Stranded Fossil Fuel Assets in International Investment Law: Socialising Losses by "Politicising" Commercial Risk?

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1. Introduction.

Industrial societies first, and post-industrial ones later, have attained a high level of affluency premissed on several environmentally unsustainable practices, key amongst which is the massive burning of fossil fuels (FFs) (primarily coal, oil, and gas, as well as their derivates).[1] Against the background of the increasing deterioration of the global climate balance, the need for a move away from FFs, to the benefit of so-called renewables (mostly solar, wind, and hydroelectric power), is increasingly acknowledged. A delicate balance is thereby sought between economic wealth and the continued existence of the physical bases for mankind's very survival.[2] On the other hand, the deep entrenchment of FFs in the global economy is such that any attempt at reducing society's dependence upon them is bound to generate major socio-economic disruption. The long value chain resting on the combustion of FFs will be deprived of economic worth, generating domino effects on the holders of shares therein scattered throughout the economy at large. The energy transition will thus generate an "energy transformation", substituting new socio-economic patterns for those based on the soon-to-be-outdated technical mode of production of energy.[3]

Against this background, international investment law (IIL) will amount to a crucial "battlefront" for affected actors to secure a place amongst those advantaged (or least disadvantaged) by the transformation.[4] By granting a number of standards of protection to

[1] The key role historically played by fossil energy in enabling the emergence of industrial patterns of production and consumption is essentially undisputed: see e.g. generally Edward A. Wrigley, *Energy and the English Industrial Revolution* (Cambridge University Press 2010). The defining role thereby played in the sustained growth of the level of wealth in post-industrial societies, as well as the unsustainable implications thereof, are a key component of the current discourse on the Anthropocene (a notion mainstreamed by the ground-breaking Paul J. Crutzen and Eugene Stoermer, 'The "Anthropocene"' (2000) 41 IBGP Newsletter 17). For an excellent overview of the foundational literature on the Anthropocene and surrounding notions, as well as of the implications thereof for law and legal studies, see Jorge E. Viñuales, *The Organisation of the Anthropocene: In Our Hands?* (Brill Publishing 2018). The basic point that currently prevailing socio-economic structures are premised on FFs is also acknowledged in the literature otherwise critical of the notion of the Anthropocene, e.g. on the ground that the latter would obscure the strong inequality component of the distribution of wealth deriving from fossil energy: see e.g. Andreas Malm, 'Who Lit This Fire? Approaching the History of the Fossil Economy' (2016) 3 Critical Historical Studies 215, referring to the notion of "fossil economy" (more extensively articulated in Andreas Malm, *Fossil Capital: The Rise of Steam Power and the Roots of Global Warming*, Verso 2016); Alain Gras, 'The Deadlock of the Thermo-Industrial Civilization: The (Impossible?) Energy Transition in the Anthropocene' in Ernest Garcia, Mercedes Martinez-Iglesias, and Pedar Kirby (eds), *Transitioning to a Post-Carbon Society: Degrowth, Austerity and Wellbeing* (Springer 2017), speaking of a "thermo-industrial civilisation". The latter notion has a long record of use in the literature, including earlier research anticipating, in many ways, topics currently key to the Anthropocene discourse: see e.g. Jacques Grinevald, 'L'effet de serre et la civilisation thermo-industrielle 1896-1996' 108 Revue européenne des sciences sociales 141.

[2] See the influential, Johan Rockström and others, 'A Safe Operating Space for Humanity' (2009) 461 Nature 472.

[3] See Jorge E. Viñuales, *The International Law of Energy* (Cambridge University Press 2022) 395-403.

[4] ibid 408-410 and 423-428.

foreign investors, IIL allows economic actors to challenge governmental policies allegedly interfering with property rights, and to obtain financial compensation from the host government for any interferences so established. The present paper is devoted to gauging the extent to which IIL can be used by investors in the fossil industry to recoup the value of the fossil fuel assets (FFAs) which will be "stranded" by the energy transformation. With a view to this, Section 2 introduces the notion of "stranded fossil fuel assets" (SFFAs), as well as the two key drivers of stranding to be found in the specific context of FFAs (governmental policy and market dynamics) (Section 2.1). It thus briefly introduces the basic features of IIL, setting the scene for the subsequent sections by finding that, as a matter of principle, IIL's internal logic would only allow for FFAs stranded by governmental policies to be compensated by host governments (Section 2.2). By analysing the historic record of IIL practice in contexts other than the energy transition, Section 3 shows, however, that standards of protection under IIIL are malleable enough to allow investors to strategically invoke them to obtain compensation also for assets stranded by market dynamics. Deeming it likely that attempts to this end will also be made in the context of the energy transition, Section 4 analyses the doctrinal tools by which such a strategic over-stretching of IIL standards of protection can be prevented from impinging the energy transformation. Section 5 concludes, appraising the significance of the paper's findings for the future of the energy transformation.

2. Stranded fossil fuel assets and the international investment regime.

Usually traced back to Schumpeter's notion of "creative destruction" as an inherent feature of capitalism, the concept of "stranded assets" has been mainstreamed by environmental discourse over the 2010s.[5] SFFAs currently provide an ordering category around which the mainstream debate over the energy transformation revolves. In light of the importance of IIL for the energy transformation and the global economy at large, the present paper undertakes to map the way in which SFFAs are likely to interplay with IIL's structures and operation. To this end, the present Section first introduces the main tenets of the current discourse on SFFAs (Section 2.1),

[5] See Ben Caldecott, 'Introduction to Special Issue: Stranded Assets and the Environment' (2017) 7 Journal of Sustainable Finance and Investment 1, 2-3. On creative destruction, see Joseph A. Schumpeter, *Capitalism, Socialism and Democracy* [1943] (3rd edn, Henderson and Spalding 1950), particularly at 81-87.

before moving to an analysis of IIL's defining features and the way in which those are likely to interact with the phenomenon of SFFAs (Section 2.2).

2.1. Stranded fossil fuel assets and their political economy.

The definition which popularised the notion of SFFAs in the context of the energy transformation is the one proposed by the International Energy Agency (IEA) in 2013. According to the IEA, stranded assets are "those investments which have already been made but which, at some time prior to the end of their economic life (as assumed at the investment decision point), are no longer able to earn an economic return".[6] SFFAs are hence the assets acquired across the fossil value chain through sunk investments, which will become incapable of generating an economic return because of the global economy's exit from reliance on carbon-intensive technologies. This will most obviously be the case of assets at the downstream level: investments in, for instance, a coal-powered plant will be impacted most directly by the energy transition, as electricity will no longer be generated through the technology acquired by those investments. The same also holds true, however, for upstream assets. Permits for the exploration of fossil reservoirs, licences for the actual exploitation thereof, and infrastructures for the transportation and storage of FFs are all assets which depend on the downstream utilisation of FFs in turn. As such, when the latter no longer takes place, such assets will become incapable of generating any economic return.

FFAs are particularly prone to stranding because of their economic features. As is the case with energy assets in general, FFAs do, indeed, typically exhibit three key economic features:

- Their acquisition entails significant upfront investments (capital-intensiveness);
- They generate returns during long cycles (long-life); and
- They cannot be reconverted to a destination other than their originally-intended use (asset-specificity).[7]

The interplay between such features generates a significant exposure of FFAs to stranding. Their capital intensiveness entails the undertaking of a significant financial risk on the part of

[6] IEA, 'Redrawing the Energy-Climate Map: World Energy Outlook Special Report' (IEA 2013) <https://iea.blob.core.windows.net/assets/417cd627-fda9-470e-9380-1203a5315deb/WEO_Special_Report_2013_Redrawing_the_Energy_Climate_Map.pdf> 98.
[7] See Subhes C. Bhattacharyya, *Energy Economics: Concept, Issues, Markets and Governance* (Springer 2011) 163-165.

investors willing to acquire FFAs. The long-life of such assets, however, is such that the initial upfront investment is liable to be prevented from generating returns, upon occurrence of radical alterations of the business environment within which FFAs were assumed to be generating returns upon their acquisition. On the other hand, asset-specificity impairs the possibility of liquidating the assets to divest upon the occurrence of such radical alterations. FFAs cannot simply be sold to other investors to recoup part of their economic value if the business model within which they were utilised gets disrupted. A coal power plant cannot be reconverted to uses other than the generation of energy from coal. As a consequence, if such model of energy generation becomes unfeasible or unprofitable, the owners of the plant will likely be unable to pass that asset onto other buyers, who would be prevented from gaining any return from acquisition of the asset. FFAs are thus be turned into sunk costs by stranding: the investment entailed by their acquisition cannot be recouped either by continued operation or by liquidation on the market.

Radical alterations of the business environment surrounding FFAs are, however, precisely what is underway in the global economy, and only projected to increase in the future. This is due to two strictly intertwined phenomena. On the one hand, command-and-control governmental policies adopted, chiefly, to mitigate climate change (will) strand FFAs. The gradual mainstreaming of the concept of "carbon budget" has led governments to pledge, and eventually start implementing, policies directly aimed at preventing the burning of FFs altogether.[8] The present paper refers to this phenomenon as "policy-driven stranding". Policy-driven stranding can take place at all levels of the fossil value chain. At the upstream level, governments are starting implementing prohibitions on the exploration and exploitation of FFs altogether, thereby stranding the exploration and exploitation licences (as well as the tools and plants to actually drill FFs) already acquired by the business community in the respective industries. Prominent examples include prohibitions or restrictive regulations on hydraulic fracking in the exploration of shale oil and gas across, *inter alia*, a number of US jurisdictions,[9] as well as

[8] While controversial, the concept of "carbon budget" has recently been endorsed by the Intergovernmental Panel on Climate Change (IPCC). See IPCC, 'Climate Change 2021: The Physical Science Basis – Summary for Policymakers' (IPCC 2021) <https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM.pdf> 27-30.

[9] See William J. Brady, 'Hydraulic Fracturing Regulation in the United States: The Laissez-Faire Approach of the Federal Government and Varying State Regulations' (2012) 14 Vermont Journal of Environmental Law 39. At the time of writing, a proposal to introduce a federal-wide ban on hydraulic fracking is pending before the US Congress: see <https://www.congress.gov/bill/116th-congress/house-bill/5857>. Investment in hydraulic fracturing experienced a massive upsurge in the early 2010s, particularly in the USA. This was partially because assets exploiting such technology are characterised by a lower degree of capital-intensiveness and long-life when

Italy's infamous ban on gas drilling within the Italian territorial sea (now questioned in light of the energy crisis following Russia's invasion of Ukraine).[10] Admittedly, such policies are often predominantly adopted out of localised environmental concerns (e.g. the impact of fracking on the quality of water resources).[11] However, they have an impact on the global energy transformation, to the extent that their ultimate effect is that of preventing FFs from being introduced in the global economy altogether.[12] Accordingly, from the perspective of SFFAs, they are virtually undistinguishable from policy-driven stranding specifically deriving from climate policy.[13] Moving one step below in the value chain, governments' interventions are, however, also putting on halt FF infrastructures used to deliver and stock FFs once extracted. The most prominent example being the decision of successive US administrations to halt construction of the Keystone XL tar sands pipeline connecting the US market with Canada,[14] such policies lead to significant economic impacts on the intermediate stages of the fossil value chains. Finally, governments can prohibit the utilisation of FFAs also at the downstream level of the actual burning of FFs. A particularly popular policy in recent years has been the phase-out of generation of energy from coal-powered plants, spearheaded by Canada,[15] the Netherlands,[16] and Germany.[17] When owners of such plants are prevented from keeping on operating them, the investment in acquiring such plants suffer a most obvious and radical deprivation of value.

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compared to conventional techniques for FF extraction: see Gabe Eckhouse, 'United States Hydraulic Fracturing's Short-Cycle Revolution and the Global Oil Industry's Uncertain Future' (2021) 127 Geoforum 246.

[10] See Luigi Grassia, 'Trivelle, via libera all'estrazione del gas', *La Stampa*, 5 November 2022 <https://www.lastampa.it/economia/2022/11/05/news/trivelle_via_libera_dal_governo_allestrazione_del_gas-12219849/>.

[11] See Robert B. Jackson and others, 'The Environmental Costs and Benefits of Fracking' (2014) 39 Annual Review of Environment and Resources 327.

[12] Against the background that, in 2021, the global planned production of FFs doubled the amount projected to be compatible with the Paris Agreement's temperature goals: see Stockholm Environment Institute and others, 'The Production Gap Report 2021' (Stockholm Environment Institute 2021) <https://productiongap.org/wp-content/uploads/2021/11/PGR2021_web_rev.pdf>.

[13] This is not to deny that, from a legal perspective, policies adopted on climate change mitigation grounds would attract significantly different consequences from those attached to policies adopted on other environmental grounds: see Jorge E. Viñuales, *Foreign Investment and the Environment in International Law* (Cambridge University Press 2012) 273-278.

[14] At the outcome of a massive process of social mobilisation against the planned project: see Jamie Henn, 'Here's How We Defeated the Keystone XL Pipeline: A Cofounder of 250.org Recounts the Decade-Long Effort to Stop KXL', *Sierra*, 31 January 2021 <https://www.sierraclub.org/sierra/here-s-how-we-defeated-keystone-xl-pipeline>. For more detail on the convoluted policy changes surrounding the pipeline, see n 56 below.

[15] Regulations Amending the Reduction of Carbon Dioxide Emissions from Coal-fired Generation of Electricity (Regulation SOR/2018-263), 30 November 2018 (Canada Gazette, Part II, Vol. 152, No. 25).

[16] Wet verbod op kolen bij elektriciteitsproductie, 11 December 2019 (Staatsblad 2019 493).

[17] Gesetz zur Reduzierung und zur Beendigung der Kohleverstromung und zur Änderung weiterer Gesetze, 14 August 2020 (BGBl. I S. 1818).

Policy-driven stranding is not, however, neither the sole, nor the main driver of the emergence of the SFFAs discourse. In fact, the broader dynamics of the energy transformation are eventually making the operation of FFAs unprofitable, *as a mere matter of economic interplay between supply and demand*. Since this results from the interplay of market forces, the present paper refers to such form of stranding as "market-driven stranding". Research has shown that technological changes and past investment decisions have set into motion market dynamics which will result in a dramatic drop in demand for FFs, in respect of most of the uses traditionally associated with their combustion – electricity generation, powering of transportation and building machineries, and the heating of buildings.[18] This is due to the interplay between several factors.[19] On the one hand, the drop in costs for generation of electric energy from renewable sources is making, in particular, wind- and sun-powered generation plants a cost-effective alternative to FF-powered generation technologies.[20] The share of renewables in the global electricity mix is therefore on the rise because of their increased competitiveness *vis-à-vis* fossil-generated electricity: under current conditions, it is economically rational to purchase renewably-generated energy over fossil-generated one. Present trends in cost structures being projected to continue in the upcoming years, FFs will eventually become unable to keep up the pace with renewables, and be squeezed out of the economy as economically uncompetitive. This phenomenon is exacerbated by the increasing electrification of sectors currently relying on FF-powered thermal energy. This is, remarkably, the case for transportation. In a scenario where transportation makes up, at the time of writing,

[18] See Jean-Francois Mercure and others, 'Macroeconomic Impact of Stranded Fossil Fuel Assets' (2018) 8 Nature Climate Change 588. On the other hand, the demand for oil and gas from the petrochemical sector (which currently accounts for, respectively, 12% and 8% of the global demand for each fuel) is projected to increase in future years. This is in both relative and (importantly) absolute terms, downscaling the impact of the energy transformation on the global demand for both fuels resulting from aggregating all sectors: see IEA, 'The Future of Petrochemicals: Towards More Sustainable Plastics and Fertilisers' (IEA 2018) <https://iea.blob.core.windows.net/assets/bee4ef3a-8876-4566-98cf-7a130c013805/The_Future_of_Petrochemicals.pdf> 27, 78-79, and 98 (forecasting different scenarios).

[19] See generally Global Commission on the Geopolitics of the Energy Transformation, 'A New World: The Geopolitics of the Energy Transformation' (International Renewable Energy Agency (IRENA) 2019) <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2019/Jan/Global_commission_geopolitics_new_world_2019.pdf> 14-25.

[20] IEA, 'Projected Costs of Generating Electricity – 2020 Edition' (IEA 2020) <https://iea.blob.core.windows.net/assets/ae17da3d-e8a5-4163-a3ec-2e6fb0b5677d/Projected-Costs-of-Generating-Electricity-2020.pdf> 13-19. A detailed source-by-source analysis is available at IRENA, 'Renewable Power Generation Costs in 2021' (IRENA 2022) <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Jul/IRENA_Power_Generation_Costs_2021.pdf?rev=34c22a4b244d434da0accde7de7c73d8>.

for 60% of the global oil demand,[21] and for 22% of the global gas demand,[22] the skyrocketing figures of sales of electric vehicles is set to further contribute to a decrease in direct reliance on combustion of those FFs to power the world economy.[23] As an increasing share of the electricity needed to sustain such electrification is provided by renewables in turn, demand for FFs is bound to decline.[24] Finally, increased energy efficiency also contributes in reducing the absolute demand for thermal and electric energy, all things being equal. In more-hardly-electrified sectors (such as aviation and the heating, ventilation, and air conditioning of buildings)[25] this directly translates in a drop in absolute demand for FFs, as the same economic output can be attained with a lower energy input. In electrified sectors, increased efficiency can act as a key driver of reduction in relative demand for fossil-powered electricity, facilitating the take-over of FFs by renewables in the global energy mix.[26] In sum, the interplay between declining costs for renewables, electrification of end-uses traditionally sustained by direct combustion of FFs, and cross-sectoral energy efficiency is translating into a major shrinking of demand for FFs, in both relative and absolute terms. Alongside such primarily technological factors, moreover, more directly economic considerations contribute to the squeeze-out of FFs from the global economy. For instance, empirical research has shown how the risk preferences of investors are moving away from FFs. This is because FFAs are increasingly understood as investments entailing excessive risk, in a context where governments commit to ever-more ambitious climate change mitigation action.[27] In other words, the future prospect of policy-driven stranding indirectly translates into increased market-driven stranding. Fossil companies face

[21] IEA, 'Oil 2021: Analysis and Forecast to 2026' (IEA 2021) <https://iea.blob.core.windows.net/assets/1fa45234-bac5-4d89-a532-768960f99d07/Oil_2021-PDF.pdf> 18.
[22] IEA, 'World Energy Outlook 2022' <https://iea.blob.core.windows.net/assets/830fe099-5530-48f2-a7c1-11f35d510983/WorldEnergyOutlook2022.pdf> 369.
[23] In 2021, 10% of vehicles sold globally were electric, registering a +300% increase in market shares when compared to as early as 2019: see IEA, 'Global Electric Vehicles Outlook 2022: Securing Supplies for an Electric Future' (IEA 2022) <https://iea.blob.core.windows.net/assets/ad8fb04c-4f75-42fc-973a-6e54c8a4449a/GlobalElectricVehicleOutlook2022.pdf> 4.
[24] See generally IRENA, 'Smart Electrification with Renewables: Driving the Transformation of Energy Services' (IRENA 2022) <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2022/Feb/IRENA_Smart-Electrification_Renewables_2022.pdf>.
[25] On aviation see, focussing on the US economy, Amy Schwab and others, 'Electrification of Aircraft: Challenges, Barriers, and Potential Impacts' (National Renewable Energy Laboratory 2021) <https://www.nrel.gov/docs/fy22osti/80220.pdf>.'
[26] See generally IRENA, 'Synergies between Renewable Energy and Energy Efficiency' (IRENA 2017) <https://irena.org/-/media/Files/IRENA/Agency/Publication/2017/Aug/IRENA_REmap_Synergies_REEE_2017.pdf?rev=f5f29f9f34374ca0b6be4d19b88863e1>.
[27] See Bassam Fattouh, Rahmatallah Pudineh, and Rob West, 'Energy Transition, Uncertainty, and the Implications of Change in the Risk Preferences of Fossil Fuel Investors' (Oxford Institute for Energy Studies 2019) <https://a9w7k6q9.stackpathcdn.com/wpcms/wp-content/uploads/2019/01/Energy-Transition-Uncertainty-and-the-Implications-of-Change-in-the-Risk-Preferences-of-Fossil-Fuel-Investors-Insight-45.pdf>

increasing difficulties in collecting the capital necessary to finance their continued operation and expansion, because investors are reluctant to make a financial commitment in an industry facing the risk of being outlawed in pursuance of climate policy. In keeping with current policy trends,[28] governments may well not undertake the radical curbing of greenhouse gas (GHG) emissions which would be needed for the Paris Agreement's goals to be attained. Yet, the mere prospect that they may do so in the future is displaying its effects already in the decisions of investors, further contributing to the shrinking role of FFs in the future global economy.

More generally, this last feature speaks to the fact that, whereas the trends hereby described can be accelerated if governments provide more extensive support to the energy transition, these phenomena will eventually prevail with or without such policies being implemented.[29] In other words, governments can determine through climate policy the extent of the energy transformation, but not whether this will occur at all or not. The magnitude of such phenomenon can be grasped if one considers that, according to the IEA, FFs currently supply 80% of the global energy mix.[30] In the most climate-pessimistic scenario, based on current policy trajectories, this will drop to 62% in 2050 (-18% on the total supply);[31] were countries to abide by the currently announced pledges, the figure would further fall to 39% in the same year (-41% on the total supply);[32] in the most optimistic scenario, assuming net zero in GHG emissions to be achieved by that year, brown energy would only amount to 18% of the overall figure (-62% on the total supply).[33] If one considers that the global energy supply over the same period and in the same scenarios is projected to either experience positive variations at a lower rate or negative variations (as, under the same three scenarios, it is set to, respectively, increase by 18,6%,[34] increase by 0,8%,[35] and decrease by 15%),[36] the upshot is that, by 2050, the absolute supply of energy by FFs will shrink by ca. 7%, 50%, or 80% respectively. Adding the cascading effects which such contraction in downstream energy generation will display on the upstream levels of the value chain, as well as the impacts on the financial sector generated by the massive

[28] See generally United Nations Environment Programme (UNEP), 'Emissions Gap Report 2022: The Closing Window: Climate Crisis Calls for Rapid Transformation of Societies' (UNEP 2022) <https://wedocs.unep.org/bitstream/handle/20.500.11822/40874/EGR2022.pdf?sequence=3>.
[29] On the geopolitical implications of this, see Jean-Francois Mercure and others, 'Reframing Incentives for Climate Policy Action' (2021) 6 Nature Energy 1133.
[30] IEA (n 22) 435.
[31] ibid
[32] ibid 440.
[33] ibid 445.
[34] ibid 435.
[35] ibid 440.
[36] ibid 445.

investments in FFs undertaken in the past,[37] the dissipation of value generated by the energy transformation will be of unprecedented proportion. While based on partially different assumptions and policy scenarios, the International Renewable Energy Agency (IRENA) estimated in 2017 that FFAs of a stellar value of 10 to 20$ trillion worldwide would be stranded by 2050.[38] The impact of stranding will primarily be distributional since, from an economy-wide perspective, much of the value of SFFAs will be compensated by the opportunities for GDP growth and job creation associated with the green economy.[39] Yet, for those actors currently most exposed to the "carbon bubble" which will burst into SFFAs,[40] the energy transformation will translate into massive losses and a radical overturning of well-entrenched socio-economic patterns.

2.2. Stranded fossil fuel assets and IIL: the fine line between political risk and commercial risk.

In light of the major proportions of the phenomenon of stranding, it is to be expected that the actors most impacted by the costs associated with the energy transformation will try to minimise the losses thereby individually incurred. As already hinted at in Section 1 above, it is also likely that IIL will provide investors with a crucial tool to recoup the value of SFFAs. This is chiefly on account of the fact that the primary remedy sought by investors through IIL claims is monetary compensation for the damages allegedly suffered because of the host State's conduct challenged through the claim.[41] Conventional wisdom has it that IIL's function is to shield foreign investors from the consequences of bad governance and breaches of the rule of law by

[37] See Stefano Battiston and others, 'A Climate Stress-Test of the Financial System' (2017) 7 Nature Climate Change 283.
[38] IRENA, 'Stranded Assets and Renewables: How the Energy Transition Affects the Value of Energy Reserves, Buildings and Capital Stock' (IRENA 2017) <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2017/Jul/IRENA_REmap_Stranded_assets_and_renewables_2017.pdf > 23-29.
[39] Mercure and others (n 18) 593; for more detail on the actors which will be most affected, see Gregor Semieniuk and others, 'Stranded Fossil-Fuel Assets Translate to Major Losses for Investors in Advanced Economies' (2022) 12 Nature Climate Change 532 <https://www.nature.com/articles/s41558-022-01356-y>.
[40] Carbon Tracker Initiative, 'Unburnable Carbon: Are the World's Financial Markets Carrying a Carbon Bubble?' (Carbon Tracker Initiative 2011) <https://www.banktrack.org/download/unburnable_carbon/unburnablecarbonfullrev2.pdf>.
[41] See Sergey Ripinsky and Kevin Williams, *Damages in International Investment Law* (British Institute of International and Comparative Law 2008) 57-59; Rudolf Dolzer, Ursula Kriebaum, and Christoph Schreuer, *Principles of International Investment Law* (3rd edn, Oxford University Press 2022) 425-431. On the reasons why such remedial form imposed itself as absolutely prevalent in practice, despite not being formally compelled by IIL, see Christoph Schreuer, 'Non-Pecuniary Remedies in ICSID Arbitration' (2004) 20 Arbitration International 325.

the host State.[42] Accordingly, one political-economic assumption often put forward to justify the regime is that the prospect of financial liability would redress power imbalances and deter governments from engaging in such poor governance decisions, by forcing them to bear the costs thereof.[43] Such assumption is broadly in line with the deterring function traditionally assigned to responsibility regimes, in particular, by common lawyers.[44] However, and more in line with the prevailing *legal* understanding of responsibility in international law, such compensation mechanism is also predicated upon the performance of a reparatory function: by receiving monetary compensation for the damages incurred, investors would be sheltered from the adverse economic consequences associated with the breach of IIL protection standards.[45] Emphasising this reparatory trait, IIL's focus on compensation can provide investors with a powerful way out of the stranding dilemma. It will be recalled that the asset-specificity of FFAs is such that, once operation of the asset becomes unable to generate profits (either because of policy, or through the operation of market dynamics), the impossibility to reconvert those assets to uses other than the originally intended one makes liquidation of the asset on the market unviable, turning it into a sunk cost (Section 2.1 above). On the other hand, if compensation for the asset's value can be obtained through IIL, the financial burden of stranding can be shifted from the investor to the government. The losses entailed by the energy transformation can thus

[42] See e.g. Stephan W. Schill, 'International Investment Law and the Rule of Law' in Jeffrey Jowell, J. Christopher Thomas, and Jan van Zyl Smit (eds), *Rule of Law Symposium 2014: The Importance of the Rule of Law in Promoting Development* (Academy Publihshing 2015). Such understanding is, however, harshly criticised in the literature: see Gus Van Harten, 'Investment Treaty Arbitration, Procedural Fairness, and the Rule of Law' in Stephan W. Schill (ed), *International Investment Law and Comparative Public Law* (Oxford University Press 2010).

[43] See e.g. Azernoosh Bazrafkan and Alexia Herwig, 'Risk, Responsibility, and Fairness in International Investment Law' in Mónika Ambrus, Rosemary Rayfuse, and Wouter Werner (eds), *Risk and the Regulation of Uncertainty in International Law* (Oxford University Press 2017) 237-238; Jonathan Bonnitcha, Lauge N. Skovgaard Poulsen, and Michael Waibel, *The Political Economy of the Investment Treaty Regime* (Oxford University Press 2017) 127-154.

[44] A line of analysis strengthened by the neoliberally-oriented strand of scholarship of US Law and Economics: see, emblematically, Richard A. Posner, *Economic Analysis of Law* (9th edn, Wolters Kluwer 2014) 239-245.

[45] In line with the general thinking on international State responsibility famously expressed by the Permanent Court of International Justice (PCIJ) in the landmark case, *Factory at Chorzów (Germany v. Poland), Merits,* 1928 PCIJ (Ser. A), No. 17, Judgement of 13 September 1928, at p. 47: "reparation must, as far as possible, wipe out all the consequences of the illegal act and reestablish the situation which would, in all probability, have existed if that act had not been committed". At the same time, the PCIJ also reportedly inferred from such principle the notion that "restitution in kind" was to be the preferred remedy under international responsibility, and "payment of a sum corresponding to the value which a restitution in kind would bear" and "the award, if need be, of damages for loss sustained which would not be covered by restitution in kind or payment in place of it" were only to be resorted to "if this [restitution in kind] is not possible" (ibid). The solution was then famously codified by the International Law Commission (ILC) in the Draft Articles on Responsibility of States for Internationally Wrongful Acts (2001), UN Doc. A/56/10 (in the following: 'ILC Draft Articles'), Art. 34. For illuminating elaboration on the relationship between the function of international State responsibility and the broader structure of international law, see Pierre-Marie Dupuy, 'The International Law of State Responsibility: Revolution or Evolution?' (1989) 11 Michigan Journal of International Law 105.

be socialised: the costs of a systemic shift from a brown to a green economy fall to be borne by taxpayers, rather than by the private investors entrenched in the carbon-intensive economic paradigm thereby being overcome.

IIL does not, however, allow for an unbounded shift of losses from the private to the public realm. In fact, IIL is premised on the notion of providing investors with protection against "political risk", while leaving them fully exposed to "commercial risk". In the iconic words of the Tribunal in *Maffezini v. Spain* (2000):

> "[T]he Tribunal must emphasize that Bilateral Investment Treaties are not insurance policies against bad business judgments. While it is probably true that there were shortcomings in the policies and practices that SODIGA and its sister entities pursued in the here relevant period in Spain, they cannot be deemed to relieve investors of the business risks inherent in any investment. To that extent, it is clear that Spain cannot be held responsible for the losses Mr. Maffezini may have sustained any more than would any private entity under similar circumstances".[46]

Such assumption speaks to the economic liberal ideological matrix with which IIL at large is infused.[47] The broad ideological horizon within which IIL locates itself is one where market forces should decide on the allocation of scarce resources, and intervention by public powers should be, in principle, as limited as possible. The notion of political risk aims precisely at capturing forms of public intervention in the economy which distort market processes and alter such allocative process. On the other hand, commercial risk is presumed to capture the materialisation of losses attributable to one's defeat in the competitive allocative process. In an economic liberal understanding, losers are to bear the consequences of such defeat, as a measure of self-responsibility which ultimately serves the efficiency of that process.

[46] *Emilio Agustín Maffezini v. The Kingdom of Spain* (ICSID Case No. ARB/97/7), Award of 13 November 2000, para 64.

[47] The roots of IIL in economic liberalism have been acknowledged by scholars of different ideological inclinations. See, on the critical side, David Schneidermann, *Constitutionalizing Economic Globalization: Investment Rules and Democracy's Promise* (Cambridge University Press 2008) 25-108; from a less militant perspective, see Kenneth J. Vandevelde, 'The Liberal Vision of the International Law on Foreign Investment' in C.L. Lim (ed), *Alternative Visions of the International Law on Foreign Investment: Essays in Honour Muthucumaraswamy Sornarajah* (Cambridge University Press 2016). A conceptualisation of political risk in IIL explicitly framed in right-libertarian terms can be found in Noah Rubins and N. Stephan Kinsella, *International Investment, Political Risk and Dispute Resolution: A Practitioner's Guide* (Oceana Publications 2005) 1-5.

Against this background, however, providing a working definition of what precisely amounts to political risk (and hence identifies the outer boundaries of what can be compensated through IIL) has proved to be a formidably difficult enterprise. Otherwise put, no settled understanding of the notion of political risk currently exists.[48] On the one hand, and following a seminal (if sceptical as to the very utility of the notion) analysis of the concept and its implications, most commentators would arguably be ready to concede that political risk consists, at a minimum, of: (i) a risk that "changes in the political environment will reduce returns to the point where the project would be no longer acceptable on the basis of ex ante criteria", where (ii) such changes "are motivated by or have as their objective the maintenance or modification of power or authority relationships at the governmental level".[49] Such understanding of political risk, in line with the traditional concerns of IIL, aims first and foremost at sheltering investors from poor governance properly understood, or political conflicts dictated by resource nationalism. On the other hand, the evolution of IIL over time exhibited a strong expansionist tendency. The interpretation of IIL's open-ended standards of protection started enshrining more markedly neoliberal assumptions on the role of the State in the economy. Such expansion was arguably made doctrinally possible by the uncertain boundaries of the very notion of political risk. Under such expansionist twist, the operationalisation of IIL was allowed to capture not only bad governance decision, but also non-discriminatory regulation passed in the public interest.[50] Under a neo-liberal understanding, to the extent that such regulatory interventions displayed a degree of interference with property rights and economic freedom, they could be understood as enshrining a political risk distorting the allocation of resources through interaction of supply and demand. Of relevance for present purposes, this evolution can also be observed in the specific sector of disputes in the energy industry. Traditionally, IIL disputes in this domain tended to focus on poor governance decisions, or deliberate attempts at localising the benefits of exploiting FFs (through, typically, nationalisations).[51] Over the years, however, the fault-line of confrontation between competing interests in IIL appears to have moved towards challenges

[48] See Jason Webb Yackee, 'Political Risk and International Investment Law' (2014) 24 Duke Journal of Comparative and International Law 477, 478-481.
[49] Stephen J. Kobrin, 'Political Risk: A Review and Reconsideration' (1979) 10 Journal of International Business Studies 67, 77.
[50] See M. Sornarajah, *Resistance and Change in the International Law on Foreign Investment* (Cambridge University Press 2015) 43-54.
[51] See the empirical study carried out in Cédric Dupont and others, 'Types of Political Risk Leading to Investment Arbitrations in the Oil and Gas Sector' (2015) 8 Journal of World Energy Law and Business 337.

brought against non-discriminatory regulation of the energy industry.[52] Moreover, in recent years, the frontier of investor-State dispute settlement (ISDS) in the energy sector seems to have moved further away from a focus on bad governance, to encompass challenges against climate change mitigation measures.[53] In fact, all of the measures highlighted as epitomes of policy-driven stranding in Section 2.1 above have been challenged in ISDS. While, again, often due to concerns at local environmental degradation at least as much as to climate policy proper, revocations of exploration licences lay at the heart of the recently-decided, high-profile *Rockhopper v. Italy* dispute (2022, undisclosed at the time of writing),[54] and appear to be subject to scrutiny in a number of further, pending disputes.[55] The halting of the KeyStone XL pipeline also gave rise to a convoluted legal saga.[56] On its part, the phase-out of coal was challenged in both the Netherlands[57] and Canada,[58] while the threat of investment arbitration is reported to

[52] See Makane M. Mbengue and Deepak Raju, 'Energy, Environment and Foreign Investment' in Eric De Brabandere and Tarcisio Gazzini (eds), *Foreign Investment in the Energy Sector: Balancing Private and Public Interests* (Brill Nijhoff 2014) 172-176.

[53] See Lea Di Salvatore, 'Investor-State Disputes in the Fossil Fuel Industry' (International Institute for Sustainable Development (IISD) 2021) < https://www.iisd.org/system/files/2022-01/investor%E2%80%93state-disputes-fossil-fuel-industry.pdf> 37-40.

[54] *Rockhopper v. Italy* (ICSID Case No. ARB/17/14), Award of 22 August 2022. On the mixed grounds for the local community's opposition, see Rinnovabili, 'Ombrina Mare, il MiSe forza la mano: via libera al Progetto', *Rinnovabili*, 9 November 2015, <https://www.rinnovabili.it/ambiente/ombrina-mare-mise-via-libera-333/>.

[55] Most notably, *Lone Pine v. Canada* (ICSID Case No. UNCT/15/2) (see paras 172-228 of Canada's Counter-memorial of 24 July 2015 for the environmental reasons underlying the contested measure). Another case in point is *Discovery Global LLC v. Slovak Republic* (ICSID Case No. ARB/21/51), for which see paras 5-8 of the Request for Arbitration of 30 September 2021. A number of further disputes whose procedural documents are mostly not publicly available at the time of writing have also been reported to pivot on environmentally-grounded halts to exploration and exploitation activities. See *Clara Petroleum Ltd. v. Romania* (ICSID Case No. ARB/22/10), as recounted in IAReporter, 'UK Investor Lodges ECT Claim against Romania', *IAReporter*, 4 April 2022 <https://www.iareporter.com/articles/uk-investor-lodges-ect-claim-against-romania/>; *Glencore v. Colombia (III)* (ICSID Case No. ARB/21/30) and *Anglo American plc v. Republic of Colombia* (ICSID Case No. ARB/21/31), as reported in Lisa Bohmer, 'Colombia Is Facing Second ICSID Claim over Coal Mining Dispute', *IAReporter*, 2 June 2021 <https://www.iareporter.com/articles/colombia-is-facing-second-icsid-claim-over-coal-mining-dispute/>.

[56] President Obama's stop of the infrastructure subsequent to the massive protests referred to in n 14 and surrounding text led the companies concerned to file an ISDS claim: see *TransCanada Corporation and TransCanada PipeLines Limited v. United States of America* (ICSID Case No. ARB/16/21), Request for Arbitration of 24 June 2016. The Trump administration stepped back and authorised the project to proceed, leading to a discontinuation of the proceedings: see the Order of ICSID's Secretary-General Taking Note of the Discontinuance of the Proceeding of 24 March 2017. The Biden administration, however, further revoked the steps taken by the preceding President. As a consequence, two further claims were submitted to ISDS: see *TC Energy Corporation and TransCanada Pipelines Limited v. United States of America* (ICSID Case No. ARB/21/63), reported in Lisa Bohmer, '15+ Billion USD Dispute over Keystone XL Pipeline Proceeds to NAFTA Legacy Arbitration', *IAReporter*, 22 November 2021 <https://www.iareporter.com/articles/15-billion-usd-dispute-over-keystone-xl-pipeline-proceeds-to-nafta-legacy-arbitration/>; *Alberta Petroleum Marketing Commission v. United States of America* (UNCITRAL ad-hoc arbitration, 2022), Notice of Intent of 9 February 2022.

[57] *RWE AG and RWE Eemshaven Holding II BV v. Kingdom of the Netherlands* (ICSID Case No. ARB/21/4); *Uniper v. Netherlands* (ICSID Case No. ARB/21/22).

[58] *Westmoreland Coal Company v. Canada (I)* (UNCITRAL ad-hoc arbitration, 2018). Pursuant to a corporate restructuring, the case was discontinued, and a new claim filed in *Westmoreland Mining Holdings LLC v. Canada*

have played a role in pushing Germany's government to overcompensate the companies affected, in exchange for a commitment not to bring an ISDS claim against the phase-out.[59]

The neo-liberal understanding of the dichotomy between political and commercial risk, whereby regulatory measures are more and more often challenged through IIL, is open to serious criticism. It relies on an artificial distinction between policy/law and markets, failing to recognise how markets are constituted by policy and law, rather than existing in a vacuum and being interfered with by legal and political means.[60] Whereas the phenomena of poor governance which IIL was initially designed to counter can conceivably be conceptualised in terms of political risk, referring the notion to legitimate regulatory measures arguably misunderstands the very purpose of IIL. The constitutive nature of law in respect of market is all the more pronounced as far as energy markets are concerned, in light of the high reliance of such markets on policy and regulation before they can even come into existence. As famously maintained by the Appellate Body (AB) of the WTO in the high-profile dispute concerning the subsidisation of renewable energy in Canada:

> "[A] distinction should be drawn between, on the one hand, government interventions that create markets that would otherwise not exist and, on the other hand, other types of government interventions in support of certain players in markets that already exist, or to correct market distortions therein. Where a government creates a market, it cannot be said that the government intervention distorts the market, as there would not be a market if the government had not created it".[61]

Be it as it may, however, IIL remains centred around an assumption of viability of such divide. Blurred as the divide between political and commercial risk may have become through the

(II) (ICSID Case No. UNCT/20/3), leading to an Award of 31 January 2022 dismissing the claim for lack of jurisdiction.

[59] See Fabian Flues, 'Coal Ransom: How the Energy Charter Treaty Drove Up the Costs of the German Coal Phase-Out' (PowerShift 2022) <https://www.globaljustice.org.uk/wp-content/uploads/2022/04/CoalRansom_ECTGermanCoalPhaseout_Apr2022.pdf>.

[60] As captured, for instance, by Polanyi's notion of "embeddedness" as developed in Karl Polanyi, *The Great Transformation: The Political and Economic Origins of Our Time* [1944] (Beacon Press 2001). Polanyi's intellectual legacy has been tremendously influential on a number of strands of thought analysing the implications of law's constitutive power over the economy. These include institutionalist political economy (see Wolfgang Streeck, 'Taking Capitalism Seriously: Towards an Institutionalist Approach to Contemporary Political Economy' (2011) 9 Socio-Economic Review 137) and the "law and political economy" (LPE) movement (see Katharina Pistor, *The Code of Capital: How the Law Creates Wealth and Inequality*, Princeton University Press 2019).

[61] WTO AB, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector; Canada – Measures Relating to the Feed-In Tariff Program* (WT/DS412/AB/R; WT/DS426/AB/R), para 5.188.

expansion of IIL's "catch" to embrace regulatory disputes, the narrative upon which the investment regime is premised revolves around the fundamental divide between political and commercial risk, and on the idea of countering political risk alone. The implications of such trait for the topic under consideration are clear: taking IIL's self-professed principles at face value, market-driven SFFAs are, in principle, not compensable. To the extent that their value is destroyed by competition on the marketplace, such destruction materialises commercial, not political risk. However, as will be seen below, things in reality may be different.

3. Recouping the value of market-driven SFFAs: Politicising commercial risk through sovereign hooks? A backward-looking forecast.

IIL standards of protection are notoriously vaguely formulated, and leave an enormous amount of discretion on IIL adjudicators called upon to apply them.[62] Such enormous discretion, coupled with the lack of conceptual elaboration on the boundaries of political risk, has been a key enabler of IIL's neo-liberal twist. Against the background of such evolution in IIL, it is interesting to notice that, in a number of instances, IIL claims appear to have been directed towards recouping the value of an investment which had been destroyed by the materialisation of commercial risk.

A minimum threshold condition inscribed in IIL's very DNA, by which the objective of countering political risk alone is pursued, is the condition posed on IIL's applicability that there be some form of governmental conduct which can be maintained to have impaired the value of investments. Otherwise put, IIL tribunals can only have jurisdiction *ratione materiae* over an investment dispute if there is a conduct attributable to the host State under the canons of public international law, with a *prima facie* relevant factual and/or legal nexus to the investment.[63] The very fact that markets are constituted by law, however, makes it extremely easy for an investor willing to bring an IIL claim to point to such a conduct and thereby have access to ISDS. A whole host of measures are routinely put in place by governments which display some effects in the economy, and allow for the latter's very operation. However, the uncertain

[62] See Anne van Aaken, 'Control Mechanisms in International Investment Law' in Zachary Douglas, Joost Pauwelyn, and Jorge E. Viñuales (eds), *The Foundations of International Investment Law: Bringing Theory into Practice* (Oxford University Press 2014), particularly 410-415.
[63] See Zachary Douglas, *The International Law of Investment Claims* (Cambridge University Press 2009) 240-247. On the problem of attribution in the specific context of IIL, see Jorge E. Viñuales, 'Attribution of Conduct to States in Investment Arbitration' (2022) 20 ICSID Reports 13.

conceptualisation of political risk and the open-ended nature of IIL's provisions allow investors to preposterously target such measures as affecting the value of an investment and being compensable under IIIL, even where the latter can more properly be understood as having been impaired by competition on the marketplace. The present paper refers to such phenomenon as "politicisation of commercial risk": the materialisation of commercial risk is strategically framed as stemming from political risk, in order to have access to compensation by governments for losses which, in reality, are attributable to market dynamics. Such politicisation is made possible by what is hereby labelled a "sovereign hook": a governmental measure which, concurring in the legal construction of markets, is tactically framed by investors as interfering therewith, with a view to satisfying IIL's jurisdictional requirement alluded to above.

The present Section is devoted to gauging the extent to which such politicisation of commercial risk is likely to occur in the context of the energy transformation. In fact, the magnitude of market-driven stranding of FFAs to be caused by the energy transformation is unlikely to go unnoticed by brown investors. The present paper thus hypothesises that those with high stakes in the carbon-intensive economy are likely to resort to IIL's way out of the stranding dilemma (see Section 2.2 above) to try and recoup the value of market-driven SFFAs. No such use of IIL has been made yet, also considering that the market-driven stranding of FFAs will mostly take place in the future (see Section 2.1 above). However, this Section addresses past ISDS cases in which the factual background evidences, that what was framed by investors as political risk actually was commercial risk, to argue that IIL can indeed be used to politicise commercial risk. This Section thus assesses the extent to which such strategies could also be transposed in the energy transformation context. To do so, this Section focusses on claims pivoting on sovereign hooks akin, by policy design, to those likely to also emerge in the context of litigation on the energy transformation. Rescue measures adopted by governments to mitigate social turmoil (Section 3.1), subsidisation schemes internalising positive externalities (Section 3.2), and policy instruments internalising negative externalities (Section 3.3) are thus identified as likely sovereign hooks for the brown industry to recoup the value of market-driven SFFAs. To buttress the possibility to analogise, the following prioritises cases in which the claims against such sovereign hooks were brought in the context of large-scale macroeconomic events leading to market-driven losses for investors. Not only does this make it easier to "decrypt" the actual motives underlying the claims as a politicisation of commercial risk; it can also provide insight

on how the points raised therein would likely be addressed in the context of the energy transformation (a large-scale macroeconomic event *par excellence*).

In the present paper's submission, such a tactical politicisation of commercial risk can be unveiled if one approaches the facts of a case through the lens of economic analysis. In fact, to the extent that the impairment of an investment results from the interaction of supply and demand on the marketplace, it should in principle be possible to detect it through an economic analysis of the factual scenario leading to an IIL dispute. In this limited sense, the present contribution advocates an increased use of economics in IIL disputes for descriptive purposes, aiming at enriching legal analysis and the realisation of IIL's normative purposes "from within". It does not, on the other hand, subscribe to the abdication to the normative design of orienting legal interpretation towards efficiency maximisation, understood through a neo-liberal lens, with which the US Law and Economics movement has mostly been associated in the past.[64] The rather underdeveloped application of economic analyses to international law entails, on the one hand, that the conversation on the implications of such a methodology cannot benefit from the sophistication and plurality of views which one can detect in the field where such a methodological option is most developed – that is, private law.[65] On the other hand, the infancy of the discipline makes it easier to apply economic approaches without being captured by the ideological overtones with which the debate on law and economics hast mostly been hitherto polluted. The input of economics can provide a valuable addition to the analytical toolkit of international investment lawyers, without entailing any subscription to the ideological options which most often come with the unspoken value-laden agenda of many a proponent of the economic analysis of law.

[64] On the possibility to draw from, *inter alia*, economic insights in a contextual analysis of the law, without abdicating to the efficiency maximisation of neoclassical economics, see Martha T. McCluskey, Frank Pasquale, and Jennifer Taub, 'Law and Economics: Contemporary Approaches' (2016) 35 Yale Law and Policy Review 297.
[65] The economic analysis of private law's pedigree can be traced back, at the very least, to the seminal, Robert H. Coase, 'The Problem of Social Cost' (1960) 3 Journal of Law and Economics 1. Economic approaches to international law are much more recent and still under-theorised. The single most influential book-length work on the matter is Eric A. Posner and Alan O. Sykes, *Economic Foundations of International Law* (Harvard University Press 2013). A selection of influential texts (the oldest tellingly dating to 1992) can be found in Eric A. Posner (ed), *The Economics of Public International Law* (Edward Elgar Publishing 2010). Such underdevelopment of economic approaches also affects the discipline of public law, broadly understood: see Giulio Napolitano and Michele Abrescia, *Analisi economica del diritto pubblico: teorie, applicazioni e limiti* (Il Mulino 2009) 46-47.

3.1. Just transition measures and the mitigation of social turmoil.

The market-driven stranding of FFAs, as described in Section 2.1 above, will generate major turmoil. Major job losses will ensue from the shut-down of brown companies, and the high degree of financialisation of the brown industry will generate further unrest, as, for instance, pension funds with heavy fossil investments are deprived of the dividends they envisaged to finance social security with. Against this background, governments will be subject to significant societal pressure to organise a "just transition", mitigating the social costs of the move away from a carbon-intensive economy.[66] Steps in this direction have already been taken, for instance, in the sector of coal.[67] It is to be expected that, as the energy transformation intensifies, so will resort by governments to just transition measures, which will arguably also be upscaled in intensity and scope.

A sense of how the just transition is liable to provide a convenient sovereign hook can be gained by looking at the ISDS practice in connection with the 2007-2008 financial crisis. The crisis reportedly led to large-scale unsettlement of the global financial system. Banks worldwide suffered severe distress, because of the excessive exposure to financial risk undertaken in previous years. When such distress led to a risk of default, governments intervened to "rescue" banks, in an attempt at stabilising the economy (trying to ensure, for instance, continued access by the real economy to liquidity from the credit system). States mostly pursued such objectives through "bail-outs" (rescues whose costs are borne by the government, such as, emblematically, recapitalisations through public funds) and, with increasing frequency as the most acute phasis of the crisis moved away in time, "bail-ins" (rescues whose costs are borne by private investors, such as, emblematically, recapitalisations through mandatory conversion of liabilities or deposits into equity).[68] Seeking to address the root causes of banks' insolvency (reportedly

[66] For an excellent and critical introduction to the concept(s) of just transition(s), see Dimitris Stevis, Edouard Morena, and Dunja Krause, 'Introduction: The Genealogy and Contemporary Politics of Just Transitions' in Edouard Morena, Dunja Krause, and Dimitris Stevis (eds), *Just Transitions: Social Justice in the Shift towards a Low-Carbon World* (Pluto Press 2020).
[67] See, in the EU context, Council Decision of 10 December 2010 on State aid to facilitate the closure of uncompetitive coal mines (2010/787/EU) [2010] EUOJ L336/24, making access to subsidies for "uncompetitive" coal mines conditional upon the presentation of a staged closure plan, with a view *inter alia* to the requalification of the workforce.
[68] See Raluca A. Roman, 'Bank Bailouts and Bail-Ins' in Allen N. Berger, Philip Molyneux, and John O.S. Wilson (eds), *The Oxford Handbook of Banking* (3rd edn, Oxford University Press 2019) 632-635 (on bail-outs) and 656-657 (on bail-ins).

generated by distorted risk incentives for bank managers), those measures were typically paired with varying degrees of interference with the governance of the bailed banks (including the subjection of banks to extraordinary administration or, especially in the case of bail-outs, their outright nationalisation).

Such interventionist attitude by bailing governments offered a convenient sovereign hook for investors to use ISDS to recoup the value of their interests in the banks thereby rescued. Such strategic use of IIL can be observed in the context of the crisis of Cyprus' banking sector between 2012 and 2014.[69] A strong exposure of Cypriot banks to Greek sovereign debt (reportedly, on the verge of default over those years), and the accumulation over the 2000s of non-performing loans generously granted, "gambling" on high returns, led the whole sector to face significant distress.[70] The rapid deterioration of the financial health of Cypriot banks led the Cypriot government, pressurised by the infamous "troika" of the European Commission (EC), the European central Bank (ECB), and the International Monetary Fund (IMF), to put in place radical rescue measures to safeguard the financial stability of the country's credit system.[71] The first high-profile measure put in place was the bail-out of the second-largest bank in the country, Popular Bank of Cyprus (also known as "Laiki"). The government nationalised Laiki in 2012, seeking to prevent its default by taking over its liabilities. The attempt was unsuccessful: in March 2013 Laiki was put on liquidation (and its assets largely acquired by the national champion, Bank of Cyprus). In January 2013, however, a major shareholder in Laiki filed a notice of arbitration, alleging the bail-out to have amounted to uncompensated expropriation and a breach of FET (*Marfin v. Cyprus*).[72] Similar claims were advanced in 2014, when the government ordered the bail-in of the suffering Bank of Cyprus, forcibly converting deposits and bonds held by creditors in the bank into equity; affected deposit-holders

[69] Similar remarks could arguably be made concerning the ISDS litigation on the resolution of Banco Popular in Spain: see *Rogelio Barrenechea Cuenca and others v. Kingdom of Spain* (PAC Case No. 2019-17); *GBM Global and others v. Spain* (ICSID Case No. ARB/18/33).
[70] See Scott Brown, Demetra Demetriou, and Panayoitis Theodossiou, 'Banking Crisis in Cyprus: Causes, Consequences and Recent Developments' (2018) 22 Multinational Finance Journal 63, 79-98.
[71] For background information on Cyprus' measures at this critical juncture, see Phoebus Athanassiou, 'BITs and Pieces: Reflections on the Relevance of BITs in Resolution-Related Litigation' in Christian J. Tams, Stephan W. Schill, and Rainer Hofmann (eds), *International Investment Law and the Global Financial Architecture* (Edward Elgar Publishing 2017) 241-244 (focussing on bail-ins).
[72] *Marfin Investment Group Holdings S.A., Alexandros Bakatselos and others v. Republic of Cyprus* (ICSID Case No. ARB/13/27).

(*Aleksandrowicz and Częścik v. Cyprus*)[73] and bond-holders (*Adamakopoulos and others v. Cyprus*) then challenged the measure in ISDS.[74]

Such cases provide a prime example of politicisation of commercial risk. In *Marfin v. Cyprus*, the deterioration of the Laiki's financial position was due to excessive exposure to financial risk because of short-sighted managerial choices. The bank's bail-out having taken place before the default, the investors most implicated in those choices however had a convenient case to make, that their investment had been expropriated without compensation. By so doing, they were presented with an opportunity to recoup the value of their investment to a larger extent than would have been possible, had they had to wait for the bank's liquidation and the under-priced wind-up of its assets. However, what destroyed the investments' value was not the bail-out: rather, it was the incapability to recover the loans granted in the past, as an epitome undertaking of excessive commercial risk. Much the same could be said in respect of the bail-in of Bank of Cyprus. The investors' unsecured deposits in *Aleksandrowicz and Częścik v. Cyprus* could not have been withdrawn in any event, and the bonds in *Adamakopoulos and others v. Cyprus* could not have generated any return, because the Bank was facing a severe liquidity crisis which the bail-in precisely aimed at overcoming.[75] The investment's value had thus already been destroyed, but the bail-in's mediation provided the investors with an opportunity to recover the value of those assets to the expense of the government. These attempts at recouping the investments' value were, however, mostly unsuccessful. The takeover of Laiki was found by the Tribunal in *Marfin v. Cyprus* to amount to an exercise of Cyprus' police powers, and to a proportionate measure under FET.[76] Further, bailed-in deposits in the Bank of Cyprus were deemed by the Tribunal in *Aleksandrowicz and Częścik v. Cyprus* not to qualify as a protected investment.[77] Given the magmatic state of the case law in both respects, however, a host State relying on such lines of defence would admittedly stand on shaky ground. Moreover, the claim in *Adamakopoulos and others v. Cyprus* has recently been allowed to proceed, rejecting an intra-EU jurisdictional objection.[78] In this context, financial securities are more likely to meet the definition of "investment". Therefore, unless a defence akin to the police

[73] *Robert Aleksandrowicz and Tomasz Częścik v. Cyprus* (SCC Case No. 2014/169).
[74] *Theodoros Adamakopoulos, Ilektra Adamantidou, Vasileios Adamopoulos and others v. Republic of Cyprus* (ICSID Case No. ARB/15/49).
[75] See Maurice Mendelson and Martins Paparinskis, 'Bail-ins and International Investment Law: In and beyond Cyprus' in Tams, Schill, and Hofmann (eds) (n 71) 208-209.
[76] *Marfin v. Cyprus* (n 72), Award of 26 July 2018, paras 822-1129 (police powers) and 1210-1236 (proportionality).
[77] *Aleksandrowicz and Częścik v. Cyprus* (n 73), Award of 11 February 2017, paras 180-200.
[78] *Adamakopoulos and others v. Cyprus* (n 74), Decision on Jurisdiction of 7 February 2020.

powers doctrine makes it on the merits, it appears likely that bond-holders will eventually be more successful than deposit-holders in recouping the value of their assets in the Bank of Cyprus.

What the Cypriot saga tells us is that IIL could be used in a similar, strategic fashion by the brown industry. If governments intervene to mitigate the social consequences of a market-driven default of fossil companies, this might give those companies a convenient sovereign hook to recoup the value of their market-driven SFFAs. For instance, governments may take over (or subject to extraordinary administration) oil companies led on the verge of default by a drop in demand for oil, with a view to organising an orderly migration and requalification of the workforce towards greener industries. Investors may then try to argue that this amounts to direct (in case of outright takeover) or indirect (in case of subjection to extraordinary administration, or comparable management constraints) expropriation, and sue governments under ISDS mechanisms to minimise the financial impact of a loss which, however, would have occurred (if earlier) even in the absence of the government's intervention.

Moreover, the Cypriot cases are instructive in one further respect. The claimants in *Marfin v. Cyprus* and *Adamakopoulos and others v. Cyprus* also tried to argue that the government's rescue measures were discriminatory, since other banks were left to stand with less radical rescue interventions.[79] However, the prioritisation of the rescued banks was mostly due to their systemic importance (Laiki and Bank of Cyprus were, respectively, the second and the first Cypriot bank). In the context of the just transition, "rescued" companies may also point to non-discrimination obligations as a second line of politicisation of commercial risk. *Mutatis mutandis*, it can be envisaged that non-discrimination arguments could be advanced if governments, in having to make choices on the allocation of scarce resources, were, without interfering with their property/management, to subsidise those brown companies whose default would entail the most extensive job losses. Such subsidisation could then provide a sovereign hook to non-rescued companies: the default thereof being actually caused by market dynamics, claiming compensation for an allegedly discriminatory exclusion from rescuing schemes could

[79] *Marfin v. Cyprus* (n 72), Award of 26 July 2018, paras 1237-1267 (non-discrimination as part of FET) and 1339-1349 (alleged breach of national treatment). Whereas, in respect of *Adamakopoulos and others v. Cyprus* (n 74), the detailed grounds for the claims are not available, reference to non-discrimination claims are made in the published decisions on jurisdictional issues: see Decision on Jurisdiction of 7 February 2020, para. 211; Statement of Dissent by Prof. Marcelo Kohen of 3 February 2020, para. 26.

be a convenient manner to shift the financial burden of the default on governments.[80] Whereas arbitrators in *Marfin v. Cyprus* appeared to be sensitive to the reality of policy-making in this field,[81] it is to be expected that brown companies will use IIL's malleable non-discrimination standards as a further layer of strategic attempts to politicise the commercial risk ensuing from the energy transformation.

3.2. The subsidisation of renewables and the internalisation of positive externalities.

The energy transformation has reportedly been nurtured by governments through subsidisation schemes to the benefit of renewables. Such subsidisation was made necessary by the economic structure of competition on energy markets. Transactions involving renewable energy entail significant positive environmental externalities: the use of renewables over FFs reduces GHG emissions for which, however, consumers are generally unwilling to pay higher prices, in light of the delocalised benefits thereby entailed.[82] Moreover, in the early years of the market for renewables, the technology needed for such form of energy generation entailed significant costs, making their use mostly uncompetitive *vis-à-vis* FFs (which, on their part, were extensively subsidised, further contributing to a massive incumbency problem).[83] Governments responded to this double challenge by providing generous subsidisation to producers of energy from renewable sources. Positive externalities were thereby internalised in the form of lower prices, incentivising consumers to purchase renewably-generated energy. Costs of power

[80] A similar strategy appears to have been put in place in *Resolute Forest Products Inc. v. Canada* (PCA Case No. 2016-13), where a US company challenged Canada's rescue of a competitor in the context of a crisis of the whole wood pulp market, *inter alia*, as discriminatory: see Notice of Arbitration and Statement of Claim of 30 December 2015, paras 110-120. The claims were, however, rejected on a number of grounds in an Award of 25 July 2022. See the lengthy analysis provided in Damien Charlotin, 'Analysis: Tribunal Hearing Paper Mill Dispute with Canada Decieds that NAFTA's Procurement and Subsidies Carve-Outs Bar Most claims, while Remaining Measures Do Not Evidence Nationality-Based Discrimination; Dissenter Would Have Found Treaty Breach', *IAReporter*, 17 October 2022 <https://www.iareporter.com/articles/analysis-tribunal-hearing-paper-mill-dispute-with-canada-decides-that-naftas-procurement-and-subsidies-carve-outs-bar-most-claims-while-remaining-measures-do-not-evidence-nationality-based/>.

[81] See *Marfin v. Cyprus* (n 72), Award of 26 July 2018, paras 1242, 1253, 1259, and 1342-1343, finding differences in treatment either not to exist, or to be objectively justified.

[82] See Timothy Meyer, 'How Local Discrimination Can Promote Global Public Goods' (2015) 95 Boston University Law Review 1937, in particular 1962-1989 (addressing the issue from the specific perspective of the local content requirements and other "discriminatory" measures which have, in the past, mostly been associated with subsidies to renewables).

[83] Elena Cima, 'Caught between WTO Rules and Climate Change: The Economic Rationale of 'Green' Subsidies' in Klaus Mathis and Bruce R. Huber (eds), *Environmental Law and Economics* (Springer 2017) 382-388. On incumbency, see Peter Newell and Phil Johnstone, 'The Political Economy of Incumbency' in Jakob Skovgaard and Harro van Asselt (eds), *The Politics of Fossil Fuel Subsidies and Their Reform* (Cambridge University Press 2018).

generation from renewables have sharply decreased recently, leading to a tendency for States to retreat from subsidisation programmes: renewables have now achieved competitiveness without need for public support (see Section 2.1 above).[84] However, as electrification of end-uses other than energy generation progresses, public support for renewables in those sectors is projected to keep on steadily rising in the upcoming years.[85]

By reducing costs for renewables, subsidies increase the competitive pressure placed on FFs, and will accelerate the market-driven stranding of FFAs. However, as hinted at already, the increased competitiveness flowing from subsidisation is the mere consequence of the internalisation of positive environmental externalities in prices of renewable energy. Producers are rewarded for the environmental benefits associated with cleaner forms of energy generation, but for which consumers are not willing to pay, as those benefits are diffuse and global in nature. Therefore, the market-driven stranding of FFAs which will result from competition with subsidised renewables is to be seen as the product of commercial risk, which was previously distorted by a market failure and restored by subsidies. However, subsidisation programmes may provide a convenient sovereign hook for fossil companies. Such companies might argue that the choice to subsidise renewables is, in fact, discriminating against them (under fair and equitable treatment (FET), national treatment (NT), or most-favoured-nationa (MFN) provisions, as the case may be): it could be argued, for instance, that, both categories of companies being in "like circumstances" (as they compete on the same energy market), subsidising green companies and not brown ones amounts to an unjustified and detrimental difference in treatment.[86] This would particularly be the case if, heeding the call currently made in many a circle, States were to undertake a comprehensive fossil fuel subsidies reform (FFSR), diverting funds from the brown to the green industry.[87] Even irrespective of that, however, the fact that most FF subsidies are currently provided in the form of consumer subsidies can give

[84] Ilaria Espa and Gracia Marín Durán, 'Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond Canada - Renewable Energy/FIT Program' (2018) 21 Journal of International Economic Law 621, 635-636.
[85] See IRENA, 'Energy Subsidies: Evolution in the Global Energy Transformation to 2050' (IRENA 2020) <https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2020/Apr/IRENA_Energy_subsidies_2020.pdf> 49-53.
[86] On the contested relevance of competition to the test of likeness under IIL, see Jürgen Kurtz, 'The Merits and Limits of Comparativism: National Treatment in International Investment law and the WTO' in Stephan W. Schill (ed), *International Investment Law and Comparative Public Law* (Oxford University Press 2010) 255-262.
[87] See Oil Change International and others, 'Opportunity to Shift G7 Finance from Fossils to Clean Energy' (Oil Change International 2022) <https://priceofoil.org/content/uploads/2022/05/OCI-G7-Factsheet-1.pdf>.

grounds for brown companies to make the case that they are actually not (directly) subsidised.[88] By crafting such an argument, brown companies would recoup the value of SFFAs stranded by the newly-levelled playing field, presenting them as, instead, stranded by distortive subsidisation policies.

Albeit somehow infrequent, claims at discrimination allegedly suffered because of exclusion from public support aiming at internalising positive externalities appear to have been made in the past. This was the case, for instance, of *Mercer v. Canada* (2018).[89] Here, a company falling short of the statutory requirements to benefit from subsidies to biofuels production, thereby facing fiercer competition from companies which qualified, sought to challenge the scheme as discriminatory. The claim was eventually unsuccessful: it is, in fact, well-established that differential treatment justified by objective differences in the investments prevents the respective circumstances from being "like", even where, economically speaking, the investors are direct competitors.[90] This principle may also shelter subsidies to renewables from the kind of politicisation of commercial risk hypothesised here (see Section 4.1 below). However, *Mercer v. Canada* stands for the proposition that companies are ready to challenge as discriminatory public support schemes, when faced with competition from undertakings benefitting therefrom, even where those arrangements redress market failures (rather than distort competition).

3.3. Carbon pricing and the internalisation of negative externalities.

A key component of FFSR is the call for the negative externalities caused by the burning of FFs to be internalised in such fuels' prices, with the failure to do so often being qualified as an

[88] See Henok B. Asmelash, 'Energy Subsidies and WTO Dispute Settlement: Why Only Renewable Energy Subsidies Are Challenged' (2015) 18 Journal of International Economic Law 261, 266-267.
[89] *Mercer International, Inc. v. Canada* (ICSID Case No. ARB(AF)/12/3). Somehow more difficult to assess is *Contractual Obligation Productions, LLC, Charles Robert Underwood & Carl Paolino v. Government of Canada* (UNCITRAL Arbitration, 2004). Here, an investor excluded from some cultural policy subsidies tried to argue that such exclusion was discriminatory. However, cultural policy subsidies ostensibly involve a non-economic rationale, so that it is harder to make the case that they aim at internalising positive externalities into market prices. Note that the proceedings were discontinued, most likely because NAFTA explicitly grandfathers discriminatory cultural policy subsidies (to the effect that prospects of success were extremely limited): see Luke E. Peterson, *US Television Production Company Challenges Subsidies Given to Canadian Firms* (Investment Law and Policy News Bulletin, August 22, 2005, IISD) <https://www.iisd.org/itn/wp-content/uploads/2010/10/investment_investsd_aug22_2005.pdf>.
[90] *Mercer v. Canada* (n 89), Award of 6 March 2018, Part VII(C), para 7.45. See n 103 below.

"implicit subsidy" to the fossil industry.[91] Against this background, governments are increasingly resorting to carbon pricing schemes, whereby, through a variety of arrangements (ranging from carbon taxes to cap-and-trade schemes), carbon-intensive industries are being forced to bear costs commensurate with the negative environmental externalities entailed by their businesses.[92] Much of what has been said in respect of subsidies to renewables thus also applies, *mutatis mutandis*, in the present context: once carbon pricing internalises those negative externalities, prices along the fossil value chain will rise, and demand for FFs will decrease. This will further spur the competitive pressure coming from renewables, accelerating the market-driven stranding of FFAs. Whereas stranding will thus derive from economic competition on a newly-levelled playing field, carbon pricing tools risk providing a sovereign hook for the brown industry to unduly frame claims reacting to such state of affairs as aiming at reacting to political, rather than commercial risk.

Support for this proposition may come from the ISDS cases brought in the context of the long-standing softwood lumber dispute between the USA and Canada.[93] Reportedly, the dispute pivoted on countervailing duties (CVDs) and, in its later stages, anti-dumping duties (ADDs) imposed by the US on imports of softwood lumber from Canada. Those duties aimed at offsetting the competitive advantage allegedly bestowed on Canadian producers by the stumping rights policies of some Canadian provincial governments, maintained to confer stumpage rights at below-market costs. Admittedly, the economics of the dispute are controversial, and the extent to which the international softwood lumber market was distorted by the Canadian practices is still an unsettled matter.[94] However, assuming that a degree of market distortion was actually entailed by the Canadian practices, it is extremely relevant, for present purposes, to note that the US' CVDs and ADDs were challenged in ISDS by the

[91] See Ian Parry, Simon Black, and Nate Vernon, 'Still Not Getting Energy Prices Right: A Global and Country Update of Fossil Fuel Subsidies' (IMF Working Paper WP/21/236) <https://www.imf.org/-/media/Files/Publications/WP/2021/English/wpiea2021236-print-pdf.ashx>.

[92] World Bank, 'State and Trends of Carbon Pricing 2022' (World Bank 2022) <https://openknowledge.worldbank.org/bitstream/handle/10986/37455/9781464818950.pdf?sequence=7&isAllowed=y> 15-32.

[93] An excellent account of the dispute up to 2005, as it unfolded in the domestic, NAFTA, and WTO fora, can be found in Iain Sandford, 'Determining the Existence of Countervailable Subsidies in the Context of the Canada-United States Softwood Lumber Dispute: 1982-2005' (2005) 43 Canadian Yearbook of International Law 297. An overview of subsequent developments can be found in Joanne M. LaMontagne and Offah Obale, 'The Softwood Lumber Dispute between Canada and the United States: Recent Developments' (Hillnotes, 17 December 2021) <https://hillnotes.ca/2021/12/17/the-softwood-lumber-dispute-between-canada-and-the-united-states-recent-developments/>.

[94] See Gilbert Gagné and Éric Jasmin, 'Les politiques forestières du Québec et le commerce «loyal»: Le différend sur le bois d'œuvre' (2010) 36 Canadian Public Policy 91, 93-94.

companies subject thereto.[95] Besides allegations at procedural unfairness in the imposition of the duties, which are fact-specific and scarcely relevant for present purposes,[96] the claims alleged that the duties were discriminatory (in breach of FET, NT, and MFN),[97] and amounted to uncompensated expropriation.[98] The claims thereby framed as political risk what was, in reality, an attempt at minimising the losses incurred because of the modified terms of competition. Once the value of the subsidy was internalised in international prices through ADDs and CVDs, Canadian exports to the US experienced, in fact, a significant drop in competitiveness, and trade therein shrunk.[99] If the fact that those duties rebalanced market dynamics is accepted, however, such reduction in demand for Canadian imports is to be viewed as the product of a commercial risk, from which Canadian timber was previously sheltered under the provincial governments' subsidisation. By the same token, once negative environmental externalities are internalised through carbon pricing, fossil companies outperformed by renewables may try to utilise carbon pricing schemes as a sovereign hook to recoup the value of the FFAs thereby stranded. The softwood lumber disputes show how arguments could be advanced, that carbon pricing amounts to expropriation, or that the subjection thereto is discriminatory. This may, first of all, come in the shape of an argument that brown competitors subject to carbon pricing are "like" green ones not subject to it, mirroring what could be argued in respect of green subsidies (see Section 3.2 above). On the other hand, it may also be argued that the choice by governments as to which brown industries to impose carbon pricing upon was dictated by discriminatory motives, similarly with the arguments possibly advanced in the just transition context (see Section 3.1 above). Outside of

[95] *Canfor Corporation v. United States of America* (UNCITRAL ad-hoc Arbitration, 2002); *Tembec Inc. et al. v. United States of America* (UNCITRAL ad-hoc Arbitration, 2004); *Terminal Forest Products Ltd. v. United States of America* (UNCITRAL ad-hoc Arbitration, 2004); *Domtar Inc. v. United States of America* (UNCITRAL ad-hoc Arbitration, 2007). The first three proceedings were eventually consolidated in a single proceeding: see the Order of the Consolidation Tribunal at <https://www.italaw.com/sites/default/files/case-documents/ita0115.pdf>.

[96] *Canfor v. USA* (n 95), Notice of Arbitration and Statement of Claim of 9 July 2002, paras 131-140; *Tembec v. USA* (n 95), Notice of Arbitration and Statement of Claim of 3 December 2003, paras 105-108; *Terminal Forest v. USA* (n 95), Notice of Arbitration of 31 March 2004, paras 20-27.

[97] *Canfor v. USA* (n 95), Notice of Arbitration and Statement of Claim of 9 July 2002, paras 110-130; *Tembec v. USA* (n 95), Notice of Arbitration and Statement of Claim of 3 December 2003, paras 100-104; *Terminal Forest v. USA* (n 95), Notice of Arbitration of 31 March 2004, para 28-38; *Domtar v. USA* (n 95), of 16 April 2007, paras 89-110.

[98] *Canfor v. USA* (n 95), Notice of Arbitration and Statement of Claim of 9 July 2002, para 148; *Tembec v. USA* (n 95), Notice of Arbitration and Statement of Claim of 3 December 2003, paras 109-110; *Terminal Forest v. USA* (n 95), Notice of Arbitration of 31 March 2004, paras 39-40.

[99] See Craig M.T. Johnston and Rajan Parajuli, 'What's Next in the U.S.-Canada Softwood Lumber Dispute? An Economic Analysis of Restrictive Trade Policy Measures' (2017) 85 Forest Policy and Economics 135, 136-137.

IIL, functionally similar challenges have indeed already been (unsuccessfully) brought.[100] The claims against the US were never decided on the merits, so that it is difficult to foresee how such arguments would play out in practice.[101] It seems likely, however, that similar strategies will be pursued by the brown industry when the impact of carbon pricing starts being felt more extensively.

4. Confronting the politicisation of commercial risk: Restating the boundaries of international investment law.

The case-studies presented above show how IIL standards of protection, thanks to their malleability, lend themselves well to the politicisation of commercial risk which market-driven SFFAs are likely to lead to. Those cases also show how such strategic invocation of IIL, far from being a purely speculative matter, is a reality which companies have already been eager to resort to, when trying to recoup the value of assets impaired by market dynamics. Against the background of this state of affairs, the remainder of the present contribution endeavours to identify the doctrinal tools by which such attempts at shifting on society the financial burden of the energy transition can be resisted. Whereas the divide between political and commercial risk is immanent to the whole edifice of IIL (see Section 2.2 above), the basic principle enshrined therein can and should be operationalised in a number of technical concepts and doctrines which prevent IIL standards from overstepping their boundaries.[102] To this end, the

[100] In the context of challenges against the EU's Emissions Trading Scheme: see European Court of Justice, Case T-16/04 – *Arcelor v. Parliament and Council* (ECLI:EU:T:2010:54), paras 146-160 (carbon pricing as an infringement of the right to property) and 161-170 (subjection to carbon pricing of the ferrous steel sector, but not the petrochemical and the non-ferrous steel sectors, as discriminatory treatment) and Case C-127/07 – *Arcelor Atlantique and Lorraine and Others* (ECLI:EU:C:2008:728), paras 25-74 (reiteration of the same non-discrimination claim). See Viñuales (n 3) 406-407.

[101] The claimants in *Canfor v. USA* (n 95), *Tembec v. USA* (n 95), and *Terminal v. USA* (n 95) withdrew their claims, in the context of the settlement of the dispute reached by the US and Canada in 2006: see the Joint Order on the Costs of Arbitration and for the Termination of Certain Arbitral Proceedings, paras 10-11 (in respect of Tembec) and 78-82 (in respect of Canfor and Terminal) at <https://www.italaw.com/sites/default/files/case-documents/ita0123.pdf>. *Domtar v. USA* (n 95), on its part, was brought after that settlement and never formally discontinued, but is reported to have been inactive since 2007: see <https://www.italaw.com/cases/3411>.

[102] The present contribution does not, on the other hand, focus on defences (broadly understood: see Jorge E. Viñuales, 'Defence Arguments in Investment Arbitration' (2021) 18 ICSID Reports 9) which aim at preserving the host State's right to regulate (e.g. lists of non-precluded measures, the police powers doctrine, or GATT-like exception provisions). On the one hand, many of those techniques involve a highly treaty-specific appraisal of the language of each specific investment treaty, making findings concerning those provisions less susceptible to generalisations. On the other hand, such defences do not, conceptually speaking, concern the demarcation between commercial and political risk. Rather, they involve an internal delimitation, by authoritative means of positive law, of the scope of political risk deemed to be acceptable under the treaty bargain (or, better, of which regulatory measures are deemed to fall outside the scope of political risk, properly understood). For an overview of the most

following sub-Sections explore the relevance to the issue under consideration of doctrines of non-discrimination (Section 4.1) and of causation (Section 4.2. The toolbox thus emerging, if properly operationalised, can provide adjudicators with adequate tools to prevent IIL from being stretched beyond its boundaries to hamper the energy transition. This is, however, subject to a proper doctrinal construction of the relevant concepts, which the present contribution aims at espousing from the angle of the phenomenon hereby described. Importantly, such tools can profit from the input of economic analysis which the present paper has argued for in Section 3 above.

4.1. Non-discrimination standards: Of externalities and economic policy-making.

The present contribution has shown how standards of non-discrimination (NT, MFN, and non-discrimination as part of the FET standard) are prone to invocation against governmental policies lying at the very core of the energy transition. In particular, it is to be feared that brown companies would challenge as discriminatory "green" subsidies in an attempt to recoup the value stranded by competition with "greener" subsided producers (Section 3.2), or carbon pricing schemes not imposed on greener competitors (Section 3.3). If such a twist takes place in IIL litigation, adjudicators would have at their disposal a straightforward tool to negate the politicisation of commercial risk which such strategies aim at bringing about: the notion that non-discrimination standards only prevent less favourable treatment to investors in "like circumstances" relative to the comparator assumed. A long-standing jurisprudence is by now well-established, under which undertakings which compete to supply the same demand are not "like" each other, if justifiable regulatory reasons (including diverging environmental considerations) exist to establish a differential treatment.[103] Applying such precedent would then lead one to conclude that subsidising producers of green energy to the exclusion of producers of energy from fossil fuels cannot be discriminatory. In fact, the respective

relevant techniques by which this is accomplished, see generally Catherine Titi, *The Right to Regulate in International Investment Law* (Nomos 2013).

[103] See famously *Methanex Corporation v. United States of America* (UNCITRAL ad-hoc Arbitration, 2005), Award of 3 August 2005, Part IV(B), paras 29-38; *Parkerings-Compagniet AS v. Republic of Lithuania* (ICSID Case No. ARB/05/8), Award of 11 September 2007, paras 362-430. Whereas most of the relevant case law has been developed in the field of NT, legal tests for non-discrimination clauses in IIL tend to exhibit a high degree of convergence between the different legal bases (NT, MFN, or FET): see Todd J. Grierson-Weiler and Ian A. Laird, 'Standards of Treatment' in Peter Muchlinski, Federico Ortino, and Christoph Schreuer (eds), *Oxford Handbook of International Investment Law* (Oxford University Press 2008) 290-296; Federico Ortino, 'Non-Discriminatory Treatment in Investment Disputes' in Pierre-Marie Dupuy, Ernst-Ulrich Petersmann, and Francesco Francioni (eds), *Human Rights in International Investment Law and Arbitration* (Oxford University Press 2009).

undertakings, while competing on the same downstream market for energy, are not in like circumstances because of the different environmental impacts of the respective production processes. By the same token, subjecting carbon-intensive producers to a carbon pricing scheme not applicable to producers of the same good through greener processes cannot be discriminatory, despite the fact that such producers eventually compete for the same consumers.

When it comes to the more economically oriented issue of alleged discrimination in deciding which amongst multiple suffering enterprises to rescue or to subject to management constraints (Section 3.1), or upon which amongst several industries to levy a carbon tax (Section 3.3), a similar solution can be reached. Whereas this is more on socio-economic more than environmental grounds, actors deemed by governments to be more "worthy" of attracting governmental intervention because of their systemic importance are also not "like" companies whose default would entail lesser social costs. By the same token, the choice to prioritise certain industries in gradually expanding the scope of carbon pricing schemes can be framed in terms of "unlikeness" of the companies concerned, viewed against the backdrop of the impact on society as a whole of a transition which has to come about in gradual terms, or of different degrees of carbon-intensiveness justifying a starker intervention on more polluting industries. The point was acknowledged in the IIL cases in the Cypriot banking sector,[104] and can benefit from the fact that, in matters entailing complex policy-making considerations, IIL tribunals tend to grant a broader measure of deference to States.[105] Tribunals would thus likely have to defer to the government's determination of the "unlikeness" of the firms subject to or excluded from the measures contested, to exclude that the conduct challenged through IIL standards amount to unlawful discrimination.

Importantly for present purposes, both such lines of analysis can significantly benefit from the input of economic knowledge. The assessment of unlikeness aptly captures the notion that green subsidies and carbon pricing materialise commercial, and not political risk. The different externalities associated with the respective production processes, internalised through the policy thereby challenged, provide an economically sound criterion to demarcate the scope of admissible challenges of the said policies. If the claim targets selective policies grounded on

[104] See n 81 above and surrounding text.
[105] See Joshua Paine, 'Standard of Review' in Hélène Ruiz Fabri and Edoardo Stoppioni (eds), *International Investment Law: An Analysis of the Major Decisions* (Bloomsbury Publishing 2022) 330-334 (including a discussion of *Marfin v. Cyprus* (n 95), Award of 26 July 2018, although in the context of the analysis of the applicability of the police powers doctrine to which reference was made in n 76 above and surrounding text).

socio-economic reasons, an economic analysis can also provide insights into the different position of the companies or industries targeted, by providing an assessment of the social cost which would be entailed by orienting economic policy in the direction desired by the claimant. When economically understood, the test for non-discrimination can thus concur in realising IIL's internal rationale, and preventing it from overreaching in its impingement of host States' regulatory autonomy.

4.2. Causation in IIL and the legal constitution of markets.

Significantly less developed in the case law is another line of analysis which however, in the present author's submission, plays an even more vital role in keeping IIL's standards of protection in check: that is, the causation inquiry. A foundational notion, yet one which is incredibly hard to grasp in precise conceptual terms, causation (at least as far as its legal uses are concerned) generally aims at capturing the idea that a given conduct "made a difference" in the course of events to which legal norms are to be applied.[106] In extremely general terms, causation thus emerges as a relational judgement between a conduct and an event, which is understood as a consequence of the former. The consequences attached by the law to the event can thus be attributed to the actor putting in place the conduct in respect of which the causal judgement is formulated.

Traditionally the crux of legal theorists, private lawyers, and criminal lawyers, causation has received comparatively little attention in the field of international law. The International Law Commission (ILC) famously considered questions of causation in the context of its Draft Articles on the Responsibility of States for Internationally Wrongful Acts (ARSIWA). As is well-known, the ILC analysed causation as a link whose existence must be ascertained between a wrongful act and an alleged injury, for the secondary obligation by the responsible State to provide reparation for the injury caused to exist.[107] However, perhaps as a consequence of the deliberate choice by the ILC to exclude damage as a constitutive element of internationally wrongful acts,[108] this has made many an author oblivious to the fact that a causation analysis can also be mandated for by the primary norm whose breach amounts to an internationally

[106] See Herbert L.A. Hart and Tony Honoré, *Causation in the Law* (2nd edn, Oxford University Press 1985) 28-32.
[107] ILC Draft Articles (n 45), Art. 31.
[108] See Alain Pellet, 'The Definition of Responsibility in International Law' in James Crawford and others (eds), *The Law of International Responsibility* (Oxford University Press 2010) 8-11.

wrongful act.[109] When such primary norm is couched in causal terms, adjudicators will have to carry out a causal inquiry already at the level of determining whether an internationally wrongful act was committed in the first place. In other words, if the norm is breached only when the State causes a given event, a twofold causal inquiry will need to be carry out. First, adjudicators will need to test whether a given conduct caused the event which the norm aims at preventing from occurring (hereinafter, this causal inquiry will be referred to as "primary causation"); second, a scrutiny whether the event so caused did further cause any injury will be in order (assessing what will be labelled, in the following, "secondary causation"). When, on the other hand, the primary obligation aims at proscribing only a conduct in itself, irrespective of any event thereby caused, only secondary causation will need to be appraised: the internationally wrongful act is the conduct in itself, and any injury thereby caused will have to be ascertained only for the purposes of reparation. What this conceptual framework means for present purposes is that causation will have a varying significance depending on the structure of the standards of treatment invoked:

a) In respect of claims of non-discrimination (whether NT, MFN, or FET-based), as well as of direct expropriation, only the ARSIWA-based inquiry into secondary causation will have to be carried out. In respect of these standards of treatment, the primary provision proscribes a conduct in itself, irrespective of its consequences (discriminatory treatment, or formal transfer of title over the investment, respectively); as a consequence, causation will only have to be tested when ascertaining whether investors are entitled to receive any reparation for injury allegedly flowing from the conduct. In our case, this would apply, on the non-discrimination side, to claims that a selective rescue in the context of just transition plans (Section 3.1), the disbursement of subsidies to green producers only (Section 3.2), or the selective identification of sectors subject to carbon pricing (Section 3.3) were discriminatory. Further, such inquiry would need

[109] A point which, however, some more astute commentators have already raised in the literature. See e.g., in the generalist public international law literature, Andrea Gattini, 'Breach of International Obligations' in André Noellkaemper and Ilias Plakokefalos (eds), *Principles of Shared Responsibility in International Law: An Appraisal of the State of the Art* (Cambridge University Press 2014) 28-29; Ilias Plakokefalos, 'Causation in the Law of State Responsibility and the Problem of Overdetermination: In Search of Clarity' (2015) 26 European Journal of International Law 471, 473-474; Alice Ollino and Giuseppe Puma, 'La causalità e il suo ruolo nella determinazione dell'illecito internazionale' (2022) 105 Rivista di diritto internazionale 313, 334-341; Alice Ollino, 'A "Missed" Secondary Rule? Causation in the Breach of Preventive and Due Diligence Obligations' in Gábor Kajtár, Basak Çali, and Marko Milanovic (eds), *Secondary Rules of Primary Importance in International Law: Attribution, Causality, Evidence, and Standards of Review in the Practice of International Courts and Tribunals* (Oxford University Press 2022).

to be carried out, as far as direct expropriation is concerned, in case a just transition measures went so far as to nationalise the company concerned (Section 3.1).

b) In respect of claims of indirect expropriation, however, also primary causation will have to be scrutinised. Indirect expropriation is defined as conduct which has as its *effect* a deprivation of value of the investment, or of control over it, equivalent to that of a formal taking.[110] When adjudicating a claim based on such cause of action, tribunals will thus be required to ascertain whether the State measures complained of caused an impact on the investment of such magnitude as to be tantamount to direct expropriation. Once a treaty breach is so established, secondary causation of injury on its part will then need to be tested. For present purposes, such questions would arise in respect of just transition measures unfolding into management constraints falling short of outright nationalisation (Section 3.1), or of carbon pricing schemes (Section 3.3).

Reportedly, the ILC provided guidance as to how secondary causation alone has to be established (consistent with the structure of the ARSIWA, which only consider such form of causation).[111] However, nothing in international law seems to suggest that different principles ought to govern primary causation, and the following assumes that the causal test would not change as between the two (if only, for reasons of systemic consistency and conceptual affinity). Building on well-established scholarly understandings,[112] the ILC famously stuck to the so-called factual-legal understanding of causation, whereby causation is to be ascertained through a two-steps inquiry. First, a "factual" assessment of causation would be necessary, generally identifying all factual antecedents acting as a *conditio sine qua non* to the event; second, a "legal" assessment is mandated for, excluding the causal relevance of antecedents which, while factually causal, are deemed to be "too remote" to be relevant for legal purposes (according to the ILC, mostly either because the consequence was not "proximate" to the antecedent or

[110] As acknowledged, for instance, by the language of an epitome provision such as Art. 13 of The Energy Charter Treaty (2080 UNTS 95), as in force at the time of writing, under which: "Investments of Investors of a Contracting Party in the Area of any other Contracting Party shall not be nationalized, expropriated *or subjected to a measure or measures having effect equivalent to nationalization or expropriation*, […]" (emphasis added). In the literature, see Anne K. Hoffmann, 'Indirect Expropriation' in August Reinisch (ed), *Standards of Investment Protection* (Oxford University Press 2008) 156-159; Johanne M. Cox, *Expropriation in Investment Treaty Arbitration* (Oxford University Press 2019) 101-113. Explicitly framing the issue in terms of causation analysis, see Ripinsky and Williams (n 41) 142-143.

[111] See 'Report of the Commission to the General Assembly on the Work of Its Fifty-Third Session' (Yearbook of the International Law Commission 2001, Volume II, Part TWO) (A/CN.4/SER.A 2001/Add.1 (Part 2)) (in the following: 'ILC Commentary') 92-93.

[112] See Bin Cheng, *General Principles of Law as Applied by International Courts and Tribunals* (Steven and Sons 1953) 241-253.

because it was not "foreseeable").[113] Both steps of such causation test are reportedly very problematic. Factual causation understood as *conditio sine qua non* can raise problems from a logical point of view,[114] and legal causation is plagued with indeterminacy, proneness to arbitrary application, and inconsistent operationalisations.[115] At the same time, factual-legal causation is widely recognised in international law, and provides the conceptual framework within which causation inquiries are carried out in the field. Schematically, factual causation requires the adjudicator to formulate a counterfactual: Had the State not engaged in the challenged conduct, would the event have taken place with the same modalities as it did? Legal causation, on the other hand, entails a normative judgement: Despite the fact that the conduct can be understood as factually causal, was the causal link interrupted by contemporaneous or subsequent events which can be regarded as superseding the antecedent attributable to the State?

The present contribution's key submission is that, if questions of causation are approached from a point of view mindful of the insights of economic analysis, the politicisation of commercial risk hereby hypothesised emerges as doctrinally untenable.[116] More particularly, claims directed against just transition measures in the vein of the cases surveyed in Section 3.1 above would then not be identified as factual causes of the harm lamented of. In such cases, a counterfactual analysis would reveal that the destruction of the investment's value which investors try to blame on the sovereign hook had already taken place, or would have taken place in any event, because of the underlying market dynamics. As a consequence, the government's intervention cannot be predicated to be an antecedent to the harm being complained of. The point was acknowledged with remarkable clarity by the International Court of Justice (ICJ) in

[113] ILC Commentary (n 111) 92-93.
[114] See, for an overview, Martin Jarrett, *Contributory Fault and Investor Misconduct in Investment Arbitration* (Cambridge University Press 2019) 48-51.
[115] See ibid 51-53; at more length, Martin Jarrett, 'Depolluting the Doctrine on Causation in International Investment Law: The Case for Extracting "Legal Causation"' in Kajtár, Çali, and Milanovic (eds) (n 109) 129-136. Also see Stanimir A. Alexandrov and Joshua M. Robbins, 'Proximate Causation in International Investment Disputes' in Karl P. Sauvant (ed), *Yearbook on International Investment Law & Policy 2008-2009* (Oxford University Press 2009) 324-332, usefully underlining the different results to which the "proximity" and "foreseeability" tests are conducive in the IIL practice specifically. Such latter point had already been underlined, in respect of general international law, as early as in Cheng (n 112) 245-253.
[116] The use of economics for such purposes has already been foreshadowed in the literature. See e.g. Carla Chavich and Pablo López Zadicoff, 'Economics in Investor-State Arbitration beyond Quantum' in Theresa Carpenter, Marion Jansen, and Joost Pauwelyn (eds), *The Use of Economics in International Trade and Investment Disputes* (Cambridge University Press 2017) 340-341, envisaging resort to economics in establishing primary causation in respect of claims of indirect expropriation; Manuel A. Abdala and Alan Rozenberg, 'Assessing Investor Damages Involving Publicly Traded Companies – with Examples from the Yukos Cases' ibid 352, underlining the relevance of economics in carrying out the assessment of secondary causation.

the landmark *ELSI* case (1989).[117] Here, the ICJ was requested to ascertain whether a temporary requisition by Italy of a company controlled by US firms was in breach of Art. III of the Treaty of Friendship, Commerce, and Navigation (FCN Treaty) between the US and Italy, envisaging the right for US companies to "organize, control and manage" subsidiaries in Italy.[118] ELSI, such a subsidiary, was facing severe economic difficulties, leading the US-based controlling companies to decide to shut down the plant and liquidate the company's assets. This led to severe social turmoil, and to the Italian authorities temporarily requisitioning the company with a view to mitigating social unrest.[119] The company was eventually acquired by an Italian governmental agency, and the US argued that the requisition had deprived the US investors of their right to order the company's liquidation as a facet of their right to "control and manage" it under the FCN Treaty. The ICJ, however, rejected the argument, finding that ELSI's deteriorated financial situation would have resulted in any event in an impossibility for the investors to liquidate the company, since the latter would have been declared bankrupt in any event:

> "Furthermore, one feature of ELSI's position stands out: *the uncertain and speculative character of the causal connection* […] between the requisition and the results attributed to it by the applicant. There were several causes acting together that led to the disaster to ELSI. No doubt the effects of the requisition might have been one of the factors involved. But *the underlying cause was ELSI's headlong towards insolvency*; which state of affairs it seems to have attained even prior to requisition."[120]

Explicitly framing the analysis in terms of (factual) causation, the ICJ rejected the US' argument, and found Italy not to fall short of compliance with its obligations under the FCN Treaty. Although with somehow uncertain doctrinal reasoning, arguments to such effect appear, moreover, to have been made in the IIL case law itself.[121] By the same token, investment disputes where analogous social policy measures were to be targeted as a sovereign hook should deem the government's measure not to be causally relevant to the destruction of the

[117] ICJ, *Elettronica Sicula S.p.A. (ELSI),* Judgment, ICJ Reports 1989, p. 15.
[118] Treaty of Friendship, Commerce and Navigation between the United States of America and the Italian Republic (79 UNTS 171), Art. III. On the standard of protection envisaged by such provision and similar provisions in other US FCN treaties, see Kenneth J. Vandevelde, *The First Bilateral Investment Treaties: U.S. Postwar Friendship, Commerce, and Navigation Treaties* (Oxford University Press 2017) 447-449.
[119] See the case's narrative in *ELSI* (n 117), paras 12-46.
[120] ibid para 101 (emphasis added).
[121] See the case law surveyed in Anna De Luca, 'Bank Rescue Measures under International Investment Law: What Role for the Principle of Causation?' in Tams, Schill, and Hofmann (eds) (n 71) 232-236.

investment's value. Where fossil fuel assets are stranded by the economic affects of the energy transition and governments intervene to mitigate the social costs, they do not *cause* the loss to the investor; they latter is, rather, a premiss to the government's intervention. Understanding such intervention as needing compensation would entail preposterously shifting the financial burden of a market-driven stranding on taxpayers.

In the case of subsidisation for renewables or subjection of brown industries to carbon pricing, a comparable result would have to be reached; however, it would be legal (as opposed to factual) causation of the harm which would have to be excluded. As was the case with the measures surveyed in Section 3.2 and Section 3.3 above, the economic harm for the claimant would be caused by competitive dynamics on the marketplace, which the policies concerned would simply be restoring after a market failure prevented them from "correctly" taking place. The State measure internalising the positive (in the case of subsidies) or negative (in the case of carbon pricing) environmental externality would thus certainly be relevant to the eventual investor's loss, as far as factual causation is concerned: without such measure, competition would have continued to be distorted by the market failure, and brown companies would have retained their market shares. However, the subsequent mediation of market dynamics once the market failure is redressed can and should be interpreted as breaking the (legal) causal connection with the eventual harm suffered by the investor. As has been hinted at above, legal causation essentially aims at realising the normative purpose of the legal doctrine under which the causation analysis is carried out.[122] Consequently, as acknowledged by the ILC itself, the way in which its operation breaks the factual causal chain is imbued with the values enshrined in the primary obligation under which the causation assessment is carried out, and is liable to change across different subject matters.[123] It would here need to be reminded that the purpose of IIL generally is to shelter investors from political, and not commercial risk (Section 2.2). It is thus hereby submitted that, when an economic analysis reveals that the State conduct concerned merely redressed a market failure, the economic harm caused by the newly-modified terms of competition would find its "proximate" cause not in the underlying subsidy or carbon pricing measure, but rather in the market dynamics thereby established. The factual causation of the harm by policy would be legally superseded by subsequent competition on the marketplace, in recognition of the fact that harm would be caused by the materialisation not of political risk, but of commercial risk. States would thus not be held to account for the

[122] See Hart and Honoré (n 106) 4-5.
[123] ILC Commentary (n 111) 93. In the literature, see Gattini (n 109) 29-31.

consequences of a conduct which merely constituted the terms of competition on the marketplace. Such an economically-informed analysis would still allow for clearly arbitrary interferences with economic processes to be caught by IIL's net, while preventing IIL's protection standards from overreaching and allowing for an undue politicisation of commercial risk.

It deserves being noted that such understanding of the causation analysis would lead to doctrinally different constructions depending on the treaty standard at play:

- In respect of standards not entailing a primary causation analysis (non-discrimination standards and protection against uncompensated direct expropriation), the link being broken would be that of secondary causation. The analysis hereby advocated would then lead, if to anything at all,[124] to a finding of treaty breach not entitling the claimant to any reparation. The leading precedent in this respect would be the famous case of *Biwater Gauff v. Tanzania* (2008),[125] where an ICSID Tribunal found that, while Tanzania had breached the UK-Tanzania BIT, its conduct had not caused any damage (under a factual causation analysis akin to that advocated above), thereby refusing to order any reparation measures. Whereas such a finding would not be completely satisfactory in turn,[126] it would prevent the abusive outcome of socialising the losses of market-driven stranding of fossil fuel assets.
- As far as claims of indirect expropriation are concerned, however, it would be primary causation to be excluded. As a consequence, tribunals would find that no treaty breach occurred in the first place, and the claim would fall to be dismissed on the merits.

The above analysis would thus suggest that causation would play a key role in confronting the politicisation of commercial risk by strategic claimants. When the stranding of assets is genuinely attributable to market dynamics, governmental policy does not cause, factually or

[124] Bearing in mind that the approach advocated here would lead, in the case of non-discrimination claims, to a finding that no discriminatory conduct was engaged at all: see Section 4.1 above.
[125] *Biwater Gauff (Tanzania) Ltd. V. United Republic of Tanzania*, ICSID Case No. ARB/05/22, Award of 24 July 2008.
[126] See Nathalie Bernasconi-Osterwalder and Lise Johnson, 'International Investment Law and Sustainable Development: Key Cases from 2000-2010' (IISD 2011) <https://www.iisd.org/system/files/publications/int_investment_law_and_sd_key_cases_2010.pdf> 32, mentioning that such a finding may have implications for the apportionment of procedural costs, or negatively affect the host State's reputation in the international (business) community.

legally depending on the circumstances, any harm to the investor, and the attempt at recouping the value of the assets thereby prejudiced should be rejected by the adjudicator(s).

5. Conclusion.

The energy transition and the attendant energy transformation will determine a radical overhaul of several tenets of the global economy. The stranding of unprecedented amounts of FFAs worldwide will likely lead brown companies to try to minimise the impacts of stranding through IIL. Market-driven stranding is a complex phenomenon which, in principle, appears to squarely fall beyond the scope of IIL's protection standards. However, underdeveloped conceptualisations of political risk in IIL, coupled with the fact that governmental measures playing a constitutive role in energy markets can be easily identified, is likely to provide investors with an easy sovereign hook to bring a claim under IIL and attempt at recouping the value of market-driven SFFAs. If entertained, claims pivoting on such strategic uses of IIL would unacceptably shift the burden of the energy transformation from investors to governments, politicising commercial risk and socialising the losses of the move away from a carbon-intensive economy. The present paper has identified a number of focal points which, based on historical record, seem likely to be used by the brown industry to recoup the value of market-driven SFFAs. If these and other analogous threats to the energy transformation materialise in the future, it will be up to investment tribunals to resist strategic attempts by the brown industry at socialising the losses entailed by the energy transformation. The present contribution has also identified doctrines of non-discrimination and causation as possible pivots for an attempt at resisting such strategic invocation of IIL. Whereas the operationalisation of such doctrines can strongly benefit from the input of economic knowledge, the ultimate factor determining whether IIL is stretched beyond its outer limits ultimately lies with the adjudicators and their willingness to exercise their discretion in a manner consonant with the need for the energy transformation not to be hampered.[127]

[127] In this respect, a moderate degree of optimism may be justified if one considers that investment arbitrators appear to be gradually shifting towards an increased sensitivity to environmental arguments in IIL cases: see Jorge E. Viñuales, 'Foreign Investment and the Environment in International Law: Current Trends' in Kate Miles (ed), *Research Handbook on Environment and investment Law* (Edward Elgar Publishing 2019).