

Trade and climate change



Colombo, 18 September 2017

**Hoe Lim and Karsten Steinfatt
Trade and Environment Division
WTO**

Overview

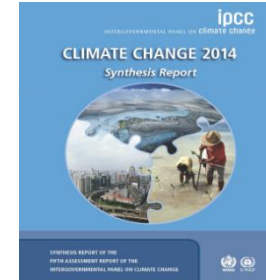
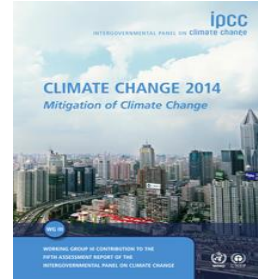
- 1) A brief introduction into **climate change**
- 2) How does climate change affect **international trade**?
- 3) The **Paris Agreement**: A primer on its trade-related elements
- 4) The **role of the WTO** in supporting climate action

Trade in **green goods and services**

Part 1

Climate change: A brief introduction

IPCC Fifth Assessment Report (2013/2014)



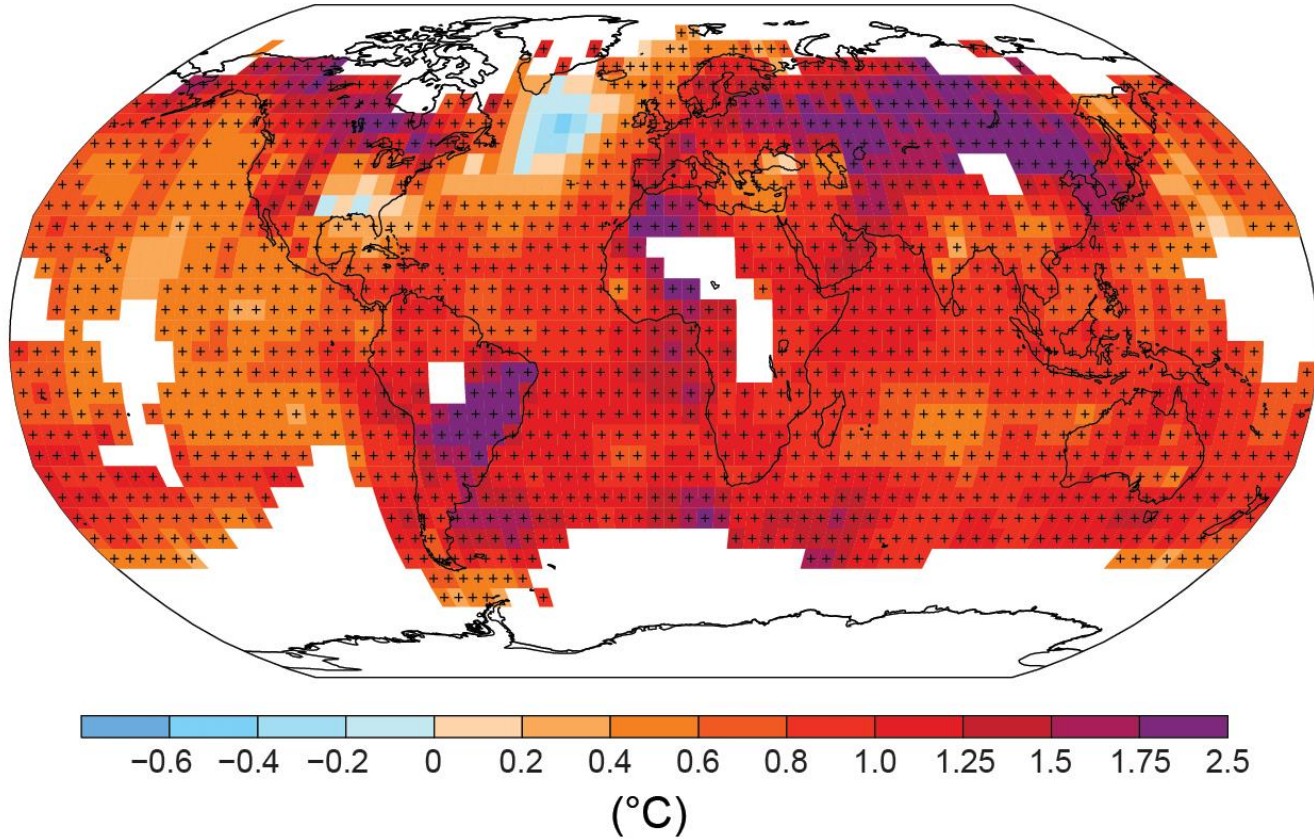
Key messages

Human influence on the climate system is clear

The more we disrupt our climate, the more we risk severe, pervasive and irreversible impacts

The world has the means to limit climate change and build a more prosperous, sustainable future

Not a uniform planet

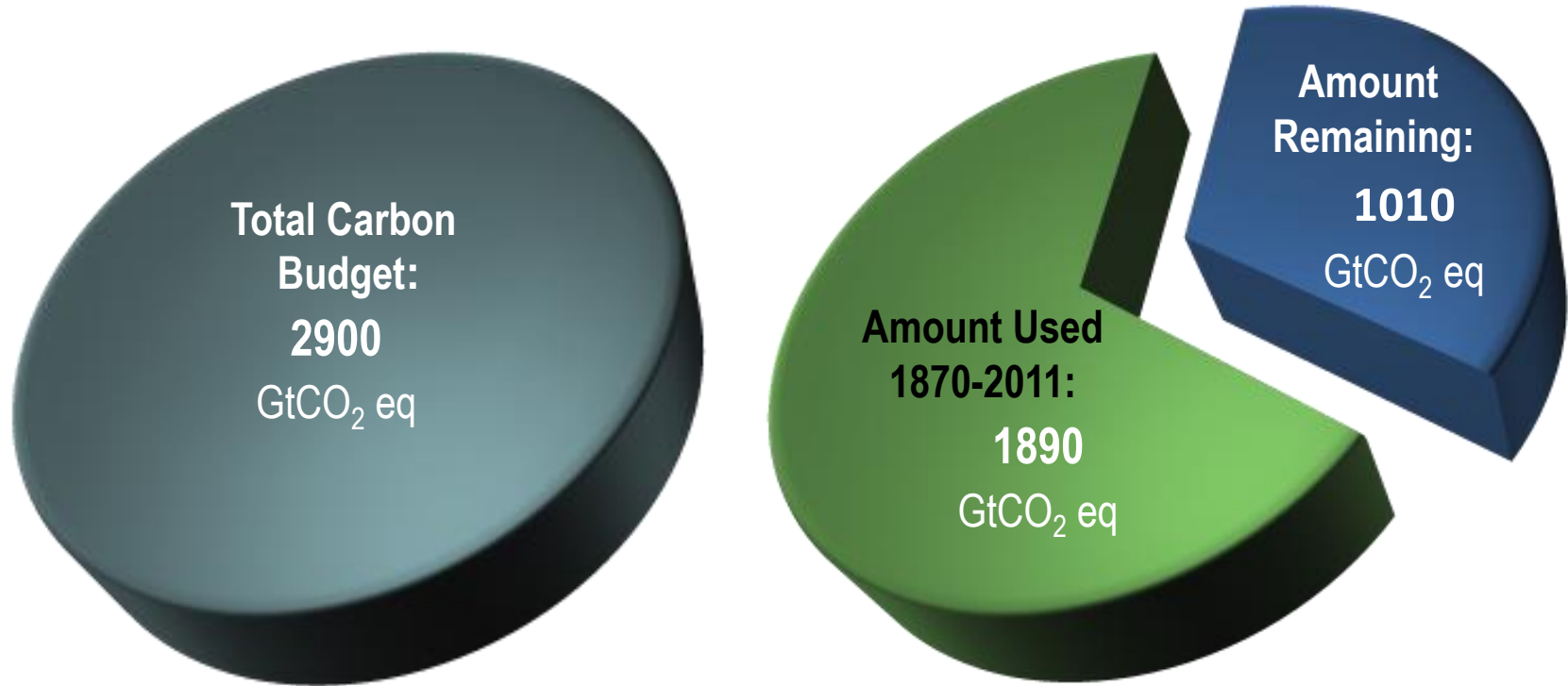


Observed change in surface temperature 1901-2012

Source: Haigh (2016)

The window of opportunity is rapidly closing

65% of our carbon budget compatible with a 2°C goal already used



Source: IPCC Fifth Assessment Report

The current emissions pathway will result by 2100 in...



**2 billion people
with increased
water scarcity**

**10-12 billion
people/year
exposed to
heatwaves**



**70-90 million
people/year
affected by river
flooding**

**Cooling
demands
2x**



**50% of plant
species lose >
half habitat**

**60% of
cropland less
suitable for
agriculture**



Part 2

**How does climate change affect
international trade?**

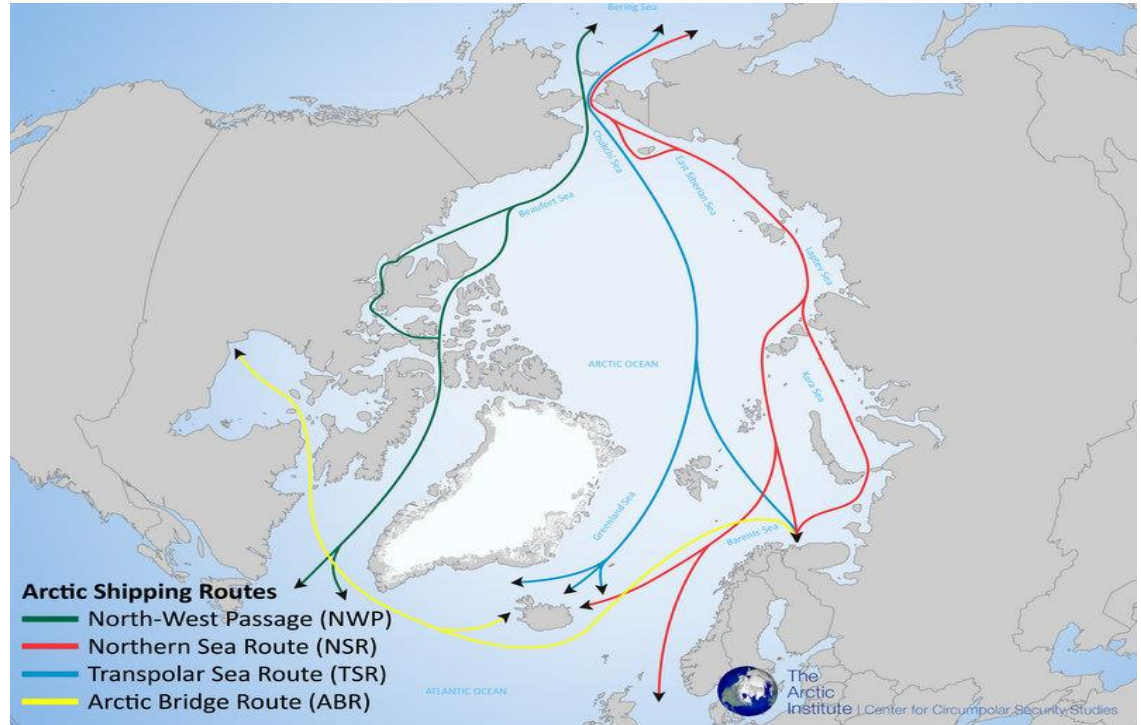
Climate change will negatively affect transport infrastructure



Potential trade gains from Arctic shipping?

Average distance reductions

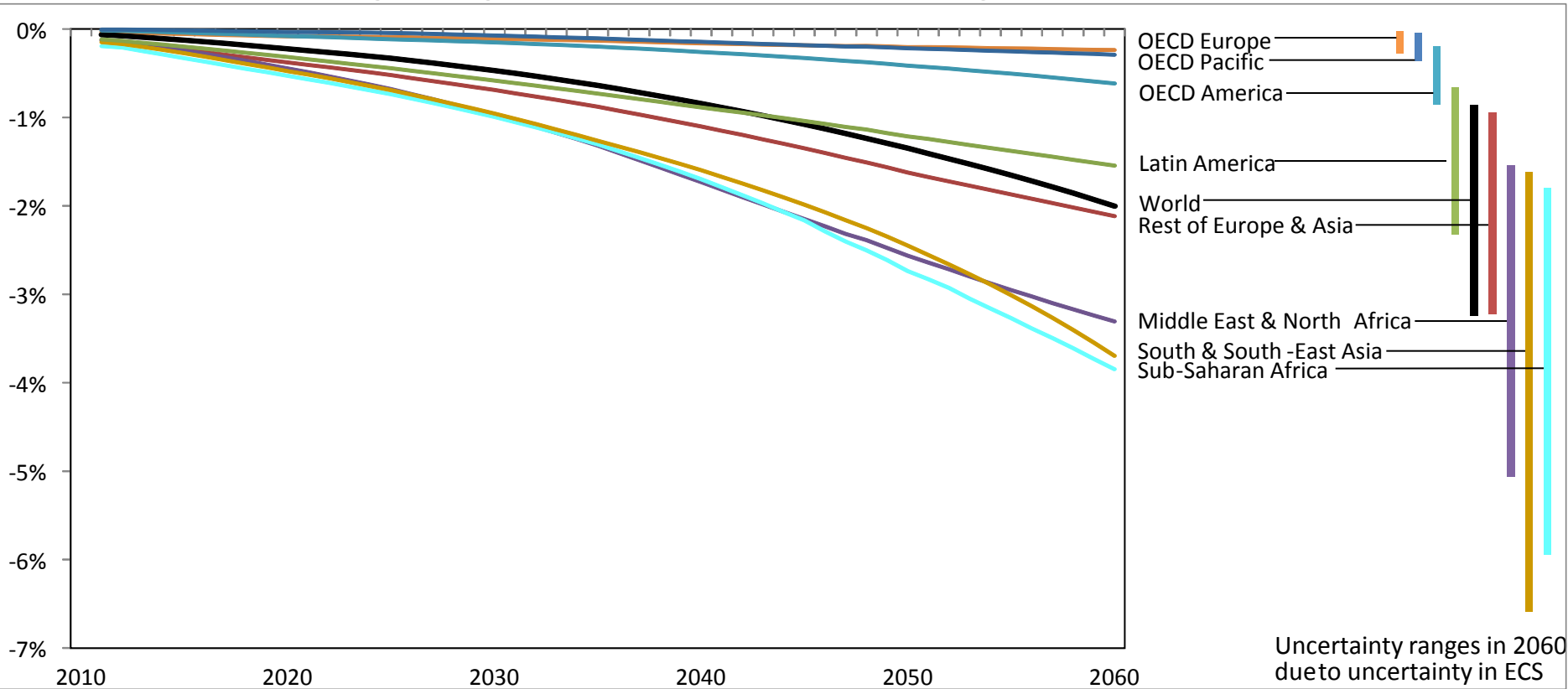
- America – Asia:
-25%
- Europe – Asia:
-30%



... but potential threats to ecosystems

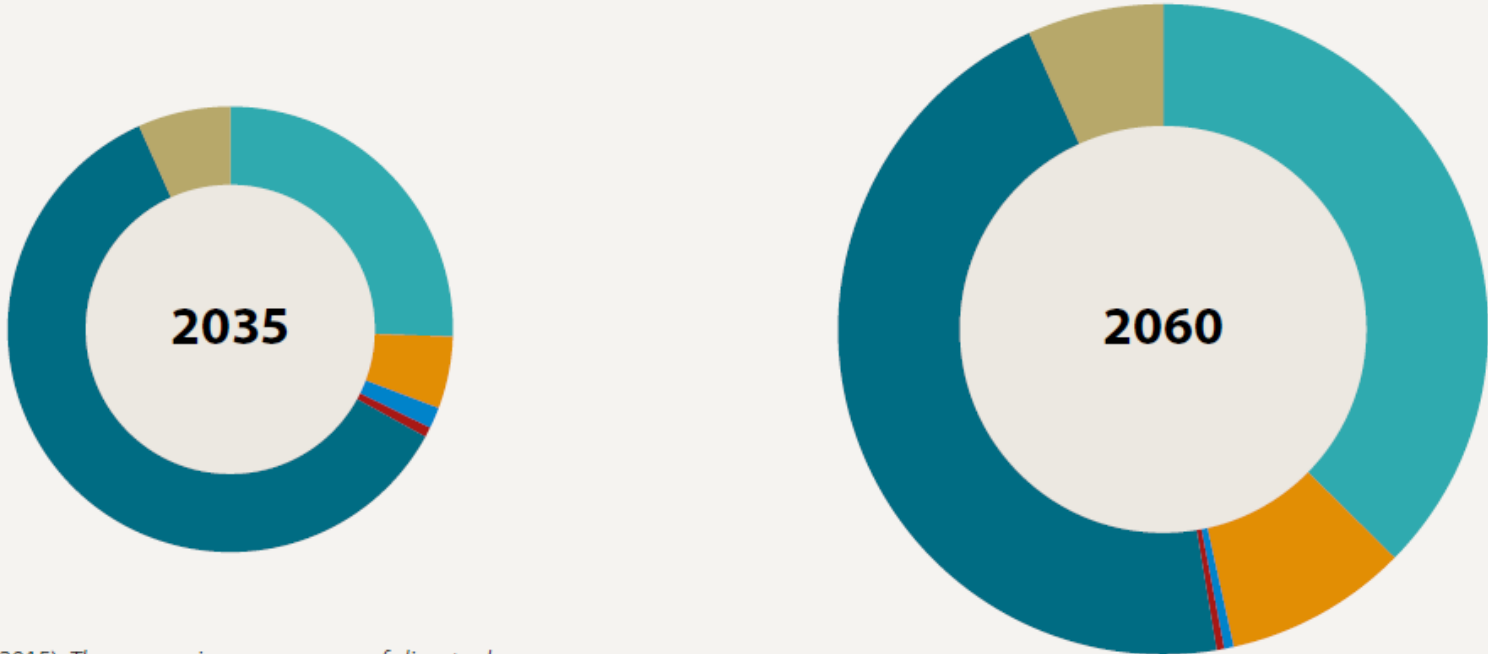
The regional consequences of market damages are strongest in Africa and Asia

Percentage change in GDP (compared with no damage baseline)



Source: OECD (2016)

Agriculture and labour productivity are most significantly impacted, but not all impacts grow proportionately



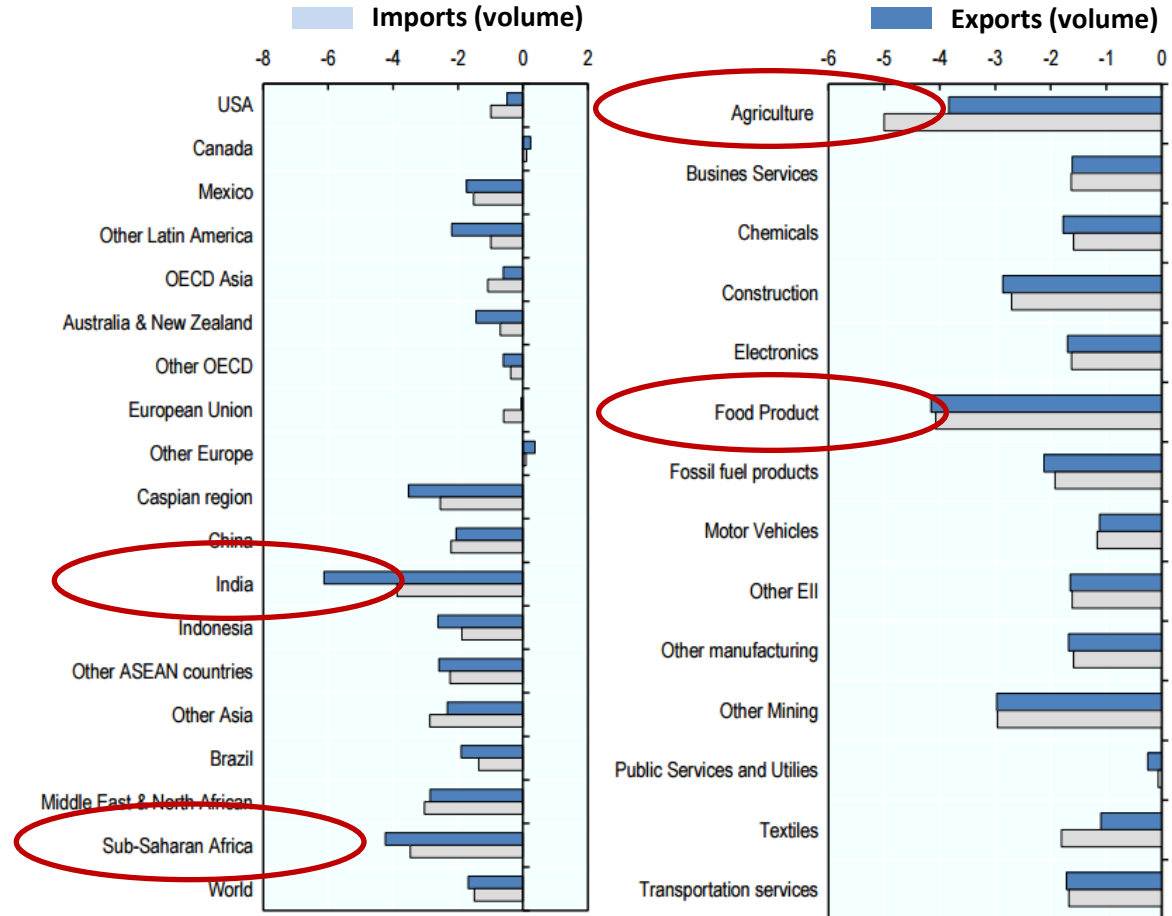
Source: OECD (2015), *The economic consequences of climate change*.

Tourism demand Agriculture Coastal zones Energy demand Extreme precipitation events Health

Source: OECD CIRCLE Project

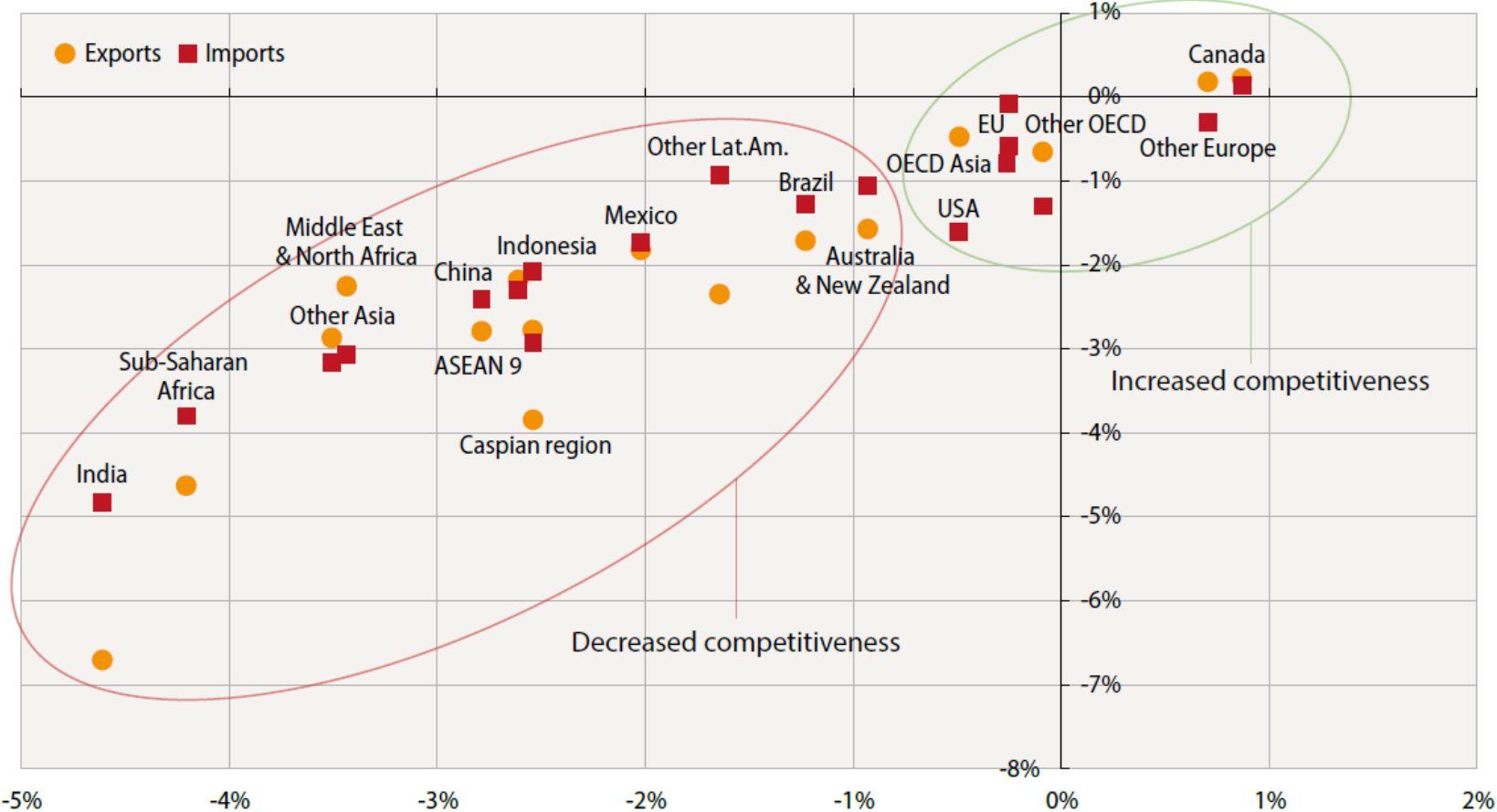
Impacts on agriculture are relatively strong and agricultural and food trade flows are more affected than other commodities

- Generally less imports and exports
- Uneven regional effects across the world
- Agricultural and food products most affected



Source: OECD (2016)

Despite negative climate impacts, a region may increase its competitiveness if its competitors are even more severely damaged



Source: OECD CIRCLE Project

General insights

- **Large uncertainties** surrounding any projection
- By and large, the **direct impacts of climate change on trade are negative**, and **climate damages will put negative pressure on the economies of almost all regions**; lower trade
- Despite suffering climate damages, **a region may increase its competitiveness** if other competitors are more severely damaged or decide to specialise in the production of other goods
- Countries with **larger domestic markets and more diversified trade patterns** can absorb climate shocks better than more specialized countries

Part 3

The Paris Agreement: A primer on its trade-related elements

The Paris Agreement



December 2015: 195 countries adopt the first universal climate agreement

36,000 participants, including:

23,100 government officials

9,400 representatives from UN bodies and agencies, IGOs and civil society

3,700 members of the media

150 Heads of State and Government

Paris Agreement: A new departure



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

Universal action

Clarity on the **overall goal**: Limit temperature rise to 2°C

Bottom-up element in the form of NDCs, assessed and revised every 5 years

Top-down elements for oversight, guidance, coordination

Paris Agreement: Building blocks



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21·CMP11

**Long-term
goal**

Mitigation

Adaptation

**Loss and
damage**

Support

Transparency

**Global
Stocktake**

**Markets and
non-markets**



United Nations
Framework Convention on
Climate Change

Paris Agreement: Building blocks

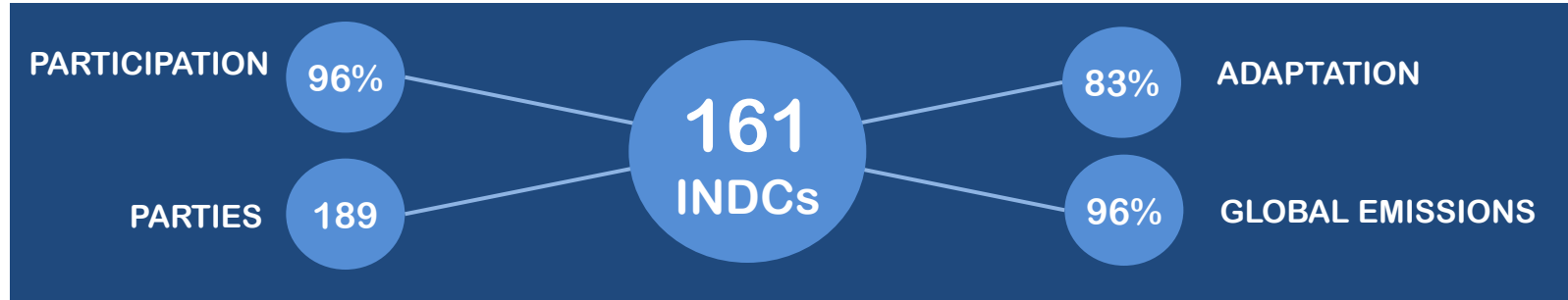
Long-term goal

- **Limit** global temperature increase to **well below 2°C**, aspirational goal to limit increase to 1.5°C (Art.2)
- **Global peaking** of GHG emissions as soon as possible (Art. 4)
- **Zero** net emissions **in second-half of century** (Art 4.1)

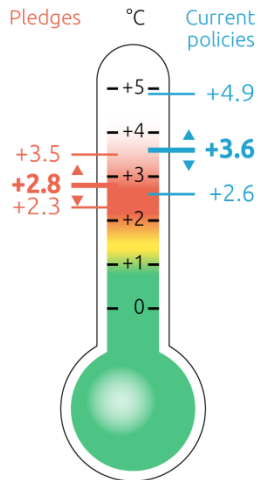
Mitigation

- Binding commitments by all Parties to prepare, communicate and maintain a **nationally determined contribution** (NDC) (Art.4)
- Communication of NDCs every 5 years, foundation for **higher ambition** (Art.4)

A closer look at NDCs



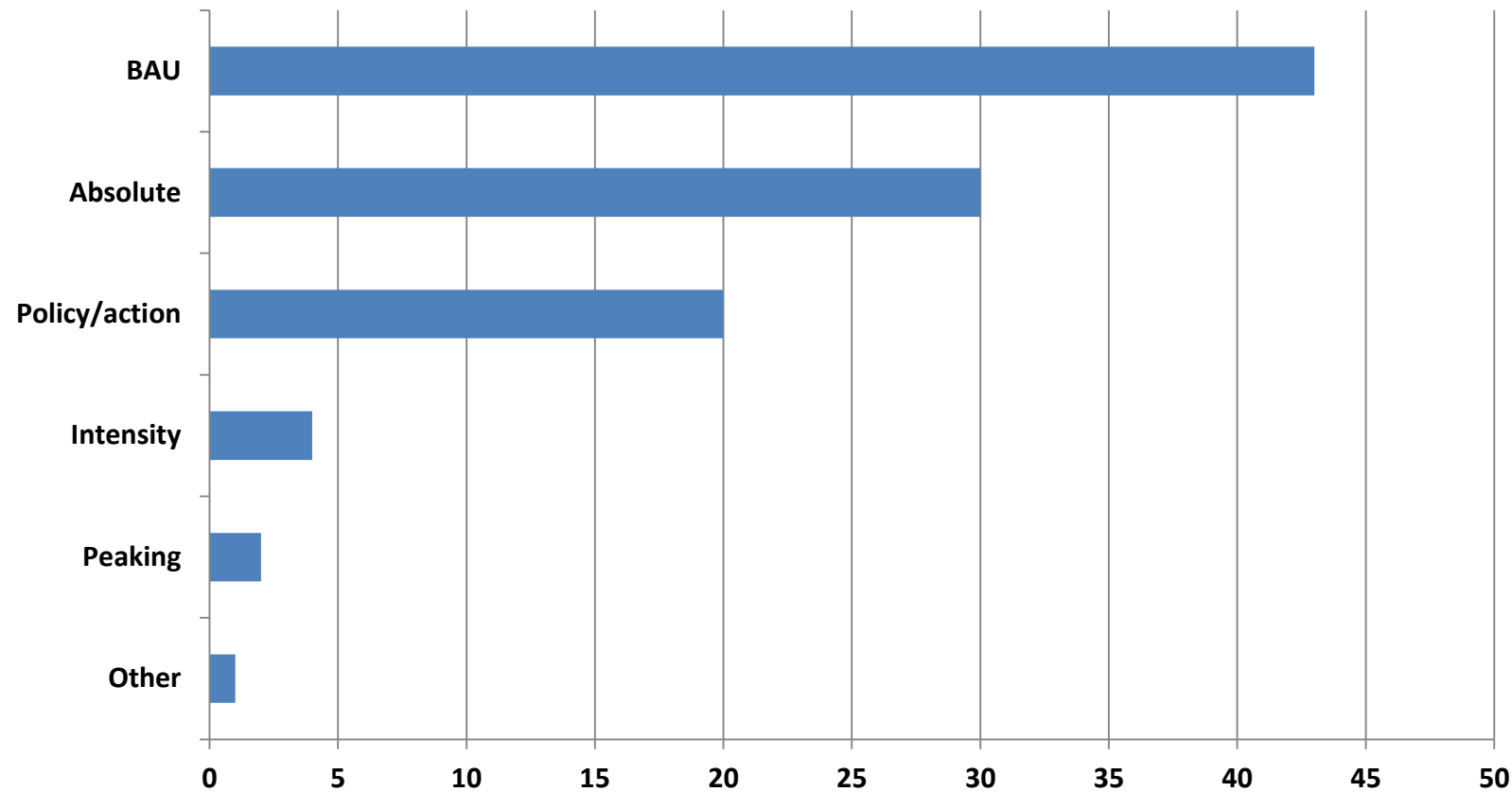
UNFCCC Secretariat: Growth in emissions to slow down, to 16% in 2010–2030, compared with 24 %in 1990–2010.



Emissions pathway in the pledge scenario (that incorporates NDCs until 1 November 2016) gives a **50% chance of warming being 2.8°C or higher in 2100.**

Sources: UNFCCC Secretariat (2016) and Climate Action Tracker






A closer look at NDCs



Types of mitigation target communicated in the INDCs

Source: UNFCCC Secretariat (2016)

Trade elements in NDCs

- Direct references to trade in **45% of all NDCs**
- **Virtually all NDCs** include references to trade-related issues
- But **only a handful** identify specific trade tools:
 -  **Tariff reductions** on renewable energy equipment
 -  **Import restrictions** on used cars
 -  **Regulation of trade** in timber
 -  **Border carbon adjustments**
 -  **Fossil fuel subsidy reform**

d.i.e

Deutsches Institut für
Entwicklungspolitik



German Development
Institute

Check your own NDC through the
[NDC Explorer](#)

Response measures (2015)

Preamble Paris Agreement

"Parties may be affected not only by climate change, but also by the impacts of the measures taken in response to it"

Article 4.15 Paris Agreement

"When implementing mitigation measures, Parties shall take into consideration ... the concerns of Parties with economies most affected by the impact of response measures"

Decision 11/CP.21

Continue and improve the forum on the impact of the implementation of response measures

Response measures (pre-Paris)

Art. 2.3 Kyoto Protocol

Annex I Parties "shall strive to implement policies to implement policies and measures ... in such a way as to minimize ... effects on international trade..."

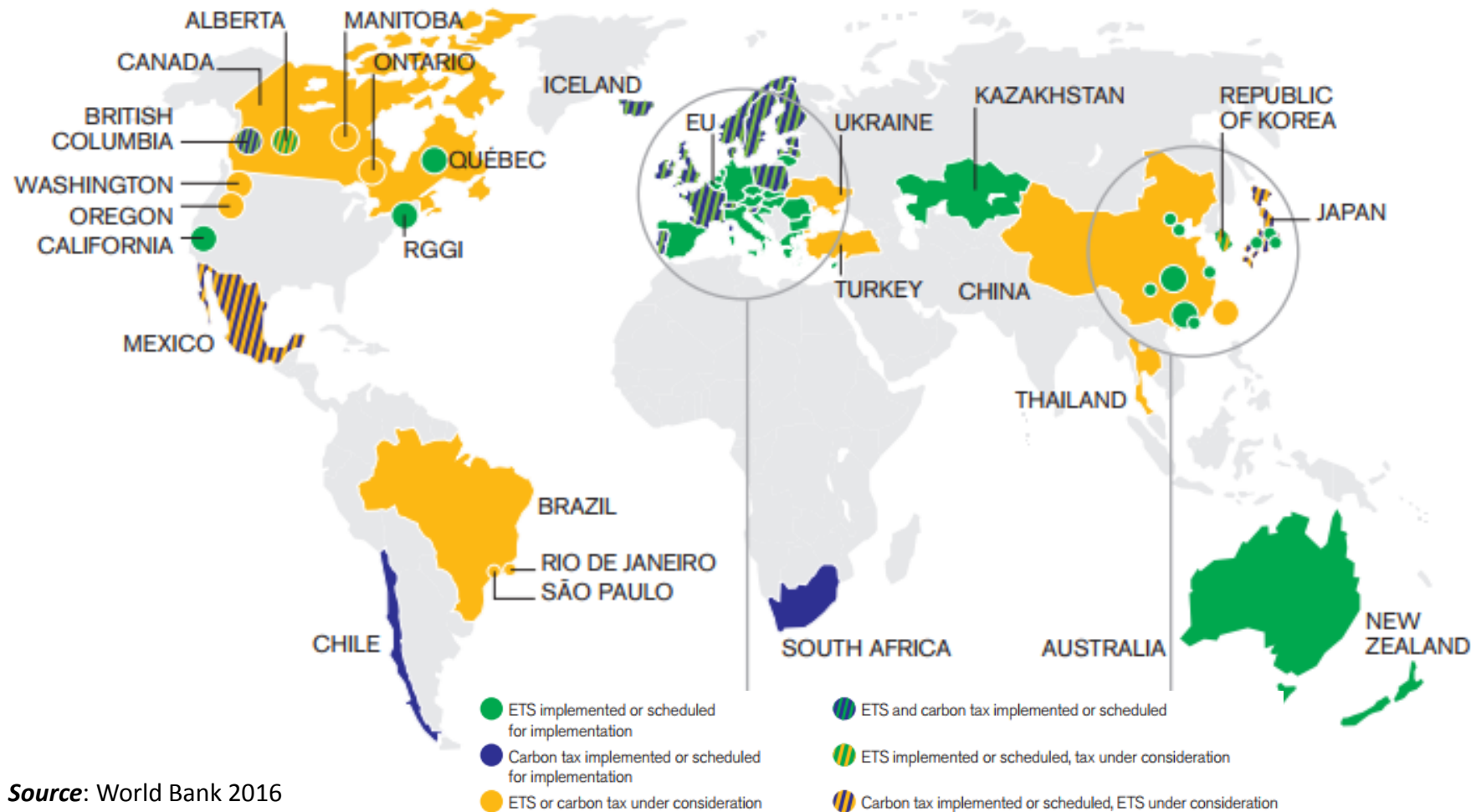
Art. 3.5 UNFCCC

"Measures taken to combat climate change ... should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade"

Art. 4.8 UNFCCC

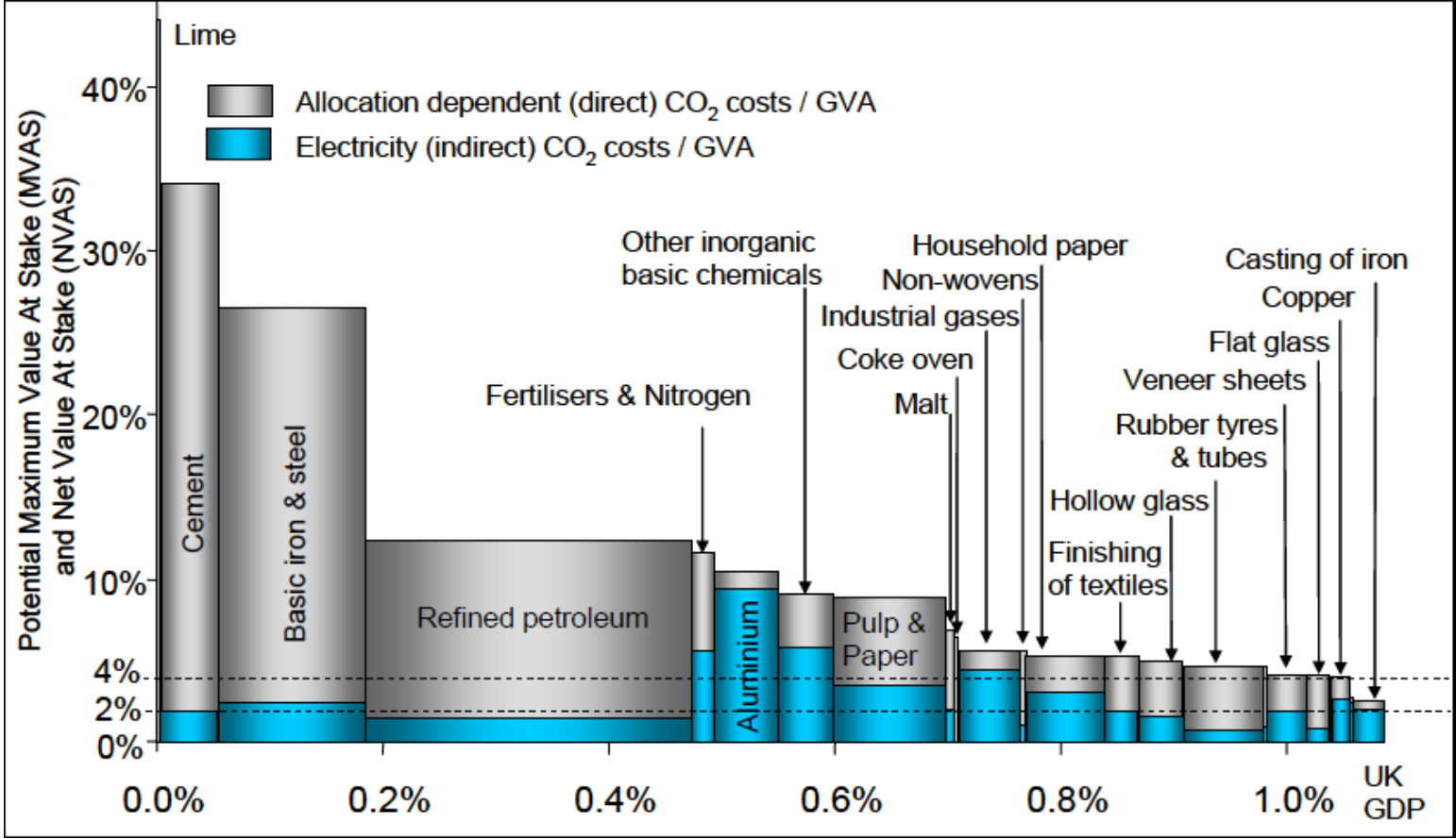
"Parties shall give full consideration to what actions are necessary ... to meet the specific needs of developing country Parties arising from the ... impact of the implementation of response measures"

Example 1: Carbon pricing



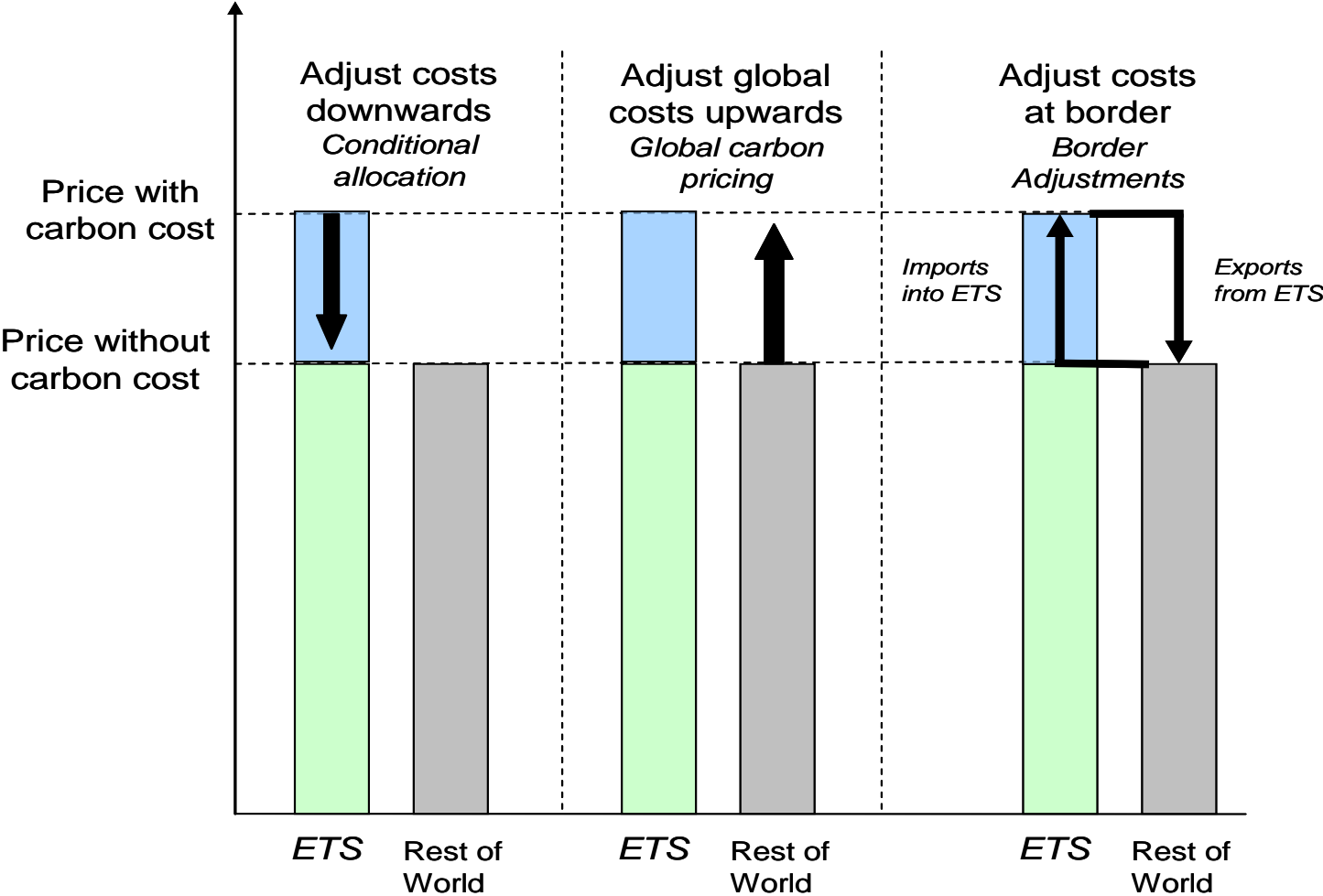
Source: World Bank 2016

Cost increases from carbon price in the United Kingdom



Source: Hourcade et al. (2007)

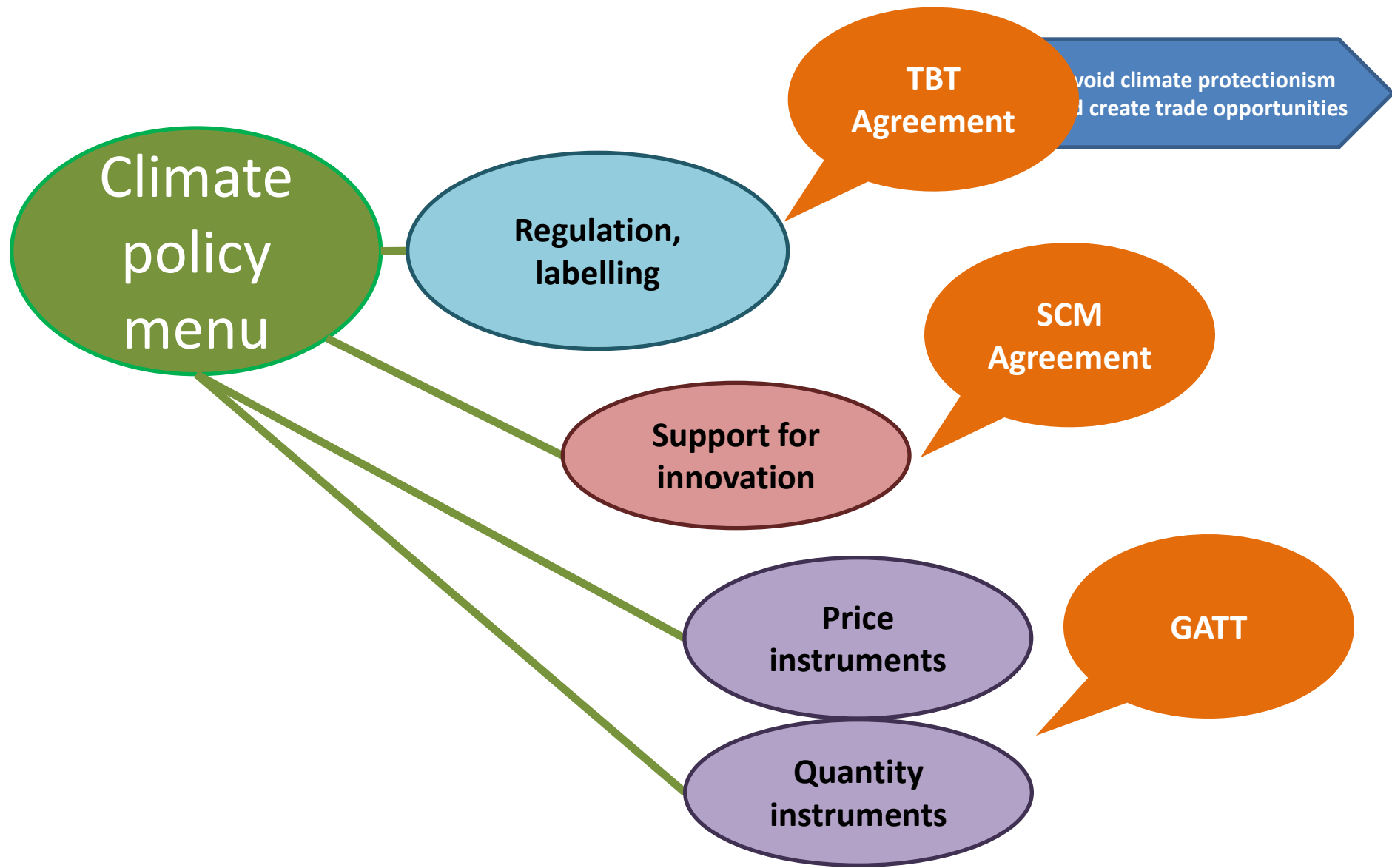
Possible responses to carbon leakage



Source: Grubb (2014)

Part 4

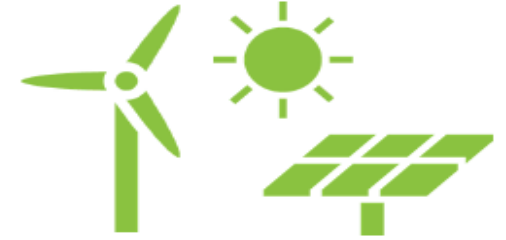
The role of the WTO in supporting climate action



Benefits of trade in environmental goods and services



1 MORE AFFORDABLE PROTECTION
OF THE ENVIRONMENT



2 FASTER ADOPTION
OF GREEN TECHNOLOGIES



3 INCREASED INNOVATION & INVESTMENT
IN EARTH-FRIENDLY SOLUTIONS

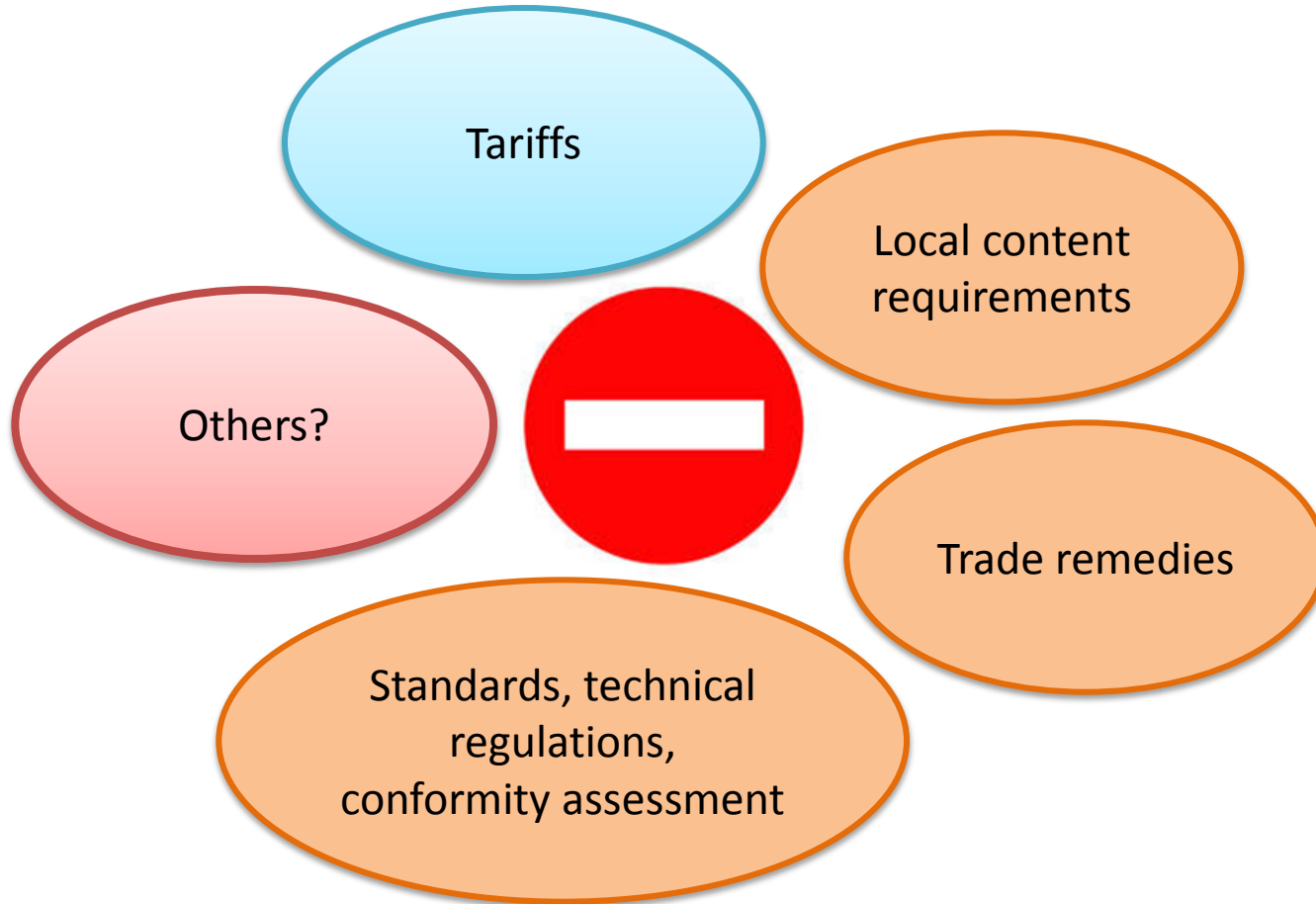


4 OPPORTUNITIES FOR
WORKERS & ENTERPRISES



5 A CONTRIBUTION TO
SUSTAINABLE DEVELOPMENT

But many measures can affect trade in green goods



Tariffs still affect trade in environmental goods

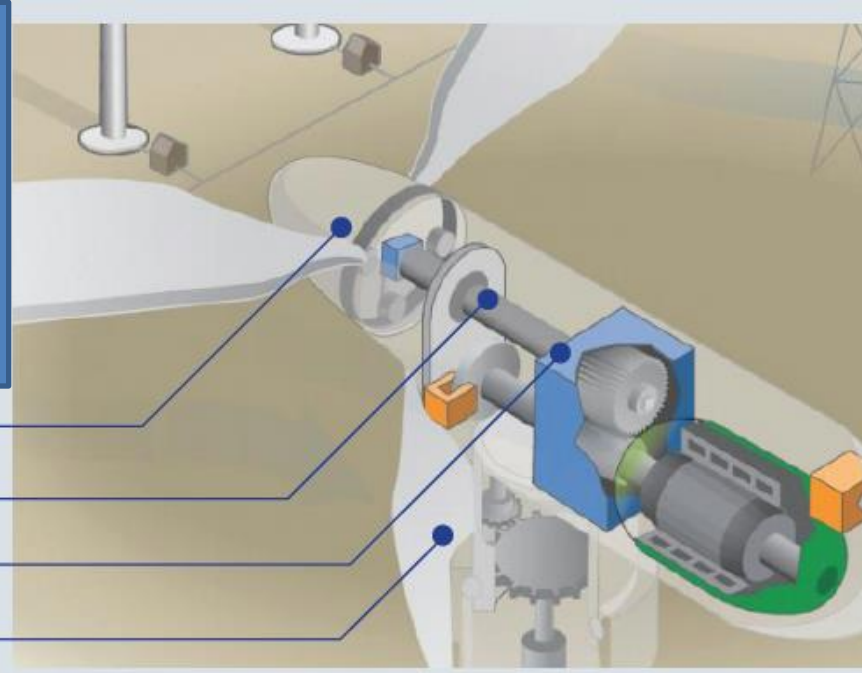
Examples of tariffs applied by WTO members on wind turbine parts:

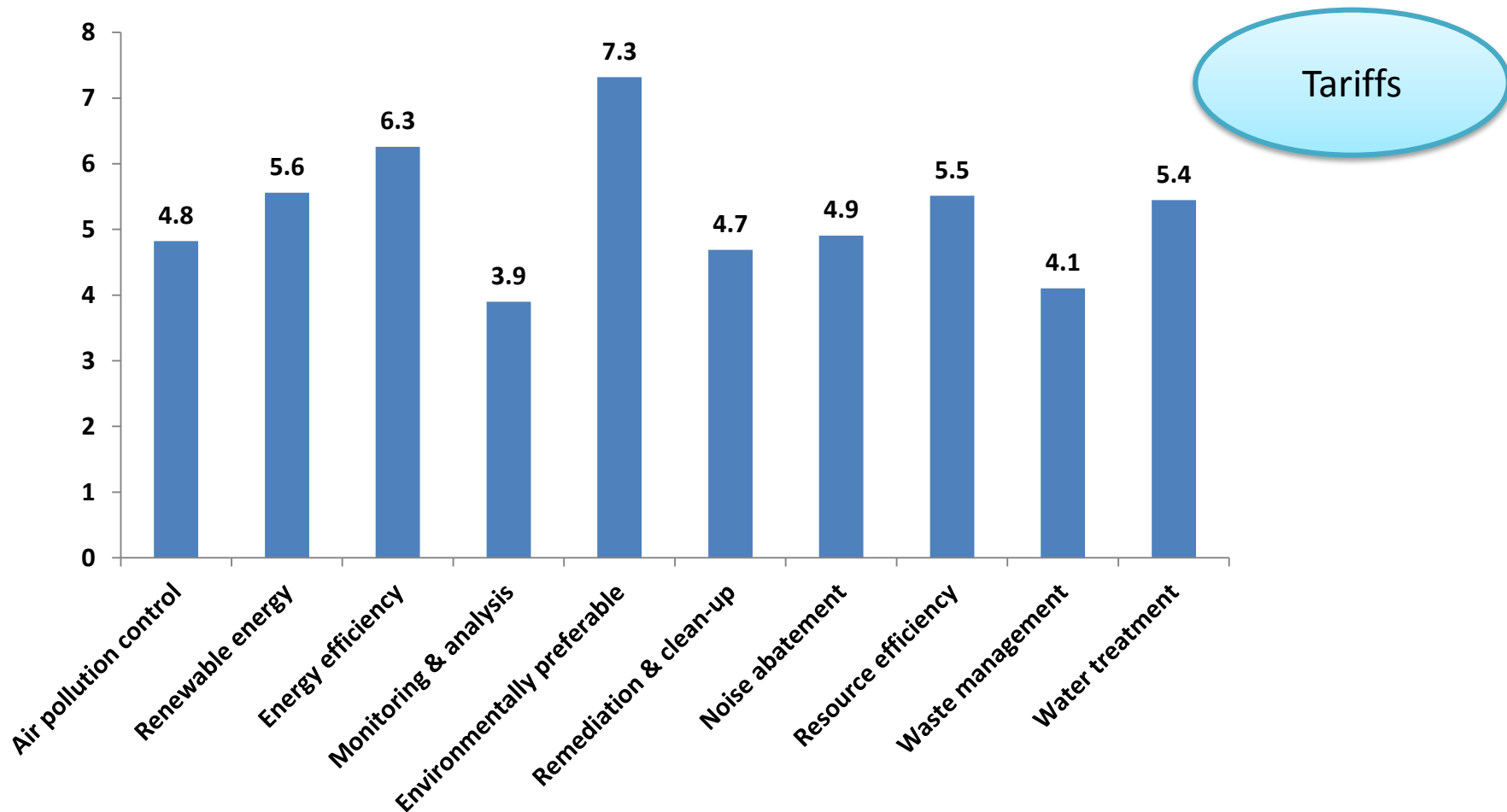
8% - Special roller bearings

15% - Transmission shaft

10% - Gear box

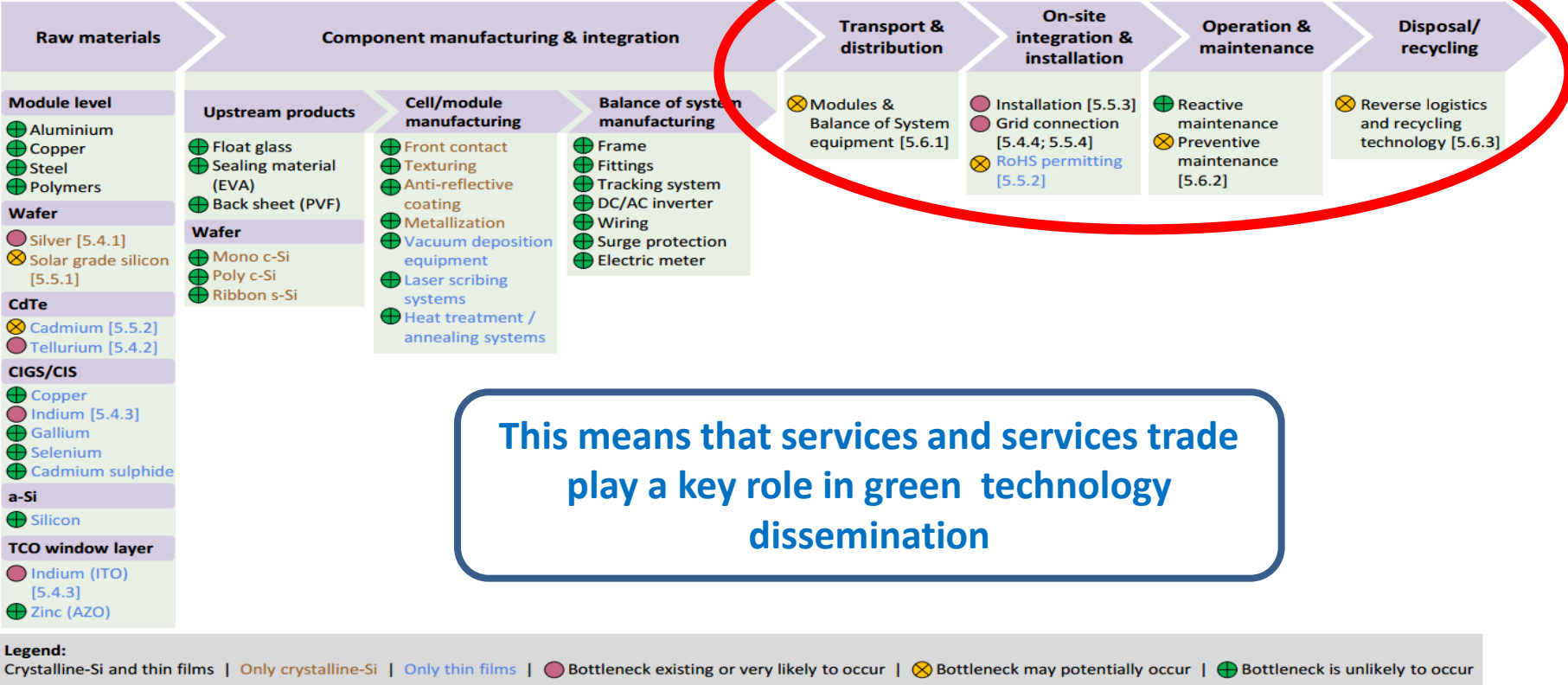
12% - Tower parts





**Average applied MFN tariffs by WTO members
(ca. 300 environmental goods, 2016)**

Environmental goods are supplied together with services



Source: E4tech & Avalon, IEA-RETD RE-SUPPLY Study, 2012
<http://iea-rettd.org/archives/publications/re-supply>

CTESS negotiating mandate

Relationship between existing **WTO** rules and **specific trade obligations (STOs)** in **Multilateral Environmental Agreements**

Information exchange between MEA Secretariats and the relevant WTO committees, **observer status**

Reduction or, as appropriate, elimination of **tariff** and **non-tariff barriers** to **environmental goods and services**

Source: Doha Ministerial Declaration (2001), paragraphs 31 (i), (ii), and (iii).

CTESS negotiating mandate

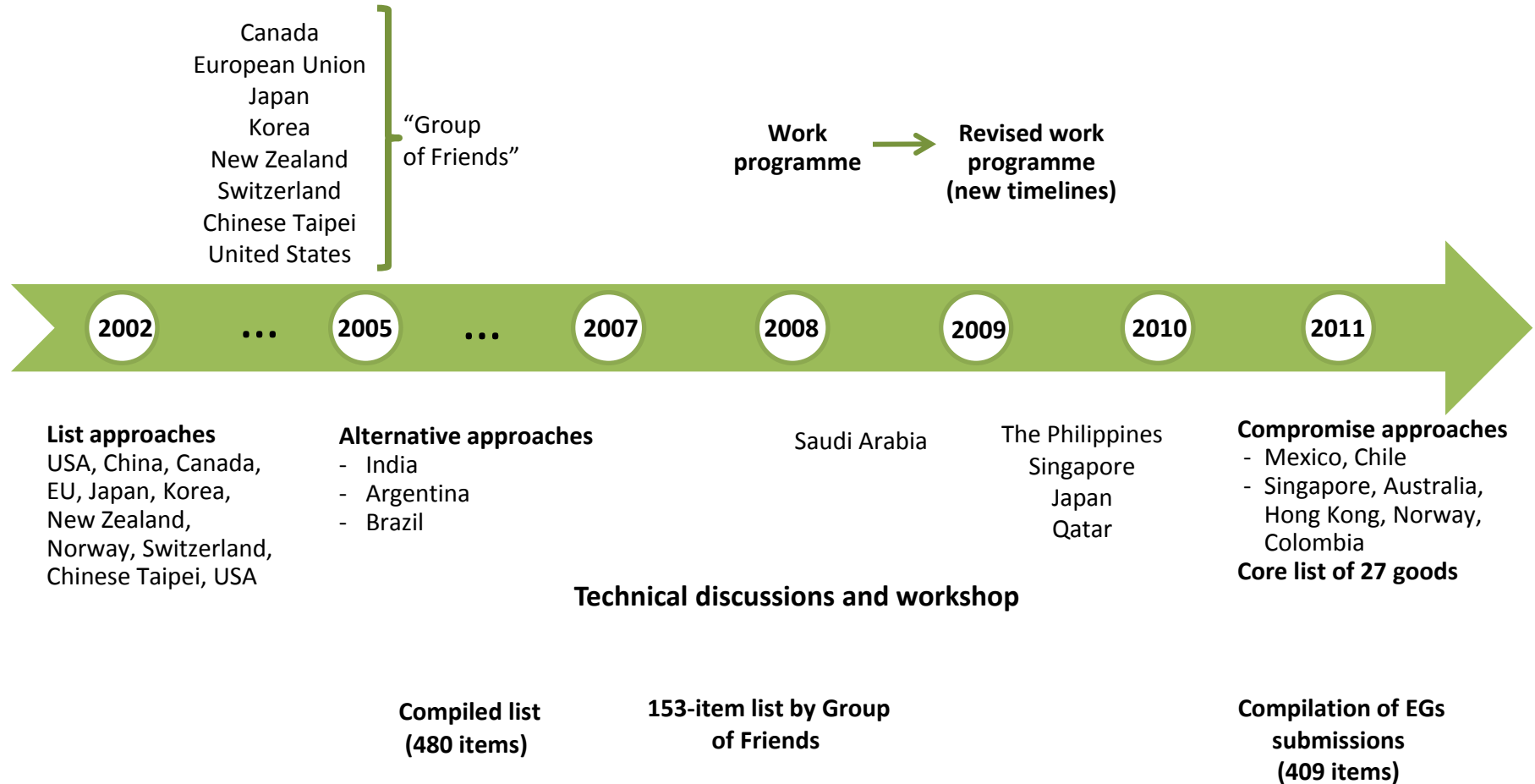
2001 Doha Ministerial Declaration

Paragraph 31(iii)

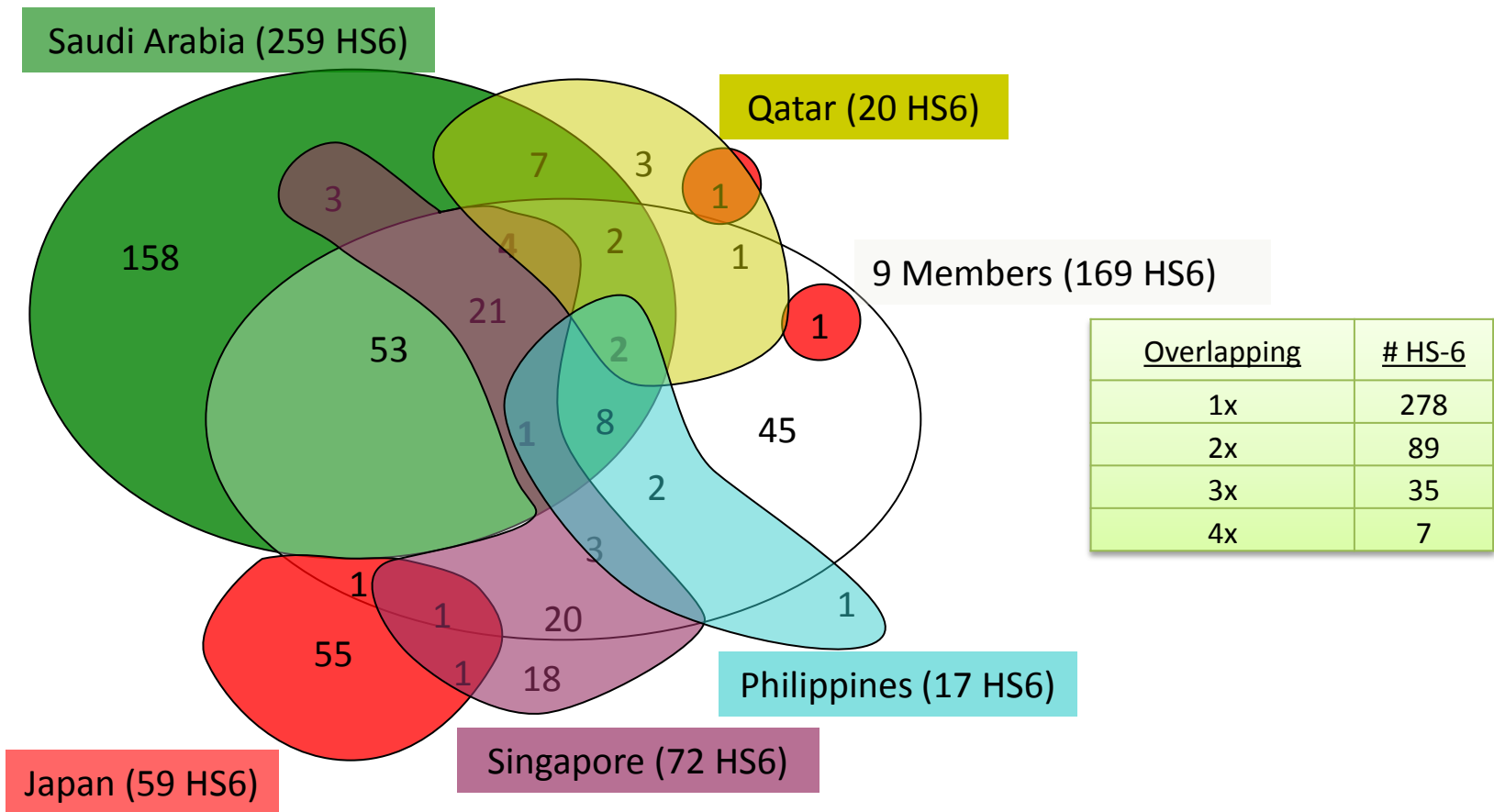
With a view to enhancing the mutual supportiveness of trade and environment, we agree to negotiations, without prejudging their outcome, on [...]

iii) the reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services.

Discussions in the CTESS

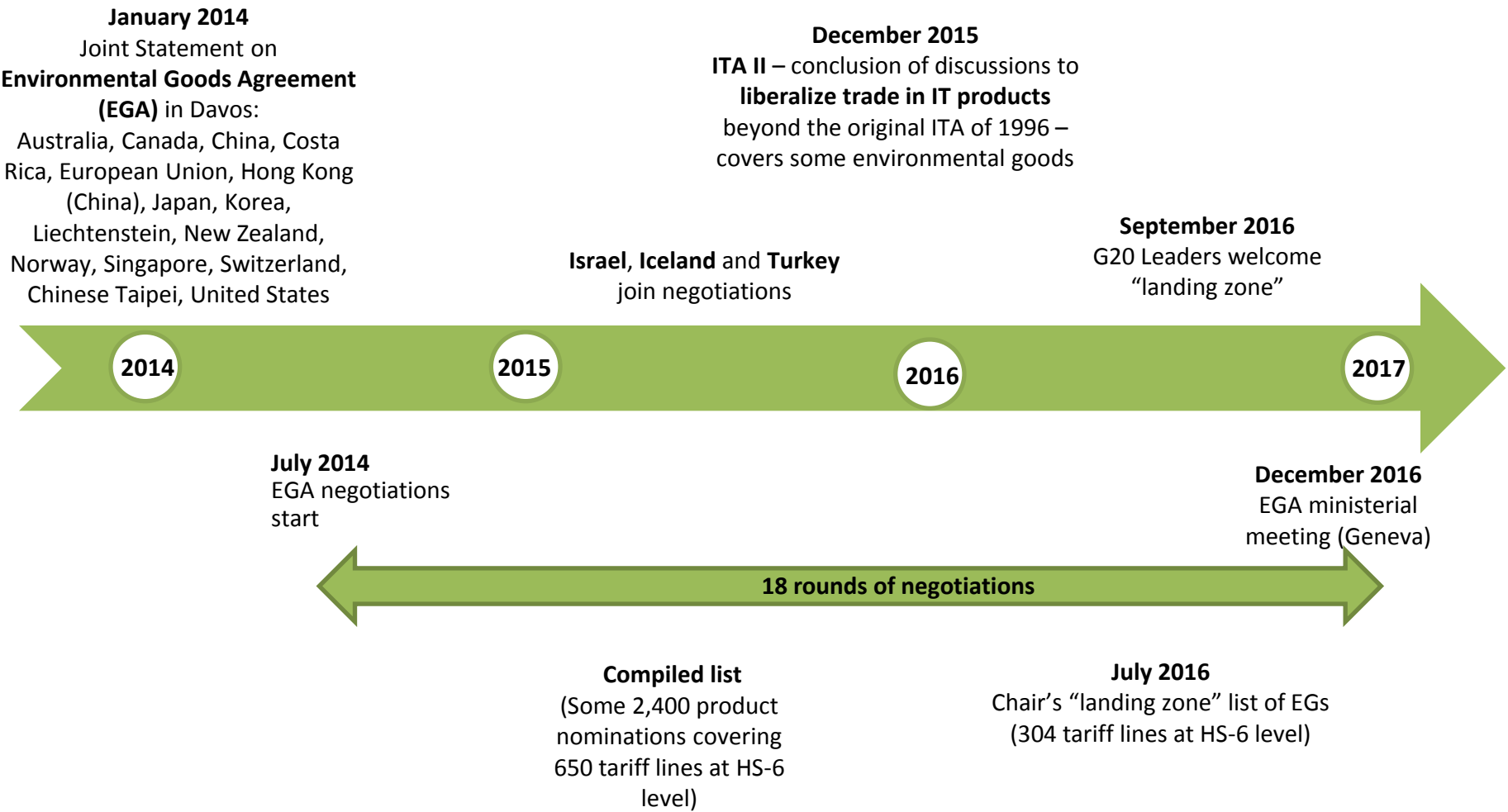


Convergence among product lists



Note: Proportions not respected

Further developments in the WTO (outside of the CTESS)



Environmental Goods Agreement

Davos Joint Statement (January 2014)

- Seeks to build on the **APEC commitment of 2012** to achieve global free trade in environmental goods
- **Future oriented agreement** able to address other issues in the sector and respond to changes in technologies in the years to come
- **Reinforce the multilateral trading system and benefit all WTO members**
- Contribution to the **international environmental protection agenda**, including **UNFCCC** negotiations
- **Critical mass** of WTO members needed for agreement to take effect

EGA environmental product categories



AIR POLLUTION
CONTROL



CLEAN, RENEWABLE
ENERGY



ENERGY
EFFICIENCY



ENVIRONMENT
MONITORING &
ANALYSIS



PREFERABLE
PRODUCT
ALTERNATIVES



ENVIRONMENT
REMEDIATION &
CLEAN UP



NOISE, VIBRATION
ABATEMENT



RESOURCE
EFFICIENCY




WASTE
MANAGEMENT

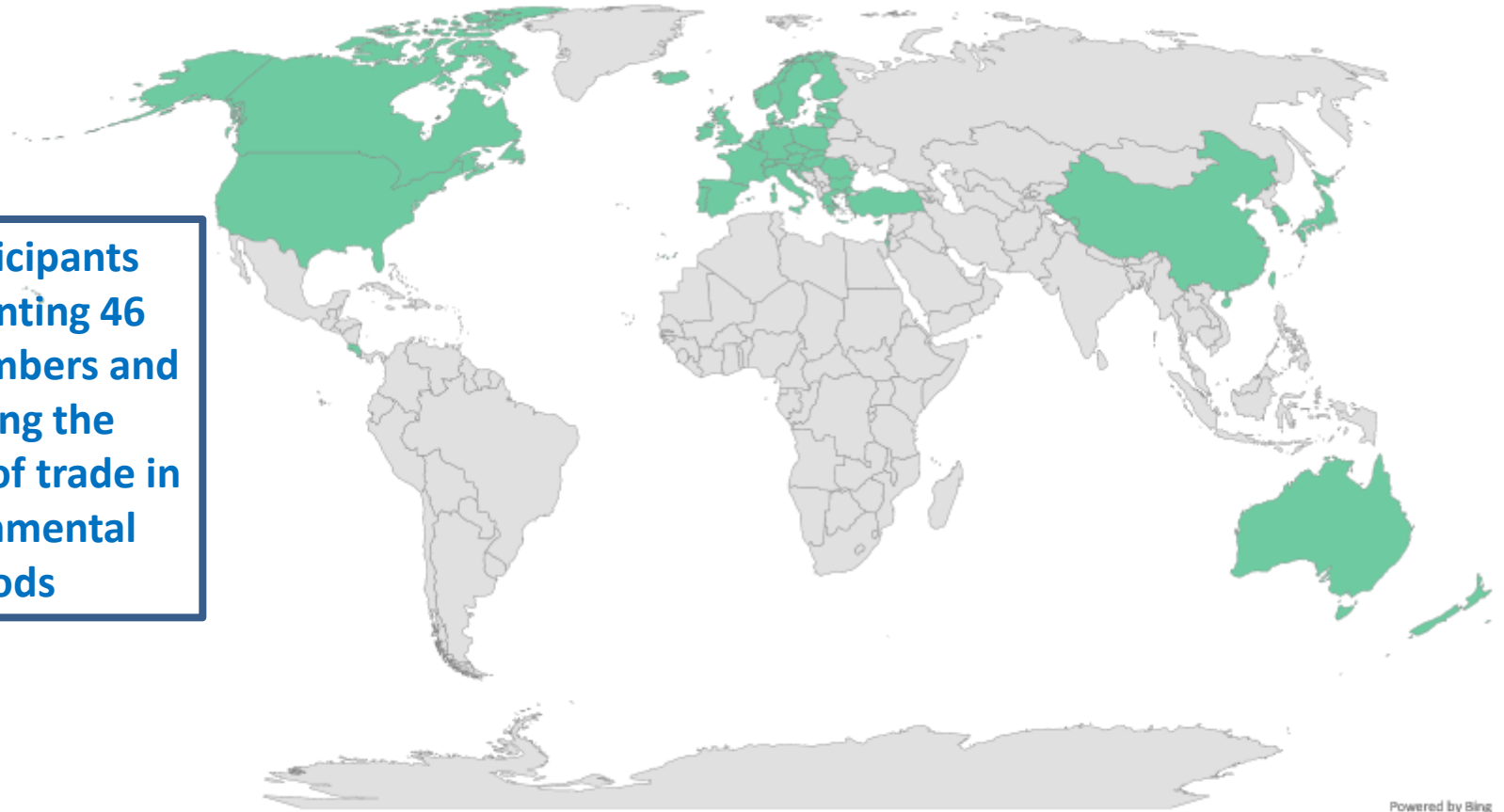


WATER
MANAGEMENT &
TREATMENT

EGA participants

**18 participants
representing 46
WTO members and
covering the
majority of trade in
environmental
goods**

 **EGA participant**



EGA: Plurilateral or multilateral?

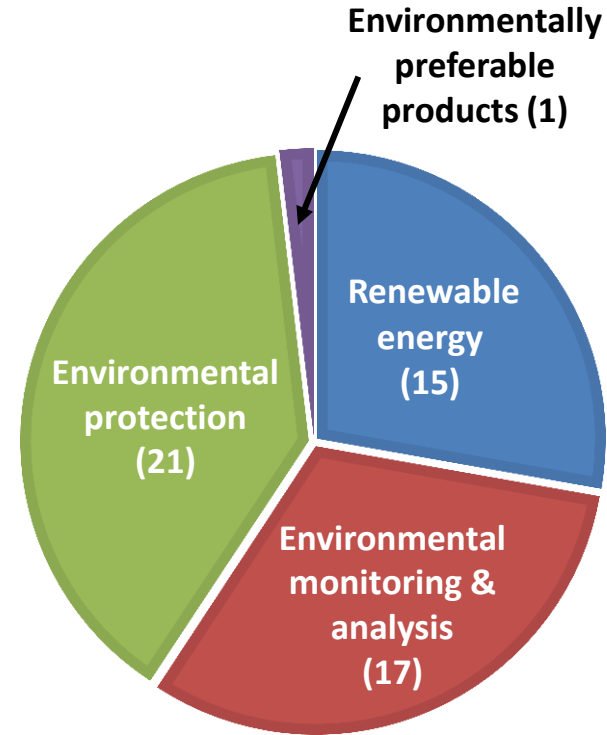
- The EGA is a “**plurilateral**” negotiation in the sense that it involves a **subset of WTO members**
- But like ITA II, the results of the EGA would become part of participants WTO commitments. As a result, **all WTO members** would benefit from improved access into the markets of EGA participants
 - This situation has sometimes led to concerns among participants in a “plurilateral” negotiation about the possibility of **free-riding** by non-participants
- Provisions on **critical mass** have been used as a means to address free-riding concerns:
 - For example, ITA II defines a threshold of “**approximately 90% of world trade**” in ITA II products for implementation to take place

Developments outside of the WTO...



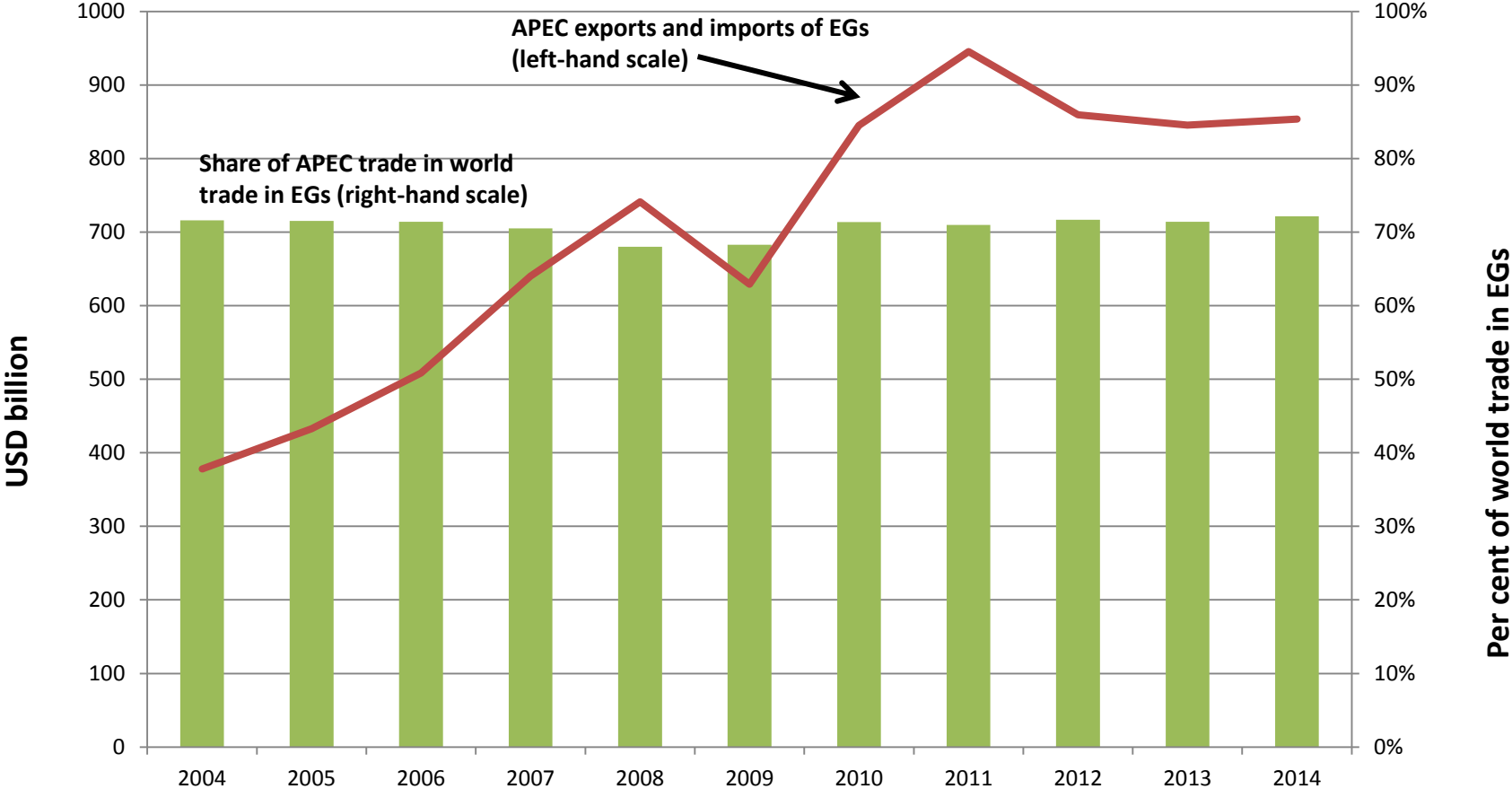
**Asia-Pacific
Economic Cooperation**

In 2012, APEC leaders agree to reduce, on a **voluntary** basis, **applied tariff rates** on a list of **54 environmental goods** to **5% or less** by the end of 2015, taking into account the **economic circumstances** of individual APEC economies

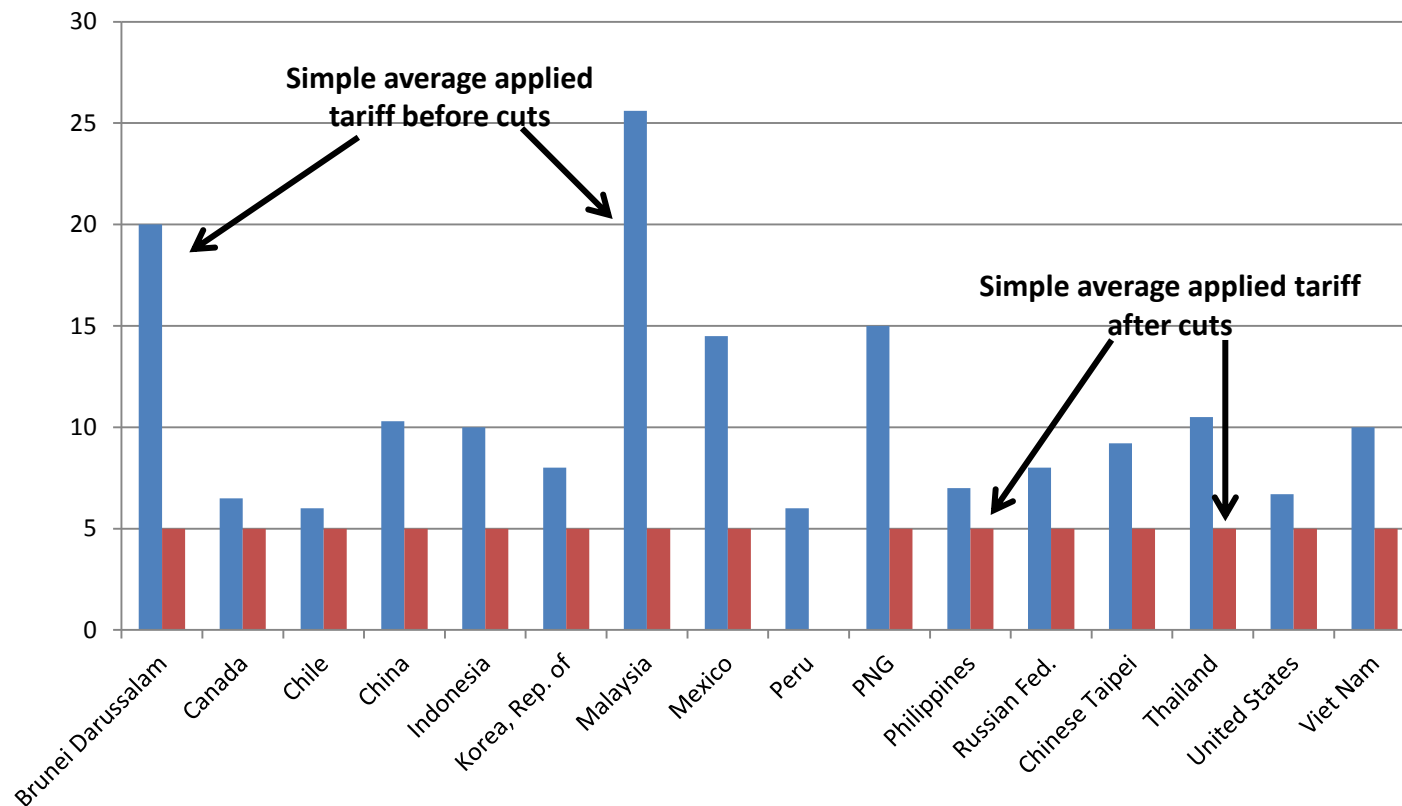


**Environmental categories covered by
the APEC list of environmental goods
(number of goods in brackets)**

APEC trade in environmental goods



Implementation of the APEC commitment



Source: Vossenaar (2016)