



[March – 2016]

## **Trade Sustainability Impact Assessment on the Environmental Goods Agreement**

### **Final Report**

#### **EXECUTIVE SUMMARY**

On 24 January 2014 at the World Economic Forum in Davos, the EU, together with 13 other WTO members pledged to launch negotiations to liberalise global trade in environmental goods (EGs). The negotiations are employing the Asia-Pacific Economic Cooperation (APEC) list of environmental goods as a starting point with the intent of expanding it to liberalise a "broad range of additional products".<sup>1</sup> The relevance of the agreement in terms of the size and scope of potential multiple positive impacts is significant: states currently engaging in the plurilateral negotiations (the G-17)<sup>2</sup> account for approximately 90 per cent of global trade in the environmental goods sector. It is expected that the EGA could make an important contribution to a broader environmental trade agreement which will eventually enable more efficient climate change mitigation through technologies, increase energy access and secure lower cost and dissemination of environmental technologies through globalised supply chains.

The Directorate General for Trade (DG Trade) of the European Commission (EC) has mandated this Trade Sustainability Impact Assessment (Trade SIA) on the Environmental Goods Agreement (EGA) to be carried out by DEVELOPMENT Solutions Europe Limited (DS). The project consists of two complementary components of equal importance: first, an assessment of how the elimination of tariffs in EGs as well as potential liberalisation of related services under the proposed agreement will impact a range of environmental, economic and social factors, conducted through desk research, and qualitative and quantitative analysis. Second, a thorough consultation process, involving a diverse range of relevant stakeholders, aimed to generate genuine and reflective feedback and provide further opportunities for information gathering on the potential impacts of the agreement.

It is recognised in the Marrakesh Agreement which established the WTO, that international trade must play a key role in the facilitation of sustainable development worldwide. The WTO's negotiating mandate to enact '*the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services*' was laid down in paragraph 31 of the Doha Development Agenda (DDA). While negotiations have been ongoing in the WTO Committee on Trade and Environment Special Session (CTE-SS) as well as in the non-agricultural market access (NAMA) negotiations, key obstacles have prevented significant progress at the multilateral level. These are identified in Section 2.1 of this report.

The EGA is a plurilateral initiative within the WTO, however it will be applied by negotiating parties on a most favoured nation (MFN) basis to all WTO members, once

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<sup>1</sup> Joint Statement Regarding Trade in Environmental Goods (24 January 2015) accessed on 22/10/2015, available at:

[http://trade.ec.europa.eu/doclib/docs/2014/january/tradoc\\_152095.pdf](http://trade.ec.europa.eu/doclib/docs/2014/january/tradoc_152095.pdf)

<sup>2</sup> The fourteen original WTO members who launched the EGA as a plurilateral agreement were the European Union, Australia, Canada, China, Chinese Taipei, Costa Rica, Hong Kong (China), Japan, New Zealand, Norway, Singapore, South Korea, Switzerland, and the US. Israel joined the negotiations formally in January 2015 and Turkey and Iceland joined in March 2015.

critical mass is achieved – in other words WTO members who are not EGA members will be able to benefit from the tariff reductions applied by EGA members. Building on the voluntary commitment of the APEC economies to reduce their applied tariffs to 5 per cent or less by the end of 2015, the G-17 has been able to make strides towards a negotiated resolution. If concluded the EGA will set bound tariffs on a broader list of environmental goods at zero, therefore it is a considerably more ambitious agreement than the one concluded by APEC. Significant progress was achieved during 2015, and the goal of negotiating parties is set to conclude a political agreement in 2016. This should support the implementation of the Paris Agreement achieved under the United Nations Climate Change Convention (UNFCCC) in December 2015.

There is no internationally agreed methodology for defining EGs; negotiations in the EGA have followed the WTO and APEC negotiations in adopting a “list approach”, discussed further in section 2.1 of this report. One of the main objectives of the ongoing negotiations is to agree on the list of environmental goods to be covered by the EGA. Each participating WTO member has submitted its proposals for goods to be liberalised under the agreement. As of February 2016, 340 types of goods were under discussion, though this number should be reduced as participating parties now move past the proposal stage to seek consensus on a final list of goods to be liberalised.

As the negotiated list has yet to be released, for this analysis we have relied on the APEC list (attached in Annex I) of 54 HS subheadings, which is the declared starting point of these negotiations, and a list of 153 HS subheadings submitted to the WTO in 2009 by a group of countries called the “Friends of Environmental Goods”<sup>3</sup> (Annex II) (the “Friends List”). The Friends List was submitted by 9 of the 17 negotiating parties to the EGA, therefore in the absence of the negotiated list, the project team consider a combination of these two lists to be a reasonable approximation of goods under discussion in the EGA. In our sectoral analysis however we have also discussed the inclusion of goods beyond these lists, especially those products on which we have received feedback from civil society.

Products being proposed and discussed in the ongoing EGA negotiations are being classified under ten sectoral headings which describe their environmental end use, as listed below. The scope and market conditions in each of these sectors are defined and discussed in some depth in section 7 of this report:

- Air pollution control (APC)
- Cleaner and renewable energy (CRE)
- Energy efficiency (EE)
- Environmental monitoring analysis and assessment (EMAA)
- Environmental remediation and clean-up (ERC)
- Environmentally preferable products (EPP)
- Noise and vibration abatement (NVA)
- Resource efficiency (RE)
- Solid and hazardous waste management (SHWM)
- Wastewater management and water treatment (WMWT)

Applied tariff barriers in the G-17 on product categories under discussion are already relatively low (the simple average tariff applied by the G-17 on the APEC list of environmental goods is 3.21 per cent<sup>4</sup>). As discussed further in section 4, this may

<sup>3</sup> The “Friends of Environmental Goods” countries were: the European Union, Canada, Japan, Korea, New Zealand, Norway, Chinese Taipei, Switzerland and the United States.

<sup>4</sup> Integrated Database (IDB) notifications, WTO Tariff Analysis Online Facility; information compiled by Rene Vossenaar, November 2015

reduce the potential impact of this agreement; however, some products on which higher tariffs are applied increase the prices of environmental projects in some of these countries and thus may distort the market.

The cleaner and renewable energy sector (CRE) and the energy efficiency sector (EE) are particularly high priority sectors in these negotiations, as they have the potential to significantly contribute to country commitments under the Paris Agreement. For example, the energy efficiency sector alone can have a significant impact: 40 per cent of emission reductions are expected to come from improved energy efficiency,<sup>5</sup> and the EU has announced ambitious plans to reduce energy usage by 35 per cent by 2030.<sup>6</sup> Potential impacts could significantly increase if the agreement were to be adopted by several other WTO members, and ultimately multilateralised.

This SIA study draws attention to the potential for greater trade gains if the EGA were to go beyond industrial tariffs to also cover non-tariff barriers (NTBs) and trade in services in the environmental sector. NTBs are often more critical barriers to international trade than tariffs. Services are increasingly essential as both inputs and as outputs of manufacturing, the EGA could complement the ongoing plurilateral Trade in Services Agreement (TiSA), by focusing on the liberalisation of services that are linked to the export of environmental goods (e.g. repair or maintenance).

Given the pace of technological development EGA members seem to agree that the EGA needs to be a “living agreement” with a mechanism to expand its product scope.

As applied tariffs in many G-17 countries are relatively low, at the macro level the potential effects of the EGA between currently negotiating G-17 countries seems small; however, the liberalisation of trade in environmental goods can have significant positive effects at the micro level in certain countries for certain products. In examining these impacts the project team has conducted a series of case studies. For each of the ten EG product sectors as defined above, case studies have been developed, and through case study analysis we outline the environmental impacts, socio-economic impacts and trade barriers facing products in the sector.

Case studies are drawn both from countries currently negotiating the EGA and from some countries which are not. Case studies in the latter countries serve to demonstrate the potential impacts of joining the EGA for potential negotiation partners, particularly those in developing countries. The thirty case studies are presented in chapter 8 of this report.

The project team disseminated a stakeholder questionnaire which received a total of 96 responses from concerned parties in government, civil society, industry and academia. The respondents to this questionnaire came from diverse backgrounds: stakeholders from both developed and developing countries were well-represented, and additionally the respondents worked in nearly every major environmental goods and services sector. Additional feedback on draft versions of the report was received by e-mail with further feedback solicited via telephone interviews and face to face interviews. Two regional workshops were held as part of the SIA consultation process, one in Kuala Lumpur, Malaysia focussing on South-East Asia on September 10<sup>th</sup> 2015 and another in Mexico

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<sup>5</sup> International Energy Agency, Energy Efficiency Market Report 2014, Paris, consulted on 03 August 2015; <https://www.iea.org/Textbase/npsum/EEEMR2014SUM.pdf>

<sup>6</sup> Arthur Neslen. EU mulls cutting energy use by 35%. The Guardian, 23/6/2014. Available at: <http://www.theguardian.com/environment/2014/jun/23/eu-mulls-cutting-energy-use-by-35-emissions>

City, Mexico for the Latin America region on 25<sup>th</sup> September 2015, to collect additional feedback and perspectives and to inform about both this SIA and the EGA.

Feedback from NGOs and civil society suggested a good level of support for the swift conclusion of a comprehensive EGA including all goods that are environmentally beneficial. Some concerns were also expressed including the lack of a clear definition of “environmental goods”, and how that could affect the EGA’s implementation and aspirations for the EGA to become a “living agreement”. A more comprehensive overview of stakeholder feedback is presented in section 3.7 of this report. A report on questionnaire responses is presented in Annex III and reports on feedback received in each of the two regional workshops is presented in Annexes IV and V. Annexes VI and VII present meeting minutes from two civil society dialogues held in Brussels regarding this SIA, in March 2015 and February 2016. Perspectives contributed by stakeholders have also been integrated in relevant sections throughout this report.

The overarching assessment of the project team is that despite the already low tariff barriers, liberalisation of environmental goods under the above mentioned product sectors will have significant positive environmental and socio-economic impacts, and be a good inspiration for a broader environmental trade agreement covering more trade areas and participants in the future. Impacts from a pure tariff agreement on relevant environmental, economic and social indicators have been analysed, indicating these impacts. Our assessment is summarised below.

- Assessments of the potential **economic impacts** show that the EGA will have a positive impact in volumes of global trade flows of EGs and also on the price of energy, thus making clean technologies more cost competitive.<sup>7</sup>
  - Econometric modelling conducted by DG Trade projects up to a EUR 21 billion increase in the value of trade as a result of the successful conclusion of the EGA. It is concluded that small and medium sized enterprises (SMEs), would derive the greatest benefit from reductions on non-tariff barriers to trade in EGs.
  - Our analysis shows that there would be significant benefits for developing nations in joining this agreement. By reducing their tariff and non-tariff barriers, developing nations could attract imports and inward investment, which would result in improved access to environmental technologies, and improve environmental protection. This would also contribute to local job creation.
- Potential **environmental impacts** cover a range of critical environmental issues.
  - The EGA could play a significant role in facilitating the implementation of national environmental policies and of multilateral environmental agreements (MEAs) such as the Paris Agreement concluded in December 2015 under the UNFCCC. The EU has pledged to achieve at least a 40 per cent domestic reduction in greenhouse gas emissions by 2030 compared to 1990. Achievement of this target will depend upon increased adoption of renewable energy and energy efficient technologies, which may be liberalised under the EGA.
  - The project team have explored potential impacts on climate change, green urbanisation, and ocean governance. In each of these areas, reducing costs and

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<sup>7</sup> Jia, Veena (2013) Removing Trade Barriers on Selected Renewable Energy Products in the Context of Energy Sector Reforms: Modelling the Environmental and Economic Impacts in a General Equilibrium Framework, accessed on 25/10/2015, available at: <http://www.ictsd.org/downloads/2013/12/removing-trade-barriers-on-selected-renewable-energy-products-in-the-context-of-energy-sector-reforms.pdf>

- increasing the efficiency of the market for relevant products has the potential to positively impact environmental goals.
- C02 modelling conducted by the project team projects a potential reduction of C02 emissions of almost 10 million tonnes of C02 by 2030 on the baseline scenario, and a reduction of C02 intensity of GDP by 0.02 per cent by 2030 on the baseline scenario.
  - The EGA has the potential to help facilitate many if not all of the recently launched **Sustainable Development Goals (SDGs)** set out in the 2030 Agenda.
    - A significant focus of the negotiations is on renewable energy products, which could encourage technologies to facilitate goal 7: 'By 2030, ensure access to affordable, reliable and modern energy'. The case study on the Lake Turkana Wind Farm in Kenya, in section 8 of this report is one example of the kind of renewable energy projects worldwide that are bringing electricity to rural areas.
    - The world is facing an increasingly severe global water deficit compared to demand, SDG 6 is to 'ensure access to water and sanitation for all'. The EGA, by reducing trade barriers to solutions to the current, worsening problem of water scarcity could have a significant positive impact in this area. The case study on the Minjur Seawater Desalination Plant in Chennai, India in section 8 in one such example, where local and international technology and service providers worked together on a project to combat urban water shortages. The EGA's capacity to support the implementation of multiple SDGs is discussed further in section 5.1.1 of this report.
  - **Human rights** impacts are addressed in section 6.1. Conclusions include that renewable energy projects which increase access to electricity in rural areas can have positive effects on people's right to work, leisure, education and access to information.
    - Small solar lights, or renewable energy projects that bring electricity to rural areas can allow people to work later, to enjoy leisure activities and to read and write during the night, among other benefits.
    - Negative human rights impacts are identified as being associated with large infrastructure projects and hydroelectric power projects. Analysis suggests that while these impacts can be acute at the local level, the EGA is unlikely to contribute to these issues and that the causes of these human rights issues are not tied to the liberalisation of trade in EGs.
    - Direct human rights impacts are therefore estimated to be positive but only for a narrow range of issues, and would be confined to the local level directly impacted by relevant environmental projects.

## **OPPORTUNITIES AND CHALLENGES FOR COUNTRIES IN JOINING THE EGA NEGOTIATIONS**

### ***Opportunities***

Negotiating parties to the EGA intend that the agreement should grow beyond the current G-17 countries, and perhaps be adopted on a multilateral basis. All WTO members will benefit from the EGA, as it has been agreed that the EGA will be applied by signatories on an MFN basis: WTO members will gain access to the markets of EGA signatories without having to liberalise their own market. However, the other WTO Members can only enjoy full benefits of the EGA if they join the agreement.

The project identified the benefits of joining the commitment for other WTO member countries, summarised below:

#### ***Direct opportunities from tariff liberalisation:***

- **Liberalisation of trade, and the resulting growth in trade of EGs will contribute to improved economic opportunities by attracting imports and boosting exports**

Through the removal of tariffs, and working also toward the removal of non-tariff barriers to environmental goods, countries can improve market conditions for their domestic producers of environmental goods and services. The project team's case study analysis demonstrates how importing environmental technologies can facilitate environmental projects that use a range of complimentary products and services, creating local value and employment opportunities. A more competitive local market will stimulate domestic growth of complementary technologies and will thus boost exports of related environmental goods and services.

It has been argued that developed countries will benefit the most from this agreement, as developed countries are major exporters of manufactured environmental goods. Whilst the trade in EGs between developed countries is robust, it is in developing countries that there are the largest prospects for market growth, therefore impacts of an agreement potentially have greater significance for developing countries. South – South trade in renewable energy products is today the most dynamic segment of the international trading system, out-pacing average growth rates in global trade. Developing countries have moved from net importers to net exporters.<sup>8</sup>

Trends indicate that the EGs market is already substantial in developing countries and growth rates are particularly high. The fastest growth rates are found in developing countries in Asia, the Middle East and in Africa, which exhibited growth rates between 9-10 per cent during 2011.<sup>9</sup> Trade liberalisation will help to facilitate the growth of these dynamic sectors of developing country economies by giving access to the latest technologies at a lower cost than if trade barriers were in place and by giving security of access to foreign markets.

Given the fast-paced growth in international demand for environmental goods and technologies and the local growth of greener industries in developing countries, it is

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<sup>8</sup> UNEP (2014) South-South Trade in Renewable Energy, accessed on 29/11/2015, available at: <http://www.unep.org/publications/>

<sup>9</sup> ITC (2014) Trade in Environmental Goods and Services: Opportunities and Challenges, Geneva, accessed on 29/11/2015, available at: <http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/AssetPDF/EGS%20Ecosystems%20Brief%20040914%20-%20low%20res.pdf>



expected that the role of developing countries (as both exporters and importers of environmental goods) will continue to grow. The growth in export value has been notable since 2001. Malaysian and Thai exports, for example, increased from below EUR 2 billion in value in both markets during 2001 to just over EUR 6.4 billion and EUR 5.5 billion, respectively, in 2012.<sup>10</sup>

Developing countries have a strong export potential in non-infrastructure environmental goods and services, such as in consulting services which require less capital and are often supplied by SMEs. This particular services market segment had an estimated global value of EUR 50.2 billion in 2011.<sup>11</sup> In particular, those countries with a well-educated workforce and a strong higher education sector, particularly in sciences and engineering, can develop a capacity for export in this sector.

- **The lowering of trade barriers can lead to countries having the opportunity to enter and move up global value chains (GVCs).**

International production, trade and investments are increasingly organised within GVCs, where the different stages of the production process are located across different countries. The past decades have witnessed a strong trend towards the international dispersion of value chain activities. This includes the manufacturing of components in the most cost effective markets, but also the international provision of service elements such as maintenance and distribution.

Many end use environmental products require a large number of components sourced from different markets of origin. Lowering the overall costs for these various manufactured components can stimulate the growth of trade at the global level and improve exports. In his speech at an EC stakeholder outreach event on the EGA in Brussels on June 1<sup>st</sup>, 2015, Amb. Istvan Alfaro Solano, Ambassador of Costa Rica to the EU emphasised the opportunities for developing countries in joining GVCs, by comparing the potential impacts of the EGA and the real impacts of the information technology agreement (ITA) in Costa Rica:

*"We recognize that the ITA has significantly contributed to the establishment of an export platform of products manufactured in Costa Rica by international companies that have found, in the country, the necessary conditions to produce efficiently and incorporate themselves into global value chains. For this reason, we strongly believe that a similar experience could be replicated with environmental goods."<sup>12</sup>*

There are significant export opportunities for developing countries in a large number of lower tech environmental goods, such as parts and components.<sup>13</sup> For example, countries such as Bangladesh, Kenya, Barbados, Ethiopia, Guatemala, Pakistan, Mozambique,

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<sup>10</sup> ITC (2014) Trade in Environmental Goods and Services: Opportunities and Challenges, Geneva, accessed on 29/11/2015, available at:  
<http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/AssetPDF/EGS%20Ecosys%20Brief%20040914%20-%20low%20res.pdf>

<sup>11</sup> *Ibid.*

<sup>12</sup> Amb. Istvan Alfaro Solano, Ambassador of Costa Rica to the EU (June 1<sup>st</sup> 2015) Presentation EGA – Brussels, accessed on 20/02/2016, available at:  
[http://trade.ec.europa.eu/doclib/docs/2015/june/tradoc\\_153523.ENG.pdf](http://trade.ec.europa.eu/doclib/docs/2015/june/tradoc_153523.ENG.pdf)

<sup>13</sup> Hamwey, Robert M. (2005). *Environmental Goods: Where Do the Dynamic Trade Opportunities for Developing Countries Lie?* Cen2Eco Working Paper. Geneva: Centre for Economic and Ecological Studies, accessed on 29/11/2015, available at:  
<http://www.ictsd.org/sites/default/files/event/2008/08/hamway.pdf>

Mauritius, Trinidad and Tobago, Zambia, Ghana and Senegal to name a few are exporters of products such as ball-bearings which are an important component of wind-turbines.<sup>14</sup>

Concerns have been voiced about the inclusion of component parts and multiuse products (products used for both environmental and other purposes) for three key reasons:

- inclusion of such products might negatively affect the environmental integrity of the agreement;
- there are implementation issues for customs officials in distinguishing such environmental goods from other similar products
- the liberalisation of so many potential additional technologies raises concerns regarding impacts on established domestic industries.

The case study analysis which forms part of the SIA demonstrates a number of benefits of including multi use products in the EGA, for the facilitation of environmental projects.

Regardless of whether these issues on the inclusion of intermediate goods can be resolved, increasing trade in end use environmental goods will have significant knock on effects in generating further trade throughout the relevant value chains. Additional research and mapping of the global value chains for various environmental products would allow for a deeper understanding of the scale of potential gains for suppliers of various components.

***Indirect opportunities from increased adoption of environmental technologies:***

- **Countries pursuing greening energy policies will benefit from improved uptake of relevant technologies.**

By joining the EGA and the associated reduction in tariffs, countries can facilitate the uptake of environmentally beneficial technologies into their domestic market. This can improve the ability of domestic companies to enforce environmental legislation. The EGA has the potential to facilitate the implementation of national level environmental law by reducing the consumer prices of environmental goods without the cost of trade barriers. This issue is addressed in more detail in section 5.2.3 of this report.

Facilitating the dispersion of the most cutting edge and advanced environmental clean-up technologies being developed around the world can help to reduce the costs of environmental remediation. An example case study is presented in section 8, which analyses a Canadian hazardous waste management technology, which reduces both the cost and environmental impact of hazardous waste disposal from hospitals.

Many countries are increasingly investing in environmental infrastructure as well as strengthening the required regulatory frameworks. Combined with a general increase in environmental awareness internationally, these trends are creating new and constantly evolving markets for environmental services. The Indian authorities have for example set a target that by 2020, the share of renewable energy in the electricity power generation mix will reach 15 per cent. This will include 100 GW of new solar power generation plants over the next 7 years.<sup>15</sup> In 2012 India ranked 4<sup>th</sup> in the low carbon and environmental

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<sup>14</sup> ICTSD (Oct 2009) Liberalization of Climate-friendly Environmental Goods: Issues for Small Developing Countries, accessed on 29/11/2015, available at: <http://www.ictsd.org/downloads/2009/10/liberalization-of-climate-friendly-environmental-goods.pdf>

<sup>15</sup> Prasad, Keshav (10 June 2015) *Presentation: The Indian Market for Renewable Energy: The 100 GW Solar Initiative*, The confederation of Indian Industry, accessed on 11/11/2015, available at: [https://www.export-erneuerbare.de/EEE/Redaktion/DE/Downloads/Publikationen/Praesentationen/2015-06-10-intersolar-05-il-fs-energy-dev-india.pdf?\\_\\_blob=publicationFile&v=2](https://www.export-erneuerbare.de/EEE/Redaktion/DE/Downloads/Publikationen/Praesentationen/2015-06-10-intersolar-05-il-fs-energy-dev-india.pdf?__blob=publicationFile&v=2)



goods and services (LCEGS) markets<sup>16</sup> stimulated by stronger policy commitments and a more liberalised EGs market.

- **Signatories may see positive social impacts at the local level with increased opportunities for employment.**

The local social benefits brought by improved employment prospects in developing countries can be seen as an indirect benefit of the stimulation of domestic growth in manufacturing and service provision as inputs for projects. Direct benefits are seen when imports are accompanied by technology transfer, educational services, and commercial presence with local hiring.

A common finding of the case studies analysis has been the observed characteristic of local job and value creation. Studies have shown that new investments in energy efficiency and renewable energy have consistently generate more jobs for a given amount of investment than the alternative case when maintaining or expanding a country's existing fossil fuel sectors.<sup>17</sup> The deployment of imported environmental technologies for environmental projects requires the adoption of complimentary products and services. For example, training is extensively used when new infrastructure is introduced through a project. As an example, a case study is presented in chapter 8 of an Australian company which developed a solar powered tuk tuk targeting the Cambodian market. Local production sites developed via this business are now employing and training upward of 200 people in manufacturing, maintenance and distribution.

- **Supporting implementation of the UNFCCC Paris Agreement and the shared goal of limiting global warming to 2°C**

In December 2015, all countries of the UN committed in the Paris Climate Agreement to intended nationally determined contributions (INDCs), to reduce carbon emissions, with the shared goal of limiting global warming to 2°C above pre-industrial levels. Many INDCs include commitments on the reduction of fossil fuels and the adoption of increasing amounts of renewable energy and energy efficiency technologies. The reduction of trade barriers can stimulate the development of this market and increase the uptake of environmental technologies. EGs to be liberalised under the EGA can contribute to climate change goals by facilitating the switch to renewable energy,<sup>18</sup> as well as in improving energy efficiency and thus reducing fossil fuel usage.<sup>19</sup>

- **Reduced costs and increased economic efficiency for local businesses through increased adoption of energy efficiency technologies**

The economic arguments for improving environmental performance in manufacturing and other economic sectors are significant. Estimates in Peru for example, have shown that equivalent economic costs resulting from poor environmental management are equivalent to 3.9 per cent of the country's GDP,<sup>20</sup> while in Morocco estimates are as high as 8 per

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<sup>16</sup> Green Alliance (2013) *The global green race: a business review of UK competitiveness in low carbon markets*, available at:

<sup>17</sup> UNIDO, GGGI (2015) *Global Green Growth: Clean Energy Industrial Investments and Expanding Job Opportunities*, p 24, accessed on 23/10/2015, available at: [http://www.peri.umass.edu/fileadmin/pdf/published\\_study/GLOBAL\\_GREEN\\_GROWTH\\_REPORT\\_vo\\_l1\\_final.pdf](http://www.peri.umass.edu/fileadmin/pdf/published_study/GLOBAL_GREEN_GROWTH_REPORT_vo_l1_final.pdf)

<sup>18</sup> Relevant HS 6 headings would include *inter alia*: 700510, 700521, 700529, 841011, 841012, 841013

<sup>19</sup> Relevant HS 6 headings would include *inter alia*: 902580, 392119, 450490, 680610, 680620, 680690

<sup>20</sup> ITC (2014) *Trade in Environmental Goods and Services: Opportunities and Challenges*, Geneva, accessed on 29/11/2015, available at:

cent of Morocco's annual GDP.<sup>21</sup> Increased uptake of EGs would therefore be able to contribute to increased economic efficiency.

- **Increased technology transfer opportunities**

Local enterprises in developing countries can benefit from establishing joint ventures or other forms of cooperation with foreign environmental goods and services firms, for example by acting as suppliers to larger firms. The investment and expertise brought to the local market by foreign firms can enable job creation (e.g. in post-sales services) and skills and technology transfers.

Collaboration between foreign environmental goods and services providers and local suppliers can lead to product-upgrading in the domestic partnering enterprises. This helps both the foreign services provider in obtaining quality products to the required standard, while domestic enterprises benefit from its exposure to innovation and upgrading.

- **Supporting environmental remediation, ocean governance, air pollution control and a host of other environmental issues.**

The EGA, through liberalising and improving the efficiency of the market in such a broad range of environmental sectors, has the potential to support a broad range of environmental objectives. As an example, air pollution has become a critical issue in many emerging economies. New emerging technologies, such as photocatalytic concrete which can "capture" pollution in the air, transforming it into inert salts and reducing smog levels, profiled in chapter 8 on the Milan Expo Italian Pavilion, presents an example of how such objectives can be supported.

### **Challenges**

In the following section the project team has summarised the most prevalent perceived challenges for countries in joining the EGA. Feedback was received on this issue at our international workshops and through the completed questionnaires:

- **Given the complex and highly interrelated nature of trade flows, impacts will not be consistent for all regions and as with any changes in trade flows, some groups may face new challenges in the short term.**

With trade liberalisation there may be challenges faced by domestic operators in some countries and in sectors where they would face increased competition from established international companies.<sup>22</sup> The overall cost benefit analysis of increased competitiveness would need to consider in a systemic manner any potential short to mid-term challenges faced by a single sector or sub-sector. Considerations such as longer implementation periods for sensitive industries may need to be considered.

- **Potential losses to import tax revenue.**

Whilst the reduction of tariffs would reduce import tax revenue the introduction of the EGA has the potential to lead to net increases in tax revenue in the longer term as an agreement

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<http://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/AssetPDF/EGS%20Ecosystems%20Brief%20040914%20-%20low%20res.pdf>

<sup>21</sup> Touahri, Sarah (2009). Morocco prepares 'green' charter for 2010. Magharebia, 10 January. Available from:

[http://www.magharebia.com/cocoon/awi/xhtml1/en\\_GB/features/awi/features/2009/10/01/feature-02](http://www.magharebia.com/cocoon/awi/xhtml1/en_GB/features/awi/features/2009/10/01/feature-02)

<sup>22</sup> Stakeholder questionnaire feedback

would boost growth and with it tax revenues.<sup>23</sup> Analysis of the effects on public finances indicate that the tax authorities in developing countries would be able to use the longer-term increase in tax generation of increased industry growth to offset the short term decreases in tax revenue from tariff reduction.

- **Regulatory capacity building may be needed to help developing countries to implement the agreement**

Some countries in particular least developed countries (LDCs) might require technical assistance to upgrade their technical trade and custom capacity in order to implement the EGA. Case studies implemented by the project team on environmental projects in Cambodia and Myanmar highlight these issues. These are presented in chapter 8 of this report. Such capacity building could be facilitated through mechanisms supporting the WTO Trade Facilitation Agreement (TFA).

In conclusion, the SIA process has identified the potential opportunities for countries in joining this agreement to be very significant. Furthermore, the perceived challenges can be overcome with appropriate mitigation action, which should be built in to the final text of the EGA agreement.

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<sup>23</sup> *Ibid.*