauses where possible, and model clauses for new agreements.

3. Earth- and Climate System Justice and the Design of a Fair Phase-Out

Earth-system justice connects the legal duty to prevent significant harm with the physical limits of the Earth system and the social foundations required for human dignity. It asks how humans can live within safe and just boundaries (which delimits how much of a resource can be used or polluted—a resource budget) while ensuring minimum access to food, water, energy, housing, infrastructure, mobility and participation (which reserves a certain part of the budget for meeting basic needs) and promoting an equitable sharing of the remaining budget.³⁵ For fossil fuel phase-out, this framework has four implications.

First, the transition must be organized around harm prevention, not aggregate emissions accounting alone. A pathway that achieves a numerical temperature or net-zero target while sacrificing frontline communities, Indigenous peoples, small island States, workers or low-income households would not be just. Nor would a pathway that relies on speculative removals while permitting continued extraction harms, air pollution and climate risk. Justice requires reducing harm at source, protecting procedural rights and allocating the remaining carbon budget first to basic human needs.³⁶

Second, the transition must be differentiated by responsibility, capability and need. Earth-system justice scholarship shows that significant harm is already occurring due to decades of high emissions, largely by States and groups with high historical consumption, and suggests that climate policy must address both future prevention and present injustice.³⁷ In addition, the social foundation is decisive. Rammelt and others estimate that meeting minimum access for those deprived in 2018 would add 26% additional pressure on climate change and that this additional pressure is comparable to the pressure currently caused by the richest 1% to 4% of the global population.³⁸ The policy implication is that the remaining carbon budget must be allocated in a manner that prioritizes the fulfillment of basic human needs and human rights, particularly in developing countries, while reflecting historical responsibility and present capability.

35 Joyeeta Gupta, Yang Chen, Clara McDonnell and others, 'Climate Injustices Have Multiplied over Time: The Need for Climate System Justice' (2025) *Progress in Development Studies* 14649934251360854.

36 Joyeeta Gupta and others, 'Earth system justice needed to identify and live within Earth system boundaries' (2023) 6 *Nature Sustainability* 630; Joyeeta Gupta and others, 'Applying Earth System Justice to Phase out Fossil Fuels' (2024) 24 *International Environmental Agreements: Politics, Law and Economics* 233.

37 Gupta and others, 'Applying Earth System Justice' (n 36); WMO, *State of the Global Climate 2024* (WMO 2025).

38 Crellis F Rammelt and others, 'Impacts of meeting minimum access on critical Earth systems amidst the Great Inequality' (2023) 6 *Nature Sustainability* 212.

Accordingly, historically high-emitting States and groups must reduce emissions fastest while providing the finance and technology to make clean development genuinely available worldwide.

Third, a just phase-out must dismantle lock-ins equitably.³⁹ Fossil fuel dependence is sustained by more than consumer demand. It is embedded in profitability, infrastructure, fiscal systems, legal contracts, investment treaties, subsidies, labor markets, professional norms, political influence, behavioral patterns and development narratives. These lock-ins make delay appear reasonable even when harm is foreseeable. They also shift risks to poorer States and communities: producers face stranded assets and lost revenue; consumers face energy poverty if alternatives are unavailable; workers face job loss; and vulnerable countries face escalating adaptation and loss and damage costs.⁴⁰ From a legal perspective, “stringent due diligence” requires that States actively engage to unlock such lock-ins.⁴¹

Fourth, justice has a corrective and reparative dimension. The climate crisis is not only a problem of future risk allocation. Cumulative emissions have already caused significant harm, and many communities are already suffering loss of land, culture, health, livelihoods, ecosystems and lives. The reparative stakes are further underscored by Earth- and climate-system science: from a justice-oriented understanding of planetary boundaries, the limit for global temperature rise should have been no more than 1°C,⁴² yet considerable political resistance prevented discussion and adoption of that limit.⁴³ This chronology reinforces the case for reparations on two grounds: the injury is not speculative but already inflicted through the failure to hold temperatures within just limits, and the delay itself is attributable to identifiable State and corporate conduct that foreclosed the 1°C pathway. The obligations of cessation, non-repetition and reparation underpin this aspect of climate-system justice.

This framework supports a demanding but workable principle: fossil fuel phase-out should be fastest where responsibility and capacity are greatest; most financially and technically supported where vulnerability and dependence are highest; and most participatory where communities bear the costs of extraction, climate harm, or transition. Santa Marta can turn that principle into a roadmap by linking managed decline, finance, reparations, investment law reform and clean-energy access in one integrated architecture.

39 Joyeeta Gupta, ‘Protecting the Public Interest in Times of Climate Change: From Abandoning Fossil Fuel to Sharing Our Earth’ (Tenth Annual TMC Asser Lecture, Asser Press 2026, in press).

40 Joyeeta Gupta and others, *Leaving Fossil Fuels Underground: Actors, Arguments and Approaches in the Global South and Global North* (Amsterdam University Press 2025).

41 Joyeeta Gupta, Expert Witness Statement, *The People versus the United States of America, Russian Federation, Argentine Republic, Kingdom of Saudi Arabia and People’s Republic of China* (Ecocide Tribunal, Berlin, 16 February 2025).

42 Johan Rockström, Joyeeta Gupta, Dahe Qin and others, ‘Safe and Just Earth System Boundaries’ (2023) 619 *Nature* 102.

43 Joyeeta Gupta, Yang Chen, David I Armstrong McKay and others, ‘Applying Earth System Justice to Phase out Fossil Fuels: Learning from the Injustice of Adopting 1.5°C over 1°C’ (2024) 24 *International Environmental Agreements: Politics, Law and Economics* 233.

4. Feasibility, Finance and Co-Benefits

4.1 Carbon budgets, infrastructure and the presumption against expansion

The feasibility of phase-out must be assessed against the objective of preventing significant harm and the goals of the Paris Agreement. The IPCC has found that limiting warming to 1.5°C with no or limited overshoot requires global net anthropogenic CO₂ emissions to fall by about 45% from 2010 levels by 2030 and reach net zero around 2050. It has also found that projected CO₂ emissions from existing fossil fuel infrastructure without additional abatement would exceed the remaining carbon budget for limiting warming to 1.5°C.⁴⁴ Given the uncertainty, cost and scalability constraints associated with negative-emissions technologies, these findings reinforce the primacy of immediate reductions in gross emissions. Pathways that defer mitigation in reliance on future removals are difficult to reconcile with the obligation to prevent significant harm, particularly where lower-risk mitigation options are already available.

The International Energy Agency's updated Net Zero Roadmap states that declines in fossil fuel demand are sufficiently steep in a 1.5°C-consistent pathway that there is no need for new long-lead-time upstream oil and gas projects, new coal mines, mine extensions, or new unabated coal plants beyond those already under construction.⁴⁵ The Production Gap reports have shown that governments' planned fossil fuel production remains inconsistent with Paris-aligned pathways.⁴⁶

These findings do not convert any single model into a legal rule. They do establish evidentiary baselines for due diligence. A State authorizing new fossil fuel exploration, production or infrastructure must justify that decision against the risk of significant harm, the shrinking carbon budget, the availability of alternatives, cumulative and downstream emissions, and lock-in. For high-capacity and high-responsibility States, that burden will usually be impossible to discharge. For lower-capacity States, any claimed development justification should be time-limited, rights-based, subject to an alternatives analysis, and contingent on the availability of international support.

44 IPCC, Global Warming of 1.5°C (2018), Summary for Policymakers, C.1; IPCC, Climate Change 2023: Synthesis Report, Summary for Policymakers, B.5.3.

45 IEA, Net Zero Roadmap: A Global Pathway to Keep the 1.5°C Goal in Reach – 2023 Update (IEA 2023) 16, 101–103.

46 UNEP, Stockholm Environment Institute, Climate Analytics, E3G and IISD, The Production Gap Report 2023 (2023).

4.2 Clean energy is available, but finance and grids are decisive

The technical case for clean-energy deployment is strong. In 2025, global photovoltaic capacity rose to nearly 3 TW, with about 698 GW of new PV systems installed worldwide. The IEA projects almost 4,600 GW of additional renewable power capacity between 2025 and 2030, twice the deployment of the previous five years, with solar PV accounting for nearly 80% of the expansion.⁴⁷

Cost trends support accelerated deployment. IRENA reports that in 2024, 91% of newly commissioned utility-scale renewable capacity produced power more cheaply than the lowest-cost new fossil fuel alternative, with global weighted-average costs of USD 0.043/kWh for utility-scale solar PV and USD 0.034/kWh for onshore wind. In some countries and project contexts, solar PV costs have fallen below USD 0.02/kWh. Battery storage costs fell by 93% between 2010 and 2024.⁴⁸ Clean-energy investment is also outpacing fossil fuel investment: the IEA projects around USD 2.2 trillion in 2025 for renewables, nuclear, grids, storage, low-emission fuels, efficiency, and electrification, compared with around USD 1.1 trillion for oil, gas, and coal.⁴⁹

But aggregate global feasibility does not guarantee equitable access. Renewable projects require grids, interconnection, storage, permitting, skilled labor, supply chains, and affordable capital. The IEA estimates that electricity transmission and distribution networks need to expand by roughly 2 million kilometers per year to 2030 to support secure transitions.⁵⁰ The cost of capital remains a central barrier in emerging and developing economies. The IEA estimates that lowering the cost of capital for clean energy in emerging markets and developing economies by one percentage point could reduce average annual financing costs by USD 150 billion.⁵¹

Hydrogen has a strategic but constrained role. It should not be treated as a universal solution or a reason to delay direct electrification. Current global hydrogen production is overwhelmingly fossil-based and must itself be decarbonized. Clean hydrogen is most valuable in sectors where direct electrification is technically or economically difficult, including steelmaking, ammonia production, shipping, aviation, heavy transport, and long-duration storage. The policy hierarchy should be clear: prioritize direct electrification wherever feasible; decarbonize existing hydrogen production; and deploy clean hydrogen selectively in genuinely hard-to-abate applications.⁵²

The transition also extends beyond energy. Fossil fuels are feedstocks for chemicals, plastics, fertilizers and industrial processes. Circular chemistry provides a framework for decoupling industrial production from fossil feedstocks by treating waste as a resource and designing chemical processes for continuous material cycling. Key opportunities include hydrogen carriers, including sodium borohydride and other storage vectors; nutrient and phosphate recovery;

47 IEA, Global Energy Review 2025 (IEA 2025), key findings; IEA, Renewables 2025 (IEA 2025), executive summary; IEA PVPS, Snapshot of Global PV Markets 2026 (2026).

48 IRENA, Renewable Power Generation Costs in 2024 (IRENA 2025) 3–12.

49 IEA, World Energy Investment 2025 (IEA 2025), executive summary.

50 IEA, Electricity Grids and Secure Energy Transitions (IEA 2023), executive summary.

51 IEA, Reducing the Cost of Capital (IEA 2023), executive summary.

52 IEA, Global Hydrogen Review 2025 (IEA 2025), executive summary and production highlights.

industrial waste-stream valorization; fossil-free chemical production; repair, reuse, and high-value recycling; and product design that preserves functional material value rather than reducing materials to low-value waste.⁵³

The same logic applies to critical raw materials. Lithium, cobalt, nickel, rare earth elements and phosphorus are indispensable for parts of the transition, but their extraction can create new environmental harms and harm to human rights. A fair phase-out should therefore integrate energy, industry and materials policy. It should reduce material demand, substitute critical materials where possible, maximize recovery and recycling, adopt extended producer responsibility, and use public procurement to scale circular design.⁵⁴

The conclusion is that phase-out is technically feasible but financially and institutionally constrained. That distinction is legally important. A high-capacity State cannot lawfully rely on general claims of infeasibility while alternatives are available. A lower-capacity State may require support to make alternatives feasible. The duty to cooperate, Article 9 of the Paris Agreement and the obligation to prevent significant harm therefore converge on the same policy demand: scaled-up concessional finance, grants, guarantees, local-currency lending, grid investment and capacity-building.

4.3 Scaled-up finance is feasible and necessary

Managed fossil fuel decline is not only a technology problem. It is also a macroeconomic and public finance problem. Climate stabilization requires a large share of known fossil fuel reserves to remain unburned, turning fossil fuels from productive assets into problem assets. The policy challenge is to steer the pace, location and composition of extraction toward a lower and eventually zero-carbon equilibrium while minimizing welfare losses, fiscal shocks and political instability.⁵⁵

Carbon pricing remains indispensable, but it must be designed with uncertainty, credibility and distributional impact in mind. A central insight from climate economics is that the welfare-optimizing carbon price should equal the social cost of carbon: the present value of future marginal climate damages caused by one additional metric ton of CO₂ emitted today. Estimates vary widely because they depend on discount rates, damage functions, climate sensitivity, tipping risks and the valuation of non-market harms. Recent work has revised estimates upward as it better accounts for recurring climate disasters, higher marginal damages and global macroeconomic effects.⁵⁶

53 T J Keijer, V Bakker and J C Slootweg, 'Circular Chemistry to Enable a Circular Economy' (2019) 3 *Nature Chemistry* 190.

54 IEA, *Global Critical Minerals Outlook 2025* (IEA 2025), executive summary; Keijer, Bakker and Slootweg (n 53).

55 Rick van der Ploeg, 'The Safe Carbon Budget' (2018) 140 *Climatic Change* 25; Rick van der Ploeg and Armon Rezai, 'Stranded Assets in the Transition to a Carbon-Free Economy' (2020) 12 *Annual Review of Resource Economics* 281.

56 Kevin Rennert and others, 'Comprehensive evidence implies a higher social cost of CO₂' (2022) 610 *Nature* 687; Adrien Bilal and Diego Känzig, 'The Macroeconomic Impact of Climate Change: Global versus Local Temperature' (2026) 141 *Quarterly Journal of Economics* 899.

Carbon pricing alone is not enough. If fossil fuel owners anticipate tighter future climate policies, they may accelerate extraction to avoid future losses—the so-called green paradox. The evidence for a strong green paradox is mixed and context-dependent, but the risk reinforces the need for supply-side measures: moratoria on new exploration licenses, production caps or depletion quotas, removal of production subsidies, public finance restrictions and state-led restraint by national oil companies.⁵⁷ Supply- and demand-side policies are complements, not substitutes. Carbon pricing guides consumption and innovation, while supply constraints shape expectations and limit the risk that producers will simply accelerate extraction or shift it to less-regulated jurisdictions.

A fair phase-out must also confront the political economy of fossil fuel production in the Global South. Approximately 78% of recoverable fossil fuels are located in developing countries, where debt distress and high capital costs create a climate-investment trap.⁵⁸ The World Bank reports that low- and middle-income countries paid around USD 415 billion in interest in 2024, constraining fiscal space for transition, adaptation and public services.⁵⁹ A lawful and just transition, therefore, requires debt relief, concessional finance and non-debt-creating instruments, especially where climate-vulnerable countries are being asked to invest in global public goods while carrying high debt burdens created or worsened by climate shocks.⁶⁰

The scale of required finance is large but not unrealistic as an economic proposition. The COP29 decision on a new collective quantified goal calls on all actors to scale up finance to developing country Parties to at least USD 1.3 trillion per year by 2035 and sets a goal for developed country Parties to take the lead in mobilizing at least USD 300 billion per year by 2035.⁶¹ These are bottom lines: the Independent High-Level Expert Group on Climate Finance estimates that emerging markets and developing countries other than China need around USD 2.4 trillion per year in climate investment by 2030, including approximately USD 1.6 trillion for clean energy, USD 250 billion for adaptation and resilience, USD 250 billion for loss and damage, USD 300 billion for natural capital and sustainable agriculture, and USD 40 billion for a just transition.⁶² The same analysis estimates that around USD 1 trillion per year in external finance will be needed by 2030, rising to around USD 1.3 trillion by 2035, alongside increased domestic resources.⁶³

These amounts should be compared with the costs of delay and the scale of current misallocation. The IMF has estimated global fossil fuel subsidies at around USD 7 trillion in 2022, including

57 Hans-Werner Sinn, *The Green Paradox* (MIT Press 2012); van der Ploeg and Rezai (n 55).

58 Augusto Heras and Joyeeta Gupta, 'Fossil Fuels, Stranded Assets, and the Energy Transition in the Global South: A Systematic Literature Review' (2024) 15 WIREs Climate Change e866; IPCC, *Climate Change 2022: Impacts, Adaptation, and Vulnerability, Summary for Policymakers*.

59 World Bank, 'Developing Countries' Debt Outflows Hit 50-Year High During 2022-2024' (Press Release No 2026/024/DEC, 3 December 2025).

60 Sierd Hadley and others, *Country Platforms for Climate Action: Something Borrowed, Something New?* (ODI 2022); Aljoscha Karg, Joyeeta Gupta and Yang Chen, 'Just Energy Transition Partnerships: An Inclusive Climate Finance Approach?' (2025) 125 *Energy Research & Social Science* 104103; Anisha Nazareth and others, 'Fuelling Injustice? Safeguarding Equity in Anti-Fossil Fuel Norms' (2024) 15 *Global Policy* 979.

61 Decision 1/CMA.6, 'New collective quantified goal on climate finance' (2024) UN Doc FCCC/PA/CMA/2024/17/Add.1, paras 8-13.

62 Amar Bhattacharya and others, *Raising Ambition and Accelerating Delivery of Climate Finance: Third Report of the Independent High-Level Expert Group on Climate Finance* (LSE/Grantham Research Institute 2024) 18-24.

63 Bhattacharya and others (n 62) 25-31.

both explicit subsidies and implicit underpricing of climate, health, and local pollution costs. It estimates that full fossil fuel price reform would substantially reduce global CO₂ emissions below baseline, raise significant revenue, and prevent around 1.6 million premature deaths annually from local air pollution.⁶⁴ Redirecting even part of these resources toward clean energy, social protection, adaptation and loss and damage would strengthen both legality and feasibility. It is also worth recalling that public finance in terms of central bank interventions and government support to financial institutions exceeded USD 3.5 trillion during the global financial crisis of 2008.⁶⁵ If a transient financial crisis can prompt intervention on this scale, climate change, as a planetary and enduring crisis, demands at least comparable ambition.

4.4 A global clean-power feed-in tariff facility

Santa Marta should consider a global clean-power feed-in tariff facility as a practical instrument for combining finance, energy access and fossil fuel displacement. Feed-in tariffs typically provide long-term contracts guaranteeing a price per kWh for electricity supplied to the grid. Properly designed, they reduce revenue risk, lower the cost of capital, support smaller and community-based producers, and can be differentiated by technology, project size, geography and social value.

A global facility would not replicate early domestic feed-in tariff schemes mechanically. It should be designed for current technology costs, grid constraints and fiscal realities. Its core function would be to use concessional public finance to pay a transparent premium, guarantee or contract-for-difference above local tariffs where necessary, thereby making renewable projects bankable in countries facing high capital costs. It could prioritize least developed countries, small island developing States, fossil fuel importers with high energy poverty, and fossil-dependent producers seeking diversification. It should be paired with grid investment, storage, public procurement, local manufacturing where appropriate, community ownership options and safeguards for land, water, labor and Indigenous rights.

There is precedent. The GET FiT Uganda program used grant funding and top-up payments per kWh, combined with guarantees and technical assistance, to leverage investment in renewable energy.⁶⁶ The model should be updated and scaled: the objective should not be private investment for its own sake, but low-cost, rights-consistent clean power that displaces fossil fuel dependence and expands access.

A global facility would also address a core legal asymmetry. High-capacity States often argue that the expansion of fossil fuels in developing countries reflects domestic development choices.

64 Simon Black, Antung Liu, Ian Parry and Nate Vernon, 'IMF Fossil Fuel Subsidies Data: 2023 Update' (IMF Working Paper WP/23/169, 2023).

65 Deniz Igan, Hala Moussawi, Alexander F Tieman, Aleksandra Zdzenicka, Giovanni Dell'Ariccia and Paolo Mauro, *The Long Shadow of the Global Financial Crisis: Public Interventions in the Financial Sector* (IMF Working Paper No WP/19/164, July 2019).

66 UNFCCC, 'GET FiT Uganda' (Momentum for Change Activity Database); see also Deutsche Bank Climate Change Advisors, *GET FiT Program: Global Energy Transfer Feed-in Tariffs for Developing Countries* (2010).

But where clean alternatives are unaffordable because of global financial conditions, debt burdens and high capital costs, those choices are not fully free. A feed-in tariff facility, funded by developed States, fossil-fuel windfall levies, reallocated subsidies, MDB capital, and innovative sources, would help make the no-significant-harm pathway practically available.

4.5 Reparations, loss and damage, and harm already suffered

Loss and damage support and reparations should be integrated into phase-out, not treated as separate humanitarian issues. Significant harm has already occurred, and the ICJ has confirmed that reparation may be required where breach and causation are established. At the same time, negotiated and administrative finance mechanisms can provide support without requiring every beneficiary to prove a full judicial claim.

The scale of harm is substantial. The UNFCCC Transitional Committee synthesis report cites estimates that economic costs of residual loss and damage in developing countries could reach USD 290-580 billion by 2030, rising to around USD 1 trillion by 2050.⁶⁷ The Independent High-Level Expert Group estimates that loss and damage investment needs in emerging markets and developing countries other than China amount to around USD 250 billion per year by 2030 and more than USD 400 billion per year by 2035.⁶⁸ These numbers do not capture all non-economic loss, including loss of territory, cultural heritage, ecosystems, health, language, identity and self-determination.

Justice-based research on atmospheric appropriation illustrates the magnitude of distributive injustice. Fanning and Hickel estimate that, in a net-zero-by-2050 mitigation scenario using equality-based carbon-budget shares, overshooting countries would owe USD 192 trillion to undershooting countries of the Global South by 2050, equivalent to average disbursements of about USD 940 per person per year in those countries.⁶⁹ That figure should not be presented as a judicially determined quantum of reparation, but is useful for showing that current finance goals remain far below plausible measures of climate debt.

Reparative finance and fiscal-space measures can be supported through multiple channels: assessed contributions from high-responsibility States; fossil fuel extraction levies; windfall profit taxes; aviation and shipping levies; financial transaction taxes; debt cancellation; redirected fossil fuel subsidies; capital increases for MDBs; and grant-based contributions to the Fund for responding to Loss and Damage. These instruments do not determine how any particular State must organize its internal budget to satisfy a legal duty of reparation. They identify options for mobilizing predictable, adequate and non-debt-creating resources for a fair transition.

67 UNFCCC Transitional Committee, Synthesis Report on Existing Funding Arrangements and Innovative Sources Relevant to Addressing Loss and Damage Associated with the Adverse Effects of Climate Change (TC2/2023/3, 23 May 2023) para 79.

68 Bhattacharya and others (n 62) 22–24.

69 Andrew L Fanning and Jason Hickel, 'Compensation for atmospheric appropriation' (2023) 6 Nature Sustainability 1077.

4.6 Co-benefits of phase-out

The co-benefits of fossil fuel phase-out are substantial. Fossil fuel combustion is a major source of outdoor air pollution. The World Health Organization estimates that ambient outdoor air pollution caused about 4.2 million premature deaths worldwide in 2019, with the greatest burden in low- and middle-income countries.⁷⁰ Reducing coal, oil and gas combustion therefore protects the rights to life and health, reduces health expenditure and improves equality.

Energy security also improves. Fossil fuel import dependence exposes countries to volatile prices, foreign exchange risks and geopolitical disruption. Domestic renewables, energy efficiency, storage and grid flexibility reduce exposure to commodity shocks. For fossil fuel exporters, planned diversification reduces the risk of sudden revenue collapse as global demand changes. Financial institutions and banks can likewise adjust their asset portfolios in line with a planned fossil fuel phase-out.

Fiscal benefits can be large. Subsidy reform, carbon pricing, and fossil-fuel windfall levies can generate resources for social protection, clean energy, adaptation, loss and damage, and a just transition. But reform must be carefully sequenced. Abrupt subsidy removal can harm poor households and provoke backlash. Rights-consistent reform should include transparent subsidy inventories, gradual schedules, direct transfers or lifeline tariffs for low-income households, public transport and energy-efficiency investment, and worker and regional support.

Employment effects require active policy. Clean energy, grids, efficiency, public transport, building renovation, circular industry and ecosystem restoration can generate significant employment, but jobs will not automatically appear in the same regions or for the same workers. Just transition must include income support, retraining, collective bargaining, public investment in fossil-dependent regions, early retirement where appropriate, and participation by workers and communities.

⁷⁰ WHO, 'Ambient (outdoor) air pollution' (Fact Sheet, 2024).

5. Regulation and Public Finance: Removing Barriers to Compliance

5.1 Licensing, assessments and subsidy reform

The first domestic implementation step is to align fossil fuel licensing with the duty to prevent significant harm. A State should not approve new exploration, production or long-lived infrastructure unless it can demonstrate, on the basis of the best available science and a full alternatives analysis, that the project is consistent with preventing significant harm, does not create avoidable lock-in, respects human rights and does not undermine the Paris Agreement's temperature goal. For high-capacity and high-responsibility States, the default should be no new expansion.

Impact assessments must be redesigned accordingly. Environmental, social and human rights impact assessments should assess cumulative emissions, downstream and exported emissions, methane leakage, local pollution, extraction harms, biodiversity impacts, water impacts, climate adaptation risks, stranded-asset risks and distributional effects. They should include meaningful public participation, access to information, protection of environmental defenders and judicial or administrative review.

Subsidy reform should be treated as a compliance measure. Subsidies that incentivize fossil fuel production or consumption, inconsistent with a no-significant-harm pathway, undermine due diligence and Article 2.1(c). Reform should be transparent, phased and progressive. It should redirect resources to clean energy, public transport, efficiency, social protection, worker support, adaptation and loss and damage. For developing countries, reform must be paired with finance and administrative support so that subsidy removal does not deepen poverty or energy insecurity.

Subsidy reform is most durable where savings are visibly recycled. Indonesia's 2014-2015 fuel subsidy reforms, for example, redirected savings toward health, education, and infrastructure spending, illustrating that reform can be politically sustainable when redistributive mechanisms are clear. Santa Marta should build on initiatives such as the Coalition on Phasing Out Fossil Fuel Incentives Including Subsidies (COFFIS), while ensuring that subsidy reform remains rights-consistent and differentiated.

5.2 Aligning MDB finance with fossil fuel phase-out

Multilateral development banks (MDBs) are central to the implementation of climate obligations. They are not only lenders; they are institutions through which States cooperate. Their Paris-alignment methodologies should therefore be treated as legal and institutional tools for supporting sustainable development and implementing climate obligations, not as voluntary branding exercises.⁷¹

Current methodologies remain too permissive if they exclude only some coal and peat activities while allowing oil and gas projects to proceed through project-level screening. Given the IPCC's carbon-budget findings, the IEA's net-zero pathway and the ICJ's prevention analysis, MDBs should adopt a stringent presumption against new fossil fuel finance, including oil and gas, with narrow exceptions only where a developing country demonstrates pressing energy-access need, no technically and economically feasible low-emission alternative, no avoidable lock-in, full assessment of downstream emissions, and a time-limited transition plan.⁷²

The treatment of Scope 3 emissions is critical. Fossil fuel infrastructure financed by an MDB may produce or transport fuels combusted elsewhere. The relevant harm lies not only in construction or operational emissions but also in downstream combustion. Paris-alignment methodologies should therefore cover indirect emissions arising from downstream use of fossil fuels extracted or transported with MDB-financed infrastructure. The ICJ's recognition that climate-related risk assessment may require consideration of downstream effects reinforces this conclusion.⁷³

MDB reform must also avoid green conditionality. Development policy lending can require borrowing countries to restructure energy sectors to facilitate a private-sector-led transition. That may increase access to capital in some contexts, but it can also impose privatization, austerity or risk-transfer conditions that fail to address poverty reduction, energy access or climate justice. Public finance should expand development space, not replace fossil fuel conditionality with austerity or private-finance dependency. It should provide grants and concessional loans for clean energy, grids, adaptation, loss and damage, economic diversification and just transition. It should use guarantees and local-currency instruments to reduce capital costs, but without transferring excessive risk to borrowing countries or subordinating public welfare to investor preferences.⁷⁴

Finally, MDBs should move beyond project-by-project alignment and adopt portfolio-wide targets. Individual projects may be deemed aligned while the institution's aggregate lending

71 IBRD Articles of Agreement, art I; Johanna Aleria P Lorenzo, *International Financial Institutions and Sustainable Development: Lawmaking and Accountability* (CUP 2025) 69–92; Johanna Aleria P Lorenzo and Jolene Lin, 'International Legal Obligations of Multilateral Development Banks and their Member States in Relation to Climate Change' (Legal Opinion, 7 November 2025).

72 World Bank, *Paris Alignment Method for Investment Project Financing* (2023) para 4; Joint MDB Paris Alignment Working Group, *List of Activities Considered Universally Aligned with the Mitigation Goals of the Paris Agreement or Not Aligned with the Mitigation Goals* (June 2023); IEA, *Net Zero Roadmap* (n 45).

73 Partnership for Carbon Accounting Financials, *The Global GHG Accounting & Reporting Standard for the Financial Industry* (2nd edn, 2022); ICJ, *Obligations of States* (n 1), para 298.

74 Bretton Woods Project, 'Year One of World Bank Paris Agreement Alignment in the Energy Sector: Green Conditionality Dwarfs Green Investments' (2024).

pattern continues to support fossil fuel dependence. Portfolio-level accountability should include measurable benchmarks for reducing the carbon intensity of direct and indirect lending, binding interim targets, transparent reporting, and governance reforms that give climate-vulnerable and borrowing countries a stronger voice. It should also address the debt-fossil fuel trap. Developing countries facing high debt service may be pushed toward extractive projects to generate foreign exchange, while interest payments crowd out climate action and public services. Debt relief, grants, concessional finance and debt-for-climate instruments are therefore integral to the required MDB reform, not separate from it.⁷⁵

5.3 Corporate transition and public procurement

At the systems level, regulation and civil society matter. Stricter regulation can enable more disruptive sustainability transitions by changing market expectations and reducing first-mover disadvantages. Where regulation is credible and markets are large enough, firms harmonize upward to the strictest applicable standard. Critical NGOs and social movement organizations can alter market conditions, expose greenwashing, and support renewable energy deployment, while cooperative partnerships can help deliver the transition when public goals and accountability are clear.⁷⁶

Corporate transition plans should therefore be regulated by law. States should require transition plans that include absolute emissions reductions, Scope 3 disclosure, capital expenditure alignment, methane reductions, executive accountability, worker and community transition planning, and restrictions on lobbying inconsistent with climate obligations. EU instruments such as the Corporate Sustainability Reporting Directive and the Corporate Sustainability Due Diligence Directive provide useful models for disclosure and due diligence, but fossil fuel phase-out requires stronger sector-specific rules governing production plans, public finance eligibility, procurement and misleading transition claims.⁷⁷

Public procurement can accelerate this shift. Governments can require suppliers to disclose emissions, adopt credible transition plans, use renewable power, reduce material intensity and respect labor and human rights standards. Public procurement is especially important for construction, transport, steel, cement, chemicals and public infrastructure. It can also create markets for circular materials, fossil-free industrial processes and community-benefit models.

75 Natalia Alayza and others, *Multilateral Development Bank Climate Finance: The Good, Bad and the Urgent* (2024); Ali Nasrallah and others, *Spillover Effects: The Fossil Fuel-Debt Trade in the Global South* (Fossil Fuel Treaty Initiative, MENAFem Movement and Oil Change International 2026); Tess Woolfenden, *The Debt-Fossil Fuel Trap: Why Debt Is a Barrier to Fossil Fuel Phase-Out and What We Can Do about It* (Debt Justice 2023).

76 Koen de Bruijn and others, 'MNE-Civil Society Interactions: A Review and Research Agenda' (2024) 55 *Journal of International Business Studies* 136; Jochen Markard, Rob Raven and Bernhard Truffer, 'Sustainability Transitions: An Emerging Field of Research and Its Prospects' (2012) 41 *Research Policy* 955.

77 Directive (EU) 2022/2464 as regards corporate sustainability reporting [2022] OJ L322/15; Directive (EU) 2024/1760 on corporate sustainability due diligence [2024] OJ L 2024/1760.

6. Policy Packages for the Santa Marta Roadmap

The following packages are designed to operate together. Each package supports the others: managed decline reduces harm; finance makes alternatives available; reparations address harm already suffered; investment law reform protects regulatory space; and rights-consistent just transition sustains democratic legitimacy. Each should be governed inclusively, with civil society, workers, Indigenous peoples, affected communities, and scientific experts placed at the center of the process and with governments responsible for implementation.

Package 1: Managed decline and no new avoidable expansion

Coalition members should commit to aligning fossil fuel licensing, production, consumption and infrastructure planning with the duty to prevent significant harm. They should adopt an immediate presumption against new fossil fuel exploration, production and long-lived infrastructure. A State seeking to approve any new project should publish a reasoned justification addressing best available science, cumulative and downstream emissions, human rights, alternatives, lock-in, transition risk and consistency with its NDC and long-term strategy. High-capacity and high-responsibility States should adopt immediate moratoria on new expansion and legally binding decline schedules.

Within twelve months, coalition members should publish national fossil fuel managed-decline plans. These plans should identify existing production, infrastructure, and subsidies; set time-bound reduction pathways; specify worker and community transition measures; include methane and local pollution controls during the decline; and explain how the pathway reflects CBDR-RC, human rights, and finance needs.

Package 2: Assessments, subsidies and fiscal reallocation

Coalition members should require climate-specific environmental, social, and human rights impact assessments for fossil fuel decisions, including assessments of cumulative, downstream, and exported emissions. They should publish fossil fuel subsidy inventories and adopt phased reform schedules. Savings should be redirected to social protection, clean energy access, public transport, energy efficiency, adaptation, loss and damage, worker transition and regional diversification.

Developing-country subsidy reform should be supported, not imposed. Coalition members should develop a support facility for administrative capacity, lifeline tariffs, direct transfers, public transport and clean-cooking alternatives. The aim is to remove incentives for fossil fuel dependence while protecting poor and vulnerable households.

Package 3: Finance, MDB reform and a global clean-power feed-in tariff facility

Coalition members should work within MDBs and other public finance institutions to adopt a stringent presumption against new fossil fuel finance; require assessment of downstream emissions; align portfolios with the 1.5°C temperature goal and low-GHG, climate-resilient development; and scale up concessional finance for clean energy, grids, storage, adaptation, loss and damage, and just transition.

Santa Marta should launch a design process for a global clean-power feed-in tariff facility. The facility would use grant and concessional finance to provide transparent kWh-based top-ups, guarantees or contracts-for-difference for renewable power in countries facing high capital costs, while supporting grids, storage and community benefit-sharing. It should prioritize countries where clean power can displace fossil fuel imports, avoid new fossil infrastructure, expand access and support economic diversification.

Package 4: Reparations, loss and damage, and fiscal space

The roadmap should record and operationalize the ordinary consequences of State responsibility where climate obligations have been breached: continued performance, cessation, assurances and guarantees of non-repetition where appropriate, and reparation. Coalition members should support predictable, adequate, and accessible finance for loss and damage, including the Fund for responding to Loss and Damage, while recognizing that negotiated funding arrangements do not exhaust legal responsibility.

Santa Marta should develop options for reparative finance and fiscal-space resources, including fossil fuel extraction levies, windfall profit taxes, aviation and shipping levies, redirected subsidies, assessed contributions, debt cancellation and non-debt-creating finance. It should also promote debt-climate swaps only where they increase fiscal space and do not substitute for grants or reparations.

Package 5: Investment law reform and regulatory space

Coalition members should review investment treaties and contracts for provisions that may obstruct climate action. They should adopt common interpretative declarations stating that investment protections must be interpreted consistently with States' obligations to prevent

significant climate harm, protect human rights and cooperate under the climate treaties. They should develop climate carve-outs, exclude fossil fuel investments from ISDS in future agreements, and consider plurilateral instruments to neutralize sunset clauses or withdraw consent to arbitrate fossil fuel phase-out measures.

Package 6: Rights-consistent just transition, circular industry and clean energy deployment

Coalition members should guarantee access to information, participation and justice in transition planning; protect environmental defenders; respect the rights of Indigenous peoples and affected communities; and provide remedies for extraction, pollution and transition-related harms. Just transition plans should include income support, retraining, regional development, worker participation, gender-responsive measures and support for communities dependent on fossil fuel revenues.

Clean energy deployment should prioritize direct electrification where feasible, targeted use of low-emission hydrogen in genuinely hard-to-abate sectors, circular chemistry, repair and reuse, high-value recycling, sustainable critical mineral governance and demand reduction by high-consuming groups. This package ensures that phase-out reduces pressure across the Earth system rather than shifting harms from fossil fuels to unmanaged extraction of other materials.

7. Conclusion

A fair fossil fuel phase-out is not a discretionary political preference. It is the practical implication of the duty to prevent significant harm to the climate system and other applicable rules and principles of international law. The global stocktake confirms political agreement on the need to transition away from fossil fuels, but the deeper legal foundation is the obligation to prevent harm at source, to cooperate effectively, to regulate public and private actors, to provide finance and technology, and to repair harm where responsibility is established.

The central implementation challenge is distributional. Clean energy is increasingly cheaper and faster to deploy than fossil alternatives in many contexts, but access remains unequal because of finance costs, debt, grid infrastructure, institutional capacity and fossil fuel lock-ins. A legally coherent Santa Marta roadmap must therefore connect managed decline with scaled-up finance, a global clean-power feed-in tariff facility, subsidy reform, MDB reform, reparations and loss and damage support, investment law reform and rights-consistent just transition.

The strongest message from Santa Marta would be that the transition away from fossil fuels is not an act of collective sacrifice detached from law. It is a legal, scientific and justice imperative that can deliver cleaner air, lower energy insecurity, reduced fiscal risk, better development pathways and greater protection for present and future generations. The task is now to make that transition planned, fair and enforceable.

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