



TRADE IMPACT
FOR GOOD

50
YEARS

1964-2014

Environmental Goods and Services

Export Opportunities and Challenges especially for
developing economies

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International Trade Centre
Seminar on the Implementation of APEC
Environmental Goods Commitments
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What is ITC?



ITC is a trade-related technical assistance agency under the joint auspices of **United Nations Conference on Trade and Development (UNCTAD)** and **the World Trade Organisation (WTO)**

Within the **United Nations** system, ITC is the niche development partner focussed on support for SME competitiveness to achieve **export success** in developing countries.



EXPORT IMPACT
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Overview of Contents

- Importance of trade in environmental goods and technologies for sustainable development
- Business opportunities and challenges for APEC economies
 - Global market size and growth
 - Drivers of growth and enabling regulatory factors
 - Business stakeholder consultation and dialogue
- Implementation issues and the role of ITC
 - Public/private dialogue
 - Awareness-raising and advocacy
 - Jobs and SMEs
- A word on environmental services

Importance of environmental goods & technologies

Sustainable development imperative

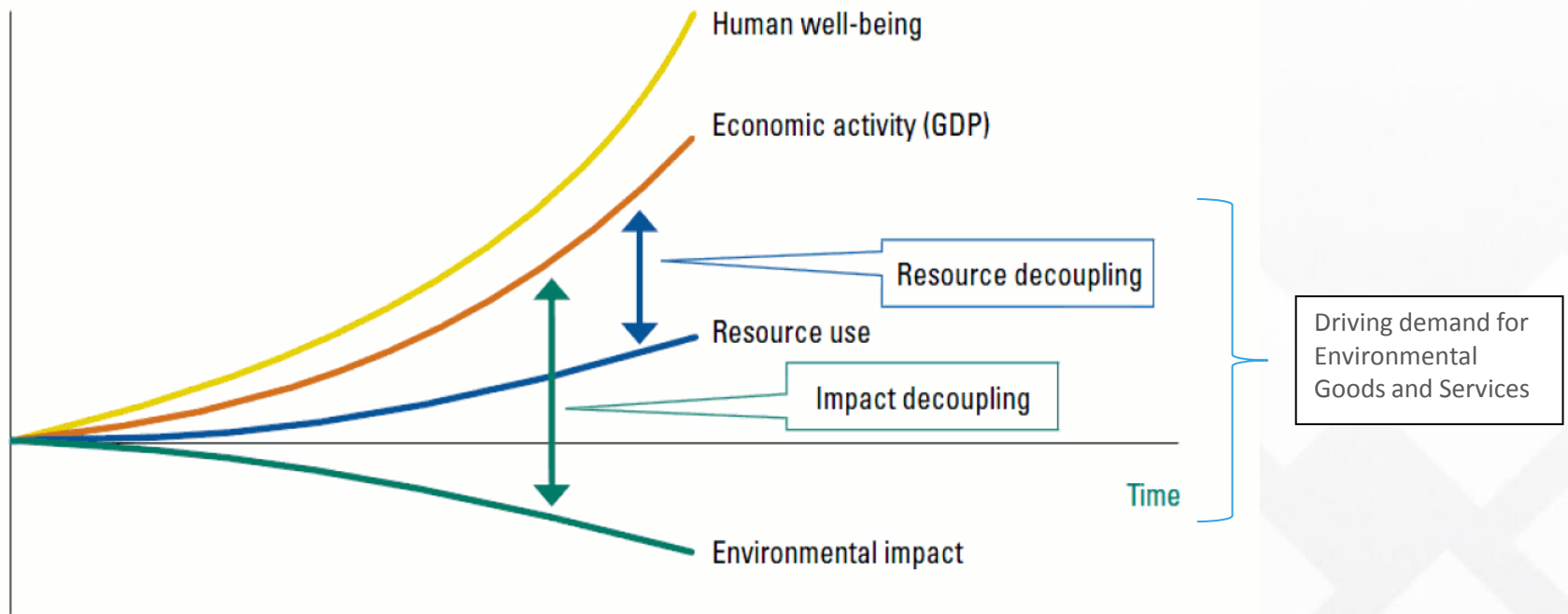
- Global population growing to 9.6 billion by 2050
- Growing energy consumption levels rising
- Growing global waste – set to triple by 2100

Key question

How then can socio-economic well-being be achieved for this growing population without causing irreparable environmental damage?

'Green economy': “one that results in improved human well-being and social equity, while significantly reducing environmental risks and scarcities...low carbon, resource efficient, and socially inclusive” (UNEP)

Decoupling economic growth from environmental impact



Source: UNEP (2011) “Decoupling Natural Resource Use and Environmental Impacts from Economic Growth”

Importance of trade in environmental goods & technologies

Role of Trade: understanding the role of trade in diffusing environmental technologies is increasingly important as the public and private sectors attempt to move towards a green economy

APEC: APEC economies have taken a global lead in acting to facilitate this transfer of technology by taking on clear commitments to liberalise trade.

APEC Modeling a Global Way Forward:

The APEC list of Environmental Goods is providing a constructive basis for consensus-building and momentum is building for global trade discussions

- At the last WEF Davos in January 2014, a group of countries including APEC members as well as Costa Rica, the EU, Norway and Switzerland agreed to “build on the ground-breaking commitment to reduce tariffs on the APEC list of environmental goods by the end of 2015...to achieve global free trade in environmental goods”, noting that this deal “...would take effect once a critical mass of WTO members participates..” and that they “are committed to exploring a broad range of additional products”
- July 2014 saw agreement in the WTO to re-engage in DDA negotiations on environmental goods.

APEC implementation of the commitments is urgent....and doable

Definitions.....and lists.....

For the purposes of this paper:

Definitions: Environmental Goods and Services (EGS)

“produce goods and services to measure, prevent, limit, minimise or correct environmental damage to water, air, soil, as well as problems related to waste, noise and eco-systems”

- air pollution control,
- renewable energy,
- water and waste management,
- environmental monitoring,
- assessment and analysis,
- environmental consulting,
- remediation and clean-up services,
- cleaner technologies
- carbon capture and storage

Lists: The trade data generally relates to the OECD list

Business Opportunities in EGS

Vast global market size and rapid actual and projected growth rates

The market in environmental goods and services was estimated to have reached USD 866 billion in 2011, and is expected to rise to USD1.9 trillion by 2020.

The diffusion of these goods and services is facilitated by trade. With advances in technology, and transportation, previously disparate goods and services have become globally available through trade.

Global exports in environmental goods have risen from roughly 231 billion USD in 2001 to 656 billion in 2012, close to a tripling in trade volumes since 2001.

Market Size and Growth for Environmental Goods and Services by Region, 2011

by region	Market in USD billion	% Growth pa
United States	311.3	5%
Western Europe	256.0	2%
Japan	103.3	-1%
Rest of Asia	78.0	9%
Latin America	28.5	5%
Australia / NZ	13.6	2%
Central & Eastern Europe	13.7	4%
Middle East	17.5	9%
Africa	10.3	10%

Market Size and Growth for Environmental Goods and Services by Sub-Sector, 2011

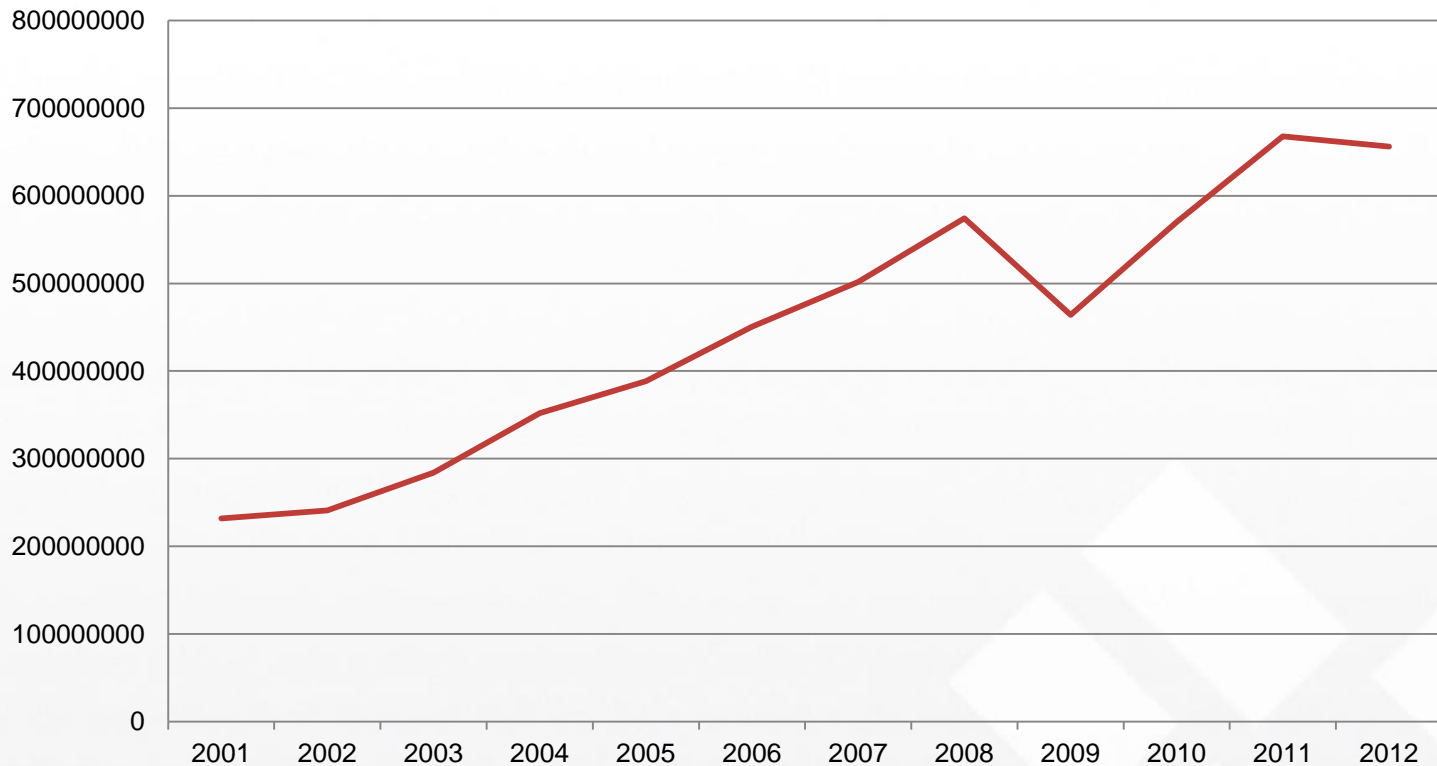
Equipment	Market in USD billion	% pa Growth
Water Equipment & Chemicals	69.7	1%
Air Pollution Control	50.2	2%
Instruments & Info Systems	9.4	4%
Waste Management Equipment	36	10%
Process & Prevention Technology	4.2	6%
Services		
Solid Waste Management	145.1	3%
Hazardous Waste Management	21.8	-1%
Consulting & Engineering	54.8	5%
Remediation/ Industrial Services	39.5	5%
Analytical Services	5.4	3%
Water Treatment Works	116.6	-1%
Resources		
Water utilities	130.0	0%
Resource Recovery	56.5	13%
Clean Energy Systems & Power	127.0	11%

“Low Carbon and Environmental Goods and Services” Market Size, number of companies and number of employed 2009-2010

Economy	Market Size £ million	Number of companies	Number of employees
US	629,303	368,951	7,397,978
China, PRC	426,610	251,949	4,973,732
Japan	197,816	112,101	2,207,012
Indonesia	48,360	26,992	551,465
Thailand	29,711	16,769	349,296
Philippines	24,262	13,593	272,772
Colombia	17,542	9,743	200,013
Vietnam	16,186	9,378	189,816

Source: Estimates by UK Department for Business Innovation & Skills

Global Exports of Environmental Goods, 2001-2012 (USD thousand)



Given the rapid pace of growth of the market including its recovery after the economic crisis of 2008-2009, general optimism pervades amongst industry experts concerning green job creation and longer term profitability for firms.

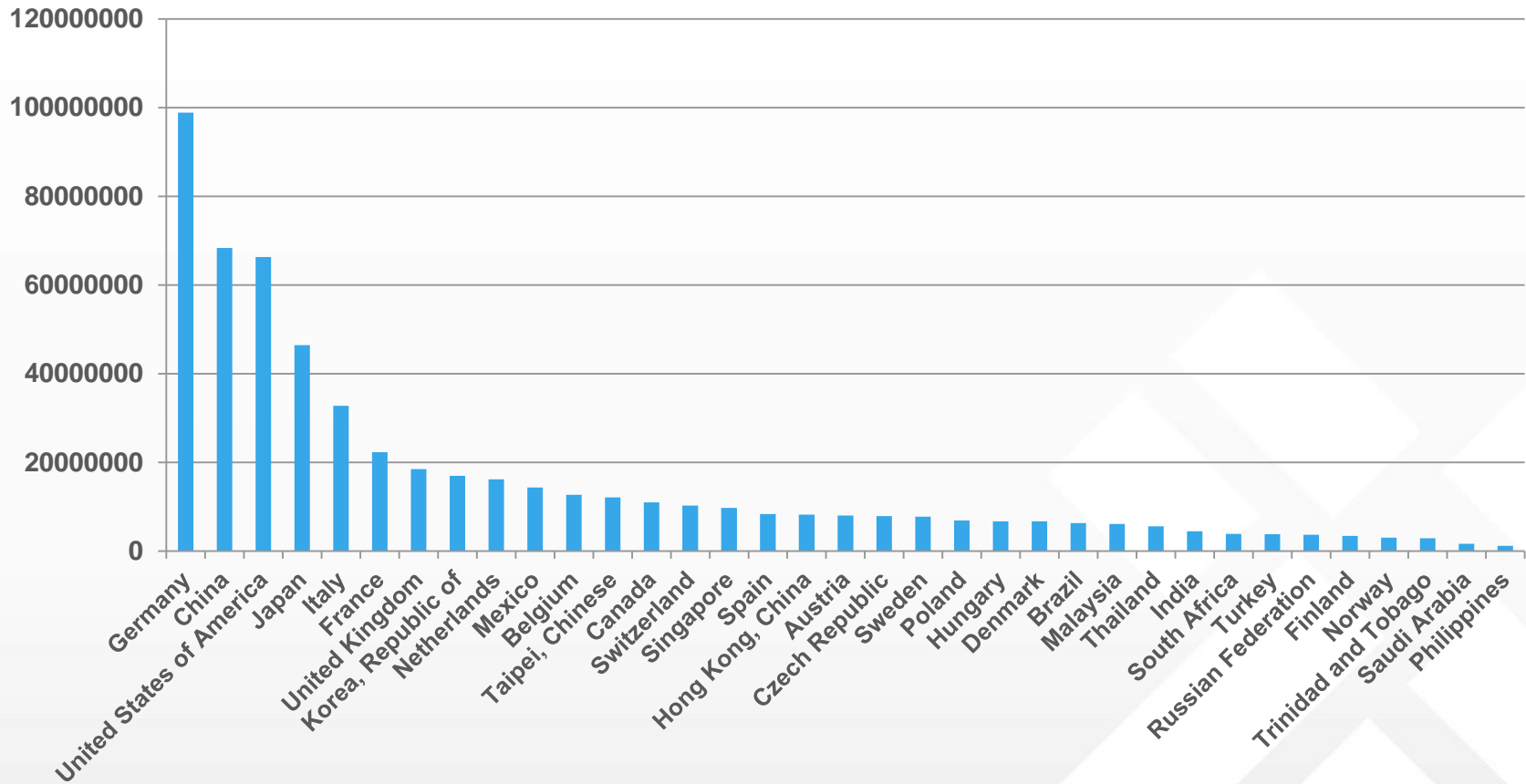
Big commercial opportunities for all

Trade in environmental goods is sometimes misperceived as dominated only by developed countries such as EU, United States, Canada, Japan.

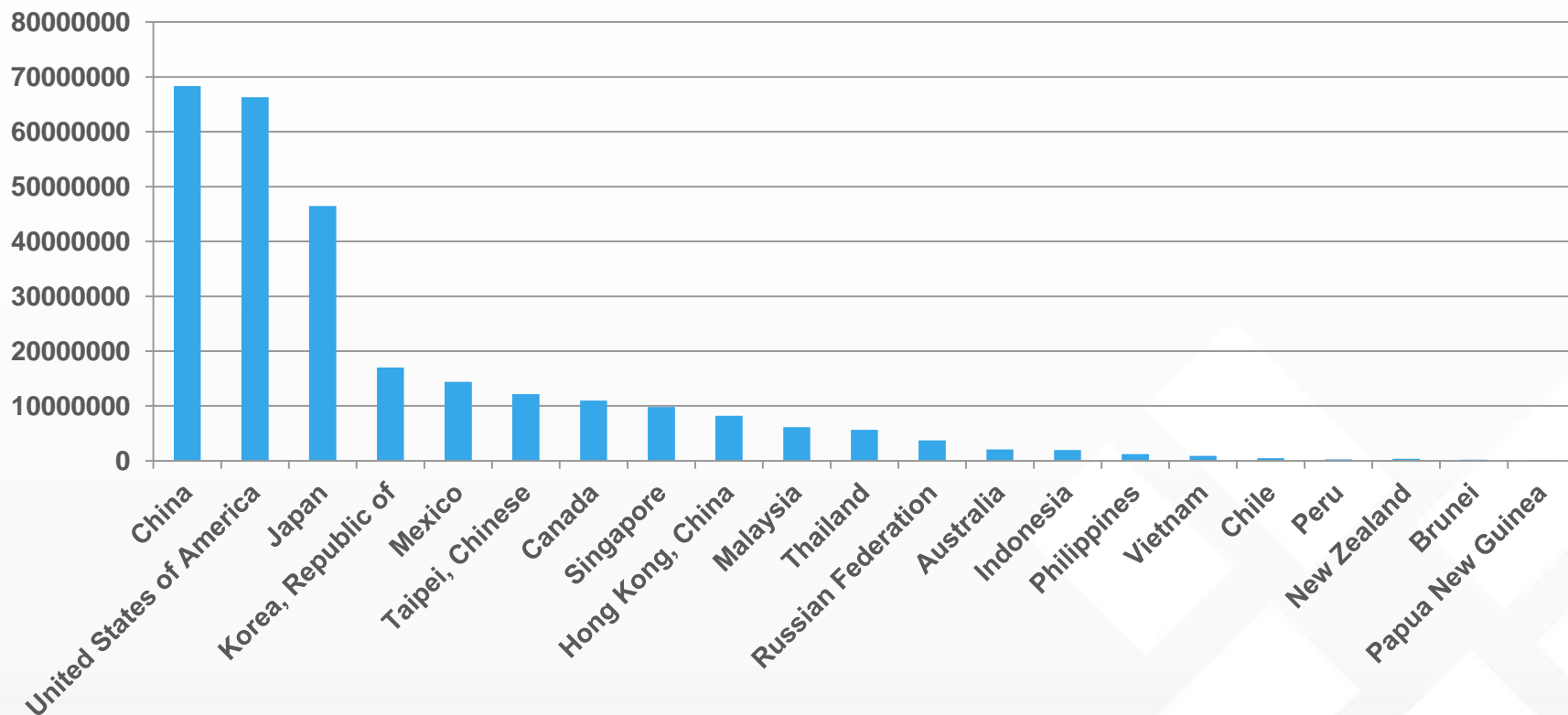
In reality, many economies are participating in this trade.

Several emerging economies, especially in East Asia, are very important exporters as well as import markets, notably China, South Korea, Mexico, Brazil, Singapore and Hong Kong, China, Malaysia, Russia, Chinese Taipei and Thailand are all significant global players.

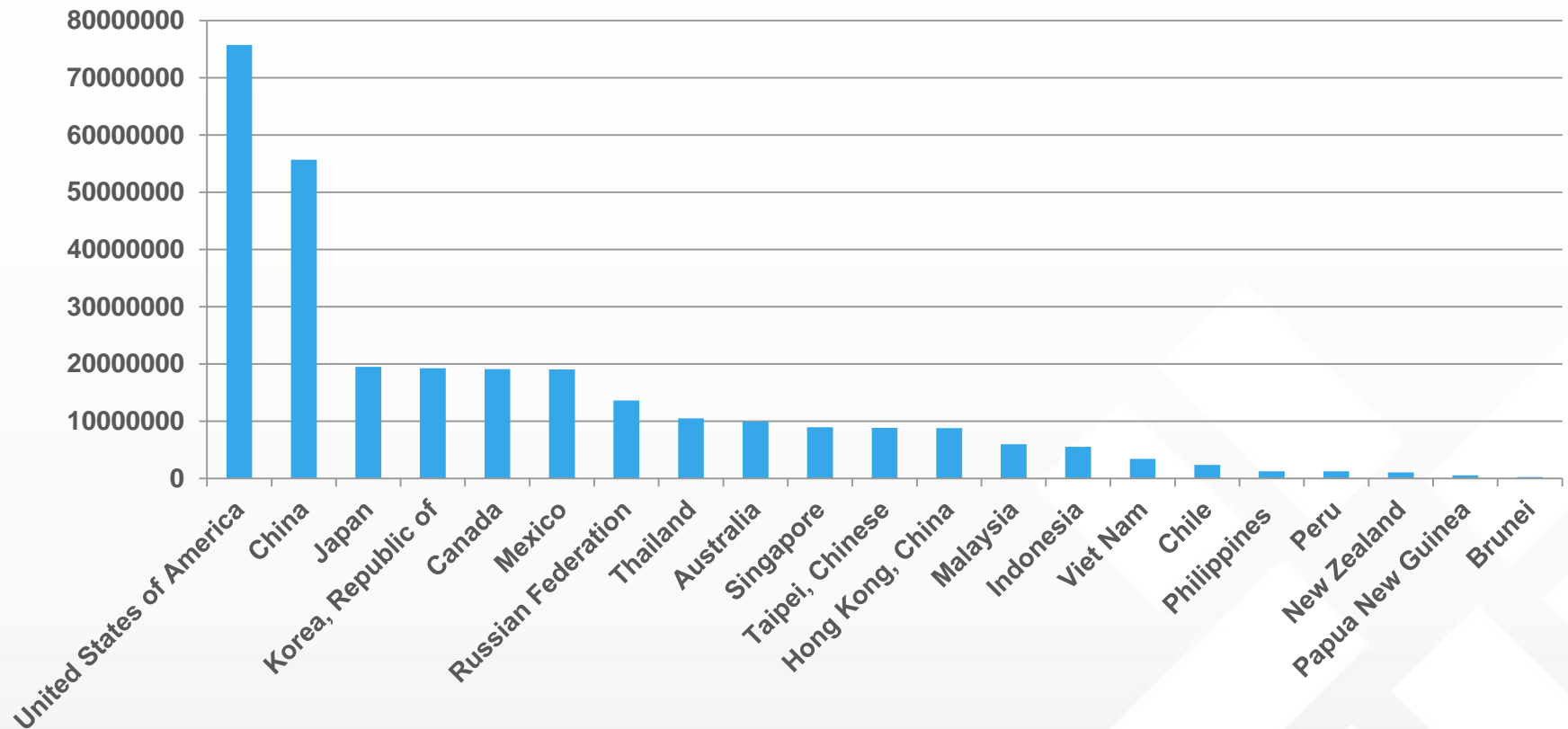
Leading Global Exporters of Environmental Goods (USD thousand): average 2008-2013 of yearly export value



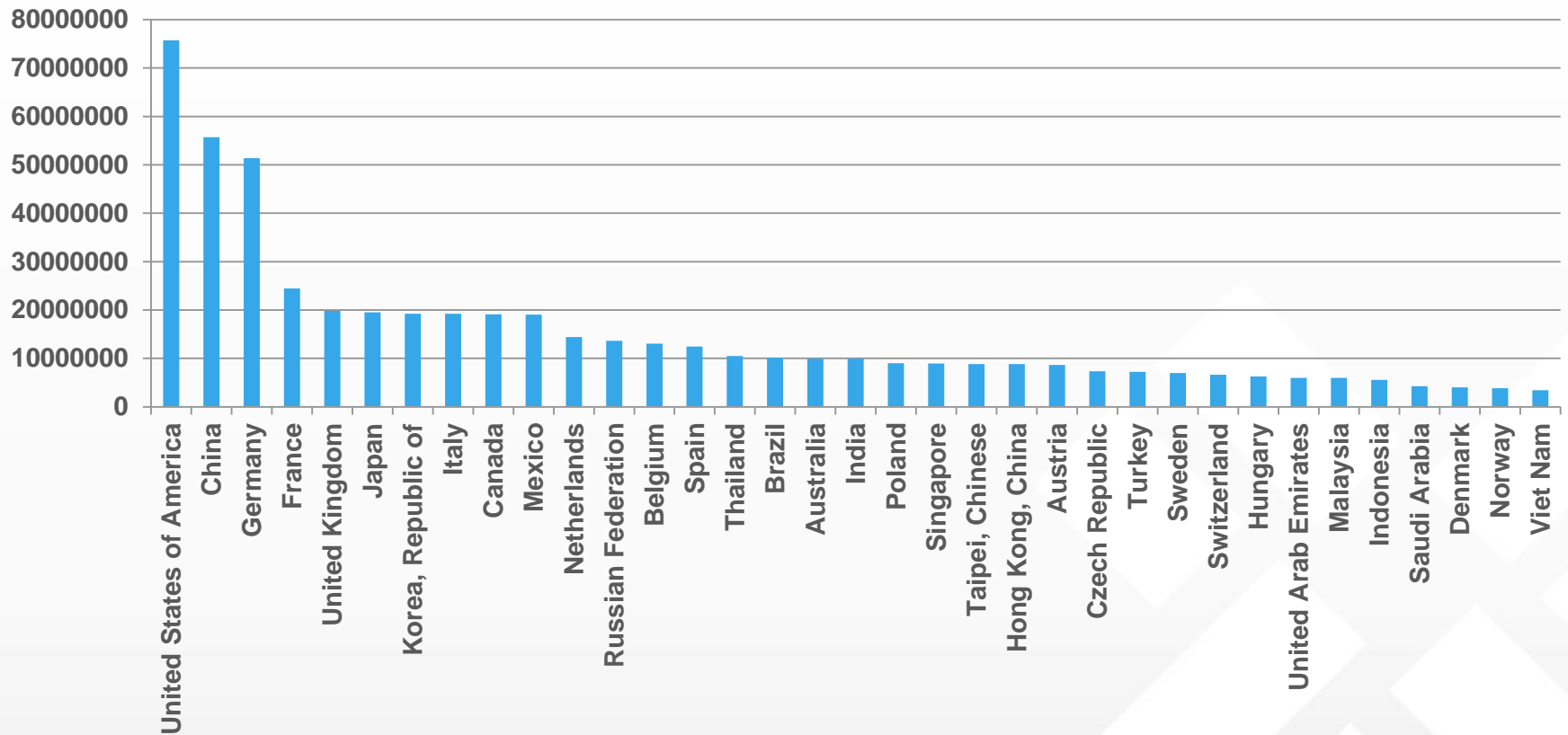
APEC Exports of Environmental Goods (USD thousand): average 2008-2013 of yearly export value



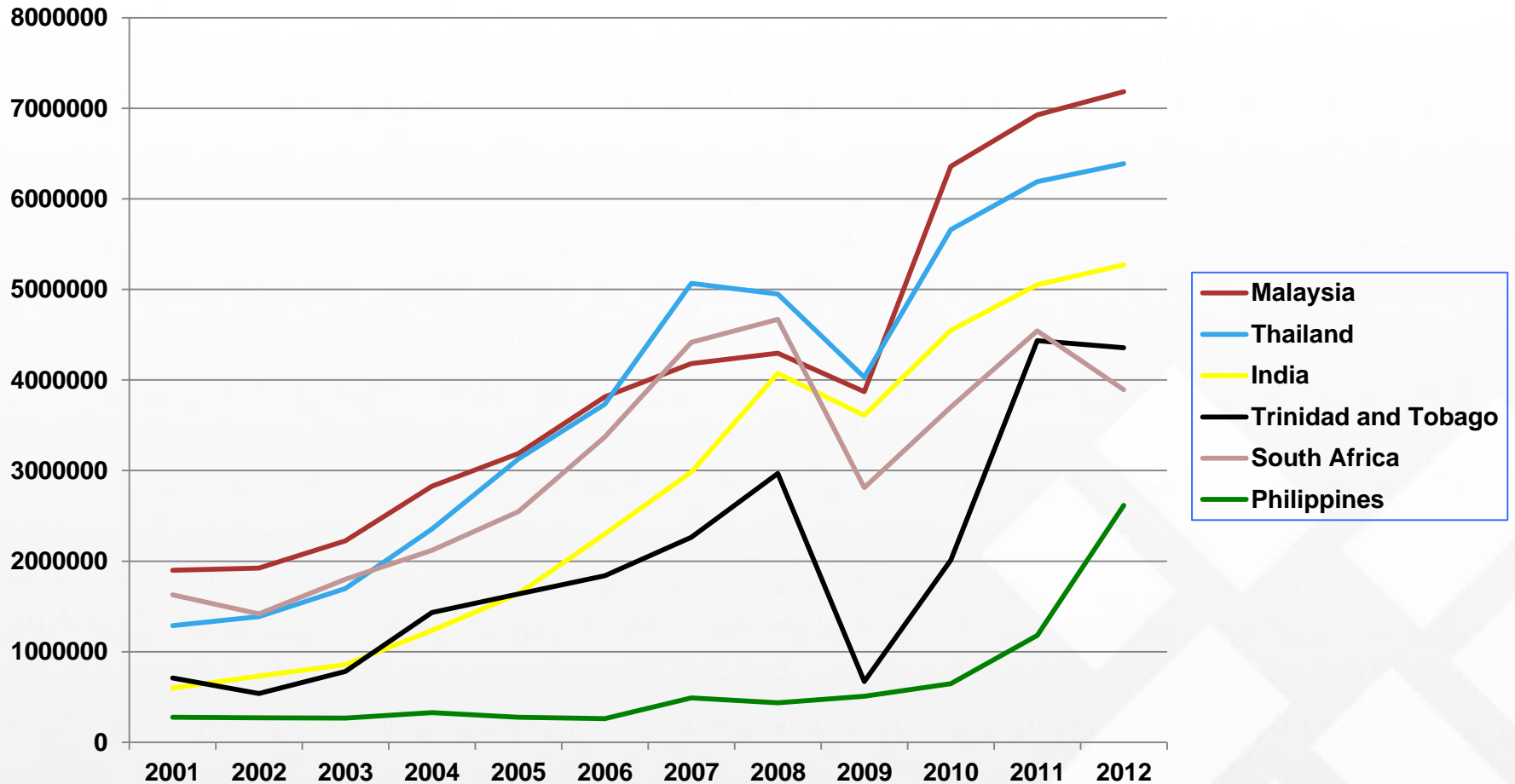
APEC Imports of Environmental Goods (USD thousand): average 2008-2013 of yearly import value



Leading Global Importers of Environmental Goods (USD thousand): average 2008-2013 of yearly import value



Selected Developing Country Exports of Environmental Goods (USD thousand) 2001 -2012



Case Study in Green Supply Chains: Philippines – Global Value Chains in the Photovoltaic Industry

Many environmental sectors, such as the photovoltaic industry, frequently outsource parts of the production process to other countries, thereby creating regional or global value chains. Some developing countries have already successfully linked into these environmental value chains.

The Philippines for example has increased its exports of photovoltaic cells from a very low base in 2006 to just over 1 billion USD in export value in 2013. This development can be attributed to a number of foreign companies, such as US SunPower or Solaria outsourcing parts of their manufacturing processes to the Philippines. These companies have cited the highly educated labour force, in particular large numbers of engineers, and the electronics industry infrastructure as incentives for locating in the country.

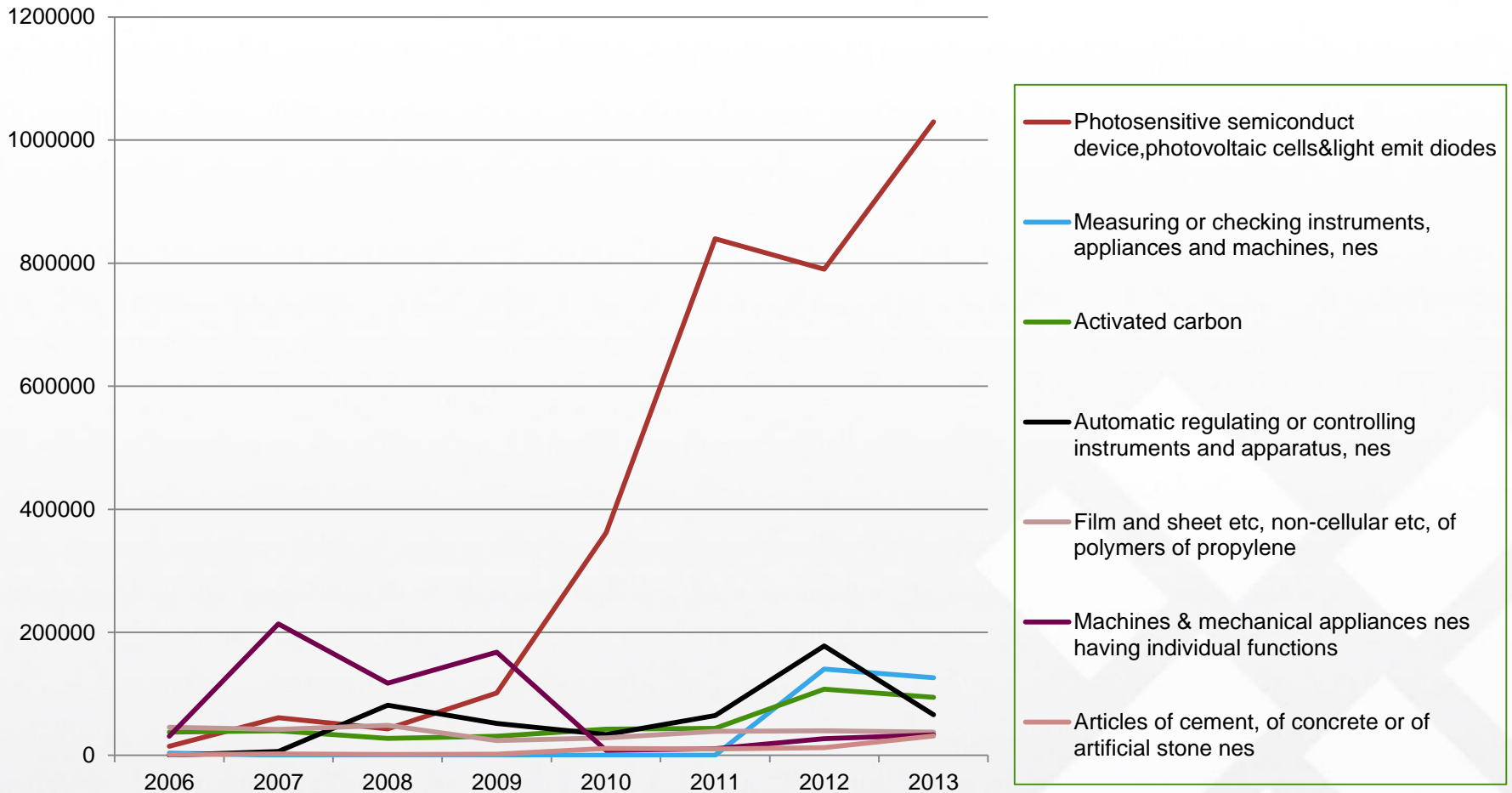
The Philippines is a major exporter of semiconductors. The considerable experience in this manufacturing sub-sector, which requires a similar set of labour skills and infrastructure, facilitated the diversification into the photovoltaic cell-manufacturing sector and attracted the related inwards investment.

In addition, the conditions appear to be good for Philippine SMEs and employees to benefit from technology-transfer through their integration into GVCs, and to apply this knowledge to diversify their products and services also into the domestic Philippine market and potentially other export markets.

Philippine companies have access to innovative finance schemes, such as the "sustainable energy finance program" by the Bank of the Philippines. Also the Renewable Energy Act, in force since 2008, has sought to incentivize private sector engagement in the renewables sector.

The trade outcomes speak for themselves....see figure

Selected Environmental Goods Exports from the Philippines (USD thousand), 2006-2013



Source: ITC Trade Map

Average applied MFN tariffs on environmental goods imports by region

Importing Region	Min	Simple Average	Max
North Africa and Middle East	4%	7%	17%
Sub Saharan Africa	1%	8%	14%
South East Asia + Pacific	0%	6%	15%
South Asia	5%	11%	21%
Central Asia + E. Europe	1%	7%	20%
East Asia	0%	3%	7%
Caribbean and Central America	2%	8%	41%
South America	1%	7%	12%
North America + EU	1%	3%	7%

At the global level, substantial tariff peaks (and non-tariff barriers) continue to exist. East Asia and North America + EU stand out with simple average tariff at 3% (and peaks at 7%): South East Asia average 6% with peaks at 15%: South America average 7% with peaks at 12%.

Opportunities for developing economies

The growth potential for developing countries associated with the environmental goods and services sectors is very considerable, as evidenced by the strong market trends.

There is nevertheless a substantial gap between developed and developing countries in terms of production and trade capacity as well as consumption of environmental goods and services.

ITC research suggests that developing countries may have strongest immediate export potential in “non-infrastructure” environmental goods and services relating to consulting services which require less capital and are more often supplied by SMEs.

This particular services market segment has been estimated, by Environment Business International, globally at 54.8 USD billion in 2011.

Challenges to Environmental Goods Trade, Investment and Technology Transfer

At the local level, innovation in and uptake of environmental goods and technologies is heavily dependent on the incentives in place for the private sector to both produce and to apply new technologies to adjust production processes in the interests of the green economy.

Growth of the global and regional environmental goods and technologies markets is similarly strongly driven by environmental regulatory regimes.

Developing and emerging economies often lag behind others in the environmental regulation-making and enforcement process. There is inadequate international best practice benchmarking and effort re international recognition or harmonisation of environmental standards

This can lead to a gap in private sector perception in developing and emerging economies of the extent of the potential market demand and profitability potential for environmental goods and technologies.

Capacity Building Needs to Assist Implementation of APEC's Environmental Goods Commitments

Technical

- Translating commitments at HS6 level to fit with existing tariff schedules eg at HS8 level.
- Creating new tariff lines in tariff schedules where required

Stakeholder engagement and buy-in

- Economy-wide impact analysis of tariff reductions: on sustainable growth and poverty reduction, export performance, employment generation, investment, technology transfer and identification of related micro-level sectoral business challenges and solutions, especially for SMEs
- Facilitating the associated public-private consultation and dialogue
- Awareness-raising of commercial benefits and opportunities
- Benchmarking of best implementation practices, including with respect to the enabling regulatory environment for green growth

Role of ITC

- ITCs core mandate is facilitating internationalisation of developing country export ready SMEs
- ITC is experienced in facilitating public/private dialogue between government and business with respect to implementation of trade negotiating outcomes and enabling domestic regulatory environments for export competitiveness
- Business data collection, trade liberalisation impact assessment and public information dissemination and awareness raising are important aspects of stakeholder engagement
- Attracting more sustainable investment and assisting developing economy SME access to green supply chains are critical emerging issues for developing country competitiveness

Vital Role of public/private dialogue

Business associations and trade support institutions in developing countries rarely focus on the environmental goods and services sector.

Partly this reflects the heterogeneous and dual-use nature of the sector, such that many environmental services can be subsumed under engineering, chemical engineering, consultancy or other services. The result is that many firms may not necessarily classify themselves as environmental goods and services providers, or if they do so, only in a secondary role.

This is also true in more developed countries; environmental goods and services sector associations and trade promotion organisations often mention the difficulty of delineating the sector adequately and having to do awareness raising with companies in related sectors, of how their goods and services can have environmental applications and the growing market for this internationally.

The consequence is that business interests tend to be poorly represented in policy making such as in preparations of trade negotiations, economic strategy and industry policy formulation or export strategy development.

Overcoming this challenge is of increasing importance, as international discussions on the classification of environmental goods and services and related trade negotiations are gaining momentum.

Governments need to better understand their commercial interests and better understand the enabling domestic drivers of international competitiveness; in both cases, this requires input from business.

Vital Role of awareness-raising and trade advocacy

Developing countries can benefit from imports in environmental goods and services, particularly where alternative domestic environmental inputs for industries are expensive or non-existent.

The economic arguments for improving environmental performance in manufacturing and other economic sectors are significant.

Estimates in Peru for example, have shown that costs from poor environmental management are equivalent to 3.9% of the country's GDP.

Strategically liberalizing key environmental goods or services inputs can enhance the efficiency and competitiveness of other industries, if this lowers the cost of adapting to environmentally sustainable processes.

This can also enhance the competitiveness of important export sectors, which may rely on green branding to reach new market segments or seek efficiency-enhancing solutions.

For example, the tourism industry is highly susceptible to consumer demand for environmentally sustainable production. One precondition with regards to developing a sustainable tourism industry for example, is best practice water, energy and wastewater management.

Job generation and SMEs

There is a significant role for the informal sector in providing jobs in environmental services. In countries where a lack of regulation has dampened demand for formal provision of services, the informal sector often helps bridge a gap in service delivery. This is particularly notable in recycling services and waste collection.

For example, in Morocco, it is estimated that 90 % of collection activities for metal scrap is performed by the informal sector.

And there are many examples of initiatives around upgrading and formalising the informal sector in environmental services to ensure quality jobs.

For example, the e-Waste Association of South Africa (eWASA) is proposing an e-waste management system to support small business start-ups and informal recyclers as well as encouraging investments in new recycling technologies. Such initiatives provide examples of how the informal sector can be integrated into the formal economy and how enterprises in niche markets such as e-waste can be supported.

A word on Environmental Services

- Trade in environmental services is closely linked with trade in goods, since the provision of those services often relies on the use of related goods.
- For instance, wastewater management includes the removal, treatment and disposal of household, commercial and industrial sewage and other waste water. These services require in most cases the use of goods, such as waste pipes, sewers and drains, cesspools or septic tanks, etc.
- As we all know, there are barriers to the provision of these services that governments should also be addressing.
- This agenda is increasingly commercially important for SME services providers and potential exporters in the APEC region

Examples of Suppliers of Environmental Services

	Services Provided	Clients & Geographic location
Enviro Business Asia Sdn Bhd (Malaysia) Environmental Consulting Firm	<ul style="list-style-type: none"> -Environmental Management Plan /Compliance/ Monitoring & Auditing -Environmental Impact Assessment -Resource Management Studies -Water Resource Management -Environmental Management Systems/ISO 14001 -Environmental Risk Assessment 	<ul style="list-style-type: none"> -MNCs in Malaysia (e.g. Philips, Matsushita Industrial Corporation, Mitsubishi Electric) -Government -Malaysian domestic businesses
Safeco (Philippines) Environmental Services company	<p>Manages industrial waste processes : Clean-up, packaging & transport</p> <ul style="list-style-type: none"> -soil and site remediation -Treatment/recycling 	<ul style="list-style-type: none"> -Local businesses -MNCs in the Philippines e.g. Keppel, Shell, Lexmark, Hitachi