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ORIGINAL PAPER

Strengthening the Paris Agreement through trade? The potential and limitations of EU preferential trade agreements for climate governance

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Abstract

Since 2019, a commitment has been included in the European Union's (EU) preferential trade agreements to *effectively implement* the Paris Agreement. This commitment now exists in nine ratified or pending trade agreements. Yet research into the legal nature and institutional implications of this linkage between the Paris Agreement and EU trade agreements remains scant. Relying on the governance stringency framework, we explore the evolution of this commitment across EU trade agreements, highlighting its transition from a statement of shared intent into a legally binding obligation. We argue that the EU's latest trade agreements increase the cost of withdrawing from the Paris Agreement and bolster the Paris Agreement's obligations of conduct, namely parties' procedural duties, the expectation of progressively more ambitious climate pledges, and the commitment of all parties to realise these to the best of their efforts. Finally, we suggest that the implementation and enforcement mechanisms available through EU trade agreements in the context of the Paris Agreement commitment may prove pivotal in realising the climate regime's objectives.

Keywords Climate change · Trade policy · EU · Institutional linkage · Trade agreements · Paris Agreement · Governance stringency · Legalisation · Trade-climate nexus · Sustainable development

Abbreviations

COP	Conference of the Parties
DAG	Domestic Advisory Group (under TSD chapters)
EU	European Union

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NDC	Nationally Determined Contribution
PAICC	Paris Agreement Implementation and Compliance Committee
Paris-PTA	Provision in EU trade agreements that commit the parties to effectively implement the Paris Agreement
PTA	Preferential Trade Agreement (otherwise known as free trade agreement)
TSD	Trade and Sustainable Development

1 Introduction

Ever since the 1988 United Nations General Assembly officially recognised man-made climate change, efforts have been made to solve what is traditionally seen as a collective action problem (Barrett & Dannenberg, 2022; Tirole, 2019). The Paris Agreement (2015) offers one solution by instituting an iterative pledge-and-review process, obligating 195 parties to continuously formulate, revise, and submit domestic climate pledges and related plans (Keohane & Oppenheimer, 2016). This regime has however been criticised for, among other things, its lack of enforcement mechanisms and the voluntary nature of the pledges (Sachs, 2020). This has prompted calls for exploring alternative governance structures for addressing climate change, such as climate clubs (Hovi et al., 2019; Nordhaus, 2015), sectoral treaties (Fossil Fuel Non-Proliferation Treaty Initiative, 2024), and domestic climate litigation (Mayer & van Asselt, 2023; Wegener, 2020). This study explores the novel approach of integrating climate commitments into trade agreements, an avenue which has been argued to hold significant promise (Jinnah & Morgera, 2013; Morin & Jinnah, 2018). In this article, we focus on climate provisions within the European Union's (EU) preferential trade agreements (PTAs).

The EU has long had a normative aim to act as a global climate leader (Oberthür & Dupont, 2021). As one of the world's largest trade blocs, counting more than 40 preferential trade agreements with over 70 countries, the EU is leveraging its economic weight in the pursuit of its global climate agenda. This has especially been so with the EU's second generation of preferential trade agreements that contain dedicated Trade and Sustainable Development (TSD) chapters, which aim to ensure that increased trade is accompanied by environmental and social protection (Berger et al., 2017; Marin Duran, 2023). Importantly, a commitment to *effectively implement* the Paris Agreement was added to the EU's TSD template in 2019 and can now be found in the EU's trade agreements with Japan, Singapore, Vietnam, the United Kingdom, New Zealand, and Kenya, as well as all pending trade agreements (Chile, Mexico, and the Mercosur countries). The commitment is also present in the European Commission's (henceforth Commission) proposals for TSD chapters in ongoing trade negotiations, namely with Australia, Indonesia, Thailand, the Philippines, and India (Commission, 2024). If all are concluded, 14 trade agreements will exist that commit the EU and its 18 trade partners – in total 45 countries – to *effectively implement* the Paris Agreement.[1]

The ingenuity of trade agreements lies in their potential to act as instruments of so-called 'back-door' environmental governance: With fewer countries at the negotiation table and a wider range of issues on the agenda, trade agreements can facilitate greater bargaining,

[1] EU (27), Japan, Singapore, Vietnam, the United Kingdom, New Zealand, Kenya, Chile, Mexico, Brazil, Argentina, Uruguay, Paraguay, Bolivia, Australia, Indonesia, Thailand, the Philippines, and India.

potentially leading to more ambitious outcomes compared to multilateral environmental negotiations (Jinnah & Morin, 2020). Moreover, PTAs often contain stronger dispute settlement mechanisms than those available through multilateral environmental agreements, increasing the 'compliance pull' and thereby, in principle, incentivising countries to adhere more closely to their environmental commitments (Jinnah & Lindsay, 2016). Hence, incorporating climate commitments into trade agreements could significantly advance global climate governance (Bronckers & Gruni, 2021; Morin & Jinnah, 2018). Empirically there is also evidence that trade agreements containing environmental provisions can be associated with reduced greenhouse gas emissions (Abman & Abman, 2022; Baghdadi et al., 2013).

Against this background, we ask in this paper: What is the legal nature and potential institutional benefit(s) of including a commitment to *effectively implement* the Paris Agreement in EU PTAs? This commitment will henceforth be referred to as the Paris-PTA linkage. We focus on commitments under the Paris Agreement pertaining to countries' climate change mitigation efforts (reduction of greenhouse gas emissions), since these comprise the majority of hard obligations in the agreement (Rajamani, 2016). Future research would greatly benefit from investigating complementary aspects, such as what *effectively implementing* the Paris Agreement entails in the context of loss and damage, climate finance, and adaptation measures.

In terms of theory, we rely on Oberthür and Groen's (2020) governance stringency framework, which expands on the well-known concept of legalisation (Abbott et al., 2000). Compared to the latter, the governance stringency framework adds a stronger focus on the nature of the central obligations under scrutiny, specifically whether these are substantive or procedural (Oberthür & Groen, 2020). In terms of methodology, we conduct a comparative case study of the Paris-PTA linkage across EU trade agreements (2019–2024), which serves as an illustrative example of how alternative governance structures can bolster the climate change regime. Our analysis draws upon legal documents, official and unofficial government records, as well as academic literature on EU trade policy and global climate governance – two research fields that seldom interact.

The study offers three distinct contributions. First, we aim to contribute to the broader body of literature concerning the trade-environmental nexus, particularly trade-climate linkages through PTAs. Morin and Jinnah have undertaken extensive research in this area, emphasising the trade-climate leadership of the EU (Jinnah & Morin, 2020; Morin & Jinnah, 2018). Yet to the best of our knowledge, there has been no comprehensive examination of the specific commitment within EU PTAs to *effectively implement* the Paris Agreement (for brief commentaries, see Blot, 2023; Bronckers & Gruni, 2021; Harrison & Paulini, 2020). By scrutinising this 'legal innovation' (Morin et al., 2017), which has become a staple of modern EU trade agreements, we seek to actualise and contribute to academic and policy discussions on trade-climate linkages and their potential contribution to climate governance (Jinnah & Morgera, 2013).

Second, the analysis considers recent advancements in the EU's TSD approach. In 2022, the Commission introduced a new TSD implementation and enforcement strategy that, for the first time, allows for the use of sanctions (i.e., withdrawal of trade preferences) in case of a material breach of commitments relating to the International Labour Organization's fundamental labour conventions and, notably, the Paris Agreement (Commission, 2022). Prior to this, the Commission relied solely on a cooperative 'naming-and-shaming' approach (Oehri, 2015; Postnikov, 2018). The new strategy supplements this approach with stronger punitive

enforcement, a model believed to be especially effective in ensuring compliance with trade-sustainability provisions (Bastiaens & Postnikov, 2017; Jinnah & Morin, 2020; Brandi et al., 2023). In light of this change, there is a need to reassess the legal strength of climate provisions within EU PTAs.

Finally, research into the trade-climate nexus is highly pertinent from the perspective of EU trade policy scholarship. The bulk of EU TSD research has predominantly focused on human and labour rights (Bartels, 2013; Harrison et al., 2019; Kerremans & Orbie, 2009; Smith et al., 2020). This leaves environmental aspects of TSD chapters underexplored. We aim to contribute to a rebalancing of the TSD research agenda while promoting greater interdisciplinarity between EU trade and environmental governance research.

Our findings suggest that the Paris-PTA linkage in EU trade agreements strengthens the Paris Agreement in four key ways. First, it raises the political and economic costs of withdrawal. Second, it reinforces parties' procedural duties; that is, to submit timely updates of their climate pledges, as well as supplementary information for transparency and monitoring purposes. Third, it strengthens the expectation that countries will submit progressively more ambitious climate pledges. Fourth, it bolsters the expectation of 'best efforts' implementation of these pledges at the domestic level. As such, if the EU or its trade partners identify procedural, ambition, or implementation gaps under the Paris Agreement, the Paris-PTA linkage could serve as an alternative governance route. However, the linkage is limited by several factors. First of all, the institutional benefits outlined above apply only to PTAs since the EU-United Kingdom PTA (2021), prior to this, the commitment to *effectively implement* the Paris Agreement was arguably non-binding on the parties. More generally, the linkage suffers from its brevity, vagueness, and the exclusive power of governmental officials to initiate dispute proceedings, leaving room for political discretion in addressing TSD violations.

The subsequent sections of this article are structured as follows. First, we introduce the governance stringency framework, which builds on the concept of legalisation and serves as the theoretical foundation of this study. Next, guided by the framework's four stringency criteria, we investigate the extent to which the Paris-PTA linkage in EU trade agreements enhances the stringency of the mitigation commitments under the Paris Agreement. This includes a comparative analysis of how the Paris-PTA linkage has evolved over the past five years across EU PTAs. Finally, we conclude with a summary of our findings.

2 Institutional linkage, legalisation, and governance stringency

Over the years, much ink has been spilt on the interplay between governance institutions. Given that the case under consideration is the interaction between the Paris Agreement and EU PTAs (two distinct institutions), the concept of institutional linkage guides this study (Hickmann et al., 2020). These linkages can be either substantive, strategic, or both (Leebron, 2002). Substantive linkages are based on issue coherence or consequence – that is, when norms of different regimes overlap. In contrast, strategic linkages require no functional or substantial connection; rather, they are established with a strategic objective in mind. We contend that the Paris-PTA linkage constitutes a distinct type of strategic linkage, referred to as 'regime borrowing' (Leebron, 2002) or 'regulatory transference' (Jinnah, 2011), which allows one institution to transfer institutional benefits or procedures to another

(Gehring & Oberthür, 2009). Jinnah (2011: 194) defines regulatory transference as a process that allows "a weaker environmental regime to borrow the enforcement power of a stronger economic one."

The concept of legalisation has typically been used to assess the benefits and enforcement potential of institutional linkages. Legalisation is here understood as the extent to which international law constrains actors such as governments (Goldstein et al., 2000). Traditionally, three indicators of legalisation have been used to measure the 'hardness' or 'softness' of international law: obligation, precision, and delegation (Abbott et al., 2000). Thus, a highly legalised institution consists of legally binding and precise rules that are implemented, interpreted, and enforced by third parties (Böhmelt, 2022; Knodt & Schoenefeld, 2020). Legalisation has been a favoured concept in existing analyses of the legal strength of trade-climate linkages (Jinnah & Morin, 2020; Lechner, 2016; Morin & Jinnah, 2018).

Oberthür and Groen (2020) expand on this approach with their governance stringency framework, which goes beyond the formal qualities of the law (hard/soft) and zeroes in on the central obligations under scrutiny, asking to what extent these "address the substantive behaviour at stake or only indirectly relate to such behaviour" (Oberthür & Groen, 2020: 803). Building on the legalisation triad of obligation, precision, and delegation, the stringency framework proposes four dimensions: (1) the formal status of the agreement; (2) the nature of the central obligations; (3) the prescriptiveness and precision of these obligations; and (4) the implementation review and response systems.

The first stringency criterion – formal status – relates to the institutions' overall legal form. This is a binary variable: An instrument is either binding under international law or not (Oberthür & Groen, 2020). In the context of this discussion, formal status carries less importance since both the Paris Agreement and the EU's PTAs (hereunder TSD chapters) are considered instruments of binding international law following the (1969) Vienna Convention on the Law of Treaties (Bronckers & Gruni, 2021; Oberthür & Groen, 2020). Linking these two will not alter their formal status. Instead, we investigate whether the linkage may have changed the stringency of parties' *membership* of the two institutions, i.e., whether the costs of leaving the Paris Agreement have increased with its linkage to EU PTAs.

The second criterion concerns the nature of the central obligations; meaning, what type of behaviour is being demanded. Originating in Roman and 1900s French law, a distinction can be made between obligations of conduct (procedural) and obligations of result (substantive) (Mayer, 2018; Oberthür & Groen, 2020). A substantive obligation aims to directly address a country's conduct, for example, by demanding changes to its domestic laws and policies or to meet a certain emission target. Procedural obligations, on the other hand, require that parties undertake measures in pursuit of a certain outcome, for instance, to convene in collaborative bodies and submit progress reports. The former wields a more direct and therefore stringent influence than the latter. However, procedural obligations allow for flexibility, which may be essential when dealing with future circumstances that are highly uncertain, such as the implications of climate change (Mayer, 2018; Stankovic et al., 2023).

The third criterion narrows in on the prescriptiveness and precision of the central obligations. The prescriptiveness determines how much discretion is left to the parties to act as they please, which largely depends on the choice of verbs. As Bodansky (2016a: 145) notes, 'shall' generally implies that a provision creates a legal obligation, 'should' that the provision is a recommendation and 'will', 'are to', 'acknowledge', and 'recognise' that the provision is a statement by the parties of shared goals, expectations, or opinions. An obligation's

level of precision depends on to what extent it defines *who* must do *what* by *when* (Oberthür & Bodle, 2016). The two indicators (prescriptiveness and precision) are interrelated and a lack of clarity on either one may leave parties with greater discretion to interpret their rights and obligations as they see fit, challenging rigid enforcement.

Lastly, Oberthür and Groen (2020) highlight the importance of review and response (also known as implementation and enforcement) systems, which are tasked with overseeing and enforcing the obligations. This criterion somewhat mirrors the concept of delegation by Abbott et al. (2000). The judicial value of these mechanisms depend on three crucial factors: the establishment of a dedicated oversight body to ensure implementation; the involvement of external actors in monitoring and filing disputes; and the existence of an independent tribunal or ad-hoc panel with the authority to impose punitive measures and oversee the implementation of its decisions (Lechner, 2016). In other words, the balance between government discretion and independent judicial authority determines the stringency of the review and response systems.

3 The stringency of the Paris Agreement and EU TSD chapters

The following analysis investigates the governance stringency of the Paris Agreement's mitigation obligations *vis-à-vis* the Paris-PTA provision in EU TSD chapters while taking into account the evolution of the latter. The analysis is structured along the four aforementioned governance stringency criteria.

3.1 Formal status and membership

As noted earlier, both the Paris Agreement and EU PTAs (hereunder TSD chapters) are legally binding under international law (Bronckers & Gruni, 2021; Oberthür & Groen, 2020). The Paris-PTA linkage therefore offers no added stringency to the formal status of the Paris Agreement. Instead, we wonder: How does the Paris-PTA linkage affect the stringency of parties' membership of the Paris Agreement? According to Article 28 of the Agreement, a party can leave the Paris Agreement by written notification with the withdrawal taking effect one year after its receipt (UNFCCC, 2016).

To date, there has been only one such case. Under the Trump administration in 2021, the United States officially withdrew from the Paris Agreement, only to re-join three months later when President Biden assumed office (UN Climate Change News, 2021). This instance invoked calls by, among others, the Foreign Minister of France to make EU PTAs conditional on membership of the Paris Agreement: "No Paris Agreement, no trade agreement" (Keating, 2018). This was subsequently restated by former Trade Commissioner Cecilia Malmström. The United States' withdrawal had two implications. First, the EU signalled reluctance to enter into future PTAs with countries not party to the Paris Agreement. Given that most countries worldwide are members and remain so, this is not an issue as of yet. Second, the Commission cautioned that existing PTA partners are expected to remain members of the Paris Agreement and failure to do so may violate the PTA (Commission, 2021a).

In Opinion 2/15 by the European Court of Justice, the Court posits that a special link exists between TSD chapters and EU trade policy, whereby parties could suspend liberalising provisions of a PTA in case of serious violation of the TSD chapter (European Court

of Justice, 2017). This link is to some extent already institutionalised through so-called 'essential elements' clauses. These have been part of EU PTAs since the 1990s and set out core principles to which parties must adhere (Bartels, 2005, 2013). They allow for the unilateral suspension of part, or indeed the entire, trade agreement in case of breach. These clauses are however informally referred to as human rights or democracy clauses, reflecting their predominant focus on upholding human rights, democracy, and rule of law principles. Notably, the recent EU-United Kingdom (2021), EU-New Zealand (2024), and EU-Kenya (2024) PTAs explicitly designate the Paris Agreement as an 'essential element' of these agreements (EU-New Zealand, 2024: Article 27.4(3); EU-United Kingdom, 2020: Article 764; EU-Kenya, 2024: Article 6.4), and the Commission has pledged to pursue this designation in all future PTAs (Commission, 2021a: 12). As a result, the political and potentially economic costs of withdrawing from the Paris Agreement (that is, part or full termination of a PTA) have risen considerably, thereby increasing the stringency of parties' membership of the Paris Agreement.

3.2 Nature of obligations

At the time of its adoption, the Paris Agreement was generally perceived to be ambitious with its overarching goal of limiting global warming to well below 2 °C, pursuing 1.5 °C, and achieving a balance in anthropogenic emissions by sources and removals in the second half of the century (UNFCCC, 2016; Yamin, 2021). To achieve these ambitions, the Paris Agreement requires that parties formulate domestic climate pledges, formally known as Nationally Determined Contributions (NDCs). Hence, unlike its predecessor the Kyoto Protocol, there are no predetermined emission targets that each party must meet. Instead Article 4 of the Paris Agreement establishes crucial procedural obligations concerning NDCs. These include that all parties prepare, communicate, maintain, and update NDCs every 5 years; pursue domestic measures to achieve their NDCs; communicate supplementary information for transparency purposes; and take the most vulnerable parties to the agreement into account.[2] Additionally, Article 13.7 obliges parties to share data on national emissions (13.7.a) and information to track progress in implementing and achieving their NDCs under Article 4 (13.7.b).

The Paris Agreement's above-mentioned mitigation obligations, which are obligations of conduct, are the result of a political compromise. During the Paris Agreement negotiations, the question of NDCs' legal character and bindingness proved to be one of the most contentious issues with stark opposition from, among others, the United States, China, and India against 'Kyoto-style' targets (Bodansky, 2016b; Rajamani, 2016). The current NDC approach presents a middle ground, with the second sentence of Article 4.2 stating that parties "shall pursue domestic mitigation measures, with the aim of achieving the objectives of" their NDCs, which thereby establishes a link between countries' NDCs and their domestic climate policies (Mayer, 2018). This formulation allowed parties like the United States to claim that NDCs are not legally binding and others, including the EU, to assert that they are not completely voluntary (Bodansky, 2016a). The content of parties' updated NDCs is also subject to certain 'normative expectations' (Bodansky, 2021: 4; Rajamani & Brunnée, 2017: 539), with Article 4.3 stating that countries' NDCs will be progressive, reflecting their highest possible ambition. This formulation is expected to set a 'direction of travel' towards

[2] Obligations can be found in Articles 4.2, 4.8, 4.9, 4.13, and 4.15 of the Paris Agreement (2015).

ever more ambitious climate targets (Rajamani, 2017a). To summarise, the Paris Agreement establishes obligations of conduct in relation to countries' NDCs (and reporting thereof), the content of which is nationally determined but expected to progress over time. Furthermore, parties to the Paris Agreement are to pursue domestic mitigation measures with the aim of achieving their NDCs.

Turning to EU PTAs, the TSD commitment to *effectively implement* the Paris Agreement is intriguing and can be read in several ways. Most strongly, it could mean that a party's climate efforts need to fully align with its NDC, or even more expansively, that it must contribute its fair share in reaching the temperature goal of the Paris Agreement (Rajamani & Werksman, 2018). However, given the procedural nature of the mitigation obligations under the Paris Agreement, as elaborated on above, this interpretation seems too far-reaching. We argue instead that the Paris-PTA provision takes the form of an obligation of conduct that through the formulation to *effectively implement* firms up the procedural obligations under the Paris Agreement, reinforces the expectation of progressive NDCs, and the best endeavour nature of parties' domestic climate efforts. We will explore these aspects more in-depth in the following sections as these benefits arise from increased prescriptiveness and specificity combined with sturdier implementation and enforcement systems in EU PTAs.

3.3 Prescriptiveness and precision

In this section, we highlight three key contributions that the Paris-PTA linkage arguably makes to the Paris Agreement: (1) The provision solidifies the procedural NDC commitments, (2) fortifies against backsliding in climate ambition in subsequent NDCs, and (3) strengthens countries' 'best efforts' obligation in implementing domestic climate policies with submitted NDCs acting as a lodestar. We subsequently explore how the stringency of the Paris-PTA provision has evolved across EU trade agreements over the years.

First, at the heart of the Paris Agreement is the procedural obligation to (re)submit NDCs every five years together with supplementary information. This commitment is quite clear on the *who* (all parties, although Article 4.6 provides some flexibility for least developed countries and small island states) and the *when* (every five years). The Paris-PTA provision strengthens these procedural responsibilities as the EU and trade partners can hardly claim to be *effectively implementing* the Paris Agreement without adhering to the stipulated procedural requirements and timelines of the Paris Agreement. In support of this, the EU proposal for an EU-Mercosur Joint Instrument (2023b) stresses "timely communication" as a critical component of complying with the Paris-PTA provision (Commission 2023b). The Joint Instrument is intended to complement the EU-Mercosur PTA and offer interpretive guidance in the sense of Article 31 of the Vienna Convention on the Law of Treaties (1969), whereby a treaty shall be interpreted in its context, which includes "any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty" (Article 31.2(b)). Although the EU-Mercosur Joint Instrument has not yet been agreed upon at the time of writing (October 2024), it still offers insight into the Commission's current interpretation of the commitment to *effectively implement* the Paris Agreement, making it valuable for the purpose of this study.

Second, there is the possibility that a party revises its NDC downward; meaning, submitting a less ambitious climate pledge. This would run counter to the aforementioned normative expectations in the Paris Agreement that countries will increase their level of ambition

in each successive NDC, reflecting their highest possible ambition (Article 4.3 and Article 4.11). The legal consequences hereof have elicited intense scholarly debate, particularly during the 2017–2021 Trump administration (Elliot 2017; Rajamani, 2017b; Rajamani & Brunnée, 2017). Biniaz and Bodansky (2017: 1) argue that "while a downward revision is liable to draw criticism, it is a legally available option" under the Paris Agreement. This argument rests on the interpretation that there is no binding language in the Paris Agreement that withholds a country from a downward revision; in the two relevant articles, Articles 4.3 and 4.11, the verbs "will" and "may" weakens the provisions. Article 4.3 outlines that "successive nationally determined contribution *will* represent a progression beyond" the party's then current NDC, while Article 4.11 states, that a "Party *may* at any time adjust its existing nationally determined contribution with a view to enhancing its level of ambition" (emphases added). Recall, Bodansky's observation (2016a) that such verbs reflect statements of shared intent, goals, or expectations, rather than obligatory commitments.

In contrast, Rajamani and Brunnée (2017) contend that "a Party would contravene the spirit of the Paris Agreement if it scaled back its existing NDC" and thereby "weaken the very core of the Agreement's approach to mitigating GHG [greenhouse gas] emissions" (Rajamani & Brunnée, 2017: 539). Nevertheless, while the normative expectations of progression and highest possible ambition are vital to the functioning of the Paris Agreement, the authors also note that the relevant provisions are not legally binding. Importantly, the aforementioned proposal for an EU-Mercosur Joint Instrument appears to strengthen these normative expectations. It affirms the parties' commitment to implementing successive and progressive NDCs, reflecting their highest possible ambition, and derives herefrom that "there will be *no reduction* in the level of ambition of each Party's NDC" (Commission, 2023b: 3, emphasis added). Hence, in addition to solidifying parties' procedural duties, the Paris-PTA linkage seemingly serves the purpose of a stand-still (non-regression) clause for the EU and trade partners' successive NDCs.

It should be noted however that identifying ambition and recognising downgrades in NDCs is highly challenging. Most NDCs use complex calculation methods and different climate targets: some use sector-specific targets while others cover all industry emissions (Mayer, 2023). These complexities can, and have been, used to hide downgrades in NDCs. For example, Brazil's 2020 and 2022 NDC updates faced criticism for reflecting a step down in ambition compared to its initial 2015/2016 submission[3] (Farand, 2022). This downgrade was seemingly reversed in 2023, with the newest NDC believed to reflect a return to the original 2016 ambition level (Federative Republic of Brazil, 2023).

Third, there is the possibility that a country does not, in good spirit, pursue the climate action set forth in its NDC. Recall Article 4.2 of the Paris Agreement which states that parties "shall pursue domestic mitigation measures, with the aim of achieving the objectives" of their NDCs, thereby linking countries' NDCs to their domestic climate mitigation efforts. This article has been described as the Paris Agreement's 'centre of gravity' due to its importance (Mayer, 2018: 130). Yet it is surrounded by ambiguity due to the non-specific use of the terms "measures" and "objectives". This vagueness has led some to argue that the article imposes only mild or no real constraints on parties to the Paris Agreement (Biniaz and Bodansky, 2017; Bodansky, 2016a; Crawford, 2018). Conversely, Mayer (2018) posits

[3] Countries' INDCs (Intended Nationally Determined Contributions) were submitted prior to COP21 in Paris. For most countries, these INDCs were turned into those countries' NDCs upon ratifying the agreement (World Resources Institute n.d.).

that Article 4.2 "creates an obligation of conduct which is directed towards […] the very mitigation objectives that parties defined in their NDCs", and that such an "obligation of conduct requires one to try" (Mayer, 2018: 135–137). Following this line of reasoning, there is thus a 'best efforts' obligation on parties to realise their NDCs, i.e., a country needs to employ all reasonable measures at its disposal to achieve the targets set out in its NDC, or, at the very least, take identifiable steps (Mayer, 2021; Voigt, 2016; Werksman, 2019). With the Paris-PTA linkage asserting that parties need to *effectively implement* the Paris Agreement, the 'best efforts' obligation has arguably been hardened (Bronckers & Gruni, 2021).

The EU and its trade partners seem keenly aware of Article 4.2's ambiguity. In the updated EU-Mexico trade agreement (still pending)[4], it is specified that "each Party shall effectively implement the UNFCCC and the Paris Agreement established thereunder, including through *actions that contribute to the implementation* of the Parties' National Determined Contributions (NDCs)" (Article 5.2; emphasis added). The EU initially attempted to introduce similar language in the Paris Agreement to ensure ambitious NDC implementation, yet this was perceived as too strong of a commitment by certain countries (Bodansky, 2016a; Rajamani, 2016). The formulation in the EU-Mexico PTA somewhat echoes this endeavour, though it has been softened by the inclusion of the phrase "that contribute to […]". A stronger formulation would have been: "including through the implementation of Parties' NDCs", which would have made the Paris-PTA provision (and its link to Article 4.2 of the Paris Agreement) even more potent.

In the future such language could perhaps become a reality given the current trajectory of the Paris-PTA linkage. A closer inspection of the Paris-PTA provision across EU trade agreements reveals a temporal pattern, showing a gradual increase in the prescriptiveness and, to some extent, precision of the provision over time (please consult Table 1). In the EU's trade agreements with Japan (2019), Singapore (2019), and Vietnam (2020), the parties "(re)affirm" their commitment to *effectively implement* the Paris Agreement, which suggests a statement of shared intent and not a legal obligation (Bodansky, 2016a). The EU-United Kingdom PTA (2021), on the other hand, contains more binding language as it "commits" the parties to *effectively implementing* the Paris Agreement. A further strengthening ("shall") can be found in the EU's recently ratified trade agreements with New Zealand (2024) and Kenya (2024). This legal hardening now seems ingrained in the EU's TSD template. At the time of writing (October 2024), the obligation that parties *shall effectively implement* the Paris Agreement can be found in the EU's pending trade agreements with Chile[5], the Mercosur countries[6], and Mexico[7], in addition to the Commission's proposals for TSD chapters with Australia, Indonesia, and India (Commission, 2024). To summarise, the institutional benefits provided by the Paris-PTA linkage to the Paris Agreement, as detailed

[4] The EU and Mexico reached an 'agreement in principle' on the main trade parts in 2018 and concluded the last outstanding elements of the negotiation in 2020. Still, the PTA may still undergo changes, hereunder the TSD chapters.

[5] EU-Chile PTA (2023). From agreement signed in December 2023 – Article 26.10(2): each Party shall: (a) effectively implement the UNFCCC and the Paris Agreement, including its commitments with regard to its nationally determined contributions.

[6] EU-Mercosur PTA (2019). From agreement in principle in 2019 – Article 6(2): each Party shall: (a) effectively implement the UNFCCC and the Paris Agreement established thereunder.

[7] EU-Mexico PTA (2018). From agreement in principle in 2018 – Article 5(2): each Party shall: (a) effectively implement the UNFCCC and the Paris Agreement established thereunder, including through actions that contribute to the implementation of the Parties' National Determined Contributions (NDCs).

Table 1 Paris-PTA linkage across EU trade agreements (2019–2024)

Trade agreement	Paris-PTA provision
EU-Japan (2019)	**Article 16.4(4)** The Parties ***reaffirm*** their commitments to effectively implement the UNFCCC and the Paris Agreement, done at Paris on 12 December 2015 by the Conference of the Parties to the UNFCCC at its 21st session
EU-Singapore (2019)	**Article 12.6(3)** The Parties ***affirm*** their commitment to reaching the ultimate objective of the UN Framework Convention on Climate Change (hereinafter referred to as 'UNFCCC'), and to effectively implementing the UNFCCC, its Kyoto Protocol, and the Paris Agreement of 12 December 2015 in a manner consistent with the principles and provisions of the UNFCCC
EU-Vietnam (2020)	**Article 13.6(1)** […] the Parties ***reaffirm*** their commitment to reaching the ultimate objective of the United Nations Framework Convention on Climate Change of 1992 (hereinafter referred to as "UNFCCC") and to effectively implementing the UNFCCC, the Kyoto Protocol […] and the Paris Agreement, done at 12 December 2015, established thereunder
EU-United Kingdom (2021)	**Article 401(2)** […] each Party: (a) **commits** to effectively implementing the UNFCCC, and the Paris Agreement of which one principal aim is strengthening the global response to climate change and holding the increase in the global average temperature to well below 2 ºC above pre-industrial levels and pursuing efforts to limit the temperature increase to 1,5 ºC above pre-industrial levels
EU-Kenya (2024)	**Article 6.2 (Appendix V)** […] each Party ***shall*** effectively implement the UNFCCC and the Paris Agreement (Article 6.3) [which] includes the obligation to refrain from any action or omission which materially defeats the object and purpose of the Paris Agreement
EU-New Zealand (2024)	**Article 19.6(2)** […] each Party ***shall*** effectively implement the UNFCCC and the Paris Agreement, including commitments with regard to nationally determined contribution (Article 19.6(3)) [which] includes the obligation to refrain from any action or omission that materially defeats the object and purpose of the Paris Agreement

Source Compiled by authors from EUR-Lex and CIRCABC; emphases added by authors

Note The Paris-PTA provision in EU PTAs in force

above, primarily pertain to EU trade agreement starting with the EU-United Kingdom PTA (2021) and extending to the present as the commitment before 2021 appears non-binding.

Upon investigating the precision of the Paris-PTA provisions, we find further support for a progressive strengthening over time. In the EU's trade agreements with Japan, Singapore, and Vietnam, *effectively implementing* the Paris Agreement is presented as a collective commitment ("the Parties"), while starting with the EU-United Kingdom PTA, it is formulated as an individual obligation ("each Party"). Hence, the subject to the obligation

(who) is more clearly defined (Bodansky, 2016a; Oberthür & Groen, 2020). Regarding the two remaining precision indicators (what and when), the trend is less discernible. The main shortcomings of the Paris-PTA provisions across EU PTAs are indeed their brevity and lack of detail, causing uncertainty as to the correct interpretation and thereby implementation of the obligation (please consult Table 1; see also Bronckers & Gruni, 2021).

This is most likely a conscious choice by the EU and its trade partners to maintain 'constructive ambiguity', which is the deliberate use of ambiguous language on politically sensitive issues to reach a consensus (Moncel, 2012; Oberthür & Bodle, 2016).[8] Ambiguity may thus be necessary to ensure the participation of a prospective party. Participation does not entail, however, that parties are willing to bear costs related to compliance. Research has found that countries mainly participate in agreements that they already know they can comply with (Downs et al., 1996; Spilker & Böhmelt, 2013). In the case of EU PTAs, studies have shown a serious lack of political prioritisation of TSD chapters with economic considerations taking precedence (Harrison et al., 2019; Orbie, 2011; Smith et al., 2020). Therefore, it seems unlikely that consenting to the Paris-PTA provision requires extensive *quid pro quo* negotiations, which is further avoided by keeping the phrasing vague. Still, this does not negate the legal potential of the linkage, as the more stringent review and response systems of EU PTAs can be used by civil society and other institutional actors to push for effective implementation of the Paris Agreement.

3.4 Implementation review and response systems

Under the Paris Agreement, three main mechanisms are relied upon to monitor and promote efficient climate action: an information-sharing system known as the Enhanced Transparency Framework (Article 13), a global review process called the global stocktake (Article 14), and an implementation and compliance mechanism, known as the Paris Agreement's Implementation and Compliance Committee (hereafter PAICC) (Article 15) (Mayer, 2021). Due to space constraints, we will focus on the PAICC, though it needs to be noted that the proper functioning of the PAICC is strongly dependent on the information-gathering conducted through the Enhanced Transparency Framework.

The PAICC consists of 12 experts (UNFCCC, 2016: 102) and is established to function in a "transparent, non-adversarial and non-punitive way" (Article 15.2) where it "shall neither function as an enforcement or dispute settlement mechanism, nor impose penalties or sanctions, and shall respect national sovereignty" (UNFCCC, 2019: 60). It can be approached by a party to assist with implementation issues (self-referral, described in Rule 17) or it may intervene, on its own initiative, if a party has not fulfilled its procedural requirements (Rule 18) or if there are "significant and persistent inconsistencies" in a country's reporting (Rule 19) (UNFCCC, 2022). Concerning the two instances in which the PAICC may act on its own initiative, in the case of the former (procedural neglect), a facilitative process is initiated in which the involved government is encouraged to participate. In the second scenario (reporting inconsistencies), the Committee needs consent from the party to initiate the procedure. Both procedures

[8] This could be due to technical and/or political reasons. Technical ambiguity may be necessary when international agreements touch on issues with high uncertainty, such as a country's future emissions which could be influenced by events of war, climate disasters, or other *forces majeures.*

end with the adoption of a decision by the Committee and may involve dialogue, recommendations, assistance in developing an action plan, etc. (UNFCCC, 2022).

Notably, no strict enforcement option is available to the PAICC. It relies on a managerial approach to implementation, focusing on cooperation and technical and financial assistance, approaching non-compliance as arising from a lack of capacity (UNFCCC, 2022; Oberthür, 2014). With this in mind, Oberthür and Bodle (2016) stress the need for a strong compliance mechanism capable of addressing implementation issues and thereby supporting the *de facto* bindingness of the climate regime (Oberthür & Bodle, 2016: 55; see also Keohane et al., 2000). In light of this, we turn to the compliance procedures accessible through TSD chapters under EU PTAs.

The implementation and compliance procedures under TSD chapters bear some resemblance to the Paris processes as they similarly emphasise cooperation and facilitation (Bastiaens & Postnikov, 2017; Werksman & Buri, 2019). Implementation is monitored and facilitated by a tripartite institutional structure established under each PTA's TSD chapter. There is the intergovernmental Committee on Trade and Sustainable Development (hereafter TSD Committee), where governmental officials from the EU and its trade partner(s) meet to exchange views and take stock of ongoing implementation efforts. In addition, there are two institutionalised mechanisms for civil society involvement that feed information to the TSD Committee: Domestic Advisory Groups (DAGs) and Civil Society Forums. DAGs are standing committees, comprising representatives from labour unions, employers' associations and interest groups, tasked with monitoring the implementation of the TSD chapter. Each party under every trade agreement has its own DAG. The Civil Society Forum is a yearly occurrence, which allows societal actors (beyond DAG members) to offer their input on the implementation of a TSD chapter. Peterson et al. (2023) find that countries consulting civil society, business, and labor groups before updating their NDCs are more likely to strengthen their emission reduction targets. However, the effectiveness of the institutional structure established under TSD chapters, especially DAGs' *de facto* influence, remains strongly debated (Drieghe et al., 2020; Orbie et al., 2016). Nevertheless, civil society's influence in the context of TSD chapters has increased in recent years, at least as a matter of policy. In 2020, the Commission reformed its market access complaint system (the Single Entry Point) to include breaches under TSD chapters, thereby enabling even more stakeholders to report TSD violations. Nonetheless, while societal actors can report, they cannot initiate legal proceedings. Ultimately, it is up to the Commission or the government of a trade partner to decide whether to trigger the TSD dispute settlement system.

Diplomatic pressure and reputational costs constitute the main compliance measures under TSD chapters. The Commission has historically been reluctant to invoke the formal TSD dispute settlement procedure (Commission, 2018) and has so far only done so on a single occasion concerning violations of labour rights under the EU-South Korea PTA (Commission, 2021b). In December 2018, the Commission requested government consultations with South Korea, which proved unsuccessful, making the Commission request the establishment of a so-called Panel of Experts to provide their legal opinion on the dispute. The Panel of Experts later issued an 83-page report where it upheld most of the EU's counts. The report relies on highly legalised language (Murray et al., 2021) or what Abbott et al. refer to as the 'discourse of international law' (Abbott et al., 2000: 409).

Although the EU-South Korea PTA does not permit the use of sanctions under the TSD chapter (similar to nearly all EU PTAs), the interplay of diplomatic pressure, advocacy by reformists within South Korea, and a change in government is believed to have led South Korea to subsequently ratify three fundamental labour conventions and modify its labour laws; hailed by the Commission as proof of its success (Commission, 2021c; see also Marslev & Staritz, 2023). Backing this point, García (2022) argues that the dispute highlights the strength of the TSD 'naming-and-shaming' process and henceforth, "governments may be more responsive in [the] future to issues raised in TSD Committees, dialogues, and consultations so as to avert a full dispute and panel" proceedings (García, 2022: 65).

Still, a serious limitation of the TSD dispute settlement system is the high degree of discretion granted to governmental officials in deciding whether to activate the dispute settlement procedure, together with the fact that the intergovernmental TSD Committee is responsible for overseeing the compliance stage following a dispute. The European Parliament has in response pushed for time-bound TSD implementation roadmaps and for the Commission to consider parties' NDCs as "an essential factor in assessing whether any violation of the Paris Agreement has taken place" (Committee on International Trade, 2022). With the heightened focus on enforcement in the Commission's latest trade strategy, *An Open Sustainable and Assertive Trade Policy* (Commission, 2021a; see also Bertram, 2023), this may pave the way for a potential increase in disputes under TSD chapters, including with regard to the Paris-PTA linkage. In summary, even in the absence of sanctions, the TSD dispute settlement mechanism is markedly more adversarial than the PAICC.

With the publication of the Commission's latest TSD strategy (2022), the prospect of sanctions was introduced as a measure of last resort, albeit only in case of severe breach of the Paris Agreement or the International Labour Organization's fundamental labour conventions (Commission, 2022). As for now, this option has only been incorporated into the dispute settlement chapter in EU-New Zealand PTA (2024), where temporary remedies are permitted if the "Party complained against failed to refrain from any action or omission that materially defeats the object and purpose of the Paris Agreement" (EU-New Zealand, 2024: Article 26.16(2)(a)(ii)).

This language closely mirrors that of the aforementioned 'essential elements' clauses in the EU-United Kingdom and EU-New Zealand PTAs, where a breach is defined as "act(s) or omission(s) that (would) materially defeat(s) the object and purpose of the Paris Agreement" (EU-New Zealand, 2024: Article 27.4(3); EU-United Kingdom, 2021: Article 764). This formulation is based on Article 60 of the Vienna Convention on the Law of Treaties (1969), whereby "[a] material breach of a bilateral treaty by one of the parties entitles the other to invoke the breach as a ground for terminating the treaty or suspending its operation in whole or in part" (Article 60.1), with a material breach defined as "the violation of a provision essential to the accomplishment of the object and purpose of the treaty" (Article 60.3).

The threshold for imposing TSD-related sanctions under the EU-New Zealand trade agreement is thus akin to the criterion for activating the 'essential elements' clause in the same PTA. Space limitations prevent a deeper examination of this observation though it presents a valuable topic for future research (on human rights, see Bartels, 2013). Importantly, the criterion for invoking TSD-related sanctions – that an action or omission by the EU or a trade partner must materially defeat the object and purpose of

the Paris Agreement – sets a seemingly high legal bar. The exact meaning of this phrasing is uncertain, and while there may be potential cases where it applies, its practical implications remain untested. Still, this provision stands in stark contrast to the much more demanding obligation to *effectively implement* the Paris Agreement, still enforceable under the EU-New Zealand PTA through 'naming-and-shaming' remedies (Article 19.6(2)).

We thus argue that the 'normal' dispute settlement procedure under TSD chapters (which excludes sanctions), under which the obligation to *effectively implement* the Paris Agreement has recourse, offers the greatest added value in increased governance stringency for the Paris Agreement. In this context, in the latest TSD strategy (2022), the Commission suggests moving the compliance stage (following a report by the Panel of Experts) from the remit of the intergovernmental TSD Committee to the general state-to-state dispute settlement system under the PTA, thereby granting it TSD oversight (Commission, 2022a). This approach has thus far been implemented in the EU-New Zealand PTA. This change in the TSD dispute proceedings, which is applicable to all TSD commitments, further judicialises the process, introducing firmer deadlines and closer scrutiny, raising the reputational costs of non-compliance. Table 2 below provides an overview of our findings.

Table 2 The increased stringency of the Paris-PTA linkage in EU PTAs over time and the institutional benefits for the Paris Agreement

<table>
<tr><th></th><th>Formal status and membership</th><th>Nature of the obligation</th><th>Prescriptiveness and precision of the obligation</th><th>Review and response systems available</th></tr>
<tr><td>EU-Japan (2019)</td><td colspan="2" rowspan="2">No added stringency: statements of shared intent</td><td rowspan="2">Non-binding and collective commitment</td><td rowspan="3">Stronger 'naming-and-shaming' implementation mechanisms and a more adversarial dispute settlement procedure under TSD chapters vis-à-vis the PAICC under the Paris Agreement</td></tr>
<tr><td>EU-Singapore (2019)</td></tr>
<tr><td>EU-Vietnam (2020)</td><td rowspan="4">The designation of the Paris Agreement as an 'essential element' in EU PTAs increases the stringency of Paris Agreement membership</td><td rowspan="4">Paris-PTA provision firms up the Paris Agreement's obligations of conduct, specifically: (1) parties' procedural commitments; (2) the expectation of progressive NDCs (or at least not to backslide); and (3) parties' 'best efforts' commitment in implementing their NDCs</td><td rowspan="4">Binding and individual obligation</td></tr>
<tr><td>EU-United Kingdom (2021)</td></tr>
<tr><td>EU-Kenya (2024)</td><td rowspan="2">In case of actions or omissions by the EU or a trade partner that materially defeats the object and purpose of the Paris Agreement, sanctions are available (however, high legal threshold). For the obligation to effectively implement the Paris Agreement, the normal 'naming-and-shaming' mechanisms apply (lower threshold, see above)</td></tr>
<tr><td>EU-New Zealand (2024)</td></tr>
</table>

Source Summary of authors' findings

4 Conclusion

The Paris Agreement introduces a dynamic pledge-and-review process with its success hinging on countries continuously increasing their climate goals in concert with intensifying domestic climate efforts, thereby setting in motion a virtuous cycle of ever-more ambitious climate action. Yet the Paris Agreement's inherent flexibility may be vulnerable to exploitation, prompting calls for alternative governance structures to reinforce it. Against this background, this study scrutinised the commitment in recent EU PTAs (2019–2024) to *effectively implement* the Paris Agreement, focusing on the potential institutional benefits, or regulatory transference, that this may bring to the global climate regime. Relying on the governance stringency framework, we compared the stringency (bindingness) of the mitigation obligations under the Paris Agreement to the Paris-PTA linkage in EU trade agreements housed in TSD chapters. The analysis underscores the evolving nature of this provision across EU trade agreements, finding an increase in prescriptiveness and precision over the years; going from non-binding collective statements of shared intent (EU-Japan, EU-Singapore, and EU-Vietnam) to legally binding individual obligations (EU-United Kingdom, EU-Kenya, and EU-New Zealand).

Starting with the EU-United Kingdom (2021) trade agreement, we argue that the Paris-PTA linkage increases the stringency of the Paris Agreement in four distinct ways. First, it raises the political and potentially economic costs of withdrawing from the Paris Agreement, most evident with the Paris Agreement's insertion as an essential element, whereby part of, or the entire, trade agreement may potentially be annulled in case of withdrawal. Second, the Paris-PTA linkage bolsters the Paris Agreement's obligations of conduct, namely countries' procedural duties, for instance, to submit timely NDCs and supplementary information; to submit progressive NDCs, or, at the very least, not to backslide in ambition; and, to the best of their efforts, implement these in domestic law and policy, or, at the very least, to take identifiable steps towards the achievement of their NDCs.

In other words, we argue that if the EU or a trade partner detects procedural shortcomings, an NDC ambition gap, or an implementation gap, the Paris-PTA linkage may offer an alternative route for addressing these concerns. This can be done through the implementation and enforcement systems available under TSD chapters. These arguably offer new, novel ways of incentivising countries to comply with the Paris Agreement. Most importantly, the TSD dispute settlement system offers a more judicial and adversarial enforcement procedure in comparison to what is available under the Paris Agreement.

The Paris-PTA linkage in EU PTAs is however not without limitations. Its brevity and imprecision, coupled with the exclusive right of governmental officials to initiate dispute proceedings, may pose serious challenges to its effectiveness. In regard to the former, uncertainty as to what (in)action constitutes non-compliance with the Paris-PTA provision may at worst impair the deterrent power of the dispute settlement system. For example, if a party interprets the obligation to *effectively implement* the Paris Agreement as procedural without a 'best efforts' component as part hereof. Regarding the latter, with governmental officials acting as gatekeepers, this allows for political bargaining, providing them with discretionary power to address or dismiss TSD complaints identified by DAGs and civil society actors without legal justification.

Two limitations of this study warrant attention. First, given the article's legal focus, we do not assess the practical implementation of the Paris-PTA linkage. Future research examining how governmental officials and other stakeholders interpret and engage with this legal innovation in practice could provide valuable insight, including potential variations in usage

across different PTAs depending on the climate ambitions of the parties involved. Second, as this study centres on the legally binding character of climate provisions in EU PTAs, our analysis primarily address scenarios where non-compliance with climate obligations may trigger punitive measures under a PTA. Thus, the approach taken here emphasises the 'stick' rather than the 'carrot' potential of PTAs, as it does not account for mechanisms that encourage greater ambition under the Paris Agreement.

Notwithstanding these limitations, the findings suggest that the Paris-PTA linkage in recent EU PTAs (United Kingdom, Kenya, and New Zealand) holds significant potential as a tool to support the Paris Agreement's overarching goal of securing a sustainable future. Climate mitigation is costly and to a large extent driven by distributional conflict. Thus, preferential trade agreements intended to govern and reconcile economic interests and sustainability concerns can assist in resolving distributional tensions, provided their legal potential is utilised. With the anticipated inclusion of the Paris-PTA linkage in future agreements[9] with climate-critical countries, including the Mercosur countries, Indonesia, and India, this prospect becomes even more compelling. With sufficient political backing, the Paris-PTA linkage can strengthen the climate regime, potentially serving as a critical instrument as the impacts of climate change worsen and the need to effectively implement the Paris Agreement becomes even more urgent.

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Data availability In case a finding or observation draws on existing research or data, the source is clearly cited.

Declarations

Ethical approval The authors declare that they have no conflicts of interest.

[9] Due to the EU's TSD template approach.

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