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Addressing Climate Change through International Investment Agreements: Obstacles and Reform Options

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Abstract: The current international investment treaty network is not well suited to climate goals. The tension stems from the fact that "old generation" of international investment agreements were concluded before the widespread climate action and they were "climate neutral" or "climate blind". This study explores the obstacles for international investment agreements and investment arbitration to tackle climate change issues, indicating the need for reform. Despite the fact that some states have begun to reform their international investment agreements in light of climate change, there are still many shortcomings to be addressed. The current international investment agreement regime should be reformed to incorporate climate change considerations for investment arbitration to contribute to climate change mitigation. According to the findings, updating investment treaties based on a climate-oriented model would be a viable option for states.

Keywords: climate change; international investment agreements; investor–state dispute settlement; climate-oriented model investment treaty

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1. Introduction

Global climate change has become a major concern today, and it has been described by the G20 as "one of our greatest challenges" [1,2]. Climate change is characterized by externality and has a global, long-term, and intergenerational impact [3]. To prevent climate change deterioration, the 21st United Nations Climate Change Conference adopted the Paris Agreement, which promotes climate finance and mitigates climate change worldwide. Article 2 (1) of the Paris Agreement establishes the goals of climate change mitigation to be "holding the increase in the global average temperature well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels" and "making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development". During the 28th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP28), several international financial institutions, including the World Bank and the Asian Development Bank (ADB), unveiled financing plans aimed at spurring more decisive action and expediting the global fight against climate change. For example, the World Bank has committed 45 percent of its annual lending for the fiscal year from 1 July 2024 to 30 June 2025 to climate-related projects to help developing countries better withstand the severe impacts of climate change. Simultaneously, private investment, including foreign direct investment (FDI), is also an important source of climate finance.

Although domestic laws in different countries provide varied definitions for foreign investment, the scope of foreign investment is generally broad. Foreign investment may consist of movable and immovable property, intellectual property rights, securities [4], claims to money, business concessions, and other property rights. The promotion and protection of foreign investment is channeled through the framework of both domestic and international law, and both of them can encompass considerations related to the climate change impacts of foreign investments.

Most countries or economies enact laws or adopt policies governing foreign investment. These instruments not only provide protection for foreign investments but also guide and align them with relevant policy requirements to ensure they better serve policy objectives. For instance, the European Commission launched the “InvestEU program” in 2021 to support sustainable investment, innovation, and job creation in Europe [5]. Within this initiative, the eligibility criteria for obtaining Union support, particularly in the context of infrastructure investments, entail actively contributing to addressing climate change. Such investment projects that receive support must be screened by the implementing partner to determine whether they have environmental, climate, or social impact.

At the international law level, since Germany and Pakistan signed the first bilateral investment treaty (BIT) in 1959, international investment agreements (IIAs) have emerged as one of the most significant sources of international legal protection and promotion of foreign investments. However, IIAs are developed on a different track from international climate change law. The majority of current IIAs do not adequately address climate change issues. The investor-state dispute settlement (ISDS) mechanisms, especially the international investment arbitration system established under IIAs, often fail to adequately balance the relationship between protecting foreign investments and regulatory rights of host country governments to address climate change. Nevertheless, as climate change issues become more prominent, measures taken by a state to address them may become grounds for foreign investors to initiate investment arbitration under IIAs. Based on statistical data [6], many previous ISDS cases involved climate action-related measures or sectors. Not only do these cases highlight the growing friction between the investment regime and climate change mitigation, but they also highlight the complexities at the intersection of the two.

Against this backdrop, this study discusses three types of investment disputes involving host states’ regulation to address climate change issues, which indicate the current IIA regime may act as a barrier to climate policy action. In addition, it examines the obstacles of current IIAs in addressing climate change and offers solutions in the end. In this study, the following questions are addressed: First, what types of climate change cases arise in current international investment arbitration? Second, why is it difficult for current IIAs and the international investment arbitration system to provide safeguards to host country governments when adopting climate change policies? What are the manifestations of their deficiencies? Finally, how can IIAs be refined to facilitate the implementation of climate-oriented reforms?

This study concludes that effective global climate governance requires substantial capital investments in the low-carbon sector for industrial transformation, upgrading, and technological advancement. With the climate-oriented reform of IIAs, cross-border investments from high emissions to low emissions will be facilitated and expedited. As a consequence, IIAs do not impede states from implementing climate measures and accelerating the transition to low-carbon economies. The findings of this study have significant policy implications for government regulators, policymakers, and stakeholders. The model climate-oriented treaty it advocates will serve as a template and reference for all countries, especially developing countries, in revising or renegotiating their own IIAs.

2. Literature Review and Research Methods

The relationship between investment arbitration and climate change has been the subject of research for some time [7–9]. Only recently have climate change issues gained significant attention due to the severity of the issue and an increase in the number of climate change-related investment arbitration cases. The literature has explored various themes, encompassing the intersection of climate change-related IIA provisions and international investment arbitration. These discussions delve into specific provisions such as fair and equitable treatment [10], indirect expropriation [11], and exception clauses [12]. Additionally, research has been conducted on reforming dispute resolution mechanisms to accommodate climate change mitigations [13].

The climate change issue is also prioritized by the Organization for Economic Co-operation and Development (OECD) and the United Conferences on Trade and Development (UNCTAD). OECD held a public consultation in 2022 to contribute to ongoing government, stakeholder, and expert work on investment treaties and climate change [14]. The UNCTAD has launched two issues' notes dealing with the IIA regime and climate action in September 2022, and has developed a toolbox with policy options to reform the IIA regime for climate action [15].

Based on the existing literature, this study categorizes the climate change-related cases in international investment arbitration and examines the shortcomings of the current IIA regime in tackling climate change. A comprehensive approach to reforming investment treaties, including both substantive and procedural provisions, is taken. Using insights from relevant cases, analyzing investment agreement texts, and referencing UNCTAD and OECD reports, this study proposes the development of a climate-oriented model investment treaty. Specifically, the model investment treaty addresses the challenges that developing countries face when dealing with climate change. An approach based on "common but differentiated responsibilities" can be introduced. In light of the limited capability of developing countries to deal with climate-related issues, this approach seeks to enable them to fulfill their obligation to reduce greenhouse gas emissions.

This study has systematically gathered all existing investment arbitration cases relating to climate change mitigation measures in order to ensure comprehensive coverage of pertinent research. In addition, it compiled and organized the latest texts of investment agreements in order to assess the extent to which they address climate change issues. Taking advantage of the foundation laid by these investment arbitration cases and treaty texts, the study undertakes a thorough and detailed analysis. An array of analytical strategies was applied during this process, including document analysis, case studies, and data analysis.

Document analysis involves meticulously examining, interpreting, and evaluating academic publications, IIA texts, and governmental policy documents. A number of investment arbitration cases related to climate change were cited and analyzed as empirical evidence in the study. Data analysis, incorporating both qualitative and quantitative data, was conducted simultaneously to examine the extent to which existing IIAs address climate change issues and their effectiveness in addressing these issues. These analytical strategies were developed in order to identify potential obstacles facing IIAs in addressing climate change, explore the reasons for such obstacles, and suggest reform options.

3. Overview of Investment Arbitration Practice in Relation to Climate Change

There is little doubt that investments related to climate change constitute a rapidly evolving and contentious area. Climate change will require state measures and regulations to move from a brown to a green economy across all sectors of the economy. The reduction of fossil fuel consumption and production, along with significant investments in renewable energy and other technologies designed to mitigate carbon emissions, are some of the measures that will contribute to this [16]. The host country may alter previous investment contracts and modify domestic laws and policies in order to fulfill its international climate change governance obligations, and this may negatively affect the expected interests of investors in the traditional energy sector. IIAs, providing protection to investors and enabling ISDS, amplify the influence of investors in resisting the implementation of crucial climate measures necessary for achieving emission reduction goals. Several investors have already turned to ISDS as a recourse to recover their losses. For instance, legal counsel may advise companies that climate change litigation can be seen as an opportunity for those exposed to specific climate-related government measures to assert their rights. Industries most affected by states' climate change obligations (e.g., fossil fuels, mining, etc.) may be advised to conduct thorough audits of their corporate structures and make necessary changes to ensure they are protected by IIAs [17]. In general, there are three types of ISDS claims triggered by climate change-related policies.

3.1. Disputes Related to The Withdrawal of High-Carbon Industries

Some states are actively implementing climate policies related to carbon emissions diminishing the value of investments. On one hand, investment arbitration cases have shown that foreign investors have taken countries that have adopted climate control measures to investment tribunals, claiming these regulatory measures violate investment protection provisions in investment treaties, such as the prohibition of illegal expropriation, national treatment (NT), and fair and equitable treatment clauses (FET) [18]. As an example, in Westmoreland v. Canada, the Alberta government decided that coal-fired power plants would be phased out by 2030. However, investors claimed the compensation program excluded them, violating Article 1102 (NT) and Article 1105 (International Minimum Treatment standard) of the North American Free Trade Agreement (NAFTA) [19]. Meanwhile, the Dutch government's decision to phase out fossil fuels by 2030 was challenged in early 2021 by the German companies RWE and Uniper, respectively [20]. According to them, the plan did not compensate coal-fired power investors enough and did not give them enough time and resources to switch away from coal, so it was an indirect expropriation of their assets under the ECT. Taken together, the two investors are claiming damages of more than EUR 3.5 billion [21,22].

On the other hand, there have also been a number of ISDS cases stemming from environmental permitting decisions. Foreign investors may have a legal claim for compensation if countries cancel treaty-protected fossil fuel projects where investors have already obtained at least an exploration permit [23]. As an example, in the case of Rockhopper v. Italy, the Italian government renewed its ban on new exploration and extraction activities [24]. Specifically, the ban applies to oil and gas activities conducted within a 12-mile radius of Italy's coastline. A UK company called Rockhopper Exploration has acquired the Ombrina Mare oil field within that 12-mile radius in the Adriatic Sea. A permit for exploitation of the field was ultimately denied to Rockhopper by the Italian government. In March 2017, the company filed a claim for damages and compensation under the ECT, claiming that the legislative ban has ruined its chances of pursuing the project. The tribunal awarded the claimants EUR 184 million in damages after finding that Italy had committed an unlawful expropriation [25]. Furthermore, in the case of TransCanada v. United States, the Obama administration denied TransCanada a permit for the Keystone XL project on the ground that "moving forward with this project would significantly undermine our ability to continue leading the world in combating climate change" [26]. In accordance with Chapter 11 of NAFTA, TransCanada filed an arbitration claim alleging that the United States violated the provisions of NT and most favored nation treatment (MFN). Following the Trump administration's approval of the project, TransCanada dropped its claims. However, the Biden administration issued Executive Order No. 13990 on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis on 20 January 2021, revoking the presidential permit and effectively terminating the project. In a recent announcement, TransCanada announced the termination of the project, notified the US of a dispute under NAFTA and the USA–Mexico–Canada Agreement (USMCA), and requested damages of not less than USD 1 billion [27].

3.2. Disputes Related to the Amendments or Rollback Climate-Related Measures

The renewable energy industry has great decarbonization value, and many nations have developed renewable energy incentive programs to attract foreign investment. As shown in Figure 1, the international investment activity in the renewable energy sector is growing rapidly in both developing and developed nations. Due to the continuous progress of renewable energy technology and the continuous reduction in costs, the renewable energy industry has gradually matured, and host states may modify incentive policies. Conflicts between foreign investors in renewable energy and host states may arise, however, if domestic policy changes in those states have an impact on investors' legitimate expectations. This is particularly evident when it comes to modifications made to incentive schemes put in place by some European governments to promote the use of renewable energy. As a result of the global financial crisis, governments realized that the renewable energy incentives could result in an "unsustainable social burden" [28]. Some states began to alter their renewable energy policies, repealing some of these incentives and reducing subsidies for renewable energy. This has undermined the vested interests of renewable energy investors, which led to ISDS arbitration [29]. Based on UNCTAD data, as of January 2024, there have been 91 arbitration cases related to renewable energy, with 49 of them successfully resolved. Among these cases, 29 were decided in favor of investors, while 20 cases were ruled in favor of the host states, as illustrated in Figure 2. In the over twenty awards published so far concerning Spain's modification and ultimate cancellation of a feed-in-tariff renewable energy support scheme between 2010 and 2014, the majority of tribunals have found in favor of the investors and held the view that Spain's measures constituted a breach of the FET standard under the ECT, and have imposed a compensation payment of over EUR 1 billion [30]. In Masdar v. Spain, the tribunal concluded that Spain violated the FET of ECT by its Act of RD661/2007, as the government had promised foreign investors that subsidy incentives would remain the same throughout the life cycle of the investment. Spain was ordered to pay EUR 64.5 million in damages plus pre- and post-award compound interest. Similar awards were made by the tribunals in cases where Italy was the respondent. For example, in Greentech and Novenergia v. Italy, the tribunal found that when the claimant invested in photovoltaic facilities, there was sufficient evidence in the Conto Energia decrees and the agreement signed by the parties to demonstrate that Italy guaranteed that the return rate would remain unchanged for 20 years [31]. Thus, it is evident that the change in incentives promised by the host state under their energy transformation policy will be submitted to arbitration by investors.

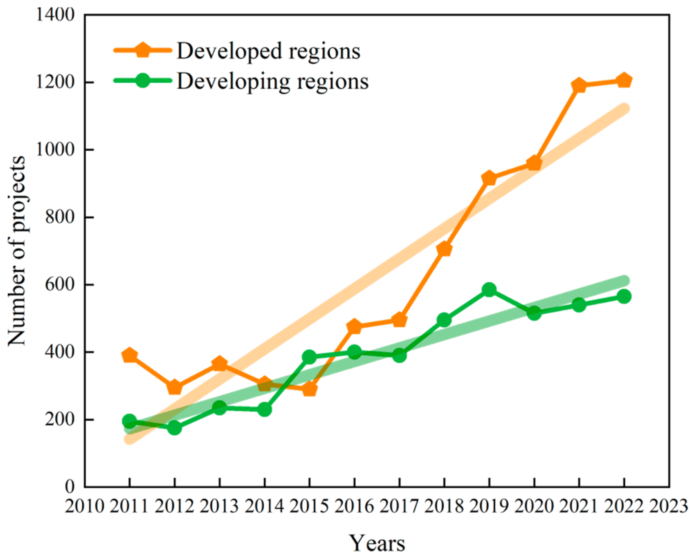

Figure 1. International investment in renewable energy: a comparison between developed and developing regions (since 2010; data source: World Investment Report 2023).

3.3. Disputes Related to the Host States' Failure to Address Climate Change

The host states not only face the risk of being sued for taking climate measures, but also face disputes arising from noncompliance with their emission reduction commitments under the Paris Agreement [32]. The host states that fail to take any action to combat climate change may have contributed to reducing or destroying the value of the investment, translating into a breach of a standard of protection and a potential treaty claim. Foreign investors may claim that the host state breached the FET and "full protection and security" (FPS) obligation under IIAs. For example, in the case of Allard v. Barbados, the investor from Canada claimed that Barbados failed to enforce its environmental obligation with regard to wetlands. Such a failure would have damaged the claimant's investment by causing the terrain around its "eco-touristic" operation to deteriorate. The tribunal held that FPS requires states to have a due diligence obligation to adopt all "reasonable" measures to prevent damages to foreign investments, and the host state's international obligations may well be relevant for assessing the reasonableness of its action [33]. Although the tribunal did not uphold this claim, the lack of precedent in international investment arbitration indicates that climate change cases are likely to continue as governments are under increasing pressure to do more in climate action. As of today, some IIAs have incorporated the Paris Agreement into their implementation. For example, the draft version of the Netherlands Model BIT, which was released in May 2018, includes provisions explicitly recognizing state obligations under the Paris Agreement as well as other multilateral environmental agreements. Further, as part of the discussion on the possibility of modernizing ECT, the party is required to "effectively implement the UNFCCC and the Paris Agreement adopted thereunder, including its obligations with respect to its Nationally Determined Contributions", and the proposal includes the obligation to "promote and enhance the mutual support of climate policy and investment measures" [34]. Under these circumstances, foreign investors may be able to use these obligations as further legal grounds for bringing a claim regarding a state's failure to comply with its obligations under the Paris Agreement [35].

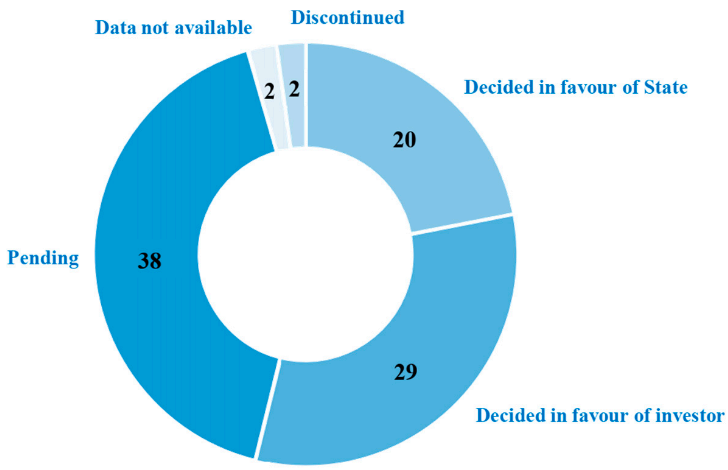

Figure 2. Number of the ISDS cases related to renewable energy investment (data source: UNCTAD).

To sum up, it is expected that climate-related investor claims will surface in ISDS more frequently as a result of increased decarbonization policy and investments in renewable energy [36]. These cases indicate that the "regulatory chilling" of ISDS on proposed climate action by host states is beginning to emerge [37,38]. For instance, fears of ISDS led to the French government softening a proposed law to end all fossil fuel exploration on French territory by 2040, after oil company Vermilion threatened to sue [39]. Separately, the climate ministers of Denmark, France, and New Zealand have acknowledged that the threat of ISDS claims has prevented their governments from being more ambitious in their climate policies [40]. It can be seen that the IIA regime is influencing how states perform climate actions.

4. Obstacles for the Current IIAs in Addressing Climate Change

The disputes mentioned above show the emerging tensions between IIAs and climate change mitigations.

4.1. Risks Posed by Investment Arbitration in Challenging Climate Measures

According to the statistics of the UNCTAD, there is a total of 3300 IIAs all over the world, with a majority of them concluded between the 1980s and the 2010s [41]. These "old-generation" IIAs were concluded before the widespread climate action and they are "climate neutral or climate blind" [42]. Investors may challenge the host states' climate policy by invoking investment protection provisions, particularly the non-discrimination provisions, FET provisions, and indirect expropriation provisions, as these substantive protection provisions are formulated in broad and vague ways.

First, the principle of non-discrimination provisions prohibits the discriminatory treatment of foreign investors in like circumstances without a justifiable reason [43]. In contrast to the UNFCCC and the Paris Agreement, the requirement of non-discriminatory treatment clearly contravenes the principle of "common but differentiated responsibilities". As far as the interpretation of "in like circumstances" is concerned, the arbitral tribunals tend to only consider investment projects that are competing in the same market and do not distinguish between high- and low-emission investors. In light of this, foreign investors may question whether the host state's measures are discriminatory when it gives incentives to low-emission investments or removes subsidies for high-emission investments. For instance, in the same power and energy industry, enterprises with low carbon emissions such as photovoltaic and wind power will enjoy more preferential treatment than those with coal power generation, which may conflict with the requirements of non-discriminatory treatment. Additionally, distinguishing investors from different economic or business sectors may also violate the non-discrimination requirement. A tribunal ruled in the case of the Occidental Exploration and Production Company v. Ecuador that the term "in like situations" cannot be interpreted in the narrow sense advanced by Ecuador as the purpose of NT cannot be done by addressing exclusively the sector in which that particular activity is undertaken [44]. As part of implementing the climate objectives, states have integrated high-emission industries such as power, steel, and building materials into the emission trading system and imposed restrictions on these industries. It is possible that, compared with investors in other types of business, foreign investors in the high-emission industries may claim that the climate regulatory measures of the host country are discriminatory.

Second, most voices on international investment reform and/or promotion of sustainable development in international economic law consider the FET as the most illustrative example that international investment law impedes climate change mitigation and transition to a less carbon-intense economy [45,46]. The FET standard serves the primary purpose of ensuring the stability of the investment environment in the host country [47]. Nevertheless, the implementation of climate measures by a host country may affect legitimate expectations of foreign investors, who will take it as a breach of FET standard [48]. A brief examination of the cases shows significant divergence in the legal standard of FET. For example, in the approximately 20 awards published to date concerning Spain's modification and ultimate cancellation of a feed-in-tariff renewable energy incentive scheme, the tribunal adopted contradictory approaches in interpreting the legitimate expectation. On one hand, some tribunals ruled in favor of investors and emphasized that the legal system and commercial environment in which investors conduct their investment cannot be fundamentally modified by the host states. On the other hand, a few tribunals sided with the host state and maintain that only when the host state deliberately promises and induces investors to invest and the measures it takes after investment fundamentally contradict the expectations of investors can it be regarded as violating the legitimate expectations of investors. Therefore, this has shown that the standard of FET is fuzzy and circumstances in which the host states make efforts to implement the emission reduction obligations under the climate change agreements, either through legislation or administration, may cause the investors of high-emission enterprises to file claims that these measures constitute a violation of the FET standard in IIAs. As a consequence, host states may be forced to forego the system improvement necessary to safeguard the public interest and to implement climate-related measures, owing to the threat of arbitration and damage compensation [49].

Finally, the indirect expropriation provision can also be invoked by the investors to challenge host states' climate measures. In practice, however, the tribunals have adopted three different and incompatible criteria for determining whether the host state's environmental measures constitute indirect expropriation: the "sole effects doctrine", "a proportionality test", and the "police powers doctrine" [11]. It is unclear to what extent the climate measures will be considered indirect expropriation based on the aforementioned different and somewhat inconsistent approaches. Consequently, whether from the text of IIAs or from the practice of investment arbitration, the indirect expropriation provisions may have negative impacts on the host state's ability to implement climate change policies. The interests of foreign investors will be affected if the host country adopts strict climate protection measures to reduce greenhouse gas emissions to accomplish climate goals, such as formulating and implementing strict emission standards, enforcing a carbon tax on high-emission releases, banning the use of fossil fuels, or refusing to issue business licenses to high-emission enterprises. When foreign investors believe these measures will deprive them of their investment or affect their profitability, they may resort to international investment arbitration by claiming indirect expropriation.

4.2. The Unresolved Conflict between IIAs and Other Areas of International Law

The Paris Agreement imposes binding obligations to reduce greenhouse gas emissions on its parties. As a result, the government needs to change the legal framework to reduce high-emission investment. However, this may expose the host state to the liability risk under the investor protection clauses of IIAs.

Both cases of S.D. Myers. v. Canada and Santa Elena v. Costa Rica raise the conflict of different treaty obligations. However, the tribunals in both cases ultimately ruled that international obligations did not alter the legal nature of the full compensation for expropriation. In S. D. Myers v. Canada, the claimant argues that Canada's PCB regulations contravene the national treatment, international minimum standard of treatment, performance requirements, and expropriation provisions of NAFTA [50]. On the contrary, Canada noted that it was acting in accordance with the convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal (Basel Convention), which prohibits hazardous wastes, including PCB regulations, to non-Basel Convention parties (such as the United States) [50]. It was finally found by the tribunal that the ban was not justified by any legitimate environmental reason [50]. It can be seen in this dispute that there are overlapping treaty obligations between NAFTA and the Basel Convention. There was also a conflict between international obligations between the IIAs and the Convention Concerning the Protection of World Cultural and Natural Heritage in Santa Elena v. Costa Rica. In this dispute, Costa Rica expropriated foreign investor property in order to preserve a unique ecological site according to the Convention Concerning the Protection of the World Cultural and Natural Heritage. Costa Rica claimed it had an international obligation to protect the environment. However, the tribunal refused to consider the environmental obligations of nature reserves and ruled that even if a governmental action was laudable and beneficial to society as a whole, it would still constitute expropriation and must be compensated [51].

5. The Reform Options of IIAs

In recent years, climate change has become a mainstream issue for investment treaty policymakers [52]. According to recent treaty practice, states have been introducing express climate provisions in their IIAs to align the IIA regime with climate commitments.

For instance, a growing number of IIAs have included commitments to implement the Paris Agreement and the UNFCCC, including nationally determined contributions (NDCs) or domestic emissions targets in the new generation of IIAs. For example, the European Union (EU) tries to introduce ambitious climate-related provisions and conformity with international conventions on climate change, such as the Paris Agreement, as an essential part of its trade and investment agreements. A survey conducted by UNCTAD shows that climate-related provisions are mainly distributed in preambles, market access provisions, investment facilitation provisions, right to regulate provisions, exception provisions, dispute settlement provisions, etc. [41]. These efforts, however, fail to address the fundamental flaw of IIAs. For example, most IIAs simply reaffirm their commitments to fight against climate change, or encourage removal of obstacles to trade or investment in goods and services of particular relevance to climate change mitigation. These provisions appear to limit their role primarily to recommendations and political commitments, rather than imposing binding obligations on host states or investors. However, contrary to investment protection provisions with a "hard law" character, these declaratory provisions are seen as "soft law" for their nonbinding language and the absence of an effective enforcement mechanism. Moreover, most IIAs still lack proactive investment promotion and facilitation provisions aimed at effectively supporting low-carbon investment. Finally, a number of states, including the EU, favor the state–state dispute settlement (SSDS) mechanisms for disputes relating to sustainable development or climate change. However, instead of resorting to sanctions or financial penalties, the SSDS system, exemplified by the dispute settlement mechanism within the chapter on "Investment and Sustainable Development" in the Comprehensive Agreement on Investment [53], the negotiations of which were concluded between the EU and China in 2020, relies on international cooperation, dialogue, and other soft power mechanisms. As a result, its symbolic value may outweigh its practical value in aligning IIAs with urgent climate actions.

It is evident that both historical and contemporary IIAs lack proactive provisions dedicated to effectively bolstering climate action. The current trajectory towards broadening the policy space for host states and assigning responsibility to foreign investors and their home states appears sluggish and frail [54]. To transform IIAs into a potent instrument supporting climate change initiatives, reform efforts should integrate the concept of sustainable development, emphasizing collective progress amid diversity. IIAs should be reconstructed to meet the diverse demands and interests of nations. Furthermore, host states will be able to maintain appropriate levels of authority while maintaining an investment liberalization commitment. This crucial aspect ensures that the IIA regime does not hinder governments from striving to implement measures to mitigate climate change. It also facilitates a swift transition to green investments. Additionally, it is about striking a balance that encourages environmental responsibility without compromising a nation's ability to take decisive and timely actions. Given the fragmented provisions of existing IIAs in addressing climate change and the inconsistent positions of various nations, a climate-oriented model investment treaty, which takes into account current treaty practice and related policy reports, would be an attractive option for nations all over the world to update their investment treaties to address the complex issues associated with climate change (Figure 3). The essential components of the model treaty are detailed as follows:

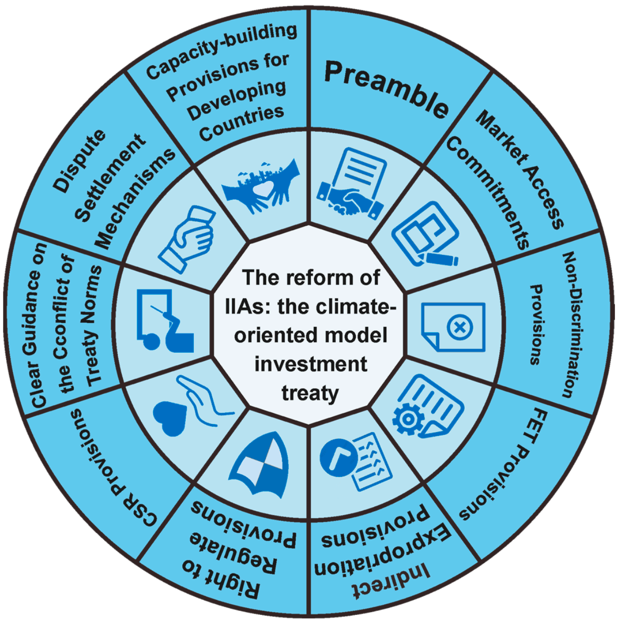

Figure 3. Components of climate-oriented model investment treaty.

5.1. Preamble

Apart from mentioning climate change objectives in a preamble, such as the 2017 Armenia–EU Comprehensive and Enhanced Partnership Agreement (CEPA) or the 2020 EU–United Kingdom Trade and Cooperation Agreement, IIAs can go further in harmonizing climate change mitigation objectives and investment law structures. Therefore, IIAs could include the following preambular language: contracting parties acknowledged that climate change has detrimental effects on humanity, acknowledged that global climate change has an adverse effect on human society, recognized the necessity of cooperation in human society, required the respect of state sovereignty and international cooperation, complied with common but differentiated responsibilities, or confirmed the countries' involvement in climate change and sustainable development. It will be possible to promote synergistic effects between the IIAs and the climate agreement by referring to the UNFCCC and Paris Agreement's preamble. As a result of this approach, not only would climate-related objectives be highlighted in the IIAs, but also ambiguities in meaning would be avoided.

5.2. Market Access Commitments

Providing market access opportunities and relevant facilities for green and low-carbon investments through market access provisions in IIAs will facilitate the flow of green investment. Such attempts have been made by some IIAs. According to the 2016 EU–Canada Comprehensive Economic and Trade Agreement (CETA), for instance, both parties agree to remove all obstacles that prevent the promotion of investments that are able to cope with climate change. The 2016 Pan-African Investment Code also encourages foreign investors to provide adequate financial resources and technology transfer to those member states that are particularly vulnerable to the adverse effects of climate change. In the part on specific commitments of the CAI, the EU has made market access commitments to the protection of ambient air and climate sectors and other environmental service sectors, and China has promised to undertake market access commitments to the environmental service sector, including cleaning services for exhaust gases. IIAs would also exclude investments that produce high levels of emissions from their protection. In this way, restrictions on investments that can mitigate climate change and adapt to it will be removed or reduced, which will assist in guiding investment flow into low-carbon investments.

5.3. Non-Discrimination Provisions

In terms of non-discrimination provisions, classifying the term "in like circumstances" in NT and MFN can help to maintain host states' regulatory flexibility. A distinction can be made among policies and protections separately pertaining to high-emission investments (the fossil fuel industry) and low-emission investments (the renewable energy industry). Taking this approach would provide justifications for countries treating fossil fuel investments differently and discourage them from strengthening their own fossil fuel sectors [55]. States may also develop an "illustrative list of the application of non-discriminatory treatment" to list a series of situations that must be taken into account when determining "in like circumstances", such as the impact of investment on greenhouse gas emissions. A bilateral investment agreement between Nigeria and Morocco that was signed in 2016, for instance, stipulates in Article 6 (3) that a differential treatment of foreign investors versus domestic investors as a result of measures taken by the host country to address climate change and to fulfill its international emission reduction obligations does not constitute a "like circumstance", and thus it does not violate the non-discrimination requirement.

5.4. FET Provisions

By explicitly referencing the minimum treatment standard in the agreements, or by jointly drafting a binding interpretative declaration [56], states can clarify the specific meaning of the FET provisions. In relation to circumstances where a breach of FET can be found, references can be made to Article 4.3.3 of the UNCTAD Investment Policy Framework for Sustainable Development, which excludes good faith and necessary regulatory measures taken by the host country in order to implement public policy objectives such as mitigation of and adaptation to climate change from the scope of FET provisions. Further clarification of "legitimate expectations" can be provided by reference to the EU–Canada CETA, which stipulates that, in accordance with the investment treaty involved, the scope of the "legitimate expectations" provided by the contracting parties to investors or investments only includes obligations related to their physical security, excluding any guarantees of legal or regulatory stability.

5.5. Indirect Expropriation Provisions

Following the provisions pertaining to indirect expropriation in Annex 8-A of the EU–Canada CETA, a definition of indirect expropriation can be given. In order to determine whether indirect expropriation occurs, a fact-based investigation must be conducted on a case-by-case basis, taking into account the economic impact, the duration, the legitimate expectations, and the objective. It also excludes measures that are intended to protect legitimate public welfare objectives, such as environmental protection, human rights, life and health, and goodwill measures to achieve climate objectives. On the other hand, climate change-related measures can be introduced in the IIAs as an exception to indirect expropriation. The draft text agreed by the European Commission and the German Federal Government in relation to the indirect expropriation provision in the CETA, for example, reaffirms "that non-discriminatory measures of a Contracting Party that are designed and applied to combat climate change or to address its present or future consequences do not constitute indirect expropriation unless the impact of a measure or series of measures would appear wholly disproportionate in that it would be perceived as undeniably unreasonable in light of its purpose". Similar wording can also be found in the Agreement in Principle on the Modernisation of the Energy Charter Treaty [57]. Following this approach, a separate and explicit exception could be made for climate change measures in the future investment treaties, by excluding from indirect expropriation climate measures adopted by states parties to meet emission reduction targets under the UNFCCC and Paris Agreement.

5.6. Right to Regulate Provisions

Such provisions entitle host states to address climate change to ensure the legitimacy of related measures. For example, Article 1 of the subsection of "investment and environment" of the CAI clearly refers to the host state's right to regulate, by recognizing the right of each party to determine its sustainable development policies and priorities, to establish its own levels of domestic labor and environmental protection, and to adopt or modify its relevant laws and policies consistently with its multilateral commitments in the fields of labor and environment. Similarly, the 2021 Canada Model Foreign Investment Promotion and Protection Agreement of Canada reaffirms the contracting party's right "to regulate within its territory to achieve legitimate policy objectives, such as with respect to the protection of the environment and addressing climate change; social or consumer protection; or the promotion and protection of health, safety, rights of Indigenous peoples, gender equality, and cultural diversity". Similar wording can be found in the EU–UK Trade and Cooperation Agreement and the UK–Japan Comprehensive Economic Partnership Agreement. These provisions will justify government actions to deal with climate change and better fulfill the government's obligation to reduce emissions.

5.7. Corporate Social Responsibility (CSR) Provisions

In addition to providing more detailed provisions of investment protection, efforts can be made to strengthen the corporate social responsibility of foreign investors. Compared with the voluntary nature of corporate social responsibility (CSR), the Nigeria–Morocco BIT, for instance, imposed on foreign investors certain binding obligations. These include the maintenance of an environmental management system to ISO 14001 or equivalent standard while, in relation to labor and human rights standards, it maintains that "investors and investments shall not manage or operate the investments in a manner that circumvents international environmental, labor and human rights obligations to which the host state and/or home state are Parties". Meanwhile, under Article 7(3) of the Dutch Model BIT, the contracting parties "reaffirm the importance of investors conducting a due diligence process to identify, prevent, mitigate and account for environmental and social risks and impacts of its investment" [58].

5.8. Clear Guidance on the Conflict of Treaty Norms

In practice, to prevent the conflict of obligations in different treaties, some IIAs have introduced the method of balancing different treaty obligations. For instance, Article 20.10 of the Free Trade Agreement between Korea and the US provides that "In the event of any inconsistency between a Party's obligations under this Agreement and a covered agreement, the Party shall seek to balance its obligations under both agreements, but this shall not preclude the Party from taking a particular measure to comply with its obligations under the covered agreement, provided that the primary purpose of the measure is not to impose a disguised restriction on trade" [59]. Although this balanced approach does not completely eliminate the risk of conflict of treaty norms, it provides a clear guidance for the tribunals to follow—that is, one party should not be prevented from complying with other international obligations—and it also demonstrates the host nation's ability to defend itself by fulfilling its international emission reduction obligations.

5.9. Dispute Settlement Mechanisms

The discussion of the reform of ISDS under the United Nations Commission on International Trade Law (UNCITRAL) shall take into account the functional compatibility of ISDS with climate goals, in order to ensure that it does not harm their efforts and international commitments to combat climate change under the Paris Agreement. In order to achieve this goal, a number of measures can be taken: First of all, these measures can include establishing a jurisdiction threshold for excluding climate measures taken by the host state in fulfillment of its international obligations under the Paris Agreement from the application of ISDS, and focusing on the realization of countries' independent emission reduction contributions and sustainable development goals through the ISDS mechanism. In this way, ISDS will only be available to responsible investors who comply with international climate obligations. Second, arbitrators with public international law backgrounds should be appointed, especially those with experience in environmental, human rights, or climate public welfare activities. For example, S3 (9) (4) of the draft investment chapter of the Transatlantic Trade and Investment Partnership Agreement states that the qualifications of judges in the proposed investment court clearly require knowledge in the field of public international law. Third, the tribunals shall allow nongovernment organizations to submit climate protection opinions as "Amicus Curiae". In investment disputes involving climate change, technical issues, such as the causal relationship between greenhouse gas emissions and damage results, must be considered. Due to their complicity, it is necessary to invite climate experts to join the arbitration in order to explain the causal relationship. The tribunal may also accept written submissions submitted by non-disputing parties. Fourth, the counterclaims mechanism of the host state can be introduced. Because of the flexibility and hybridity of investment arbitration proceedings, counterclaim provides a venue for holding foreign investors responsible for breaches of climate change-related obligations, including those originating in domestic law [60]. Recently, there have been two cases, namely Urbaser SA v. Argentina and Perenco v Ecuador [61], involving state counterclaims for alleged breach of environmental obligations of the investor under the domestic law of the host state. In both cases, the tribunals upheld the counterclaims. A host state might therefore be able to counterclaim in investment arbitration against an investor whose actions have resulted in a violation of climate change commitments, such as emission reduction targets. Lastly, in the phase of calculating damage compensation, when the case involves the climate change measures implemented by the host government, the compensation limit can be set for the claims of high carbon emission enterprises in order to prevent the tribunal from awarding the host state a huge compensation package.

A mediation mechanism should also be considered in the settlement of climate-related disputes. For instance, the International Chamber of Commerce (ICC) published a report entitled Resolving Climate Change Related Disputes through Arbitration and Alternative Dispute Resolution, accepting mediation mechanisms as a means of resolving disputes based on mutual consent [62]. Not only does this align with the Singapore mediation convention and promote the early, swift, and timely settlement of disputes, but it can also ensure the rapid enforcement of settlement agreements and promote the sustainable development of international investment.

5.10. Capacity-Building Provisions for Developing Countries

In order to cope with climate change, developing countries are facing constraints in terms of capital, technological capacity, infrastructure, and credit. Further, the industries in which developing countries are investing are mostly concentrated in high-emission fields such as energy, infrastructure, and manufacturing. A great deal of low-carbon, zero-carbon, and zero-carbon core technologies are still in the hands of major developed countries. Developing countries usually lack adequate funds to invest in low-carbon and zero-carbon energy systems and industrial structures. As a result, developing countries are facing a significant challenge in reducing their greenhouse gas emissions. Moreover, most IIAs signed by developing countries do not explicitly mention environmental provisions, and climate provisions are rare. Due to the broad scope of the issues covered, treaty negotiations for developing countries today are significantly more complex than at the time of the signing of "old-generation" IIAs. It is becoming more common for investment negotiations to involve trade-offs with other policy areas [63]. As a result, negotiations are increasingly time-consuming and costly and require specialized expertise, which poses additional challenges to countries, especially developing countries [63].

Taking into consideration the incapacity of developing countries to cope with climate change, a flexible approach, based on the principle of "common but differentiated responsibilities", can be introduced in the model treaty to allow developing countries to fulfill their obligations to reduce greenhouse gas emissions.

Additionally, developing countries should improve their investment environment through bilateral or multilateral arrangements, create strong incentives for climate-friendly investment, reevaluate IIAs' contents, modify or terminate the text of treaties that do not promote the achievement of national emission reduction goals, develop special cooperation paradigms to address climate change, reduce regulatory and political risks for climate-friendly investors, implement multitrack climate action, curb high-emission investment to promote low-emission investments, and achieve a coordinated goal of addressing climate change and achieving high-quality development. Developed countries and international organizations shall actively promote the diversification of technical assistance, which includes not only providing financial, technical, and talent training assistance to developing countries, but also guiding and promoting the flow of funds into the areas of investment and financing in response to climate change, avoiding intentionally forming green trade barriers, and assisting developing countries in accelerating their transition to a low-carbon, green society.

6. Conclusions

The field of international investment law is not a self-contained legal system [64]. It is intricately linked with other legal domains, particularly those addressing climate change. When a state engages in international investment treaties, it becomes susceptible to arbitral decisions that can significantly impact its obligations under climate agreements.

Climate action has added urgency to the reform of IIAs. As discussed in this study, climate change mitigation measures can be hindered by the current IIA regime. Using investment arbitration to challenge climate policies by foreign investors is a major concern.

With the introduction of global climate governance and the reform of international investment dispute settlements, IIAs are entering a new phase characterized by coordination, unification, and mutual support in order to help countries reach their own reduction targets of greenhouse gas emissions, as well as ensuring that IIAs and climate change treaties such as the Paris Agreement are mutually supportive, which will not only facilitate a stable investment environment for climate-friendly investments, but also contribute to a systematic reform of international investment law in the direction of sustainable development.

There is increasing evidence that IIAs can contribute to mitigating climate change. This is possible when IIAs are drafted to incorporate provisions related to climate change and the environment [65]. This study, built on a thorough review of the literature and practice, analyzes the climate change-related arguments in investment arbitration and advocates for climate-oriented reforms in IIAs. It is noteworthy that a climate-oriented model investment treaty can facilitate a green transition and combat climate change. For the purpose of achieving these objectives, the framework presented in this study serves as a roadmap.

This study exhibits weaknesses in three primary areas. First, we were unable to collect comprehensive texts and cases due to language barriers and arbitration confidentiality. For instance, some treaty texts are drafted in languages other than English, such as the Colombia–Venezuela, Bolivarian Republic of BIT (2023), and Belarus–Zimbabwe BIT (2023) texts, which are in Spanish and Russian, respectively. In addition, while transparency in investment arbitration has improved compared with commercial arbitration, some cases are inaccessible due to confidentiality agreements between the parties. Second, this study examines the upgrading and reform of IIAs to accommodate climate change primarily from the perspective of legal norms. Treaty negotiations, however, often incorporate perspectives from political science and economics. For instance, when it comes to market access provisions, it is important to consider the country's economic development level and relevant economic data when deciding which industries can be opened to foreign investment. This study falls short of combining economic and legal research in this respect. Third, the existing IIAs are fragmented. A model treaty can serve as a guide for countries upgrading their IIAs, but signing a multilateral investment agreement is difficult. As such, there is a need to consider, within the existing framework, the coordination of IIAs with international climate change laws through treaty interpretation, such as systemic treaty interpretation. This study, however, did not explore this aspect due to limitations in scope and theme. Further research is needed to resolve these issues.

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