

**ACHIEVING ENVIRONMENTAL OBJECTIVES IN THE FRAMEWORK
OF TRADE AGREEMENTS:
FOCUSING ON THE EFFECTIVENESS OF THE EU-KOREA FREE
TRADE AGREEMENT (2010)**

By
CHO, Younghee

Thesis

Submitted to
KDI School of Public Policy and Management
In Partial Fulfillment of the Requirements
For the Degree of
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ABSTRACT

With the proliferation of multilateral environmental agreements (MEAs) to address the global environmental issues, the European Union adopted a bilateral trade agreement as one of the primary tools to promote its objective of sustainable development. ‘Trade and Sustainable Development Chapter (TSD Chapter)’ have been included in its several free trade agreements with third countries and led the Parties to recognise their commitments to contributing the objective of sustainable development as well as to promoting international trade. However, the effectiveness of TSD chapters to promote the objectives of sustainable development has not received much scholarly attention. This research delves into the EU-Korea FTA, which was concluded in 2010, to discover the effectiveness of the TSD Chapter with a specific focus on the environmental provisions. As the first FTA which was implemented TSD Chapter under the Global Europe Strategy, the EU-Korea FTA gives guidelines and benchmark implications in assessing the EU’s strategy and its later FTAs. This paper examines the impact of the TSD chapter of the EU-Korea FTA on four dimensions: (1) an assessment of the strength of the monitoring mechanisms of the commitment to the TSD chapter, (2) implementation of the TSD Chapter into Korea’s domestic environmental laws, (3) Korea’s commitment to Multilateral Environmental Agreements (MEAs), and (4) changes in Korea’s FTA strategy vis-à-vis other countries with regard to environmental provisions in FTA. With the evaluation of the effectiveness of the TSD Chapter, this paper concludes the assessment by comparing the EU’s strategy to the US’ as well as discussing the overall trend made by other actors.

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I . INTRODUCTION

As the number and complexity of environmental issues have increased, efforts to address the issues through multilateral environmental agreements have been made by global actors. With the needs to discuss the role of institutions to address the human-related environmental problems, the norm of environmental governance has arisen. Although there has not yet been unified theory on environmental governance, the arrangement of new environmental policy instruments has been made by global actors including the European Union (EU).

As a result of the inability to address environmental issues at the multilateral levels through the World Trade Organization (WTO) and United Nations (UN), various kinds of tools such as market-based instruments (MBIs), voluntary agreements (VAs) and ecolabels along with the traditional command-and-control regulation have been adopted by global actors including the EU (Dauvergne, 2005, p.202). Notably, the EU designed the Trade and Sustainable Development (TSD) Chapter since 2008 which encompasses extensive environmental norms and cooperation on environmental issues.

The EU's effort to promote its fundamental values and norms as spreading its laws and standards to the outside of the EU is not new, nevertheless. Namely, as soft power, the EU has been using its structural policy to implement its norms and to secure the international legal system. In this context, the EU adopted bilateral trade agreement as one of the primary tools "to promote its objective of promoting the EU's values including social and environmental standards around the world" (European Commission, 2006, p. 5). As allowing

the access to the EU's internal market, the EU exports its standards featuring its identity of the large single market while maintaining their commitments to multilateral agreements.

By the publication of the European Commission's (hereafter the Commission) "Global Europe: Competing in the World" in 2006, the EU led the inclusion of non-trade objectives in the framework of trade agreements from the front. The legally binding TSD chapter stressed the importance of Multilateral Environmental Agreements (MEAs) and the level playing field of environmental protection in partner countries.

In 2010, the EU and the Republic of Korea (hereafter: Korea) signed its Free Trade Agreement upgrading their Strategic Partnership to bilateral Free Trade Agreement (FTA). The EU-Korea FTA was the EU's first FTA which included TSD Chapter under the Global Europe strategy (European Commission, 2017, July 11, p. 2). Likewise, it was the first FTA to Korea which accredited one independent chapter to environment dimension.

The EU TSD Chapter, which is assigned to Chapter 13, covers not only trade dimension but also non-trade issues (NTIs) prominently in promoting labour rights by implementing International Labour Organisation (ILO) Conventions and increasing the environmental standards by reaffirming the commitment to MEAs. According to what has been agreed in the trade agreement, the government of Korea has taken its efforts to support compliance with commitments, but the effectiveness of TSD Chapter and the practical application of those provisions have not been examined yet.

To assess the effectiveness of environmental provisions of the TSD chapter this paper focuses on four dimensions of effectiveness which can be found in the literature: 1) How are the TSD chapter monitoring mechanisms enforced in Korea?; 2) What are the impacts of the environmental provisions of the TSD chapter to the domestic environmental law in Korea?; 3) Is Korea more engaged in MEAs and taking the more active role after EU-Korea FTA?; 4)

How does EU-Korea FTA influence the inclusion of environmental provisions in other FTAs of Korea?

Following the questions, this article first provides a short literature review of why non-trade objectives are included in trade policies and how the effectiveness of TSD chapters can be assessed. This discussion shows that effectiveness can be assessed on at least four dimensions. The next four parts provide an analysis of each of these four dimensions. Concerning the first dimension, it discusses the effectiveness of the TSD institutional and monitoring mechanisms. The second dimension focuses on the implementation of the commitments under the TSD chapter into the domestic regulatory context and domestic environmental policy. Concerning the third dimension, the paper reviews on Korea's commitment to MEAs, mainly focusing on the case of United Nations Framework Convention on Climate Change (UNFCCC) and Convention on Biological Diversity (CBD). In the last part, this research analyses the change in Korea government's FTA strategy by scrutinising environmental provisions adopted in other FTAs of Korea and the EU, after the EU-Korea agreement came into force. This focus on diffusion effectiveness is assessed on the basis of an empirical analysis of the TREND dataset.

Lastly, this paper provides a brief analysis of the characteristics of the EU's TSD Chapter with a comparison with the US' strategy and propensity made by other countries'. Along with critics raised against the EU – no attempt to define what exactly is expected from partner country (Jinnah and Moregera, 2013, p.11); vague and unenforceable terms (Horn, Mavroidis, and Sapir, 2010, p.7), this paper explores the distinct features of the TSD Chapter which have contributed to the effectiveness of the EU-Korea FTA. This paper finally concludes with a short analysis based on global propensity made by other actors.

II. Literature Review

2-1. Literature on Trade Agreements and Non-Trade Objectives

The general discussion on why non-trade related provisions are included in the EU's trade agreements has been made in academia not long ago. The concept illustrated by Chad Damro (2012), "Market Power Europe" understands the EU as an identity "which exercises its market power to externalise its economic and social market-related policies and regulatory measures" (Damro, 2012, p. 682). Damro (2012) describes the EU's identity is crucially linked to "market integration" (p. 685), and the EU uses its "market and regulatory strengths to externalise internal policies" (p. 684). The mechanism is that the EU by being a relatively enormous market, can practice its capacity in the international trade agreements by motivating partner countries with its possible materialistic outcomes (ibid., p. 687). Moreover, since the EU has the capacity to monitor the compliance of regulations, it can act as a regulatory institution in the context of global governance (ibid., p. 686-7).

Following Damro's concept, Orbie and Sangeeta (2015) investigated the EU-India Trade Agreement comparing the concept of "Normative Power Europe" and "Market Power Europe". According to Orbie and Sangeeta (2015), in the framework of "Normative Power Europe" (Manners, 2002), the perspective of the norm takers (receiving side of EU policies) and the market norms of the EU cannot be fully integrated. Thus, they used the framework of "Market Power Europe" (Damro, 2012) to examine how EU standards are seen from the norm takers and how they are translated into takers' domestic institutions, strategies and practices (Orbie & Sangeeta, 2015, p. 257). As indicated by them, the trade agreement could be seen as mitigating tools to partner countries since "ethical and normative dimension behind market norms" are not directly dealt with (ibid., p. 256).

Meunier and Nicolaïdis (2006) also analysed in what condition “trade power can be leveraged into political power” (ibid., p. 922) and how the EU uses its market access to obtain changes in trading partner's domestic arena (labour standards, development policies) and international arena (global governance, foreign policy) (ibid., p. 906), and concluded that “the EU could not effectively become a power through trade with unsustainable contradictions”.

Milewicz, Hollway, Peacock & Snidal (2016) understand the spread of non-trade agenda in trade agreements using the concept of cross-network effects of Snijders, Lomi & Torló, (2013). They explained the development of NTIs that a state is reluctant to participate in their first NTI due to a costly undertaking, but once they adopt, a state has an incentive to strengthen its linkage to the network since those obligations are essentially duplicated (Milewicz et al., 2016, p. 22-23). Similarly, Baccini, Dür, and Haftel (2015, p.22) argued that PTAs have been designed based on existing agreements which implies global interdependence while reflecting some of each parties’ specific needs.

Morin et al. (2018, p.2) revealed that the environmental provisions in the framework of trade agreements have been included since the 1970s and sharply increased since the early 2000s. Along with the movement, the EU has emerged as a central position in the constellation of agreements in the network of trade agreements, which contain at least one climate provision (Morien et al., 2016, p.3). But there is a tendency that these agreements mainly have been concluded between global North and South than North-North or South-South (ibid., p.7).

2-2. Literature on Effectiveness

The effectiveness of the TSD Chapter and on how to measure the impact of the TSD Chapter in labour dimension has been discussed by Orbie & Van Roozendaal (2017). The approach they adopted in their paper is principally based on the traditional approach, namely, the progressions made to the FTAs should lead to an enhancement of labour standards directly or indirectly in the context of partner country (ibid., p. 2). However, they also adopted the alternative approach which supposes the enhancement of labour practices can also happen by means of the intermediate impact of the development of institutions, the advancement of laws and regulations, the financing for development and the strengthening of civil groups (ibid., p. 2).

Meanwhile, Marx, Ebert & Hachez, (2017, p. 49) discussed reforming the current ineffective legal design and practice of labour provisions and revising the current dispute settlement mechanism. Accordingly, complaint and sanction mechanisms which allow “a third party-third party dispute settlement mechanism” and connecting dispute settlement mechanisms of FTA to other multilateral instruments such as ILO’s supervisory mechanism and the framework of the OECD Guidelines for Multinational Enterprises were provided as options (ibid., p. 50; 55-6). They contended that linking FTAs to other international instruments can lead to shared understanding of obligations by both parties and prevent “fragmentation of the international labour regime” (ibid., p. 55).

In environmental dimension, Jinnah & Lindsay (2016) argued that the environmental norm diffusion which refers “the movement and adoption of norms across political borders” (p. 45) appeared through “public participation in environmental policy-making, and effective enforcement of environmental laws to trading partner nations” in the US’ Preferential Trade Agreements (PTAs) (p. 41). To detect the norm diffusion and trace the procedure, they

showed how the US has “internationalised” certain environmental norms in its PTAs and checked whether the norms were institutionalisation in partner countries’ domestic laws and policies (ibid., p. 46). They concluded that the transfer of norms of effective enforcement and public participation from the US were found (ibid., p. 57), and the sanction-based enforcement mechanism under the effective enforcement clause in the US-Peru Trade Promotion Agreement (2009) and 2015 Trans-Pacific Partnership (TPP) made international environmental provisions more enforceable (ibid., p. 58).

To assess the effectiveness in four different dimension, this paper distinguishes the effectiveness in four dimensions on the basis of established literatures: (1) improvement of environmental protection via empowerment of civil groups (Orbie & Roozendaal, 2017) and via public participation in environmental policy-making (Jinnah & Lindsay, 2016); (2) improvement of environmental protection via legal improvement and institution building (Orbie & Roozendaal, 2017); (3) improvement of environmental protection via institution building (ibid.) and linkage to other MEAs’ instruments (Marx, Ebert & Hacez, 2017); and (4) improvement of environmental protection via institutionalisation of environmental norms in partner countries’ policies (Jinnah & Lindsay, 2016).

III. Data and Methodology

The paper aims to examine the effectiveness of environmental provisions of the TSD Chapter both in domestic dimension and international dimension of Korea. The effectiveness of each part is principally assessed by whether the clauses in FTAs were led to practical changes, but this paper also adopts the alternative approach of Orbie & Rozendaal (2017) which affirms the improvement of practices through FTAs via the intermediate impacts.

The effectiveness of each aspect is assessed as follow: 1) the enforcement of the TSD monitoring system is evaluated by the degree of compliance to the TSD Chapter mechanism, which assumes the possible improvement of environmental protection via empowerment of civil groups; 2) the implementation of the TSD Chapter into domestic environmental laws is evaluated by the explicit link between the enactment and the FTA (legal improvement); 3) the commitments to MEAs is assessed by the practical environmental performance of the partner country as well as the partner country's engagement to each specific MEA; and lastly 4) the effectiveness of the chapter is checked by analysing the changes in Korea's FTA strategy and the possible diffusion of the environmental provisions of the chapter.

The data to study the domestic dimension was obtained mainly from National Information Centre and Korea Legislation Research Institute¹, the Economic and Social Development Committee (ESDC) of Korea and European Economic and Social Committee (EESC)². For research on the commitment to MEAs of Korea, this paper primarily used data and report from each MEAs. Lastly, to examine the changes in Korea's FTA strategy, this paper adopted Trade & Environment Database-TREND dataset.³ This dataset categorises more than 300

¹ National Law Information Center of Korea can be found on <http://www.law.go.kr/eng/engMain.do> and Korea Legislation Research Institute on <https://elaw.klri.re.kr>.

² For more information, please refer to <http://english.esdc.go.kr/index.do> and <https://www.eesc.europa.eu/en>.

³ TREND dataset was jointly developed by the German Development Institute (Deutsches Institut für Entwicklungspolitik: DIE) in Bonn Germany, and Jean-Frédéric Morin, chairholder of the Canada Research

different environmental provisions from the full text of about 630 preferential trade agreements signed since 1945 and provide environmental provisions in its categories. The dataset includes not only main texts, but also annexes, protocols, side agreements, and side letters which consists essential elements of the PTA.

The fundamental limit of this research would be that it cannot determine the causality between the EU-Korea FTA and the changes made after in Korea. The robust correlation between two is hard to be detected either since there is no explicit mentioning of the influence from the EU, nor the FTA is not the only factor which can affect the changes in Korea. Although the measuring the impact is still not firmly established, by determining the compliance of Korea to the TSD Chapter in its domestic settings and discovering the possible influence from the EU that resulted in behaviour changes of Korea in international arena, this paper assesses the effectiveness of the environmental provisions of the TSD Chapter of the EU-Korea FTA.

VI. The EU's Strategy: Trade and Sustainable Development Chapter

4-1. What is the TSD Chapter?

The Trade and Sustainable Development (TSD) Chapter is a part of the EU's value-based trade agenda, which contains a set of binding provisions on sustainable development, most notably on labour rights and environment (European Commission, 2017, p. 2). It seeks to promote sustainable development in a framework of trade agreement as it recognises sustainable development as complementary to trade. Thus, the TSD Chapter aims to not only prevent lowering the protection but also to strengthen the standards of labour and

environment to a higher level to achieve sustainability. Notably, the environmental provisions in TSD Chapter ask partner countries' commitments to conventions on biodiversity, climate change, and chemicals and waste.

The EU's rationale for including TSD chapter into the FTA can be said as 1) to strengthen the international legal system (Parker & Rosamond, 2013); 2) to promote the EU's norms such as social and environmental to the global world (European Commission, 2006); and 3) to play a leading role in designing universal values and standards (European Commission, 2006). The EU's objective of implementing the TSD chapter into its FTA includes 1) to avoid weakening of domestic labour or environmental protection for investment or trade, 2) to incentivise partner countries to engage in bringing changes by making regular dialogues on sensitive issues (European Commission, 2017, p. 4).

One of the critical features of the EU TSD Chapter according to the European Commission (2017, p. 13), is that it emphasises the importance of establishing the TSD institutional and civil society structures such as facilitating Domestic Advisory Groups (DAGs) and Civil Society Dialogue Forum. The involvement of civil society and stakeholders includes a broad range of society actors and their participation in the implementation of the chapter.

Another essential characteristic of the EU's TSD model is that the EU focuses on strengthening the multilateral system and governance structure and requires its partner countries to meet international standards. The United States (US) – doesn't have a separate chapter for sustainable development but a chapter on the environment – decides to involve MEA's mechanisms into its domestic legislation if necessary. Last but not least feature of the EU's TSD Model is that it holds an incentive-based approach which precludes the possibility of sanctioning and is not applied by general dispute settlement mechanism of the FTA.

4-2. The First TSD Chapter: EU-Korea FTA

As it is mentioned in the Introduction, the EU-Korea FTA is the first FTA which was made under the Global Europe (2006), and the first FTA which included the TSD Chapter. The reason that Korea's government has accepted the TSD Chapter in its FTA with the EU can be said in three ways. First, is due to their economic consideration that opening the EU's large single market. The second reason is related to Korea's Global Korea Strategy which aims for a Korea's more active role in the international community (Horng, 2012, p. 320). Lastly, it can be interpreted as an effort to diversify partnerships as one part of counterbalancing act against the US and China.

In EU-Korea FTA, Chapter 13 was wholly dedicated to the trade and sustainable development. As a result of the negotiation, it arranged the context, objectives of the Chapter, and specified *the obligations on multilateral environmental agreements (13.5), trade favouring sustainable development (13.6), upholding levels of protection in the application and enforcement of laws, regulations or standards (13.7), review of sustainability impacts (13.10), institutional mechanism (13.12), civil society dialogue mechanism (13.13)*.⁴ With its seven years documents and results, the Korea case is expected to provide meaningful implications to improve the effectiveness of the TSD Chapter of the EU in its further agreements.

⁴ The whole titles of Articles of the chapter can be found in Appendix B.

V. Impact of the TSD Chapter in the Republic of Korea

5-1. Domestic Dimension

5-1.1. Monitoring the Enforcement of the TSD Chapter: TSD Institutional and Civil Society Structures

In this part, the research probes how the TSD chapter for environmental protection has been implemented and monitored in Korea. According to the Commission (2018, p. 6), "the Domestic Advisory Groups (DAGs) and the joint Civil Society Fora (CSFs) are competent to discuss and advise on implementation of TSD Chapters." The Article 13.12 (Institutional Mechanism) of the TSD chapter of the EU-Korea FTA demonstrates that the institutional mechanism settled among two parties are composed at several levels such as Specialised Committees which is comprised of senior officials, administration of the Parties, a Domestic Advisory Group(s) from civil society. More specifically, Article 13.12 illustrates that

(4) Each Party shall establish a Domestic Advisory Group(s) on sustainable development (environment and labor) with the task of advising on the implementation of this Chapter.

(5) The Domestic Advisory Group(s) comprise(s) independent representative organisations of civil society in a balanced representation of environment, labour and business organisations as well as other relevant stakeholders.

Succeeding Article 13.13 illustrates how Civil society dialogue mechanism is engaged in the monitoring system:

(1) Members of Domestic Advisory Group(s) of each Party will meet at a Civil Society Forum to conduct a dialogue encompassing sustainable development aspects of trade

relations between the Parties. The Civil Society Forum will meet once a year unless otherwise agreed by the Parties.

(3) The Parties can present an update on the implementation of this Chapter to the Civil Society Forum. The views, opinions or findings of the Civil Society Forum can be submitted to the Parties directly or through the Domestic Advisory Group(s).

In 2012, a question was brought up about the composition of Korean DAG's members (이정훈, 2012, October 08). Out of total 15 members, nine members were appointed by the Ministry of Employment and Labour and six members appointed by the Ministry of Environment. Notably, Young-sook Nam from Ehwa Women's University who worked as deputy director-general of Ministry of Foreign Affairs and Trade during the EU-Korea negotiation and Jae-Hyoung Lee from Korea University who had an advisory role for government for the EU-Korea FTA were selected as DAG members from environmental side. Korea Environmental Preservation Association which was committed institution of the Ministry of Environment of Korea produced a member for a DAG.

A similar question was raised in 2013 regarding labour dimension(윤지연, 2013, September 13) that no one from civil society group or labour union was invited as a DAG member. The article especially pointed out that no one from Korean Confederation of Trade Unions or Federation of Korean Trade Unions was selected notwithstanding the fact they are two largest labour union in Korea. In the circumstance, it seems that the composition of DAGs of Korea did not adequately represent the civil society or stakeholders. Following two tables list DAG members of Korea in 2013 and 2014.

According to Article 13.13 (1), there had been six times of Civil Society Forum (See Table 1). As the Economic and Social Development Commission⁵ which belongs to a president was selected as a secretariat for DAGs, Hyeon-Taek, Eom participated in the 3rd Civil Society Forum as a president of DAGs of Korea (ESDC Press Release, 2013). The information from 5th DAGs meeting of Korea was not able to be obtained⁶.

Table 1. Civil Society Forum (2012-2018)

	DAGs Meeting	Civil Society Forum
1 st	12 April 2012, Seoul	27 June 2012, Brussels
2 nd	8 June 2012, Seoul	12-13 September 2013, Seoul
3 rd	5 November 2014, Seoul	8-9 November 2014 Seoul
4 th	27 November 2014	10 September 2015, Seoul
5 th		20-21 February 2017, Brussels
6 th		11 April 2018, Seoul

Data Source: ESDC & European Economic and Social Committee web site

In this regard, the effectiveness of the TSD civil society structures for monitoring and implementation is not fully achieved through the mechanism of empowerment of civil society. The procedural unclearness in the establishment of civil society structures and the lack of obligation to produce activity report to the public undermines the involvement of civil society into the TSD Chapter, which might lead to the limited effectiveness of the TSD Chapter and delimited changes in practice.

The issues were discussed in the non-paper of the Commission (2018) where the call for empowering civil society including the social accomplices to assume their roles in implementation, and transparent communication were reviewed (The Commission, 2018, p.

⁵ Economic and Social Development Committee (ESDC) is a Korea's social dialogue body that labor, management, government and public interest groups participate and make a consultation for labor, industrial, economic and social policies, belongs to a president, which belongs to the president. (ESDC, n.d.). More details can be found on <http://english.esdc.go.kr/index.do>.

⁶ The reports regarding the activity of DAGs until 2014 can be found on the website of Economic and Social Development Committee (ESDC) of Korea. The ESDC gave a reply that the organisation in charge of reporting DAGs activity has been transferred to Korea Environmental Preservation Association, but it seems that no report has been published since then. Korea Environmental Preservation Association became a public organisation in February 2017.

5). Under these headings, the request for supporting DAGs and civil society and the necessity to provide "transparent rules and procedures for the establishment and functioning of civil society structures to ensure their balance and representatives" were argued (ibid., p. 5-6), and the reviewing the effectiveness with more transparency and better communication were discussed (ibid., p. 9; 11).

However, Harrison et al. (2017, p. 9-10) pointed that the clarification of the role of civil society related to trade agreements, the common understanding towards the meaning civil society with partner countries, and the availability to execute their roles and duties in terms of rights and resources need to be preceded before making a reform in its reaction paper to the Commission's previous non-paper (2017). Considering the argument that the Korean government made for its first conflicted composition of DAG members – that they appointed professionals who can also deal with trade-related issues (이정훈, 2012, October 08) – reveals that the scope of the TSD chapter and the trade-related sustainable development issues need to be elaborated in its agreement while the rights of the civil society and the obligation to communicate with the public needs to be reinforced.

5-1.2. Implementation of the TSD Chapter into Korea's Domestic Environmental Laws

This chapter studies the following question: what are the impacts of environmental provisions of TSD chapter to Korean domestic environmental law and how are they implemented into domestic environmental laws? Related obligations are found in Article 13. 7 (*Upholding Levels of Protection in the Application and Enforcement of Laws, Regulations or Standards*) of the TSD Chapter as below:

(1) A Party shall not fail to effectively enforce its environmental and labour laws, through a sustained or recurring course of action or inaction, in a manner affecting trade or investment between the Parties.

(2) A Party shall not weaken or reduce the environmental or labour protections afforded in its laws to encourage trade or investment, by waiving or otherwise derogating from, (...) its laws, regulations or standards, in a manner affecting trade or investment between the Parties.

This research focuses first on the existing environmental laws of Korea to see the legislation of environmental laws and find the linkage between Korea's domestic environmental laws and the EU-Korea FTA focusing on the amendment and enactment made after 2010.

According to the publication by Ministry of Government Legislation of Korea (2010) recognised laws about Green Growth⁷ are as following⁸ (See Appendix C -Table 26).

Domestic Environmental Laws of Korea on other environmental areas such as on air, climate change, biodiversity, and marine environment which were newly enacted or amended can be found in Appendix C – Table 27.

⁷ The term Green Growth has been actively used as the agenda for "Low Carbon, Green Growth" was declared as the country's vision by President Lee Myung-bak in 2008 (강성진 2012, 12; Ministry of Government Legislation of Korea 2010, 9)

⁸ The list referred to Ministry of Government Legislation. (2010). Laws on Green Growth in Korea, and Green Growth Korea website (http://www.greengrowth.go.kr/menu003/sub002/GRG_003_201.do#)

Acts were considerably newly enacted since 2010 and related to MEAs and international environmental norms. For example, *Development of and Support for Environmental Technology Act* (1995) and *Act on the Encouragement of Purchase Environment-Friendly Products* (2004) had been amended until 2010 and were enforced under the new title of *Environmental Technology and Industry Support Act* (2011) and *Act on Promotion of Purchase of Green Products* (2011) respectively in accordance with the new enactment of *Framework Act on Low Carbon, Green Growth* (2010).

Considerable amendments were made in 2010 with the national vision of Korea “low carbon green growth”⁹ which was declared as the national vision of Korea in 2008 by President Lee Myung-bak. As low carbon green growth was expected to manage energy and environmental issues and boost Korea's economic growth (Ministry of Government Legislation of Korea, 2010, p. 11), the efforts to establish the institutional setting for green growth had mainly been taken. This vision was promoted in line with the President Lee's foreign policy ‘Global Korea' strategy which aims “to play a more active role in the international arena” (Snyder, 2009).

However, although some of Korea's environmental laws explicitly mentioned its relations to MEAs, - such as *Act on the Conservation and Use of Biological Diversity* (2012) to Convention on Biological Diversity (CBD) and its Nagoya Protocol, and *Act on the Conservation and Use of Biological Diversity* (2012)¹⁰, and *Act on the Management and*

⁹ Green Growth National Strategy and Vision which aims to be World's 7th Largest Green Economic Power by 2020, and 5th Largest by 2050 was announced in 2009 (Ministry of Government Legislation, 2010, p. 12).

¹⁰ The ground for this Act is as following: As a member of the OECD, Korea is the world's sixth largest producer of carbon dioxide, and its growth rate is estimated to the world's largest, and it is expected that the pressure to reduce greenhouse gas emissions will be increased from 2013, the second GHG reduction implementation period, as Korea announced its national target 30% reduction to BAU level by 2020. Thus, it is necessary to cope with climate change actively, to strengthen national competitiveness by reducing the burden of greenhouse gas emissions reduction, to enhance public and economic functions of forests and to realise a low carbon green society by establishing an integrated and systemic framework for managing and improving carbon sink. (Original text can be retrieved from National Law Information Center of Korea.

<http://www.law.go.kr/LSW/lsRvsRsnListP.do?lsId=011554&chrClsCd=010102&lsRvsGubun=all>)

Improvement of Carbon Sink (2012) to the United Nations Framework Convention on Climate Change (UNFCCC) and its obligation to reduce Greenhouse gas (GHG) emissions, but none of the laws has an explicit linkage with the EU-Korea FTA.

It seems that the environmental provisions of the TSD Chapter did not make any legal reform in that the relationship between the FTA and the change in domestic environmental legislation has not been found. One possible explanation for the ineffectiveness of implementation of the TSD Chapter into domestic legislation is that the Korean environmental laws already have been elaborated. With the national vision "Low Carbon, Green Growth," Korean government strengthened related environmental laws as well as enacted several laws on biodiversity and GHG emission to realise green growth. Laws which share international environmental norms – such as biodiversity and reduction of GHG emission – were newly enacted since 2010; however, there is no explicitly mentioning on its obligation to comply the TSD Chapter of the EU-Korea FTA. Succinctly, it can be said Korea's legislative framework on environmental protection is in line with the values and norms of the TSD Chapter pursues, but the effectiveness of the implementation of the TSD Chapter in Korea's domestic settings cannot be detected.

5-2. International Dimension

5-2-1. Commitment to MEAs

In its TSD Chapter, the EU and the Republic of Korea confirmed their commitments to MEAs, specifically, *Agenda 21 on Environment and Development of 1992*, *the Johannesburg Plan of Implementation on Sustainable Development of 2002* (Article 13.1), *United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol* (Article 13.5), *the United Nations Environment Programme* (UNEP, Annex 13 Article 1(c)), and *cooperation on trade-related aspects of biodiversity* (Annex 13 Article 1 (g)). Thus, in this part, the research delves into the degree of Korean government's commitment to MEAs mainly focusing on agreements mentioned above to see whether Korea is more engaged in MEAs and taking the more active role after the EU-Korea FTA.

Article 13.5 (Multilateral Environmental Agreements) articulates explicitly each parties commitment to (1) international environmental governance and agreements for global or regional environmental problems and trade-related environmental issues of mutual interest; (2) effective implementation in their laws and practices of the multilateral environmental agreements to which they are party; (3) to reaching the ultimate objective of the United Nations Framework Convention on Climate Change and its Kyoto Protocol, and cooperation on the development of the future international climate change framework in accordance with the Bali Action Plan. In following sections, Korea's engagement in UNFCCC and its Kyoto Protocol, CBD, Agenda 21 of 1992, and the Johannesburg Plan of 2002 will be specifically discussed.

1) United Nations Framework Convention on Climate Change (UNFCCC) and its Kyoto Protocol

The Kyoto Protocol which was adopted in Kyoto, Japan on 11 December 1997 (but entered into force on 16 February 2005) is an international agreement under the UNFCCC, which binds its Parties to reduce its emissions by setting its emission reduction targets (UNFCCC, n.d.). The Kyoto Protocol requires countries “to meet their targets principally through national measures but also offers three market-based mechanisms: International Emissions Trading, Clean Development Mechanism (CDM), and Joint Implementation (JI)” (ibid.). Climate Change Convention and Kyoto Protocol under UNFCCC entered into force on 21 March 1994, and Kyoto Protocol 16 February 2005 respectively in Korea.

Korea initially suggested reducing its emission of GHG by 30% below BAU (business-as-usual) emissions by 2020 in its pledge to the Copenhagen Accord in January 2010 (Republic of Korea 2010, p.2). However, in December 2014 in its First Biennial Update Report to UNFCCC, Korea reported that the total GHG emissions in Korea in 2012 excluding land-use change and forestry (LULUCF) was 688.3 million tons of $CO_2eq.$, which is a 132.9% increase from 295.5 million tons of $CO_2eq.$ in 1990 and a 0.4% increase from 685.7 million tons of $CO_2eq.$ in 2011 (Republic of Korea, 2014a, p. 11). According to its original plan, GHG emission was expected to peak in 2014 and decreases from 2015 (ibid., p. 12), but the change was not made.

Table 2. GHG Inventory by Sector (1990-2015)

(unit: million ton $CO_2eq.$)

	1990	1995	2000	2005	2010	2011	2012	2013	2014	2015
Total GHG Emissions	292.9	437.2	500.9	558.9	656.2	681.8	685.9	695.2	689.2	690.2
Net GHG Emissions	258.7	401.8	442.0	502.5	601.8	633.3	641.2	652.5	646.7	645.8
Energy	241.4	354.2	410.6	466.6	564.9	593.4	596.1	605.1	597.7	601.0
Industrial Processes	19.8	44.1	49.9	54.7	54.0	51.7	52.6	52.8	55.2	52.2
Agriculture	21.3	23.2	21.6	20.8	22.2	21.2	21.5	21.4	20.8	20.6
LULUCF	-34.2	-35.3	-58.8	-56.5	-54.4	-48.5	-44.7	-42.7	-42.4	-44.4
Waste	10.4	15.8	18.8	16.7	15.1	15.5	15.7	15.9	15.4	16.4

Data Source: Greenhouse Gas Inventory & Research Center of Korea (GIR). 2017. 분야별 국가 온실가스 인벤토리 (1990-2015 년).

In January 2014, Korea published the "Road Map to Achieve National Greenhouse Gas Reduction Goals" which contains GHG reduction implementation strategy, system, and evaluation method and announced that it holds the reduction goals for each sector announced in July 2011 ("Ministry of Environment - Greenhouse Gas Reduction Road Map", n.d.). In 2015, Korea announced a new GHG reduction target of 37% below BAU level by 2030 including domestic and overseas reductions using the International Market Mechanism (IMM) thus be 37% reduction from 850.6 million tons CO_2eq (The Government of the Republic of Korea, 2017).

Table 3. The Baseline for Korea's Mitigation Target

(unit: million ton $CO_2eq.$)

Year	2020	2025	2030
BAU	782.5	809.7	850.6

Data Source: Republic of Korea. (2015). Intended Nationally Determined Contribution (INDC)

To achieve this goal, Greenhouse Gas Inventory Research Center of Korea (GIR) was established under the *Framework Act on Low Carbon and Green Growth* in 2010 for GHG inventory management (Republic of Korea, 2014a, p. 27), and the Greenhouse Gas and Energy Target Management System (TMS), K-ETS, has been operated since 2010, and now entered Phase II (2018-2020) (The Government of the Republic of Korea 2017, p. 34). Also,

Korean Government enacted and implemented environmental laws to reduce GHG emissions (See Appendix C).

However, according to South Korea Country Report by Climate Action Tracker (2015, June 15, p. 1), it is confirmed that the commitment of Korea to reduce its GHG emissions is highly insufficient since proposed contribution is failed to meet a 2 °C pathway, and would exceed 3-4 °C. Also, the Climate Action Tracker evaluated K-ETS (Emissions Trading Scheme) is not enough reduce the implementation disparity between South Korea's 2020 pledge and its climate policies (ibid.).

2) The Convention on Biological Diversity (CBD)

The Convention on Biological Diversity (CBD) which was entered into force on 29 December 1993 has three primary objectives:

1) the conservation of biological diversity; 2) the sustainable use of the components of biological diversity; 3) the fair and equitable sharing of the benefits arising out of the utilization of genetic resources (Convention on Biological Diversity, n.d.).

The Cartagena Protocol on Biosafety and The Nagoya Protocol on Access to Genetic Resources and the Fair Equitable Sharing of Benefits Arising from their Utilization are additional international agreements to the CBD (ibid.)¹¹.

Korean government enacted 'Act on Conservation and Use of Biodiversity' in 2012 to cooperate with the Convention and the Nagoya Protocol, and set up National Biodiversity Strategy Action Plan (NBSAP) every five years (now in 3rd NBSAP for 2014-2018) while holding CBD COP (Conference of the Parties) 12 in Pyeongchang in 2014 (Republic of Korea, 2014b, p. 9; 40). Korean government's action plan on implementation of CBD is

¹¹ Details can be checked on Convention on Biological Diversity website: <https://www.cbd.int/>

mainly on 1) strengthening international collaboration implementation; 2) expanding funds to developing countries (ibid., p. 88). Korea ratified the Nagoya Protocol on 19 May 2017 (UN Treaty Collection, 2018).

Table 4. Environmental Performance Index (EPI) (2006-2018)

	2006	2008	2010	2012	2014	2016	2018
Biodiversity	39.4	11.9	34.19	64.79	50.4	69.34	46.66
_rank	96/134	126/149	155/163	87/232	108/178	126/180	144/180

Data Source: Environmental Performance Index by jointly produced by Yale University & Columbia University¹² | *Components for biodiversity might differ on years

However, although Korean government has been actively participating in the Convention on Biological Diversity and related mechanisms, the environmental performance index (EPI) of Korea for Biodiversity (and Habitat) is considerably low (see Table 4). Thus, it is seen that the efforts for biodiversity at global level is taken substantially, but the efforts at the national level needs to be more encouraged.

3) Agenda 21 on Environment and Development of 1992 & The Johannesburg Plan of Implementation on Sustainable Development of 2002

The United Nations Office for Sustainable Development (UNOSD) was established in 2011 by the United Nations and the Government of Republic of Korea to support governments in planning to implement international agreements on sustainable development, including Agenda 21, the Johannesburg Plan of Implementation, and outcomes of Rio+20 (UNOSD, n.d.).

Concerning Korean domestic environmental law, the commitments of the international community on sustainable development including Agenda 21 and the Johannesburg Plan of Implementation is articulated in Article 22 (2) of *Sustainable Development Act*.

¹² Data and detailed explanation for the variables can be found on <https://epi.envirocenter.yale.edu/>

4) Commitment to MEAs

In Article 13.5 (Multilateral Environmental Agreements), (1) the parties recognition on global or regional environmental problems, and (2) their commitments to the MEAs to which they are party are written. In line with this article, the Korean government is actively participating in many regional dialogues within Northeast Asia but also enhancing cooperation with the other regions of the world. However, most notably, in its regional settings, Korea has been actively participating in various environmental cooperation such as the North-East Asian Sub-Regional Programme for Environmental Cooperation (NEASPEC) (Ministry of Environment of Korea, n.d.), and the Tripartite Environment Ministers Meeting among Korea, China and Japan (TEMM). Also, Korea established the foundation for Global Green Growth Institute (GGGI) which was converted into a treaty-based international, inter-governmental organisation dedicated to supporting and promoting robust, inclusive and sustainable economic growth in developing countries and emerging economies at the Rio+20 Summit in Brazil (GGGI, n.d.). The Korean government also attracted Green Climate Fund (GCF) which was set up under the United Nations Framework Convention on Climate Change (UNFCCC) in 2010 as part of the Convention's financial mechanism to its city (GCF, n.d.). Thus, it can be said that Korea's political will to take a more active role in the international arena is confirmed.

5-2-2. Changes in Korea's FTA Strategy

Our fourth dimension of effectiveness focuses on discovering which environmental norms of the EU has been internationalised and whether those norms were transferred to Korea's strategy on FTAs. After the EU-Korea FTA in 2010, Korea made eight other Free Trade Agreements (FTAs) with Peru (2011), Turkey (2012), Colombia (2013), Australia (2014), Canada (2014), China (2014), New Zealand (2015), and Vietnam (2015). Using TREND Dataset on environmental provisions, this chapter compares categorised environmental provisions among 9 FTAs mentioned above while referring to the US and the EU's FTAs as well as to previous FTAs of Korea. To see how the EU-Korea FTA has influenced the inclusion of environmental provisions in other FTAs of Korea, this chapter discovers distinct provisions from EU-Korea FTA and see the changes in adoption of environmental provisions in Korea's later FTAs.

According to TREND data, the EU-Korea FTA contains 82 environmental provisions and covers eight categories. The eight categories incorporate *Environmental Protection* which holds 23 provisions, *Regulatory Space* which has 17 provisions, followed by *Implementation* (11 provisions), *MEAs* (10 provisions), *Enforcement* (7 provisions), *Level Playing Field* (6 provisions), *Coherence* (5 provisions), and *Development* (3 provisions). By examining the environmental provisions in Korea's other FTAs, especially environmental provisions in TSD chapters, this paper shed light on the change of Korea's FTA strategy after EU-Korea FTA by comparing the similarities among them (the list of provisions can be found in Appendix B).

In EU-Korea FTA, there were 82 environmental provisions¹³ sort by TREND Dataset, which includes environmental provisions never been adopted in previous FTAs as well as those provisions which have never been selected after the EU-Korea FTA. Since this paper does

¹³ The whole list of the environmental provision of the EU-Korea FTA can be found in Appendix D.

not analyse the articles with the original wording at the outset - but the categories, it compares the EU-Korea FTA with FTAs before EU-Korea, notably Korea-US FTA, to guarantee the distinctiveness of relevant provisions.

To see whether there has been a change in Korea's attitude/ strategy towards in its FTAs possibly prompted by the EU, this paper firstly gathered the data of environmental provisions of Korea's FTAs signed after the EU-Korea agreement was signed. With the dataset from TREND, binominal data was rebuilt with reference to EU-Korea FTA. Thus, it analyses which provision has frequently been adopted and which has never been. Then, secondly, this paper matches those environmental provisions to previous FTAs of Korea – notably with the US - to check whether those provisions are more generic or distinctively created by the EU.

Table 5 presents the frequently adopted provisions which were included in the EU-Korea FTA. It also shows whether the provision was selected in the Korea-US FTA and which partner country of Korea did not adopt the related provision. If the provision was adopted eight times, it means the related provision was adopted in all of the following FTAs of Korea.¹⁴ For example, the provision *on SPS measures and the environment* was selected in all of the FTAs of Korea after the EU-Korea FTA, and the provision *on Preambles refer to the environment* was adopted in all of Korea's FTAs except Korea-Vietnam FTA. The provision marked as 1(12) in the US column means that the related provision was newly adopted in Korea-US FTA in 2012. Thus, the provision *on Specific means to exchange information* in the EU-Korea FTA was adopted six times in total by Korea after the EU-Korea FTA including the re-negotiated FTA with the US in 2012 but was not selected in Korea's FTAs with Vietnam.

¹⁴ FTAs with Peru (2011), Turkey (2012), Colombia (2013), Australia (2014), Canada (2014), China (2014), New Zealand (2015), and Vietnam (2015).

Table 5 displays six provisions adopted in every eight FTAs following the EU-Korea FTA, since those six provisions were not only all included in the Korea-US FTA but also in most of the agreements that Korea had before the EU (See Appendix E), this paper concludes these provisions cover the general provisions for trade agreements related to environmental dimension instead show the environmental norms internationalised by the EU.

Since the Korea-Vietnam FTA opted out lots of environmental provisions which were generally adopted before and only included 14 environmental provisions, this paper examines those provisions which were selected in 7 other agreements after the EU-Korea FTA, and these provisions can be found in Table 5. Except for *Exclusion of environmentally harmful inventions from patentability* (Peru), and *Exception on services linked to life or health of fauna or flora* (Turkey), the only country opted out is Vietnam. Here again, all 16 provisions were included in the Korea-US FTA and have been frequently selected also in FTAs of the US.¹⁵

Table 5. Frequently Adopted Provisions from the EU-Korea FTA

		Environmental Provisions	US	Optout
8	1	SPS measures and the environment	1	
	2	Conservation of natural resources as a general exception for trade in goods	1	
	3	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment	1	
	4	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora	1	
	5	References to other institutions related to the environment	1	
	6	Implementation other agreements related to the environment	1	
7	1	Preamble refers to the environment	1	Vietnam
	2	General encouragement to invest and trade in environmental goods and services	0	Vietnam

¹⁵ Provisions like Laws and regulations should provide for high levels of environmental protection, Negotiations of environmental agreements, and Inappropriate to encourage trade by relaxing environmental measures were only adopted in the FTA with the US before the EU-Korea FTA but were adopted in all of the US' FTAs since 2003. General encouragement to invest and trade in environmental goods and services was included in renegotiated Korea-US FTA in 2012.

	3	Laws and regulations should provide for high levels of environmental protection	1	Vietnam	
	4	Exclusion of environmentally harmful inventions from patentability	1	Peru	
	5	Exception on services linked to life or health of fauna or flora	1	Turkey	
	6	Sovereignty in determining the level of protection according to State priorities	1	Vietnam	
	7	Creation of an intergovernmental committee	1	Vietnam	
	8	Provision of information when taking measures to protect the environment	1	Vietnam	
	9	Establishment of a contact point on environmental matters	1	Vietnam	
	10	Vague commitments to cooperate	1	Vietnam	
	11	Negotiations of environmental agreements	1	Vietnam	
	12	Binding obligations	1	Vietnam	
	13	Inappropriate to encourage investment by relaxing environmental measures	1	Vietnam	
	14	Inappropriate to encourage trade by relaxing environmental measures	1	Vietnam	
	15	Coherence with domestic trade and/or investment policies	1	Vietnam Canada	
	6	1	Commitment to enhance, strengthen, improve levels of environmental protection	1	Vietnam Canada
		2	Conservation of forests	0	Vietnam
3		General exceptions on procurement and the environment	1	Vietnam Turkey	
4		Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency	1	Peru Turkey	
5		Specific means to exchange information	1(12)	Vietnam	
6		General obligation to exchange information related to the environment	1	Vietnam Canada	
7		Specific non-jurisdictional dispute settlement mechanism	1	Vietnam Turkey	
8		Measures against a high level of environmental protection set for protectionist purposes	1	Vietnam Peru	
9		Reference to mutual supportiveness between environment and trade or development	1(12)	Vietnam Peru	

Among nine environmental provisions adopted six times after the EU-Korea FTA, only *Conservation of forests*, *Specific means to exchange information*, and *Reference to mutual supportiveness between environment and trade or development* were not adopted in the

Korea-US FTA in 2007 (but latter two were adopted in 2012). These three provisions can possibly be said to represent environmental norms internationalised by the EU and show the possible influence of the EU to Korea's FTA strategy.

In contrast, Table 6 presents environmental provisions of the EU-Korea FTA which have never been adopted in later FTAs of Korea or once adopted. The table also describes whether the related provision was adopted in Korea-US FTA in 2007 or 2012 (if it is marked 1(12) in the US Column), how many times the EU adopted related article in other EU's FTAs after the EU-Korea FTA, and which partner country of Korea decided to adopt the related provision (can be found in the Opt-in Column). The trade agreements considered in the EU Column is Cariforum EPA (2008), and FTAs with Korea (2010), Colombia & Peru (2012), and Central America (2012), Association Agreements/ Deep and Comprehensive Free Trade Area (DCFTA) with Ukraine (2014), Moldova (2014), and Georgia (2014), FTAs with Canada (2014), Singapore (2015), and Vietnam (2016). Thus, the largest number in the EU Column can be 10. The interpretation of Table 6 is same to the Table 5.

Seven provisions which were never adopted by Korea since the EU-Korea FTA discloses provision which has been not preferred by Korea. The provision on *Possibility to opt out of harmonized environmental norms* and *Mutual recognition of national environmental measures* particularly show that they belong to none of the preference of the EU and Korea since they were not included in any of the FTAs considered of Korea or the EU except the EU-Korea FTA. In contrast, the provision on *Exception on services linked to conservation of natural resources* and *General procedures in dispute settlement mechanism* has been strongly preferred by the EU but has been no preference of Korea.

Table 6. Environmental Provisions Never/ Once Adopted after the EU-Korea FTA

	Environmental Provisions	US	EU	Opt-in
0	1 Possibility to opt out of harmonized environmental norms	0	1	
	2 Safeguard measures on environmental grounds	1	2	
	3 Exception on services linked to conservation of natural resources	0	7	
	4 General procedures in dispute settlement mechanism	1	6	
	5 General measure regarding suspension of benefits as a dispute settlement mechanism	1	2	
	6 Mutual recognition of national environmental measures	0	1	
	7 Funding provided to non-state actors	0	3	
1	1 Other references to the Johannesburg Declaration 2002	0	5	Canada
	2 Implementation of the whole UNFCCC	1(12)	5	Turkey
	3 Other references to the UNFCCC	0	6	Turkey
	4 Panel shall consult or defer to any relevant entity the interpretation of a Party's obligation under a multilateral environmental agreement	1	6	Vietnam
	5 Harmonization of environmental measures	1	8	New Zealand
	6 Equitable sharing of benefits arising from use of genetic resources	0	6	China

Among six provisions adopted only one time by Korea, provisions on *Other references to the Johannesburg Declaration 2002*, *Other references to the UNFCCC* (and possibly *Implementation of the whole UNFCCC*) are distinct provisions frequently adopted by the EU (since the US has never been adopted in its FTAs) but selected by Korea for few times. Other provisions on *Panel shall consult or defer to any relevant entity the interpretation of a Party's obligation under a multilateral environmental agreement*, *Harmonization of environmental measures*, and *Equitable sharing of benefits arising from use of genetic resources* were also generally adopted by the EU, and often by the US, but was just preferred once more since the EU-Korea FTA by Korea.

Table 7 shows environmental provisions firstly adopted in the EU-Korea FTA in Korea's FTAs and illustrates how many times each provision was adopted in recent FTAs of the US, the EU, and Korea respectively¹⁶. The US had 10 FTAs from 2003 to 2007, and this paper included TPP (2015)¹⁷ although the US has withdrawn its signature. The largest number of the US Column is 11, and the EU Column is 10. All 10 FTAs of Korea were considered (from the FTA with the EU in 2010 to the most recent FTA with Vietnam in 2015), and the re-negotiated FTA with the US in 2012 was dealt separately from the previous FTA in 2007 in this table. Because the US did not make any FTA (except TPP although it has not signed) after 2007 with Korea, provisions in Table 7 can tell more stories about the relationship between the EU-Korea FTA and other FTA's of Korea.

Table 7. Environmental Provisions Firstly Adopted in the EU-Korea FTA among Korea's FTAs

	Environmental Provisions	US	EU	Korea
1	Conservation of forests	3	9	7
2	General encouragement to invest and trade in environmental goods and services	7	10	9
3	Sustainable trade in fishery products	1	7	3
4	Cooperation on climate change	1	7	5
5	Sustainable trade in forestry products	2	10	4
6	Possibility to opt out of harmonized environmental norms	0	1	1
7	Not the Parties intentions to harmonize their environmental standards	0	2	3
8	Cooperation on green public procurement	0	1	4
9	Specific means to exchange information	8	4	8
10	Direct contact between non-state actors of both Parties	6	7	4
11	Implementation of the whole Kyoto Protocol	0	7	3
12	Other references to the CBD	0	7	3
13	Other references to the Agenda 21 of 1992	0	9	4
14	Other references to the Johannesburg Declaration 2002	0	5	2
15	References to the UNEP	0	6	5
16	Implementation of the whole UNFCCC	0	5	3

¹⁶ The list of considered FTAs of the US, the EU, and Korea can be found in Appendix F.

¹⁷ Many of environmental provisions that can be considered as general are replicated in trade agreements across countries but the most recent TPP showed its inclusion and invention on diverse environmental norms.

17	Other references to the UNFCCC	0	6	2
18	Interaction between indigenous communities or traditional knowledge and the environment	4	4	5
19	Reference to mutual supportiveness between environment and trade or development	2	8	8
20	Equitable sharing of benefits arising from use of genetic resources	3	6	2
21	Other norms on genetic resources	5	6	5

When looking into 21 environmental provisions that first appeared in the EU-Korea FTA in Table 7, some of the provisions suggests the possibility of the EU's influence on Korea's preference in its later FTAs. Noticeably, provisions on Kyoto Protocol, the CBD, the Agenda 21 of 1992, the Johannesburg Declaration 2002, UNEP, UNFCCC shows further commitments of Korea to MEAs although they were not frequently adopted in its subsequent FTAs. Also, Provision *on Cooperation on green public procurement* worth to be analysed further since it was included in 4 other FTAs after its first presence in Korea's FTA in 2010 but not by the US or by the EU after except the EU-Korea FTA.

If we assume a provision which was frequently adopted not only by the EU but also by the US reflects the global trend, and at the same time a provision generally selected by the EU but not by the US reflects the EU's preference, we can assume some possibly mirrors the EU's influence on Korea's subsequent FTAs. Provisions which marked high numbers (namely, above 5) by the EU and Korea (but less than 5 by the US), such as *Conservation of forests*, *Sustainable trade in fishery products*, *Cooperation on climate change*, *Sustainable trade in forestry products*, and *Reference to mutual supportiveness between environment and trade or development* explains changes in Korea's FTA preference in part which have possibly been influenced by the EU.

Table 8 presents environmental provisions only included in the EU-Korea FTA among EU's FTAs since 2008 when trade and sustainable development clauses were first introduced in trade agreements by the EU. The provision on *Possibility to opt out harmonized*

environmental norms was not adopted after the EU-Korea FTA either by Korea. However, Korea adopted *Cooperation on Green Public Procurement* in FTAs with Peru (2011), Turkey (2012), and Colombia (2013). The provision on *Mutual recognition of national environmental measures* was included in Chile-Korea FTA (2003) but did not appear in other FTAs.

Table 8. Environmental Provisions Only Included in the EU-Korea FTA Among EU's FTAs

	Environmental Provisions
Korea	Possibility to opt out of harmonized environmental norms
	Cooperation on green public procurement
	Mutual recognition of national environmental measures

Table 9 describes the environmental provisions only included in the Korea-US FTA among US' FTAs. KOREU which refers the EU-Korea FTA indicates whether the related provision was adopted in the EU-Korea FTA. The EU column shows how many times related provision was adopted in the EU's FTAs, and the Korea column illustrates how many times it has been adopted in Korea's FTAs since 2010 (thus, the largest number for each column is 10). The table can be interpreted in the same way to Table 7.

Table 9. Environmental Provisions Only Included in the Korea-US FTA Among US' FTAs

	Environmental Provisions	KOREU	EU	Korea
Korea	Reduction of GHG emissions	1	10	6
	Obligation to respect the environment in outward processing zones	0	0	1
	Safeguard measures on environmental grounds	1	2	2
	Protection of the environment as a general exception for trade in goods	0	5	2
	Specific trade related measure on performance requirements	0	2	7

The provision on *Specific trade-related measure on performance requirements* seemed to be preferred by Korea but was not included in the EU-Korea FTA while the provision on *Protection of the environment as a general exception for trade in goods* seemed to be

preferred by the EU but was not included in the EU-Korea FTA. Lastly, *Reduction of GHG emissions* is the strongly preferred provision by the EU, and also by Korea.

Succinctly, provisions on *Conservation of forests*, *Specific means to exchange information*, *Sustainable trade in fishery products*, *Cooperation on climate change*, *References to the UNEP*, and *Reference to mutual supportiveness between environment and trade or development* show the possible influence of the EU to Korea's FTA strategy. The provision on *Cooperation on green public procurement* shows its possibility that it was prompted by the EU and is now specifically preferred by Korea.

Provisions on *Other references to the Johannesburg Declaration 2002*, *Other references to the UNFCCC*, *Implementation of the whole UNFCCC*, *Panel shall consult or defer to any relevant entity the interpretation of a Party's obligation under a multilateral environmental agreement*, *Harmonization of environmental measures*, and *Equitable sharing of benefits arising from use of genetic resources* were generally adopted by the EU, (and often by the US,) but was just preferred less by Korea.

6. The Comparison with the Other Actors

In previous parts, we examined the effectiveness of environmental provisions of the TSD Chapter in four dimensions: monitoring mechanisms, implementation into domestic laws, engagement in MEAs, and FTA strategy. Overall, it can be said that the effectiveness of the Chapter has not been great in EU-Korea FTA. Given the EU's intention to strengthen partner countries' ties to the multilateral system and broad environmental norms, the achievement with Korea has not been satisfying either in compliance or positive change.

Thus, in this part, this paper studies the environmental provisions of the EU with the comparison of the US to delve into the structural features of the TSD Chapter and find improvements. First, this part deals with the existing researches on the characteristics of the EU's TSD Chapter - with a comparison with the US. Secondly, it sheds lights on general and distinct provisions of the EU and the US in the recent period between 2000 and 2016. Thirdly, it assesses whether the EU's TSD Chapter has adapted to partner countries reflecting their domestic interests and capacities by comparing five selected cases (Korea, Colombia, Peru, Central America and Singapore). Lastly, it discovers the global propensity made by other actors and compares it with the EU's TSD Chapter.

6-1. Literature Review on the Comparison with the US Approach

While the general reference to the environment has been found in the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO), but they did not contain affirmative environmental commitments (Lattanzio & Fergusson, 2015, p. 1). With the implementation of the North American Free Trade Agreement (NAFTA, 1994) environmental provisions were firstly introduced in the trade agreement, and the following

trade agreements contained more diverse and strengthened environmental commitments under the 2002 Trade Promotion Authority – notably the Peru-US Trade Promotion Agreement (PTA) in 2009. In NAFTA, a citizen can submit a claim that a party is not effectively enforcing its domestic laws and is lodged with the Commission for Environmental Cooperation (Bartels, 2008, p.13)

OECD (2007) identified the EU and the US as actors who have incorporated the most thorough environmental arrangements in recent Regional Trade Agreements (RTAs) along with Canada, New Zealand and Chile; particularly, the US was distinguished as one of a kind in that they deal with trade and environmental issues on an equivalent balance. OECD (2007, p.2-3) additionally uncovered that the rationale behind incorporating environmental provisions in RTAs could be to add to the objectives of sustainable development, to upgrade coordination in environmental issues of share intrigue, or to pursue environmental goals in a more effective and fast route than, for example, through multilateral environmental agreements.

Jinnah and Moregera (2013, p. 336) showed key environmental provisions found both in the US and the EU agreements and those unique to US or EU agreements, which demonstrates the US’ emphasis on public participation and dispute settlement mechanism while the EU is focusing on broader issues related to sustainability and climate change (See Table 10).

Table 10. Key Environmental Provisions Round in both US and EU Agreements and those Unique to the US or the EU Agreements

Found in both US and EU Agreements	1	Regulatory Sovereignty
	2	Continued Strengthening of Environmental Protection
	3	Environmental Laws will not be Relaxed to Enhance Trade
	4	Mechanisms to Enhance Environmental Performance in Trade
	5	Environmental Affairs Council
	6	Public Participation: Opportunities for Public Participation
	7	Environmental Consultations

	8	Environmental Consultation: Obligation to Consider Covered Agreements
	9	Environmental Roster
	10	Relationship to Multilateral Environmental Agreements
	11	Covered Agreements
	12	Environmental Cooperation
	13	Biological Diversity
	14	Forest Sector Governance
	15	Preamble
	16	Dispute Settlement: Environmental Expertise
	17	Environmental Exceptions
	18	Enforcement of Domestic Environmental Laws
Unique to US Agreements	19	Corporate Stewardship
	1	Public Participation: Procedural Matters
	2	Public Participation: Submissions on Enforcement Matters
	3	Dispute Settlement: Restricted to Failure to Enforce
	4	Dispute Settlement: No Restrictions
Unique to EU Agreements	5	Investment
	1	Context and Objectives
	2	Intergenerational Equity
	3	Scientific Information
	4	Precautionary Principle
	5	Review of Sustainability Impacts
	6	Transparency
	7	Trade in Fish Products
8	Climate Change	

Source: Jinnah and Moregera (2013, p.336)

Jinnah & Moregera (2013, p.334; 337) also explained that although both the EU and the US have its MEA linkages with their trade agreements, there is a key difference in the breadth and depth of engagement with MEAs – 1) the EU has wider linkages while the US has deeper linkages, 2) while the EU considers MEAs as a stepping stone for its trade partners to participate in the multilateral system and meet international standards, the US’ linkage to MEAs is in part to “appease environmental constituencies”.

The European Commission (2018) identifies the US’ approach as a confrontational and formalistic sanction-based model, while the EU’s as cooperative dialogue-based approach.

Particularly in its non-paper, the Commission compares the EU’s to more assertive US model

in the need to ensure obligations in the chapter. The comparison of the TSD models between the EU and the US by the Commission is illustrated in Table 11. Postnikov & Bastiaens (2014) explained in its analysis the effectiveness of labour standards in the EU's PTAs that the EU features *ex- post* advancement through civil society learning while the US exhibits *ex- ante* improvements.

Table 11. Comparison of the TSD Models

	EU model	US model
1	International standards and multilateral bodies ¹⁸	Domestic legislation
2	Level playing field and strengthening multilateral systems and governance	Level playing field
3	Sub-committee on TSD; institutional structure for CSO involvement (DAGs, CSF); involvement of multilateral bodies	Body on TSD; significant involvement of labour department (+/- 50 staff; budget); a single (domestic CS body for all trade agreements
4	Dispute settlement: government consultation, panel of experts, involvement of civil society, trade relevance test	Dispute settlement: government consultation, panel of experts, sanctions as last resort; trade impact test

Source: European Commission (2017, p. 13)

6-2. Comparisons of Environmental Provisions in Trade Agreements between the EU and the US

According to Berger, Brandi & Bruhn (2017, p.3-4), non-trade provisions were increasingly adopted with the proliferation of PTAs, and the environmental provisions are replicated largely in most of the trade agreements and PTA signatories do not reinvent environmental provisions every time, which implies that there are certain provisions generally adopted.¹⁹

Thus, in this part, we discover general provisions assumed to be adopted by the US and the

¹⁸ This refers that the EU uses multilateral environmental standards as the benchmark for evaluating domestic environmental performance according to Jinnah and Moregera (2013, p. 9).

¹⁹ According to Milewicz et al. (2006), the reason for replication is partly due to low costs of compliance for existing environmental provisions (including domestic opposition).

EU all the time or frequently, and find environmental provisions uniquely appearing in either in the EU's or the US' trade agreements.

Among 10 trade agreements the EU signed since its implementation of the TSD Chapter,²⁰ some of the environmental provisions appeared every time while some has been rarely adopted. In the same way, environmental provisions from 11 trade agreements of the US between 2000 and 2016²¹ has been considered.

Table 12 shows general environmental provisions adopted in every trade agreement both by the EU and the US considered. This list is made by a conservative approach and other frequently adopted environmental provisions can also be said as general provisions (See Appendix G and H).

Table 12. General Environmental Provisions in Trade Agreements: the EU and the US

	General Environmental Provisions in Trade Agreements
1	Preamble refers to the environment
2	Laws and regulations should provide for high levels of environmental protection
3	Exclusion of environmentally harmful inventions from patentability
4	Conservation of natural resources as a general exception for trade in goods
5	Sovereignty in determining the level of protection according to State priorities
6	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
7	Creation of an intergovernmental committee
8	Public participation in the implementation of the agreement
9	General obligation to exchange information related to the environment
10	Vague commitments to cooperate
11	Coherence with domestic trade and/or investment policies
12	References to other institutions related to the environment

²⁰ Since the EU implemented its first TSD Chapter in the EU-Korea FTA (2010), it had diverse forms of trade agreements with Colombia and Peru (2012; Ecuador joined later in 2017), Central America (2012), Ukraine (2014; Association Agreement); Moldova (2014; Deep and Comprehensive Free Trade Area (DCFTA)), Georgia (2014; DCFTA), Canada (2014; Comprehensive Economic and Trade Agreement (CETA)), Singapore (2015), and Vietnam (2016). In addition to above 9 trade agreements, CARIFORUM EPA (Economic Partnership Agreement) was included since adopted the TSD Chapter for the first.

²¹ The US had its FTA with Singapore (2003), Australia (2004), Central America and Dominican Republic (CAFTA) (2004), Morocco (2004), Bahrain (2004), Oman (2006), Peru (2006), Colombia (2006), Panama (2007), and Republic of Korea (2007). Although the US has withdrawn its sign, the Trans-Pacific Partnership (2015) was included to observe its preference in implementing environmental provisions in trade agreements.

13	Negotiations of environmental agreements
14	Implementation other agreements related to the environment

As a result of the comparison of the specific environmental provisions, Table 13 shows the distinct provisions of the EU. It was made under the assumption that if the provision has been always or frequently (more than eight times out of ten) by the EU but much less by the US (zero to four times out of eleven), then it has been considered related provision reflects the EU's distinct preferences (See Appendix G). The right column named the 'US' represents the number that the related provision has been adopted by the US, and so does the Column EU. For example, the provision on *Promotion of renewable energy* has been adopted ten times out of ten times by the EU and four times out of eleven by the US in recent trade agreements, thus reflects the EU's preference.

Table 13 confirms the EU's interests in climate change (*Reduction of GHG emissions*), Sustainable use of natural resources (*Combat illegal exploitation forests, Sustainable trade in forestry products, Conservation of forests, Combat illegal fishing*), Precautionary principle, and certain MEAs (*Other references to the Agenda 21 of 1992, References to the Johannesburg Plan of Implementation 2002*) representatively.

Table 13. Distinct provisions of the EU

	Distinct provisions of the EU	EU	US
1	Promotion of renewable energy	10	4
2	Reduction of GHG emissions	10	1
3	Combat illegal exploitation forests	10	2
4	Promotion of energy efficiency	10	4
5	Sustainable trade in forestry products	10	2
6	International standards or risk assessments carried out by international organizations should be used or taken into account when designing environmental measures	10	1
7	Scientific knowledge when designing environmental measures	10	3
8	Precautionary principle*	9	0
9	Genetically modified organisms	9	1
10	Protection of seas and oceans	9	4

11	Conservation of forests	9	3
12	Other references to the Agenda 21 of 1992*	9	0
13	Coherence in general	8	2
14	Interaction between social issues and the environment	8	3
15	Harmonization of environmental measures	8	2
16	Reference to mutual supportiveness between environment and trade or development	8	2
17	Interaction between transport and the environment	8	1
18	References to the Johannesburg Plan of Implementation 2002*	8	0
19	Combat illegal fishing	8	1

*Provision which hasn't appeared in the US' recent trade agreements.²²

Table 14 is interpreted in the same way as in Table 13. What should be particularly noted is that *Dispute Settlement Mechanism: Non-jurisdictional mechanism for failure to enforce environmental measures* has never been adopted by the EU but it has been adopted frequently by the US.

Table 14. Distinct Provisions of the US

	Distinct Provisions of the US	US	EU
1	Definition of environmental law, environmental governance, etc.	11	1
2	Sovereignty in the enforcement of environmental measures	11	2
3	Private access to remedies, procedural guarantees and appropriate sanctions	11	1
4	General trade related measure on investment	10	3
5	Specific trade related measure on expropriation	10	2
6	Public communication of the decisions or recommendations of joint institutions	9	3
7	Dispute Settlement Mechanism: Non-jurisdictional mechanism for failure to enforce environmental measures*	9	0
8	Specific means to exchange information	8	3
9	Production of an environmental report in investor-state dispute	8	1
10	Commitment to consider alleged violation brought by a citizen of any Party	8	1

*Provision which never appeared in the EU's recent trade agreements.²³

²² Precautionary principle refers to a duty or the possibility of preventing harm by taking action when there is a lack of scientific certainty. In other words, insufficient scientific evidence shall not be used as a reason to postpone or reject environmental measures (cited from the Codebook, 2017, p.3)

-Agenda 21 is a comprehensive plan of action to be taken globally, nationally and locally by organizations of the United Nations System, Governments, and Major Groups in every area in which human impacts on the environment. (retrieved from <https://sustainabledevelopment.un.org/outcomedocuments/agenda21>).

-The Johannesburg Plan of Implementation set out specific timetable to address some issues including reducing the rate of loss of biodiversity by 2010 and halve the number of people without access to drinking water by 2015. The Johannesburg Plan of Implementation strengthened the role of the Commission on Sustainable Development in continuing international oversight monitoring progress on sustainability agreements. (retrieved from <https://www.sustainabledevelopment2015.org> on May 28, 2019)

While the US presumes the possibility of request for an investigation into alleged violations of domestic environmental law by any interested person (Dawar, 2008, p.33), the EU doesn't show such deep public participation mechanism same to some of the US'. Also, the TSD Chapter includes the articles on the creation of a panel of experts or a joint committee when consultation has failed but is not strong as the dispute settlement mechanism regulating the trade in goods nor the ultimate action of withdrawing from the overall agreement (ibid., p.10-11)

Thus, Table 14 reaffirms the critics against the EU's TSD Chapter which points out its lack of sanction-based dispute settlement mechanisms, prescriptive provisions (European Commission, 2017), and relatively low degree of empowerment of civil groups. It reminds the argument that the EU's dependence on MEAs and incentive-based approach precludes the possibility of punitive measure and undermines its legal binding force as well (Trade & Environment, 2017, p.7).

²³ This provision refers to a dispute settlement mechanism that only applies in case of failure to enforce domestic environmental measures. It includes mechanisms such as mediation, consultation, good offices, etc. and doesn't include monetary enforcement assessments nor suspension of benefits in case of failure to enforce or to pay (cited from the Codebook, 2017, p.64).

6-3. Cross-country Comparisons in Partner Countries: the EU and the US

In the assessment of effectiveness, capacity building and capacity development came to the front in explaining states' compliance (Dauvergne, 2005, p.95). The ability of partner country to change domestic actors (ibid., p.97) share a perspective Meunier and Nicolaïdis (2006, p.906) which claimed that "the EU could not effectively become a power through trade with unsustainable contradictions."

Thus, in this part the paper delves into the main features of the environmental provisions of the EU's TSD Chapter by comparison with the US in selected partner countries to find out 1) some characteristics of the TSD chapter in terms of specific environmental provisions in various contexts; 2) whether it satisfies the interest of partner countries - adaptation to partner countries and invention of environmental provisions; 3) whether it coordinates with capacity of partner countries - capacity building and development; 4) whether it has a mechanism in the event of non-compliance of partner countries overall²⁴.

Table 15 to 19 describes environmental provisions which were only adopted in the trade agreement with a specific partner country. For example, in Table 15 the provision on *Possibility to opt out of harmonized environmental norms* has appeared only in EU-Korea FTA among EU's trade agreements since then, and the provision on *Reduction of GHG emissions* was adopted in the US-Korea FTA(2007) but hasn't appeared in other FTAs of the US considered. Interpretation of other provision follows the example.

²⁴ However, the discussion on capacity of partner countries and dispute settlement mechanism (which correspond to question 3 and 4) is not fully examined here due to bulky data. But we can confirm that the EU provided funding to non-state actors (Cariforum, Korea, and Canada), funding of capacity-building training, technical assistance and technological transfer (Cariforum, Central America, Ukraine and Moldova), and funding of cooperation activities (Central America, Ukraine and Canada) in some cases. Also, provision on Specific non-jurisdictional mechanism and general procedures in dispute settlement mechanism has been frequently adopted and General measure regarding suspension of benefits as a dispute settlement mechanism has been discussed (Cariforum and Korea) in the EU's TSD Chapter.

Table 15. Environmental Provisions Only Adopted in the FTA with Republic of Korea

	Republic of Korea
EU (2010)	Possibility to opt out of harmonized environmental norms*
	Cooperation on green public procurement*
	Mutual recognition of national environmental measures
US (2007)	Reduction of GHG emissions
	Obligation to respect the environment in outward processing zones*
	Safeguard measures on environmental grounds
	Protection of the environment as a general exception for trade in goods*
	Specific trade related measure on performance requirements

*Provision reflects partner country's preference: here, Republic of Korea

In Table 15, the provision on *Possibility to opt out of harmonized environmental norms*, *Cooperation on green public procurement* have not been adopted in the recent trade agreements either of the EU or the US, which tells that two provisions reflect the distinct preference of Korea. Here, we can presume that environmental provisions adapted to the EU's partner country – here Korea - has been created - notably, the provision of *Cooperation on green public procurement* which became distinct provisions of Korea afterwards.

Similarly, the provision on *Obligation to respect the environment in outward processing zones*, *Protection of the environment as a general exception for trade in goods* was not shown in the recent EU's trade agreements either which means those two provisions strongly follows Korea's preference. But the provision on *Reduction of GHG emissions* is common in the EU's, *Safeguard measures on environmental grounds*, *Specific trade related measure on performance requirements* was often adopted.

To examine the Table 16, since the provision *Prevalence of the Rotterdam Convention in case of inconsistency* has already been adopted by Canada, *Prevalence of CITES in case of inconsistency* and *Prevalence of the Montreal Protocol in case of inconsistency* by the US, *Implementation of a specific part of the CBD* by EFTA, strictly, we cannot say they show the influence either by the EU or Central America.

However, it can be said that EU has its distinct preference on the Kyoto Protocol, Basel Convention, the Stockholm Convention and the Cartagena Protocol. But this does not limit the possibility that other provisions also reflect the EU’s preference even they had been adopted by other partners of Colombia. Namely, CBD has been specifically discussed in its FTA along with the provisions of trade in forest products and climate change (Postnikov, 2015, p.2).

Meanwhile, provision of *Exception on services linked to conservation of natural resources* has been commonly adopted in the FTAs of the EU.

Table 16. Environmental Provisions Only Adopted in the FTA with Colombia

	Colombia
EU (2012)	Prevalence of the Rotterdam Convention in case of inconsistency
	Prevalence of CITES in case of inconsistency
	Prevalence of the Kyoto Protocol in case of inconsistency**
	Prevalence of the Basel Convention in case of inconsistency**
	Prevalence of the Montreal Protocol in case of inconsistency
	Implementation of a specific part of the CBD
	Prevalence of the CBD in case of inconsistency
	Prevalence of the Stockholm Convention in case of inconsistency**
Prevalence of the Cartagena Protocol in case of inconsistency**	
US (2006)	Exception on services linked to conservation of natural resources

**Provision interpreted reflecting the EU’s preference.

Table 17 shows the environmental provisions only adopted in the trade agreement with Peru among PTAs signed by the EU. There was no environmental provision tailor-made for Peru by the US. Similar to Colombia, *Prevalence of the Rotterdam Convention in case of inconsistency*, *Prevalence of the Basel Convention in case of inconsistency*, *Prevalence of the Stockholm Convention in case of inconsistency*, and *Implementation of a specific part of the CBD* have already been adopted by Canada, *Prevalence of CITES in case of inconsistency*

and *Prevalence of the Montreal Protocol in case of inconsistency* by the US, *Prevalence of the CBD in case of inconsistency* by Panama and only *Prevalence of the Kyoto Protocol in case of inconsistency* was adopted firstly by the EU. Thus, it can be said that the EU has its distinct preference on the Kyoto Protocol. But, here again, it does not limit the possibility that other provisions also reflect the EU's preference even they had been adopted by other partners of Peru especially considering the upper case of Colombia. However, this result once again reminds the argument (Jinnah & Moregera, 2013, p.336) which pointed out the TSD Chapter's wider linkages with MEAs but relatively insufficient engagement (in terms of enforcement and implementation).

Table 17. Environmental Provisions Only Adopted in the Trade Agreements with Peru

	Peru
EU (2012)	Prevalence of the Rotterdam Convention in case of inconsistency
	Prevalence of CITES in case of inconsistency
	Prevalence of the Kyoto Protocol in case of inconsistency**
	Prevalence of the Basel Convention in case of inconsistency
	Prevalence of the Montreal Protocol in case of inconsistency
	Implementation of a specific part of the CBD
	Prevalence of the CBD in case of inconsistency
	Prevalence of the Stockholm Convention in case of inconsistency
	Prevalence of the Cartagena Protocol in case of inconsistency
US (2006)	

**Provision interpreted reflecting the EU's preference.

Table 18 shows that provision on *Desertification, degradation, salinisation and acidification, Ratification of the Rotterdam Convention, Other norms on intellectual property and the environment, Interaction between gender policies and the environment, Harmonization not to be used as a false pretence to lower environmental protection* have not been shown in the PTAs of the EU and the US between 2000 and 2016. Thus, they clearly reflect the distinct preference of Central America, but it does not guarantee that Central America is the first inventor of the related provision.

Provision on the *Interaction between land-use planning and the environment*(1) was shown in the US's PTA once and the Provision on *Wetlands* (2)²⁵, *Biosafety, excluding GMOs* (2), *Protection of shared species* (3), *Technical assistance, training or capacity-building provided to non-state actors*(3) have also rarely appeared in the US' PTAs, which suggests the possibility they were tailor-made for Central America.

The table shows that the provisions on *Each Party must fund its implementation of the agreement*, *Public participation in environmental impact assessment*, *Establishment of an international secretariat to administer environmental norms of the treaty* are uniquely designed in the CAFTA & Dominican Republic (2004), and the provision of *Interaction between land-use planning and the environment* is rare either in the US' or EU's PTAs.

Table 18. Environmental Provisions Only Adopted in Trade Agreement with Central America

	Central America
EU (2012)	Protection of migratory species
	Desertification, degradation, salinisation and acidification*
	Wetlands
	Biosafety, excluding GMOs
	Protection of shared species
	Ratification of the Rotterdam Convention*
	Other norms on intellectual property and the environment*
	Interaction between gender policies and the environment*
	Interaction between land-use planning and the environment
	Technical assistance, training or capacity-building provided to non-state actors
	Harmonization not to be used as a false pretence to lower environmental protection*
Environmental experts as panelists or mediators for state-state dispute over failure to enforce environmental measures or provisions of the trade agreement	
US (2004) CAFTA & Dominican Republic	Each Party must fund its implementation of the agreement*
	Public participation in environmental impact assessment*
	Establishment of an international secretariat to administer environmental norms of the treaty*
	Funding of capacity-building, training, technical assistance and technological transfer
	Interaction between land-use planning and the environment

*Provision reflecting partner country's preference.

²⁵ The number in parenthesis refers how many times the provisions has been adopted by the US recently.

The table 19 shows that there was no environmental provision tailor-made for Singapore by the US. The provision on *Identification of measures, restrictions or prohibitions in terms of tariff* seems to be echoing the preference of Singapore since it was not shown in the US’.

Table 19. Environmental Provisions Only Adopted in the FTA with Singapore

	Singapore
EU (2015)	Identification of measures, restrictions or prohibitions in terms of tariff*
US (2003)	

**Provision interpreted reflecting the EU’s preference.

Overall, the results show that 1) the TSD Chapter has reflected the EU’s preference on certain MEAs-notably the Kyoto Protocol etc.; 2) the TSD Chapter has been adapting to partner countries reflecting each preference; 3) no tailor-made enforcement mechanism has appeared, and; 4) some specific implementation measure has been found (Central America).

Nevertheless, it has also been confirmed that the EU not only has been encompassing a variety of environmental norms but also has developed new provisions based on existing agreements.

6-4. Comparison between the EU and the US: Korea Case

Table 20 presents environmental provisions which possibly shows the US' preference while Table 21 shows the EU's. When we compare environmental provisions adopted in the EU-Korea FTA (See Appendix I), we can find that the different MEAs has been selected. While the EU focuses more on climate change related MEAs -such as UNFCCC and its Kyoto Protocol, the CBD, the Agenda 21 of 1992, the Johannesburg Declaration 2002, and the UNEP, the US has more emphasis on the MARPOL, the Montreal Protocol, the CITES, CCAMLR, and the RAMSAR.²⁶

The notable point is that the Korea-US FTA includes the right of citizens to question a Party on the enforcement of its domestic environmental measures, the State's obligation to evaluate the impact of any project on the environment and the commitment to communicate information to the public which discuss the implementation and enforcement of the provisions, while the EU is focusing more on environmental protection and regulatory space.

Also, it can be seen that many of the following environmental provisions in the Korea-US FTA have failed to influence on Korea's environmental norms. This may result from the high cost of implementation or the mismatching of interests and capacities. Considering the period since the agreement was concluded, it seems that the interest of Korea doesn't lie on the provision in Table 20, but it still needs more investigation.

²⁶ The MARPOL refers to International Convention for the Prevention of Pollution from Ships, the CITES to the Convention on International Trade in Endangered Species of Wild Fauna and Flora, the CCAMLR to the Convention on the Conservation of Antarctic Marine Living Resources, and the RAMSAR to the Convention on Wetland of International Importance.

Table 20. Environmental Provisions Only Adopted in the US-Korea FTA²⁷ among Korea's FTAs

	Environmental Provisions Only Adopted in the US-Korea FTA among Korea's FTAs
1	Obligation to respect the environment in outward processing zones
2	Noise pollution
3	Other references to the MARPOL
4	Other references to the Montreal Protocol
5	Other references to the Whaling Convention
6	Implementation of the whole CCAMLR
7	Implementation of the whole Whaling Convention
8	Implementation of the whole Ramsar Convention
9	Implementation of the whole Montreal Protocol
10	Other references to the CCAMLR
11	Implementation of the whole Marpol Convention
12	Other references to the RAMSAR Convention
13	Commitment to consider alleged violation brought by a citizen of any Party
14	Wetlands
15	Invasive or alien species
16	Protection of coastal areas
17	Public participation in environmental impact assessment
18	Commitment to make available communications received from the public
19	Public sessions of joint institutions
20	Interaction between human health and the environment
21	Emergency assistance in case of natural disaster

Table 21. Environmental Provisions Only Adopted in the EU-Korea FTA among Korea's FTAs

	Environmental Provisions Only Adopted in the EU-Korea FTA among Korea's FTAs
1	Possibility to opt out of harmonized environmental norms

²⁷ This includes environmental provisions in Korea-US FTA both in 2007 and 2012.

6-5. Analysis of the Trend of Environmental Provisions in Trade Agreements

In this part, we discuss the features of selected countries who actively adopted environmental provisions in their trade agreements to see the global trend in the network of trade agreements.

According to the TREND Dataset, between 2000 and 2016 the EU appeared as the highest ranking both in the number of trade agreements and the number of environmental provisions in the trade agreements. As we've already examined Korea, the EU, and the US in detail, this part briefly discusses other top 10 countries along with China.

Table 22. Top 30 Countries in the Order of No. Provision in PTAs (2000-2016)²⁸.

		No. Provisions	No. Agreements	Avg. Provisions
1	EU	1632	50	33
2	US	1213	18	67
3	Peru	839	19	44
4	Korea, Republic of	749	15	50
5	Canada	730	9	81
6	Chile	689	20	34
7	Panama	681	14	49
8	Costa Rica	675	13	52
9	Colombia	656	14	47
10	New Zealand	644	10	64
11	Switzerland	618	25	25
12	Honduras	607	10	61
13	Japan	574	16	36
14	Singapore	567	23	25
15	Iceland	542	24	23
16	Norway	540	23	23
17	Liechtenstein	540	23	23
18	Guatemala	510	10	51
19	Malaysia	480	17	28
20	El Salvador	473	8	59
21	Australia	443	10	44
22	Nicaragua	431	7	62
23	Vietnam	418	14	30
24	China	387	15	26

²⁸ However, interestingly this list doesn't go along with the effort reported according to Climate Action Tracker. Even for example, the EU shows its inefficient fair share in global warming. (For more information, please check Appendix K.)

25	Mexico	331	12	28
26	Brunei Darussalam	327	11	30
27	Taiwan	275	5	55
28	Thailand	236	11	21
29	Dominican Republic	221	3	74
30	Turkey	209	17	12

Data Source: TREND Dataset

As it is revealed in Table 23, we could find that the distribution of environmental provisions was different across countries. For example, in the EU's PTAs largest portion belongs to Environmental Protection. However, in Panama, Switzerland, and Honduras Regulatory Space occupies the largest percentage. Meanwhile, the US distinguishes itself in the area of Enforcement and Implementation, which leads to the interpretation that the US puts stress on implementing its own dispute settlement mechanism rather than depending on MEAs. It may be said that there is a mild tendency that developing countries had a focus on Regulatory Space than developing countries.

Here again, we affirm that the EU's strategy in implementing environmental norms in partner countries in the framework of trade agreements discusses a low degree of commitment and this broad range of environmental norms and MEAs lacks a tool for enforcement and implementation. This understanding goes along with the feature that the EU is discussing general commitments to cooperate on environmental issues rather than specific targets and clear time frames.

Among the top 13 countries' FTAs, we could also confirm that South-North PTAs are taking the largest portion between 2000 and 2016 than others. The number of South-North PTAs was 78, while the South-South was 40 and North-North was 11 (See Appendix)²⁹, which tells that the economic development itself cannot predict the engagement in the inclusion of

²⁹ Singapore and Israel were considered as North, Republic of Korea and Taiwan were considered as South.

environmental provisions in trade agreements but the EU still has a central position in the network of trade agreements which include at least one environment provision.

Lastly, with a comparison of other actors' environmental provisions, we could find out that 1) except for New Zealand and Canada, examined countries have shown much less homogenous distribution of environmental provisions (which means there are fewer provisions which are generally adopted); 2) nevertheless, environmental provisions adopted always or frequently by each actor were similar across countries; and 3) countries joined TPP showed much variety of environmental provisions and some of them seem to reflect the EU's preference – for example, *Combat illegal fishing* - but is limited (See Appendix L).

In short, the EU has a notably high emphasis on Environmental Protection than others but relatively low focus on Regulatory Space and Implementation, which comes to an understanding that the EU 's strategy to support generic commitments to environmental issues to international standards. But still, the EU acts as a centre in the network of trade agreements with its well-organised homogenous environmental provisions – but it does not mean that the EU prevents its partner countries to introduce their norms. With its participation in TPP, the EU adopted a variety of environmental norms as well as making its preference spread to more partners.

Table 23. Environmental Protection-Regulatory Space-MEAs

		Environmental Protection	Regulatory Space	MEAs	Implementation	Coherence	Enforcement	Development	Level-Playing Field
1	EU	32%	14%	13%	13%	10%	6%	6%	5%
2	US	27%	15%	10%	19%	5%	15%	5%	4%
3	Peru	23%	23%	14%	12%	8%	8%	9%	3%
4	Korea	28%	21%	11%	15%	9%	9%	3%	4%
5	Canada	27%	15%	13%	16%	8%	13%	5%	3%
6	Chile	27%	21%	21%	18%	8%	8%	4%	6%
7	Panama	21%	24%	15%	12%	8%	7%	8%	4%
8	Colombia	23%	22%	14%	12%	6%	7%	8%	6%
9	Costa Rica	23%	21%	13%	13%	9%	8%	9%	4%
10	New Zealand	30%	19%	8%	18%	9%	7%	4%	5%
11	Switzerland	22%	31%	19%	6%	9%	3%	6%	4%
12	Honduras	22%	24%	10%	15%	7%	10%	7%	5%
13	Japan	25%	24%	7%	18%	12%	6%	5%	3%
14	China	21%	21%	14%	18%	12%	4%	8%	2%

VII. Conclusion

The European Union systematically has implemented the TSD Chapter into its bilateral trade agreements since its first implementation in the EU-Korea FTA in 2010. With its confirm on commitments to ILO and MEAs to promote sustainable development as well as international trade, the TSD Chapter obliges both parties to strengthen multilateral institutions and an international rules-based order. However, the effectiveness of the TSD Chapter has been debated, and the reforms for improvement has been asked.

With its seven years of results and documents, the effectiveness of environmental provisions the EU-Korea FTA was examined in four parts. The effectiveness as a direct or indirect practical improvement of environmental standards by changes made to the FTA, or "the improvement via intermediate impact of the development or linkage of institutions, the changes in laws and regulations, the funding of development and the empowerment of civil groups" (Orbie & Roozendaal, 2017, p. 2-3) was studied both in Korea's domestic and international dimension in this paper.

In the first part, the implementation of the TSD institutional and civil society structure for monitoring the enforcement of the chapter in Korea was studied. Although there was no apparent breach of the related articles, there was a noise on composing the DAG members in Korea notably in 2012 and 2013. From 2012, the CSFs were held every year which consist of the related article of the chapter, but the reports on the fora were not able to be obtained. Particularly, any information on DAGs meetings in Korea from 2015 was not in public particularly after the organisation in charge was transferred to Korea Environmental Policy and Administration Society. Considering the situation, the effectiveness of the TSD institutional and civil society structure which is expected to empower civil groups is needed to be improved.

In the second part, the domestic environmental laws of Korea were researched to see the legal improvement and institution building of Korea to improve environmental standards. Even though there was an improvement in institution building and legal framework, it was found that there is no explicit linkage between new enactment or amendment of the laws and the EU-Korea FTA, and this is partly because Korea's domestic environmental laws have already been elaborated. However, the research on the level-playing field on Korea's domestic environmental laws needs to be further investigated.

In the third part, this paper review Korea's commitments to MEAs especially focusing on the UNFCCC and its Kyoto Protocol, the CBD, the Agenda 21 of 1992, and the Johannesburg Plan. The overall commitments of Korea conform to the articles of the TSD chapter; however, the practical changes made regarding environmental performance was questioned specifically on the reduction of GHG emissions and biological diversity. In short, Korea is more engaged in MEAs and taking the more active role after the EU-Korea FTA although it is not confirmed that the practical improvement in environmental performance has been improved considerably.

In the last part, the analysis on Korea's FTAs was conducted to see the influence of the EU-Korea FTA on the inclusion of environmental provisions and thus to changes in Korea's FTA strategy. In its examination with several cross-comparisons, the paper discovered distinct provisions that show possible influence from the EU such as provisions on *Conservation of forests*, *Sustainable trade in fishery products*, *Cooperation on climate change*, *References to the UNEP*, and *Reference to mutual supportiveness between environment and trade or development*. These provisions explain changes in Korea's FTA preference in part which have possibly been influenced by the EU. The provision of *Cooperation on green public procurement* shows its possibility that is it has been prompted by the EU and is now specifically preferred by Korea.

In conclusion, the effectiveness of the environmental provisions of the TSD Chapter of the EU-Korea FTA in Korea has been limited. Partly due to the design of the TSD Chapter which describes both parties' obligation in generic and vague terms, and the lack of a mechanism to cope with the possible violation, the compliance was not guaranteed even in the situation Korea has a capability to implement the provisions. However, Korea case gives an indication that if the EU holds an incentive-based approach, it needs to focus on partner country's preferences and obliges them with responsibility which can possibly be in line with the international norms and values. To achieve the objectives of sustainable development via trade agreements, the EU not only needs to use its "market power" but also needs to find issues which can sustain with the partner countries interests and norms – such as more active role in multilateral agreements which is in line with Korea's interests (Green Growth and its aspiration to strengthen its position in international arena), and environmental norms preferred by Korea as shown in the fourth dimension (conservation of forests, cooperation on climate change, and cooperation on green public procurement).

This paper confirms that not only to preserve institutional compliance but also to improve actual environmental performance, an institutionalisation of environmental norms via empowerment of civil groups, legal improvement, institution building is required. The lack of these elements can lead to the limited effectiveness of the TSD Chapter in partner countries. The linkage to other multilateral instruments assures the convergence to the international environmental norms, but the actual environmental performance was not guaranteed in Korea's case, which partly due to the lack of effective enforcement tools of related MEAs.

The supposed mechanism of institutionalisation of environmental norms that are internationalised by the EU in partner countries' policies – namely in Korea's FTA strategy showed its delimited effectiveness but also evidently displayed positive provisions influenced by the EU. This fourth dimension demonstrates the possibility of further improvement of the

effectiveness of the TSD Chapter in partner countries via cross-network effects of certain environmental norms align with partner countries' interests and preferences with the absence of sanctions-based approach.

In section 6, with a comparison with the US, we reaffirmed that the EU's lack of effective dispute settlement mechanism, prescriptive provisions, and relatively low empowerment of civil groups. With the five cases of cross-country comparisons, we have discovered that while the TSD Chapter holds broad norms of environment and MEAs with its preference on climate change, the EU made adapted provisions reflecting its partners' interests and capacities although there has not been found tailor-made enforcement and implementation tools.

In the very last part, by examining environmental provisions adopted by selected countries, we could find that the EU has its uniquely high focus on Environmental Protection and relatively coherent and homogenous norms across its own PTAs than others. Also, we found that the EU still holds a central position in the network of trade agreements, and the TPP had a positive impact on spread of the EU's environmental norms. Thus, this paper concludes with a calling for a concrete tailor-made institutional mechanism for its partner countries in the framework of bilateral trade agreements along with its efforts to spread its environmental norms through multilateral agreements.

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APPENDICES

APPENDIX A

Table 24. List of Domestic Advisory Groups of Korea (2013)

		Name	Position
Domestic Advisory Groups (15 members)	노동 (labour)	이정식 Jung Sik, Lee	한국노총 중앙연구원 원장 Chief of Federation of Korean Trade Unions Research Centre
		배상호 Sang Ho, Bae	LG 전자 노조위원장 The Union Leader of LG Electronics
		오종쇄 Jong Swae, Oh*	현대중공업 전 노조위원장 Former Union Leader of Hyundai Heavy Industries
		이형준 Hyung-jun, Lee	한국경총 노동정책본부장 Director of Labour Policy Department, Korean Employers Federation
		전현호 Hyunho, Jeon*	중소기업중앙회 인력정책실장 General Manager of Human Resources Policy Team, Korean Federation of Small and Medium Business
		박재근 Jaegeun, Park*	대한상의 노사인력팀장 Team Manager of Industrial Human Resources Department, Korea Chamber of Commerce & Industry
		엄현택 (의장) Hyun-Taek, Eom(President)	경제사회발전노사정위원회 상임위원 Standing Committee of Economic and Social Development Committee
		권혁 Hyuk, Kwon	부산대 법학전문대학원 교수 Professor, Pusan National University Law School
		박지순 Ji-Soon, Park	고려대 법학전문대학원 교수 Professor, Korea University School of Law
	환경 (environ-ment)	이재형 Jae-hyoung, Lee	고려대 법학전문대학원 교수 Professor, Korea University School of Law
		남영숙 Young-sook, Nam	이화여대 국제대학원 교수 Professor, International Studies, Ehwa University
		조홍식 Hong Sik, Cho	서울대 법대 교수 Professor, Seoul National University School of Law
		정회성 Hoei Seong, Jeong	한국환경정책학회 회장 Chief of Korea Environmental Policy and Administration Society
		이시영 Shiyoung, Lee	중앙대 경영학부 교수 Professor, College of Business and Economics, Chung-Ang University
		정현진 Hyun-jin, Jung	환경보전협회 기획사업처 Planning and Management Department, Korea Environmental Preservation Association

Data Source: ESDC Press Release (2013). 한-EU FTA 시민사회포럼 개최

*Names and Positions are translated by the author. Information are encouraged to be checked in original language.

Table 25. List of Domestic Advisory Groups of Korea (2014)

		Name	Affiliation
Domestic Advisory Groups (15 members)	노동 (labour)	최영기 Young-Ki, Choi	경제사회발전노사정위원회 상임위원 Standing Committee of Economic and Social Development Committee
		이창근 Change-geun, Lee	민주노총 정책실장 General Manager of Policy-Planning Office, Korean Confederation of Trade Unions
		이형준 Hyung-jun, Lee	한국경총 노동정책본부장 Director of Labour Policy Department, Korean Employers Federation
		박재근 Jaegeun, Park*	대한상의 노사인력팀장 Team Manager of Industrial Human Resources Department, Korea Chamber of Commerce & Industry
		정문주 Moon-ju, Jeong	한국노총 정책본부장 Director of Policy Department, Federation of Korean Trade Unions
		류미경 Mikyung, Ryu	민주노총 국제국장 Director of Policy-Planning Office, Korean Confederation of Trade Unions
		전현호 Hyunho, Jeon*	중소기업중앙회 인력정책실장 Human Resources Policy Team, Korean Federation of Small and Medium Business
		배규식 Gyu Sig, Bae	노동연구원 노사·사회정책연구본부장 Director of Industrial Relations Research Division Korea Labour Institute
	환경 (environ-ment)	권혁 Hyuk, Kwon	부산대 법학전문대학원 교수 Professor, Pusan National University Law School
		이재형 Jae-hyoung, Lee	고려대 법학전문대학원 교수 Professor, Korea University School of Law
		조홍식 Hong Sik, Cho	서울대 법대 교수 Professor, Seoul National University School of Law
		김미화 Mi-Hwa, Kim	자원순환연대 사무총장 Secretary General, Korea Zero Waste Movement Network
		정희성 Hoei Seong, Jeong	한국환경정책학회 회장 Chief of Korea Environmental Policy and Administration Society
		이시영 Shiyoung, Lee	중앙대 경영학부 교수 Professor, College of Business and Economics, Chung-Ang University
		하지원 Jiwon, Ha	에코맘코리아 대표 President Ecomom Korea

Data Source: ESDC. (2015). ESDC 2014 Activity Report

*Names and Positions are translated by the author. Information is encouraged to be checked in the original language.

APPENDIX B

Article Titles of Chapter 13 (TSD Chapter) of the EU-Korea FTA

Article 13.1	Context and Objectives
Article 13.2	Scope
Article 13.3	Right to Regulate and Levels of Protection
Article 13.4	Multilateral Labour Standards and Agreements
Article 13.5	Multilateral Environmental Agreements
Article 13.6	Trade Favouring Sustainable Development
Article 13.7	Upholding Levels of Protection in the Application and Enforcement of Laws, Regulations or Standards
Article 13.9	Scientific Information
Article 13.10	Review of Sustainability Impacts
Article 13.11	Cooperation
Article 13.12	Institutional Mechanism
Article 13.13	Civil Society Dialogue Mechanism
Article 13.14	Government Consultations
Article 13.15	Panel of Experts
Article 13.16	Dispute Settlement

Table 26. Korean Domestic Environmental Laws regarding Green Growth

	Name	Act No.*	Korean Name	Enacted Date	Last Amended Date	Purpose
1	Energy Use Rationalization Act**	13805	에너지이용합리화법	Dec. 28, 1979	Jan. 19, 2016	to contribute to the sound development of the national economy, the promotion of national welfare and international efforts to minimize global warming by realizing stability in the supply of and demand for energy, increasing the rational and efficient use of energy, and reducing environmental damage caused by the consumption of energy.
2	Integrated Energy Supply Act***	14480	집단에너지사업법	Dec. 14, 1991	Dec. 27, 2016	to contribute to saving energy and enhancing the convenience of life of the people by expanding the integrated energy supply, reasonably operating the integrated energy projects, and providing for matters concerning the establishment, operation and safety of integrated energy facilities.
3	Act on the Promotion of Saving and Recycling of Resources****	15101	자원의 절약과 재활용촉진에 관한 법률	Jun. 9, 1993	Nov. 28, 2017	to contribute to the preservation of the environment and sound development of the national economy by facilitating the use of recycled resources by means of controlling the generation of wastes and facilitating recycling.
4	Development of and Support for Environmental Technology Act	10615	환경기술개발 및 지원에 관한 법률	Mar. 23, 1995	Apr. 12, 2010	to promote the development, support, and dissemination of environmental technologies and foster the environmental industry, thereby contributing to environmental conservation, the promotion of green growth and the sustainable development of the national economy

APPENDIX C

	Name	Act No.	Korean Name	Enacted Date	Last Amended Date	Purpose
4-1	Environmental Technology and Industry Support Act	14532	환경기술 및 환경산업 지원법	Apr. 28, 2011	Jan. 17, 2017	to promote the development, support, and dissemination of environmental technologies and foster the environmental industry, thereby contributing to environmental conservation, the promotion of green growth and the sustainable development of the national economy.
5	Act on the Promotion of the Conversion into Environment-Friendly Industrial Structure	14839	환경친화적 산업구조로의 전환촉진에 관한 법률	Dec. 29, 1995	Jul. 26, 2017	to contribute to the conservation of environment and sustainable development of the national economy by positively pushing forward industrial activities to economize energy and resources and to reduce environmental pollution through the promotion of the construction of an environment-friendly industrial structure
6	Act on the Promotion of Development and Distribution of Environment-Friendly Motor Vehicles	14315	환경친화적 자동차의 개발 및 보급 촉진에 관한 법률	Oct. 22, 2004	Dec. 02, 2016	to plan for the continuous development of the automobile industry and for the improvement of living conditions of the people and to contribute to the national economy by establishing and promoting a general plan and policy to accelerate the development and distribution of environmentally friendly automobiles.
7	Act on the Encouragement of Purchase Environment-Friendly Products	10030	친환경상품 구매촉진에 관한 법률	Dec. 31, 2004	Jan. 13, 2010	to prevent waste of resources and environmental pollution and contribute to sustainable development of the national economy by encouraging purchase of environment-friendly products.

	Name	Act No.	Korean Name	Enacted Date	Last Amended Date	Purpose
7-1	Act on Promotion of Purchase of Green Products	13534	녹색제품 구매촉진에 관한 법률	Apr. 5, 2011	Dec. 1, 2015	to prevent waste of resources and environmental pollution and contribute to the sustainable development of the national economy by encouraging purchase of green products.
8	Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy	14670	신에너지 및 재생에너지 개발·이용·보급 촉진법	Dec. 31, 2004	Mar. 21, 2017	to contribute to the preservation of environment, the sound and sustainable development of national economy, and the promotion of national welfare by diversifying energy resources through the promotion of technological development, use and diffusion of new energy and renewable energy, and the activation of new energy and renewable energy industries, and by promoting a stable supply of energy, an environment-friendly conversion of energy structure, and a reduction of greenhouse gas emissions.
9	Energy Act	9931	에너지법	Mar. 3, 2006	Jan. 13, 2010	to contribute to the sustainable development of the national economy and enhancement of the welfare of citizens by providing for basic matters concerning the formulation and implementation of energy policies and energy-related plans to realise a stable, efficient and environmentally friendly energy demand and supply structure.
10	Sustainable Development Act*****	13532	지속가능발전법	Aug. 3, 2007	Dec. 1, 2015	to ensure that present and future generations enjoy a better quality of life, by accomplishing sustainable development and participating in international efforts to implement sustainable development.

	Name	Act No.	Korean Name	Enacted Date	Last Amended Date	Purpose
11	Sustainable Transportation Logistics Development Act	5122	지속가능한 교통물류 발전법	Jun. 9, 2009	Nov. 28, 2017	to provide for matters on the basic direction for policies on sustainable transportation logistics, in response to changes in the conditions of transportation logistics, such as climate change, energy crisis and requests for environmental protection, and the implementation and promotion of such policies, and contribute to the development of the national economy and the improvement of national welfare.
12	Framework Act on Low Carbon, Green Growth	15489	저탄소 녹색성장 기본법	Jan. 13, 2010	Mar. 20, 2018	to promote the development of the national economy by laying down the foundation necessary for low carbon, green growth and by utilizing green technology and green industries as new engines for growth, so as to pursue the harmonized development of the economy and environment and to contribute to the improvement of the quality of life of every citizen and the take-off to a mature, top-class, advanced country that shall fulfil its responsibility in international society through the realization of a low-carbon society.

* act number of the most current version (lastly amended act)

**wholly amended in 2002

*** amended several times to actively cope with the UNFCCC

****wholly amended in 2007

***** wholly amended in 2010

Data Source: Ministry of Government Legislation of Korea. (2010). Laws on Green Growth in Korea. & National Law Information Centre website. Korea Legislation Research

Institute web site - Law Search. Accessed by May 28th, 2018.

Enforcement Decrees are not included

Table 27. Korean Domestic Environmental Laws about Air, GHG Emissions, Climate Change, Biodiversity, and Marine Environment

	Name	Act No.*	Korean Name	Enacted Date	Last Amended Date	Purpose
1	Clear Air Conservation Act	14476	대기환경보전법	Aug. 1, 1990	Dec. 27, 2016	to enable all people to live in a healthy and comfortable environment, by preventing air pollution which causes harm to people and the environment, and by managing and preserving the atmospheric environment in a proper and sustainable manner.
2	Framework Act on Forestry**	15079	산림기본법	May. 24, 2001	Nov. 28, 2017	to contribute to improving the quality of life of the nation and the sound development of the national economy by prescribing basic matters for forestry policies to promote various functions of forests and to develop forestry.
3	Special Act on the Improvement of Air Quality in Seoul Metropolitan Area	13410	수도권 대기환경개선에 관한 특별법	Dec. 31, 2003	Jul. 20, 2015	to protect residents' health, and create descent living environment in the metropolitan area by implementing comprehensive policies and systematically controlling air pollutants in order to improve the air quality of the metropolitan area.
4	Weather Act**	14116	기상법	Dec. 30, 2005	Mar. 29, 2016	to contribute to protecting life and property of citizens from meteorological disasters and enhancing public interests by providing for basic matters necessary for efficient national meteorological services and by promoting a sound development of meteorological services.

	Name	Act No.	Korean Name	Enacted Date	Last Amended Date	Purpose
5	Act on the Creation and Facilitation of Use of Smart Grids	14674	지능형전력망의 구축 및 이용촉진에 관한 법률	Mar. 24, 2011	Mar. 21, 2017	to create smart grids and facilitate the use thereof to develop related industries, cope proactively with global climate changes, lay foundations for future industries oriented to low carbon and green growth, and ultimately contribute to the innovation of the environment for the use of energy and the growth of the national economy.
6	Act on the Conservation and Use of Biological Diversity	14513	생물다양성 보전 및 이용에 관한 법률	Feb. 1, 2012	Dec. 27, 2016	to improve citizens' quality of life and enhance international cooperation, by promoting comprehensive and systematic conservation of biodiversity and sustainable use of biological resources and by prescribing matters on implementing the Convention on Biological Diversity.
7	Act on the Management and Improvement of Carbon Sink	15344	탄소흡수원 유지 및 증진에 관한 법률	Feb. 22, 2012	Jan. 16, 2018	to respond to climate change by managing and improving the role of forests as carbon sinks pursuant to Article 55 of the Framework Act on Low Carbon, Green Growth and to contribute to the realization of a low carbon society.
8	Act on the Allocation and Trading of Greenhouse-Gas Emission Permits	14839	온실가스 배출권의 할당 및 거래에 관한 법률	May. 14, 2012	Jul. 26, 2017	to achieve national targets for reducing greenhouse gas effectively by introducing a system for trading greenhouse-gas emission permits through market mechanisms pursuant to Article 46 of the Framework Act on Low Carbon, Green Growth.

	Name	Act No.	Korean Name	Enacted Date	Last Amended Date	Purpose
9	Green Climate Fund Operation Support Act	11947	녹색기후기금의 운영지원에 관한 법률	Jul. 30, 2013		to contribute to efficiently operating the Green Climate Fund and promoting cooperation with the international community, by supporting the operation of the Green Climate Fund which functions to operate the financial support system of the United Nations Framework Convention on Climate Change.
10	Indoor Air Quality Control Act	14486	실내공기질 관리법	Dec. 22, 2015	Dec. 27, 2016	to protect health of the people using the following facilities and to prevent environmental risks, by adequately maintaining and controlling indoor air quality within public-use facilities, newly-built multi-family housing, and mass transit vehicles.
11	Act on Conservation and Utilization of the Marine Environment	14746	해양환경 보전 및 활용에 관한 법률	Mar. 21, 2017		to prescribe matters concerning basic direction-setting for policies to conserve and utilize the marine environment and concerning the establishment and implementation system for such policies, so as to manage the sea in a systematic and sustainable manner, thereby improving marine health and contributing to the enhancement of quality of life of citizens as well as to continuous national development.

*act number of the most current version (lastly amended act)

**include articles related to climate change

Data Source: Ministry of Government Legislation of Korea. (2010). Laws on Green Growth in Korea. & National Law Information Centre website. Korea Legislation Research

Institute web site - Law Search. Accessed by May 28th, 2018.

Enforcement Decrees are not included

APPENDIX D

Environmental Provisions in the EU-Korea FTA (2010)

Environmental Protection		It includes general principles related to environmental protection, obligations on the sustainable use and conservation of natural resources and clauses on very specific environmental issue areas.
	C1	Commitment to enhance, strengthen, improve levels of environmental protection
	P2	Promotion of renewable energy
	P3	Preamble refers to the environment
	O4	Other norms on biodiversity
	C5	Conservation of forests
	O6	Other environmental norms
	E7	Environmental impact assessment of the agreement
	G8	General encouragement to invest and trade in environmental goods and services
	R9	Reduction of GHG emissions
	P10	Protection of seas and oceans
	C11	Combat illegal exploitation of forests
	L12	Laws and regulations should provide for high levels of environmental protection
	S13	Sustainable trade in fishery products
	C14	Conservation of fishery resources
	P15	Protected areas, parks and natural reserves
	P16	Promotion of specific voluntary measures regarding the environment
	C17	Cooperation on climate change
	P18	Pesticides, fertilizers, toxic or hazardous products and chemicals
	P19	Promotion of energy efficiency
S20	Sustainable trade in forestry products	
E21	Environmental standards on vehicle emissions	
S22	SPS measures and the environment	
O23	Other norms on hazardous waste	
Regulatory Space		preserving countries' regulatory space related to the environment. It includes general and more specific exceptions to liberalization commitments, exclusions of specific issue areas as well as the sovereign right to adopt environmental measures ('right to regulate').
	G24	General exceptions on procurement and the environment
	S25	Specific trade related measure on establishment
	P26	Possibility to opt out of harmonized environmental norms
	S27	Safeguard measures on environmental grounds
	E28	Exclusion of environmentally harmful inventions from patentability
	R29	Right to maintain or adopt any measures in regards of a specific sector of services
	C30	Conservation of natural resources as a general exception for trade in goods
E31	Exception on services linked to conservation of natural resources	

	N32	Not the Parties intentions to harmonize their environmental standards
	R33	Right to maintain or adopt any measures in regards of investment in a specific sector
	R34	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	E35	Exception on services linked to life or health of fauna or flora
	R36	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	E37	Exceptions allowing agricultural subsidies
	S38	Sovereignty in determining the level of protection according to State priorities
	G39	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
	C40	Cooperation on green public procurement
Implementation		provisions that specify how the agreement, and more precisely its environmental content, will be implemented. It includes cooperation on establishing institutions for implementation, as well as procedures ensuring public participation and transparency.
	P41	Public communication of actions undertaken pursuant to the agreement
	P42	Public participation in the adoption of environmental measures
	C43	Creation of an intergovernmental committee
	S44	Specific means to exchange information
	D45	Direct contact between non-state actors of both Parties
	P46	Provision of information when taking measures to protect the environment
	P47	Public participation in the implementation of the agreement
	G48	General obligation to exchange information related to the environment
	P49	Publication of environmental laws, regulations and administrative rulings
	E50	Establishment of a contact point on environmental matters
	V51	Vague commitments to cooperate
MEAs		The dimension multilateral environmental agreements refer to provisions that make reference to international agreements that address rather specific environmental issues. The provisions in this category may oblige the parties to ratify or implement a certain MEA, and they include specifications on whether the MEA prevails over the trade agreement at hand. In sum, provisions under this dimension aim at reinforcing and expanding international environmental commitments.
	R52	References to other institutions related to the environment
	I53	Implementation of the whole Kyoto Protocol
	O54	Other references to the CBD (*Convention on Biological Diversity)
	O55	Other references to the Agenda 21 of 1992
	O56	Other references to the Johannesburg Declaration 2002
	R57	References to the UNEP
	I58	Implementation of the whole UNFCCC

	N59	Negotiations of environmental agreements
	I60	Implementation other agreements related to the environment
	O61	Other references to the UNFCCC
Enforcement		provisions that regulate the enforcement of environmental regulations stipulated in the trade agreement as well as domestic environmental measures.
	S62	Specific non-jurisdictional dispute settlement mechanism
	G63	General procedures in dispute settlement mechanism
	P64	Panel shall consult or defer to any relevant entity the interpretation of a Party's obligation under a multilateral environmental agreement
	E65	Environmental experts as panelists or mediators in state-state dispute over trade provisions of the trade agreement
	B66	Binding obligations
	G67	General measure regarding suspension of benefits as a dispute settlement mechanism
	N68	Non-binding obligations
Level Playing Field		"provisions that help to establish a level playing field between the parties. Provisions implicitly address (i) the fear of some developed countries that lower environmental standards in other countries create a comparative advantage and encourage trade and investment flows to their detriment (ii) the fear of some developing countries that developed countries use higher environmental measures as protectionist instruments. They include obligations to harmonize and not lower environmental standards as well as requirements to base environmental measures on scientific facts and not use them for 'green protectionism'."
	M69	Mutual recognition of national environmental measures
	M70	Measures against a high level of environmental protection set for protectionist purposes
	S71	Scientific knowledge when designing environmental measures
	I72	Inappropriate to encourage investment by relaxing environmental measures
	I73	Inappropriate to encourage trade by relaxing environmental measures
	H74	Harmonization of environmental measures
Coherence		coherence between environmental regulation and other policy areas. More precisely, provisions specify the relationship between the environment and trade and investment rules as well as the interaction between the environment and more specific issue areas, such as transport, tourism or social issues.
	I75	Interaction between indigenous communities or traditional knowledge and the environment
	R76	Reference to mutual supportiveness between environment and trade or development
	C77	Coherence with domestic trade and/or investment policies
	I78	International standards or risk assessments carried out by international organisations should be used or taken into account when designing environmental measures

	I79	Interaction between transport and the environment
Development		"They include provisions acknowledging different development levels of the Parties and establishing means to support capacity building, technology transfers, disaster relief etc. Moreover, this category covers provisions that protect the interests of developing countries, e.g. their sovereignty over natural and genetic resources."
	F80	Funding provided to non-state actors
	E81	Equitable sharing of benefits arising from use of genetic resources
	O82	Other norms on genetic resources

APPENDIX E

Adoption of Environmental Provisions in the EU-Korea FTA in All of Korea's FTAs

		CHL	SGP	EFTA	ASEAN	US	IND	EU	PER	US(2012)	TER	COL	AUS	CAN	CHN	NZL	VNM
C1	10	1	0	0	0	1	0	1	1	1	1	1	1	0	1	1	0
P2	8	0	0	0	0	0	1	1	1	1	1	1	1	0	0	1	0
P3	12	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	0
O4	9	0	1	0	0	1	0	1	0	1	1	1	1	0	1	1	0
C5	7	0	0	0	0	0	0	1	1	0	1	1	1	0	1	1	0
O6	7	0	0	0	0	1	0	1	1	1	0	0	1	0	1	1	0
E7	7	0	0	0	0	1	0	1	1	1	1	0	0	0	1	1	0
G8	9	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0
R9	6	0	0	0	0	1	0	1	1	0	1	0	1	0	0	1	0
P10	9	0	1	0	0	0	1	1	0	1	1	0	1	1	1	1	0
C11	6	0	0	0	0	0	0	1	0	1	1	0	1	0	1	1	0
L12	9	0	0	0	0	1	0	1	1	0	1	1	1	1	1	1	0
S13	3	0	0	0	0	0	0	1	0	0	0	0	0	0	1	1	0
C14	7	1	0	0	0	0	0	1	1	0	1	1	0	0	1	1	0
P15	5	1	0	0	0	0	0	1	1	1	0	0	0	0	0	1	0
P16	9	0	0	0	0	1	1	1	1	1	1	1	0	1	1	0	0
C17	5	0	0	0	0	0	0	1	0	0	1	1	1	0	0	1	0
P18	6	0	1	0	0	0	1	1	1	1	0	0	0	0	1	0	0
P19	8	0	0	0	0	1	1	1	1	0	1	0	1	0	1	1	0
S20	4	0	0	0	0	0	0	1	0	0	0	1	1	0	0	1	0
E21	9	1	0	0	0	1	1	1	1	0	0	1	1	1	1	0	0
S22	15	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
O23	8	1	1	0	0	0	0	1	1	1	0	1	0	0	0	1	0
G24	11	1	1	1	0	1	0	1	1	0	0	1	1	1	1	1	0
S25	7	1	1	0	0	1	0	1	1	0	0	1	1	0	0	0	0
P26	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
S27	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
E28	13	1	1	1	0	1	1	1	0	0	1	1	1	1	1	1	1
R29	9	1	1	0	0	0	1	1	0	0	0	0	1	1	1	1	1
C30	15	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
E31	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
N32	3	0	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0
R33	8	1	1	0	0	1	1	1	1	0	0	0	0	0	1	1	0
R34	15	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
E35	13	1	1	1	0	1	1	1	1	0	0	1	1	1	1	1	1
R36	13	1	1	1	1	1	1	1	0	0	0	1	1	1	1	1	1
E37	4	0	0	1	0	0	0	1	0	0	0	0	1	0	0	1	0
S38	10	0	0	0	0	1	1	1	1	0	1	1	1	1	1	1	0
G39	15	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1
C40	4	0	0	0	0	0	0	1	1	0	1	1	0	0	0	0	0
P41	5	0	0	0	0	1	0	1	1	0	0	1	0	0	0	1	0
P42	7	0	0	0	0	1	0	1	0	1	0	1	0	1	1	1	0
C43	11	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0
S44	8	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	0
D45	4	0	0	0	0	0	0	1	0	1	0	0	0	0	1	1	0
P46	12	1	1	0	1	1	0	1	1	0	1	1	1	1	1	1	0
P47	7	0	0	0	0	1	0	1	0	1	0	1	0	1	1	1	0
G48	9	0	0	0	0	1	0	1	1	1	1	1	1	0	1	1	0
P49	7	0	0	0	0	1	0	1	0	0	1	1	0	1	1	1	0
E50	11	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0
V51	11	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	0
R52	14	1	1	0	0	1	1	1	1	1	1	1	1	1	1	1	1
I53	3	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0
O54	3	0	0	0	0	0	0	1	0	0	0	1	0	0	1	0	0
O55	4	0	0	0	0	0	0	1	0	0	1	0	0	1	1	0	0
O56	2	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
R57	5	0	0	0	0	0	0	1	1	0	1	1	0	0	0	1	0
I58	3	0	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0
N59	9	0	0	0	0	1	0	1	1	0	1	1	1	1	1	1	0
I60	13	1	1	0	0	1	1	1	1	0	1	1	1	1	1	1	1
O61	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0
S62	8	0	0	0	0	1	0	1	1	0	0	1	1	1	1	1	0
G63	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
P64	3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0
E65	4	0	0	0	0	1	0	1	0	0	0	0	0	1	1	0	0
B66	12	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	0
G67	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0
N68	6	0	0	0	0	1	0	1	0	0	1	1	0	1	1	0	0
M69	2	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
M70	9	1	0	0	0	1	0	1	0	0	1	1	1	1	1	1	0
S71	5	0	0	0	0	1	0	1	0	0	1	0	0	1	1	0	0
I72	12	1	0	1	0	1	1	1	1	0	1	1	1	1	1	1	0
I73	9	0	0	0	0	1	0	1	1	0	1	1	1	1	1	1	0
H74	3	0	0	0	0	1	0	1	0	0	0	0	0	0	0	1	0
I75	5	0	0	0	0	0	0	1	1	0	0	1	0	0	1	1	0
R76	8	0	0	0	0	0	0	1	0	1	1	1	1	1	1	1	0
C77	13	1	0	1	0	1	1	1	1	1	1	1	1	1	1	1	0
I78	6	1	0	0	0	0	0	1	1	0	1	0	0	1	1	0	0
I79	6	0	0	1	0	0	1	1	0	1	0	0	0	1	1	0	0
F80	2	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0
E81	2	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0
O82	5	0	0	0	0	0	0	1	1	0	0	1	0	0	1	1	0

APPENDIX F

List of considered FTAs of the US, the EU, and Korea in Table 7

The United States*	The European Union**	Republic of Korea
Singapore (2003)	Cariforum (2008) * Economic Partnership Agreement	European Union (2010)
Australia (2004)	Republic of Korea (2010)	Peru (2011)
Central America & Dominican Republic (2004)	Colombia & Peru (2012)	United States (2012) *re-negotiated
Morocco (2004)	Central America (2012)	Turkey (2012)
Bahrain (2004)	Ukraine (2014) *Association Agreement	Colombia (2013)
Oman (2006)	Moldova (2014) *DCFTA	Australia (2014)
Peru (2006) *Trade Promotion Agreement	Georgia (2014) *DCFTA	Canada (2014)
Colombia (2006)	Canada (2014) *CETA	China (2014)
Panama (2007)	Singapore (2015)	New Zealand (2015)
Republic of Korea (2007)	Vietnam (2016)	Vietnam (2015)
Trans-Pacific Partnership (TPP) (2015)		

*The list was selected to be the most current FTAs.

**The Trade and Sustainable clauses were introduced since Cariforum EPA and was systematically included in following trade agreements by the EU.

APPENDIX G

Replicated Environmental Provisions in the EU's TSD Chapter

Table 28. Environmental Provisions Adopted Always in the EU's TSD Chapter

	EU	US
1	Promotion of renewable energy	4
2	Preamble refers to the environment	11
3	Environmental impact assessment of the agreement	6
4	General encouragement to invest and trade in environmental goods and services	7
5	Reduction of GHG emissions	1
6	Combat illegal exploitation of forests	2
7	Laws and regulations should provide for high levels of environmental protection	11
8	Conservation of fishery resources	5
9	Protected areas, parks and natural reserves	5
10	Promotion of specific voluntary measures regarding the environment	10
11	Promotion of energy efficiency	4
12	Sustainable trade in forestry products	2
13	SPS measures and the environment	10
14	Exclusion of environmentally harmful inventions from patentability	11
15	Conservation of natural resources as a general exception for trade in goods	11
16	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment	10
17	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency	10
18	Sovereignty in determining the level of protection according to State priorities	11
19	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora	11
20	Creation of an intergovernmental committee	11
21	Public participation in the implementation of the agreement	11
22	General obligation to exchange information related to the environment	11
23	Vague commitments to cooperate	11
24	Coherence with domestic trade and/or investment policies	11
25	International standards or risk assessments carried out by international organizations should be used or taken into account when designing environmental measures	1
26	References to other institutions related to the environment	11
27	Negotiations of environmental agreements	11
28	Implementation other agreements related to the environment	11
29	Scientific knowledge when designing environmental measures	3
30	Inappropriate to encourage investment by relaxing environmental measures	11
31	Inappropriate to encourage trade by relaxing environmental measures	11
32	Specific non-jurisdictional dispute settlement mechanism	10
33	Environmental experts as panelists or mediators in state-state dispute over trade	5

	provisions of the trade agreement	
34	Binding obligations	10

Table 29. Environmental Provisions Frequently Adopted in the EU's TSD Chapter

	EU	US	
9	1	Commitment to enhance, strengthen, improve levels of environmental protection	11
	2	Precautionary principle	0
	3	Genetically modified organisms	1
	4	Protection of seas and oceans	4
	5	Provision of information when taking measures to protect the environment	8
	6	Conservation of forests	3
	7	Exception on services linked to life or health of fauna or flora	11
	8	Establishment of a contact point on environmental matters	10
	9	Other references to the Agenda 21 of 1992	0
8	1	Promotion of unspecified voluntary measures regarding the environment	7
	2	Other norms on hazardous waste	5
	3	Public participation in the adoption of environmental measures	9
	4	Specific means to conduct scientific cooperation	7
	5	Publication of environmental laws, regulations and administrative rulings	7
	6	Technical assistance, training or capacity building provided to another Party	9
	7	Coherence in general	2
	8	Interaction between social issues and the environment	3
	9	Harmonization of environmental measures	2
	10	Other environmental norms	10
	11	Reference to mutual supportiveness between environment and trade or development	2
	12	Interaction between transport and the environment	1
	13	References to the Johannesburg Plan of Implementation 2002	0
	14	Combat illegal fishing	1
	15	Joint environmental assessment and study or monitoring of environmental concern	8

APPENDIX H

Replicated Environmental Provisions in the US' Trade Agreements

Table 30. Environmental Provisions Always Adopted in the US' FTAs (2003-2015)

	US	EU
1	Commitment to enhance, strengthen, improve levels of environmental protection	9
2	Preamble refers to the environment	10
3	Definition of environmental law, environmental governance, etc.	1
4	Laws and regulations should provide for high levels of environmental protection	10
5	Creation of an intergovernmental committee	10
6	Public participation in the implementation of the agreement	10
7	General obligation to exchange information related to the environment	10
8	Vague commitments to cooperate	10
9	Specific non-jurisdictional dispute settlement mechanism	10
10	Binding obligations	10
11	Sovereignty in the enforcement of environmental measures	2
12	Private access to remedies, procedural guarantees and appropriate sanctions	1
13	General exceptions on procurement and the environment	6
14	Exclusion of environmentally harmful inventions from patentability	10
15	Conservation of natural resources as a general exception for trade in goods	10
16	Exception on services linked to life or health of fauna or flora	9
17	Sovereignty in determining the level of protection according to State priorities	10
18	Technical specification or restriction in tender procedure	5
19	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora	10
20	References to other institutions related to the environment	10
21	Negotiations of environmental agreements	10
22	Implementation other agreements related to the environment	10
23	Coherence with domestic trade and/or investment policies	10
24	Inappropriate to encourage investment by relaxing environmental measures	10
25	Inappropriate to encourage trade by relaxing environmental measures	10

Table 31. Environmental Provisions Frequently Adopted in the US's FTAs (2003-2015)

	US	EU	
10	1	Other environmental norms	8
	2	Promotion of specific voluntary measures regarding the environment	10
	3	Establishment of a contact point on environmental matters	9
	4	Specific trade related measure on establishment	7
	5	General trade related measure on investment	3
	6	Specific trade related measure on expropriation	2
	7	SPS measures and the environment	10
	8	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment	10
	9	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency	10
	9	1	Environmental education or public awareness
2		Public communication of actions undertaken pursuant to the agreement	6
3		Conduct joint scientific research on the environment	7
4		Public communication of the decisions or recommendations of joint institutions	4
5		Dispute Settlement Mechanism: Non-jurisdictional mechanism for failure to enforce environmental measures	0
6		Technical assistance, training or capacity building provided to another Party	8
7		Public participation in the adoption of environmental measures	8
8	1	Endangered species and their illegal trade	5
	2	Specific means to exchange information	4
	3	Production of an environmental report in investor-state dispute	1
	4	Provision of information when taking measures to protect the environment	9
	5	Joint environmental assessment and study or monitoring of environmental concern	8
	6	Commitment to consider alleged violation brought by a citizen of any Party	1

APPENDIX I

Environmental Provisions Adopted in the US-Korea FTA but not in the EU-Korea FTA

1	Domestic waste
2	Obligation to respect the environment in outward processing zones*
3	Environmental education public awareness
4	Air pollution
5	Noise pollution*
6	Specific economic or market instruments meant to promote environmental protection
7	Definition of environmental law, environmental governance, etc.
8	Prevalence of CITES in case of inconsistency
9	Other references to the MARPOL*
10	Other references to the Montreal Protocol*
11	Prevalence of the Montreal Protocol in case of inconsistency
12	Other references to the Whaling Convention*
13	Implementation of the whole CITES
14	Prevalence other agreements related to the environment in case of inconsistency
15	Implementation of the whole CCAMLR*
16	Implementation of the whole Whaling Convention*
17	Other references to the CITES
18	Implementation of the whole Ramsar Convention*
19	Implementation of the whole Montreal Protocol*
20	Other references to the CCAMLR*
21	Implementation of the whole Marpol Convention*
22	Protection of the environment as a general exception for trade in goods
23	Technical specification or restriction in tender procedure
24	Norms on environmental services
25	Specific trade related measure on performance requirements
26	General trade related measure on investment
27	Specific trade related measure on expropriation
28	Dispute Settlement Mechanism: Non-jurisdictional mechanism for failure to enforce environmental measures
29	Specific preliminary steps in a dispute settlement mechanism
30	Explicit mention of the illegality of extraterritorial enforcement activities
31	Other references to the RAMSAR Convention*
32	Commitment to consider alleged violation brought by a citizen of any Party*
33	Sovereignty in the enforcement of environmental measures
34	Production of an environmental report in state-state dispute over trade provisions of the trade agreement
35	Consent to use the dispute settlement mechanism of a multilateral environmental agreements

36	Private access to remedies, procedural guarantees and appropriate sanctions
37	Production of an environmental report in investor-state dispute
38	Conduct joint scientific research on the environment
39	Public communication of the decisions or recommendations of joint institutions
40	Interaction between social issues and the environment
41	Wetlands**
42	Invasive or alien species**
43	Protection of coastal areas**
44	Public participation in environmental impact assessment**
45	Commitment to make available communications received from the public**
46	Public sessions of joint institutions**
47	Interaction between human health and the environment**
48	Emergency assistance in case of natural disaster**

*the related provision was only adopted in the Korea-US FTA in 2007 and not by any of the FTAs of Korea before and after.

**the related provision was only adopted in the Korea-US FTA in 2012 and not by any of the FTAs of Korea before and after.

APPENDIX J

Environmental Provisions Adopted in the EU-Korea FTA but not in the US-Korea FTA

1	Promotion of renewable energy
2	Conservation of forests
3	General encouragement to invest and trade in environmental goods and services
4	Protection of seas and oceans
5	Combat illegal exploitation of forests
6	Sustainable trade in fishery products
7	Conservation of fishery resources
8	Protected areas, parks and natural reserves
9	Cooperation on climate change
10	Pesticides, fertilizers, toxic or hazardous products and chemicals
11	Sustainable trade in forestry products
12	Other norms on hazardous waste
13	Possibility to opt out of harmonized environmental norms***
14	Right to maintain or adopt any measures in regards of a specific sector of services
15	Exception on services linked to conservation of natural resources
16	Not the Parties intentions to harmonize their environmental standards
17	Exceptions allowing agricultural subsidies
18	Cooperation on green public procurement
19	Specific means to exchange information
20	Direct contact between non-state actors of both Parties
21	Implementation of the whole Kyoto Protocol
22	Other references to the CBD
23	Other references to the Agenda 21 of 1992
24	Other references to the Johannesburg Declaration 2002
25	References to the UNEP
26	Implementation of the whole UNFCCC
27	Other references to the UNFCCC
28	Mutual recognition of national environmental measures
28	Interaction between indigenous communities or traditional knowledge and the environment
30	Reference to mutual supportiveness between environment and trade or development
31	International standards or risk assessments carried out by international organizations should be used or taken into account when designing environmental measures
32	Interaction between transport and the environment
33	Funding provided to non-state actors
34	Equitable sharing of benefits arising from use of genetic resources
35	Other norms on genetic resources

***the related provision was only adopted in the EU-Korea FTA in 2012 and not by any of the FTAs of Korea before and after.

APPENDIX K

		Fair Share	Long-term Goal
1	EU	Insufficient	Reduction by 80-96% from 1990 by 2050
2	US	Critically Insufficient	76% below 1990 incl. LULUCF (Obama Administration)
3	Peru	Insufficient	None
4	Korea	Highly Insufficient	None
5	Canada	Highly Insufficient	80% net reduction below 2005 by 2050
6	Chile	Highly Insufficient	None
7	Panama		
8	Costa Rica	2°C Compatible	7.2 MtCO ₂ e by 2050 incl. LULUCF
9	Colombia		
10	New Zealand	Insufficient	50% below 1990 by 2050
11	Switzerland	Insufficient	70-85% below 1990 by 2050
12	Honduras		
13	Japan	Highly Insufficient	80% by 2050 excl. LULUCF
14	Singapore	Highly Insufficient	None
15	Iceland		
16	Norway	Insufficient	Reduction by 80-95% from 1990
17	Liechtenstein		
18	Guatemala		
19	Malaysia		
20	El Salvador		
21	Australia	Insufficient	None
22	Nicaragua		
23	Vietnam		
24	China	Highly Insufficient	None
25	Mexico	Insufficient	50% below 2000 by 2050
26	Brunei Darussalam		
27	Taiwan		
28	Thailand		
29	Dominican Republic		
30	Turkey	Critically Insufficient	None

Data Source: Climate Action Tracker (Emissions)

*LULUCFL means Land Use, Land-Use Change and Forestry

**None in Long-term Goal doesn't refer to related country has no short-term goals.

***Targets range over 4°C: Critically Insufficient, 3-4°C: Highly Insufficient, 2-3°C: Insufficient, 1.5-2°C: 2°C Compatible, 1.5°C: Paris Agreement Compatible, below 1.5°C: Role Model. For detailed discussion on Rating system please visit <https://climateactiontracker.org/countries/rating-system/>

APPENDIX L

Other Actors in Trade Agreements

1) Peru

Peru concluded 19 trade agreements with Cuba (2000), Argentina (2000) as a member of Andean Countries³⁰, Thailand (2005), MERCOSUR³¹ (2005), Chile (2006), US(2006), Singapore (2008), Canada (2008), China (2009), EFTA³² (2010), Guatemala (2011), Japan (2011), Panama (2011), Korea (2011), Costa Rica (2011), Venezuela (2012), EU (2012)³³, Honduras (2015), and TPP (2015). Peru is among the top 79 countries with the highest number of provisions in the category of Regulatory Space according to the TREND Dataset.

Table for example, shows that compared to the EU, Peru has much less homogenous dispersion of frequently adopted environmental provisions across its PTAs. Table 27 presents except the provision *General exceptions on procurement and the environment (6, 11)*, *Technical specification or restriction in tender procedure (5, 11)*, *Other norms on genetic resources (6, 5)*, *Interaction between indigenous communities or traditional knowledge and the environment (4, 4)*, other provisions belong to general provisions always or frequently adopted by the EU or the US.

Frequently adopted environmental provisions in Peru's PTA (2000-2016). (213)³⁴

		Environmental Provisions
18	1	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
17	1	Conservation of natural resources as a general exceptions for trade in goods
	2	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
	3	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	4	SPS measures and the environment
14	1	Implementation other agreements related to the environment
13	1	Exception on services linked to life or health of fauna or flora
12	1	Exclusion of environmentally harmful inventions from patentability
	2	References to other institutions related to the environment
	3	General exceptions on procurement and the environment
11	1	Specific trade related measure on expropriation
	2	Provision of information when taking measures to protect the environment
	3	Other norms on biodiversity

³⁰ The name of trade agreement is Andean Countries-Argentina (2000) and partners are Peru, Colombia, Ecuador, Venezuela, and Argentina.

³¹ Partners are Argentina, Brazil, Paraguay, and Uruguay.

³² EFTA is consisted of Norway, Switzerland, Iceland and Liechtenstein

³³ Colombia also joined the agreement later.

³⁴ This number in parenthesis refers to the number of types of environmental provisions adopted by Peru in 2000-2016.

	4	General obligation to exchange information related to the environment
	5	Technical specification or restriction in tender procedure
	6	Other norms on genetic resources
	7	Interaction between indigenous communities or traditional knowledge and the environment

Environmental provisions firstly and only adopted by the EU

1	Prevalence of the Kyoto Protocol in case of inconsistency
2	Implementation of the whole Kyoto Protocol
3	References to the Johannesburg Plan of Implementation 2002
4	Other references to the Agenda 21 of 1992
5	Other references to the Johannesburg Declaration 2002
6	Implementation of the whole Rotterdam Convention
7	Implementation of the whole Basel Convention
8	Implementation of the whole Cartagena Protocol
9	References to the REDD programme
10	Implementation of the whole UNFCCC
11	Implementation of the whole Stockholm Convention
12	Other references to the Kyoto Protocol
13	Other references to the Rio Declaration of 1992
14	Prevalence of the Cartagena Protocol in case of inconsistency
15	Other references to the UNFCCC
16	Precautionary principle
17	Exception on services linked to conservation of natural resources
18	Common but differentiated responsibilities principle
19	Measures against a high level of environmental protection set for protectionist purposes*
20	Scientific knowledge when designing environmental measures*

*Adopted firstly by the EU but also selected by TPP.

2) Canada

Between 2000 and 2016, Canada joined NAFTA (1992), and signed a PTA with Costa Rica (2001), Peru (2008), Colombia (2008), EFTA (2008), Jordan (2009), Panama (2010), Honduras (2013), the EU (CETA) (2014), and TPP (2015). Canada show the highest number of environmental provisions among the top 80 countries.

Frequently adopted environmental provisions in Canada's PTA (2000-2016). (203)

		Environmental Provisions
10	1	SPS measures and the environment
	2	Conservation of natural resources as a general exceptions for trade in goods
	3	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	4	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	5	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
9	1	Commitment to enhance, strengthen, improve levels of environmental protection

	2	Preamble refers to the environment
	3	Other environmental norms
	4	Definition of environmental law, environmental governance, etc.
	5	Laws and regulations should provide for high levels of environmental protection
	6	Specific non-jurisdictional dispute settlement mechanism
	7	Commitment to consider alleged violation brought by a citizen of any Party
	8	Binding obligations
	9	Private access to remedies, procedural guarantees and appropriate sanctions
	10	Public participation in the adoption of environmental measures
	11	Specific means to conduct scientific cooperation
	12	Creation of an intergovernmental committee
	13	Provision of information when taking measures to protect the environment
	14	Publication of environmental laws, regulations and administrative rulings
	15	Establishment of a contact point on environmental matters
	16	Vague commitments to cooperate
	17	Sovereignty in determining the level of protection according to State priorities
	18	References to other institutions related to the environment
	19	Implementation other agreements related to the environment
	20	Coherence in general
	21	Coherence with domestic trade and/or investment policies
	8	1
2		Promotion of specific voluntary measures regarding the environment
3		Explicit mention of the illegality of extraterritorial enforcement activities
4		Sovereignty in the enforcement of environmental measures
5		Non-binding obligations
6		Public participation in the implementation of the agreement
7		Exception on services linked to life or health of fauna or flora
8		Inappropriate to encourage investment by relaxing environmental measures
9		Public communication of actions undertaken pursuant to the agreement
10		Inappropriate to encourage trade by relaxing environmental measures

Environmental provisions firstly and only adopted by the EU

1	Polluter pays principle
2	Environmental impact assessment of the agreement
3	Specific economic or market instruments meant to promote environmental protection
4	Water efficiency
5	Cooperation on climate change
6	Protection of the environment as a general exceptions for trade in goods
7	Exclusion of water from the agreement
8	Stakeholders international committee
9	Other references to the Agenda 21 of 1992
10	References to the UNEP
11	Other references to the Rio Declaration of 1992
12	Funding provided to non-state actors
13	Noise pollution*
14	Combat illegal exploitation of forests*
15	Sustainable trade in fishery products*
16	Combat illegal fishing*

17	Promotion of energy efficiency*
18	Sustainable trade in forestry products*
19	Other norms allowing subsidies*
20	Norms on environmental services*
21	Exclusion of specific sectors from procurement liberalization*
22	Direct contact between non-state actors of both Parties*
23	Commitment to make available communications received from the public*
24	Public sessions of joint institutions*
25	Panel shall consult or defer to any relevant entity the interpretation of a Party's obligation under a multilateral environmental agreement*
26	Environmental experts as panelists or mediators in state-state dispute over trade provisions of the trade agreement*
27	Scientific knowledge when designing environmental measures*

*Adopted firstly by the EU but also selected by TPP.

3) Chile

Between 2000 and 2016, Chile signed 21 PTAs with Republic of Korea (2003), the US (2003), EFTA (2003) China (2005), Trans-Pacific Strategic EPA (2005), India (2006), Panama (2006), Peru (2006), Colombia (2006), Japan (2007), Ecuador (2008), Australia (2008), MERCOSUR (2009), Turkey (2009), Malaysia (2010), Vietnam (2011), Hong Kong (2012), Thailand (2013), and joined TPP (2015). Chile is among the top78 countries with the highest number of provisions in the category of Regulatory Space.

Frequently adopted environmental provisions in Chile's PTA (2000-2016). (169)

		Environmental Provisions
19	1	Conservation of natural resources as a general exceptions for trade in goods
	2	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	3	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	4	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
	5	SPS measures and the environment
17	1	Preamble refers to the environment
	2	Implementation other agreements related to the environment
15	1	References to other institutions related to the environment
14	1	Exception on services linked to life or health of fauna or flora
12	1	General obligation to exchange information related to the environment
	2	Specific means to conduct scientific cooperation
11	1	Environmental education or public awareness
	2	Vague commitments to cooperate
	3	Creation of an intergovernmental committee
	4	Establishment of a contact point on environmental matters
10	1	General exceptions on procurement and the environment
	2	Exclusion of environmentally harmful inventions from patentability
	3	Joint environmental assessment and study or monitoring of environmental concern

	4	Negotiations of environmental agreements
	5	Provision of information when taking measures to protect the environment
	6	Coherence with domestic trade and/or investment policies
	7	Measures against a high level of environmental protection set for protectionist purposes
	8	Inappropriate to encourage investment by relaxing environmental measures

Environmental provisions firstly and only adopted by the EU

1	Interaction between land-use planning and the environment
2	Alignment of a Party's environmental legislation to the other Party's
3	Promotion of energy efficiency*

*Adopted firstly by the EU but also selected by TPP.

4) Panama

Between 2000 and 2016, Panama signed 13 PTAs with Central America (2002), Taiwan (2003), Chile (2006), Singapore (2006), the US (2007), Canada (2010), Mexico (2011) as a member of Central America, Peru (2011), the US (2012), the EU (2012) as a member of Central America, Colombia (2013), EFTA (2013) as a member of Central America, and Mexico (2014).

Frequently adopted environmental provisions in Panama's PTA (2000-2016). (209)

		Environmental Provisions
13	1	References to other institutions related to the environment
12	1	Conservation of natural resources as a general exceptions for trade in goods
	2	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	3	Exception on services linked to life or health of fauna or flora
	4	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	5	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
	6	Implementation other agreements related to the environment
	7	SPS measures and the environment
11	1	Exclusion of environmentally harmful inventions from patentability
10	1	Inappropriate to encourage investment by relaxing environmental measures
	2	Binding obligations
9	1	General trade related measure on investment
8	1	Sovereignty in determining the level of protection according to State priorities
	2	Specific trade related measure on performance requirements
	3	Preamble refers to the environment
	4	Provision of information when taking measures to protect the environment
	5	Other environmental norms
	3	Coherence with domestic trade and/or investment policies
	4	Negotiations of environmental agreements
	5	Provision of information when taking measures to protect the environment

	6	Coherence with domestic trade and/or investment policies
	7	General exceptions on procurement and the environment
	8	Establishment of a contact point on environmental matters

5) Costa Rica

Between 2000 and 2016 Costa Rica signed 12 PTAs with Canada (2001), Panama (2002) as a member of Central America, CARICOM (2004)³⁵, CAFTA (2004), CAFTA with Dominican Republic (2004), Singapore (2010), China (2010), Mexico (2011), Peru (2011), the EU (2012) as a member of Central America, Colombia (2013), and EFTA (2013).

Frequently adopted environmental provisions in Costa Rica's PTA (2000-2016). (193)

		Environmental Provisions
12	1	SPS measures and the environment
	2	Conservation of natural resources as a general exceptions for trade in goods
	3	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	4	Exception on services linked to life or health of fauna or flora
	5	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	6	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
11	1	Implementation other agreements related to the environment
10	1	References to other institutions related to the environment
	2	Exclusion of environmentally harmful inventions from patentability
	3	Preamble refers to the environment
9	1	Provision of information when taking measures to protect the environment
	2	Binding obligations
	3	Coherence in general
8	1	Prevalence other agreements related to the environment in case of inconsistency
	2	Other norms on biodiversity
	3	General trade related measure on investment
	4	Inappropriate to encourage investment by relaxing environmental measures
	5	General exceptions on procurement and the environment

Environmental provisions firstly and only adopted by the EU

1	Contaminated land
2	Air pollution
3	Desertification, degradation, salinisation and acidification
4	Environmental impact assessment of the agreement
5	Protection of seas and oceans
6	Sustainable trade in fishery products

³⁵ Partners are Antigua and Barbuda, Bahamas, Barbados, Belize, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Costa Rica, Dominica, Suriname, Grenada, Guyana, Jamaica, Trinidad and Tobago, and Montserrat.

7	Combat illegal fishing
8	Wetlands
9	Cooperation on climate change
10	Protection of coastal areas
11	Management of rivers, basins and lakes
12	Encouragement for specific investment and trade in environmental goods and services
13	Pesticides, fertilizers, toxic or hazardous products and chemicals
14	Ozone layer and CFC
15	Implementation of a specific part of CITES
16	Ratification of the Rotterdam Convention
17	Implementation of the whole Kyoto Protocol
18	Implementation of the whole CITES
19	Implementation of the whole Rotterdam Convention
20	Implementation of the whole Basel Convention
21	Implementation of the whole Cartagena Protocol
22	Implementation of the whole Stockholm Convention
23	Implementation of the whole Montreal Protocol
24	Ratification of other agreements related to the environment
25	Exception on services linked to conservation of natural resources
26	Stakeholders international committee
27	Interaction between gender policies and the environment
28	Interaction between energy policies and the environment
29	Interaction between industrial activities and the environment
30	Interaction between mining and the environment
31	Common but differentiated responsibilities principle
32	Measures against a high level of environmental protection set for protectionist purposes
33	Maintain existing level of environmental protection
34	Harmonization of environmental measures
35	Environmental experts as panelists or mediators in state-state dispute over trade provisions of the trade agreement
36	Cooperation on enforcement

6) Colombia

Between 2000 and 2016 Colombia signed 14 PTAs with Cuba (2000), Argentina (2000)³⁶ and MERCOSUR (2004) as a member of Andean Countries, Chile (2006), the US (2006), Northern Triangle (2007), EFTA (2008), Canada (2008), the EU with Peru (2012), Israel (2013), the US (2013), Costa Rica (2013), Panama (2013), and Republic of Korea (2013).

Frequently adopted environmental provisions in Colombia's PTA (2000-2016). (193)

		Environmental Provisions
13	1	Conservation of natural resources as a general exceptions for trade in goods
	2	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
12	1	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to

³⁶ Partners of trade agreement with are Argentina, Peru, Colombia, Ecuador, and Venezuela.

		the environment
	2	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
11	1	Other norms on biodiversity
	2	References to other institutions related to the environment
10	1	Exception on services linked to life or health of fauna or flora
	2	Vague commitments to cooperate
	3	General exceptions on procurement and the environment
	4	Implementation other agreements related to the environment
9	2	Preamble refers to the environment
8	1	General obligation to exchange information related to the environment
	2	Coherence with domestic trade and/or investment policies
	3	Sovereignty over natural resources in general
	4	Foreign investment ban from specific sectors related to the environment
	5	Other norms on hazardous waste

Environmental provisions firstly and only adopted by the EU

1	Implementation of a specific part of CITES
2	Prevalence of the Kyoto Protocol in case of inconsistency
3	Implementation of the whole Kyoto Protocol
4	References to the Johannesburg Plan of Implementation 2002
5	Other references to the Agenda 21 of 1992
6	Other references to the Johannesburg Declaration 2002
7	Implementation of the whole Rotterdam Convention
8	Implementation of the whole Basel Convention
9	Implementation of the whole Cartagena Protocol
10	References to the REDD programme
11	Implementation of the whole UNFCCC
12	Implementation of the whole Stockholm Convention
13	Other references to the Kyoto Protocol
14	Implementation of the whole UNFCCC
15	Implementation of the whole Stockholm Convention
16	Other references to the Kyoto Protocol
17	Other references to the Rio Declaration of 1992
18	Prevalence of the Stockholm Convention in case of inconsistency
19	Prevalence of the Cartagena Protocol in case of inconsistency
20	Other references to the UNFCCC
21	Environmental impact assessment of the agreement
22	Reduction of GHG emissions
23	Combat illegal exploitation of forests
24	Common but differentiated responsibilities principle

7) New Zealand

New Zealand is among the top 93 countries with the highest number of provisions in the category of Environmental Protection. Between 2000 and 2016, New Zealand signed 10 PTAs with Singapore (2000), Thailand (2005), Trans-Pacific Strategic EPA³⁷ (2005), China (2008), Association of Southeast Asian Nations Australia New Zealand FTA (AANZFTA)³⁸ (2009), Malaysia (2009), Hong Kong (2010), Taiwan (2013), Republic of Korea (2015), and Trans-Pacific Partnership (TPP)³⁹ (2015).

Frequently adopted environmental provisions in New Zealand's PTA (2000-2016). (172)

		Environmental Provisions
10	1	Exclusion of environmentally harmful inventions from patentability
	2	Conservation of natural resources as a general exceptions for trade in goods
	3	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	4	Exception on services linked to life or health of fauna or flora
	5	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	6	Sovereignty in determining the level of protection according to State priorities
	7	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
	8	SPS measures and the environment
	9	Implementation other agreements related to the environment
9	1	Other norms on water
	2	Creation of an intergovernmental committee
	3	Specific means to exchange information
	4	Funding of cooperation activities
	5	Public participation in the implementation of the agreement
	6	Creation of an intergovernmental committee
	7	Establishment of a contact point on environmental matters
	8	Vague commitments to cooperate
	9	Specific non-jurisdictional dispute settlement mechanism
	10	Sovereignty in the enforcement of environmental measures
	11	References to other institutions related to the environment
	12	Recognition of a development gap or of different capabilities
8	1	Provision of information when taking measures to protect the environment
	2	Environmental education or public awareness
	3	Preamble refers to the environment
	4	Other norms on biodiversity
	5	Other environmental norms
	6	Measures against a high level of environmental protection set for protectionist purposes
	7	Inappropriate to encourage investment by relaxing environmental measures
	8	Inappropriate to encourage trade by relaxing environmental measures
	9	Specific means to conduct scientific cooperation

³⁷ Partners are New Zealand, Brunei Darussalam, Chile, and Singapore.

³⁸ Partners are Australia, New Zealand, Philippines, Brunei Darussalam, Myanmar, Cambodia, Viet Nam, Singapore, Thailand, Indonesia, Lao People's Democratic Republic, and Malaysia.

³⁹ Partners are Australia, New Zealand, Peru, Brunei Darussalam, Canada, Viet Nam, Chile, Singapore, United States of America, Japan, Malaysia, Mexico

8) Switzerland

Switzerland is among the top 68 countries with the highest number of provisions in the category of Regulatory Space. Between 2000 and 2016, Switzerland signed 25 PTAs as a member of EFTA⁴⁰ with Macedonia (2000), Mexico (2000), Croatia (2001), Jordan (2001), EFTA Services (2001), Singapore (2002), Chile (2003), Lebanon (2004), Tunisia (2004), Republic of Korea (2005), Southern African Customs Union (SACU)⁴¹ (2006), Egypt (2007), Canada (2008), Colombia (2008), Albania (2009), Serbia (2009), GCC⁴² (2009), Japan (2009), Ukraine (2010), Peru (2010), Montenegro (2011), Hong Kong (2011), Bosnia and Herzegovina (2013), Central America⁴³ (2013), and a bilateral trade agreement with China (2013).

Frequently adopted environmental provisions in Switzerland's PTA (2000-2016). (118)

Environmental Provisions		
25	1	Preamble refers to the environment
23	1	Conservation of natural resources as a general exceptions for trade in goods
	2	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
21	1	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	2	SPS measures and the environment
20	1	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
19	1	References to other institutions related to the environment
	2	Other references to the CITES
	3	Coherence with domestic trade and/or investment policies
17	1	Protection of whales and seals
16	1	Exceptions allowing agricultural subsidies
14	1	Exception on services linked to life or health of fauna or flora
13	1	Implementation other agreements related to the environment

Environmental provisions firstly and only adopted by the EU

1	Interaction between land-use planning and the environment
2	Alignment of a Party's environmental legislation to the other Party's
3	Promotion of energy efficiency*

*Adopted firstly by the EU but also selected by TPP.

⁴⁰ EFTA is consisted of Norway, Switzerland, Macedonia, Iceland and Liechtenstein.

⁴¹ Partners are Namibia, Norway, Botswana, South Africa, Swaziland, Switzerland, Iceland, Lesotho, and Liechtenstein.

⁴² Partners are Oman, Bahrain, Norway, Qatar, Switzerland, United Arab Emirates, Iceland, Kuwait, Liechtenstein, and Saudi Arabia.

⁴³ Partners are Norway, Bosnia and Herzegovina, Switzerland, Iceland, and Liechtenstein.

9) Honduras

Honduras has adopted the highest number of provisions in the category of Regulatory Space among the top 92 countries.

Between 2000 and 2016 Honduras signed 9 PTAs with Mexico (2000) as a member of Northern Triangle⁴⁴, Panama (2002)⁴⁵ and Central American Free Trade Agreement (CAFTA) (2004), CAFTA with Dominican Republic (2004), Taiwan with El Salvador (2007), Mexico (2011) as a member of Central America, the EU (2012) as a member of Central America, Canada (2013), and Peru (2015).

Frequently adopted environmental provisions in Honduras's PTA (2000-2016). (198)

		Environmental Provisions
9	1	Conservation of natural resources as a general exceptions for trade in goods
	2	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	3	Exception on services linked to life or health of fauna or flora
	4	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
	5	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
	6	SPS measures and the environment
	7	Provision of information when taking measures to protect the environment
	8	Inappropriate to encourage investment by relaxing environmental measures
	9	Binding obligations
	10	Implementation other agreements related to the environment
8	1	General trade related measure on investment
	2	Preamble refers to the environment
7	1	Exclusion of environmentally harmful inventions from patentability
	2	Sovereignty in determining the level of protection according to State priorities
	3	Dispute Settlement Mechanism: Non-jurisdictional mechanism for failure to enforce environmental measures
6	1	Specific trade related measure on performance requirements
	2	Other environmental norms
	3	Coherence in general
	4	Specific trade related measure on establishment
	5	Prevalence other agreements related to the environment in case of inconsistency
	6	Recognition of a development gap or of different capabilities
	7	Specific means to exchange information
	8	General obligation to exchange information related to the environment
	9	General exceptions on procurement and the environment
	10	Technical specification or restriction in tender procedure
	11	Specific trade related measure on expropriation
	12	References to other institutions related to the environment

⁴⁴ Northern Triangle is consisted of El Salvador, Guatemala, and Honduras.

⁴⁵ The name of trade agreement is Central America-Panama Trade Agreement and partners are Nicaragua, Panama, Costa Rica, El Salvador, Guatemala, and Honduras.

10) Japan

Between 2000 and 2016, Japan signed 16 PTAs with Singapore (2002), Mexico (2004), Malaysia (2005), Philippines (2006), Brunei (2007), Indonesia (2007), Chile (2007), Thailand (2007), Vietnam (2008), ASEAN (2008), Switzerland (2009), Peru (2011), India (2011), Australia (2014), Mongolia (2015), and joined TPP (2015).

Frequently adopted environmental provisions in Japan's PTA (2000-2016). (170)

		Environmental Provisions
16	1	Conservation of natural resources as a general exceptions for trade in goods
	2	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
15	1	Exception on services linked to life or health of fauna or flora
14	1	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	1	Vague commitments to cooperate
	1	Implementation other agreements related to the environment
13	1	General obligation to exchange information related to the environment
	2	Any inconsistency between a trade agreement and any other agreement shall be resolved by consultation
	3	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
12	1	Specific means to conduct scientific cooperation
	2	SPS measures and the environment
11	1	References to other institutions related to the environment
	2	Inappropriate to encourage investment by relaxing environmental measures
	3	Creation of an intergovernmental committee

11) China

China has the highest number of provisions in the category of MEAs among the top 99 countries. Between 2000 and 2016, China signed 14 PTAs with Hong Kong (2003), Macao (2003), ASEAN (2004), Asia Pacific Trade Agreement⁴⁶ (2005), Chile (2005), Pakistan (2006), ASEAN Services (2007), Singapore (2008), New Zealand (2008), Pakistan Services (2009), Peru (2009), Costa Rica (2010), Switzerland (2013), Australia (2015), and Republic of Korea (2015).

Frequently adopted environmental provisions in China's PTA (2000-2016). (140)

		Environmental Provisions
13	1	General exceptions for trade in goods: Necessary for the protection of life and health of fauna and flora
12	1	Conservation of natural resources as a general exceptions for trade in goods
11	1	Exception on services linked to life or health of fauna or flora
9	1	References to other institutions related to the environment
	2	SPS measures and the environment
	3	Right to prepare, elaborate, adopt or apply technical barriers to trade measures related to the environment
	4	Right to derogate from the regular adoption procedure of a technical barrier to trade measure in case of emergency
8	1	Provision of information when taking measures to protect the environment
	2	Implementation other agreements related to the environment
7	1	Prevalence other agreements related to the environment in case of inconsistency
	2	General obligation to exchange information related to the environment
	3	Vague commitments to cooperate
	4	Preamble refers to the environment
	5	Coherence with domestic trade and/or investment policies

⁴⁶ The name of trade agreement is Asia Pacific Trade Agreement (Bangkok Agreement amended) (2005) and partners are Bangladesh, Sri Lanka, China, India, Korea, and Lao People's Democratic Republic.

APPENDIX M

List of PTAs for Selected Countries Between 2000 and 2016

	South-South			South-North			North-North		
1	Peru	Honduras	2015	TPP		2015	Canada	EU	2014
2	Peru	Venezuela	2012	Colombia Peru	EU	2012	Canada	EFTA	2008
3	Peru	Costa Rica	2011	Peru	Japan	2011	NZ	Singapore	2000
4	Peru	Korea	2011	Peru	EFTA	2010	EU	Singapore	2015
5	Peru	Guatemala	2011	Peru	Canada	2008	US	Singapore	2003
6	Peru	Panama	2011	Peru	Singapore	2008	Australia	US	2004
7	Peru	Chile	2006	Peru	US	2006	EFTA	Singapore	2002
8	Peru	MERCOSUR	2005	Chile	Australia	2008	EFTA Services		2001
9	Peru	Thailand	2005	Chile	Japan	2007	Japan	Australia	2014
10	Andean Countries	Argentina	2000	Trans-Pacific EPA		2005	Japan	Switzerland	2009
11	Peru	Cuba	2000	Chile	US	2003	Japan	Singapore	2002
12	Chile	Thailand	2013	Chile	EFTA	2003			
13	Chile	Hong Kong	2012	Chile	EU	2002			
14	Chile	Vietnam	2011	Honduras	Canada	2013			
15	Chile	Malaysia	2010	Panama	Canada	2010			
16	Chile	Turkey	2009	Jordan	Canada	2009			
17	Chile	MERCOSUR	2009	Colombia	Canada	2008			
18	Chile	Ecuador	2008	Costa Rica	Canada	2001			
19	Chile	Colombia	2006	NAFTA		1992			
20	Chile	Panama	2006	Central America	EFTA	2013			
21	Chile	India	2006	Central America	US	2012			
22	Chile	Korea	2003	Panama	US	2012			
23	Panama	Mexico	2014	Panama	US	2007			
24	Panama	Colombia	2013	Panama	Singapore	2006			
25	Central America	Mexico	2011	Costa Rica	Singapore	2010			
26	Panama	Taiwan	2003	CAFTA Dominican Republic		2004			
27	Panama	Central America	2002	CAFTA		2004			
28	Costa Rica	Colombia	2013	Colombia	US	2013			
29	Costa Rica	CARICOM	2004	Colombia	Israel	2013			
30	Colombia	Korea	2013	Colombia	EFTA	2008			
31	Colombia	Northern Triangle	2007	Colombia	US	2006			
32	Andean Countries	MERCOSUR	2004	Korea	NZ	2015			
33	Colombia	Cuba	2000	Taiwan	NZ	2013			
34	Korea	ASEAN	2006	Hong Kong	NZ	2010			
35	Korea	India	2009	Malaysia	NZ	2009			
36	Korea	Turkey	2012	AANZFTA		2009			
37	Korea	Australia	2014	Thailand	NZ	2005			
38	Honduras	Vietnam	2015	Vietnam	EU	2016			

39	Northern Triangle	El Salvador Taiwan	2007	Georgia	EU	2014			
40				Ukraine	EU	2014			
41				Moldova	EU	2014			
42				Central America	EU	2012			
43				Korea	EU	2010			
44				CARIFORUM	EU	2008			
45				Korea	US	2007			
46				Vietnam	US	2000			
47				Morocco	US	2004			
48				Bahrain	US	2004			
49				Oman	US	2006			
50				Korea	Singapore	2005			
51				Korea	EFTA	2005			
52				Korea	US	2012			
53				Korea	Canada	2014			
54				Bosnia and Herzegovina	EFTA	2013			
55				Hong Kong	EFTA	2011			
56				Montenegro	EFTA	2011			
57				Ukraine	EFTA	2010			
58				GCC	EFTA	2009			
59				Serbia	EFTA	2009			
60				Albania	EFTA	2009			
61				Egypt	EFTA	2007			
62				SACU	EFTA	2006			
63				Tunisia	EFTA	2004			
64				Lebanon	EFTA	2004			
65				Jordan	EFTA	2001			
66				Croatia	EFTA	2001			
67				Mexico	EFTA	2000			
68				Macedonia	EFTA	2000			
69				Mongolia	Japan	2015			
70				India	Japan	2011			
71				ASEAN	Japan	2008			
72				Vietnam	Japan	2008			
73				Thailand	Japan	2007			
74				Indonesia	Japan	2007			
75				Brunei	Japan	2007			
76				Philippines	Japan	2006			
77				Malaysia	Japan	2005			
78				Mexico	Japan	2004			