Received: 28 August 2022 | Accepted: 17 November 2022
DOI: 10.1111/reel.12483

SPECIAL ISSUE ARTICLE

RECIEL Review of European, Comparative & International Environmental Law
WILEY

Unjust enrichment in investor–State arbitration: A principled limit on compensation for future income from fossil fuels

Oliver Hailes

Faculty of Law, University of Cambridge, Cambridge, UK

Correspondence
Oliver Hailes, Faculty of Law, University of Cambridge, 10 West Rd, Cambridge CB3 9DZ, UK.
Email: ofgh2@cam.ac.uk

Funding information
Woolf Fisher Scholarship, Cambridge Trust

Abstract

If States take seriously the Paris Agreement's mitigation goal by phasing out the use of fossil fuels in energy production, investor–State arbitration could allow claimants to recoup lost value. In awards of compensation, tribunals typically apply forward-looking, income-based valuation methods to quantify future cash flows. But such methods may lead to upward redistribution of wealth and expansion of fossil fuel production. This article recalls the prohibition against unjust enrichment as a general principle of law that complements the obligation to make full reparation by ensuring that any compensation does not undermine some legally recognized allocation of benefits and burdens. The Paris Agreement's distributive scheme may thus impose a principled limit on compensation for future income from stranded fossil fuel assets when a tribunal determines the appropriate method of valuation, thereby ensuring that investor–State arbitration does not enrich claimants to the detriment of State capacity in climate mitigation and adaptation.

1 | INTRODUCTION

Climate change is a crucible of distributional conflict. So too is the energy transition. Disputes over the allocation of benefits and burdens are bound to be settled through many types of international climate litigation, including arbitration between foreign companies who have invested in the value chains of energy production from fossil fuels and host States seeking to mitigate greenhouse gas emissions from their territorial segment of the global economy.[1] Investor–State arbitration has attracted criticism from commentators who are troubled by the possibility of respondents having to compensate claimants for the value of fossil fuel assets that would be stranded by the pursuit of climate targets requiring a decarbonized energy sector.[2] Notoriously, energy companies RWE and Uniper commenced proceedings against the Netherlands arising from its 2019 ban on coal-fired power plants by 2030.[3] Both German companies alleged breaches of the Energy Charter Treaty (ECT), each seeking over €1 billion. In *Rockhopper v Italy*, moreover, the tribunal awarded €184 million plus interest and decommissioning costs for an unlawful expropriation arising from Italy's ban on offshore hydrocarbon activities beyond 12 nautical miles.[4] The prospect of such costly claims

[1] Commonly called investor–State dispute settlement (ISDS), investor–State arbitration is a type of international dispute settlement whereby a foreign investor may bring a claim against its host State, usually filed with arbitral institutions such as the International Centre for Settlement of Investment Disputes (ICSID). This article does not address contractual claims governed by choice of domestic law, focusing instead on disputes that apply public international law to determine a host State's alleged breach of a treaty entered with a claimant's home State, also known as investment treaty arbitration.

[2] But note that climate policy is not the only driver of asset stranding: JF Mercure et al, 'Macroeconomic Impact of Stranded Fossil Fuel Assets' (2018) 8 Nature Climate Change 588.

[3] *RWE AG and RWE Eemshaven Holding II BV v Kingdom of the Netherlands*, ICSID Case No ARB/21/4; *Uniper SE, Uniper Benelux Holding B.V. and Uniper Benelux N.V. v Kingdom of the Netherlands*, ICSID Case No ARB/21/22. For recent developments, which suggest that these claims may never be resolved on their merits, see L Bohmer, 'Uniper is Required to Withdraw Its Intra-EU ECT Claim Against the Netherlands as Part of German Bailout Package' (Investment Arbitration Reporter, 22 July 2022).

[4] *Rockhopper Exploration Plc and others v Italian Republic*, ICSID Case No ARB/17/14, Final Award (23 August 2022) (*Rockhopper*) para 335.

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arising from stranded fossil fuel assets is said to generate ‘regulatory chill’, by which governments ‘fail to regulate in the public interest in a timely and effective manner’.[5]

Given that the extent of regulatory chill is premised on the expense of arbitral awards, it is unsurprising that possible reforms to the assessment of compensation have come to the fore in intergovernmental forums.[6] In most recent awards, a host State's obligation to make full reparation has called for compensation based on forward-looking, income-based valuation methods to quantify the cash flows that assets would have produced but for the State's treaty breach, discounted for relevant sectoral or political risks to the expected level of future income and the likely costs of capital—that is, discounted cash flow (DCF) methods.[7] But a vital literature has broken new ground by exploring, for instance, whether tribunals may limit the obligation to pay full reparation when compensation would be crippling for a State or its peoples.[8] Others have shown how policymakers could design a compensation rule that better reflects the economic rationale of investment treaties.[9] This new compensation literature challenges a narrowly bilateral approach to reparation by underlining the legal construction of compensable value and the systemic implications of arbitral awards, sometimes by revisiting the traditional authorities.[10]

In a similar vein, my hypothesis is that full reparation is not the sole principle of compensation that is generally applicable in investor–State arbitration. There is support for the prohibition against unjust enrichment as a general principle of law that may inform a tribunal's valuation of compensation for breach of an investment treaty standard, not least in claims based on the regulatory stranding of fossil fuel assets in pursuit of climate mitigation. Section 2 presents investor–State arbitration as a significant type of international climate litigation, drawing attention to how standards of compensation and valuation methods may be applied in energy transition disputes. Section 3 introduces unjust enrichment as a general principle of law, noting how that principle served as a traditional limit on compensation and remains relevant in the modern law of State responsibility. The prohibition against unjust enrichment requires a tribunal not to award compensation that would undermine some legally recognized allocation of benefits and burdens, which may be called a distributive scheme. Section 4 argues that the Paris Agreement reflects one such distributive scheme in the international legal system, calling for finance flows that are consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. By way of systemic integration, the Paris Agreement's distributive scheme may impose a principled limit on an investment tribunal's default assumption that future income may be legitimately derived from fossil fuels in determining an appropriate method of valuing stranded assets, thereby ensuring that investor–State arbitration does not unjustly enrich claimants to the detriment of State capacity in climate mitigation and adaptation.

2 | INVESTOR–STATE ARBITRATION AS INTERNATIONAL CLIMATE LITIGATION

Investor–State arbitration has been identified as the main type of ‘non-climate-aligned’ international litigation.[11] Here I stress its distributional significance in allocating financial risk between energy investors and their host States, which arguably complements and conflicts with different aspects of the renewable energy transition. I summarize the common standards of compensation and competing methods of valuation that may be applied in energy transition disputes, providing some necessary baselines then to review the prohibition against unjust enrichment as a general principle of law that is relevant in the interpretation of compensation obligations and the adoption of an appropriate valuation method.

2.1 | Investment protection in the energy transition

The climate change regime was crafted over three decades of fraught politics, reflected in a long-term temperature limit to be maintained through nationally determined contributions (NDCs).[12] Underpinning both the mitigation and adaptation goals of the Paris Agreement is the finance goal in Article 2(1)(c): ‘Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.’ I will revisit these provisions. For now, it is noteworthy that the transition from fossil fuels towards renewable

[5] K Tienhaara, ‘Regulatory Chill in a Warming World: The Threat to Climate Policy Posed by Investor-State Dispute Settlement’ (2018) 7 Transnational Environmental Law 229, 232.

[6] United Nations Commission on International Trade Law (UNCITRAL) ‘Possible Reform of Investor-State Dispute Settlement (ISDS): Assessment of Damages and Compensation: Note by the Secretariat’ UN Doc A/CN.9/WG.III/WP.220 (5 July 2022).

[7] Backward-looking approaches include asset-based valuations (whether based on book value or replacement cost of assets) and compensation of historical expenditure made by a claimant. Forward-looking approaches include market-based valuation, wherein a tribunal looks to available data on comparable market transactions, and income-based approaches, foremost DCF methods. See ibid paras 24–30. ‘Discounted cash flow value’ may be defined as ‘the cash receipts realistically expected from the enterprise in each future year of its economic life as reasonably projected minus that year's expected cash expenditure, after discounting this net cash flow for each year by a factor which reflects the time value of money, expected inflation, and the risk associated with such cash flow under realistic circumstances. Such discount rate may be measured by examining the rate of return available in the same market on alternative investments of comparable risk on the basis of their present value’. World Bank, *Legal Framework for the Treatment of Foreign Investment*, vol II (World Bank 1992) 42. See further I Marboe, *Calculation of Compensation and Damages in International Investment Law* (2nd edn, Oxford University Press 2017) Chapter 5.

[8] M Paparinskis, ‘A Case Against Crippling Compensation in International Law of State Responsibility’ (2020) 83 Modern Law Review 1246; M Paparinskis, ‘Crippling Compensation in the International Law Commission and Investor–State Arbitration’ (2022) 37 ICSID Review 289.

[9] E Aisbett and J Bonnitcha, ‘A Pareto-Improving Compensation Rule for Investment Treaties’ (2021) 24 Journal of International Economic Law 181; J Bonnitcha and E Aisbett, ‘Against Balancing: Revisiting the Use/Regulation Distinction to Reform Liability and Compensation Under Investment Treaties’ (2021) 42 Michigan Journal of International Law 231.

[10] DA Desierto, ‘The Outer Limits of Adequate Reparations for Breaches of Non-Expropriation Investment Treaty Provisions: Choice and Proportionality in *Chorzów*’ (2017) 55 Columbia Journal of Transnational Law 395; T Marzal, ‘Quantum (In)Justice: Rethinking the Calculation of Compensation and Damages in ISDS’ (2021) 22 Journal of World Investment & Trade 249; FE Torres, ‘Revisiting the *Chorzów Factory* Standard of Reparation – Its Relevance in Contemporary International Law and Practice’ (2021) 90 Nordic Journal of International Law 190.

[11] J Setzer and C Higham, ‘Global Trends in Climate Change Litigation: 2022 Snapshot’ (Grantham Research Institute 2022) 23–24.

[12] Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UNTS 3156 arts 2(1)(a), 3.

energy sources—a critically important process for climate mitigation—has long been left by domestic policymakers to the creative destruction of industrial innovation and competition among private operators. With the right fiscal incentives and regulatory settings, many hoped (and still do) that the dominance of oil, gas and coal in the global energy mix would be undercut by increased investment in solar panels, wind turbines and grid-storage technologies. Investor–State arbitration has played a supporting role in this finance-driven transition by assuring a modicum of stability in the embryonic green economy and thereby shifting financial risk from investors to States: setting standards of sovereign conduct through a network of investment treaties, awarding compensation for any breach of those standards and thus protecting the assets of renewable energy investors.

Several dozen claims—foremost under the ECT—emerged after Spain, Italy, the Czech Republic and others reformed their fiscally unsustainable regimes for feed-in tariffs and tax incentives, thereby reducing the expected returns on long-term investment in their solar, wind or hydroelectric sectors.[13] Investors mostly alleged breaches of the treaty standards of expropriation, which imposes cumulative conditions on a State's right to take foreign property, and fair and equitable treatment (FET), which protects against procedural impropriety or arbitrary regulation that frustrates any legitimate expectations.[14] Whether one views the procedural right of a private investor to bring claims against its host State as a direct right conferred by treaty or merely a derivative right that is delegated by its home State,[15] it should be borne in mind that substantive investment protections are mutually agreed among States and commonly mirror the traditional standards of treatment and compensation under customary international law. Investment treaties are therefore interpreted like any other instrument of public international law concluded by States. Even if a particular provision may be characterized as a *lex specialis*, tribunals tend to interpret treaties in light of general international law—whether by reference to custom as ordinary meaning or through systemic integration of other relevant rules that are applicable in relations between the States parties—and may directly apply such norms where a treaty is silent.

2.2 | Common standards of compensation

An applicable standard of compensation may be expressed in the treaty text or require a tribunal to apply customary international law. Whereas the ECT contains an inbuilt condition of 'prompt, adequate and effective compensation' for lawful expropriation, specified as 'fair market value' (FMV),[16] any unlawful expropriation or breach of another treaty standard that is causally linked to an investor's 'financially assessable damage' must be compensated in accordance with the obligation to make full reparation under the law of State responsibility.[17] A touchstone for tribunals is the dictum of the Permanent Court of International Justice in *Factory at Chorzów*: 'the amount of compensation due for an act contrary to international law' must 'as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed'.[18] This intuitive reflection of corrective justice takes on great evidential complexity when tribunals are asked to award compensation based on forward-looking valuation methods, particularly when future cash flows were premised on the persistence of a thriving market that itself depended on a stable regulatory framework. DCF methods, warned the International Law Commission (ILC), contain 'a wide range of inherently speculative elements', including 'discount rates, currency fluctuations, inflation figures, commodity prices, interest rates and other commercial risks'.[19]

In light of many costly awards, supporters of climate mitigation disagree whether investor–State arbitration has truly enabled capital reallocation and neutral dispute settlement in the renewable energy sector or simply added to public debt by imposing deleterious limits on regulatory change.[20] Yet a clear conflict between climate mitigation and investment protection arises when the fossil fuel industry relies on the same treaty standards to seek compensation for measures that reduce the value of their assets. There are sound reasons to doubt whether the Dutch measure to phase out coal-fired power plants, for example, would qualify as an unlawful expropriation or breach the FET standard.[21] But it is plausible that other States may adopt similar measures without meeting the level of procedural propriety that is demanded by some tribunals. Whether the threat of an investment award presents a serious financial impediment to a State's mitigation measures is bound to turn on how a tribunal would translate the common standards of compensation into an appropriate method of valuation.

[13] D Azaria, 'The Renewable Energy Arbitrations under the Energy Charter Treaty' in H Ruiz Fabri and E Stoppioni (eds), *International Investment Law: An Analysis of the Major Decisions* (Hart 2022) 153.

[14] Energy Charter Treaty (with Annexes) (adopted 17 December 1994, entered into force 16 April 1998) 2080 UNTS 95 (ECT) arts 10(1), 13.

[15] M Paparinskis, 'Investment Treaty Arbitration and the (New) Law of State Responsibility' (2013) 24 European Journal of International Law 617.

[16] ECT (n 14) art 13(1).

[17] 'Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries' (2001) II(2) Yearbook of the International Law Commission 31 (ARSIWA) 95 (art 34), 98 (art 36).

[18] *Factory at Chorzów (Germany v Poland)* (Merits) PCIJ Series A No 17 (*Chorzów*), 47. For reaffirmation, see *Armed Activities on the Territory of the Congo (Democratic Republic of the Congo v Uganda)*, Judgment (Reparations) (9 February 2022) <www.icj-cij.org/public/files/case-related/116/116-20220209-JUD-01-00-EN.pdf> 106.

[19] ARSIWA (n 17) 103 (art 36, comment 26).

[20] F Baetens, 'Combating Climate Change through the Promotion of Green Investment: From Kyoto to Paris without Regime-Specific Dispute Settlement' in K Miles (ed), *Research Handbook on Environment and Investment Law* (Edward Elgar 2019) 107; K Tienhaara and C Downie, 'Risky Business: The Energy Charter Treaty, Renewable Energy and Investor-State Disputes' (2018) 24 Global Governance 451.

[21] A State's right to regulate for environmental protection is reflected in the customary doctrine of police powers, which excludes such measures from the scope of expropriation, and informs the margin of appreciation accorded to regulatory change in application of the FET standard: JE Viñuales, 'Defence Arguments in Investment Arbitration' (2020) 18 ICSID Reports 9, paras 83–98. In light of climate science and modelled pathways to decarbonization, energy firms should legitimately expect a State to fulfil its customary duty of due diligence by adopting appropriate regulatory measures to prevent environmental harm: O Hailes, 'The Customary Duty to Prevent Unabated Fossil Fuel Production: A Tipping Point for Energy Investment Arbitration?' (2022) Transnational Dispute Management (forthcoming).

2.3 | Competing methods of valuation

More precise insights into the possible valuation of stranded fossil fuel assets may be gleaned from two recent decisions wherein each tribunal assumed that future income would have flowed from an expropriated energy or mining investment, even though the project never became operational. These cases are instructive as private capital continues to pour into multi-decade fossil fuel projects that may be terminated before completion or prematurely retired by climate mitigation measures.

The *Rockhopper* tribunal reaffirmed that the standard of full reparation required the respondent to compensate for the investment's FMV at the time of its unlawful expropriation.[22] The tribunal heard arguments on three methods of valuation: a DCF method, being the 'dominant methodology' in the oil and gas sector; a market-based method, applying an index value from comparable transactions; and a sunk-costs method, based on expenses actually incurred by the claimants after their initial acquisition.[23] The claimants submitted that the DCF method was appropriate because their investment satisfied an ostensible test for determining whether cash flows may be expected from an exploratory project that had not begun to operate.[24] Although the DCF method generated a valuation range of €68.3 million to €1.59 billion, depending on inputs and discount rates, the claimants primarily advanced a claim of €275 million.[25] Yet the respondent cited several cases wherein DCF was considered inappropriate because of a lack of revenue generation.[26] Recalling the speculative character of this method—evidenced by the 2200% spread in valuations—the respondent argued that the claimants' expert had overestimated the extent of hydrocarbon reserves and adopted an unduly optimistic forecast of commodity prices.[27] The respondent's expert conducted his own DCF calculations, which resulted in largely negative valuations.[28] In any event, the respondent submitted that the market-based method was appropriate: by adjusting the acquisition price according to data from 'mainly junior oil companies and exploration-focused firms'—which had lost 87% of their value over the relevant period—the expert proposed a value of €13 million.[29] In the alternative, the sunk-costs method resulted in a mere €2 million, being the method adopted in cases where any future income would have required a permit or licence to have been granted.[30] But the tribunal found that neither the market-based nor the sunk-costs method was appropriate, given the advanced stage of exploration and the claimants' entitlement to a production concession at the time of the ban on offshore drilling.[31] Although the tribunal was satisfied that a DCF method could be used to value an expropriated asset that had never generated any cash flows, it decided not to rely on either of the experts' valuations.[32] The tribunal derived a 'more reliable and persuasive valuation' from another DCF method that had been adopted by the claimants prior to their acquisition of the investment, which had been more conservative in light of their responsibility towards shareholders: €184 million.[33] The State-appointed arbitrator, Dupuy, supported this award because of its 'modest' value compared with the 'inequitable' proposal of the claimants, while recognizing 'doubts about the appropriateness of using the DCF method'.[34]

A less circumspect approach was followed in *Tethyan Copper v Pakistan*. Rather than the 'traditional' method of treating risk as an annual compounding rate—which is then used to discount the precalculated value of future income—the tribunal applied a 'modern' DCF method that incorporated several sector- and project-specific risks into each stage of the income calculation.[35] Noting that this method had never been adopted in investor–State arbitration, the tribunal reasoned that 'the appropriate valuation method can only be selected in the circumstances of each individual case'.[36] The tribunal thus valued the expropriated mining lease at over US$4 billion, some 17 times greater than the claimant's sunk costs of US$240 million.[37] Because the tribunal agreed with the claimant that pre- and post-award interest should be compounded annually,[38] the total award ran close to US $6 billion—an amount also approved by the International Monetary Fund to assist Pakistan in reducing its public debt.[39] At the enforcement stage, Pakistan's expert suggested that this 'arbitrary and capricious award would bring forth a justified global outcry regarding its injustice'.[40] In rejecting Pakistan's submission not to award compound interest, however, the tribunal had considered it inappropriate 'to mix considerations of unjust enrichment with the determination of damages based on compensatory principles'.[41]

If the notion of unjust enrichment is understood as a gain-based method of valuation, then the tribunal in *Tethyan Copper* was correct to find that a claimant's loss cannot be compensated by reference to whether a respondent has profited from the internationally wrongful act.[42] As a general principle of law, however, unjust enrichment has

[22] *Rockhopper* (n 4) paras 204–210.
[23] ibid paras 212–268.
[24] ibid para 223 ('First, would the exploration have found any oil and gas reserves? Second, could the claimant have financed the exploration needed to find said reserves? Third, could the claimant finance and implement the exploitation of any found hydrocarbon reserves? Finally, would it have been possible to sell any hydrocarbons produced?'). See *Al-Bahloul v Republic of Tajikistan*, SCC Case No V054/2008, Final Award (8 June 2010) paras 69–78.
[25] *Rockhopper* (n 4) para 278.
[26] ibid para 236.
[27] ibid paras 237–239.
[28] ibid paras 240–241.
[29] ibid paras 245–249.
[30] ibid paras 260–262.
[31] ibid paras 279–280.
[32] ibid para 283.
[33] ibid paras 284–288.
[34] *Rockhopper Exploration Plc and others v Italian Republic*, ICSID Case No ARB/17/14, Individual Opinion of Professor Pierre-Marie Dupuy (19 August 2022) para 6.
[35] *Tethyan Copper Company Pty Limited v Islamic Republic of Pakistan*, ICSID Case No ARB/12/1, Award (12 July 2019) (*Tethyan Copper*) paras 336–365.
[36] ibid para 360.
[37] ibid paras 1741–1742.
[38] ibid para 1809. Simple interest is calculated at each interval on the principal amount of compensation, whereas compound interest is added at each interval to the principal amount and thus included in subsequent calculations: E Lauterpacht and P Nevill, 'Interest' in J Crawford, A Pellet and S Olleson (eds), *The Law of International Responsibility* (Oxford University Press 2010) 613, 617–618.
[39] D Schneiderman, 'International Investment Law and Discipline for the Indebted' (2022) 33 European Journal of International Law 65, 66.
[40] 'Expert Report by: Professor Jeffrey D. Sachs, Director of the Centre for Sustainable Development at Columbia University' (7 November 2019) para 44.
[41] *Tethyan Copper* (n 35) para 1808.
[42] *Southern Pacific Properties (Middle East) Limited v Arab Republic of Egypt*, ICSID Case No ARB/84/3, Award (20 May 1992) (*SPP v Egypt*) para 247; *Enron Creditors Recovery Corporation (formerly Enron Corporation) and Ponderosa Assets, L.P. v Argentine Republic*, ICSID Case No ARB/01/3, Award (22 May 2007) para 382.

long been 'used to supplement the existing rules on State responsibility … as a means of determining the measure of compensation'.[43] Commentators have recently reaffirmed the relevance of unjust enrichment in investor–State arbitration.[44] Others have approached the distributional conflicts of climate change through the prism of unjust enrichment, whether as a cause of action or a moral argument for reparations to peoples in the Global South.[45] Yet there does not appear to be any appreciation of the prohibition against unjust enrichment as a general principle of law that may be relevant specifically in the valuation of compensation arising from the regulatory stranding of fossil fuel assets. A preliminary step is to review the formal status of unjust enrichment as a general principle of law and its application to matters of compensation.

3 | UNJUST ENRICHMENT AS A GENERAL PRINCIPLE OF LAW

Alongside custom and treaty, general principles of law are one of three formal sources of international law, the content of which may be determined by judicial or arbitral decisions and scholarly doctrine.[46] Although the ILC is still codifying techniques of identifying a general principle, there is broad agreement that two steps are typically required: the existence of a principle common to the various legal systems of the world and its transposition to the international legal system.[47] Unjust(ified) enrichment or *enrichissement sans cause* is a frequent object of comparative private law, often dealing with gain-based or restitutionary damages.[48] For an international lawyer, however, the true challenge is distilling a general principle that is compatible with the international legal system.[49] Rather than surveying afresh the legal systems of the world, I take for granted that unjust enrichment is a common principle that was long ago transposed to international law.[50] I focus instead on prior decisions and doctrine that have endeavoured to determine the principle's content in the context of compensation. First, I recall how the prohibition against unjust enrichment served as a traditional limit on the obligation to make full reparation through compensation. Second, I argue that this general principle of law remains relevant in the modern law of State responsibility, illustrated by reference to investment disputes. Finally, I introduce the notion of a distributive scheme—borrowed from a comparative study of unjust enrichment—to draw attention towards wealth transfers that may be unjustified from the systemic vantage of international law.

3.1 | A traditional limit on compensation

I do not argue, as others have, that the prohibition against unjust enrichment may ground a claim or counterclaim.[51] But the leading authorities for that proposition offer a working definition of the principle's content: a certain event must have enriched one party to the detriment of another without any legal justification.[52] It might be objected that an internationally wrongful act provides ample justification for any wealth transfer effected by an award of compensation. In *Bilcon v Canada*, however, the tribunal refused to apply a DCF method because the mining project's operation was cast in doubt by its failure to receive environmental approval and the possibility of further regulation, even though the underlying breach was the respondent's failure to conduct an environmental impact assessment with the minimum standard of procedural propriety.[53] This case illustrates how the existence of an internationally wrongful act giving rise to the entitlement to reparation is an analytically distinct inquiry from the interpretation of a standard of compensation, let alone its application through an appropriate method of valuation. As a general principle of law, moreover, the prohibition against unjust enrichment may 'contribute to the coherence of the international legal system' by serving 'to interpret and complement other rules of international law' or 'as a basis for secondary and procedural rules'.[54]

In their valuation of compensation, international tribunals have long acknowledged that a respondent's obligation to make full reparation must not lead to a claimant's enrichment. A sole arbitrator in the *Fabiani* case recalled that compensation may not be a source of profit for a claimant.[55] The tribunal in the *Delagoa Bay Railway Arbitration*, moreover, held that a company could be justly compensated for lost profits from its terminated concession but not enriched by recovering

[43] W Mapp, *The Iran-United States Claims Tribunal: The First Ten Years 1981–1991* (Manchester University Press 1993) 212.

[44] A Vohryzek, 'Unjust Enrichment Unjustly Ignored: Opportunities and Pitfalls in Bringing Unjust Enrichment Claims under ICSID' (2009) 31 Loyola of Los Angeles International and Comparative Law Review 501; C Binder, 'Unjust Enrichment as a General Principle of Law in Investment Arbitration' in A Gattini, A Tanzi and F Fontanelli (eds), *General Principles of Law and International Investment Arbitration* (Brill 2018) 269.

[45] A Weinbaum, 'Unjust Enrichment: An Alternative to Tort Law and Human Rights in the Climate Change Context?' (2011) 20 Pacific Rim Law and Policy Journal 429; D Heyd, 'Climate Ethics, Affirmative Action, and Unjust Enrichment' in LH Meyer and P Sanklecha (eds), *Climate Justice and Historical Emissions* (Cambridge University Press 2017) 22; S Mason-Case and J Dehm, 'Redressing Historical Responsibility for the Unjust Precarities of Climate Change in the Present' in B Mayer and A Zahar (ed), *Debating Climate Law* (Cambridge University Press 2021) 170.

[46] Statute of the International Court of Justice (adopted 26 June 1945, entered into force 24 October 1945) 33 UNTS No 993 art 38(1).

[47] ILC 'General Principles of Law: Consolidated Text of Draft Conclusions 1 to 11 Provisionally Adopted by the Drafting Committee' (21 July 2022) UN Doc A/CN.4/L.971 (21 July 2022) (General Principles of Law) draft conclusion 4.

[48] In contrast to municipal law, restitution is understood as a non-pecuniary form of reparation in international law: M Bradfield and D Attanasio, 'Non-Pecuniary Remedies Revisited: Expanding Influence of the ILC Articles?' (2022) 37 ICSID Review 313.

[49] General Principles of Law (n 47) draft conclusion 6.

[50] See a summary of 46 legal systems—'on all continents, of Capitalist and Communist countries, of legal orders with roots in Roman law, Common Law as well as Islamic states'—which contain the principle of unjust enrichment: DC Dicke, 'Unjust Enrichment and Compensation' in DC Dicke (ed), *Foreign Investment in the Present and a New International Economic Order* (Fribourg University Press 1987) 268, 269–273.

[51] B Juratowitch and J Shaerf, 'Unjust Enrichment as a Primary Rule of International Law' in M Andenas et al (eds), *General Principles and the Coherence of International Law* (Brill 2019) 227; ILC 'Third Report on General Principles of Law by Marcelo Vázquez-Bermúdez, Special Rapporteur' UN Doc A/CN.4/753 (18 April 2022) paras 113, 117–118.

[52] *Sea-Land Service, Inc. v Government of the Islamic Republic of Iran and Ports and Shipping Organization of Iran*, IUSCT Case No 33, Award No 135-55-1 (20 June 1984) para 62; *Saluka Investments BV v Czech Republic*, UNCITRAL, Partial Award (17 March 2006) para 449.

[53] *Bilcon of Delaware, Inc. and others v Government of Canada*, PCA Case No 2009-04, Award on Damages (10 January 2019) paras 276–279.

[54] General Principles of Law (n 47) draft conclusion 10.

[55] 'France and Venezuela: Award of the President of the Swiss Confederation in the Case of Fabiani' in JB Moore, *History and Digest of the International Arbitrations to Which the United States Has Been a Party*, vol 5 (Government Printing Office 1898) 4878, 4908–4909.

profits that would have flowed to third-party financiers.[56] A subtler distinction was drawn in *Chorzów*: the valuation of compensation should include 'the amount of debts and other obligations for which the injured party is responsible' but exclude any 'injury resulting for third parties from the unlawful act'.[57] The principle was further applied in several decisions of the Mexico–United States (US) General Claims Commission, finding that a claimant's unjust enrichment must be avoided by adopting an appropriate exchange rate in the valuation of compensation for debts that arose during a past period of currency depreciation.[58] This line of authority implies two complementary principles of compensation: the obligation to make full reparation, qualified by the prohibition against unjust enrichment.[59] Although unjust enrichment is 'redundant' as an independent rationale for compensation, explained Schwarzenberger, the principle may be 'occasionally used to the circumscribe the scope of reparation' and 'serves to clarify the notion of reparation in international law'.[60]

3.2 | Relevance in the law of State responsibility

The prohibition against unjust enrichment was accordingly addressed in the ILC's early efforts to codify the law of State responsibility. In the 1961 draft, Article 26 provided that reparation should 'wipe out the consequences' of an internationally wrong act—echoing the dictum in *Chorzów*—but added that 'pecuniary damages shall not result in the undue enrichment of the injured alien'.[61] This provision was intended not to diverge from the obligation to make full reparation, according to the first Special Rapporteur, but rather to clarify a 'limiting factor' that 'reparation should not result in the unjust enrichment of the claimant'.[62] Yet the law of State responsibility was eventually codified in 2001 without express reference to unjust enrichment.[63] At least three factors might explain this omission, none of which extinguishes the relevance of unjust enrichment as a general principle of law. Each is considered in turn, with examples from investment disputes.

The first factor turns on a modern distinction between primary rules, which 'define the content' of international obligations, and secondary rules setting out 'general conditions under international law for the State to be considered responsible for wrongful actions or omissions, and the legal consequences which flow therefrom'.[64] The second Special Rapporteur focused the ILC's codification project on secondary rules, leaving behind the earlier work on primary rules of State responsibility for injuries to aliens and their property (now reflected in investment treaties).[65] By that time, compensation arguments based on unjust enrichment were strongly associated with a debate over the customary standard of compensation contained in the primary rule on lawful expropriation.[66] The principle of unjust enrichment was invoked by some publicists to justify a newly independent State's respect for the acquired rights of aliens, including their prompt, adequate and effective compensation at FMV in the event their assets were nationalized.[67] Conversely, others argued that the principle supported sub-market compensation, particularly if an expropriated investor's historical profits had been secured unjustly through colonial concessions.[68] Such heated debates accounted for the frosty reception of the first Special Rapporteur's effort to codify State responsibility through the prism of investment protection, which many viewed as 'the law of economic domination by capital-exporting countries'.[69] Yet the reference in Article 26 of the 1961 draft to an alien's 'undue enrichment' as a limit on the State's obligation to make full reparation goes with the grain of general international law as it developed amid formal decolonization, foremost the customary principle of permanent sovereignty over natural resources as a counterweight to excessive compensation of foreign investors.[70] In its subsequent focus on secondary rules, the ILC seems to have

[56] 'États-Unis, Grande-Bretagne, Portugal: Sentence finale du Tribunal arbitral du Delagoa, délibérée a Berne le 29 mars 1900' in F Stoerk (ed) *Nouveau Recueil général des traités et autres actes relatifs aux rapports de droit international*, 2nd series, vol XXX (Librairie Dieterich 1904) 329, 413.

[57] *Chorzów* (n 18) 31.

[58] *George W Cook (USA) v United Mexican States* (3 June 1927) 4 RIAA 213, 217; *Francis J Acosta (USA) v United Mexican States* (18 October 1928) in *Opinions of Commissioners under the Convention Concluded September 8, 1923 Between the United States and Mexico: September 26, 1928 to October 18, 1928* (Government Printing Office 1928) 121, 122; *Singer Sewing Machine Co (USA) v United Mexican States* (18 October 1928) in *Opinions of Commissioners under the Convention Concluded September 8, 1923 Between the United States and Mexico: September 26, 1928 to October 18, 1928* (Government Printing Office 1928) 123; *George W Cook (USA) v United Mexican States* (5 November 1930) 4 RIAA 661, 662–664. Cf *Dickson Car Wheel Company (USA) v United Mexican States* (July 1931) 4 RIAA 669, 676 (doubting whether unjust enrichment could be transposed from municipal to international law as a cause of action).

[59] These norms may be subsumed as the 'principle of integral reparation': B Cheng, *General Principles of Law as Applied by International Courts and Tribunals* (Stevens & Sons 1953) 236. See also *Norwegian Shipowners' Claims (Norway v USA)*, Award (13 October 1922) 1 RIAA 307, 343; *Affaire des biens britanniques au Maroc espagnol (Espagne c Royaume Uni)* (1924) 2 RIAA 615, 682.

[60] G Schwarzenberger, *International Law*, vol 1 (3rd edn, Stevens & Sons 1957) 577–579, 655–656.

[61] 'International Responsibility. Sixth Report by F. V. García Amador, Special Rapporteur: Responsibility of the State for Injuries Caused in its Territory to the Person or Property of Aliens—Reparation of the Injury' (1961) II Yearbook of the International Law Commission 1, 49.

[62] ibid 44–45. See also 'International Responsibility. Fourth Report by F. V. García Amador, Special Rapporteur: Responsibility of the State for Injuries Caused in its Territory to the Person or Property of Aliens—Measures Affecting Acquired Rights' (1959) II Yearbook of the International Law Commission 1, paras 13–14.

[63] Unjust enrichment was nevertheless mentioned as a possible basis for the payment of compensation in circumstances precluding wrongfulness, supporting my suggestion that this general principle of law may complement the secondary rules of State responsibility. See, e.g., 'State Responsibility: Comments and Observations Received from Governments' UN Doc A/CN.4/488 (25 March 1998) 90 (United Kingdom).

[64] ARSIWA (n 17) 31 (comment 1).

[65] FI Paddeu and CJ Tams, 'Encoding the Law of State Responsibility with Courage and Resolve: James Crawford and the 2001 Articles on State Responsibility' (2022) 11 Cambridge International Law Journal 6, 12–17.

[66] CM Fombad, 'The Principle of Unjust Enrichment in International Law' (1997) 30 Comparative and International Law Journal of Southern Africa 120, 121.

[67] Lord McNair, 'The Seizure of Property and Enterprises in Indonesia' (1959) 6 Netherlands International Law Review 218; DP O'Connell, *International Law*, vol II (Stevens & Sons 1970) 780–781. Cf M Bedjaoui, 'Problèmes récents de succession d'Etats dans les Etats nouveaux' (1970) 130 Recueil des Cours 537, 554–561.

[68] E Jimenez de Arechaga, 'The Duty to Compensate for the Nationalization of Foreign Property' (1963) II Yearbook of the International Law Commission 237, paras 41–58; W Friedmann, *The Changing Structure of International Law* (Columbia University Press 1964) 206–210; F Francioni, 'Compensation for Nationalisation of Foreign Property: The Borderland between Law and Equity' (1975) 24 International and Comparative Law Quarterly 255, 278–279; O Schachter, 'International Law in Theory and Practice: General Course in Public International Law' (1982) 178 Recueil des Cours 9, 298–299.

[69] J Crawford and T Grant, 'Responsibility of States for Injuries to Foreigners' in JP Grant and JC Barker (eds), *The Harvard Research in International Law: Contemporary Analysis and Appraisal* (William S Hein & Co 2007) 77, 89.

[70] Cf Paparinskis, 'A Case Against Crippling Compensation' (n 8) 1276–1277.

overlooked the traditional line of authority on the prohibition against unjust enrichment as a generally applicable limit on compensation, as opposed to a possible variable under the primary rule on lawful expropriation.[71]

The second factor is a perceived redundancy of the prohibition against unjust enrichment in light of other limits on reparation based on improper conduct.[72] A claimant's 'contribution to the injury by wilful or negligent action or omission', for instance, must be reflected in any award of compensation.[73] A claimant's duty to mitigate its loss and, more controversially, its unclean hands have also been considered in investor–State arbitration.[74] Yet the avoidance of double recovery for the same loss, recognized by the ILC as a limit on compensation and interest,[75] arguably expresses a general prohibition against unjust enrichment.[76] In *Yukos Capital v Russia*, moreover, both wings of the tribunal believed that different parts of the award occasioned an unjust enrichment, suggesting that this general principle could serve a systemic function that goes beyond narrowly bilateral factors.[77] The State-appointed arbitrator, Stern, hints at how the deliberate avoidance of unjust enrichment may help to make full reparation while guarding against 'accounting exercises of valuation foreign to the relevant international law principles'.[78] Herself an authority on reparation,[79] Stern's reasoning is redolent of the traditional case law: the claimant was not entitled to compensation for an unpaid loan made to its expropriated parent, which the claimant was contractually obliged to repay immediately to a third-party financier. Ironically, the majority in *Yukos Capital* purported to follow Stern's partial dissent on similar grounds in *Occidental v Ecuador*, which had been endorsed at the annulment stage.[80] *Occidental* underlines the utility of unjust enrichment as a general principle of law. In Stern's view, compensating the claimants for all contractual rights under a terminated agreement with Ecuador's national oil company was inconsistent with 'the general international principle against unjust enrichment' because the US claimants had previously assigned 40% of their stake to a Chinese company not covered by the bilateral investment treaty.[81] In the majority's application of a DCF method, the claimants were enriched by a misplaced assumption that they would have received 100% of future income, which in Stern's view should have been limited to 'the flow of benefits that the Claimants would have been reasonably expected to earn'.[82] The avoidance of such enrichment underpinned her findings that the majority had gone beyond the scope of its jurisdiction *ratione personae* and the respondent's obligation to make full reparation.[83] Rather than reducing quantum on the basis of a claimant's improper conduct, therefore, the prohibition against unjust enrichment may serve generally to check the excessive valuation of compensation by reference to systemic limits derived from relevant rules of international law.[84]

The third factor that might explain the omission of unjust enrichment in the ILC's codification of State responsibility is an ascendent view that market valuations by accounting experts offer 'sophisticated techniques for making projections of future income and applying discount factors to calculate present value', whereas adjustments to compensation on the basis of 'equitable considerations' would 'undermine legal determinacy'.[85] This view is evident in *Tethyan Copper*: The tribunal emphasized the industry practice for valuation in the mining sector in its novel application of a modern DCF method and further found that 'compound interest more adequately reflects economic reality'.[86] But, although industry experts surely assist in calculating the correct compensation, it is primarily a legal question whether an expert is 'setting out to measure the right thing'.[87] By contrast to equitable considerations, which are relevant in cases of non-material injury,[88] the prohibition against unjust enrichment may contribute to the coherence of the international legal system by informing a tribunal's determination of which valuation method is appropriate in the circumstances.[89] In *Amoco v Iran*, for instance, the Iran–US Claims Tribunal (IUSCT) acknowledged the risk of a claimant's enrichment through the speculative application of a DCF method, affirming that its 'first duty [was] to avoid any unjust enrichment or deprivation of either Party'.[90] Even the shift from simple to compound interest in international jurisprudence, ostensibly a mere reflection of 'modern financial activity',[91] was legally justified at key

[71] It is also instructive that key ILC members, including the final Special Rapporteur James Crawford and Alain Pellet, were part of a legal team that framed unjust enrichment as an independent primary rule: *Case Concerning Certain Property (Liechtenstein v Germany)* (Memorial of the Principality of Liechtenstein, 28 March 2002) paras 6.26–6.34. The International Court of Justice lacked jurisdiction and therefore never addressed Liechtenstein's claim of unjust enrichment: *Case Concerning Certain Property (Liechtenstein v Germany)* (Judgment) [2005] ICJ Rep 6.

[72] B Sabahi, *Compensation and Restitution in Investor-State Arbitration: Principles and Practice* (Oxford University Press 2011) Chapter 7.

[73] ARSIWA (n 17) 109 (art 39).

[74] Viñuales (n 21) paras 138–146.

[75] ARSIWA (n 17) 104–105 (art 38, comments 26, 33), 109 (art 38, comment 11).

[76] *Venezuela Holdings B.V. and others v Bolivarian Republic of Venezuela*, ICSID Case No ARB/07/27, Award (9 October 2014) para 378; ILC 'Second Report on Succession of States in Respect of State Responsibility by Pavel Šturma, Special Rapporteur' UN Doc A/CN.4/751 (1 April 2022) para 82.

[77] The investor-appointed arbitrator mentioned unjust enrichment to buttress his view that the majority should not have reduced quantum for the claimant's alleged contribution to its own loss: *Yukos Capital SARL v Russian Federation*, PCA Case No 2013-31, Dissenting Opinion of J William Rowley QC (23 July 2021) paras 9–12.

[78] *Yukos Capital SARL v Russian Federation*, PCA Case No 2013-31, Dissenting Opinion of Professor Brigitte Stern (23 July 2021) paras 71–78.

[79] B Bollecker-Stern, *Le préjudice dans la théorie de la responsabilité internationale* (Pedone 1973); B Stern, 'The Obligation to Make Reparation' in Crawford et al (n 38) 563.

[80] *Yukos Capital SARL v Russian Federation*, PCA Case No 2013-31, Final Award (23 July 2021) paras 722–726.

[81] *Occidental Petroleum Corporation and Occidental Exploration and Production Company v Republic of Ecuador*, ICSID Case No ARB/06/11, Dissenting Opinion (5 October 2012) (*Occidental* Dissent) paras 137, 160–165.

[82] ibid para 162.

[83] ibid paras 137, 144.

[84] An annulment committee agreed with Stern that the majority had manifestly exceeded its powers by 'compensating a protected investor for an investment which is beneficially owned by a non-protected investor' and accordingly reduced the award by 40%: *Occidental Petroleum Corporation and Occidental Exploration and Production Company v Republic of Ecuador*, ICSID Case No ARB/06/11, Decision on Annulment of the Award (2 November 2015) paras 259–270.

[85] J Barker, 'Compensation' in Crawford et al (n 38) 599, 608.

[86] *Tethyan Copper* (n 35) para 1808.

[87] *Pey Casado and Foundation "President Allende" v Republic of Chile*, ICSID Case No ARB/98/2, Award (13 September 2016) para 240.

[88] *Ahmadou Sadio Diallo (Republic of Guinea v Democratic Republic of the Congo)* (Compensation) [2012] ICJ Rep 324 para 24.

[89] Although unjust enrichment is described as a principle of equity in many legal systems, that has not affected its formal status as a general principle of law: C Titi, *The Function of Equity in International Law* (Oxford University Press 2021) 173–174.

[90] *Amoco International Finance Corporation v Government of the Islamic Republic of Iran and others*, IUSCT Case No 56, Partial Award No 310-56-3 (14 July 1987) (*Amoco*) para 225.

[91] Lauterpacht and Nevill (n 41) 618.

junctures through the avoidance of unjust enrichment.[92] Far from undermining determinacy, the prohibition against unjust enrichment may ensure that tribunals do not award compensation without legal justification through undue deference to valuation experts.

3.3 | Systemic integration of distributive schemes

Reflecting on debates over postcolonial nationalization, Schreuer worried that unjust enrichment was 'hopelessly open to manipulation' by both parties to an investment dispute in the absence of 'specific prescriptions determining its application'.[93] Yet he accepted that this general principle of law may 'bridge the gap' between developed and developing States once international practice had generated 'guidelines for the process of balancing input and benefit of the parties'.[94] Put differently, the prohibition against unjust enrichment has 'no justificatory or explanatory force' without reference to some 'distributive scheme' recognized by international law.[95] Dagan introduced this notion of a distributive scheme in his comparative study of several legal systems, including international law: The principle of unjust enrichment implies the forward-looking allocation of benefits and burdens according to the applicable law's 'socio-economic ethos' as to which wealth transfers are justified or otherwise.[96]

Although the obligation to make full reparation according to market measures might be assumed to reflect impartial considerations of corrective justice, the routine assessment of anticipated future benefits in the valuation of past injury underscores how any award of compensation is founded upon a legally ratified vision of how wealth should be accumulated and ultimately distributed. The secondary rules on compensation have indeed been criticized as solely reflecting the high value attached to alienable property in Western economies.[97] In *Occidental*, however, Stern rejected the majority's finding that 'Ecuador would be unjustly enriched if only obliged to compensate for 60% of a 100% unlawful taking', suggesting that the majority itself had effectively 'expropriated' a beneficial owner that should have been protected under another treaty.[98] The majority's assumption that an unjust enrichment would be occasioned if the respondent failed to compensate for all injuries caused by its unlawful expropriation, in other words, begged the question of what was required by the obligation to make full reparation in the circumstances. For Stern, the prohibition against unjust enrichment ensured that the award of compensation was consistent with the allocation of benefits and burdens envisaged by all relevant rules of international law, including the priority of beneficial over nominal ownership and the limited jurisdiction of investment tribunals.

It might be objected that the latter norms could have sufficed to limit the majority's award without recourse to the prohibition against unjust enrichment. But it is precisely the function of general principles of law to contribute to the coherence of the international legal system by serving to interpret and complement other rules of international law. As others have suggested, unjust enrichment could be understood as an 'interstitial norm' or a 'principle of legal reasoning' that helps a party or adjudicator to foreground some distributive scheme that is recognized by the international legal system as relevant to a given dispute but might otherwise be overlooked.[99] A better frame, however, is the principle of systemic integration, most familiar as a codified rule of treaty interpretation.[100] This principle, in McLachlan's exposition, presumes that parties to a treaty intend not to act inconsistently with rules of customary international law, general principles of law or obligations towards third parties and that such sources are relevant in the interpretative process.[101] Aside from treaty interpretation, tribunals have tacitly interpreted primary and secondary rules of customary international law according to the principle of systemic integration.[102] In this light, any tribunal interpreting an obligation to compensate for breach of an investment treaty—whether derived from the treaty itself or the general law of State responsibility—must take into account any relevant rules of international law applicable in relations between the home and host States of a claimant.[103] The prohibition against unjust enrichment may thus be understood as a general principle of law that calls for systemic integration to ensure that key terms, such as FMV or financially assessable damage, are not misinterpreted as warranting a valuation method that would undermine a distributive scheme that has been established by relevant rules of international law.

4 | INTEGRATING THE PARIS AGREEMENT IN INVESTOR–STATE ARBITRATION

The principle of systemic integration does not permit a tribunal to apply other rules of international law, let alone values, that conflict with the terms being interpreted.[104] But multilateral agreements on

[92] *RJ Reynolds Tobacco Company v Government of the Islamic Republic of Iran and Iranian Tobacco Company*, IUSCT Case No 35, Award No 166-35-3 (1 March 1985) para 22; *Compañía del Desarrollo de Santa Elena, S.A. v Republic of Costa Rica*, ICSID Case No ARB/96/1, Final Award (17 February 2000) (*Santa Elena*) para 101; *Murphy Exploration & Production Company – International v Republic of Ecuador*, PCA Case No 2012-16, Partial Final Award (6 May 2016) para 519.

[93] CH Schreuer, 'Unjustified Enrichment in International Law' (1974) 22 American Journal of Comparative Law 281, 284.

[94] ibid 286–287. See also W Friedmann, 'The Uses of "General Principles" in the Development of International Law' (1963) 57 American Journal of International Law 279, 298–299.

[95] H Dagan, *Unjust Enrichment: A Study of Private Law and Public Values* (Cambridge University Press 1997) 155–156.

[96] ibid 22–49.

[97] BS Chimni, 'The Articles on State Responsibility and the Guiding Principles of Shared Responsibility: A TWAIL Perspective' (2021) 31 European Journal of International Law 1211, 1213–1214.

[98] *Occidental* Dissent (n 81) paras 129–131.

[99] V Lowe, 'The Politics of Law-Making: Are the Method and Character of Norm Creation Changing?' in M Byers (ed), *The Role of Law in International Politics: Essays in International Relations and International Law* (Oxford University Press 2001) 207, 218; Schachter (n 68) 82.

[100] Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331 art 31(3)(c).

[101] C McLachlan, 'The Principle of Systemic Integration and Article 31(3)(c) of the Vienna Convention' (2005) 54 International and Comparative Law Quarterly 279, 310–313.

[102] P Merkouris, *Article 31(3)(c) VCLT and the Principle of Systemic Integration: Normative Shadows in Plato's Cave* (Brill 2015) 269–298.

[103] C McLachlan, 'Investment Treaties and General International Law' (2008) 57 International and Comparative Law Quarterly 361, 369–374.

[104] R Yotova, 'Systemic Integration: An Instrument for Reasserting the State's Control in Investment Arbitration?' in A Kulick (ed), *Reassertion of Control over the Investment Treaty Regime* (Cambridge University Press 2016) 182, 185.

environmental protection and public health have been used to interpret the customary doctrine of police powers, for instance, which is then integrated in investment treaty interpretation.[105] Here I suggest that the Paris Agreement's distributive scheme may be similarly integrated in a tribunal's interpretation of compensation obligations in accordance with the prohibition against unjust enrichment and thus inform its determination of an appropriate valuation method for investment treaty breaches arising from regulatory stranding of fossil fuel assets. First, I show how a distributive scheme may be derived from the overarching goals, guiding principles and specific obligations of the Paris Agreement, including the goal of making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. Then I examine how that distributive scheme may be relevant to investment tribunals in their interpretation of compensation obligations. In certain cases, valuation methods that assume the legitimacy of future income from stranded fossil fuel assets could enrich a claimant at the expense of the host State without justification from the systemic vantage of international law, which assumes normative priority over the active world market for fossil fuels. I end by considering some practical implications for future disputes and reform initiatives.

4.1 | The Paris Agreement's distributive scheme

Distributive justice has long driven the design of the climate change regime. One may accordingly derive salient criteria by which benefits and burdens are allocated among key actors—a distributive scheme, in Dagan's sense—from the multilateral arrangements endorsed by nearly 200 signatories.[106] The Paris Agreement acknowledges the claims of different communities through preambular references to 'climate justice' and 'a just transition of the workforce'.[107] But a better entry point to make sense of the distributive scheme is Article 2(1), which sets out the Paris Agreement's three overarching goals on mitigation, adaptation and finance. The first is well known—holding global warming to 'well below 2°C' and 'pursuing efforts to limit the temperature increase to 1.5°C'—and the second seeks to increase 'the ability to adapt to the adverse impacts of climate change'.[108] The finance goal in Article 2(1)(c) underpins the former goals by ensuring that international wealth transfers are aligned with both mitigation and adaptation: making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. Article 2(2) sets out guiding principles for the implementation of these goals: 'to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances'.[109]

These overarching goals and guiding principles operate through specific obligations covering issues such as climate finance, technology transfer and capacity-building (Articles 9, 10 and 11), which reflect a broad division of the parties into developed and developing countries.[110] Such provisions recognize that 'enhanced support for developing country Parties will allow for higher ambition in their actions'.[111] Developed countries 'shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation' and, in softer language, 'should continue to take the lead in mobilizing climate finance from a wide variety of sources, instruments, and channels'.[112] The scaling up of financial resources, moreover, should take into account 'the priorities and needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints', such as 'least developed countries and small island developing States'.[113] In similar terms, the provisions on technology transfer and capacity-building seek to support the implementation of mitigation and adaptation actions in view of differing capacities and climate vulnerabilities.[114]

This overview suffices to identify some key actors in the Paris Agreement's distributive scheme—developed versus differentiated subsets of developing countries—and the main criterion according to which wealth transfers are justified, namely to support mitigation and adaptation by building the capacity of developing countries. Alongside the specific obligations of developed countries to provide financial resources, however, the overarching finance goal is directed at all parties 'involved in the generation, management, transfer and application of finance flows', which may include domestic regulation aimed at 'fixing market imperfections, setting directions and creating enabling environments'.[115] The Paris Agreement's distributive scheme thereby sets parameters for a global financial system in which all public and private actors are expected to pursue 'low-carbon options and resilience to climate change in the design and implementation of their investments'.[116] The 2021 Glasgow Climate Pact reaffirmed this distributive scheme, urging 'developed country Parties to provide enhanced support, including through financial resources, technology transfer and capacity-building, to assist developing country Parties with respect to both mitigation and adaptation' and calling upon 'multilateral development banks, other financial institutions and the private sector to enhance finance mobilization in order to deliver the scale of resources needed to achieve climate plans'.[117] These

[105] *Philip Morris Brand Sàrl and others v Oriental Republic of Uruguay*, ICSID Case No ARB/10/7, Award (8 July 2016) paras 287–307. See further CE Foster, 'Respecting Regulatory Measures: Arbitral Method and Reasoning in the *Philip Morris v Uruguay* Tobacco Plain Packaging Case' (2017) 26 Review of European, Comparative and International Environmental Law 287.

[106] For similar analysis of the Kyoto Protocol, see JE Viñuales, 'Balancing Effective and Fairness in the Redesign of the Climate Change Regime' (2011) 24 Leiden Journal of International Law 223.

[107] Paris Agreement (n 12) preamble.

[108] ibid art 2(1)(a)–(b).

[109] ibid art 2(2).

[110] L Rajamani and E Guérin, 'Central Concepts in the Paris Agreement and How They Evolved' in D Klein et al (eds), *The Paris Agreement on Climate Change: Analysis and Commentary* (Oxford University Press 2017) 74, 84–88.

[111] Paris Agreement (n 12) art 4(5).

[112] ibid arts 9(1) and 9(3).

[113] ibid art 9(4).

[114] ibid arts 10–11.

[115] LH Zamarioli et al, 'The Climate Consistency Goal and the Transformation of Global Finance' (2021) 11 Nature Climate Change 578, 581.

[116] J Gastelumendi and I Gnittke, 'Climate Finance (Article 9)' in Klein et al (n 110) 237, 255.

[117] UNFCCC 'Decision 1/CMA.3, Glasgow Climate Pact' UN Doc FCCC/PA/CMA/2021/10/Add.1 (8 March 2022) paras 40, 19.

provisions underline how the Paris Agreement's distributive scheme is not directed solely at climate finance between developed and developing States but seeks to drive mitigation and adaptation by harnessing all manner of public and private wealth transfers, including those facilitated by international organizations and, one may hope, international climate litigation.

The Glasgow Climate Pact notably called upon the parties to adopt policies 'to transition towards low-emission energy systems', including by 'accelerating efforts towards the phasedown of unabated coal power and phase-out of inefficient fossil fuel subsidies'.[118] Yet the adoption of such policies has already generated a wave of claims in investor–State arbitration, which could result in awards of compensation that run contrary to the distributive scheme of the Paris Agreement. Given the 'inconsistent jurisprudence' and 'extensive discretion' of investment tribunals regarding valuation methods, Tienhaara and colleagues suggest that the scale and pace of energy transition policies may be chilled if foreign investors are awarded compensation that reflects future income from stranded fossil fuel assets.[119] They have accordingly estimated the extent of investment treaty coverage for specific fossil fuels at various stages of their value chains. Roughly 200 coal plants are protected by at least one investment treaty, with Indonesia being the most exposed host State.[120] For upstream oil and gas, the net present value of exploration and extraction projects covered by investment treaties ranges from US $92 to 340 billion, depending on future prices, with Mozambique facing the greatest potential losses.[121] Whereas the assets covered by investment treaties are concentrated in developing countries, the ultimate owners of oil and gas assets exposed to regulatory stranding are overwhelmingly concentrated in developed countries.[122] In the case of *Rockhopper*, moreover, the British claimants advised shareholders that their award of compensation would be used to finance offshore oil projects in the Falkland Islands.[123] Put simply, if States take seriously the Paris Agreement's mitigation goal by phasing out the use of fossil fuels in energy production, then investor–State arbitration could allow claimants to recoup the lost value of their stranded assets, likely leading to upward redistribution of wealth from developing to developed countries and further expansion of fossil fuel production.

4.2 | A principled limit on future income

The developmental asymmetry in potential home and host States is unsurprising from a historical perspective, given that the network of investment treaties was advanced by capital-exporting States to protect foreign investment in the extraction of natural resources located in the territories of newly independent States.[124] During that period, one camp of international lawyers argued that the prohibition against unjust enrichment weighed against payment of compensation at FMV in the event of nationalization, accounting for wealth transfers secured by colonization.[125] In *Amoco*, however, while observing that unjust enrichment of either party was to be avoided, the IUSCT found that 'the theory of unjust enrichment' did not preclude the valuation of a petrochemical joint venture according to a DCF method since 'the nationalizing State normally intends to maintain such an undertaking as a going concern and to benefit from its profitability'.[126] A going concern has been defined by the World Bank as an enterprise 'consisting of income-producing assets' that 'could have been expected with reasonable certainty … to continue producing legitimate income over the course of its economic life in the general circumstances' of a host State.[127] Tribunals have rightly recognized that the absence of sufficient data to calculate future income would render the application of DCF methods too speculative.[128] But there has been less attention to another situation wherein compensation according to DCF is inappropriate, namely when the claimed future income 'cannot legitimately accrue under the laws and regulations of the host country'.[129] Although a DCF method may be appropriate when a going concern is nationalized to generate public revenue, a State's implementation of the Paris Agreement may conversely prohibit the future production of energy from fossil fuels in its territory and thereby eliminate the possibility of deriving legitimate income from such assets.

Here the most salient authority is *SPP v Egypt*, concerning a tourism development near the Giza pyramids that was expropriated in the respondent's performance of its international obligations to protect cultural heritage. The tribunal held that valuation based on DCF was inappropriate for determining compensation when that method assumed future profits from land sales through to 1995 in 'areas registered with the World Heritage Committee under the UNESCO Convention', which 'would have been illegal under both international law and Egyptian law after 1979'.[130] As the president of that tribunal had earlier observed—invoking the prohibition against unjust enrichment—'the total suppression, for reasons of general policy, of a detrimental or inconvenient industrial or commercial activity, are not subject to compensation'.[131] This result can be achieved by excluding legitimate regulatory measures from the scope of investment treaty standards.[132] But the award in *SPP v Egypt* suggests that tribunals should also 'appreciate the consequences of measures genuinely taken in

[118] ibid para 36.

[119] K Tienhaara and L Cotula, 'Raising the Cost of Climate Action? Investor-State Dispute Settlement and Compensation for Stranded Fossil Fuel Assets' (International Institute for Environment and Development 2020) 19.

[120] ibid 23–30.

[121] K Tienhaara et al, 'Investor-State Disputes Threaten the Global Green Energy Transition' (2022) 376 Science 701.

[122] G Semieniuk et al, 'Stranded Fossil-Fuel Assets Translate to Major Losses for Investors in Advanced Economies' (2022) 12 Nature Climate Change 532.

[123] A Neslen, 'Oil Firm Rockhopper Wins £210m Payout After Being Banned From Drilling' (The Guardian, 24 August 2022).

[124] K Miles, *The Origins of International Investment Law: Empire, Environment and the Safeguarding of Capital* (Cambridge University Press 2013) Chapter 2.

[125] See Section 3.2.

[126] *Amoco* (n 90) para 259.

[127] World Bank (n 7) 42.

[128] See eg *Rusoro Mining Ltd. v Bolivarian Republic of Venezuela*, ICSID Case No ARB(AF)/12/5, Award (22 August 2016) paras 758–760. See also Section 2.3.

[129] World Bank (n 7) 26–27.

[130] *SPP v Egypt* (n 42) para 190.

[131] E Jiménez de Aréchaga, 'International Law in the Past Third of a Century' (1978) 159 Recueil des Cours 1, 300.

[132] See n 21.

furtherance of an international obligation … in the assessment of compensation'.[133] Later cases elided this important point. In *Santa Elena v Costa Rica*, the tribunal held that 'where property is expropriated, even for environmental purposes, whether domestic or international, the state's obligation to pay compensation remains'.[134] That much is uncontroversial. Yet even 'the international source of the obligation to protect the environment', in the tribunal's view, did not 'affect either the nature or the measure of the compensation to be paid for the taking'.[135] This dictum is difficult to reconcile with both the prohibition against unjust enrichment and the principle of systemic integration, which underscore the relevance of the Paris Agreement's distributive scheme in interpreting obligations to compensate for breach of an investment treaty occasioned by a State's climate mitigation measures.

Of course, general principles of law and techniques of interpretation cannot be applied in isolation from a specific treaty or factual scenario. Although I have referred broadly to fossil fuels, energy policies tend to distinguish coal and oil—being the more carbon-intensive resources—from natural gas, sometimes called a transition fuel but which must be phased down significantly under all modelled decarbonization scenarios.[136] Yet the paradigmatic cases of distributive tension between climate mitigation and investment protection include the regulatory stranding of foreign investment in electricity production from fossil fuels or the infrastructure for their exploration, extraction and transit, typically by phasing out those activities on a given date. As a multilateral agreement that has been ratified by almost every State, the Paris Agreement is highly likely to be applicable in relations between any home or host State in the event of an investment treaty claim. Even if market data indicate that the claimant's enterprise would have been a going concern beyond the phase-out date, the host State's implementation of the Paris Agreement should be considered in any tribunal's interpretation of the obligation to make full reparation of financially assessable damage or otherwise to pay compensation under a treaty provision. It might be objected that the Paris Agreement does not impose any express obligation with respect to fossil fuels, leaving the regulatory object of mitigation measures for NDCs. Principles of international environmental law, however, support an interpretation of the Paris Agreement whereby developed countries with high historical emissions must set NDCs that aim for net-negative emissions by 2030.[137] Moreover, aggregate national plans for fossil fuel production already surpass the emissions level that would be consistent with limiting global warming to 2°C, suggesting that all States need to unwind their regulatory and financial support of fossil fuels to meet their international commitments.[138]

Although a negatively affected investor may be entitled to an appropriate measure of compensation, the Paris Agreement contemplates wealth transfers that are consistent with a pathway towards low greenhouse gas emissions and climate-resilient development. An investment tribunal's valuation of compensation based on forward-looking, income-based methods such as DCF could undermine the distributive scheme of the Paris Agreement by assuming the legitimacy of future income from fossil fuels in the face of a State's ambition to eliminate some of the highest emissions from its territory. Such an award may enrich an investor to the detriment of State capacity in climate mitigation and adaptation—more so if the host State is a developing country—and thereby go beyond a principled limit on compensation established by international law as a legal system.

4.3 | Practical implications

In the previous section, I explored how the prohibition against unjust enrichment may ensure that a host State's obligation to make full reparation is not misinterpreted as warranting the application of a valuation method that undermines a distributive scheme established by relevant rules of international law. By reference to the Paris Agreement, I have now sketched the contours of a possible argument in investor–State arbitration arising from climate mitigation measures. In sum, DCF methods could well be legally inappropriate to assess the financial value of stranded fossil fuel assets. But that conclusion would not remove a successful claimant's entitlement to compensation. Tribunals should thus consider the range of valuation methods that need not result in unjust enrichment. In *Vivendi v Argentina*, for instance, a claimant who failed to produce 'convincing evidence of its ability to produce profits'—thus rendering a DCF method unsuitable—could rely on 'generally accepted alternative means of calculating fair market value', including book value (the net value of an enterprise's assets), investment value (the amount actually invested), replacement value (the amount necessary to replace the investment) or liquidation value (the amount a willing buyer would pay a willing seller for the investment in a liquidation process).[139] In a case arising from the regulatory stranding of fossil fuel assets, wherein a tribunal accepts that future income may not legitimately accrue beyond the phase-out date, expert evidence would likely be called by both parties to determine which of these alternative valuation methods is the best measure of the State's obligation to make full reparation or whichever standard of compensation is prescribed by treaty. In most cases, the appropriate method of valuation would at least allow a claimant to recover its sunk costs in developing new energy infrastructure, subject to any reduction on grounds of contribution or failure to mitigate loss.

The prohibition against unjust enrichment is ripe for arbitral application in the right case. But the principle could be reaffirmed through one of the many initiatives regarding the reform of investor–State arbitration, even by the ILC in its work on general principles of law or

[133] L Liberti, 'The Relevance of Non-Investment Treaty Obligations in Assessing Compensation' in PM Dupuy, F Francioni and EU Petersmann (eds), *Human Rights in International Investment Law and Arbitration* (Oxford University Press 2009) 557, 564.

[134] *Santa Elena* (n 92) para 72.

[135] ibid para 71.

[136] International Institute for Sustainable Development, 'Navigating Energy Transitions: Mapping the Road to 1.5°C' (October 2022) <www.iisd.org/system/files/2022-10/navigating-energy-transitions-mapping-road-to-1.5.pdf> 19–21.

[137] L Rajamani et al, 'National "Fair Shares" in Reducing Greenhouse Gas Emissions Within the Principled Framework of International Environmental Law' (2021) 21 Climate Policy 983.

[138] Stockholm Environment Institute et al, 'The Production Gap Report 2021' (October 2021) <http://productiongap.org/2021report>.

[139] *Compañía de Aguas del Aconquija S.A. and Vivendi Universal S.A. v Argentine Republic*, ICSID Case No ARB/97/3, Award (20 August 2007) paras 8.3.8–8.3.13.

future topics of relevance.[140] That would provide a welcome corrective to the prevailing assumption—evident in recent work of UNCITRAL Working Group III—that a tribunal's determination of the appropriate valuation method is legally unconstrained: 'Neither customary international law nor treaty-based standards require the application of a particular valuation methodology, leaving the choice to the discretion of the tribunal.'[141] This assumption was also reflected in many submissions to the Organisation of Economic Cooperation and Development's (OECD) consultation on investment treaties and climate change, which variously recommended caps on compensation or the outright exclusion of fossil fuels from the scope of investment treaties.[142] These proposals, like much of the academic literature, turn upon the messy process of treaty amendment. I have shown how similar results could be pursued through overlooked sources of international law and traditional techniques of legal reasoning.

One might object that my analysis has relied on arcane case law or idiosyncratic opinions that are out of step with the modern law of State responsibility. When the secondary rules were codified in 2001, however, the ILC supposed that tribunals would adopt a 'cautious approach' to the use of DCF methods.[143] In 2022, shortly after the *Rockhopper* award, Dupuy lamented how 'tribunals tend to rely on the findings of the parties' financial experts, which are often rooted in concepts originating from financial management rather than legal principles'.[144] The principle of systemic integration, in his view, offers 'an invitation to arbitrators to account for states' other substantive obligations such as environmental and human rights ones'.[145] General principles of law, moreover, feature in the reasoning of investment tribunals with increasing frequency.[146] So, although it is quite correct that neither treaty nor custom prescribes a particular method of valuation, a tribunal's selection of an appropriate method should be guided by legal principle. Any obligation to compensate must be interpreted in light of relevant rules of international law, which may negate certain methods of valuation that would unjustly enrich a claimant by undermining some legally recognized allocation of benefits and burdens.

5 | CONCLUDING REMARKS

Investor–State arbitration could have significant distributional implications for the renewable energy transition if tribunals too readily defer to market valuations that assume the legitimacy of future income from stranded fossil fuel assets. Like other contributors to the new compensation literature, I have been mindful not to understate the utility of DCF methods in complex investment transactions or the strength of a host State's obligation to make full reparation. It might be objected that a better way to prevent any windfall for claimants would be to apply a higher risk premium to the discount rate within a DCF method, treating the risk of asset stranding as an incident of country risk.[147] But the appropriate premium for climate-related regulatory risk would be highly contested by expert evidence, inflating the costs of arbitration and hardly mitigating the widespread concern that investor–State arbitration is raising the cost of climate action. This is not to say that general principles of law or the Paris Agreement's distributive scheme are immune from interpretative controversy. At a critical juncture in the energy transition, however, the question of whether an investor is entitled to compensation that assumes the legitimacy of future income from fossil fuels, despite a State's implementation of the Paris Agreement, may be better settled by the principled application of international law than a battle of accounting experts. The prohibition against unjust enrichment complements the obligation to make full reparation by ensuring that any valuation of compensation does not undermine a distributive scheme that is relevantly established by the international legal system. If a State were to breach an investment treaty by way of procedural impropriety in its decision to phase out coal-fired power plants, for instance, the determination of an appropriate valuation method should account for the fact that no future income may be legitimately derived from that activity in the State's territory. To assume otherwise may unjustly enrich a claimant by undermining the Paris Agreement's distributive scheme, which mandates wealth transfers that support State capacity in mitigation and adaptation.

Although this approach would remove the risk of very large awards, it might be objected that climate-conscious governments should terminate their investment treaties or cease consenting to investor–State arbitration in order to avoid any international claims of compensation. At the time of writing, several European States declared their intention to withdraw from the ECT, citing the incompatibility of protecting fossil fuel investments with their climate mitigation goals.[148] Yet it must be recalled that energy transition disputes have been mainly brought by claimants that relied on long-term incentives to increase the share of renewables in the European energy mix, rather than fossil fuel investors seeking to recoup lost value from mitigation measures.[149] Given that the finance-driven transition pursued by most governments depends upon reallocation of private capital

[140] 'Compensation under international law' has been proposed as a potential topic: ILC 'Long-Term Programme of Work: Possible Topics for Consideration Taking into Account the Review of the List of Topics Established in 1996 in the Light of Subsequent developments: Working Paper Prepared by the Secretariat' UN Doc A/CN.4/679/Add.1 (31 March 2016) paras 35–41.

[141] UNCITRAL (n 7) para 24.

[142] A notable exception is Y Zheng and NJ Calamita, 'Climate Change and Investor-State Arbitration: The Essential Importance of Issues of Compensation and the Calculation of Quantum' in *Investment Treaties and Climate Change: OECD Public Consultation (January–March 2022): Compilation of Submissions* (7 April 2022) 256 <www.oecd.org/investment/investment-policy/OECD-investment-treaties-climate-change-consultation-responses.pdf>.

[143] ARSIWA (n 17) 103–104 (art 36, comment 26).

[144] PM Dupuy, 'A Guided Tour of the *Chorzów Factory* Case: A Review of Reparation Principles in International Investment Law (Report on LALIVE Lecture of 29 September 2022)' (20 October 2022) <www.lalive.law/wp-content/uploads/2022/10/LALIVE-Lecture-29.09.2022-1.pdf> 3. Please note that I am citing a summary of Dupuy's lecture rather than a transcript.

[145] ibid 2.

[146] P Dumberry, *A Guide to General Principles of Law in International Investment Arbitration* (Oxford University Press 2020).

[147] Cf M Burgstaller and J Ketcheson, 'Should Expropriation Risk Be Taken into Account in the Assessment of Damages?' (2017) 32 ICSID Review 193.

[148] D Charlotin, 'France Will Also Withdraw from Energy Charter Treaty, French President Announces' (Investment Arbitration Reporter, 21 October 2022).

[149] JE Viñuales, *The International Law of Energy* (Cambridge University Press 2022) 420–429.

away from the oil industry's record profits, the phenomenon of regulatory chill could be harnessed to lock in domestic measures that promote renewable energy. In any event, the substantive law applied in investor–State arbitration has proved remarkably resilient, not least the obligation to make full reparation. Whereas the proposed modernization of the ECT includes a flexibility mechanism that allows States 'to exclude investment protection of fossil fuels', for instance, it simply reaffirms that '[m]onetary damages are limited to the loss suffered by an Investor and may not include punitive damages'.[150] Despite the imminent wave of withdrawal, moreover, the ECT continues to protect existing investments for another 20 years, suggesting that investor–State arbitration will remain one of the most significant types of international climate litigation in the distribution of benefits and burdens throughout the energy transition.[151] Hence the importance of a renewed emphasis on the prohibition against unjust enrichment. This article has focused on the Paris Agreement in investor–State arbitration arising from stranded fossil fuel assets, but there may be other distributive schemes in the international legal system that are similarly relevant to avoid unjust enrichment in the valuation of compensation.

DATA AVAILABILITY STATEMENT

Data sharing not applicable to this article as no datasets were generated or analysed during the current study.

ORCID

Oliver Hailes https://orcid.org/0000-0002-0164-7813

AUTHOR BIOGRAPHY

Oliver Hailes is a PhD candidate of Trinity College and the Lauterpacht Centre for International Law at the University of Cambridge, where he works on the development of international law by investment tribunals. He is the Assistant General Editor of the ICSID Reports and served as co-Editor-in-Chief of the Cambridge International Law Journal. Oliver is admitted as a barrister and solicitor in New Zealand, where he clerked for an appellate judge and practised commercial litigation. He also studied at the University of Otago, Fundação Getulio Vargas and The Hague Academy of International Law. He was a Research Associate with the PluriCourts Centre of Excellence at the University of Oslo and previously taught at Cambridge, Jilin, Otago and Victoria universities. From January 2023, Oliver is appointed as Assistant Professor in Law at the London School of Economics and Political Science, lecturing in public international law and international arbitration.

The author wishes to thank the editors of this Special Issue, two anonymous reviewers, Emma Gattey and Natalie Jones for their valuable comments on draft versions, as well as John Barker for helpful discussion. Thanks also to the Woolf Fisher Scholarship for funding my research at Cambridge.

How to cite this article: Hailes O. Unjust enrichment in investor–State arbitration: A principled limit on compensation for future income from fossil fuels. *RECIEL*. 2023;32(2): 358-370. doi:10.1111/reel.12483

[150] 'Finalization of the Negotiations on the Modernisation of the Energy Charter Treaty' (Energy Charter Secretariat, 24 June 2022) <www.energycharter.org/fileadmin/DocumentsMedia/CCDECS/2022/CCDEC202210.pdf>.

[151] ECT (n 14) art 47(3). Cf Agreement for the Termination of Bilateral Investment Treaties between the Member States of the European Union (adopted 5 May 2020, entered into force 29 August 2020) [2020] OJ L169/1 arts 2–4.