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Sustainable Development and Liberalization of Trade in Environmental Goods

An analysis of the APEC and WTO initiatives

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Globalization

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Abstract

The Asia-Pacific Economic Cooperation (APEC) and members of the World Trade Organization (WTO) have recently launched initiatives for reducing trade barriers on environmental goods. The initiatives are claimed by their participants to contribute positively to sustainable development (APEC 2012, European Commission 2014). The aim of this study is to investigate this claim by looking closer at the design of the two initiatives. First, the study defines ten criteria for how an environmental goods trade initiative could be designed to best contribute to sustainable development. Then, it evaluates whether the APEC and WTO initiatives are in compliance with the identified criteria. The data necessary to define the criteria was collected through semi-structured interviews with experts from the International Centre for Trade and Sustainable Development (ICTSD), the United Nations Environment Programme (UNEP) and the United Nations Conference on Trade and Development (UNCTAD).

The results of the analysis show that the initiatives have great room for improvement when it comes to both structure and product coverage. Substantial sustainable development gains can for instance be made by deepening the liberalization to include non-tariff barriers, including provisions that enhance technology transfer, and by broadening the product coverage, particularly by including more products in the sustainable energy category. Despite of their shortcomings, the initiatives should be welcomed as positive first steps to achieve free trade in environmental goods.

Preface

International trade agreements might not sound like the most appealing topic for a master thesis. At least that is what I used to think. I also thought I had read enough about the World Trade Organization (WTO) during my years in university to know that it was an outdated organization unable to agree on anything significant. When I was offered an internship at Norway's Mission to the WTO, however, my prejudices were soon to be challenged.

In the past year, the WTO has proved to be quite productive. First, in December 2013, the membership agreed on the first multilateral trade agreement since the organization's establishment in 1995. The so-called Bali package represents a significant move forward for the multilateral trading system, and gives hope for a soon ending to the 13-year old Doha Round. Following this, in January 2014, a group of member states decided to launch a proposal for a "green goods initiative", a trade agreement that seeks to lower tariffs on environmental goods, inspired by the existing environmental goods commitment made by the Asia-Pacific Economic Cooperation (APEC). My interest in environmental issues made me curious about how these agreements could benefit the environment, and this curiosity has resulted in the master thesis you are now about to read.

The work with my master project has not been completely solitary, and I am grateful to a number of people that have provided me with help and inspiration underway. First, I would like to thank all my previous colleagues at The Norwegian mission to the WTO for introducing me to the interesting world of trade, and especially Vegard Emaus and Kaja Brundtland Edrén who inspired me to write my thesis on trade and environment issues. I would also like to thank my informants, Ingrid Jegou, Robert Hamwey, Alexey Vikhlyaev and John Maughan, for valuable help and information. Furthermore, this thesis would probably not have existed, at least not in its current form, if it had not been for my always optimistic and encouraging supervisor John Eilif Hermansen. Thank you! In addition, I would like to thank my fellow students as well as the coffee machine in room A201 for keeping me company throughout the writing period. Finally, a big thank you goes to Dave for polishing my English, and to Benjamin for continuously reminding me that there exists a world outside room A201. I hope you enjoy reading my work.

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Abbreviations

APEC	Asia-Pacific Economic Cooperation
EG	Environmental goods
EGS	Environmental goods and services
EPP	Environmentally preferable product
CTE	Committee on Trade and Environment in the WTO
CTE SS	Special session of the Committee on Trade and Environment
CTS SS	Special session of the Council for Trade in Services in the WTO
DSM	Dispute settlement mechanism
GATT	General Agreement on Tariffs and Trade
GHG	Greenhouse gas
GPA	The Agreement on Government Procurement
GVC	Global value chain
HS	Harmonized commodity description and coding system
ICTSD	International Centre for Trade and Sustainable Development
ITA	Information Technology Agreement
IPCC	Intergovernmental Panel on Climate Change
LDC	Least developed country
MFN	Most favored nation
NTB	Non-tariff barrier
PPM	Process and production method
SETA	Sustainable Energy Trade Agreement
UNCTAD	United Nations Conference on Trade and Development
UNEP	United Nations Environment Programme
WCED	World Commission on Environment and Development
WTO	World Trade Organization

1.0. Introduction

The globalization of economy combined with the intensification of global environmental problems has created a need for international solutions that combine trade and sustainable development objectives. The green economy concept suggests that some of the environmental challenges we face can be met by steering economic activity into a more sustainable direction, and presents regulation of global trade as one of the tools that can be used for this purpose (UNEP 2013). One concrete example of how this can happen is through the promotion of trade in environmental goods, such as environmental technology and environmentally friendly products (Howse and van Bork 2006, UNEP 2013). The latest report from the Intergovernmental Panel on Climate Change (IPCC) leaves no doubt that the effects of climate change are already happening, and that substantial reductions of global greenhouse gas (GHG) emissions is needed to mitigate these effects (IPCC 2014). To induce trade in environmental goods, particularly within renewable energy technology, can lead to reduced dependability on carbon-based energy sources, and contribute to mitigate climate change. It can also enhance energy access in developing countries, which is a prerequisite for creating economic growth and development (Kanagawa and Nakata 2008).

Previous attempts on negotiating a multilateral agreement for liberalizing trade in environmental goods in the World Trade Organization (WTO) have failed, but recently both a regional and a plurilateral initiative have emerged. First, In 2012, the 21 economies of the Asia-Pacific Economic Cooperation (APEC) agreed to reduce tariffs to 5 percent or less on a list of 54 environmental goods within 2015 (APEC 2012). Following this, in January 2014, a group of 14 WTO states launched a proposal for a similar plurilateral environmental goods agreement within the WTO (European Commission 2014). Both the APEC and WTO initiatives are claimed by their participants to be contributing positively to sustainable development and green growth (APEC 2012, European Commission 2014).

This study seeks to evaluate the sustainable development contribution of the APEC and the WTO initiatives. This evaluation is important because it can help confirming the initiatives' environmental and social credibility. The world sees an increasing amount of “green”, “socially responsible” and “environmentally sustainable” projects and businesses, but the increased use of this kind of adjectives does not make the world a greener or more socially responsible place. The possibility that some of these projects are subject to so-called *greenwash* – or “disinformation spread to create an environmentally responsible public image” – is likely (Oxford Dictionaries 2014). It is therefore important to critically evaluate

such initiatives, to either confirm their credibility or to point out how they can improve.

In this study, the APEC and WTO initiatives are evaluated based on viewpoints from experts in the trade and sustainable development field. The results of this evaluation should be interesting for both policy makers, trade negotiators and the socially and environmentally concerned man in the street.

1.1. Research questions

To be able to evaluate the sustainable development contribution of the APEC and WTO initiatives, this study concentrates on answering two specific research questions:

- (i) *How could an initiative for liberalizing trade in environmental goods be designed to best contribute to sustainable development?*
- (ii) *How do the APEC and WTO initiatives comply with the suggested design?*

The first sub-question is about defining how an environmental goods trade initiative could be designed to give the best sustainable development gains. To answer this question, data from interviews are used to define ten sustainable development criteria, a process which is elaborated on in the methodology chapter. The information gathered to answer the first question also makes it possible to answer the second question, by evaluating how the designs of the APEC and WTO initiatives comply with the identified criteria.

1.2. Structure of the study

The next chapter gives a general introduction to the research topic, while chapter three is a theory chapter where different views on free trade are presented alongside a more detailed explanation of the sustainable development concept. Chapter four includes a description of the methodology of the study, while chapter five presents the empirical findings from the interviews, which include the identification of the ten sustainable development criteria. In chapters six and seven the WTO and APEC initiatives are presented and evaluated based on these criteria. A discussion of results and methods follows in chapter eight, while finally, a conclusion is provided in chapter nine.

1.3. Key concepts and actors

Before embarking on chapter two and the general introduction to the research topic, some important concepts and actors need to be introduced.

1.3.1. Environmental goods trade initiatives

This study uses the term *environmental goods trade initiatives* to describe initiatives or agreements between three or more countries to reduce trade barriers on parts of the environmental goods sector. What characterizes an environmental good is discussed thoroughly in chapter two. The initiatives evaluated in this study are APECs commitment from 2012 to reduce tariffs on 54 environmental goods, hereafter referred to as the APEC initiative, and the recently proposed environmental goods initiative within the WTO, which in this study will be named the WTO initiative. This plurilateral initiative must not be confused with the multilateral environmental goods and services (EGS) negotiations that have been taking place in the WTO since 2001 and that until now have remained fruitless.

1.3.2. The WTO

The WTO is the only international organization that regulates trade between nations (Utenriksdepartementet 2014). With its 159 member states it is able to regulate 97% of world trade through a set of agreements that have been negotiated and agreed to by its members (WTO 2013a). The WTOs well-functioning dispute settlement mechanism (DSM) makes the organization especially powerful, as it allows the WTO to impose economic sanctions on those members who do not follow the agreed rules (Eckersley 2004).

Although trade regulation and settling of trade disputes is the organization's primary objective, the WTO also holds sustainable development as one of their main goals. This is explicitly stated in the introduction to the Marrakesh agreement that established the organization in 1995, and is further shown in the Doha declaration from 2001 (WTO 1994, WTO 2001).

While the multilateral negotiations of new trade agreements have been at impasse for many years¹, several *plurilateral* agreements have been established within the WTO structure (Nakatomi 2013). The sectorial Information Technology agreement (ITA), the agreement on Government Procurement (GPA), and the current negotiations for a Trade in Services agreement (TISA) are all examples of "plurilaterals". A plurilateral agreement is characterized by including three or more countries, as opposed to a multilateral agreement that includes the whole membership of the WTO (ibid). The environmental goods initiative launched in January 2014 is a proposal for such a plurilateral agreement.

¹ The WTO managed to agree on a small package of issues on the Ministerial Conference in Bali in 2013, but the overall progress of the Doha Round is still uncertain (Walker, 2013).

1.3.3. APEC

The Asian-Pacific Economic Cooperation (APEC) is, as the name suggests, an economic cooperation among countries in the Asia-Pacific region. The cooperation consists of 21 member states², including big economies such as China, USA, Japan and Canada, and their main objective is to support sustainable economic growth and prosperity in the region (APEC 2014). The organization's main pillars of work include trade liberalization, business facilitation and economic and technological cooperation. The APEC member economies account for about 44% of global trade (APEC 2014). Their commitment from 2012 to reduce tariffs on 54 environmental goods will be introduced in greater detail later in this study.

1.3.4. Sustainable development

In 1987 the World Commission on Environment and Development (WCED), also known as the Brundtland Commission, defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development 1987:43). The concept introduces the possibility of an economic growth that includes concern for social inequality and the carrying capacity of ecosystems. The concept has later been thought of as containing three main dimensions: an economic dimension, an environmental dimension and a social dimension (Lehtonen 2004). The importance of trade for sustainable development is widely recognized by global organizations, and was recently reaffirmed in the declaration from the Rio +20 summit, which stated that trade is an “engine for development and sustained economic growth” (United Nations Conference on Sustainable Development 2012, paragraph 281). This concept will be further elaborated upon in the theory chapter.

1.3.5. Green economy

The Rio+20 summit also introduced *green economy* as an instrument to achieve sustainable development. Green economy is defined by the United Nations Environment Programme (UNEP) as an economy that leads to “improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities” (UNEP 2011:2). More specifically a green economy seeks to maintain biodiversity and ecosystem services, and produces economic growth that is “low-carbon, resource-efficient and socially inclusive” (ibid:2). This definition includes elements that coincide with the three dimensions of the

²APEC includes the following member states: USA, Australia, Brunei Darussalam, Canada, the Philippines, Indonesia, Japan, Malaysia, New Zealand, Singapore, South-Korea, Thailand, Hong Kong, China, Taiwan, Mexico, Papa New-Guinea, Chile, Peru, Russia and Vietnam.

sustainable development concept; an economic element (growth), an environmental element (low-carbon and resource-sufficient) and a social element (improved human well-being and social equity). However, the Rio +20 conference stated that green economy is only one way to reach sustainable development, and that different countries can choose different means to achieve this goal (United Nations Conference on Sustainable Development 2012). The liberalization of trade in environmental goods is one example of how a green economy can create trade opportunities and at the same time contribute to sustainable development (UNEP 2013).

1.3.6. Win-win-win

The sustainable development and green economy concepts share similarities with the notion “win-win-win” which is sometimes used about trade and environmental issues in the WTO. This “triple win” concept is used to describe situations that mutually benefit trade, environment and development (UNEP 2013). The liberalization of trade in environmental goods could represent a win-win-win, due to the potential benefits it can deliver in the three mentioned areas.

2.0. Why liberalize trade in environmental goods?

This chapter gives an introduction to the research topic, first by explaining the difficulty of defining what an environmental good is, and then by giving an outline of the potential benefits an environmental goods trade initiative could deliver.

2.1. Defining environmental goods

There exists no universal definition of what an environmental good (EG) is (UNEP 2013).

One of the challenges lies in deciding whether a good should be defined as environmental based on the way it is made or based on the way it is used, or both. The OECD defines the environmental goods and services (EGS) industry broadly as “activities which produce goods and services to measure, prevent, limit, minimize, or correct environmental damage to water, air and soil, as well as problems related to waste, noise and ecosystems” (OECD 2005:42).

This broad definition can be interpreted to include both goods that are environmental due to the way they are made (to limit and minimize environmental damage), and due to the way they are used (to limit, minimize, measure, prevent and correct environmental damage).

UNCTAD has tried to simplify the universe of environmental goods by sorting them in two main classes based partly on this distinction; class A, established environmental technologies, and class B, environmentally preferable products (EPPs) (UNCTAD 1995).

2.1.1. Established environmental technologies

The established environmental technologies are defined as “goods or technologies used primarily to prevent, minimize or remedy an environmental problem” (Howse and van Bork 2006:vii). In this category one finds industrial products which function is to provide an environmental service. This can include products or parts of products that are used in cleaning up after oil spills, to reduce air and water pollution, to improve energy and resource-efficiency and to facilitate the disposal of solid waste (Vossenaar 2013). Some of the goods included in this category have multiple end use functions, meaning that they can also be used for purposes that are not directly environmentally friendly, and are therefore referred to as “dual use” products (Hamwey 2005b). These products have created trouble for negotiators when defining which goods that should be included in a potential trade agreement (Sugathan and Brewer 2012). Despite of this issue, the established environmental technologies is the group of products that appear most frequently on the lists proposed in previous negotiations on environmental goods in the WTO, and are also dominating the APEC list of environmental goods (Vossenaar 2013).

2.1.2. Environmentally preferable products

The EPPs are defined as “products that cause significantly less ‘environmental harm’ at some stage of their life cycle than alternative products that serve the same purpose, or products the production or sale of which contribute significantly to the preservation of the environment”(Vikhlyayev 2003:35). These include both industrial and consumer products and are characterized by being more environmentally friendly than similar products that serve the same function. The EPPs are maybe what the man in the street typically thinks of as environmental goods, since these are products that often are available for consumers in supermarkets, such as organic agricultural products and products made with biodegradable materials (Hamwey 2005b). One can further divide EPPs into three subcategories, depending on at which stage in the product’s life cycle the environmental benefits are created; at either the production stage, the end-use stage or at the disposal stage (Howse and van Bork 2006). The EPPs therefore differ from the established environmental technologies, because it is not necessarily their end-use function that makes them “environmental”. Renewable energy technology, such as solar panels, can be put in both classes. They can be considered EPPs, because their end use function is more environmentally friendly than other electricity sources. They can also be placed among the established environmental technologies, as they contribute to energy and resource efficiency (Hamwey 2005a).

The category of EPPs that are classified so due to their production methods could be problematic to include in a WTO trade agreement, because of the organization’s way of defining “like” products. This definition is normally done based on the product’s end-use function, and not on the process and production methods (PPMs) of the good. This means that products with the same function, despite differing production methods, cannot be treated differently, e.g. be given different tariffs (WTO 2013b). There is however no clear legal justification for this practice in the GATT agreement, and current WTO jurisdiction shows that this practice is changing (Potts 2008), something which makes future inclusion of PPM-based EPPs legally possible.

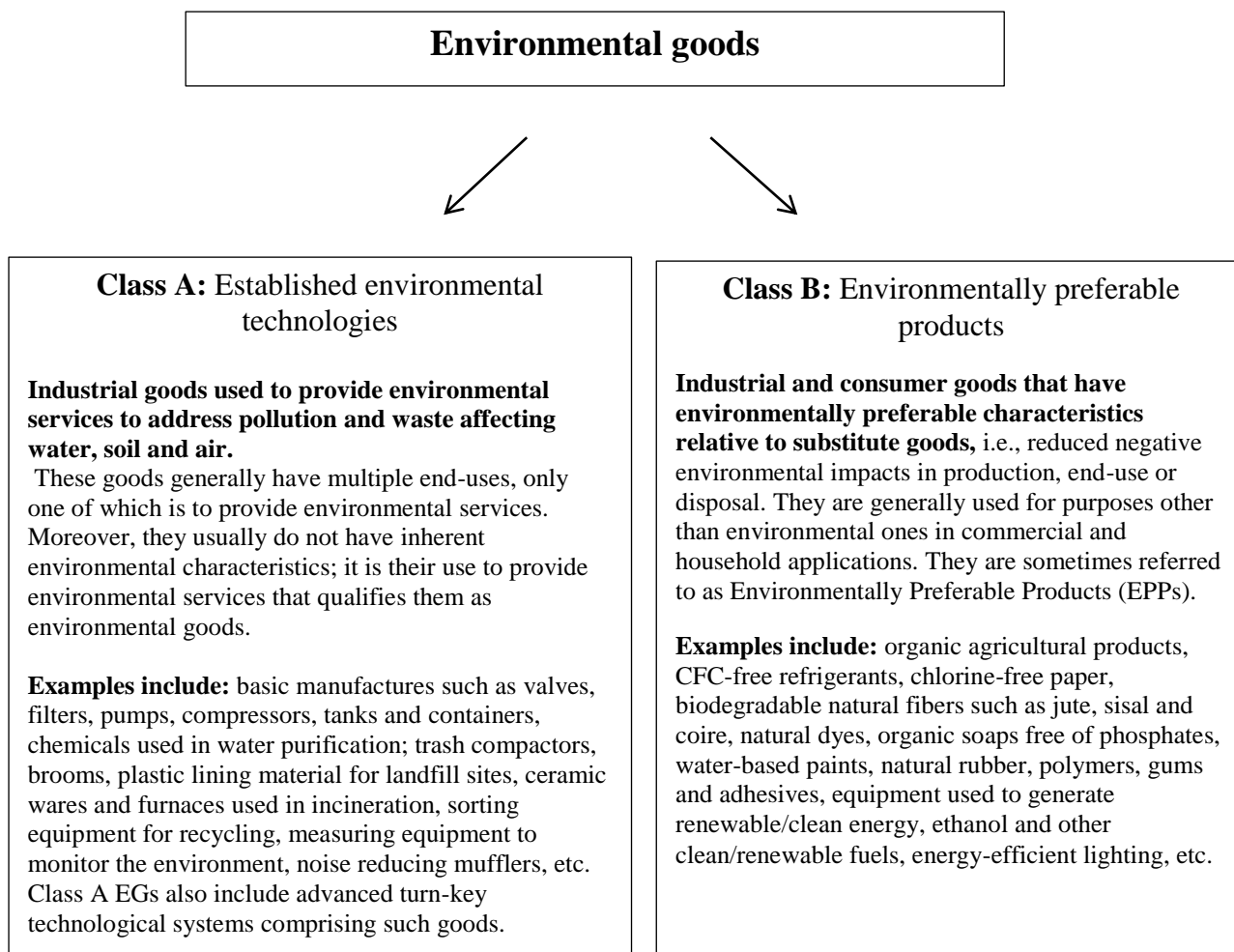


Figure 2.1 Classes of environmental goods (after Hamwey 2005b:3)

2.2. Potential benefits of liberalizing trade in environmental goods

As mentioned earlier, a successful liberalization of trade in environmental goods is thought to represent a “triple win” for trade, environment and development (Vossenaar 2013). The following sections contain a more detailed overview of these potential benefits, based on previous research on the issue.

2.2.1. Trade and trade barriers in the EG sector

The global market for environmental goods and services is growing at a fast rate (Claro et al. 2007, UNDP 2010). Statistics based on a compilation of 153 environmental goods show that global export more than doubled between 2001 and 2007, from US\$323 billion to US\$783.2 billion. At the same time, global import grew at almost the same rate from US\$333.8 billion to US\$753.8 billion (UNDP 2010). Industrialized economies are dominating the market, but some emerging developing economies, such as China, India, Brazil and Mexico, are also

starting to become important exporters of EGs (UNDP 2010). Developing countries show a significant growth potential within the sector, and are expected to grow faster than developed markets in the years to come. The least developed countries (LDCs) are lagging behind the other developing countries, but growth in EG trade in the LDCs is still higher than the global average (ibid).

In table 2.1 the biggest exporters and importers of the 54 environmental goods on the APEC list are shown. The APEC list should not be considered as representative for the entire EG sector (Reinvang 2014), but is relevant for this study because it contains the specific harmonized system (HS) codes to be liberalized under the APEC and WTO initiatives. As one can see from this table, the top 3 exporters—EU, USA and China—represent almost two thirds of total export of the goods on the APEC list. The table shows that the main share of exports come from developed economies and a few emerging developing economies. The LDCs export share is marginal.

Table 2.1 World trade in environmental goods in developed and developing economies, 2012.

Country		% of world import	Country		% of world export
Developed economies		56	Developed economies		57,1
	EU	24,8		EU	37,2
	USA	10,5		USA	11,2
	Japan	3,1		Japan	9,1
Developing economies		44	Developing economies		42,9
	China	20,6		China	16,2
	Korea	3,6		Korea	8,4
	Hong Kong China	3,2		Chinese Taipei	5,0
	LDCs	0,8		LDCs	0,0*

Numbers are based on the 54 HS subheadings on the APEC list of environmental goods. Ex-outs from HS subheadings are not accounted for. Source: ITC Trade Map.

*LDC export accounted for 0,000030 % of world export in 2012.

There are two main categories of instruments that are used to regulate the import of goods: tariff barriers and non-tariff barriers (NTBs) (Dicken 2011). While tariffs are based on the value of the imported goods, the NTBs are more complex; some are quantitative and some are technical. The liberalization of the EG sector can thus be done through either reduction of tariffs or by the reduction of NTBs.

When it comes to established environmental technologies, tariff levels are already low in developed economies. The applied tariff rate on established environmental technologies is below 2% on average, while in developing countries, the tariff levels are as high as 7-8%, and up to 10% in the LDCs (Howse and van Bork 2006). Reducing tariffs on environmental goods is therefore thought to provide exporters with greater market opportunities in the developing

countries, while developing country importers are provided with cheaper access to these goods (Mytelka 2007). Developing countries mostly have a trade deficit on established environmental technology goods, but increased access to cheap imports might lead to development of domestic industries within these sectors. Research conducted by Hamwey (2005b) supports this claim. He finds that exports of environmental technologies are expanding in developing countries which have chosen to reduce import tariffs on these technologies.

For the EPPs, tariff levels are generally higher than on the established environmental technologies (Hamwey 2005a). The potential for increased trade by reducing tariffs is therefore greater for these products. Developing countries are also thought to have substantial trading potential in this product group, as they already account for nearly half the export of EPPs (Howse and van Bork 2006).

When it comes to the non-tariff barriers, the situation is more complex than for tariffs. These trade barriers include policies as diverse as quotas, import licensing systems, content requirements, subsidies, standards, prohibitions and sanitary regulations (Dicken 2011). The last couple of decades have seen an increase in the use of NTBs, while global tariff levels have steadily diminished, and NTBs are now often a bigger obstacle for market access than tariff levels (ibid). Despite the potential trade effects that lies in reducing NTBs, this part of the Doha mandate on environmental goods and services have not been discussed in the WTO, and reduction of NTBs are neither included in the APEC initiative (Vikhlyaev 2011, APEC 2012).

2.2.2. Potential wins for development

As mentioned above, reduced trade barriers on environmental goods might give developing countries increased access to environmental technology from industrialized countries. One positive effect of this access is that it can contribute to reduce energy poverty, which is prevalent in many rural areas in Sub-Saharan Africa and developing Asia (IEA 2014). People living in energy poverty lacks access to modern energy services, such as electricity and non-polluting cooking facilities (UNEP 2011, IEA 2014). Access to modern energy services is proven to have significant impacts on health, education and income, and is thus an important prerequisite for socio-economic development (Kanagawa and Nakata 2008). For instance, access to electricity makes it possible for people to study and work after dark, and allows for the storage of medicines and vaccines in refrigerators. Moreover, access to modern cooking facilities will reduce the health risks associated with using firewood or charcoal, while it also

frees up time that was previously used to collect firewood. This allows people to spend more time on studies or income-related activities (Kanagawa and Nakata 2008). Finally, if the modern energy services are renewable, which is the case for solar photovoltaic (PV) devices and solar cookers, a shift to such energy sources from charcoal and biomass will contribute to reducing GHG emissions and mitigate climate change (ibid). These are examples of how the promotion of trade in environmental goods can have positive effects on socio-economic development.

The increased access to environmental technology can also induce technology transfer and capacity building, which, as mentioned above, can contribute to development and expansion of domestic EG industries in developing countries (Carpentier et al. 2005, Hamwey 2005b). Technology transfer is however not something that happens automatically once you liberalize trade. Howse and van Bork points to the importance of active government policies for inducing this transfer (2006). Another central issue for making technology transfer useful is the inclusion of state-of-the-art technology. The EG industry is highly innovative and rapidly changing. In 2005, OECD calculated that 50 per cent of the environmental goods which would be in use in 2020 were still not invented (OECD 2005). To prevent that a trade initiative ends up favoring yesterday's technology, the agreement's product coverage should have to be revised frequently (Carpentier et al. 2005). In this way, developing countries will have better chances for benefitting from the transfer and become better equipped to develop their own competitive industries.

However, liberalization can also have negative impacts on developing economies. For instance, small and medium-sized enterprises in developing countries might be too vulnerable to compete with global actors if tariffs are cut. This uncertainty regarding development gains partly explains why developing members have been less active in the WTO negotiations on EG liberalization (Howse and van Bork 2006). Reduction of tariffs will also give less government revenue, but might on the other hand contribute to increase consumers' private welfare (UNEP 2013).

2.2.3. Potential wins for the environment

It is thought that cutting tariff on EGs will make environmental technologies and EPPs available at a lower cost, something which will increase the use of these products and thereby benefit the environment. The environmental effects will of course depend on the type of goods that get included in an agreement.

When it comes to the established environmental technologies, Howse and van Bork

(2006) lists two ways in which liberalization can lead to environmental benefits. First, it can have an impact on the way industries operate: If it suddenly becomes cheaper to use environmentally friendly technology, it might lead industries to voluntarily switch to these technologies. Second, it can lead governments to impose stricter environmental regulations: Since it will get cheaper for industries to comply with government regulations, it will be easier for governments to impose stricter regulations. However, these two scenarios are only possible if the price effect is strong enough, meaning that the price on established environmental technologies gets sufficiently reduced by cutting tariffs, relative to the previous price level. Howse and van Bork (2006) doubt that the price effect will lead to environmental benefits in developed countries, due to the existing low tariff levels on established environmental technologies. In developing countries however, the price reduction might be strong enough to make an incentive for industries to change to more environmentally friendly technology.

When it comes to the EPPs, it is not changes in government regulation that will give environmental benefits, but rather changes in patterns of consumption. Since the EPPs are environmentally less harmful than other similar products, a shift by consumers to these products will automatically reduce the environmental degradation associated with the production of the “dirtier” alternatives (Howse and van Bork 2006). In developed countries, the environmental effects of liberalizing EPPs is expected to be greater than the effects of liberalizing established environmental technologies, as tariff rates on the former group are generally higher than on the latter. Furthermore, there is already a preference for EPPs among consumers in developed countries (Carlsson et al. 2010), something which makes it probable that more consumers will choose EPPs if these products get cheaper (Howse and van Bork 2006).

2.3. Previous attempts and problematic issues

The idea of liberalizing trade in environmental goods and services (EGS) was first given attention in the WTO during the Ministerial Conference in Doha in 2001, where paragraph 31 (iii) of the Doha mandate states that the members “agree to negotiations, without prejudging their outcome, on (...) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services” (WTO 2001). Since then, several WTO member states have engaged in the discussions and issued proposals on how a trade agreement on environmental goods should look like. The discussions and proposals have mainly focused on what kind of goods that should be liberalized and on the way this

liberalization should be carried out, since these issues are not defined in the mandate itself (Howse and van Bork 2006, Vossenaar 2013).

Since 2008, however, the EGS negotiations have more or less been at impasse (Alan and Frances 2008). The main reason for this is that the negotiations are part of the larger Doha Round, where all the issues are subject to a “single undertaking”. This means that progress in the EGS negotiations depends on progress on the other issues in the Doha round, including the conflicted topic of market access and subsidies on agricultural products (Khatun 2012). The recently launched WTO initiative on green goods can be read as a reaction to the Doha impasse, by those members that want to speed up environmental goods liberalization. This plurilateral initiative is not tied to the overall progress of the Doha Round, and can represent a more efficient way to move forward.

Nevertheless, to reduce trade barriers on environmental goods should not be considered a plain sailing. One of the biggest challenges is a practical one, and has to do with the complexity of the environmental goods sector, and the fact that the products are scattered across the harmonized system (HS). The HS is an internationally harmonized classification system for traded products, and is used to describe groups of goods that share the same specific characteristics (Vossenaar 2013). Several trade agreements use HS codes to define which product groups that should be subject to tariff reductions. The HS consist of 96 broad chapters that are coded with two digits, and a number of more narrow categories and subcategories coded with four and six digits (Reinvang 2014). Several national classification systems are much more specific and use ten or more digits to describe their subcategories (Vossenaar 2013). The nature of the HS makes it practically difficult to isolate one specific good for tariff reduction, as the system only operates with groups of goods. Moreover, it is also difficult to isolate groups of environmental goods, as the HS subcategories are not based on the products’ environmental characteristics or functions. This means that environmental goods are often found within a subcategory together with other non-environmental goods, and that the removing of tariffs on one specific subcategory will make all the goods in the group tariff free (Reinvang 2014). This becomes problematic if the aim of the agreement is to target environmental goods only. One way to deal with this problem is to create so-called ex-outs, which is widely done in both the APEC initiative and the Information Technology Agreement (ITA). The ex-outs include additional descriptions of products and make it possible for customs officials to isolate specific products in an HS subheading (Vossenaar 2013). A study of the ex-outs made in the APEC initiative shows that a striking majority (42 out of 54) are not precise enough to ensure that only environmental goods are liberalized (Reinvang 2014).

Another issue is how one should deal with the environmental services. The original Doha mandate refers to liberalization of *both* environmental goods and services, but the two issues have been dealt with separately in the WTOs special sessions of the Committee for trade and Environment (CTE SS) and the Council for Trade in Services (CTS SS) (Monkelbaan 2013). The environmental services negotiations have also stalled, and a new plurilateral initiative for trade in services, TISA, is currently being negotiated (Utenriksdepartementet 2013). This initiative, however, deals with services in general, and not particularly the environmental ones. It is certain that trade in environmental services is closely linked to trade in environmental goods, as they are often crucial for the set-up, maintenance and repair of environmental technologies (Hamwey 2005a, WTO 2010). Nevertheless, environmental services are neither part of the APEC or the WTO initiative, and the focus of this assignment will naturally be more directed towards goods.

2.4. Concluding remarks

This chapter has pointed to several issues that are relevant to address when aiming to design an EG trade initiative that is supportive of sustainable development. One such issue is what kind of goods that should be included; established environmental technologies or EPPs? Another relevant issue is how deep the liberalization should be; should it include a reduction of *both* tariffs and non-tariff barriers? The answers to these questions and more are sought through interviews with experts in the trade and sustainable development field, and the empirical findings from these interviews will be elaborated upon later in this report. In the next chapter, some useful theoretical perspectives and concepts are presented.

3.0. Theoretical framework

The idea that reduction of trade barriers on environmental goods will lead to social and environmental gains can be debated. This chapter first takes a closer look at the different perspectives that exist on the relationship between free trade, environment and development. Then, the chapter goes on to explore the three dimensions of sustainable development, which will serve as the theoretical foundation for the later evaluation of the APEC and WTO initiatives.

3.1. Perspectives on free trade, development and environment

There exist different perspectives on whether free trade is an appropriate mean to achieve sustainable development. Proponents, on one hand, view free trade as all good for all the participants involved (Røpke 1994). Their main argument is that trade will lead countries to specialize their production according to their comparative advantages, something that will minimize costs and leave a greater “pie” for everyone to share. This is thought to give both social and environmental benefits, as more resources mean higher welfare and allows a larger amount of money to be spent on protecting the environment (Røpke 1994, Greig et al. 2007). It is also thought that the more affluent people get, the more conscious will they be about protecting the environment, and thereby demand stricter environmental policies and standards (Belcher et al. 2003).

The critics of free trade, on the other hand, do not view free trade as all good. One of their main claims is that a bigger pie does not necessarily secure a fair distribution of the slices. They argue that free trade has the tendency to reinforce inequalities between rich and poor countries as well as within them, among other things due to unfavorable specialization patterns (Røpke 1994). Another point made by the critics is that the environmental consciousness that is thought to arise with economic growth is rather useless if the growth in itself is based on unsustainable practices. Studies based on historical data show that postwar economic growth has created “far more environmental problems than it has solved” (Meadows et al. in Røpke 1994:16).

This is obviously a polarized debate. Proponents hold that free trade and sustainable development go hand in hand, while the critics claim that free trade is creating environmental and social problems. A more nuanced perspective on this issue provides greater chances for arriving at constructive solutions. From a pragmatic, less dogmatic, point of view, one can argue that free trade might be good for sustainable development in certain cases, while in other cases not. For instance, if production methods and transportation are clean and

sustainable, and if the goods traded are contributing to solving environmental problems, then one should be able to argue that free trade can contribute to sustainable development. In this regard, liberalization of trade in environmental goods could be viewed as an example of free trade that can create benefits for sustainable development.

When it comes to the relationship between environmental problems and economic growth, Clapp and Dauvergne (2011) distinguishes between optimists and pessimists. The optimists typically present environmental problems as possible to overcome with a combination of economic growth, technology and human ingenuity. They view economic globalization as a positive force for the environment, and believe that economic growth is necessary to secure human wellbeing.

The pessimists, on the other hand, view globalization and growth as parts of the problem itself, as these processes have led to overconsumption and increased pressure on natural resources (ibid). The pessimists are therefore opposing the current way of organizing economy and society, and call for major reforms of the existing systems.

The EG trade initiatives examined in this study clearly fit into the optimist worldview, as they are constructed based on a thought that free trade and technology *can* contribute to remedy our global environmental problems. The initiatives fit neatly into the existing way of organizing the global economy, as they aim to make use of economic globalization to spread environmental technology and induce economic growth. Furthermore, sustainable development, which is an explicitly stated goal for both the APEC and WTO initiatives, is also thought to be an important and achievable goal within the optimistic perspective (ibid).

3.2. Sustainable development

Despite of its vagueness, sustainable development is a globally recognized and much used concept. Over the past decades, sustainable development has become an explicitly stated goal for states, international organizations and businesses. The UN sustainable development conferences in Rio in 1992, Johannesburg in 2002, and most recently in Rio in 2012 have repeatedly affirmed sustainable development as a relevant global objective (UN Sustainable Development Knowledge Platform 2014a). Furthermore, the Sustainable Development goals that are currently being worked out to replace the Millennium Development goals in 2015 are also confirming sustainable development as an important issue on the global agenda (UN Sustainable Development Knowledge Platform 2014b). The global importance given to sustainable development thus makes it a highly relevant concept to use for evaluating the EG

trade initiatives in this study. The challenge, however, lies in how to define and operationalize it.

3.2.1. Definition and debate

Sustainable development is a much debated concept, and there exists a wide variety of definitions and views on the subject (Hermans and Knippenberg 2006). The Brundtland Commission's definition of sustainable development describes it as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development 1987:43). Not only does this definition imply that economic growth is possible to combine with social equality and environmentally responsible resource-use. The report also brings forward the idea of *intergenerational equity*. This implies that we should not only strive for equity between people who live now, but also for equity between our generation and the next. This suggests that we must use our resources with caution, saving sufficiently for the generations to come.

The sustainable development concept has been criticized for being imprecise (Langhelle 2002) and for trying to "bundle different, partly contradictory, interests and strategies, and give [...] them a certain legitimacy and coherence" (Brand 2012:29). Furthermore, the kind of social and environmentally responsible growth that the Brundtland commission suggests is according to some critics impossible to achieve (Daly 1993).

3.2.2. The three dimensions

Despite of the criticism, the concept is widely used, and there have been several attempts to operationalize it. For instance, there exist various indexes that aim to measure the overall sustainability performance of countries, such as for instance the Environmental Sustainability Index, the Ecological Footprint and the Dashboard of Sustainability (Stevens 2005). Bodies such as the OECD, the European Commission and the UN Commission on Sustainable Development have also developed lists of indicators that try to measure sustainable development trends (ibid). These kinds of indexes normally include a large number of indicators for each of the three main dimensions of sustainable development: the economic, the environmental (ecological) and the social.

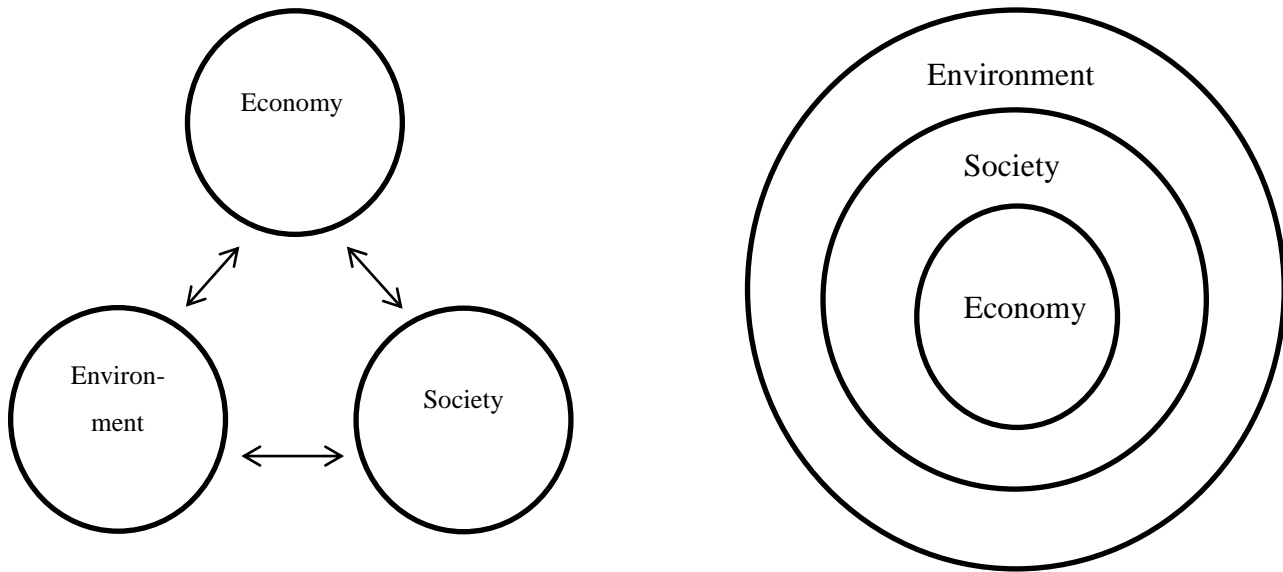


Figure 3.1. The dimensions of sustainable development. *Left:* The three dimensions as equally important (after Stevens 2005:1). *Right:* The three dimensions as concentric circles, where the environmental dimension is given higher importance than the other two (based on Lehtonen 2004:201).

There exist different views on how the relationship between the dimensions should be understood (Lehtonen 2004). One way is to look at them as three hierarchically equal dimensions that are interacting mutually with each other (see figure 3.1). This makes it look like the dimensions are somewhat separate from each other, something which might make it easy to treat them analytically (ibid). Another possibility is to look at the three dimensions as concentric circles, where the environmental dimension represents the outer circle, while the social and economic dimensions constitute the inner circles (Lehtonen 2004, Griggs et al. 2013). This model suggests that there is a qualitative difference between the three dimensions, which makes the environmental dimension more important than the other two, and the social dimension in command of the economic. It is important to underline that social and economic issues might be more important than environmental issues in some particular situations, but in general our social and economic possibilities are limited by our physical environment. The limits of the environmental dimension can however be expanded, due to development of new technology and knowledge (Lehtonen 2004). In the following sections, each dimension is dealt with in further detail.

The economic dimension

The Brundtland report sees economic growth as a necessary factor for sustainable development, as it is crucial to reduce poverty and for securing human well-being. Economic growth should however be made more environmentally sustainable, by for instance moving to

less material and energy-intensive production. This is especially true for growth in the more affluent countries (World Commission on Environment and Development 1987).

An EG trade initiative that manages to induce economic growth in developing countries, and which also manages to make this growth more environmentally sustainable must therefore be said to contribute to the economic dimension of sustainable development.

The environmental dimension

Sustainable development requires that economic and social development must happen within the planet's ecological limits. According to the Brundtland report, “the international economy must speed up world growth while respecting the environmental constraints” (World Commission on Environment and Development 1987:89). The report mentions several ecological thresholds that are in danger of being transgressed and thereby pose threats to environment and development, two of them being global warming and biodiversity loss (ibid). More than 20 years after the Brundtland commission's report, these are still among the most severe threats to our environment. This was confirmed with the planetary boundary framework launched in 2009, where the Stockholm Resilience Centre presents nine different ecological boundaries that should not be surpassed if we want to live safely within the earth's limits (Rockström et al. 2009). Climate change and biodiversity loss are two of the boundaries that are already transgressed. In addition, the boundary for the global nitrogen cycle is also exceeded. The remaining six planetary boundaries identified by the researchers are chemical pollution, atmospheric aerosol loading, land system change, global freshwater use, stratospheric ozone depletion and ocean acidification (ibid).

It is clear that the environmental dimension of sustainable development is wide-ranging, and contains a lot of different ecological concerns. Many of the different areas are however interlinked, in the way that transgressing one boundary may speed up the process of reaching other boundaries. For instance, climate change might lead to changing ecosystems and speed up biodiversity loss (Rockström et al. 2009).

An EG trade initiative that promotes the use of goods that help keep us within these planetary boundaries will contribute to the environmental dimension of sustainable development. For instance will an initiative that makes renewable energy technology more accessible and cheap, contribute to reduce GHG emissions and thus help combat climate change.

The social dimension

The social dimension has been known as the weakest pillar of the sustainable development concept (Lehtonen 2004). This is partly due to the many different interpretations of what the term “social” actually entails, and also because there exists a lot of overlap between the social and economic dimensions. Economic growth is for instance an important prerequisite for reaching many social objectives, such as poverty-reduction. Murphy (2012) has reviewed various sustainable development indexes and concludes that the social dimension can be divided broadly into four main topics: equity, awareness of sustainability, participation and social cohesion. An EG trade initiative might be able to contribute most efficiently on the equity issue.

Equity is about fair distribution of resources and life chances. The concept is linked to goals of poverty-reduction and of reducing the income gap between the global North and South, but also to enhancing equity nationally and between generations (ibid). There are several issues linking equity to the environmental pillar, such as the differences between rich and poor countries when it comes to the economic and ecological impacts from climate change (ibid).

One way in which an EG trade initiative can contribute to equity is by facilitating access to clean energy in developing countries and thereby reduce energy poverty. This can again lead to increased growth and poverty reduction, as access to electricity allows for increased production possibilities (IEA 2010). As mentioned in chapter two, energy access can also contribute to other social objectives, such as better education and health facilities.

3.3. Concluding remarks

This chapter has presented an overview of what the three dimensions of sustainable development entail. In chapter five of this report, these dimensions are used to support the identification of the ten sustainable development criteria that later are applied in the evaluation of the APEC and WTO initiatives.

4.0. Research methodology

This chapter presents the methodology used to answer the research questions of the study. The chapter first explains the choice of research design and methods. Then, it goes on to describe the procedures used for literature search and data analysis.

4.1. Research design

To measure the sustainable development contribution of environmental goods trade initiatives is a complex task. Not just because the sustainable development concept is broad and multifaceted, but also because the environmental, social and economic impacts of trade liberalization are difficult to identify. The fact that none of the initiatives are implemented yet (one is not even negotiated) further complicates the task of measuring their impact. The time and resources available for this study further limits the alternatives for researching this in a thorough manner. This study therefore focuses on the design of the initiatives, and not on the actual impact of the initiatives.

For this purpose, the study uses a qualitative case study design. This design is appropriate because it allows the study of one or a small number of cases in detail (Matthews and Ross, 2010). A “case” can be a wide variety of phenomena – a person, an organization, a situation, a country etc. In this case (sic), the cases studied are the APEC and WTO initiatives. The case study design allows for an in-depth and detailed study of the selected cases where a variety of different data material can be used (ibid).

The research design of this study consists of two stages, where each stage concentrates on one research question (see figure 4.1). In the first stage, research is done by gathering viewpoints from experts in the field on what they *think* an EG trade initiative should look like if it is to best contribute to sustainable development. The information gathered is then used to identify ten criteria. These criteria represent the answer to the first research question. In the second stage, the identified criteria are used to evaluate the design of the APEC and WTO initiatives. The result of this evaluation represents the answer to the second research question of the study. The use of semi-structured interviews and the importance given to informants’ viewpoints and explanations makes this a *qualitative* study.

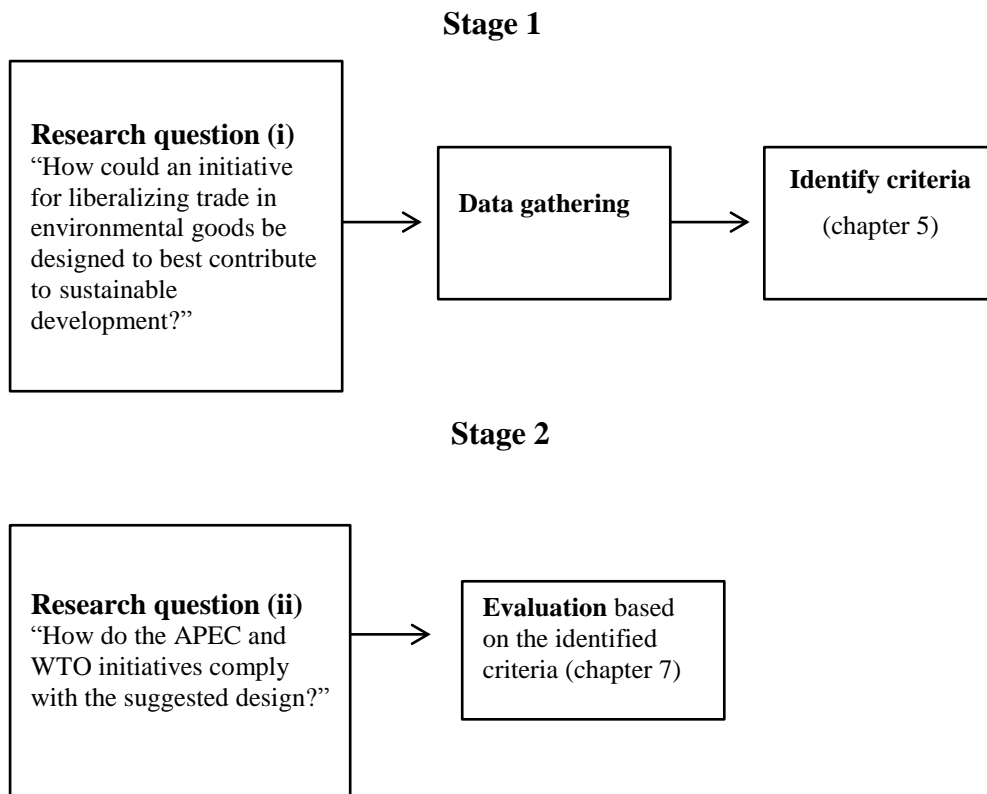


Figure 4.1. The two stages of the study.

4.2. Data generation

The main method of data generation used is semi-structured interviews. The study also relies on documents describing the APEC and WTO initiatives. Here follows a more detailed account of the chosen data generation methods.

4.2.1. Documents

The facts about what characterizes the cases are found in two documents issued by the participants of the WTO and APEC initiatives. For the APEC initiative, the document used is annex c of the leaders’ declaration from the annual meeting in Vladivostok in 2012, where APEC leaders commit to reduce tariffs to a list of environmental goods, and where the 54 harmonized system (HS) subheadings included in the agreement are listed. The declaration part of the document is attached in appendix A (APEC 2012). For the WTO initiative, the document used is the joint statement issued by 14 WTO members at the World Economic Forum in January 2014. The document is available from several of the participating countries’ websites, and is attached in appendix B (European Commission 2014, The permanent mission of Norway in Geneva 2014). This is a much less concrete document than the APEC leaders’

statement, since it is not a finished agreement, but rather an invitation to further negotiations. It is therefore more difficult to say anything certain about what the potential agreement will entail from reading this document. Despite of this, both documents are considered as the best possible sources available that describe the characteristics of the initiatives.

4.2.2. Semi-structured interviews

Semi-structured interviews are useful for studying viewpoints, attitudes and experiences (Tjora 2012). This is partly because this type of interview gives the informant the possibility to discuss a topic using his or her own words. In contrast, a structured interview typically includes closed questions and a set of answers that the informant must choose from. The semi-structured interview is however somewhat structured, as it follows a common set of topics or questions for each interview (Matthews and Ross 2010).

For this study three semi-structured interviews were conducted with four informants thought to be experts on the research topic. The interviews were guided by a planned set of open questions, an interview guide, which revolved around the first research questions of the study, namely “How could an initiative for liberalizing trade in environmental goods be designed to best contribute to sustainable development?” (appendix C and D).

As is the general rule for all qualitative interview studies, the informants were found through a purposive selection method, meaning that they were chosen “on purpose” based on their knowledge about the research topic (Tjora 2012). The intention was to find informants who were familiar with environmental goods liberalization, and that could also say something about the environmental and developmental contribution of such initiatives. Secondly, I wanted informants that saw this from a global point of view. This means I did not want informants from state departments or national governments, as these informants’ views could be colored by national interests.

I started out with a list of potential organizations I could contact, and sent out requests. Conti and O’Neil (2007) have pointed to the challenges of interviewing elites – one of them being the difficulty of getting in touch with them in the first place. This appeared to be right: I only got one reply on this first attempt. The other informants were later found thanks to suggestions from this first informant. This way of finding interviewees is often referred to as “snowball sampling” (Tjora 2012). Finally, I ended up with one informant from the International Centre for Trade and Development (ICTSD), one informant from the United Nations Environment Programme (UNEP), and two informants from the United Nations Conference on Trade and Development (UNCTAD).

All of the interviews were conducted at the informants' work places in Geneva, Switzerland. Two of the interviews were audio recorded and transcribed, while the last interview was documented by taking written notes. All of the informants permitted the publication of their name and position.

4.2.3. Ethical issues

The data gathered is not considered as sensitive and the project is therefore not subject to notification to the Norwegian data protection official for research (Norwegian Social Science Data Services 2014). In all kinds of research projects, however, the informants should get the opportunity to give informed consent before the data gathering starts. This means that all informants should get information about the project, so they know what they participate in. They should also be informed that the participation is voluntary, and that they can choose to withdraw at any time (Matthews and Ross 2010). For this study, information about the project was sent to the participants in the same e-mail as the request for them to join. In the beginning of each interview, the informants were asked if they were okay with the interview being audio recorded.

To secure the informants' anonymity is an important ethical issue in many research projects. In this study, however, this was not a big issue, since the information gathered was not personal or sensitive, but of pure academic nature. The informants were nevertheless asked if they wanted to be made anonymous in the study.

4.3. Potential limitations of the applied design

There are some general limitations associated with choosing a case study design. One is the difficulty of generalizing the results to other cases. This means that the results of this study are only valid for the specific cases studied, or other cases that are very similar.

Furthermore, the use of semi-structured interviews limits the possible size of the sample. It might take the same amount of time and resources to plan, conduct and transcribe 3 interviews as it does to make and send out 100 questionnaires. The advantages of using qualitative interview data are however thought to outweigh the limitations of the sample size. The study gathers viewpoints from people that are highly qualified and has a lot of knowledge on the research topic. It is therefore thought that "quality trumps quantity" when it comes to the data material gathered.

Moreover, the use of snowball sampling may have contributed to a narrow or homogenous sample. This is a typical consequence of this kind of sampling, as it relies on informants naming other informants they know about. The interviewed informants are all

from organizations that are optimistic regarding the effect of economic growth on the environment, based on the fact that they operate with green growth, green economy and sustainable development as their goals. This might have consequences for the validity of the study, since it only includes viewpoints from one perspective, and not from the other more growth-critical side, which was presented in the theory chapter. The reliability and validity of the study will be further elaborated on in the discussion chapter.

4.4. Literature search

The literature used in this study is found in various databases. Mostly, Scopus was used for finding journal articles and BIBSYS Ask was used for finding books. The main reason for using Scopus is that it allows for detailed and systematic searches in a large amount of scientifically evaluated literature. Google scholar was used to some extent for finding downloadable versions of articles to which the reference was already known.

The database search for literature has been guided by two criteria: topic relevance and number of citations. For instance, for finding articles that analyze or discuss the different pillars of sustainable development, the following search in Scopus was conducted: First, a search for articles containing “sustainable development” in their title gave 11 466 hits. Then a subsequent search for “pillars” within the results gave 146 articles. Among the top 25 most cited documents, there were several relevant articles, among them;

- BRAND, U. 2012. Green Economy - The Next Oxymoron? No lessons learned from failures of implementing sustainable development. *GAIA*, 21, 28-32.
- HERMANS, F. & KNIPPENBERG, L. 2006. A principle-based approach for the evaluation of sustainable development. *Journal of Environmental Assessment Policy and Management*, 8, 299-319.
- LEHTONEN, M. 2004. The environmental–social interface of sustainable development: capabilities, social capital, institutions. *Ecological Economics*, 49, 199-214.
- MURPHY, K. 2012. The social pillar of sustainable development: A literature review and framework for policy analysis. *Sustainability: Science, Practice, and Policy*, 8, 15-29.

A search for literature on the topic “trade in environmental goods” was conducted in a similar manner. First, a search for articles containing both “environmental goods” and “trade” in the article title, abstract or keywords gave a result of 59 articles. Of the 25 most cited articles, at least three were relevant for this study:

- CARLSSON, F., GARCÍA, J. H. & LÖFGREN, Å. 2010. Conformity and the Demand for Environmental Goods. *Environmental and Resource Economics*, 47, 407-421.
- CARPENTIER, C. L., GALLAGHER, K. P. & VAUGHAN, S. 2005. Environmental Goods and Services in the World Trade Organization. *The Journal of Environment & Development*, 14, 225-251.

SINCLAIR-DESGAGNÉ, B. 2008. The environmental goods and services industry. *International Review of Environmental and Resource Economics*, 2, 69-99.

This procedure combining relevance and citation numbers of the articles was applied to find most of the literature used for the different chapters and topics of the study. Additionally, reports and articles received directly from the informants in UNEP, UNCTAD and ICTSD have been used, such as:

UNEP 2013. Green Economy and Trade. Trends, Challenges and Opportunities. Geneva: United Nations Environment Programme.

VIKHLIAEV, A. 2011. WTO Negotiations on Environmental Goods: Selected Technical Issues. UNCTAD/DITC/TED/2011/1. Geneva: United Nations Conference on Trade and Development.

VOSSENAAR, R. 2013. The APEC list of Environmental Goods . An analysis of the Outcome and Expected Impact. Geneva: International Centre for Trade and Sustainable Development.

4.5. Data analysis

The manner of analyzing the interview data is inspired by the stepwise deductive-inductive approach (SDI) as described by Tjora (2012). This approach to analyzing data suggests that one starts out with an inductive, or empirical, approach when coding the data, and then later uses a more deductive, or theory-based, approach to categorize the codes and work out the main themes. This inductive “first step” of the analyzing process makes sure that a lot of data gets considered and included in the analysis, not just the data that seems interesting at first glance or from a theoretical point of view.

This first step was dealt with by reading through all of the written transcriptions from the interviews and assigning descriptive codes to different parts of the text (see table 4.1). The coding was done using the qualitative coding software Nvivo. This process left the material divided into about 50 different codes.

The subsequent categorization of these codes was guided by theory – meaning by the specific research questions. First, the codes that were considered relevant to the first research question were collected. In this process many codes were left out, due to their irrelevance to this question. The remaining codes were then categorized into ten categories, or criteria. These criteria can be understood as characteristics that the informants want an EG trade initiative to have if it is going to contribute to sustainable development. For instance, the benefits of addressing non-tariff barriers (NTBs) were mentioned by all of the informants, and this topic thus ended up as one of these criteria.

Table 4.1. Examples of how the transcriptions were coded.

Code	Data material
Country scope must be broadened	I think that in order for such an agreement to actually add value, you would need to include more countries, because we see that there are considerable development gains. But in that case, more developing countries would have to be part of it.
Country scope must be broadened	To me it's clear evidence that there's more and growing commitment among the regions to increase trade in these types of goods and that's a good thing, and over time that trend will continue and eventually start to include more and more countries and hopefully eventually become truly international, truly multilateral.
Address NTBs	From our perspective, what is important if you apply this step-by-step approach is that you make sure to take the second step as well. So not just focus on tariffs, but also make sure to address non-tariff barriers like standards and subsidies, because that's where you really have the main obstacles to trade for many of the technologies. It's not really the tariff
Address NTBs	One should forget about the tariffs and focus just on NTBs.

4.6. Concluding remarks

This chapter has given an overview of the methods used in this study, which can be considered a case study based on semi-structured interviews. The study can be viewed as containing two stages, where the first stage includes the gathering of viewpoints from experts and the identification of relevant criteria, while the second stage includes the analysis of the APEC and WTO initiatives based on these criteria. The results of the first stage are presented in the next chapter.

5.0. Empirical findings

The aim of the interviews was to gather viewpoints on how an environmental goods trade initiative could be designed to best contribute to sustainable development. Below, some characteristics mentioned by the informants are listed. For clarity, these are divided in two sections: first, criteria related to the structure of the initiative, and second, criteria related to the type of goods to be included in the initiative, here referred to as the initiatives' product coverage. A schematic overview of the criteria and their contribution to sustainable development is provided in table 5.1 and 5.2.

5.1. Criteria related to structure

The characteristics that are not related to product coverage are referred to as structural or structure-related criteria. These encompass issues such as the depth of the liberalization, the existence of provisions for developing countries, and the granting of benefits to non-participating members, so-called most favored nation (MFN) treatment. The choice of structural design of an EG trade initiative can have consequences for its sustainable development contribution. In the following sections, the informants' viewpoints on this matter are summarized into six specific criteria.

5.1.1. Address non-tariff barriers

All of the informants mentioned that a trade initiative for environmental goods should go beyond tariff reductions and also address non-tariff barriers (NTBs). According to one of the UNCTAD informants "the NTBs are the most important issue when it comes to liberalizing EGs, but no one has talked about it" (Alexey Vikhlyaev, UNCTAD). The importance of including NTBs was also underlined by the informant from ICTSD, who suggested that the liberalization could happen in a step-by-step manner, where the first step could entail reduction or elimination of tariffs, and the second step could include reduction or elimination of NTBs:

From our perspective, what is important if you apply this step-by-step approach is that you make sure to take the second step as well. So not just focus on tariffs, but also make sure to address non-tariff barriers like standards and subsidies, because that's where you really have the main obstacles to trade for many of the technologies. It's not really the tariff (Ingrid Jegou, ICTSD).

This quote gives the key explanation to why the inclusion of NTBs is so important for making EG liberalization efficient: They are a much bigger obstacle to trade than tariff

levels are. The fact that tariff reductions only will give limited outcomes was also stated by the UNEP informant:

I think especially between developed countries there's very little movement that can be made on tariff only type negotiations. The tariffs are already low (John Maughan, UNEP).

If some of the most burdensome NTBs got removed, the trade effects would probably be bigger than if only tariffs are cut. This would most likely make more efficient contributions to sustainable development, as it would strengthen the benefits that are expected to arise from EG trade, such as increased access to and use of environmental goods. If the EG trade initiatives only focus on tariff cuts, however, the effects on trade will be more limited (Howse and van Bork 2006, Vossenaar 2013).

5.1.2. Mechanism for technological change

Another issue mentioned by the UNEP informant was the need for making the agreement flexible to technological development. The environmental goods industry is a rapidly evolving and innovative sector (OECD 2005), and the decision about which goods to include in a trade agreement should therefore be made with a future-oriented outlook. If this is not done, one might risk excluding future inventions that are better able to serve environmental purposes than the existing technology is.

An illustrative example of this technological change challenge is found in the ITA agreement, which is a list-based trade agreement for IT products, concluded by a group of WTO members in 1996 (WTO 2012). Like with the EG sector, the IT sector is rapidly evolving, and many of the products that got included in the ITA agreement in the 1990s have, quite naturally, become out-of-date, while a lot of new technology is not included (ICTSD 2014). The agreement includes a clause on periodically reviews of the product coverage, but the participants have yet not been able to finalize such a revision (WTO 2012).

To avoid that the same problem haunts the EG trade initiatives, one should make sure that the issue of technological change gets covered in an efficient way. The UNEP informant suggested that the list of goods to be liberalized should not be definitive, but rather be made in a way that makes it possible to include future products without having to go through “long and painful” negotiations every time a new innovation is made.

The inclusion of such a mechanism could be important for the sustainable development impact of the initiative, because it would make sure that the newest and

best technology gets easily available. For the environmental dimension, this is beneficial because it secures that the most environmentally friendly alternatives gets accessible and used. For the social and economic dimension, the diffusion of state-of-the-art technology to developing countries is important, because it can contribute to transfer of the newest technology and thereby facilitate the development of globally competitive EG industries in these countries. This can produce both economic and social benefits.

5.1.3. Open participation

To include developing countries as participants can be important for making an EG trade initiative deliver efficient sustainable development gains. The potential benefits of an EG trade initiative, such as increased energy access, technology transfer, possibilities to participate in global value chains and development of domestic industries in the EG sector, will only happen in developing countries if they decide to lower their own tariffs. This point was expressed by the ICTSD informant:

The major gains from trade are actually taking place in the countries that undertake the reform, so if more developing countries could be invited to join in I think that it would give benefits (Ingrid Jegou, ICTSD).

Accordingly, developing countries should participate in the liberalization initiative if they want to benefit from it. A different point mentioned by one of the UNCTAD informants is that there does not necessarily need to exist an international agreement for developing countries to reduce their tariffs.

You don't need an agreement to get these benefits; it is in the best interest of the countries anyway. It has already happened in some countries; they are lowering tariffs unilaterally (Alexey Vikhlyayev, UNCTAD).

This is an interesting point: If the only benefit developing countries get by joining is access to cheaper imports, then there is actually no need for an international agreement, as the countries can get the same benefits by simply reducing their own import tariffs. On the other hand, to bind tariffs through an international agreement is thought to be beneficial because it leads to more predictable trading conditions.

It is also thought that participation of developing countries will be beneficial for the industrialized countries' EG exporters. If more countries agree to lower trade barriers on environmental goods, it means that the producers will get access to larger markets. Since it is

the developing countries that have the highest tariffs on environmental goods, the potential gain in market access is much bigger in these countries. The access to larger markets can in turn make the producers able to expand their production and thereby produce cheaper goods, as underlined by two of the informants:

When you have more free and open trade it allows for economies of scale. You get access to a bigger market, which contributes to pushing the prices down (Ingrid Jegou, ICTSD).

With larger trade intensity in environmental goods you are going to have an increase in production as well as consumption. Mostly because there will be a larger demand and lower prices (John Maughan, UNEP).

The access to larger markets will undoubtedly benefit the developed countries' EG industry. Additionally, this expansion can lead to environmental benefits, as economies of scale will allow for cheaper products and can increase the consumption of EGs in developing as well as developed countries (Sinclair-Desgagné 2008).

To summarize this section one can say that the sustainable development contribution of an EG trade initiative will get bigger the more countries that participate in it. This is especially true for the social and economic benefits it can provide for developing countries in terms of energy access and participation in global value chains. Some of these benefits can however be achieved if the developing countries decide to lower their tariffs independently, something which makes an international agreement seem redundant. Therefore, if developing countries are to participate in an EG initiative, they might want to get more out of it than cheaper imports. For industrialized countries, on the other hand, the access to larger markets in developing countries will be important, because it can lead to cheaper EGs and thereby higher demand. This increased consumption of environmental goods is undoubtedly something that can contribute positively to the environmental dimension of sustainable development

5.1.4. Special and differential treatment

The term special and differential treatment (S&D) is defined by the WTO as “provisions that give developing countries special rights”, and are included in many of the WTOs agreements (WTO 2014a). These provisions can for instance include longer implementation periods, less stringent commitments, and measures to support capacity building and increase trade opportunities in developing countries (ibid).

The ICTSD informant suggested that the use of S&D provisions like phase-in

implementation and provisions for technology transfer would make more developing countries interested in joining a plurilateral EG trade initiative. At the same time, the UNCTAD informants underlined the differences that exist between the developing countries in their ability to produce and export environmental goods. China is considered a developing country, but is also the second largest exporter of the environmental goods on the APEC list (see table 2.1). This makes it difficult to argue that developing countries as a group should get the same type of special treatment.

It is therefore rational to differentiate between developing countries and least developed countries (LDCs)³ when it comes to S&D provisions. Kahtun (2012) identifies the additional need of LDCs to get financial and technical assistance if trade in environmental goods gets liberalized. One reason for this is that LDCs already get full tariff-free quota-free (TFQF) market access to most developed country markets due to their vulnerable position in world trade. The LDCs export of environmental goods is insignificant, but an opening up for all developing countries without offering any compensation to the LDCs might lead to “preference erosion”, meaning that the preferential treatment of LDCs does not get as preferential as before.

Additionally, there exist strong arguments for including technology transfer provisions for developing countries (Mytelka 2007, Vikhlyaev 2011, ICTSD 2013). Transfer of technology involves “the [...] ability not only to operate new technologies efficiently but also to modify, adapt and improve upon imported technology and to innovate in the development of new designs, production processes and products” (Mytelka 2007:4). The transfer of technology thus includes more than just moving a machine from A to B, and is not something that will appear automatically in developing countries as a by-product of importing technology products. Factors such as knowledge, learning and capacity-building also need to be part of the process (Mytelka 2007). Technology transfer is often mentioned as one of the potential positive outcomes from liberalizing EGs, as it can make developing countries able to establish or expand their own EG industry, develop new innovations and know-how, and help them to grow in a cleaner, more sustainable way (ibid). If such sustainable development-related benefits are desired, provisions for technology transfer are highly necessary to include in a potential agreement. Mytelka (2007) criticizes the Doha mandate on environmental goods and services for focusing solely on market access, without mentioning provisions to enhance

³ The LDCs are special group of developing countries characterized by a low income level and structural impediments to growth. The status is designated by the UN and based on an evaluation of three criteria: per capita GNI, the Economic Vulnerability Index and the Human Assets Index. There are currently 48 LDCs in the world (UN DESA, 2014).

technology transfer. In the same manner, the APEC and WTO initiatives should also include such provisions, preferably by making explicit references to such provisions in the agreement texts and negotiating mandates.

5.1.5. A legally binding agreement

The ICTSD informant mentioned that a binding agreement is considered preferable to a non-binding agreement, because it will provide greater predictability and certainty for producers and exporters. According to an ICTSD report (2013) the WTO is the ideal structure for developing an environmental goods initiative, because it will ensure that the reductions in trade barriers gets legally bound and subject to the organization's well-functioning dispute settlement mechanism. On the other hand, to legally bind the initiative does not automatically make it better able to promote sustainable development, as this also depends on the overall content and scope of the initiative. It is normally easier for countries to agree on extensive reductions of trade barriers if the initiative is voluntary and non-binding. The risk with this approach however, is that the final implementation of the concessions might be poor. A legally binding agreement should therefore be considered as the best way of securing predictable outcomes for sustainable development.

5.1.6. MFN treatment

The ICTSD informant also pointed out that an environmental goods initiative should be based on the Most Favored Nation (MFN) principle. This is one of the core principles in the WTO, and requires that special treatment given to one country should also be given to all other WTO members (UNEP and IISD 2005). In the WTO, all the multilateral agreements are MFN-based, all though exceptions are made for regional trade agreements as well as developing and least developed countries (UNEP and IISD 2005). For plurilateral initiatives, the granting of MFN treatment means that non-participants are granted the same trading conditions as participants, while they do not have to make any obligations themselves (Kennedy 2012). The plurilateral agreements in the WTO show differing practices of MFN treatment: The information technology agreement (ITA) grants such treatment, while the agreement on government procurement (GPA) does not (ICTSD 2013). One reason why MFN treatment can be considered preferential in a sustainable development perspective is that it gives non-participating members the possibility to gain market access without having to open their own markets. This can be advantageous for developing countries that in the beginning are reluctant to expose vulnerable businesses or infant industries to global competition. The use of MFN treatment in plurilateral agreements might however cause a free-rider problem, where a

majority of countries reap benefits without committing to obligations. To avoid this, a critical mass of participants is often required before an MFN-based agreement can become effective (ICTSD 2013).

Table 5.1. Overview and description of the structure-related criteria.

Criteria	Description	Sustainable development contribution
Address non-tariff barriers	Burdensome NTBs should be considered reduced or removed.	Economic: Can lead to increased trade in environmental goods. Environmental: Increased access to and use of environmental goods.
Mechanism for technological change	Inclusion of new innovations should be made possible without having to go through new negotiations.	Economic: Access to state-of-the-art technology makes developing countries better equipped to develop competitive EG industries. Social: Better access to new technology can contribute to alleviate energy poverty. Environmental: Ensures that the newest environmental technology gets available.
Open participation	Participation by developing countries should be made as broad as possible.	Economic/social: Will secure energy access benefits for developing countries and larger markets for developed countries' EG industries. Environmental: Bigger markets lead to cheaper production, which in turn can spur consumption of environmental goods.
Special and differential treatment	Financial and technological assistance should be given to LDCs. Technology transfer provisions should be granted to all developing countries.	Economic/social: Will give better possibilities for technology transfer, and enhance export potential of developing countries.
Legally binding agreement	The agreement should be legally binding to ensure predictable trading conditions.	Economic: More predictable trading conditions will enhance trade. Environmental: Enhanced trade can lead to increased access to and use of environmental goods.
MFN treatment	Non-participating countries should receive the same trade advantages as participating countries.	Economic/social: Non-participating countries get market access, and are at the same time able to protect infant industries from foreign competition.

5.2. Criteria related to product coverage

The type of goods that get included in an EG trade initiative will also have consequences for what kind of social, economic and environmental effects the initiative will be able to produce. The product coverage might also have significant consequences for which countries that get the biggest share of the benefits.

An agreement that is narrowly designed for developed countries won't be useful for the benefits the developing countries want. Why? Because it will benefit *their* [the developed countries'] firms (Robert Hamwey, UNCTAD, my emphasis).

The definition of which product groups to include in an initiative will be a result of negotiations between the participating states. In the APEC process and previous sectorial agreements in the WTO, the member states' export interests have proven to steer the negotiations (Vikhlyaev 2011). This study tries to look beyond the economic realm, by also considering the possible environmental and social effects of EG trade liberalization. The broad product groups suggested below are examples of what the informants of this study would like to see as part of an environmental goods trade initiative if also these two dimensions are taken into account.

5.2.1. Components, not systems

The UNCTAD informants underlined the importance of including goods that developing countries are able to produce, such as different low value added components and parts for the EG industry:

[Developed countries] produce complete systems, not only components. Developing countries don't have these types of firms, except China and India, who are now big producers of wind turbine systems. Other developing countries don't produce whole systems; they produce parts that could be used in the systems, and want to get into the supply chains of these products. Tariff reductions on these small parts are needed, not just on the systems (Robert Hamwey, UNCTAD).

The ability of developing countries to benefit export-wise from the liberalization of environmental goods therefore partly depends on the inclusion of components, not just whole systems. The problem is that many of these products have dual end-use functions, which has been a problematic issue in earlier negotiations. The difficulties related to including dual-use goods in an EG trade initiative have been mentioned earlier in this report, and the ICTSD informant points out the main problem in this quote:

If you include some dual use goods it means that you would actually make tariff concessions on goods that are not primarily for environmental use. And in some cases tariff revenues are important for governments, so they don't want to give that up if it doesn't have the environmental purpose (Ingrid Jegou, ICTSD).

One of the UNCTAD informants, however, suggested that the exclusion of environmental goods from liberalization because they can have non-environmental end use functions is irrational:

If you think that you can't liberalize anything that has dual use, then you can't really liberalize anything, because almost everything can have dual use (Robert Hamwey, UNCTAD).

This study will not be able to present a solution to the dual use problem, as this is a very complex and much debated issue. Mytelka (2007) has suggested that a strict definition of environmental goods that only includes products that are either “clean” (i.e. produces no GHG emissions or are biodegradable) or produced in a “clean” way would eradicate the problem. The current HS classification system would however make this practically difficult, as it does not separate product groups based on their environmental characteristics.

Without going further into the dual use problem, this section concludes that a trade agreement for liberalizing environmental goods should not be system-oriented, but rather include parts and components. This will make developing countries better able to participate in the global value chains of the sector.

5.2.2. Sustainable energy goods

The ICTSD informant pointed to the importance of including goods that promote climate mitigation in the initiative, as climate change is the most severe environmental threat facing us at the moment. The ICTSD have done a lot of work trying to identify what kind of goods that could be defined as climate friendly. One result of this is their proposal to a trade initiative that focus on non-fossil fuel energy sources, called a Sustainable Energy Trade Agreement (SETA) (ICTSD 2013). Fossil fuel-based energy use is the biggest contributor to global greenhouse gas emissions, and a trade initiative focused on sustainable energy goods could help promoting a shift towards increased use of renewable energy. This could contribute to reducing GHG emissions, while promoting energy access in developing countries (ICTSD 2013). Examples of goods the ICTSD want to see included in such an agreement is solar panels, wind turbines and hydropower plants, as well as associated equipment, components and services (ibid).

5.2.3. Sustainable agricultural products

The possible inclusion of sustainable agricultural goods in an EG trade initiative was suggested by the UNEP informant. Sustainable agriculture involves “the successful management of agricultural resources to satisfy human needs while maintaining or enhancing environmental quality and conserving natural resources for future generations” (UNEP 2013:52). Organic farming and fair trade are instances of this type of agriculture.

The reduction of trade barriers on sustainable agricultural products could help

promoting the “greening” of agriculture, which is an important mean to enhance food security and reduce the environmental damages caused by conventional agriculture. Furthermore, developing countries are thought to have great export potential within the sector (UNEP 2013). When acknowledging that the agricultural sector is one of the most regulated sectors in international trade, characterized by a wide use of high import tariffs and subsidies (ibid), it is probable that the reduction of trade barriers on these products could produce economic benefits for developing countries. Studies also show that consumer demand for organic agricultural products are increasing both in the developed and developing world (FAO 2013).

There are however some practical difficulties related to including these products in a trade initiative. One reason is that sustainable agricultural products are considered as PPM-based EPPs, meaning that they are defined as environmentally preferable products (EPPs) because of the way they are produced. To discriminate between products based on process and production methods (PPMs) has traditionally been rejected in the WTO, all though some dispute case rulings show different tendencies (UNEP and IISD 2005). One of the arguments for maintaining this practice is to prevent the discrimination of products from developing countries, as these countries often operate with less stringent environmental standards (ibid). Agricultural products, however, is an example of a product group where developing countries could gain from a PPM-based distinction, as they have a great potential for exporting organic produce. However, the traditional positions held by developing countries on this issue make it difficult to imagine a change of the practice any time soon.

Another reason why the inclusion of this product group is difficult is that the negotiations on agricultural issues, such as market access and subsidies for agricultural goods, is one of the most important issues in the Doha Round (WTO 2014b). This means that the issue probably not will be moved to a plurilateral negotiating forum. The inclusion of sustainable agricultural products in an EG trade initiative would have been beneficial seen from a sustainable development perspective, but for the moment it is unrealistic to assume that negotiations on agricultural goods can happen outside the Agricultural Committee of the WTO.

5.2.4. Second generation biofuels

The UNEP informant proposed that the inclusion of so-called second generation biofuels in an EG trade initiative could give substantial environmental benefits. The ‘second generation’ biofuels differ from the ‘first generation’ by being produced from “agricultural and forestry residues rather than food products and food produce from agricultural land” (UNEP

2013:240). The first generation type replaces agricultural land and can potentially have adverse impacts on environment and food security. The second generation type however, does not cause these impacts.

Biofuels is a special category of agricultural products, as it constitutes a renewable alternative to fossil fuels, and thus can contribute to reducing GHG emissions (UNEP 2013). Many developing countries have great trading potential within second generation biofuels, as they have advantageous climate conditions and low labor costs. The need for technological know-how in the production of biofuels is also limited (ibid). The UNEP informant suggested that ideally an international certification scheme for second generation biofuels should be developed, and that these socially and environmentally responsible produced biofuels then could be included in an environmental goods trade initiative.

The practical difficulties of including second generation biofuels are similar to the ones connected to including sustainable agricultural products in general. To introduce a more favorable treatment of second generation biofuels over traditional biofuels depends on a change in the general attitude towards PPM-based discrimination in the WTO. It is also more likely that agricultural issues will continue to be negotiated multilaterally in the Agricultural Committee of the WTO, and not in plurilateral groups.

Table 5.2. Overview and description of the criteria related to product coverage.

Criteria	Description	Sustainable development contribution
Sustainable energy goods	Climate change represents a big environmental threat, and products that contribute to reduce the use of fossil energy should be given priority.	Social: Increased energy access can reduce energy poverty. Environmental: Can replace fossil fuel-based energy and contribute to reducing GHG emissions.
Components, not systems	Production of components is easier for developing countries and can help their integration into global value chains for environmental goods.	Economic/social: Can induce growth and poverty reduction in developing countries.
Sustainable agricultural products	Sustainable agricultural products are of great export interest to developing countries, and should be included.	Economic/social: Can induce growth and poverty reduction in developing countries, as well as enhancing food security. Environmental: Sustainable agriculture reduces degradation of arable land and put less pressure on natural resources.
Second generation biofuels	Biofuels produced in a more environmentally and socially responsible way than first generation biofuels should be given priority.	Economic/social: Can induce growth and poverty reduction in developing countries, as well as enhancing food security. Environmental: Replace fossil fuels and contribute to reducing GHG emissions.

5.3. Concluding remarks

This chapter has identified ten broad criteria that describe how a trade initiative for environmental goods could be designed to best contribute to sustainable development. Six of these criteria can be defined as structural, as they relate to the organizational framework of the initiative. The remaining four criteria are related to what type of goods such an initiative should include. These ten criteria represent the answer to the first research question of this study, namely how an initiative for liberalizing trade in environmental goods could be designed to best contribute to sustainable development. The following chapters will concentrate on the second research question, as the identified criteria now will be used to evaluate the APEC and WTO initiatives.

6.0. Case presentation

The following sections give a short presentation of the cases put under scrutiny in this study. The official statements and declarations made by the participants of the APEC and WTO initiatives are attached in appendix A and B.

6.1. The APEC initiative

APEC has been working on liberalization of trade in environmental goods for a long time, as part of the forums' core working pillar of trade and investment liberalization (Howse and van Bork 2006). In 2012, APEC became the first group of trading partners to agree on reducing tariffs on environmental goods, by committing to cut tariffs to 5 percent or less on a list of goods within 2015. The consultations started in 2011 with a list of 300 HS subheadings, which was reduced down to a final number of 54 after political negotiations (Vossenaar 2013). The goods on the final list are mainly established environmental technologies, only one subheading, HS 441872 "flooring panels of bamboo", can be categorized as an environmental preferable product (EPP). Of the 53 subheadings in the first category, 15 is within renewable energy, 17 is within environmental monitoring analysis and assessment equipment and 21 subheadings are within environmental protection, such as products used for waste-water management and air pollution control. The agreement is voluntary and non-binding, and only includes reduction of tariff levels, not of non-tariff barriers. Furthermore, most tariffs on environmental goods in the region are already well below 5 percent, with a few exceptions for China, Korea and Brunei Darussalam (ibid). The agreement nevertheless represents a step forward for free trade in EGs.

6.2. The WTO initiative

Following the conclusion of the APEC agreement in 2012, both US president Obama individually and the APEC leaders collectively stated their interest in building on the APEC initiative within the WTO (APEC 2013, The White House 2013). At the annual meeting of the World Economic Forum in Davos in January 2014, a group of 14 WTO members launched a new initiative for negotiations based on the APEC list. The joint statement made by the 14 WTO members⁴, including key APEC members such as USA and China, but also non-APEC members as the EU and Norway, suggests the APEC list as the starting point for these new negotiations, but that additional products also can be included. The joint statement also proposes that the initiative should be future-oriented and take into account the rapid

⁴ The participants of the WTO initiative include: Australia, Canada, China, Costa Rica, EU, Hong Kong China, Japan, Korea, New Zealand, Norway, Singapore, Switzerland, Taiwan and USA.

technological changes in the sector. The initiative is plurilateral, meaning that only a group of WTO members need to join to make it effective. According to the statement, the agreement will be valid when the number of participants represents a critical mass of the membership in terms of trade volume. According to export numbers from 2012, the participants of the WTO initiative already represent over 90 % of total export of the environmental goods on the APEC list (table 6.1).

Furthermore, it is stated that the initiative should apply MFN treatment, which means that the tariff reductions made by participating countries will also benefit WTO members that stand outside the agreement. Moreover, the participation in the agreement will be legally binding, contrary for what is the case for the APEC agreement.

Table 6.1. World trade in environmental goods, APEC and participants in the WTO initiative, 2012.
Unit: Dollars, thousand.

Country group	Import	% of world import	Export	% of world export
APEC	296 105 503	59,4	323 812 776	62,2
Participants in WTO initiative	374 839 208	75,2	482 184 776	92,6

Numbers are based on the 54 HS subheadings on the APEC list of environmental goods. Ex-outs from HS subheadings are not accounted for. Data source: ITC Trade Map.

7.0. Evaluation of the APEC and WTO initiatives

The aim of this study is to evaluate whether the design of the APEC and WTO initiatives is contributing to sustainable development. This evaluation is carried out in the following sections, based on the criteria identified in chapter five, as well as the information about the initiatives presented in the previous chapter.

7.1. Structure

When comparing the design of the two initiatives to the sustainable development criteria identified in chapter five, one finds that they differ slightly in structure. The WTO design can be said to propose a more suitable alternative than the APEC design due to its legally binding nature and openness to include additional participants. In the following sections, a more detailed account of the initiatives' compliance with the criteria is given. A schematic overview is provided in table 7.1.

7.1.1. The APEC initiative

The design of the APEC initiative only complies fully with one out of six structure-related criteria, and that is the Most Favored Nation (MFN)-criterion. Generally APEC follows the principle of "open regionalism", and does not discriminate between members and non-members when it comes to extending trade benefits (ICTSD 2013). This is also applicable for the APEC initiative on environmental goods, and means that all non-members will be able to benefit when APEC countries implement their agreed tariff reductions.

Furthermore, the APEC initiative complies "partly or potentially" with two of the structure-related criteria, namely the special and differential treatment (S&D)-criterion and the non-tariff barrier (NTB)-criterion. When it comes to the S&D-criterion, the agreement does seem to provide some kind of provisions to ensure technology transfer. It is stated in the leaders' declaration that established the agreement that: "We [APEC countries] commit to continue capacity-building activities to assist economies in implementing tariff reductions on the agreed list of environmental goods" (APEC 2012, appendix A). Additionally, there exist several committees within the APEC structure that work for enhancing technological cooperation between the member states (ICTSD 2013). This is however not enough to get a full score on this criterion. The leaders' declaration only mentions capacity-building related to implementation of tariff reductions, and not related to the building up of production and export capacity in domestic EG industries. The latter is considered important for creating export possibilities for developing countries. When it comes to addressing non-tariff barriers,

there does exist an APEC mandate for negotiating this issue (ICTSD 2013). One can therefore conclude that a consideration of burdensome non-tariff barriers in the EG sector potentially will be included in the future.

The APEC initiative does not comply with the three remaining structure-related criteria. First, it does not include a mechanism for including newly invented technology without having to go through a new negotiating process. Second, it does not comply with the open participation-criterion, as participation in the APEC initiative is limited to the organization's 21 members. Finally, the APEC agreement is not legally binding and therefore lacks the predictability that comes with a binding agreement regarding implementation of the agreed tariff concessions. However, the pledge to cut tariffs on the 54 HS codes was made at the highest political level, and failure by any of the members to implement is likely to cause some embarrassment.

7.1.2. The WTO initiative

As mentioned above, the WTO initiative scores slightly better than the APEC initiative on the structure-related criteria. It is however important to keep in mind that the WTO initiative is not negotiated yet, and that the final result might differ from the "draft" initiative that have been presented so far.

The design of the WTO initiative complies fully with three out of six structure-related criteria. First, what makes the biggest difference between the two initiatives is that the WTO initiative will be tied to the WTO structure, and therefore be legally binding and subject to the organization's dispute settlement mechanism. This will assure predictability in the implementation process and make sure that agreed bound tariff levels are met. Second, the WTO also complies with the open participation-criterion, as it is open for participation by all the 159 members of the WTO, something which gives it a broader scope of possible participants than the APEC initiative. Finally, the WTO initiative will like the APEC initiative be MFN-based.

The initiative complies "partly or potentially" with two of the structure-related criteria. In the joint statement from January it is stated that the initiative should "respond to changes in technologies in the years to come, that can also directly and positively contribute to green growth and sustainable development" (European Commission 2014). This implies that a mechanism for technological change *might* be included in the initiative, although no details about how this will be done are included in the statement. When it comes to non-tariff barriers, there is nothing in the joint statement that explicitly states that these should be

addressed, but the reference in the text to a “future oriented agreement able to address other issues in the sector” might indicate that this could happen later on (European Commission 2014). As with the APEC initiative, it is therefore reasonable to assume that the initiative potentially will address this issue in the future.

Finally, the joint statement makes no explicit references to technical and financial assistance to LDCs, or S&D-provisions to enhance technology transfer in developing countries (European Commission 2014). This makes the WTO initiative unable to comply with the S&D-criterion.

Table 7.1. Overview of the WTO and APEC initiatives’ compliance with the structure-related criteria.

Structural criteria	WTO			APEC		
	Included	Partly or potentially included	Not included	Included	Partly or potentially included	Not included
Address non-tariff barriers		X			X	
Mechanism for technological change		X				X
Open participation	X					X
Special and differential treatment			X		X	
Legally binding agreement	X					X
MFN treatment	X			X		
Total	3	2	1	1	2	3

7.2. Product coverage

The product coverage of the APEC and the WTO initiatives is similar, as they both consist of the 54 HS codes in the APEC list of environmental goods. The WTO initiative however, opens for additional products to be added during negotiations. The final result of these negotiations is impossible to predict, and thus this analysis is based on the 54 HS codes that definitely will be included, as pointed out in the joint statement made by the initiatives’ participants (European Commission 2014).

First, the list includes smaller parts and components, and is not system-oriented, which was one of the criteria mentioned by the UNCTAD-informants. The dual use problem is

partly dealt with by applying ex-outs to some of the HS codes, but a recent study shows that these ex-outs are imprecise and in most of the cases unable to target environmental goods only (Reinvang 2014). Nevertheless, the APEC list does comply with the “components, not systems”-criterion.

Second, the APEC list complies only partly with the sustainable energy goods-criterion. The APEC list was considered as “too narrow” by both the UNEP and ICTSD informant, who in general wanted a broader list comprising more environmental technology. The list already includes several HS codes within the sustainable energy category, including different sources of renewable energy, such as solar photovoltaic devices, solar water heaters, and wind turbines. It also includes key components for renewable energy generation, such as electricity generating sets and parts for electrical transformers (ICTSD 2013). The list of such goods could however have been longer to contribute further to sustainable development.

Finally, the list does not include sustainable agricultural products or second generation biofuels, which could have given great environmental benefits as well as provided developing countries with substantial export growth in these sectors.

Table 7.2. Overview of the APEC list of environmental goods' compliance with the product coverage-related criteria.

Criteria related to product coverage	The APEC list of Environmental Goods		
	Included	Partly or potentially included	Not included
Sustainable energy goods		X	
Components, not systems	X		
Sustainable agricultural products			X
Second generation biofuels			X
Total	1	1	2

7.3. Concluding remarks

When looking at the evaluation of the initiatives in table 7.1, one finds that the WTO initiative scores slightly better than the APEC initiative on the structure-related criteria, due to its legally binding nature and openness to include new members. Both initiatives can however increase their contribution substantially by deepening the liberalization to also include non-

tariff barriers. Another important structure-related criterion is the inclusion of provisions that enhance technology transfer. The APEC agreement includes some capacity-building provisions related to the implementation of tariff reductions, but no explicit mention is made of production-related capacity-building. It is uncertain if the WTO initiative will include such provisions, as nothing is mentioned in the existing description of the initiative.

When it comes to product coverage, the evaluation shows that there is great potential for creating sustainable development gains by broadening the coverage to include more than the 54 HS codes on the APEC list of environmental goods. Especially, there are big social and environmental gains connected to including more sustainable energy goods such as renewable energy technology and related equipment and components. The inclusion of sustainable agricultural goods and second generation biofuels could also have given great contributions to sustainable development. The practical difficulties related to including agricultural products however make this seem as an unfeasible option at the moment.

8.0. Discussion

This study has aimed to assess how the designs of the APEC and WTO environmental goods initiatives contribute to sustainable development. This chapter discusses some relevant issues regarding the results and methods of the study.

8.1. Results

As envisioned, the analysis of this study consists of two parts: first, the development of criteria, and second, the evaluation of the APEC and WTO initiatives based on these criteria. The following sections include a discussion of how these criteria should be prioritized, followed by some remarks on the necessity of such an initiative, and the practical challenges related to realizing it.

8.1.1. Ranking the criteria: which ones should be given priority?

The results are summed up in table 7.1 and 7.2, and suggest that the WTO initiative has a slightly more suitable structural design for achieving sustainable development gains. An interesting question to discuss in this regard is whether the criteria should be considered as equally significant, or as having different degrees of priority.

When it comes to the structural criteria, one can argue that addressing burdensome non-tariff barriers (NTBs) and enhancing technology transfer are especially important for creating sustainable development gains. The importance of addressing burdensome NTBs was mentioned by all the informants, and when keeping in mind the low tariff levels already applied on environmental goods by the countries participating in the APEC and WTO initiatives, it seems futile to agree to liberalize these goods without even considering the NTBs. According to the informants of this study, the NTBs are the real obstacles to trade in this sector. The expected benefits of EG liberalization should therefore be greater if the liberalization is deepened to include these barriers.

The reduction of trade barriers alone, should however not be considered as a guarantor of fulfilling sustainable development objectives. Mytelka (2007) suggests that an initiative that only focuses on market access—meaning reduced trade barriers—clearly will give greater benefits to the countries that dominate the export of environmental goods, i.e. the industrialized countries and a few emerging economies. To developing economies that are net importers of environmental goods, however, such an initiative will only offer the benefit of cheaper access to these goods. This will of course make an important contribution for dealing with energy poverty, but if the initiative aims to provide sustainable development gains

beyond cheaper access, the initiatives must be designed to accommodate developing countries' export interests and contribute to enhancing their production capacity. It is therefore important to include provisions that secure the transfer of technology. The assumption that technology transfer follows automatically from moving machinery from one place to another is proven wrong, and should be buried once and for all (Mytelka 2007). Explicit provisions ensuring that knowledge and capacity-building will be part of the initiative should therefore be made. Based on these arguments, these two criteria; addressing NTBs and including provisions for technology transfer, can be considered as especially important for achieving sustainable development gains.

This does not mean that the remaining structure-related criteria are unimportant. A legally binding agreement will enhance the predictability of trading conditions, and a mechanism for including new innovations will contribute to strengthen an EG trade initiative. These are however not necessary conditions for creating sustainable development outcomes. The addressing of NTBs and inclusion of provisions ensuring technology transfer are much more fundamental in this regard. It is also probable that the inclusion of provisions for technology transfer will induce more developing countries to join in, which is another important factor for the creation of sustainable development gains.

When it comes to product coverage, the initiatives are evaluated equally, since the APEC list of environmental goods is the basis for both initiatives. The APEC list is criticized for being too narrow, both by several of the informants in this study and by other researchers (Reinvang 2014). The fact that the WTO initiative is open for adding more products to the list makes it look somewhat better than the APEC initiative from a sustainable development perspective.

This study suggests that the list should include more sustainable energy goods, such as products used to generate renewable energy. This is a product category that can give significant environmental contributions, while at the same time contribute to sustainable energy access in developing countries. To include more sustainable energy goods in the list should also be quite easy to do. Another, more problematic, group of goods that could have been included are sustainable agricultural products and second generation biofuels. These goods are of great export interest for developing countries, and could have produced significant environmental and social gains if they were included. However, the inclusion of such agricultural goods in a plurilateral initiative in the WTO seems practically difficult, and progress in the agricultural negotiations in the Doha Round is therefore desirable.

Furthermore, it is desirable that these negotiations take sustainable development concerns into account, by for instance favoring “green” agricultural practices.

8.1.2. What difference does an agreement make?

Many scholars have questioned the rationale for creating separate trade agreements that reduce trade barriers on environmental goods (Claro et al. 2007, Mytelka 2007, Vikhlyayev 2011). The reason is simple: developing countries can easily get access to cheaper imports of environmental goods by lowering their tariffs unilaterally. This makes an international agreement seem superfluous. This is an interesting point that deserves careful consideration. Participants should consider what the main motivation behind their environmental goods trade initiative actually is: to contribute to sustainable development or to cater for the industrialized countries’ export interests in the environmental goods sector. If the former is the case, one should strive to include developing countries in global value chains for EGs by facilitating technology transfer, and also broaden the product coverage to include goods that are of export interest to developing countries. In this way, developing countries can benefit from the initiative not only as importers, but also as exporters. If the latter—to cater for industrial countries’ export interests—is the case, no further measures than increased market access are needed, and the initiative will probably end up as a plurilateral club for rich and emerging exporters, with little to offer developing non-exporters, and with marginal possibilities for making significant contributions to sustainable development.

8.1.3. Practical and political challenges

The realization of an environmental goods trade agreement that efficiently contributes to sustainable development sounds fascinating, but should not be considered an easy undertaking.

First, the list of practical challenges is both long and complicated. As mentioned earlier, one big issue to be solved is which goods that should be defined as environmental. Another challenge is how one should deal with goods that are used for both environmental and non-environmental purposes. The current HS system represents a third big challenge, as the chapters and subheadings are not designed for isolating environmental goods, and the creation of ex-outs to target environmental goods has proven to be difficult (Reinvang 2014).

Second, the realization of an agreement will always depend on political will. Even though experts might find a way to deal with the practical difficulties mentioned above, or make concrete proposals for lists of goods that clearly will benefit sustainable development, the final realization of any of these solutions will rely on political negotiations. And how

intriguing it may sound, it is unrealistic to believe that environmental concerns will ever be the main driver of international trade negotiations. These negotiations are traditionally driven by national export interests, and will most likely stay that way. The emerging trade initiatives for environmental goods are however examples of win-win-win situations where trade, environment and development objectives seem to coincide. One can therefore hope that this combination of objectives will make it possible to create trade agreements that truly support sustainable development in the future.

8.2. Methods

The methods used in this study were described thoroughly in chapter four, but some issues deserve further consideration. Reliability and validity are commonly used concepts for evaluating the quality of research, and the following sections discuss the applied methods in light of these concepts.

8.2.1. Reliability

Reliability has to do with the internal logic of a research project. A relevant question to ask when evaluating reliability is whether the results would have been the same if a different researcher had done the same job (Tjora 2012). Within the social sciences one cannot expect to find the *exact* same results when repeating a study, but an important indicator of reliable research is to make sure that the research is not researcher specific (Matthews and Ross 2010). Here, the issue of subjectivity comes into play; namely whether the researcher's subjective relation to the research topic has influenced the results. In this regard, it is important to mention that I prior to writing this study was doing an internship for the Norwegian mission to the WTO in Geneva, and that I got familiar with the trade in environmental goods issue here. This can potentially have colored my analysis and interpretations. I nevertheless believe that my experience with the research topic has not influenced the study more than what is normal for qualitative research projects, and that my prior experience with the research topic has strengthened the study rather than weakened it.

Another issue linked to reliability is dependability, referring to whether the data material gathered is accurate and complete. To strengthen the dependability of the data material, the transcriptions from the audio recorded interviews were sent back to the informants for approval.

8.2.2. Validity

Validity has to do with the logical connection between the research questions, the methods used to answer those questions and the final answers given to the questions (Tjora 2012). Simply put, validity can be evaluated by asking oneself: “Am I researching the thing that I think I am?” and “are the data that I am gathering relevant to my research question?” (Matthews and Ross 2010).

Regarding the first question, it is relevant to mention the changing character of the reality I wanted to study. When I did the interviews in January, the WTO initiative had not yet been launched; the interviewees could therefore not consider this initiative, and their answers were therefore focused on the WTO mandate from 2001 and the APEC initiative from 2012. One can therefore discuss whether the data from the interviews are suitable for evaluating the recently launched WTO initiative. The similarity between the WTO initiative and the APEC initiative, and the hypothetical nature of the questions asked in the interview, (I asked for “ideal” characteristics), have made me confident that the data can also be used to evaluate the WTO initiative, without wakening the validity of the study.

The selection of informants can also have affected the validity of the study. First, the study uses a rather small sample of informants, and it is quite possible that a larger sample would have provided different or additional criteria that could have been just as good or better able to assess the design of the initiatives. The fact that the informants were highly qualified and had a lot of knowledge on the research topic is however thought to make up for the small sample size. Second, the sample can be characterized as narrow, as the informants had quite similar views. For instance, all of them seemed to consider trade as a positive force for achieving sustainable development. As mentioned in the theory chapter, some do not see free trade as a tool for creating sustainable development, but rather as a contributing factor to environmental and social problems in the world (Røpke 1994, Clapp and Dauvergne 2011). If this study had included interviews with informants holding such environmental perspectives, it is probable that the criteria would have come out differently.

When evaluating whether the data gathered are feasible for answering the research question, one can use the concept “face validity”. This can for instance be done by looking at the interview guide used for gathering viewpoints, and evaluate whether the questions seem to be covering the topic in a thorough manner, and thereby judge whether the interview guide is face valid (Bornstein 2004). The interview guide (appendix C and D) was made before the research question and focus of the study was entirely clear. It therefore includes some questions that are not relevant for the research question. The guide includes one part about the

possibilities an EG trade initiative can give to environment, development and trade, and another part about the challenges for such an initiative to be realized. The questions included in the first part must be said to be most relevant for the research question, as they are about how an ideal agreement should look like. The specific questions about trade, development and environment can be said to cover the same main dimensions as the sustainable development concept; namely economy, society and environment. The questions about the challenges in the last part turned out to be less relevant for the study after the research questions were clearly defined. The interview guide must nevertheless be said to be face valid, as the questions in the first part seem to cover the research question well. As long as the most important is covered, it doesn't matter that some of the questions turned out to be superfluous.

Finally, a related issue to validity is whether the interpretations of the collected data are credible (Matthews and Ross 2010). This is especially relevant for chapter five of this report, where a big amount of interview data was narrowed down to ten criteria. The process of analyzing data allows the researcher to decide which parts of the material that is interesting for the research topic, and which parts that are not. To strengthen the credibility of the interpretations made in this study, chapter five was sent out to all the informants for feedback and comments. In this way I was assured that I had made relevant interpretations, and that the informants found my analysis credible.

Based on these reflections, I consider the methodology used in this study as sufficiently reliable and valid to deliver credible results.

9.0. Conclusion

The aim of this study has been to investigate whether the designs of the APEC and WTO initiatives are appropriate for delivering sustainable development gains. The study has developed ten criteria for evaluating the structure and product coverage of the initiatives, and found that they have great room for improvement in both categories.

When it comes to structure, both initiatives can improve substantially by deepening the liberalization to include non-tariff barriers (NTBs) and by including provisions for developing countries that enhance technology transfer. The WTO initiative scores slightly better than the APEC initiative on the remaining structural criteria, as it will be legally binding, open for all WTO members and may potentially contain a mechanism for including new innovations. Both initiatives include Most Favored Nation-treatment, which is considered beneficial.

When it comes to product coverage, the initiatives can improve by broadening their coverage, particularly by including more products in the sustainable energy category. Sustainable agricultural products and second generation biofuels could also have been represented on the list, but the inclusion of such products is considered practically difficult. The fact that the APEC list of environmental goods includes components and not whole systems is considered positive from a sustainable development perspective, as this makes it easier for developing countries to participate in global value chains.

In spite of the mentioned shortcomings, the APEC and WTO initiatives should be welcomed as positive first steps to achieve global free trade in environmental goods, yet more steps are needed to create initiatives that fully and efficiently support sustainable development.

The necessity of an international trade agreement on environmental goods can however be debated, as all countries independently can cut tariffs on these goods if they want cheaper imports. The inclusion of more developing countries in environmental goods trade initiatives, not just as importers, but also as exporters, will therefore be important to be able to create real sustainable development outcomes in the future.

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Informants

INGRID JEGOU. Manager of the Climate Change and Energy program in the International Centre for Trade and Sustainable Development (ICTSD). Interviewed on December 13, 2013 in Geneva

JOHN MAUGHAN. Economics and Trade Branch in the Trade, Policy and Planning Unit in the United Nations Environment Programme (UNEP). Interviewed on January 23, 2014 in Geneva.

ROBERT HAMWEY. Economic affairs officer, Trade, Environment, Climate Change and Sustainable Development Branch, Division on International Trade in Goods and Services in the United Nations Conference on Trade and Development (UNCTAD). Interviewed on January 23, 2014 in Geneva.

ALEXEY VIKHLYAEV. Economic affairs officer, Trade, Environment, Climate Change and Sustainable Development Branch, Division on International Trade in Goods and Services in the United Nations Conference on Trade and Development (UNCTAD). Interviewed on January 23, 2014 in Geneva.

Databases

BIBSYS Ask. Available: <http://ask.bibsys.no/ask/action/resources>

ITC Trade Map. Available: <http://www.trademap.org/>

Scopus Database. Available: <http://www.scopus.com/home.url>

Appendix A: Declaration made by the participants of the APEC initiative

**20th APEC ECONOMIC LEADERS' Declaration
Vladivostok, Russia
ANNEX C
APEC LIST OF ENVIRONMENTAL GOODS**

APEC plays an important role in pursuing green growth in the region. While each economy has its own environmental and trade policies, it is vitally important to pursue common approaches to environmental challenges, and take coordinated actions to address climate change, such as promoting trade and investment in goods and services needed to protect our environment and developing and disseminating relevant technologies.

Trade and investment liberalization in environmental goods will help APEC businesses and citizens access important environmental technologies at lower cost, which in turn will facilitate their use and benefit the environment. In addition, it will contribute significantly to APEC's core mission to promote free and open trade and investment, as embodied in the Bogor Goals.

In that light, we are pleased to endorse the below APEC List of Environmental Goods that directly and positively contribute to green growth and sustainable development objectives on which we will reduce applied tariff rates to 5 per cent or less by the end of 2015 taking into account economies' economic circumstances and without prejudice to their positions in the World Trade Organization (WTO), as we committed in 2011.

We commit to continue capacity-building activities to assist economies in implementing tariff reductions on the agreed list of environmental goods. We believe that reducing our tariffs on environmental goods demonstrates our commitment to pursuing green growth objectives, addressing climate change and securing sustainable economic development, and are committed to continuing APEC's leadership role in this regard.

Appendix B: Joint statement made by participants of the WTO initiative

JOINT STATEMENT REGARDING TRADE IN ENVIRONMENTAL GOODS 24 January 2014 at Davos, Switzerland

We the representatives of Australia; Canada; China; Costa Rica; the European Union; Hong Kong, China; Japan; Korea; New Zealand; Norway; Singapore; Switzerland; Chinese Taipei; and the United States welcome Asia-Pacific Economic Cooperation (APEC) Leaders' agreement to explore opportunities in the World Trade Organization (WTO) to build on its ground-breaking commitment to reduce tariffs on the APEC List of Environmental Goods by the end of 2015. So today, we announce our commitment to achieve global free trade in environmental goods, and pledge to work together, and with other WTO Members similarly committed to liberalization, to begin preparing for negotiations in order to advance this shared goal.

We are convinced that one of the most concrete, immediate contributions that the WTO and its Members can make to protect our planet is to seek agreement to eliminate tariffs for goods that we all need to protect our environment and address climate change.

We anticipate a structure for an environmental goods agreement that would reinforce the rules-based multilateral trading system and benefit all WTO Members, including by involving all major traders and applying the principle of Most Favored Nation. Such an agreement would take effect once a critical mass of WTO Members participates.

Our work will build upon APEC Leaders' commitment to reduce tariffs on the APEC List of 54 Environmental Goods. APEC has given us a good start, and we are committed to exploring a broad range of additional products, in the context of a future oriented agreement able to address other issues in the sector and to respond to changes in technologies in the years to come, that can also directly and positively contribute to green growth and sustainable development.

Building on the momentum created by the agreement reached in Bali, we strongly believe that this effort in the WTO will add impetus and energy to the multilateral trading system and support its mission to liberalize trade, and make a significant contribution to the international environmental protection agenda, including our shared efforts in the ongoing United Nations Framework Convention on Climate Change negotiations to combat climate change and transition to a green economy.

Appendix C: Detailed interview guide, researcher version

Introduction

- About me
- Is it okay that I record the interview?
- In terms of anonymity: what are your preferences?

Warm-up

- Before we start on the first part of the interview, I wonder if you could tell me a bit about the [organization]'s general viewpoints when it comes to trade and environment issues?
- How familiar are you with the WTO negotiations on trade in environmental goods?

Possibilities

- What do we know about what kind of impact an EG agreement can have on the environment?
- How should it be designed to have the most efficient environmental impact?

Follow-up-questions: What kind of goods should be covered in the agreement?
Environmentally preferable products based on PPMs? Should services be included? How to make sure that newest technology get included?

- What can such an agreement potentially offer to developing countries?
- How should it be designed to best benefit developing countries?

Follow-up-questions: Special and differential treatment?

- Which trade benefits can an agreement give?
- How should it be designed to give the best trade benefits?

Challenges

- What are the main obstacles for the realization of a trade agreement on environmental goods?
- How should the agreement be designed to get around these obstacles?
- How should the agreement be designed if the goal is to make it multilateral?
- If members do not succeed in negotiating a multilateral agreement, what are the alternatives?
- Benefits or stumbling blocks with an alternative agreement?

Appendix D: Interview guide, simplified version

Sent out to informants in advance, if requested.

Possibilities

- What kind of impact can an EG agreement have on the environment?
- How should it be designed to have the most efficient environmental impact?
- What can such an agreement potentially offer to developing countries?
- How should it be designed to best benefit developing countries?
- Which trade benefits can an EG agreement give?
- How should it be designed to give the best trade benefits?

Challenges

- What are the main obstacles for the realization of a trade agreement on environmental goods?
- How should the agreement be designed to get around these obstacles?
- How should the agreement be designed if the goal is to make it multilateral?
- If members do not succeed in negotiating a multilateral agreement, what are the alternatives?
- Benefits or stumbling blocks with an alternative non-multilateral agreement?