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Acronyms

APEC	Asia-Pacific Economic Co-operation
EGS	Environmental goods and services
GATT	General Agreement on Tariffs and Trade
GDP	Gross domestic product
GER	Green Economy Report
GE-TOP	Green Economy and Trade Opportunities Project
GPA	The plurilateral Agreement on Government Procurement
GSCs	global supply chains
ISO	International Organization for Standardization
OECD	Organisation of Economic Co-operation and Development
SCM	Agreement on Subsidies and Countervailing Measures
SMEs	Small- and medium-size enterprises
SPS	Agreement on the Application of Sanitary and Phytosanitary Measures
TBT	Agreement on Technical Barriers to Trade
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UNFSS	United Nations Forum on Sustainability Standards
VSS	Voluntary sustainability standards
WTO	World Trade Organization

1 Introduction

1.1 Rio+20: A turning point for trade and the green economy?

Twenty years after the first Rio Conference on Environment and Development, Heads of State clearly recognised that the transition to a Green Economy – backed by strong social provisions – offers a key tool and pathway towards a more sustainable 21st century. Governments were also clear about the key role that international trade can play in this context. The Rio+20 Outcome Document, "The Future We Want", states:

> "We reaffirm that international trade is an engine for development and sustained economic growth, and also reaffirm the critical role that a universal, rules-based, open, non-discriminatory and equitable multilateral trading system, as well as meaningful trade liberalization, can play in stimulating economic growth and development worldwide, thereby benefiting all countries at all stages of development as they advance towards sustainable development…" (UN 2012, paragraph 281).

In addition, it was clearly stated that green economy policies should not amount to unjustifiable restrictions on international trade. Nevertheless, it can be argued that deliberations before, during and after Rio+20 initiated a shift of focus from the risks of using green economy policies for protectionist purposes, to the opportunities that the transition to a greener economy can present to create new markets and improve market access, thus enhancing economic and social development through sustainable trade. Particular emphasis was placed on achieving progress on environmentally harmful subsidies and trade in environmental goods and services and on establishing enabling environments for the transfer of environmental technology (see Box 1).

Box 1. Rio+20 Decisions on the role of trade

The Rio+20 Outcome Document sets out broad recommendations for transitioning to greener economies, and defines the role that trade can play in this context. It stresses the importance of several factors, including:

- Achieving progress on trade-distorting subsidies and trade in environmental goods and services (UN 2012, paragraph 281);
- Establishing enabling environments for the development, adaptation, dissemination, and transfer of environmentally-sound technologies, while noting the role of foreign direct investment, international trade and international cooperation in the transfer of environmentally-sound technologies (UN 2012, paragraph 271); and
- Achieving an ambitious, balanced and development-oriented conclusion of the Doha Round of multilateral trade negotiations, while respecting the principles of transparency, inclusiveness and consensual decision-making, with a view to strengthening the multilateral trading system (UN 2012, paragraph 282).

Source: Summary based on UN (2012)

Overall, there is no doubt that Rio+20 was not the turning point needed to prevent the world economy reaching critical environmental thresholds and tipping points. It did, however, offer a paradigm shift in the international discourse on sustainable development by pointing to the green economy as "one of the important tools available for achieving sustainable development". Accordingly, green economy policies "should contribute to eradicating poverty as well as sustained economic growth, enhancing social inclusion, improving human welfare and creating opportunities for employment and decent work for all, while maintaining the healthy functioning of the Earth's ecosystems" (UN 2012, paragraph 56).

Governments also called on the international community, including UN agencies, to support countries interested in transitioning to an inclusive green economy and provide assistance in developing national green economy strategies that will generate new jobs and skills, promote clean technologies, and reduce environmental risks and poverty.

The degree of flexibility inherent in the formulation and application of green economy policies is expressed through the consideration that such policies "provide options for policymaking but should not be a rigid set of rules" (UN 2012, paragraph 56), and by acknowledgment of the need for supporting developing countries through technical and technological assistance (UN 2012, paragraph 74).

By addressing the critical nexus between a transition to a green economy and international trade, this report responds to the calls made by world leaders at Rio+20 for supporting a green economy that contributes to poverty eradication and sustainable economic growth. The objective of the report is to provide an overview and examples on how the transition to a greener economy can create sustainable trade opportunities for developing countries. At the same time, the report considers some of the main trade-related challenges faced by developing countries to take advantage of the benefits arising from the transition to a greener economy. It explores how addressing these challenges can present opportunities to advance economic and social development in a sustainable way. The report adopts an analytical and case-based approach with a view to stimulating further analytical work and policy dialogue, particularly at the national or regional level.

This report builds on UNEP's report "Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication" (GER) (UNEP 2011a) and reviews particularly six of the ten economic sectors covered by the GER. These are: agriculture, fisheries, forests, manufacturing, renewable energy, and tourism. These six sectors have been selected because they present both existing and potential trade opportunities for developing countries.

Rio+20 calls for action in each of the six economic sectors, as summarised in Box 2, highlighting the need to implement strategies to assist developing countries in their efforts to achieve sustainability, including in trade-related practices.

Box 2. Rio+20 calls for a green economy transition in the six economic sectors addressed by this report

The Rio+20 Outcome Document highlights the importance of the six economic sectors addressed in this report for achieving sustainable development objectives. In addition, it adopts a ten-year framework of programmes on sustainable production and consumption that determines the pathway for achieving those objectives (paragraphs 224-226). The following paragraphs summarise the recommendations of the Outcome Document most relevant to these chapters.

- **Agriculture**: The Outcome Document stresses the critical importance of agriculture for poverty reduction, food security, livelihoods and the achievement of sustainable development. It places special emphasis on the situation of developing countries. In this context, the Outcome Document affirms the need to improve the functioning of international markets and trading systems, including managing the risks connected with high price volatility. In addition, it calls for national, regional and international strategies that promote the participation of farmers, and in particular small landholders (paragraphs 108-118).

- **Fisheries**: The Outcome Document puts a strong emphasis on the need to identify, by 2014, strategies to assist developing countries, and in particular least developed countries and small island developing states, in their effort to develop national capacity to conserve, sustainably manage and realise the benefits of sustainable fisheries. It also stresses the importance of combating illegal, unreported and unregulated fishing activities, and of phasing out subsidies that contribute to overcapacity and overfishing (paragraphs 52 and 168-177).

- **Forests**: The Outcome Document highlights that the wide range of products and services that forests provide creates opportunities to address some of the most pressing challenges of sustainable development. Sustainable forest management, the promotion of trade in legally harvested forest products, and the fight against illegal logging and illegal trade have been stressed as crucial preconditions for realising those opportunities. In addition, the Outcome Document addresses policy makers committed to improving the livelihood of forest communities (paragraphs 193-196).

- **Manufacturing:** The Outcome Document recognises the need for energy efficiency improvements in the production of goods and services as well as in the design of products (paragraph 128), and calls for the sound management of chemicals and waste (paragraphs 213-223). Moreover, it acknowledges the importance of an active engagement of the private sector in achieving the full implementation of sustainable development. In particular, the document expresses support for national regulatory frameworks that take into account the importance of corporate social responsibility (paragraph 46).

- **Renewable Energy:** The Outcome Document supports the transition towards the use of sustainable and renewable energy sources in a way that should be tailored to countries' specific situations and levels of development. While recognising that an increased use of renewable energy sources is an important tool for addressing climate change, the Outcome Document also encourages a more sustainable use of traditional energy sources, and re-affirms the commitment to phase out harmful and inefficient fossil fuel subsidies, taking into account the special situation of developing countries (paragraphs 127-129 and 225). This mandate is in line with the engagement expressed in the Sustainable Energy for All initiative, which aims at ensuring universal access to modern energy services, doubling the global rate of improvement in energy efficiency, and doubling the share of renewable energy in the global energy mix by 2030 (paragraph 129).

- **Tourism:** The Outcome Document acknowledges that well-designed and managed tourism can make an important contribution to all the three dimensions of sustainable development and generate trade opportunities, particularly in developing countries. In addition, the document calls for enhanced support for sustainable tourism activities and relevant capacity building in developing countries in order to contribute to the achievement of sustainable development. It also recognises that tourism activities such as ecotourism should be encouraged (paragraphs 130-131).

Source: Summaries based on UN 2012

1.2 The concept of a green economy

According to UNEP's working definition, a green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities. This definition has been utilised to develop and test alternative investment scenarios using economic models and applied policy analysis in the GER.

The GER found that allocating up to 2 per cent of global gross domestic product (GDP) (approximately US$ 65 trillion in 2011) over the next 40 years to jump-start a green transformation of the global economy would generate as much growth and employment as a brown economy, and outperform the latter in the medium and long run, while yielding significantly more environmental and social benefits and reducing the risks of global climate change. The three main findings of the GER are as follows:

- The transition to a green economy not only generates increases in wealth, in particular a gain in ecological commons or natural capital, but also, over a period of six years, produces a higher rate of GDP growth.
- There is an inextricable link between poverty eradication and better maintenance and conservation of the ecological commons, arising from the benefit flows from natural capital that are received directly by the poor. The role of natural capital and especially "living" natural capital (i.e. the planet's ecosystems and biodiversity) cannot be overstated in this context.
- In a transition to a green economy, new jobs are created that over time exceed the losses in brown economy employment. Achieving this net gain, however, requires investment in re-skilling and re-educating the workforce.

In addition to these findings, the GER identifies five key areas of policy-making that create the enabling conditions to support a green economy transition. These are:

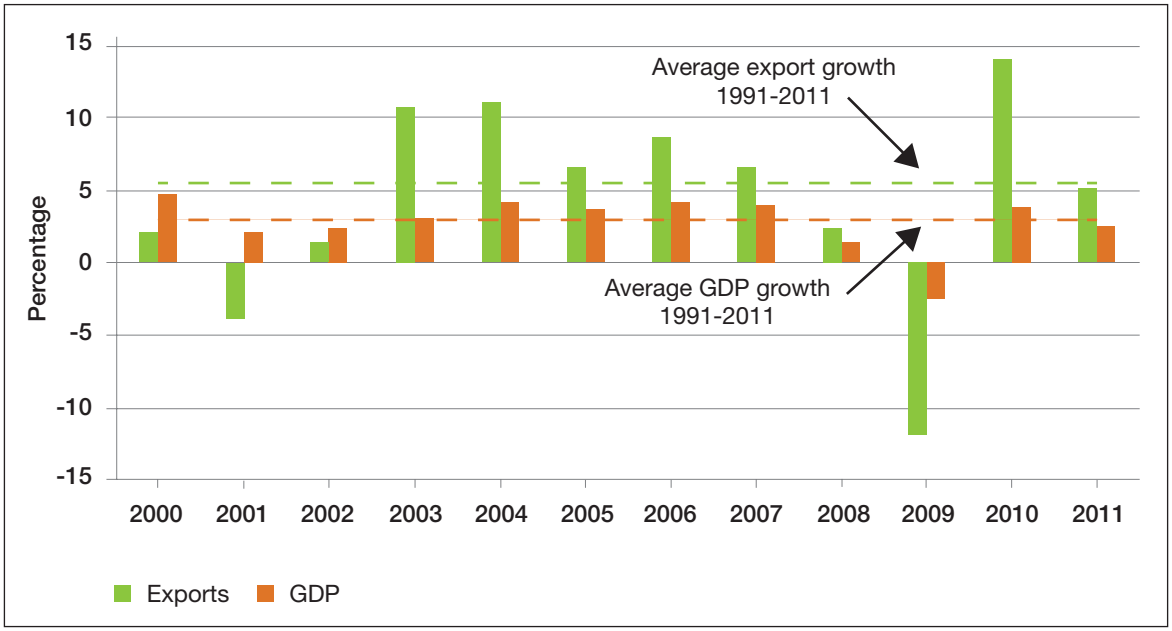
- Using **public investment and spending** to leverage private investment, including public infrastructure projects, green subsidies and sustainable public procurement;
- Using **market-based instruments**, such as taxes and tradable permits to level the playing field and provide market incentives in order to promote the greening of key sectors;
- Implementing **subsidy reform** in areas that deplete and degrade natural capital;
- Designing a country's **regulatory framework** of legislation, institutions and enforcement to channel economic energy into environmentally and socially valuable activity; and
- Using and improving **international frameworks** that regulate economic activity, including the international trading system, in driving a green economy.

This report, which is part of the Green Economy and Trade Opportunities Project (GE-TOP), builds on the key findings of the GER, and uses these categories of enabling conditions to identify means for seizing trade opportunities arising from the transition to a green economy.

1.3 International trade and the green economy

Trade remains a key indicator of the state of the world economy. The sum of world exports of goods and commercial services amounted to current US$ 22.3 trillion at the end of 2010. Between 2000 and 2011, the volume of world merchandise exports grew at a 5 per cent average rate per year, *vis à vis* an average 3 per cent growth of GDP (Figure 1).

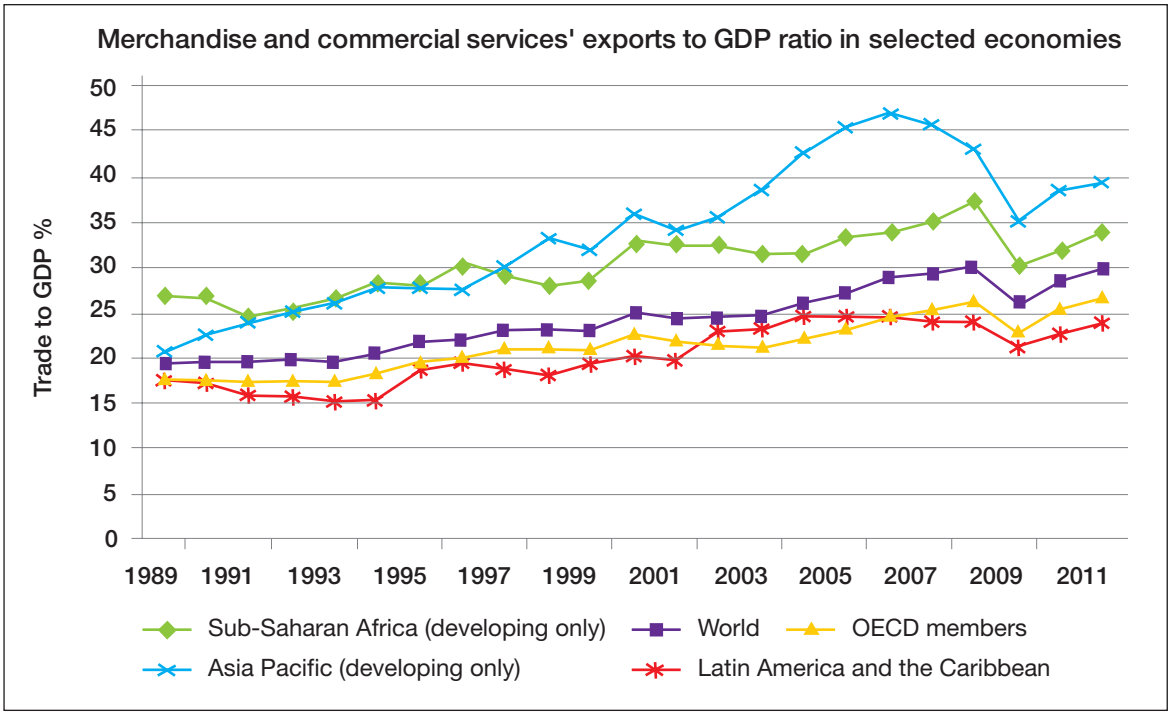
Figure 1. Growth in volume of world merchandise trade and GDP, 2000-2011



Source: WTO 2012a

Merchandise and commercial services' exports provide an increasingly important share of world GDP from 19 per cent in 1989 to 29.3 per cent in 2011 (Figure 2). Remarkably, the share of exports to GDP appears to be even larger in sub-Saharan African countries (33.5 per cent) and in the Asia Pacific region (39.1 per cent).

Figure 2. Exports-to-GDP ratio, 1989-2011

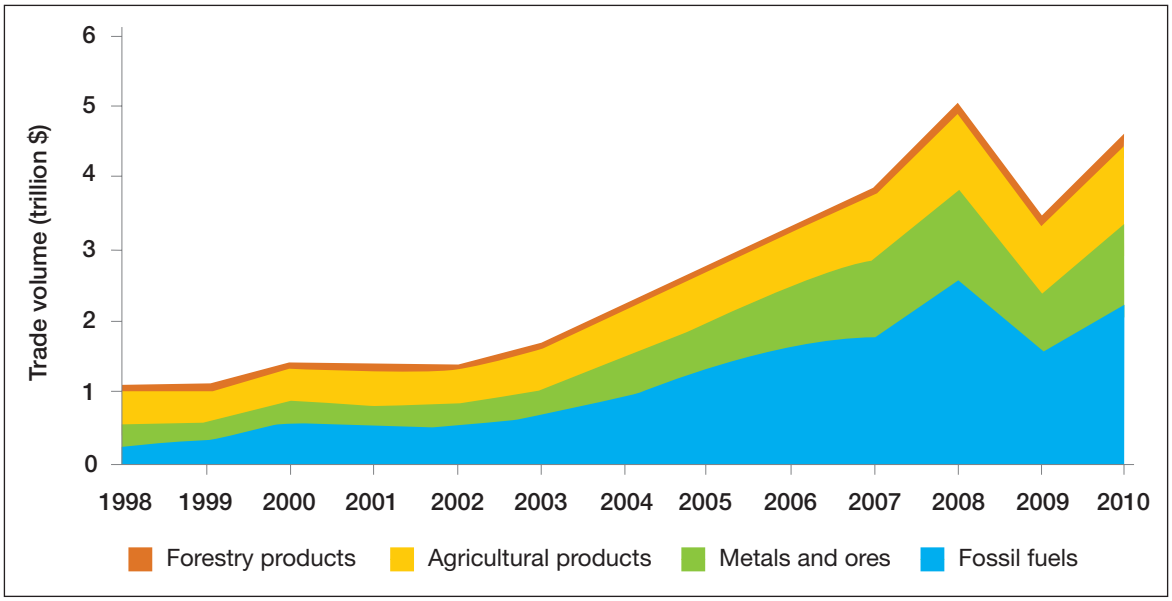


Source: Author's elaboration on the basis of World Bank and OECD national accounts data (2012)

Trade between developing countries, or "South-South" trade, has recently been assessed as "the most dynamic segment of global trade in the last decade" (World Bank 2013). According to the United Nations Conference on Trade and Development (2012), South-South exports reached US $3.5 billion in 2011, or 23 per cent of the value of world trade. As from 2008, developing countries as a whole exported more to the South than to the North. Between 2001 and 2010, South-South exports grew on average by 19 per cent per year, and after the 2008 downturn they rebounded much faster than global export growth, increasing by 30 per cent between 2009 and 2012. The composition and direction of South-South trade suggest, respectively, that manufactures are at the forefront (over 60 per cent of total South-South trade), and that Asia is a major exporter, claiming over 80 per cent of all South–South exports.

While creating economic growth, increasing volumes of trade have also put additional stress on natural resources, including those that are traded internationally such as agricultural products, fish and forestry products, fossil fuels, and metals and ores. Increased demands by emerging economies for natural resources, coupled with the already unsustainable levels of resource consumption and use registered in more developed countries, led to an unprecedented surge in resource consumption and trade in the period 1995-2010. Figure 3 illustrates the growth of trade in global resources.

Figure 3. Global resource trade by value (1995-2010)



Source: Chatham House Resource Trade Database, BACI, COMTRADE (Lee et al. 2012)
*Notes: *Agricultural products include fish, meat and dairy; **A significant surge in oil prices has been recorded in the period under review.*

The interaction between trade and the transition to a greener economy is also complex and can be seen as bidirectional: trade has the potential to facilitate the transition to a green economy, and the transition to a green economy has the potential to create new trade opportunities.

Sustainable trade, in fact, can facilitate the transition to a green economy by fostering the exchange of environmentally friendly goods and services, including environmentally sound technologies, by increasing resource efficiency, by generating economic opportunities and employment, and by contributing to poverty eradication. To do so, the additional wealth generated by international trade should provide opportunities to reduce income distribution inequalities, rather than exacerbate them.

The transition to a green economy, in turn, has the potential to create sustainable trade opportunities. In particular, this can occur by opening new export markets for environmental goods and services, by trading certified products and certification-related services, and by greening international supply chains. The adoption of more resource- and energy-efficient production methods as part of green economy measures has an important role to play in securing long-term competitiveness in international markets.

However, realising this potential depends on a number of factors. Both increased pressure on natural resources and increased GHG emissions, in connection with trade activities, bring elements of caution when trying to achieve sustainable development objectives through trade. Flanking policies targeted at sustainable consumption and production, in particular, are needed for global trade to become more sustainable. Technological advancements to offset the increase in GHG emissions that follow a trade-driven expansion in the scale of production are also necessary. While trade activities usually result in more GHG emissions, technological advancements and spillovers favoured by international trade can lead to a further specialisation in the production of more energy- and resource-efficient goods and services (WTO and UNEP 2009).

The transition to a greener economy – being by definition a holistic approach to the orderly reform of existing economic models in a way that maximises social, economic and environmental gains – offers a real opportunity to harness trade for sustainable development. In addition, trade may serve as a channel for the transfer of environmentally sound technologies and services, and provide consumers with access to a greater variety of environmental goods and services at a lower cost.

Green economy policies, and specific measures taken to implement those policies, have in the past raised concerns of protectionist purposes or outcomes. Box 3 lists various WTO agreements that are especially relevant to green economy measures.

Box 3. Green economy policies and the WTO

The following paragraphs list the WTO agreements that appear to be most relevant for green economy measures. Some of those agreements contain exceptions that grant WTO members the possibility of implementing green economy measures where they pursue a legitimate objective.

General Agreement on Tariffs and Trade (GATT), Article XX
The GATT is the core agreement relating to trade in goods. GATT Article XX on General Exceptions specifies a number of instances in which members' trade measures may be exempted from GATT rules that would otherwise have applied. The provision seeks, among other things, to ensure that green economy measures are not applied arbitrarily and are not used as disguised protectionism.

Agreement on Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Measures (SPS)
Rules such as the TBT Agreement, dealing with technical regulations and product standards, and the SPS Agreement, dealing with food safety and human, animal and plant health, provide scope for WTO members to put in place regulatory measures to protect the environment and advance a green economy, while at the same time imposing disciplines to ensure that such measures are not unnecessary restrictions on international trade.

Agreement on Subsidies and Countervailing Measures (SCM)
The SCM Agreement seeks to prevent members from providing subsidies that distort international trade. Provided certain basic disciplines are respected, the agreement leaves members with policy space for, among other things, supporting the deployment and diffusion of green technologies.

Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)
The TRIPS Agreement provides a framework for applying the intellectual property system to promote access to and dissemination of green technologies, and provides policy space to promote public interest in sectors of vital importance to socio-economic and technological development, as well as specific incentives for technology transfer and exclusions of environmentally damaging technologies from intellectual property (IP) protection.

The plurilateral Agreement on Government Procurement (GPA)
The plurilateral GPA applies only to the WTO members who have ratified it. It aims at opening up procurement markets to international competition on a transparent and non-discriminatory basis. Under the agreement, parties and their procuring entities may prepare, adopt or apply technical specifications aimed at promoting green procurement.

In addition to the enforceable WTO rules, world leaders recognised in the **Doha Ministerial Declaration** (WTO 2001) that "…under WTO rules no country should be prevented from taking measures for the protection of human, animal or plant life or health, or of the environment at the levels it considers appropriate, subject to the requirement that they are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, and are otherwise in accordance with the provisions of the WTO Agreements". This language, which is drawn from GATT Article XX, can also be found in Principle 12 of the Rio Declaration 1992: "Trade policy measures for environmental purposes should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade". Similarly, it is present in Article 3.5 of the UN Framework Convention on Climate Change, whereby: "Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade". This language is also reflected in paragraph 58(h) of the Rio+20 Outcome Document (UN 2012).

Source: Adapted from WTO 2012b

As discussed in this section, sustainable or green trade has a key role to play in the interface between international trade and the transition to a green economy. While there is no universally agreed definition of sustainable trade, it broadly refers to trade that does not deplete natural resources, harm the environment or deteriorate social conditions while promoting economic growth. Sustainable trade can be closely associated with the following elements: positive social, economic and environmental outcomes from the international exchange of goods and services; the generation of economic values; the reduction of poverty

and inequalities; the reduction of environmental impacts from trade-related economic activities; and the restoration of natural resources.

1.4 Trade opportunities arising from the transition to a green economy

This report identifies several opportunities to create or consolidate sustainable development through trade. Sustainable trade opportunities may arise, for example, from trading environmental goods and services (EGS), by complying with sustainability standards and from the greening of global supply chains. Realising these opportunities is often challenging, particularly for developing countries. Consequently, this report also discusses those challenges and some means to address them.

1.4.1 Trade in environmental goods and services

There is currently no universal agreement on the definition of environmental goods and services (EGS). A number of bodies have proposed definitions, but these have not been universally adopted. For instance, the Organisation of Economic Co-operation and Development (OECD) has defined the EGS industry as "activities which produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air and soil as well as problems related to waste, noise and ecosystems" (OECD 2005).

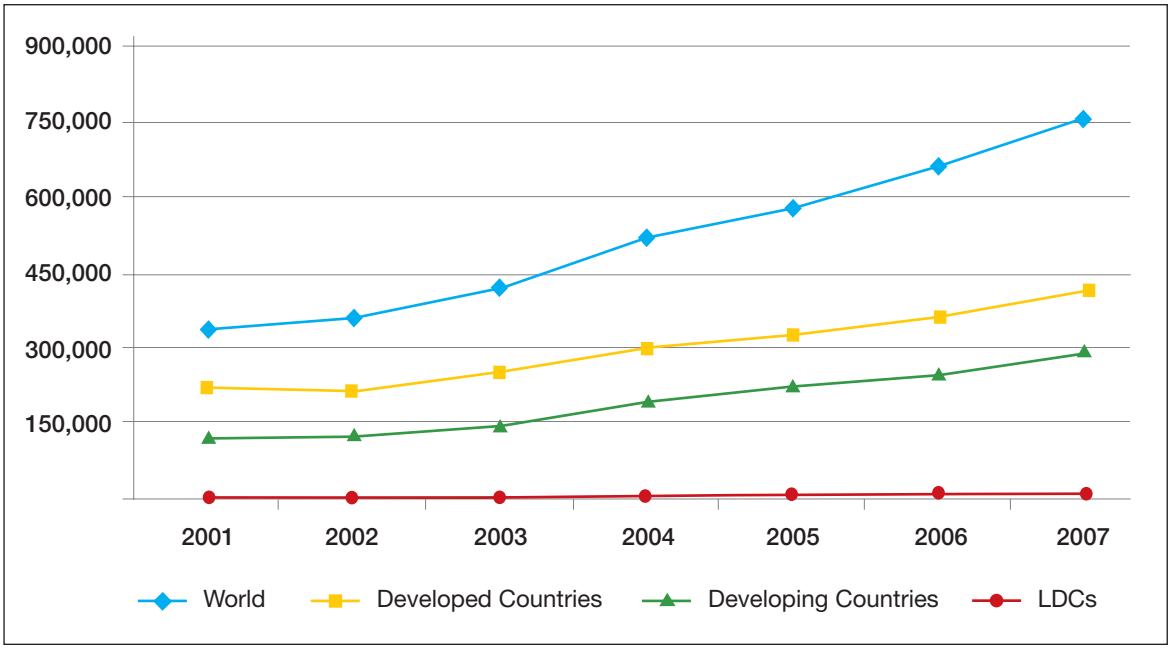
Negotiations on liberalising trade in EGS are part of the WTO Doha Round. The objective of paragraph 31(iii) of the Doha Ministerial Declaration (WTO 2001) is to create a "triple-win" situation for trade, the environment and development through "reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services". This mandate, however, defines neither EGS nor the speed or depth of EGS trade liberalisation to be achieved.

In parallel, certain regional initiatives such as that of the Asia-Pacific Economic Co-operation (APEC) forum are providing new opportunities for regional or plurilateral dialogue and agreement. In September 2012, APEC leaders agreed on a list of 54 environmental goods for which tariff rates would be reduced to five per cent or less by 2015. The list includes for example machines for the production of heat and power on the basis of renewable biomass fuels, components of industrial air pollution control plants, and gas turbines for electrical power generation from recovered landfill gas (APEC 2012). APEC members account for over 70 per cent of world exports in the goods on the 54-item list (ICTSD 2012).

Environmental goods

This report shows that significant growth potential for trade in environmental goods is found in developing countries. Many are now beginning to realise the opportunity for investing in environmental infrastructure and are supporting this trend by putting in place supporting regulatory frameworks. These trends – combined with increasing environmental awareness internationally and investments in research and development (R&D) – are creating dynamic opportunities for trade in environmental goods. Between 2001 and 2007, as shown in Figure 4, the total export value of environmental goods (based on a combination of the OECD and APEC lists) more than doubled, with both developed and developing countries experiencing similar levels of growth.

Figure 4. Growth of environmental goods export, 2001-2007



Source: UNDP 2010 based on a combination of the OECD and APEC classifications

However, if compared with the value of global trade in materials and resources reported in Figure 3, trade in EGS in the period 2001-2007 shows lower growth rates, while also representing only a small fraction of total merchandise trade.

As national priorities shift towards mitigating environmental damage, emerging economies have become significant players in the production and trade of various clean technologies. This is also due to significant investments in R&D. An important margin to liberalise trade in environmental goods still exists in "South-South" trade, where environmental goods face higher bound and applied tariffs. While tariff revenue represents an important source of income for many developing countries, lowering tariffs on EGS may significantly increase consumers' welfare, while contributing to sustainable development.

In addition, non-tariff measures also have significant impacts on trade flows, and potentially even more than tariffs. For environmental goods, non-tariff measures most commonly take the form of standards and technical regulations with product characteristics requirements, licensing, certification, testing, inspection and quarantine requirements.

Some developing countries have, however, also expressed concern that enhanced competition from cheaper imports could have an adverse effect on their own new green industries. In addition, the margins for improving market access for environmental goods exports from least developed countries (LDCs) and developing countries to developed countries through tariff reduction are somewhat limited, whereas much more could be done in the field of non-tariff measures. This is particularly the case for exports to OECD countries that maintain complex regulatory frameworks and impose lower tariffs on goods from developing countries under their Generalised Systems of Preferences.

Considering the above, technical and financial support for developing countries, especially for LDCs, will play a key role in helping them to capture opportunities arising from a green economy and to increase trade in environmental goods relative to conventional merchandise trade.

Environmental services

The global market for environmental services is substantial and growing, driven in part by increasing environmental regulation and by changing consumer preferences. While industrialised countries represent a larger share in this growth, there are also increasing opportunities for developing countries.

Environmental services can be categorised as either infrastructure or non-infrastructure environmental services. Infrastructure environmental services include waste, water and refuse collection and disposal, and services that typically require significant investments, such as the construction and maintenance of physical facilities. Such services are usually characterised as public goods and are often either managed or regulated by governmental bodies (WTO 2010).

Non-infrastructure environmental services, such as the prevention and remediation of pollution, have emerged as a response to environmental problems inherent in modern industrial economies. Unlike infrastructure services, non-infrastructure environmental services are primarily supplied on a business-to-business level. They focus on the need to comply with government regulation on pollution or environmental degradation. Comparatively, the market for non-infrastructure environmental services is a highly liberalised and competitive one, given the lower level of social policy or political sensitivities involved (WTO 2010).

If well managed, the liberalisation of trade in environmental services can provide significant benefits to the private sector as well as the general public through enhanced market opportunities and improved health and environmental sustainability, notably in developing countries. Investment and expertise brought in by foreign firms can create jobs and skills, and facilitate technology transfers. Domestic firms in sectors such as engineering, construction and tourism can also benefit from know-how resulting from the growing environmental services trade.

1.4.2 Standards and certification

International trade in goods and services has encouraged the development and implementation of international standards. The development of standards is the normative part of a complex process that may lead to the certification of products or services. Participation in this process offers important opportunities for achieving sustainable development, but also presents a series of challenges.

Standards are non-tariff measures aimed at setting requirements related to, for example, products' quality and safety; they frequently pursue objectives such as environmental protection, the avoidance of deceptive practices and the reduction of transaction costs. However, standards and technical regulations may also be used to orient trade flows in a way that would favour the competitive position of a specific producer or country (World Bank 2008).

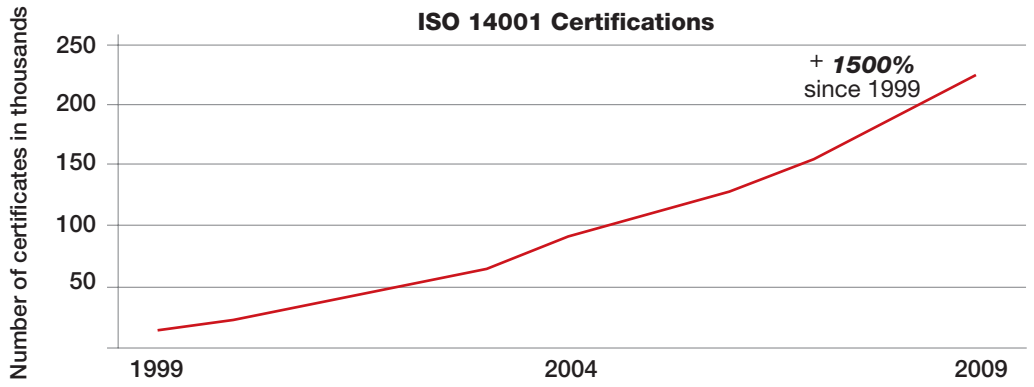
The WTO Agreement on Technical Barriers to Trade, under Annex 1.2, defines a standard as a:

> "document approved by a recognized body, that provides, for common and repeated use, rules, guidelines, or characteristics for products or related processes and production methods, with which compliance is not mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process or production method".

Standards are based on state-of-the-art technology, including environmentally sound technologies and management practices, and are often developed by international technical committees composed of leading experts in their respective fields. The International Organization for Standardization (ISO), for example, is a non-governmental federation of national standardisation bodies from more than 160 countries.

Box 4. ISO standards and the green economy

ISO has developed several green economy-relevant standards. Examples of such standards include ISO 19011 on auditing of environmental management systems, ISO 14031 on the evaluation of environmental performance, ISO 14020 on environmental labels and declarations, and ISO 14064 on greenhouse gas accounting and verification. As a significant indicator of the uptake of these standards, it should be noted for example that the implementation of ISO 14001 on environmental management systems increased exponentially in the period 1999-2009.



Source: ISO 2009; UNEP 2011b

Properly implemented standards can facilitate sustainable trade by contributing to improving the quality of traded goods, increasing productivity and efficiency of manufacturing by specifying product characteristics, and by favouring the transfer of environmentally sound technologies. Consumers, large manufacturers and retailers can put pressure on suppliers worldwide through the introduction of voluntary standards, and thus transform business practices in profound and greener ways.

In addition, when the process of implementation of international standards includes a labelling or certification scheme, there can be additional advantages for complying producers and service providers. Such schemes offer opportunities for companies from developing countries to access new global markets and enhance sustainable consumption and production patterns. Labels provide consumers with information about product externalities, leveraging on their values, thereby creating market-based incentives to produce environmentally and socially beneficial products (UNEP 2012).

Labelling schemes indicate the environmental or social advantages of a product within a particular product category, often based on life-cycle considerations. They thus encourage manufacturers to produce goods with a reduced impact on the environment, and to address concerns about raw material scarcity, landfill space and the impact of pollutants on air and water quality.

Box 5. Examples of labels appearing on products

Abiding by certification criteria can help producers and service providers satisfy or anticipate regulatory requirements in more than one market simultaneously, as certification criteria often exceed regulatory requirements. Improvements in efficiency may also arise from reviewing production processes and waste management in conformity with certification requirements, while cost reductions can be achieved, for example, through efficient water and energy uses or smart product designs.

Standardisation, labelling and certification also pose a number of challenges, particularly to developing countries. Demand for compliance can, for example become especially challenging for small-scale producers or suppliers that are not able to meet the costs or simply lack the technical knowledge or capacity for compliance. Furthermore, while compliance with standards can help build or maintain market share, there is concern that standards gradually become an access precondition. Compliance generally requires know-how, risk management strategies, equipment and investments that smaller and less sophisticated producers often lack.

Another category of challenges relates to the inclusiveness of standard-setting processes and modalities. Developing countries, and particularly small-scale producers, often find that achieving effective participation in international standard setting is costly or requires unavailable skills. In light of the proliferation of both technical regulations and standards, further harmonisation and recognition of equivalence between different standards and labels would reduce, in the longer term, the potential of creating trade barriers. Although regulatory cooperation arrangements are being explored more frequently than they were in the past, higher priority should be given to harmonisation, equivalency, mutual recognition of sustainability standards, and conformity assessment.

Considering these challenges, technical assistance is needed, particularly for developing countries' participation in both standard setting processes and compliance-related issues. In this connection, five UN agencies[1] joined efforts in 2013 to create the United Nations Forum on Sustainability Standards (UNFSS). The UNFSS is a platform created to provide information and analysis on voluntary sustainability standards.

1. The Food and Agriculture Organization of the United Nations (FAO), the International Trade Centre (ITC), UNCTAD, UNEP and the United Nations Industrial Development Organization (UNIDO).

The UNFSS has a particular focus on the potential value of voluntary sustainability standards (VSS) as tools for developing countries to achieve their sustainable development goals. At the same time, the UNFSS addresses the potential trade or development obstacles these standards may create, with particular emphasis on their impact on small-scale producers and less developed countries. The UNFSS aims to facilitate a dialogue for the exchange of knowledge on these issues and provide a forum for intergovernmental actors to communicate among each other and engage with key target groups (producers, traders, consumers, standard setters, certification bodies, trade diplomats, relevant NGOs and researchers).[2]

1.4.3 Greening global supply chains

Supporting a green economy transition will require that public and private actors address existing market and policy failures and set prices that account for the true costs and benefits of the economic activity. Economic activities often do not reflect their real costs, including their negative effects on society as a whole and the common natural environment. The internalisation of negative externalities requires also re-thinking and reforming the way in which production and distribution is organised across global supply chains (GSCs).

During the last three decades, supply chains have expanded from a country-centred model to an international network of production units. This trend is correlated with the general decrease in trade-related costs, including for example transport and tariffs, and the information and communication technology revolution, which has progressively lowered communication costs while facilitating cross-border coordination of production processes (Baldwin 2011). At present, the reality of international trade has become one of inter- and intra-industry exchanges of intermediate goods that cross the same borders more than once. This is the so-called "trade in value added".[3]

As GSCs expand and the linkages within and across value chains increase in number and depth, many multinational companies have adopted sustainable supply chain standards, and implement them through inspection and compliance regimes, such as requiring their suppliers to use a certified environmental management system. This is leading to both the creation of new trade opportunities and the consolidation of the position of compliant suppliers in international markets.

In the case of manufacturing, for example, options for greening the supply chain include the selection of recycled materials, equipment and design on the basis of environmental compatibility, the use of manufacturing methods that reduce impacts, as well as enhancing sustainability in transport, production, use, maintenance and end-of-life cycling. In addition, increasing international competiveness through the greening of GSCs can be considered a major trade opportunity, given incentives for greater resource efficiency, innovative products, better product design, all creating medium-to-long term competitive advantages.

However, there are also risks of segregation, particularly for small producers, and there are challenges related to start-up and maintenance costs and know-how needed for upgrading production methods to meet sustainability standards. Adding environmental and social aspects to the traditional quality requirements in the production process – both upstream and downstream – means that suppliers have to adapt to a larger number of requirements, while businesses need increased control over the production chain. Compliance can be costly, notably for small- and medium-size enterprises (SMEs), and can necessitate technologies and know-how that may not yet be available in some developing countries.

While developing countries' enterprises can streamline coordination and communication from increased participation in traceability schemes related to GSCs (UNCTAD 2011), it is important to highlight that SMEs, in particular, may require external support and capacity building to fully participate in sustainable suppliers' networks (UNIDO 2011). Integrating into greener GSCs presents, therefore, both challenges and opportunities for developing countries to build their industries according to the tenets of sustainable development, so as to ensure long-term international competitiveness (WEF 2012).

2 Further information is available at http://unfss.org

3. The WTO and the OECD are exploring methodologies to measure "trade in value added" (TiVA). In 2013, the two international bodies jointly released the first set of TiVA indicators for 40 countries and 18 industries.

1.5 This report

Before Rio+20, the focus of the debate on trade and the transition to a green economy was largely on the risks related to the creation of new barriers for developing countries' exports of goods and services. In that connection, Rio+20 has been able to initiate discussions on improving the trade performance of developing countries' economic operators as an additional effect of, and motivation for, the implementation of green economy policies.

International trade, which is a recognised catalyst of growth and economic development, if accompanied by appropriate regulation, may lend itself to the role of facilitator of a green economy transition. Given the impressive surge in international trade witnessed in the last two decades, sustainable trade should lead to a relative increase of production of and trade in, for example, EGS and goods and services that are certified for sustainability. In other words, trade can become more sustainable if it leads to a shift from the production and consumption of conventional goods and services, to the production and consumption of environmentally, socially and economically sustainable goods and services.

Consumers are increasingly demanding products that are not only organic or chemical free but that are also produced sustainably without harm to the environment. Moreover, international travelers are increasingly interested in tourism and travel-related services that are certified as being environmentally and socially sound.

This report maintains that sustainable and responsible trade in the six sectors under consideration, though still limited when compared with conventional trade, has become much more prominent in recent years. Trade in EGS, the implementation of sustainability standards, and the greening of GSCs play a major role in this process across all the covered sectors. The report stresses that there is a clear economic case to make trade more socially and environmentally sustainable. Indeed, there are clear instances where the opportunities to increase revenues through trade fully coincide with the objectives of a green economy. However, even if appealing and characterised by ascending trends, those instances are still limited and support is needed to facilitate replication and improvement of the use of trade as a mechanism for transitioning to greener economies.

The following chapters present some of the main trade opportunities and their related challenges in the transition to a green economy in the following economic sectors: agriculture, fisheries & aquaculture, forests, manufacturing, renewable energy and tourism. The chapters begin with an introductory section outlining the importance of the sector and referring to calls made at Rio+20 for improving sustainability. After reviewing the environmental and economic context for greening the economy, the chapters present green economy measures and assess how they can and do create new trade opportunities, particularly for developing countries. The chapters then assess enabling conditions, policy tools and actions that can help support the creation of trade opportunities in connection with green economy reforms.

1.6 Further resources

1.6.1 References

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