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Environmental Protection Provisions in International Investment Agreements: Global Trends and Chinese Practices

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Abstract: Environmental protection provisions in international investment agreements (IIAs) are designed to respond to relevant concerns in foreign direct investment (FDI) activities. Environmental protection concerns in international investment may be observed in both international investment rules and arbitration, as the numbers of both relevant provisions in IIAs and international arbitration cases are on the rise. China has its corresponding domestic legislative agendas with respect to social transformation, and environmental protection requirements are a factor in both its domestic FDI law and bilateral investment treaty-making. It is anticipated that, while China is domestically pursuing a more environmentally friendly economic growth model, it may further explore an appropriate model for an international investment regulatory system in the context of environmental protection.

Keywords: environmental protection; international investment agreements; investment arbitration; global trend; Chinese bilateral investment treaties

1. Introduction: Environmental Protection Concerns in International Investment

Since the 1990s, environmental degradation has accelerated and represents a serious threat globally, largely being driven, in fact, by increasing economic activity, including foreign direct investment (FDI) [1]. Although FDI may catalyze economic progress in host states [2], it may also lead to negative externalities, such as environmental pollution and natural resource exploitation [3], with a serious detrimental impact on the host states' environment and even on worldwide climate change. In addition, foreign investors may seek to avoid the costs of complying with environmentally friendly standards by locating manufacturing facilities in developing countries with lax environmental protection regulations [4]. For instance, China's extensive, investment-driven economic development model could result in serious damage to the environment and ecological system, accounting for approximately 10% of its GDP [5]. China receives the most FDI amongst developing economies; however, it also has 17 of the world's 25 most polluted cities and an estimated 3,000,000 air pollution-related deaths per annum [6]. As a result, China has been subjected to international pressure on climate change negotiations and domestic pressures on sustainable development goals (SDGs) [7]. The double-edged consequence of FDI is a tension between investment protection and environmental protection. International investment agreements (IIAs) are not merely "harmless" political declarations but legally binding instruments. The broad and vague language in IIA clauses has enabled investors to challenge domestic environmental protection policies and measures. There has, therefore, been a surge in investor–state dispute settlement (ISDS) cases of this nature over the past two decades. States have been sued more often prior to arbitral tribunals due to different types of environmental protection policies [8], including prohibiting mining activities (Gold Reserve v. Venezuela), failing to grant permits for landfill operations (Tecmed v. Mexico), prohibiting toxic chemical manufacturing (S.D. Myers v. Canada), and adjudicating on domestic environmental claims based on oil extraction (Chevron and TexPet v. Ecuador (II)).

In a response to the narrow regulatory space and critical environmental challenges, following the "IIA rush" of the 1990s, an era of IIA re-orientation ensued, beginning in

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2008. The more recent (or new generation of) IIAs contain specific language clarifying that investment liberalization and investor protection under said IIAs must not come at the cost of the environment [9]. This regulatory response to environmental issues, such as climate change commitments, is intended to accelerate and move toward a more sustainable investment environment globally [10].

The newly adopted European Union (EU) Corporate Sustainability Due Diligence Directive, as a positive legislative move, affirms the importance of sustainability as one of the primary agendas of international investment, which now broadly covers human rights and environmental protection as well as corporate social responsibility [10]. The environmental considerations are expressly reflected in the text of IIAs and treaties with investment provisions (TIPs), such as the Hungary–Russia Bilateral Investment Treaty (BIT), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the United States–Mexico–Canada Agreement (USMCA) and the EU–Vietnam Free Trade Agreement (FTA), among others. These IIAs all explicitly declare the host states' obligation to implement or maintain environment-related measures, including local content requirements and technology transfer commitments (i.e., Hungary–Russia BIT (1995), Article 2.3; CPTPP, Article 29.1; USMCA, Article 32.1; EU–Vietnam FTA, Annex 2-B, Article 1.3 (e)). These environmental protection terms could be observed in international investment arbitration, by weighing the violation of private interests against the protection of public interests, when an expropriatory environmental measure is brought in front of tribunals. For instance, in Santa Elena v. Costa Rica, the tribunal stated that the environmental expropriatory measures, no matter how socially beneficial and commendable, are the same as other expropriatary actions which a state might adopt to implement its agendas. Therefore, even the property is expropriated for the purpose of environmental protection, it would be the state's duty to compensate the investor.

Environmental protection in international investment law is also frequently discussed in a more macro framework, including sustainable development, climate change, human rights protection, socially responsible investing, and "a community with a shared future for mankind". These concepts or contexts provide varying perspectives for the discussion of environmental protection issues in the context of IIAs. For instance, international investment and environmental protection are closely related in the eye of sustainable development, as the three facets of sustainable development are economic development, social development, and environmental protection [11]. A further example is the United Nations (UN) Working Group III's initiatives on the reform of the investment treaty infrastructure, with a focus on structural reform and procedural concerns, such as environmental and social issues. For the issue of climate change, a Working Group's report, *Potential Solutions for Phase 3: Aligning the Objectives of UNCITRAL Working Group III with States' International Obligations to Combat Climate Change*, analyzes states' potential reforming actions in the field of ISDS, which can be in line with the treaty duties under the international environmental instruments. [12]. The EU also made an attempt to modernize the Energy Charter Treaty (ECT) by aligning it with the Paris Agreement in order to pursue climate change and clean energy transition targets [13]. With respect to international investment law devoting more attention to sustainable development, the relationship between sustainable development and foreign investment may be described as "complex and amorphous". From the perspective of sustainable development, BITs should be seen as a measure rather than a goal, as most BITs are neither sufficient nor necessary to promote economic growth by themselves [14].

The relationship between IIAs, FDI, and sustainable development is dynamically complex. The closing of IIAs does not necessarily lead to more FDI, as only those IIAs offering high-level investment protection do so [15], and an FDI does not automatically promote sustainable development [16]. Traditional standards of investment protection might be too restrictive regarding the government's capacity to introduce environmental protection measures [17]. For instance, the fair and equitable treatment (FET) standard protects investors' reasonable expectations and promises investors that the regulatory frameworks governing relevant investments will not change without compensation. These

provisions are important for incentivizing foreigners to invest but are also criticized for having a chilling effect on domestic environmental legislation [18]. Subsequently, host states are obligated to take certain limited regulatory measures to guide FDI in order to benefit domestic economic development and the public interest. To realize such a goal, there has been an ongoing process of legal and economic systemic shift in China, including embracing the market economy and imposing environmental protection stipulations on FDI. Meanwhile, China's IIA practice has additionally been experiencing an evolution, in which environmental protection considerations are becoming critical.

The aim of this article is to examine the trends and patterns of BITs and investment arbitration in terms of environmental protection provisions in IIAs. China's policy responses, in both domestic and international settings, are another key focus of this article.

This article proceeds as follows: Part 2 examines IIA texts and relevant arbitration cases from the perspective of environmental protection; Part 3 moves on to discuss Chinese environmental protection law in the context of FDI; Part 4 analyzes the environmental protection clauses in Chinese IIAs; and the concluding remarks comprise Part 5.

2. Environmental Protection—Related Rules in IIA Texts and Arbitration Practices

The pursuit of SDGs via responsible investment—placing social and environmental objectives at an equal position with economic development and growth goals—calls for the collective recognition of the need for responsible investment by states as the basis for economic development and employment creation [19]. The process of international investment is aimed at not only maximizing benefits but also keeping investment returns in line with societal standards, including environmental ones. These standards demand the minimization of pollution and carbon emissions, the conservation of non-renewable resources, the protection of crucial flora and fauna, and the maintenance of ecological balance, and so forth [20]. The formulation of investment policies surrounding SDGs faces a dual challenge. At the level of domestic policy, the host state faces the issues of integrating investment policies with national development strategies and integrating sustainable development objectives into investment policies. Internationally, these challenges include emphasizing the developmental aspects of IIAs, balancing the rights and duties of the host state and investors, and upgrading the overall IIA system.

Environmental protection is a critical element of responsible investment. Not exclusively reflected in the UN's advocation, environmental protection rules are also clearly prescribed in BITs or TIPs. The increase in environmental protection provisions may be perceived as a global trend, even though they may represent enormous challenges to nations and regions deeply involved in the field of international investment.

2.1. Environmental Clauses in IIAs: A Global Trend

A reference to the environment in IIAs may be described as a global phenomenon. Taking "environment" as the keyword in searching the International Investment Agreements Navigator, which is the UN Conference on Trade and Development (UNCTAD) database a clear rising trend in IIAs is evidently seen in Figure 1 below. In the period from 1958 to 1993, the number of IIAs saw a slow growth, while the pace of the conclusion of IIAs concerning the environment quickened in the subsequent decade. Over the past 20 years, the number of relevant IIAs has risen from 100 to approximately 500, though the increasing momentum has been slowing more recently.

Although providing a complete taxonomy of all the environmental protection-related provisions in IIAs is impractical, as the content and scope of such provisions vary from one treaty to the next, a summary of the environmental protection-related provisions in IIAs is a worthwhile investigation. Essentially, IIA environmental protection provisions appear to broadly encompass the recognition of environmental protection as an IIA treaty objective, the preservation of the host state's police power over FDI, and the host state's continuing commitment not to lower important environmental standards [8].

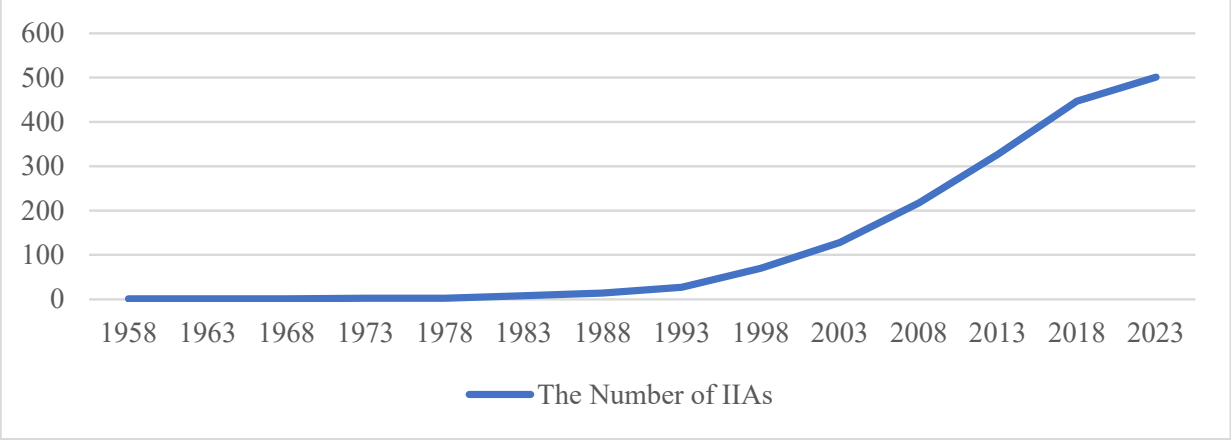

Figure 1. The Number of IIAs with Reference to Environment (1958–2023).

Taking 2011 as the starting point, the timeline for the conclusion of environmental protection clauses in IIAs can be divided into two phases.

To view the general picture of environmental protection provisions in IIAs prior to 2011, according to an Organisation for Economic Co-operation and Development (OECD) survey, only 133 out of 1623 IIAs contained a reference to the environment. Even in the widest sense, IIAs mentioning the environment comprised only 8.2% of all the treaties surveyed in 2011. Nevertheless, the progress achieved by newly concluded IIAs was encouraging, as more than half of the IIAs closed between 2005 and 2011 addressed environmental concerns in specific ways [8]. Of IIAs concluded in 2008, 89% made a reference to the environment [21]. At the end of the first phase, it seemed that the future of environmental protection content in IIAs would be profound, given that a positive trend regarding the occurrence of environmental concerns in IIAs was observable.

There are now 2584 IIAs covered by the UNCTAD's International Investment Agreements Navigator database in 2023. As can been seen in Table 1, there are 147 IIAs containing a reference to the environment in their preambles, and in 323 out of 2584 IIAs other health and environmental clauses are set out.

Table 1. The Number and Proportion of IIAs with Environment Clauses. (Up to January 2023).

	Surveyed IIAs	**IIAs with Environment Clauses in Preambles**	**IIAs with Environment Clauses (Except Preambles)**
Number	2584	147	323
Percentage (vs. the Surveyed IIAs in total)	100.00%	5.69%	12.50%
Example	N/A	China-Japan-Korea, Republic of Trilateral Investment Agreement (2012), Preamble para 5: "Recognizing the importance of investors' complying with the laws and regulations of a Contracting Party in the territory of which the investors are engaged in investment activities, which contribute to the economic, social and environmental progress; . . . . . "	ASEAN-Hong Kong SAR Investment Agreement (2017), Annex 2, Article 4: "Non-discriminatory regulatory actions by a Party that are designed and applied to achieve legitimate public welfare objectives, such as the protection of public health, safety, and the environment, do not constitute expropriation of the type referred to in subparagraph 2 (b)".

As indicated in Table 2, contracting parties commit to not reducing their environmental standards in 123 IIAs, including environmental ones, while attracting FDI. The norm "public health and environment", as a facet of public policy exceptions, appears in 243 IIAs, so that host states may safeguard their police power on environmental matters.

Table 2. The Number and Proportion of IIAs with Environment Clauses. (Up to February 2023).

	Surveyed IIAs	IIAs with Environment Clauses in Preamble	IIAs in which Parties Commit Not to Lower Environmental Standards	IIAs with Environmental Exceptions
Number	2584	147	123	243
Percentage (vs. the Surveyed IIAs in total)	100.00%	5.69%	4.76%	9.40%

Environmental protection-related provisions in IIAs can be loosely classified into four types.

1. The provision preserving the host states' regulatory power: The most common, and additionally the oldest, type of environmental protection-related clause is the preservation of the host state's police power over relevant issues in foreign investments via exceptional clauses [8]. As an example, the US Model BIT (2012) includes a standalone provision on "Investment and Environment" demanding the contracting parties' respect for and full implementation of the host state's environmental policies and allowing an exception for the host state's liability in taking environmental protection measures (Article 12). Even now, this remains the most common category. IIAs finalized in 2021 continued this trend towards providing room for host states to regulate FDI [10]. In contrast to an aspirational statement in the preamble, references to the environment in the main text of BITs or TIPs are often phrased as enforceable terms requiring investors to comply with environmental measures imposed by host states and, probably more importantly, not to challenge the validity or legality of such measures through the ISDS.
2. The provision recognizing environmental protection as a treaty objective: Acknowledging environmental protection as one of the treaty objectives—commonly stipulated in the preambles of BITs or TIPs, as prescribed in Article 31 of the Vienna Convention on the Law of Treaties—is the second most common category. The forewords to the North American Free Trade Agreement (NAFTA), the Canada–EU Comprehensive Economic and Trade Agreement and the ECT contain allusions to the treaty purposes, including these references to the environment.
3. The provision prescribing states' continuing duty to impose environmental protection measures: The host state's continuing commitment to implement environmental protection measures is the least common category, whereby the host state is obliged not to reduce environmental standards so as to avoid "a regulatory race to the bottom [8,21]". This is the obligation incumbent on the host state to maintain a certain level of environmental standards and measures. By importing such relevant goals, BITs are able to cover environmental protection issues thoroughly.
4. With a hybrid model comprising both an emphasis on environmental protection as parties' mutual objective and a requirement for high-level environmental protection standards, The Netherlands Model BIT (2019) addresses environmental concerns systemically. First, its preamble states that the BIT's policy objective may be fulfilled without compromising the host states' police power by measures necessary for achieving the relevant targets, such as environmental protection. Second, in Article 6, *Sustainable Development*, the contracting parties guarantee that their investment regulatory institutions provide for and encourage a higher-level protection of the environment. In addition, the contracting parties ensure not to lower the degree of environmental protection prescribed by relevant domestic legislation, but reaffirm the

host state's treaty duties under the international agreements concerning environmental protection. Moreover, as a relatively rare fourth paradigm, Article 7, "Corporate Social Responsibility", stipulates the obligations of investors and investments in the field of environmental protection. This CSR provision essentially alters the BIT paradigm by imposing obligations on investors. The Indian BIT also addresses the conduct of investors. Article 12 of the India Model BIT (2015) requires investors to comply with Environment, Social, and Governance (ESG) principles and rules.

The different types of environmental protection-related provisions and corresponding examples are listed in Table 3.

Table 3. The Classification of Environmental Protection-related Provisions in IIAs.

Type of Provisions	Example	Content	Treaty Duty (by Investors or States)
The Preservation of States' Regulatory Power	China-Singapore BIT (1985)	Article 11 "Prohibitions and Restrictions": "The provisions of this Agreement shall not in any way limit the right of either Contracting Party to apply prohibitions or restrictions of any kind or take any other action which is directed to the protection of its essential security interests, or to the protection of public health or the prevention of diseases and pests in animals or plants".	N/A
The Recognition of Environmental Protection as Treaty Objective	U.S. Model BIT (2012)	Preamble para 5: "Desiring to achieve these objectives in a manner consistent with the protection of health, safety, and the environment, and the promotion of internationally recognized labor rights; … … "	States
The States' Continuing Duty to Take Environmental Protection Measures	Canada-Hong Kong SAR BIT (2016)	Article 15 "Health, Safety and Environmental Measures": "The Parties recognize that it is inappropriate to encourage investment by relaxing their health, safety or environmental measures. Accordingly, a Party should not waive or otherwise derogate from, or offer to waive or otherwise derogate from, those measures to encourage the establishment, acquisition, expansion or retention in its area of an investment of an investor. … … "	States
The Investor and Investment's Obligation related to Environmental Protection	The Netherlands Model BIT (2019)	Section 3, Article 7 para 1: "Investors and their investments shall comply with domestic laws and regulations of the host state, including laws and regulations on human rights, environmental protection and labor laws".	Investors

The context and basis for the integration of SDGs into IIAs is a paradigm shift in international investment law from neoliberalism to "embedded liberalism". Neoliberalism is essentially "a framework for international capitalist transactions [22]", which refers to an order in which priority is given to the market, and the government reserves space for the market to function rather than constraining it. The old treaties are a critical part of John G. Ruggie's "specific regimes that serve such order", which limits the state's regulatory discretion to intervene in the operation of markets in the areas of trade and investment. The essence of embedded liberalism is to construct an order of multilateralism which is compatible with the state's internal stability [23]. Unlike neoliberalism with its perception of freedom of trade, embedded liberalism combines domestic interventionism with a market-friendly business environment [24], and consequently more intervention in the host state's market is undertaken. As both neoliberalism and market fundamentalism have been discredited [25], the most outstanding difference between neoliberalism and embedded liberalism is the level of state intervention in the market-friendly business environment.

A market-friendly business environment with limited state intervention is no longer the dominant force in the creation of IIAs. Both developing and developed nations have begun to focus on governments' rights to regulate, while advocating for public interests, such as environmental protection, with the purpose of balancing investors' rights protection and host states' relevant police power. In international law, the exercise of police power must be based on the reasonableness of the measures needed [26]. To date, there are 58 IIAs

that include SDG-related provisions [27]. Two-thirds of these envisage public interest-related exceptions permitting the host state's right to adopt measures concerning public policy objectives, including environmental protection (e.g., the 2016 Canada–Mongolia BIT), and approximately half stipulate that parties should not relax labor and environmental standards to attract FDI (e.g., the 2017 Colombia–United Arab Emirates BIT). Some IIAs detail certain clauses to promote the sustainable development of foreign investments (e.g., the 2019 EU–Singapore FTA). Further, more countries are now redesigning their treaty models in accordance with the UNCTAD's Reform Package for the IIA regime. There are two practical reasons for this development. On the one hand, the boosting of FDI flows (especially into developing countries) in the late 1990s triggered widespread concerns regarding the economic and environmental impact of FDI. After the emergence of a number of sweatshops and disputes, host states began to acknowledge the importance of sustainable development. Meanwhile, the international community has come to advocate for human values and human rights in IIAs. Investment rules backed by capital-exporting countries often lean toward a neo-liberal paradigm aimed at expanding FDI opportunities for multinational companies and augmenting the rights and protections of their investors overseas [28]. Nevertheless, in the wider IIA universe, most treaties in force do not contain clauses directly prescribing treaty objectives regarding sustainable development [27].

As a further example, environment and human rights (EHR) is a more critical area of international investment, due to an "increasing frequency of environmental disasters and human rights damages" associated with foreign investors' undue conduct [29]. The right to a clean, healthy, and sustainable environment is recognized as a human right under a UN resolution, as the environmental damage to human rights is felt by people around the world [30]. In compliance with the UN resolution, it is necessary to consider environmental concerns along with human rights within the framework of existing international law [30]. IIA clauses related to EHR cover all aspects of environmental protection-related rules in IIAs.

In general, EHR clauses in IIAs protect not only first-generation human rights (essentially dealing with civil and political rights) and second-generation human rights (which sets out the protection of economic, social, and cultural rights based on first-generation human rights), but also third-generation human rights, combining collective human rights with the classic concept of human rights, as the jurisprudential basis for protecting certain human rights (including the right to the environment) in host states, in the context of IIAs [31,32]. The existing works on the content of human rights provisions encompass the environment, sustainable development, property rights, and labor rights, while such types of clauses include provisions on CSR, exceptions to indirect expropriation, investors' human rights obligations in accordance with international standards, fair trial, and general exceptions [33–35].

2.2. The Effect of International Environmental Instruments over FDI

In addition to the IIAs, the states conclude other international agreements. IIAs are a clear example of the incompatibility of international economic law with international environmental protection [17]. This conflict is observed in a NAFTA article, prescribing that, if there is any conflict between NAFTA and specific trade-related treaty duties included in international environmental instruments, such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and the Montreal Protocol on Substances that Deplete the Ozone Layer, the environmental agreements shall prevail to the extent of the inconsistency [36]. Consequently, international treaties other than IIAs have been invoked to justify the states' measures in interfering in FDI activities [37]. Meanwhile, how environmental protection obligations impact international investment schemes must be assessed in the context of more specific rules relevant to the fulfilment of such obligations [37].

The European Commission introduced climate neutrality provisions in line with international environmental conventions, such as the Paris Agreement, as a critical component of its investment treaties in the future [17]. Influenced by international environmental in-

struments such as the Paris Agreement, IIAs are supposed to be more environment-friendly, promoting "climate-friendly investment. [38]" Climate-friendly investment treaties aim to transform their objectives from investment protection to the protection of both investments and environmental conditions [39]. The protection of environmental conditions is the states' international obligation, substantialized by international treaties. For instance, one of the Paris Agreement's targets is "(m)aking finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development", (Article 2 para 1 (c)), which directly prescribes the states' treaty duty to guide FDI activities in accordance with certain environmental protection rules. In this context, FDI under IIAs should contribute to the objectives of the Paris Agreement. Accordingly, the contracting parties are supposed to take measures to keep the balance between protecting FDI and the climate. On the one hand, for FDIs investing in industries with severe pollution, excluding such investment from the range of IIAs' protection might reduce the "chilling effect" on domestic environmental measures [40]. On the other hand, an IIA is supposed to encourage more climate-friendly investments, such as investments aimed at greenhouse gas reduction and energy transition, and to prescribe protection standards for such climate-friendly investments [38].

The process of ECT modernization is a good example of such two-faceted evolution [38]. The ECT encourages investment in the sector of clean energy [41]. According to the EU's proposal on ECT modernization, the EU tends to introduce sustainable energy production as ECT-covered investments, while excluding "climate unfriendly" investments from the range of protection. For example, the proposal suggests that the protection standards for FDIs prescribed in ECT shall not be applied to new investments related to fossil energy materials and products but to the relevant existing investment over a limited duration. Meanwhile, the proposal adds new energy-producing materials, such as biomass and hydrogen, as renewable sources, and the range of protected environment-friendly energy investments is thereby extended to a certain extent [38].

The protection of the environment, especially of biological diversity, is also prescribed in several instruments dealing directly or indirectly with cultural rights (i.e., International Covenant on Economic, Social and Cultural Rights (ICESCR), Article 15; International Covenant on Civil and Political Rights (ICCPR), Article 27; American Convention on Human Rights (ACHR), Article 21). Such regulations generally focus on the specific means meant to be taken by states concerning environmental protection, including setting management plans, and granting legal status to relevant domestic areas [42]. Measures protecting the harmony of certain habitats and their ancestral environments are provided by such treaties. When a host state plans to take certain environmental measures, the state is supposed to clarify the connection between its international environmental treaty duties and domestic environmental regulations [37]. The obligation of protection in detail could be found in relevant specific regulations including the Additional Protocol to the American Convention on Human Rights in the Area of Economic, Social and Cultural Rights. Under the Protocol of San Salvador, the party states are obliged to provide people with "the right to live in a healthy environment", and to "promote the protection, preservation, and improvement of the environment" (Article 11). The CITES also restricts the trade of endangered species, requiring the issuance of both an export and an import permit, and such permits can be granted only if certain requirements are met (Article III para 2–3). In general, there are four main types of treaty duties identified in international environmental instruments that might conflict with IIAs: (i) duties relevant to the protection of given species or areas; (ii) duties concerning the international trade of certain species; (iii) duties relevant to the access and beneficial sharing of biological and genetic resources; and (iv) relevant procedural requirements [37].

In the context of normative conflicts, the investment arbitration practice shows the increasing significance of international environmental rules in relation to the functioning of international investment schemes affecting biological and cultural diversity [37]. In Sevilla Beheer B.V. v. Spain, the tribunal observed that Spain's alleged measures promoting renewable energy were adopted in the context of international endeavors to handle climate

change, which are rooted on the adoption of the 1992 United Nations Framework Convention on Climate Change and the 1997 Kyoto Protocol (Decision on Jurisdiction, Liability and Principles of Quantum, para 169). However, as analyzed in Section 2.3, the tribunal mostly focused on the substantial clauses, such as the FET standard in a relevant IIA, while the environmental instrument is merely constructed as a background to the case.

2.3. Environmental Protection in Investment Arbitration

There is an asymmetric relationship in investor–state arbitration (ISA) under IIAs originally designed to provide foreign investors with a remedy, as they are at a disadvantaged position relative to host states during the process of establishing and managing investments. Investors have been increasingly using FTAs and BITs to challenge host states' treatment of or measures on investments since the beginning of the 21st century. Emerging cases include claims challenging host states' environmental regulations [29,43]. The challenges presented by investors not only target the measures justified by the host state's environmental concerns [44], but also those in violation of domestic and international environmental rules, though these are relatively rare. For instance, in Allard v. Barbados, the claims arose out of measures amounting to environmental damage and indirect expropriation by the Government of the Graeme Hall Nature Sanctuary, a wildlife sanctuary in Barbados owned by the claimant. However, the tribunal decided that the violation of domestic environmental rules could not be the basis of an independent claim, but rather the evidence of a breach of treaty obligation. Notably, when asked to examine whether an alleged measure was duly motivated, proportionate, and reasonable with respect to the public interests being protected [8], arbitral tribunals may disregard the jurisdiction, as International Center of Settlement of Investment Dispute (ICSID) case law shows that the legal requirement is an element of *ratione materiae* jurisdiction, as adjudicated in Quiborax v. Bolivia and Desert Line v. Yemen. In both cases, the tribunals indicated that foreign investment made in violation of the host states' environmental rules could hardly be protected by relevant instruments.

By the end of 2021, 130 economies were known to have been respondents in investment arbitration cases, and the number of investor–state dispute settlement (ISDS) cases totaled 1190, while 75% of such cases in 2021 were initiated under old-generation IIAs concluded in the 1990s or earlier. Typically, the ECT and the NAFTA remain the two most frequently invoked IIAs in recent years [10]. The rise of IIAs and investment arbitration cases increased the likelihood of states being challenged due to governmental measures aimed at environmental or health issues [8]. According to case law, a state's motivation for adopting tactics disguising the regulation from protectionist measures carries more weight in arbitral proceedings (S.D. Myers v. Canada), while whether the measure is proportionate to the public interest it designated to protect also matters (Tecmed v. Mexico). Moreover, in Chemtura v. Canada, the scientific evidence and the effects of environmental rules have a certain influence over the reasonableness of the state's domestic environmental measures and the extent of its liability in treaty breaches.

Environmental concerns and ISA have been heavily influencing one another. We selected relevant concepts as keywords to locate investment disputes regarding environmental protection issues in the Investment Dispute Settlement Navigator database. There are only search results for "environment" "gasoline" "fuel" and "renewable energy", and the cases directly related to environmental protection are summarized in Table 4 below. There are no results matching key words such as "sustainable development" "climate change" "clean energy" or "green energy" in the given database. As can be seen, environmental protection-related clauses are not directly invoked by disputing parties. Rather, they constitute the environmental context in which the traditional IIA provisions and treatment standards are breached. For instance, breaches of the FET, denial of justice, expropriation (both direct and indirect), full protection and security and national treatment (NT) [2] appear in these cases.

Table 4. Environment-related Investment Disputes (Information source: UNCTAD, Investment Dispute Settlement Navigator database).

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
1997	Ethyl v. Canada	NAFTA (1992) & Indirect expropriation, national treatment, performance requirements	Claims arising out of a Canadian regulation concerning of the gasoline additive MMT imports.	Settled
1999	Methanex v. USA	NAFTA (1992) & Indirect expropriation, fair and equitable treatment, national treatment	Claims arising out of damages caused by a state-level ban on the use or sale of the gasoline additive in California.	Decided in favour of the state
2003	Inceysa v. El Salvador	El Salvador–Spain BIT (1995) & Indirect expropriation	Claims arising out of the decision of El Salvador's Ministry of the Environment and Natural Resources not to fulfill a concession contract of vehicle inspection, previously awarded to the investor.	Decided in favour of the state
2007	Global Gold Mining v. Armenia	Armenia–United States of America BIT (1992) & Indirect expropriation, fair and equitable treatment, full protection and security	Claims arising out of the decision of Armenia's Ministry of Environment to deny the investor's renewal of existing mining licenses and the granting of new licenses.	Settled
2008	Mercuria Energy v. Poland (I)	The Energy Charter Treaty (1994) & Indirect expropriation, fair and equitable treatment	Claims arising out of the host state's implementation of a EU's Directive calling for an increase of fuel reserves and the negative impact of such implementation upon the claimant's subsidiary operating the importation of fuel.	Decided in favour of the state
2008	Oeconomicus v. Czech Republic	Czech Republic–Switzerland BIT (1990)	Claims arising out of the refusals to honour guarantees made by the Environment Ministry to the claimant's investment.	Discontinued
2009	Abengoa v. Mexico	Mexico–Spain BIT (2006) & Indirect expropriation, fair and equitable treatment	Claims arising out of the stalled opening of the claimant-built waste landfill and treatment plant in Mexico, due to several acts by the municipal government and certain federal authorities.	Decided in favour of the investor
2009	Gold Reserve v. Venezuela	Canada–Venezuela, Bolivarian Republic of BIT (1996) & Indirect expropriation, fair and equitable treatment, full protection and security, most-favoured nation treatment	Claims arising out of the host state's deprivation of the investor's rights in certain mining project in Venezuela, led by an administrative ruling by the Ministry of Environment declaring the nullity of relevant permit and the termination of investor's concessions.	Decided in favour of the investor

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2011	Mamidoil v. Albania	Albania-Greece BIT (1991), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security, indirect expropriation	Claims arising out of the host state's decision to relocate investor's operations after the government planning to establish a tank farm as a non-industrial zone in the relevant area, and other governmental measures aimed to ban the use of the investor's fuel deposits, the investments' operation, and the supply of the fuel tank farm.	Decided in favour of the state
2011	Mesa Power v. Canada	NAFTA (1992) & Fair and equitable treatment, national treatment, most-favoured nation treatment, performance requirements, full protection and security	Claims arising out of the host state's measures concerning the renewable energy regulation in a Canadian province, which imposed unexpected changes to the established feed-in-tariff program regime.	Decided in favour of the state
2011	The PV Investors v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security	Claims arising out of several energy reforms imposed by the host state concerning renewable energy, including the subsidy reduction for relevant energy generators and the tax imposed on the power producers' revenues.	Decided in favour of the investor
2011	Baggerwerken v. Philippines	BLEU (Belgium–Luxembourg Economic Union)–Philippines BIT (1998)	Claims arising out of the host state's sudden termination of a contract entered into by the previous administration with the investor for the lake rehabilitation aiming to improve the ecological condition.	Decided in favour of the investor
2013	Antaris and Göde v. Czech Republic	Germany–Slovakia BIT (1990), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security	Claims arising out of amendments to the pre-existing incentive regime for the renewables, including the imposition of tax on electricity generated.	Decided in favour of the state
2013	Europa Nova v. Czechia	Cyprus–Czech Republic BIT (2001), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security		Decided in favour of the state
2013	I.C.W. v. Czechia	Czech Republic–United Kingdom BIT (1990), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security		Decided in favour of the state
2013	JSW Solar and Wirtgen v. Czech Republic	Czech Republic–Germany BIT (1990) & Fair and equitable treatment, full protection and security, umbrella clause		Decided in favour of the state

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2013	Natland and others v. Czech Republic	Czech Republic–Netherlands BIT (1991), Cyprus–Czech Republic BIT (2001), BLEU-Czech Republic BIT (1989), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security		Pending
2013	Photovoltaik Knopf v. The Czech Republic	Czech Republic–Germany BIT (1990), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security		Decided in favour of the state
2013	Voltaic Network v. Czechia	Czech Republic–Germany BIT (1990), The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security		Decided in favour of the state
2013	ASA v. Egypt	Egypt–Italy BIT (1989)	Claims arising out of the host state's measures affecting the investor's investment in a company which had entered contracts for waste treatment in Cairo.	Settled
2013	EVN v. Bulgaria	Austria–Bulgaria BIT (1997); The Energy Charter Treaty (1994)	Claims arising out of measures by the host state authorities and government agencies in relation to the pricing of power and compensation concerning renewable energy.	Decided in favour of the state
2013	CSP Equity Investment v. Spain	The Energy Charter Treaty (1994) & Indirect expropriation, fair and equitable treatment	Claims arising out of several energy reforms imposed by the host state concerning renewable energy, including the subsidy reduction for relevant energy generators and the tax imposed on power producers' revenues.	Decided in favour of the state
2013	Eiser and Energía Solar v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause, indirect expropriation		Decided in favour of the investor
2013	Infrastructure Services and Energia Termosolar (formerly Antin) v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause		Decided in favour of the state
2013	Isolux v. Spain	The Energy Charter Treaty (1994)		Decided in favour of the state

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2013	RREEF v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, Umbrella clause		Decided in favour of the investor
2014	InfraRed and others v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security, indirect expropriation, umbrella clause		Decided in favour of the investor
2014	Masdar v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment		Decided in favour of the investor
2014	NextEra v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, most-favoured nation treatment, umbrella clause		Decided in favour of the investor
2014	RENERGY v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause, full protection and security, indirect expropriation		Decided in favour of the investor
2014	RWE Innogy v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause		Decided in favour of the investor
2015	9REN Holding v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, indirect expropriation, umbrella clause		Decided in favour of the investor
2015	Alten Renewable v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment		Discontinued
2015	BayWa r.e. v. Spain	The Energy Charter Treaty (1994) & Indirect expropriation, umbrella clause, full protection and security, fair and equitable treatment		Decided in favour of the investor

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2015	Cavalum SGPS v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, indirect expropriation, umbrella clause		Decided in favour of the investor
2015	Cube Infrastructure and others v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, indirect expropriation, umbrella clause		Decided in favour of the investor
2015	E.ON SE and others v. Spain	The Energy Charter Treaty (1994)		Pending
2015	Foresight and others v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause, indirect expropriation		Decided in favour of the investor
2015	Hydro Energy 1 and Hydroxana v. Spain	The Energy Charter Treaty (1994) & Indirect expropriation, fair and equitable treatment, full protection and security		Decided in favour of the investor
2015	JGC v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment		Decided in favour of the investor
2015	Kruck and others v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, indirect expropriation		Pending
2015	KS and TLS Invest v. Spain	The Energy Charter Treaty (1994)		Pending
2015	Landesbank Baden-Württemberg and others v. Spain	The Energy Charter Treaty (1994)		Pending
2015	Novenergia v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security, umbrella clause, indirect expropriation		Decided in favour of the investor

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2015	OperaFund and Schwab v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security, umbrella clause		Decided in favour of the investor
2015	SolEs Badajoz v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, indirect expropriation, umbrella clause		Discontinued
2015	Stadtwerke München and others v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause		Decided in favour of the state
2015	Watkins and others v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause		Decided in favour of the investor
2015	ENERGO-PRO v. Bulgaria	The Energy Charter Treaty (1994), Bulgaria-Czech Republic BIT (1999)		N/A
2016	Biram and others v. Spain	The Energy Charter Treaty (1994)		Decided in favour of the investor
2016	Sevilla Beheer B.V. v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause		Pending
2016	Eurus Energy v. Spain	The Energy Charter Treaty (1994) & Indirect expropriation, fair and equitable treatment, full protection and security		Decided in favour of the investor
2016	Green Power and SCE v. Spain	The Energy Charter Treaty (1994)		Decided in favour of the state
2016	Infracapital v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, full protection and security, umbrella clause		Pending

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2014	Ballantine v. Dominican Republic	CAFTA–DR (2004) & National treatment, most-favoured nation treatment, fair and equitable treatment, indirect expropriation, full protection and security	Claims arising out of the rejection by the host state's environmental authority to the investors' request to expand their residential and tourism project, as well as other measures taken by the central and local authorities.	Decided in favour of the state
2016	ESPF and others v. Italy	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause	Claims arising out of several decrees to cut incentives for certain renewable power projects.	Decided in favour of the investor
2017	Elitech and Razvoj v. Croatia	Croatia–Netherlands BIT (1998)	Claims arising out of Croatia's measures and actions leading to the stalled construction of a golf resort. The Croatian court's rulings Reid to overturn the Croatian environmental ministry 's approval of the resort's construction.	Pending
2017	Tennant Energy v. Canada	NAFTA (1992) & Fair and equitable treatment	Claims arising out of the unfair treatment of the investor's renewable power generating project through certain regulatory measures, and the local authority's non-transparency of the feed-in tariff plan for renewable energy sources.	Pending
2017	FREIF Eurowind v. Spain	The Energy Charter Treaty (1994) & Fair and equitable treatment, umbrella clause	Claims arising out of several energy reforms imposed by the host state concerning renewable energy, including the subsidy reduction for relevant energy generators and the tax imposed on power producers' revenues.	Decided in favour of the state
2017	Portigon v. Spain	The Energy Charter Treaty (1994)		Pending
2018	KLS Energy v. Sri Lanka	Malaysia–Sri Lanka BIT (1982)	Claims arising out of the host state's cancellation of a renewable energy generator project invested by the claimant.	Pending
2018	LSG Building Solutions and others v. Romania	The Energy Charter Treaty (1994) & Fair and equitable treatment	Claims arising out of several changes to the host state's incentive scheme concerning renewable energy investment.	Pending
2018	European Solar Farms v. Spain	The Energy Charter Treaty (1994)	Claims arising out of several energy reforms imposed by the host state concerning renewable energy, including the subsidy reduction for relevant energy generators and the tax imposed on power producers' revenues.	Pending

Table 4. *Cont.*

Year of Initiation	Case Name (In Brief)	Relevant Treaty & Provisions (If Data Available)	Summary of Claims	Outcome
2019	Odyssey v. Mexico	NAFTA (1992) & National treatment, fair and equitable treatment, full protection and security, indirect expropriation	Claims arising out of the decision by Mexico's environmental authority denying permits for the investor's mining project.	Pending
2019	Mamacocha and Latam Hydro v. Peru	Peru-United States FTA (2006) & Fair and equitable treatment, full protection and security, indirect expropriation, umbrella clause	Claims arising out of the host state's breach of a concession agreement for a renewable energy plant project by delaying to permit and approve it.	Pending
2019	Strabag and others v. Germany	The Energy Charter Treaty (1994)	Claims arising out of the host state's legislative changes concerning the renewable energy regime, including for power generation, which allegedly caused the investors to abandon relevant projects.	Pending
2020	EP Wind v. Romania	The Energy Charter Treaty (1994)	Claims arising out of several changes to the host state's incentive scheme concerning renewable energy investment.	Pending
2020	Fin.Doc and others v. Romania	The Energy Charter Treaty (1994)		Pending
2021	KELAG and others v. Romania	The Energy Charter Treaty (1994) & Fair and equitable treatment, indirect expropriation		Pending
2021	RSE v. Latvia (II)	The Energy Charter Treaty (1994) & Fair and equitable treatment	Claims arising out of the host state's change of its renewable energy regulatory framework including relevant incentives programs.	Pending
2021	Spanish Solar v. Spain	The Energy Charter Treaty (1994)	Claims arising out of several regulatory changes undertaken by the host state affecting the renewables sector.	Pending
2022	WOC Photovoltaik and others v. Spain	The Energy Charter Treaty (1994)		Pending

The application and interpretation of IIAs in light of environmental protection were apparent in investment arbitration cases. The tribunals had implemented various approaches to balance the host state's obligations for investment protection and environmental protection [2]. In the 72 cases outlined in Table 4, no tribunals directly cited and applied environmental protection clauses. Instead, most tribunals focused on traditional treatment clauses. There are six cases settled or discontinued (Ethyl v. Canada, Global Gold Mining v. Armenia, Oeconomicus v. Czech Republic, ASA v. Egypt, Alten Renewable v. Spain and SolEs Badajoz v. Spain), and 22 disputes are pending.

In the remaining cases, claims arose out of the host states' regulatory measures regarding the environment, which led to a loss of investors. For instance, in Ballantine v. Dominican Republic, the claimants alleged that the enforcement of environmental regulations by Dominica constituted a breach of treaty duty under the Dominican Republic–Central America Free Trade Agreement (DR–CAFTA). According to the claimants, the measures

taken by the Dominican government led to a loss of reasonably anticipated profits, direct and indirect losses, losses of property and moral damages (Final Award, para 157). In these cases, the tribunals were asked to confirm the alleged violation of the treaty obligation by the host states. Often, the tribunals adjudicate on the legality of the host state's regulatory actions by investigating whether a breach of a variety of substantive standards—such as FET (e.g., Gold Reserve v. Venezuela, Abengoa v. Mexico, Ballantine v. Dominican Republic), NT (e.g., Ballantine v. Dominican Republic), most-favored-nation treatment (e.g., Gold Reserve v. Venezuela, Ballantine v. Dominican Republic), non-transparency (e.g., Infinito Gold v. Costa Rica, Lemire v. Ukraine (II), Saluka v. Czech Republic, LG&E v. Argentina, Cargill v. Poland), arbitrariness (e.g., Eco Oro Minerals Corp. v. Colombia, Alpha Projektholding v. Ukraine, Waste Management v. Mexico (II), Saluka v. Czech Republic, Parkerings v. Lithuania), or expropriation (e.g., Abengoa v. Mexico, Ballantine v. Dominican Republic, Gold Reserve v. Venezuela)—has occurred.

The preamble appears to become a basis for treaty interpretation, as tribunals often relied on it to interpret the objective of IIA clauses. Environmental concerns may be expressed even in an old treaty that does not explicitly include an environment carveout, as long as the preamble clearly includes an environmental protection objective. The state could be presumed by the tribunal to preserve "the right to regulate" or police power, which means that the state "has precisely excluded the obligation to compensate for the measures it adopts". [45] The objective clause in the preamble is cited by the tribunal in the case of Joseph Charles Lemire v. Ukraine in order to defend the host state's police power (Decision on Jurisdiction and Liability, para 272–273). In some respects, the aspirational statement in the preamble may function better to indicate the contracting parties' intention to safeguard the environment, as cited by the tribunal in Eco Oro v. Colombia (Decision on Jurisdiction, Liability and Directions on Quantum, para 828). Article 31(2) of the Vienna Convention on the Law of Treaties stipulates that the treaty preamble partly forms the context of treaty interpretation. The tribunal in Siemens A.G. v. The Argentine Republic referred to the title and preamble of the treaty and asserted that it would be "guided by the purpose of the Treaty as expressed in its title and preamble" (Decision on Jurisdiction, para 81). The aspirational statement on the environment in the preamble is of textual and teleological significance for the tribunal to modify, if not fortify, the ordinary meaning of the treaty terms.

As a guiding principle established in S.D. Myers v. Canada, the determining of a breach of treaty duty must be made on such a basis that international law generally respects the host state's police power within its borders (Partial Award, para 263). In Gold Reserve v. Venezuela, to emphasize the host state's regulatory power, the tribunal clarified that the investor's rights and obligations should be viewed within the domestic legal framework in the field of environmental protection (Award, para 534). However, in the analysis of whether the state's regulatory measure amounted to a breach of FET, the tribunal explained the relationship between the state's treaty duty and its duty to protect public interests. The tribunal declared that, though it is the state's responsibility to protect the environment, the state is not exempt from complying with its commitments to international investors and must search for ways and means to protect both the local environment and foreign investment (Award, para 595). Thus, a breach of FET by terminating concessions was established. Specifically, in the governing IIA of the case, Canada–Venezuela BIT (1996), the only environment-related content is prescribed in its annex. It notes that the host state's commitments shall not be construed as preventing the state from adopting, maintaining, or enforcing any measure to ensure that "investment activity is undertaken in a manner sensitive to environmental concerns" (Canada–Venezuela BIT (1996), Annex, Article II). Despite this, such a clause was not invoked by either the respondent or the tribunal, and the former was held liable in the final award. In comparison, the tribunal in Eco Oro v. Colombia is also asked to deal with the relationship between FET and environmental protection. What is different is that the majority of tribunals held that the governing IIA emphasizes environmental protection (Canada–Colombia FTA (2008), Article 807 para 2,

Article 815, Article 816, and Annex 811, para 2), and the FET standard shall not be invoked as a barrier to Colombia regulating within its jurisdiction [46]. However, in Professor Philippe Sand QC's partial dissent opinion, he denied the establishment of a breach of FET by Colombia on the basis that the alleged measure was motivated by genuine environmental concerns, which were not arbitrary (paras 31–34). Through such a comparison, two points can be made. First, by the inclusion of environmental protection clauses in IIAs, relevant concerns are now more widely recognized by parties and tribunals. Second, though environmental protection provisions might not be invoked by the tribunals directly, they could at least provide a basic context for environmental protection in order for the tribunal to assess the alleged measure.

Such points might be examined in other claims relating to environmental regulatory measures. When analyzing the presence of expropriation via environmental regulatory measures, it is commonplace for tribunals to use the doctrine of proportionality in treaty interpretation [2]. For instance, to analyze the expropriatory nature of measures involving the substitution of a permanent landfill operational license valid only for a limited period, in Tecmed v. Mexico, the tribunal applied the proportionality test and considered whether the alleged measure was "proportional to the public interest presumably protected thereby and to the protection legally granted to investments, taking into account the significance of such impact in deciding the proportionality" (Award, para 122). To ascertain whether certain environmental regulatory measures can be considered as indirect expropriation, the Tecmed v. Mexico award highlights the balance of the investor's private interests with the host state's public interest when applying the proportionality test [2].

Another eye-catching phenomenon indicated in Table 4 is that cases relating to the host states' renewable energy, as well as its policy changes to the regulatory framework, account for 76% of the total cases. The interpretation and application of the FET standard plays a significant role in these cases. For instance, in Sevilla Beheer B.V. v. Spain, the claimants invoked the FET standard provided by the ECT as the legal base of their claims (ECT, Article 10(1)), and contended that though the breach of FET provision was on a legal basis or in good faith, that could not excuse the host state from regulatory changes (Decision on Jurisdiction, Liability and Principles of Quantum, para 705). The Spanish government argued that there would be no breach of FET clauses if the host state "exercises its regulatory power in a reasonable manner when pursuing a public interest", and therefore the need to protect "the very sustainability" of the Spanish electricity system could justify the disputed measures (Decision on Jurisdiction, Liability and Principles of Quantum, para 708). To examine the reasonableness and proportionality of the measures, the tribunal only regards the claimants' limited expectations as the key to the dispute if: (i) the subsidies previously granted to them would not be cancelled, and (ii) the reasonable return could be taken by the claimants (Decision on Jurisdiction, Liability and Principles of Quantum, para 934). In other words, reasonable regulatory changes for sustainability would not be construed as a breach of FET standard. In RWE Innogy v. Spain, the tribunal similarly stated that the Spanish government's effort was made in good faith, as it needed to address the imbalance created by the subsidy program in the Spanish electricity system. The host state's necessity and good faith in undertaking the alleged measure might exempt the host state from the breach of the FET standard.

However, the "legislative expectation" under the FET standard that is used to protect the host state from its measures is scrutinized by tribunals in relevant cases (e.g., Foresight and others v. Spain, Eiser and Energía Solar v. Spain, Novenergia v. Spain). In Eiser and Energía Solar v. Spain, the tribunal held that the host state should not "radically" alter the regulatory schemes applicable to existing investments and deprive the investors because of those schemes that affect the value of their investment (Award, para 382). Similarly, in Novenergia v. Spain, the tribunal stated that measures completely changing the legal framework and business environment of investments are beyond the scope of legislative and regulatory measures (Final Award, para 695). In summary, the tribunals in these cases set a two-step test to decide whether the host state's measures violated the FET

standard: (i) whether the government's former actions amount to commitments for foreign investors and leave them legitimate expectations; and (ii) whether the new measures meet the requirement of appropriateness [47]. For the first step, the host state should not take measures that radically change the regulatory framework and business environment (Novenergia v. Spain). For the second step, the adjustments to the host state's current policies must be gradual and necessary, otherwise the legislative expectation of investors could also be defied (Foresight and others v. Spain). The FET standard in case law obliges the host state not to take regulatory measures that are inconsistent with the former policies, unless such measures are taken with necessity and in good faith (RWE Innogy v. Spain).

Both environmental protection and international investment arbitration are "double-edged swords [48]". Investment arbitration may be utilized to promote the enforcement of the host state's own environmental protection law, as investors may file claims against the state due to the latter's non-compliance with its own environmental policies [2]. However, the investment arbitration system is criticized for having a "structural bias", favoring investors over host states while simultaneously harming domestic environmental interests [29]. There are various challenges relating to environmental protection claims brought before international investment tribunals, and one of these is the absence of a reference to substantive domestic policy guiding the tribunal "to weigh ecological aims of governmental measures [8]". Considering the treatment standards invoked in international investment arbitration, states are advised to agree on amendments to IIAs with a view to preserving more regulatory space for themselves [49]. It is also suggested that states allow counterclaims based on their domestic laws in the field of environmental protection. Therefore, arbitral tribunals could become a forum for enforcing domestic environmental laws with neutrality, efficiency, and an international enforcement mechanism [29].

2.4. Applying Environment Rules in International Investment Arbitration

As the relationship between environmental protection and foreign investors' rights protection is complex and difficult to balance, environmental protection can be included within the broader protection of basic human rights, such as health [2,50]. The attempt to hold foreign investors liable through EHR counterclaims is appealing to host states [29], whereby they are permitted to justify their regulation over investors' environmental misconduct. When invoking EHR rules in international investment arbitration, one may encounter issues including jurisdiction and the application of law. Commonly, IIAs or BITs do not include any substantive environmental or human rights obligations that may be claimed by citizens of the host state, nor do these treaties impose certain duties on foreign investors to respect the minimum environmental standards with regard to the host state's nationals. Thus, in investment arbitration, international environmental instruments are often invoked only through a third party—e.g., amicus curiae or by arbitrators ex officio [51]. Through a study of investment arbitration cases related to the right to water (a topic closely linked with both environmental and human rights protection), it is argued that the nature and status of the right to water as an independent human right is binding for all the contracting parties, and that the party states should adopt the necessary measures to guarantee residents' rights to water in investment cases. While there is now a growing body of precedents recognizing state authority in water supply regulations, investment tribunals tend to be reluctant to discuss the EHR-related obligations of states. Certain provisions in IIAs concerning expropriation or FET create obstacles to realizing the right to water from the perspective of the state [52].

Difference in legal cultural backgrounds has led to investment arbitration tribunals always being in the habit of avoiding references to EHR rules, and human rights courts also frequently avoid references to investment law and arbitration in their judgments. To some extent, these two types of institutions are mutually conflicting in nature: while human rights courts originally emerged from within a public law paradigm and actively operate to protect individual rights, investment arbitration tribunals always conduct themselves within a private-law framework and pay more attention to private rights [53]. "Mainstreaming

Human Rights" doctrine holds that EHR and related instruments will only be invoked in ISDS cases when the respective actors can benefit by doing so [34]. This selective approach does not engender a complete and substantial coherence between the protection of human rights and investment arbitration regimes, but rather serves as a form of window dressing for the former.

Among scholarly opinions and within case law in general, EHR discourse has been invoked largely as an additional argument in favor of investors in investment arbitration. Arbitration institutions have not developed, though it is necessary to build one, a relatively systematic, fixed, and repeatable methodology for environmental or human rights analysis for EHR-related international investment arbitration.

When hearing relevant investment arbitration disputes, the arbitral tribunal should adhere to the principle of "reasonable expectation" to analyze whether the regulatory measures implemented by the host state to protect certain interests, such as local environmental interests, exceed the reasonable expectations of the investors. If the regulatory measures taken by the government do not surpass the reasonable expectations of the investors, the relevant measures should be deemed legitimate. Conversely, where the government's regulatory measures exceed the reasonable expectations of the investors, a comparison should be drawn between the public interests protected by the measures and investors' certain private interests. If the interests protected by the measure are more critical than the private interests of the investor, then the regulatory measure is lawful, and the investor would not be entitled to claim compensation [54].

3. Environmental Protection in FDI Law in China

China is of great importance to the global economy after experiencing world-leading annual GDP growth rates in the past two decades and transitioning into a 'new normal' of slower but more sustainable development [55]. Meanwhile, China plays a significant role in the world of FDI, not only as a host state but also as an investor state. According to the UNCTAD, China was the host state with the second most FDI inflows and the fourth biggest home state for FDI outflows in 2021, while in 2020, China contributed the most FDI outflows and attracted the second most FDI inflows [10,56]. After only a 6% increase in 2020, the FDI inflow growth in China recovered its pace in 2021, boosted by 21% to $181 billion. Such robust FDI growth was driven by substantial investment in the sectors of high-tech and services. The future of relevant industries in China remains promising [10]. Figure 2 shows China's continuous FDI growth along with the boost in the number of domestic environmental regulations. Both FDI and environmental protection are the focus of China's sustainable development.

A feature or regulatory ethic of the foreign investment law regime in China is the centrality of the state's role as the main agent in development. The fundamental role of the state in Chinese society and its economy is articulated in Article 18 of the People's Republic of China (PRC) Constitution 1982. The amendments to the Constitution in 1993, while replacing the state-planned economy with a socialist market economy, did not cause the fading of the central role of the state in the state's economic development. The state's critical role in development appeared to be positive and constructive in the East Asia economies [57–59], with the state playing a multifaceted role, ranging from being the catalyst for development (the force transforming national industrial structures) to mediating relations between foreign capital and local entrepreneurship [60–64].

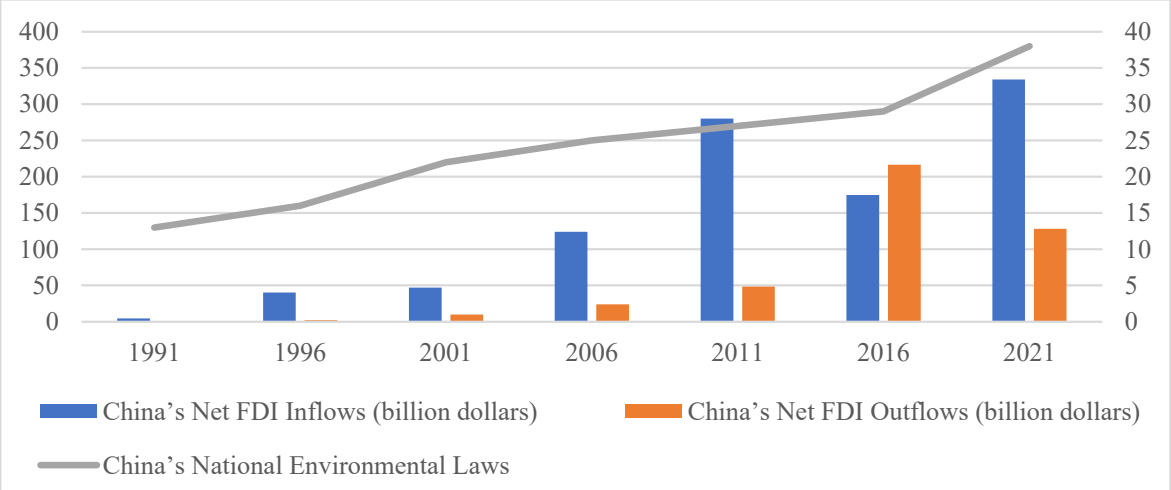

Figure 2. China's Net FDI Inflows, Outflows, and National Environmental Laws (since 1991, data source: The World Bank).

Notwithstanding its sharp contrast with critical approaches in most Western nations, which tend to view the state as the source of problems, inefficiencies, and dysfunctions, the state-centric economic development model explains clearly the critical functions of foreign investment law regime in China, which focuses on policies of import substitution, export-led growth, development strategies such as encouraging foreign investment in infrastructure, high technology, and environmentally friendly sectors, and on channeling foreign investment towards the achievement of long-term social and technological development goals. The state-centric theme of China's economic development—or, more specifically, its foreign investment regime—also suitably accounts for the great achievement of its labor-intensive and export-oriented industries over the past 40-year period.

In the latest developments, it appears that there is a retrenchment of the state, placing greater emphasis on its industrial policy and scrutiny scheme in order to review the influence of FDI projects on domestic economic and security interests, which coincides with a non-ignorable nationalist trend, seeking to practice anti-globalization [65,66], and a switch from emphasizing economic growth to a new policy concerning "harmonious society" [67,68]. A harmonious society has higher standards, not only trying to fill in the gap between the wealthy and the poor but also providing an opportunity to the people for self-fulfillment. This trend was evidenced in the latest revision of the Guidance Catalogue (amended in 2007). The entire 1990s witnessed the dominance of differentiated liberalization and a shift from the traditional state planning system of former days to more market-oriented, macroeconomic regulation and control. This conceptual approach drove the Chinese government to rely upon industrial policies in regulating and directing foreign investment. The then State Planning Commission published the Foreign Investment Industrial Guidance Catalogue in June 1995. The Guidance Catalogue is a list of investment guidelines that classifies foreign-invested projects into four categories: "encouraged", "permitted", "restricted", and "prohibited". The "restricted" category limited the equity share that foreign firms could hold in certain industries. The Guidance Catalogue signaled the state's policies in attracting foreign investment. The State Council approved a revised Guidance Catalogue on 9 December 1997, which came into force on 1 January 1998. The 1997 Guidance Catalogue eliminated obstacles against foreign capital's participation in some restricted sectors such as distribution, infrastructure, energy, and power generation. It also welcomed those enterprises which were willing and able to bring high technology to China or promote exports, and offered tax exemptions and other benefits to foreign-invested enterprises (FIEs). In the category of "encouraged" investments, an emphasis was placed on the high-tech sectors, and certain industries migrated to the "restricted" category. This differentiated liberalization policy de facto disfavored state-owned enterprises (SOEs) and

private domestic enterprises, and effectively applied supranational treatment standards to FIEs. Therefore, China's openness became a main theme once again. Greenfield FIEs were the predominant type of foreign-invested projects. During this period, some doubts over the concessions made to FIEs appeared in policy and law-making circles.

The Guidance Catalogue was further amended in 2002 to solidify China's World Trade Organization (WTO) commitments, which reflected a liberalizing trend. This was not extended to most publishing activities. In addition, genetically modified organisms were also moved into the "prohibited" category. A wide range of foreign investment-related matters have been addressed by new or revised legislation, such as taxation, labor, customs, bank lending and guaranties, import and export licenses, intellectual property protection, and environmental protection.

The 2007 Guidance Catalogue embodied the new policy shift, emphasizing environmental protection, trade imbalances, and high technology. Accordingly, the Guidance Catalogue decreased support for export-oriented industries, promoted foreign investment in the high-tech and environment-friendly sectors, and restricted FDI in the manufacturing and mining industries. Such policy alterations have been viewed as new attempts to disfavor foreign investors—on the one hand, restricting access of non-Chinese-origin goods to China's domestic market and, on the other hand, offering resources and protection to domestic enterprises which were less competitive in the market [69]. The role of regulations is ambiguous in keeping control of foreign investment against facilitating FIEs' business activities.

China has achieved impressive economic growth at the cost of the environment, such as an alarming increase in heavy pollution, which is at the forefront of global concern [70]. This triggers a re-examination of China's growth model [71,72], with more focus on a higher rate of growth and less attention to social justice and legal institutions, which is not sustainable in the long run [73]. Due to weak law enforcement at the local level, the black letters in the well-written environmental protection law do not prevent deteriorating environmental conditions. Local governments are, in fact, more willing to overlook or even tolerate environmental noncompliance.

Environmental protection, in principle, is one of the priority requirements imposed by the Chinese government on foreign investment projects. In theory, the Chinese government practices international efforts concerning environmental protection and has acceded to relevant international instruments, including but not limited to the World Heritage Convention, CITES, and the Montreal Protocol on Ozone Protection, and agrees to realize this goal. In implementing its international treaty obligations, China often attempts to maintain a distance from developed countries on a differentiated basis, allowing herself to comply with international environmental agreements in a different way, as befits her unique cultural, political, economic, and historical features.

The Chinese government has now established an administrative agency, at the ministry level, in charge of environmental protection. The Ministry of Environmental Protection is staffed with trained and experienced personnel and is provided with funds for its operations. Although China has made enormous bona fide efforts to meet its international environmental legal obligations, local legislation also leads to a somewhat fragmented legal regime. A further difficulty is the lack of meaningful supervision of environmental legislation and its implementation.

Social development and environmental protection are interconnected concepts. China used to follow the strategy of "growth at any cost" in order to make great economic progress. As the environmental costs of such a strategy were substantial, the government subsequently decided to call a halt and to modernize its domestic environmental protection law by amending the Environmental Protection Law (2014 Revision), wherein "the revised law could help to steer China towards a more sustainable development path", as major enforcement mechanisms such as harsh punishments and public shaming were introduced [74]. The 2014 Environmental Protection Law is regarded as a milestone, marking "a brand new stage of development [75]".

The revised Environmental Protection Law emphasizes its legislative objective of harmonizing environmental protection with economic and social development, including environmental protection and improvement, pollution prevention, ecological civilization construction, and sustainable development promotion [76] (PRC Environmental Protection Law (2014), Article 1). In addition, it sets out severe penalties for polluters, including high fines, public shaming, and detention (Articles 62 and 63). According to empirical research in 2018, certain environmental regulations have played positive roles in the promotion of environmental protection and pollution prevention [77]. The Environmental Protection Law (2014) demands greater scrutiny by, and more duties of, government officials and calls on the public to take measures to protect the environment [74]. A multidimensional environmental protection system includes both hard laws and soft laws, and the latter may enhance the environmental protection intention of citizens and guide their respective behaviors [78,79].

4. Environmental Protection Provisions in China's IIAs: Status Quo and Challenges

Environmental protection is always closely tied with Chinese FDI policies. The principal environmental risk faced by China's overseas investment is the domestic environmental protection law Chinese investors fail to comply with when they invest overseas. For instance, in the 1990s, Shougang Hierro Peru S.A.A was involved in a dispute over chemical waste pollution and was later fined multiple times for violating local environmental regulations, including dumping wastewater into the sea; in 2006, the regional government even declared a "state of environmental emergency" in the mine's locality [80]. Another example is a Sinopec project in Gabon that was ordered to cease production in 2006 because it began oil production in the Loango National Park without an environmental impact assessment approved by the Gabonese Ministry of Environment, and was accused of causing massive pollution, using explosives in the park, cutting roads through the forest, and posing a huge threat to rare flora and fauna [81]. In September 2011, the Myitsone hydropower project on the upper Ayeyarwady River in Myanmar, which was being built by China Power Investment Corporation, was arrested by the host state and has been on hold ever since. Although the reasons for the project's failure are complex, one of the reasons publicized was that of environmental concerns. In 2016, China National Petroleum Corporation's joint investment refinery project in Costa Rica was shut down due to an "environmental impact study", determining that the project violated the terms of the investment agreement.

China's legislative direction in foreign investment law is gravitating towards environmental protection. China has been accused of exporting its domestic development model and putting economic interests ahead of environmental concerns in the process of investing abroad [82]. Such a label is detrimental to the promotion of China's overseas investments under the Belt and Road Initiative and, more generally, China's voice in global governance. Moreover, China's international reputation and image, as well as the interstate relations that it has tried to shape and maintain, will be affected adversely. Consequently, China should take measures to protect the environment in its overseas investment projects, no matter whether the external motivation is for maintaining its own honor and interstate relations or for protecting the actual interests of its entities' overseas investments. In addition to environmental protection measures adopted by host states, the Chinese government is particularly faced with the practical necessity of promoting responsible investment globally and addressing environmental issues in the field of international investments that contain Chinese factors or elements.

By passing domestic laws and rules, many important measures have been taken by China to actively respond to the challenge of environmental protection in international investments. China has numerous laws that address environmental preservation issues in overseas investments. For example, Article 20 of the Offshore Investment Management Measures states that Chinese enterprises should require the foreign enterprises they invest in to comply with the laws and regulations of the host state, respect local customs and traditions, fulfill their social responsibilities, pay greater attention to the topic of the

environment, and promote integration with the local community. The Interim Measures for Offshore Investment Registration (Approval) Reports additionally dictate that domestic investment entities shall regularly report to the relevant domestic authorities on issues of foreign investment resources and environmental protection and on the fulfillment of social responsibility (Article 13). The Guidelines for Green Credit emphasize that banks and financial institutions should support the environmental risk management of overseas projects with credit extension, while Article 21 mentions that the guidelines are binding for overseas investment projects.

China began to play a more vital role in global economics after the 2008 financial crisis, and the economic and politic power of China has been rising steeply, which has also required it to consider the issue of environmental protection in its foreign investment policy making. China has been confronting the challenges of environmental protection in IIAs.

To date, China has signed 145 BITs and 25 Treaties with Investment Provisions (TIPs). The China–Singapore BIT (1985) was the first IIA in the world to mention the "environment" term in the treaty [21]. As far as environmental protection-related provisions in Chinese IIAs are concerned (the UNCTAD Investment Policy Hub and the China FTA Network), only a small number of BITs signed prior to 2009 explicitly include environmental protection provisions as shown in Table 5. Nevertheless, the IIAs China has signed in recent years are clearly in line with the international trend (in addition to economic development), whereby other society-oriented dimensions, such as environmental protection, are becoming vital elements in BITs [80].

Table 5. Overview of Environmental Protection-related Provisions in Chinese IIAs.

	Relevant Provisions in Chinese BITs		**Relevant Provisions in Chinese TIPs**	
	"Environmental Protection"	**"Sustainable Development"**	**"Environmental Protection"**	**"Sustainable Development"**
Treaty Principles and Objectives Content	2	3	26	5
Environmental Measure Clauses	1	0	7	0
Indirect Expropriation Clauses	5	0	2	0
Exception Clauses	3	0	6	0
No-jurisdiction Clause	1	0	2	0
Total	12	3	43	5
	15		48	

Although in theory there are multiple perspectives for discussing environmental protection issues, in practice, the relevant provisions in the IIAs signed by China mainly address the notion of the environment along two paradigms; on the one hand, there are provisions simply titled "environment", or which directly mention the term, while on the other hand, there is another class of provisions linked with environmental protection issues indirectly, which are those related to sustainable development. On this premise, the environmental protection provisions in Chinese BITs possess three key characteristics, which can be observed in Table 6. First, these environmental protection provisions appeared in Chinese BITs recently. There are 15 such provisions, 12 of which are concentrated in the BITs signed between 2008 and 2015 and the remaining three of which are scattered in three BITs signed in 1996, 2002, and 2003. Second, those provisions directly related to environmental protection are principally presented in the expropriation provisions, general exception provisions, and preambles, while those provisions relating to sustainable development all appear in the preamble of the given BIT. Third, the number of environmental protection provisions in the given BIT is fairly limited. The exception is the China–Canada BIT (2012), which contains four provisions. The more recent BITs are likely to include a greater number of environmental protection provisions. The China–Canada BIT is also the

only BIT in which the contracting party is a developed nation, while other BITs containing the environmental protection provision are signed by China and developing countries.

Table 6. Content and Form of Environmental Protection-related Provisions in Chinese BITs.

Contracting Party	Year	Number of Relevant Provisions	Content of Provisions (Including Environmental Protection and Sustainable Development Clauses)	Form of Provisions
Turkey	2015	2	Environmental Protection	Exception Clause
			Environmental Protection	Indirect Expropriation Clause
Tanzania	2013	3	Sustainable Development (CSR)	Treaty Principles and Objectives Contents
			Environmental Protection	Environmental Measures Clause
			Environmental Protection	Indirect Expropriation Clause
Canada	2012	4	Sustainable Development	Treaty Principles and Objectives Contents
			Environmental Protection	Exception Clause
			Environmental Protection	Indirect Expropriation Clause
			Environmental Protection	No-jurisdiction Clause
Uzbekistan	2011	2	Sustainable Development	Treaty Principles and Objectives Contents
			Environmental Protection	Indirect Expropriation Clause
Columbia	2008	1	Environmental Protection	Indirect Expropriation Clause
Guyana	2003	1	Environmental Protection	Treaty Principles and Objectives Contents
Trinidad and Tobago	2002	1	Environmental Protection	Treaty Principles and Objectives Contents
Mauritius	1996	1	Environmental Protection	Exception Clause (Article 11)
Total		15	-	

In contrast, as indicated in Table 7, the TIPs latterly signed by China include significantly more environmental protection-related provisions than Chinese BITs, reflecting the recent pattern of focusing on environmental protection issues. Among the 25 TIPs signed by China, almost all of them were concluded at the beginning of the 21st century, except the Agreement on Trade and Economic Cooperation between the European Economic Community and the People's Republic of China, which was signed in 1985. Among all these TIPs, 21 contain environmental protection-related provisions. The environmental protection provisions in these TIPs exhibit three characteristics. First, the occurrence of "environmental protection" in the preambles significantly increased compared to BITs—among 25 TIPs, the terms "environmental protection" and "sustainable development" appear in the preambles nine times and eight times, respectively. Second, there is a rise in the number of chapters or articles dedicated to environmental protection in the later TIPs compared to the BITs, indicating China's growing attention to environmental preservation in devising BITs and TIPs—for instance, Article 4 "Environmental Measures" in Chapter 8 *Investment Cooperation* of the China-Cambodia FTA (2020) stipulates that in "(r)ecognizing the importance of promoting investment for green growth, the Parties shall refrain from encouraging investment by investors of the other Party by relaxing environmental measures. To this effect, each Party should not waive or otherwise derogate from such environmental measures as an encouragement for the establishment, acquisition, or expansion of investments in its territory". As indicated in the quoted provision, environmental protection is

afforded special attention as a stand-alone issue. Third, environmental protection-related provisions appear to be clauses specifically concerning cooperation, while environmental protection and sustainable development have also been becoming significant areas to which the contracting parties may devote their efforts. For example, Article 108 of Chapter XIII, *Cooperation*, of the China–Chile FTA provides that the contracting parties shall enhance their cooperation in the fields of labor rights, social security, and environment through the Memorandum of Understanding on Labor and Social Security Cooperation and the Environmental Cooperation Agreement between the parties.

Table 7. Content and Form of Environmental Protection-related Provisions in China's TIPs.

TIP	Year	Number of Provisions	Content of Provisions (Including Environmental Protection and Sustainable Development Clauses)	Form of Provisions
RCEP	2020	2	Environmental Protection	Indirect Expropriation Clause
			Environmental Protection	Exception Clause
China–Cambodia FTA	2020	4	Environmental Protection	Environmental Measure Clauses (2)
			Environmental Protection	Exception Clause
			Environmental Protection and Sustainable Development	Treaty Principles and Objectives Contents
China–Mauritius FTA	2019	2	Environmental Protection	Exception Clause (Article 8.9 para 3(d))
			Environmental Protection	Indirect Expropriation Clause
Mainland and Hong Kong Closer Economic Partnership Arrangement	2017	2	Environmental Protection	Exception Clause
			Environmental Protection	Environmental Measures Clause
China–Georgia FTA	2017	1	Environmental Protection	Treaty Principles and Objectives Contents
Australia–China FTA (ChAFTA)	2015	3	Environmental Protection	Exception Clause
			Environmental Protection	No-jurisdiction Clauses (2) (Article 9.11 para 4)
China–Korea FTA	2015	2	Environmental Protection	Treaty Principles and Objectives Contents
			Environmental Protection	Environmental Measures Clause
China–Swiss FTA	2013	11	Environmental Protection and Sustainable Development	Treaty Principles and Objectives Contents (6)
			Sustainable Development	Treaty Principles and Objectives Contents (4) (Article 1.1 para 1)
			Environmental Protection	Environmental Measures Clause
China–Iceland FTA	2013	2	Environmental Protection and Sustainable Development	Treaty Principles and Objectives Contents

Table 7. *Cont.*

TIP	Year	Number of Provisions	Content of Provisions (Including Environmental Protection and Sustainable Development Clauses)	Form of Provisions
China–Japan-Korea Trilateral Investment Agreement	2012	2	Environmental Protection	Treaty Principles and Objectives Contents
			Environmental Protection	Environmental Measures Clause
China–Peru FTA	2009	4	Environmental Protection and Sustainable Development	Treaty Principles and Objectives in Preamble (3)
			Environmental Protection and Sustainable Development	Environmental Measures Clause
China–New Zealand FTA	2008	5	Environmental Protection and Sustainable Development	Treaty Principles and Objectives in Preamble (4)
			Environmental Protection	Exception Clause (Article 200 para 2)
China–Pakistan FTA	2006	2	Environmental Protection and Sustainable Development	Treaty Principles and Objectives in Contents
China–Chile FTA	2005	2	Environmental Protection and Sustainable Development	Treaty Principles and Objectives in Contents
Trade and Economic Framework Agreement between Australia and China	2003	1	Environmental Protection	Treaty Principles and Objectives in Contents
Mainland China and Macao Closer Economic Partnership Arrangement	2003	1	Sustainable Development	Treaty Principles and Objectives in Contents (Article 2 para 3)
Framework Agreement on Comprehensive Economic Co-operation between the Association of South East Asian Nations and the People's Republic of China	2002	1	Environmental Protection	Treaty Principles and Objectives in Contents
Agreement on Trade and Economic Cooperation between the European Economic Community and the People's Republic of China	1985	1	Environmental Protection	Treaty Principles and Objectives in Contents
Total		48	-	

The content of the environmental protection-related provisions in China's IIAs can be categorized as follows.

1. Treaty principles and objectives contained therein: Although the environmental protection content is not provided in detail, the China–Tanzania BIT (2013) includes the notion of CSR for the first time in the preamble and stipulates that both contracting parties are "(e)ncouraging investors to respect corporate social responsibilities". The word "(e)ncouraging" may suggest a soft-law nature to this clause and that it imposes no legally binding obligation on the contracting parties. The China–Canada BIT (2012) emphasizes the party states' right to regulate the FDI by providing in the preamble for the promotion of investment based on the principle of sustainable development.

The China–Swiss FTA (2013) specifies in its preamble that the contracting parties acknowledge "the importance of good corporate governance and corporate social responsibility for sustainable development" and affirm "their aim to encourage enterprises to observe internationally recognized guidelines and principles in this respect". However, these clauses are not well respected due to their lack of practicability [83]. As discussed above, the objective clause may turn out to be more decisive in investment arbitration, as the tribunal may rely on this clear statement to exempt the host state's liability when it exercises its regulatory power.

2. Clauses on environmental measures: Article 23 of the China–Japan–Korea Trilateral Investment Agreement (2012), which for the first time contains a specific "Environmental Measures" clause, requires that "(e)ach Contracting Party recognizes that it is inappropriate to encourage investment by investors of another Contracting Party by relaxing its environmental measures. To this effect each Contracting Party should not waive or otherwise derogate from such environmental measures as an encouragement for the establishment, acquisition or expansion of investments in its territory". In contrast to this passive clause, under which the host state merely promises not to relax its environmental measures to attract foreign investment, the regulatory power over the environment can also be positively granted to the host state. For instance, some of China's IIAs clearly permit the host state to adopt environmental measures. To illustrate, Article 8.9 in paragraph 3(d), "Performance Requirements", in the China–Mauritius FTA (2019) states that commitments "shall not be construed to prevent a Party from adopting or maintaining measures, including environmental measures: (i) necessary to secure compliance with the laws and regulations that are not inconsistent with this Agreement; (ii) necessary to protect human, animal, or plant life or health; or (iii) related to the conservation of living and non-living exhaustible natural resources". In addition to allowing the host state to implement environmental measures, three conditions are attached to the exercising of this regulatory power. The aim of these provisions is to avoid the regulatory "race to the bottom" by contracting states [8].
3. Indirect expropriation clauses: The China–Uzbekistan BIT (2011) clearly expresses the desire to promote sustainable development in its preamble and specifies in Article 6.1 "Expropriations" that "(e)xcept in exceptional circumstances, such as the measures adopted severely surpassing the necessity of maintaining corresponding reasonable public welfare, non-discriminatory regulatory measures adopted by one Contracting Party for the purpose of legitimate public welfare, such as public health, safety and environment, do not constitute indirect expropriation". This is an indirect expropriation clause, being a supplement to the conventional expropriation clause specifying four elements to justify a lawful expropriation. The China–Canada BIT (2012) includes a similar clause (Annex B.10. para 3). The effect of this indirect expropriation clause is to justify the host state's health, safety, and environmental measures, which are non-discriminatory and serve legitimate public objectives. Applying such measures would not render the host state liable for expropriation.
4. Exception clause: A typical exception clause is included in the BIT to allow the contracting party to adopt or maintain measures, including environmental strategies, as long as certain conditions are satisfied. Article 33 of the China–Canada BIT includes this exception clause as follows: "2. Provided that such measures are not applied in an arbitrary or unjustifiable manner, or do not constitute a disguised restriction on international trade or investment, nothing in this Agreement shall be construed to prevent a Contracting Party from adopting or maintaining measures, including environmental measures:
   (a) necessary to ensure compliance with laws and regulations that are not inconsistent with the provisions of this Agreement;
   (b) necessary to protect human, animal or plant life or health; or

(c) relating to the conservation of living or non-living exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption".

Despite environmental measures being listed in the exception clause, they are not automatically exempt from liability as the required conditions must be satisfied. The language clearly attaches the necessity requirement to the application of environmental measures.

Although this exception clause is not dissimilar from the indirect expropriation clause discussed above, the functions or consequences of these two clauses can be quite distinct. The indirect expropriation clause only exempts the host government from liability under the expropriation clause, while the exception clause exempts the host government from liability under the BIT. Compared to the indirect expropriation clause, the inclusion of environmental measures in the exception clause broadens the host state's regulatory space.

This exception clause is almost identical to the performance requirements clause discussed previously; however, there is a subtle difference in terms of their functions. While the performance requirements grant regulatory powers to the host state, the investor may still challenge the host state's exercising of such powers and claim damages if the host state forces the investor to suffer the loss. The exception clause, by contrast, waives the host state's liability resulting from the exercising of environmental measures, provided that the tribunal applies the exception clause to the case scenario.

5. Non-jurisdiction clauses: According to Article 9.11B in Chapter 9 *Investor-state Dispute Settlement* of the ChAFTA (2015), measures taken by a party that are non-discriminatory and for legitimate public welfare—such as those relating to public health, safety, the environment, public morals, or public order—shall not be the subject of a claim. This clause functions as a waiver clause, exempting any liability of the host state arising out of environmental measures, as long as such measures are not discriminatory and are in the public's interests. Although this non-jurisdiction clause acts like an exception clause, it can avoid a second guess by the tribunal when it comes to adjudicating a dispute and interpreting the exception clause. In this sense, this is a clause barring the investor from bringing a dispute surrounding the environmental protection measure to investment arbitration. As a result, it can save the host state and investors the potential costs of arbitration.

China's IIAs, whether contracted with developing or developed countries, have been moving towards the complete inclusion of various environmental protection-related provisions. The trend for "greener" Chinese IIAs is in line with the "greenization" of the BITs [80].

Compared to the US Model BIT, China's IIAs are characterized by a confusing paradigm of abstract concepts but without legal obligations attached. To enhance the importance and relevance of environmental protection in Chinese BITs, a model BIT is required, and the legislative mode of environmental protection rules in China's upcoming IIAs can be established on the basis of the US Model BIT (2012), in the format of "Preamble + Performance Requirements Provision + Expropriation and Compensation Provision + Provision Dedicated to Environmental Protection + General Exceptions Provision + Dispute Settlement Provision". The domestic environmental rules must include clear environmental protection obligations that strengthen the state's right to regulate the environment and establish the principle of public participation in environmental protection [84]. In recent years, the provisions related to environmental protection in the IIAs signed by China reveal a gradual convergence with the model adopted by developed countries. For instance, the China–Mauritius FTA (2019) contains two types of environmental protection-related provisions: an exception clause and an indirect expropriation clause. China appears to be in the midst of exploring an appropriate model for governing environmental protection in the field of international investment, which is having an enormous impact on the shaping of the BIT terms.

5. Conclusions

For environmental protection concerns in IIAs, the relevant content may appear in different sections of the BITs or TIPs and in different forms to serve a variety of purposes, such as to highlight the fact that IIAs are intended to protect the environment in the course of FDI activities and preserve host states' regulatory space, as well as point out the continuing obligation of the host state to adopt relevant environmental protection measures. However, the environmental protection-related provisions remain reasonably limited. This may lead to certain scenarios where international investment arbitration cases may not rest on solid foundations in disputes related to environmental protection.

As environmental protection becomes a global concern, China has its own practice and agenda. As for political and economic agendas, on the one hand, China has been calling for the building of "a Community with a Shared Future for Mankind", and environmental protection is a critical dimension of this, making its contribution to international governance significant. This further matches China's domestic agendas in terms of its "Carbon Peaking and Carbon Neutrality Goals". Combined, these demonstrate China's ambition to balance environmental protection with social and economic development.

As far as IIAs are concerned, the treaty strategy is to observe the development of environmental protection, from concepts and ideas to rules and obligations incorporated throughout IIAs. China's IIAs are complex, due to China's dual role of being both a capital-importing and capital-exporting state in the world of FDI. As a result, China not only introduces domestic FDI-related environmental protection rules but also environmental protection-related clauses in the IIAs it signs with others. Nevertheless, environmental protection regulations are still in the embryonic stages in Chinese IIAs. China is expected to explore a functional IIA model to strengthen its practice of sustainable development.

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