

PERSPECTIVE



Climate and trade policies: from silos to integration

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ABSTRACT

This paper investigates linkages between trade and climate policies by examining commitments made in preferential trade agreements (PTAs) and Nationally Determined Contributions (NDCs) under the Paris Agreement. While environmental protection and economic growth are often perceived as conflicting policy goals, PTAs and NDCs have the potential to encourage mutually supportive approaches to climate and trade governance. Building upon three recent datasets, the paper locates a sample of 21 countries in a typology of four issue-linkage strategies across both types of instruments: policy integration, policy silos, asymmetry in favour of trade policy, and asymmetry in favour of climate policy. It finds that countries that reveal a preference for strong linkage with climate in their PTAs typically do not reveal a preference for strong trade linkage in their NDCs, and vice versa. No state from the sample favours strong policy integration. After sketching out possible explanations for this observation, the paper concludes that policy-makers have significant room for enhancing synergies between trade and climate commitments and that scholars have a role to play in this endeavour.

Key policy insights

- There is substantial untapped potential for simultaneously promoting trade and tackling the climate crisis across borders in future NDCs and PTAs.
- In future NDCs, trade provisions, e.g. the reduction of trade barriers for climate-friendly goods and services, should be strengthened in national climate plans.
- Countries should make better use of climate provisions in their PTAs, e.g. to encourage their trade partners to commit to binding climate objectives and foster exchanges of climate-friendly goods and services.

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Introduction

There is an intrinsic tension between climate change policies and trade liberalization (Daly, 1993). Trade favours increased production and long-distance transport, both of which are associated with greenhouse gas emissions and air pollution (e.g. Zhang et al., 2017). Trade can also facilitate ‘pollution displacement’, whereby polluting processes are transferred from one state to another (e.g. Duan et al., 2021). In turn, climate policies such as carbon pricing can reduce firms’ international competitiveness and decrease their exports (Dechezleprêtre & Sato, 2017). However, the paradigms of ‘sustainable development’ and ‘green economy’ suggest that climate protection and trade liberalization are not necessarily incompatible (Dryzek, 2013). Building on these ideas, several political leaders claim to work towards fostering synergies between the two policy domains. They argue, for example, that climate policies create new markets for environmental technologies and that trade liberalization reduces the cost of these technologies (Bernstein, 2001). While there are important exceptions in the literature (e.g. Bacchus, 2016; Droege et al., 2016; Elkahwagy et al., 2017; van Asselt, 2017), linkages between trade and climate in the wake of the Paris Agreement have not been studied comprehensively and

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deserve more attention by both scholars and policy-makers. To what extent are countries integrating climate and trade policies? Who are the real champions of policy integration, and what can be learned from them?

This paper investigates policy integration on trade and climate from an institutionalist perspective. Here, we define institutions as arrangements established by countries that prescribe or proscribe behaviour (Koremenos et al., 2001, p. 762). In other words, instead of studying political discourses or bureaucratic processes, as several studies on policy coherence do (e.g. Adelle & Russel, 2013), we analyze institutionalized commitments on trade and the environment. To facilitate cross-country comparisons, we focus on commitments made within two types of international institutions: preferential trade agreements (PTAs) and Nationally Determined Contributions (NDCs). While PTAs are legally binding treaties concluded between two or more countries, NDCs are unilateral instruments provided for by the Paris Agreement (Pauw & Klein, 2020).¹

These two types of institutions offer opportunities for linkages with the other policy domain: some PTAs include provisions on climate change (Morin & Jinnah, 2018), and some NDCs include commitments favouring climate-friendly trade liberalization (Brandi, 2017). For example, the 2015 Korea-New Zealand Free Trade Agreement states that ‘the Parties will encourage and facilitate [...] sustainable production systems, including for example climate change impacts, mitigation and adaptation, and the role of the agriculture, forestry and fisheries sectors in contributing to low-carbon green growth’ (art. 14.3, 1, iii). In the case of NDCs, Guyana’s 2015 climate plan, for instance, includes the commitment ‘to remove import duty and tax barriers for the importation of renewable energy equipment’. Both types of linkages can generate mutually beneficial outcomes for tackling climate change and promoting trade flows at the same time. However, the current literature on trade and climate linkages fails to systematically compare institutional linkages in both types of instruments and therefore only tells part of the story. The original data combination proposed in this paper aims to fill this gap.

There are two nonexclusive types of issue linkages: substantive and strategic (Leebron, 2002). Substantive linkages associate two issues because they have intrinsic consequences for each other. For example, trade and climate can be linked to reduce their respective negative externalities or to create synergies between them. Certain provisions in both PTAs and NDCs focus on reducing trade barriers in order to promote the diffusion of climate-friendly goods and services. By contrast, strategic linkages are based on negotiation strategies. For example, trade negotiators might want to include climate provisions in an agreement, even if these provisions are unrelated to trade in any form or fashion, to appease a group of environmentally oriented parliamentarians that will have to vote on the ratification of the trade agreement. Some strategic linkages have a recognized substantive basis, but it is not necessarily the case. If two issues are perceived as substantively and mutually linked, one might expect policy-makers to address them jointly in any political circumstances. However, if issues are linked only for strategic reasons, the linkage might be very sensitive to the type of institutions (PTAs or NDCs) where the linkage is formalized.

As a result, states can adopt different issue-linkage strategies in their PTAs and NDCs. Table 1 illustrates our typology. First, a state can include trade-liberalizing commitments in its NDCs, but ignore climate change in its PTAs (Type 1). This combination suggests an asymmetrical integration of both issues that favours mainstreaming trade into climate policy. Second, a state can both encourage climate protection in its PTAs and trade liberalization in its NDCs (Type 2). This strategy suggests a consistent preference for policy integration. Third, a state can establish a linkage in its PTAs, but not in its NDCs (Type 3), indicating an asymmetric preference for linking both issues in trade policies. Fourth, a state can choose to ignore climate considerations in its PTAs and trade liberalization objectives in its NDCs (Type 4). We refer to this strategy as policy silos. The rest of the paper explains where we locate different countries in this typology and discusses the policy implications.

Table 1. Issue-linkage strategies between trade and climate in PTAs and NDCs.

		PTAs	
		Weak linkage with climate protection	Strong linkage with climate protection
NDCs	Strong linkage with trade liberalization	Type 1: <i>Asymmetry in favour of trade policy (pro-trade linkage)</i>	Type 2: <i>Policy integration</i>
	Weak linkage with trade liberalization	Type 4: <i>Policy silos</i>	Type 3: <i>Asymmetry in favour of climate policy (pro-climate linkage)</i>

Data and methodology

This paper draws from three recent datasets. The first two are the NDC Explorer (Pauw et al., 2016), which documents various types of NDC commitments, and a more detailed dataset on trade-specific provisions in NDCs (Brandi, 2017). We retain from the latter five types of commitments that are favourable to trade liberalization, including, for example, provisions on reducing trade barriers for climate-friendly goods and services, and promoting them with the help of standards and labels. The third dataset is the TRade and ENvironment Database (TREND) (Morin et al., 2018). Out of the 295 types of environmental provisions that are included in PTAs and covered by this dataset, 19 are related to climate change, including, for instance, references to the Kyoto Protocol and provisions on greenhouse gas emissions reduction. To compare NDC commitments to PTA provisions, we only consider 58 PTAs concluded from 2012 to 2018, a period during which the first set of NDCs were drafted and submitted.

We assume that the design of a given PTA reflects the preference of its most powerful party. Therefore, to infer country preferences towards climate protection in PTAs, we exclude less powerful signatories and PTAs with a low degree of power asymmetry from our analysis. We measure economic power as the gross national income (GNI), with data from the World Bank Indicators.

Lastly, we build a Linkage-to-Trade Index (for NDCs) and a Linkage-to-Climate Index (for PTAs). Both indices attribute different weights to the climate and trade items depending on their degree of precision and obligation. For example, the NDC commitment to reduce trade barriers is given more weight in the Linkage-to-Trade Index than a commitment to favour market mechanisms in climate governance. Conversely, a mere reference to the Paris Agreement in a PTA is given less weight in the Linkage-to-Climate Index than a requirement to implement it. The Supplementary Material provides more details on the trade and climate items included in both indices, their respective weights, and the case selection process.

Figure 1 shows the linkage strategies of the sample of 21 countries resulting from our asymmetry-based selection process. The dashed lines represent the mean for each axis and can be interpreted as conceptual boundaries of the four strategies: countries in the top left quadrant display a preference for issue-linkage in NDCs (e.g. Brazil); countries in the top right quadrant favour policy integration (e.g. on the borderline, the European Union and South Korea); countries in the bottom right quadrant display a preference for issue-linkage in PTAs (e.g. Argentina and Japan); and countries in the bottom left quadrant favour policy silos (e.g. Turkey).

Results

While Figure 1 displays several countries with a substantial Linkage-to-Climate Index in their recent trade agreements, there is hardly any country in the sample with a Linkage-to-Trade Index greater than 1. This means that the countries in the sample do not reveal a preference for a strong linkage with trade liberalization in their NDC.² We acknowledge, however, that even if no clear trade-linkages show up in a country's NDC, this does not imply that the country does not have climate-related trade measures in place. Brazil, a clear example of a pro-trade linkage, stands out as an exception with its 2016 NDC, which includes references to international market mechanisms and the promotion of potentially trade-relevant standards for clean technologies.³

Interestingly, there is no clear-cut example of a Type 2 state, favouring strong policy integration. The EU is a frontrunner in terms of trade-climate-linkages in its PTAs (see Figure 1). Today, all recent EU trade agreements include provisions on climate change. As a result, 40% of PTAs that include at least one provision on climate change are EU agreements. In 2018, the EU announced that all its future PTAs need to include a reference to the ratification and implementation of the Paris Agreement, as its 2017 trade agreement with Japan already does. Moreover, the EU has pushed for climate-friendly trade-liberalizing measures in other contexts, such as the negotiations for an Environmental Goods Agreement at the World Trade Organization. At the same time, the EU's NDC hardly contains any trade-related commitment, apart from a reference to international market mechanisms. However, the European NDC had to be agreed on by all Member States within a short period of time, which might explain why the document is strikingly brief.

The pro-climate linkage category (Type 3) is above all represented by Argentina.⁴ Argentina has a high Linkage-to-Climate Index because of the PTA it concluded with Chile in 2017, which contains eight different

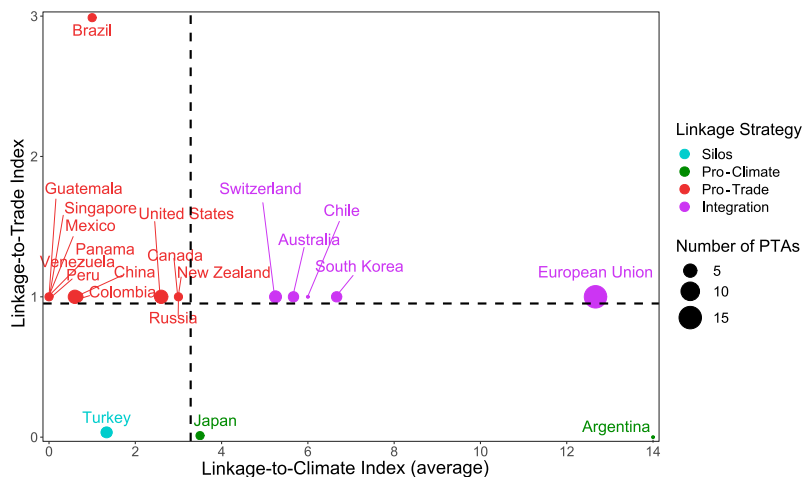


Figure 1. Trade-Climate Linkage Strategies.⁵

climate provisions. Lastly, Turkey is a clear example of the policy silo category (Type 4), but other countries represent borderline cases of this category. Indeed, the US, China, Russia, and Canada pay scant attention to climate in their PTAs and to trade liberalization in their NDC. For instance, Canada, which is often perceived as an environmentally friendly country, included climate provisions as one of its negotiating objectives for the USMCA, but the stance of the US at that time, a more powerful partner, led to a PTA that disregards climate issues (Laurens et al., 2019).

Discussion

Several factors can explain this trend towards low policy integration across PTAs and NDCs, beginning with the drafting process of NDCs. According to Röser et al. (2020), policy coordination with and across several ministries was a concern for a substantial share of countries (27% of the respondents to survey) when preparing their NDCs. Moreover, drafting an NDC requires analytical and technical resources that many countries were lacking during the first submission phase in the run-up to the Paris Climate Summit (Röser et al., 2020). Therefore, several developing countries relied on support from international development actors. In turn, this combination with the lack of general guidance from the UNFCCC on how to draft NDCs (Pauw & Klein, 2020, p. 406), might have led numerous countries to overlook broader issues such as trade.

Domestic economic factors are also likely to play. It may be that wealthy environment-friendly countries might refer relatively more to environmental objectives in their trade agreements and include fewer growth-oriented provisions in their NDC, as the cases of the EU and Switzerland show (see Figure 1), while trade-dependent developing countries, such as Small Island Developing States, might be more inclined to put the emphasis on trade liberalization in their international instruments (Brandi, 2017, p. 13). It may also be the case that some countries perceive an economic incentive in avoiding stringent climate policies (e.g. Arlota, 2020). Despite growing evidence that green economy policies can foster economic growth (e.g. OECD, 2017; Nair et al., 2021), the argument that strict environmental regulation leads pollution-intensive firms to shift their production to regions with lower standards may seem compelling to policy-makers. Consequently, significant fossil fuel producers, such as Venezuela, or major greenhouse gas emitters, such as China and the US, may see climate regulation as a potential barrier to their economic growth and competitiveness. This perspective is unlikely to encourage policy integration in PTA negotiations.

Domestic politics is also likely to matter. For instance, New Zealand scores low on the Linkage-to-Climate Index because its 2013 PTA with Taiwan is rather silent on climate issues. This PTA was concluded under Prime Minister John Key, who has publicly expressed his prioritization of economic concerns over environmental ones (NBR, 2014). By contrast, his successor, Prime Minister Jacinda Ardern, is vocal on the need to

better integrate trade and climate policies, as illustrated by the current negotiations of the Agreement on Climate Change, Trade and Sustainability (ACCTS). It can therefore be expected that the political orientation of the executive has an important impact on the linkage strategy favoured by a given country. Against this background, President Joe Biden's reversal of his predecessor's decision to withdraw the US from the Paris Agreement could foreshadow more climate-friendly US PTAs in the future.

Lastly, the different backdrops of PTAs and NDCs may explain why the Linkage-to-Climate Index shows higher values than the Linkage-to-Trade Index. Indeed, PTAs are well and long established instruments. The first reference to the trade-environment nexus in trade negotiations dates back to the 1947 General Agreement on Tariffs and Trade (article XX). By contrast, NDCs are much more recent, which may be a reason why cross-cutting issues and inter-ministerial exchange on policy integration, say between climate and trade, are only slowly taken on board in the climate context.

Conclusion

This paper finds that countries that reveal a preference for strong linkage with climate in their PTAs typically do not reveal a preference for a strong trade linkage in their NDC, and vice versa. We argue that our double-sided approach offers a more comprehensive understanding of countries' positions on trade and climate policies than studies that only look at one side of the coin. This paper, however, only sets out the foundation for better understanding. More research is needed, in particular on negotiators' motivations to link several issues consistently across different policy instruments. In addition, this paper only covers PTAs concluded before 2019 and the first generation of NDCs. Future research could apply our methodology to investigate how these linkages evolve over time once the next generations of instruments are available. The consistency in linkage preferences could also be analyzed more systemically across broader sets of instruments, such as environmental treaties, domestic environmental laws, or tariffs applied to environmental goods. Finally, our research question could be extended to other issue-areas, such as investment, security, and human rights.

There is ample untapped potential for decision-makers to go further in making use of climate provisions in trade agreements and trade-liberalizing commitments in climate instruments. PTAs and NDCs can generate win-win solutions for promoting economically beneficial trade flows and tackling the climate crisis. For example, PTAs can be used as a tool for conditioning market access to strong climate action. Conversely, while several NDCs include a commitment to reduce trade barriers for climate-related technologies to foster the mitigation of climate change, there is substantial potential for a stronger emphasis on this type of trade-related measure. Climate-friendly trade provisions should be strengthened in future NDCs to make use of such mutually beneficial options.

Notes

1. The Paris Agreement requires its parties to 'prepare, communicate and maintain successive nationally determined contributions that [they] intend to achieve' (art. 4, 2) to reduce national greenhouse gas emissions and adapt to the impacts of climate change.
2. We also assessed the 2020 NDC updates to investigate whether they involved substantially more or fewer linkages to trade, but the overall picture remained the same.
3. While the EU-Mercosur PTA (2019) includes a provision that commits Mercosur countries, including Brazil, to the 2015 Paris Agreement, this provision was inserted by the EU rather than its negotiation partners.
4. Argentina's second NDC, submitted in 2020, now states that 'the adoption of barriers to international trade with climate change objectives has to be avoided'. This makes Argentina represent a case of 'policy integration'.
5. Extending the sample to the whole population of countries without asymmetry consideration confirms the trend observed in [Figure 1](#). Nevertheless, the whole population shows greater variation on the Linkage-to-Trade Index because highly trade-dependent and climate vulnerable countries (such as, for instance, Seychelles, Togo, and Tuvalu) tend to include numerous trade-liberalizing items in their NDCs but are assumed to not have a strong enough bargaining power when it comes to negotiating climate provisions in PTAs.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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