UNCTAD

Multi-Year Expert Meeting on Commodities and Development 2013

Recent developments and new challenges in commodity markets, and policy options for commodity-based inclusive growth and sustainable development

Room XXVI
Palais des Nations
Geneva, Switzerland

Climate change and renewable energy development: The role of trade policy frameworks

by

Christophe Bellmann
Programmes Director – ICTSD

21 MARCH 2013

Climate change and renewable energy development: The role of trade policy frameworks

ICTSD

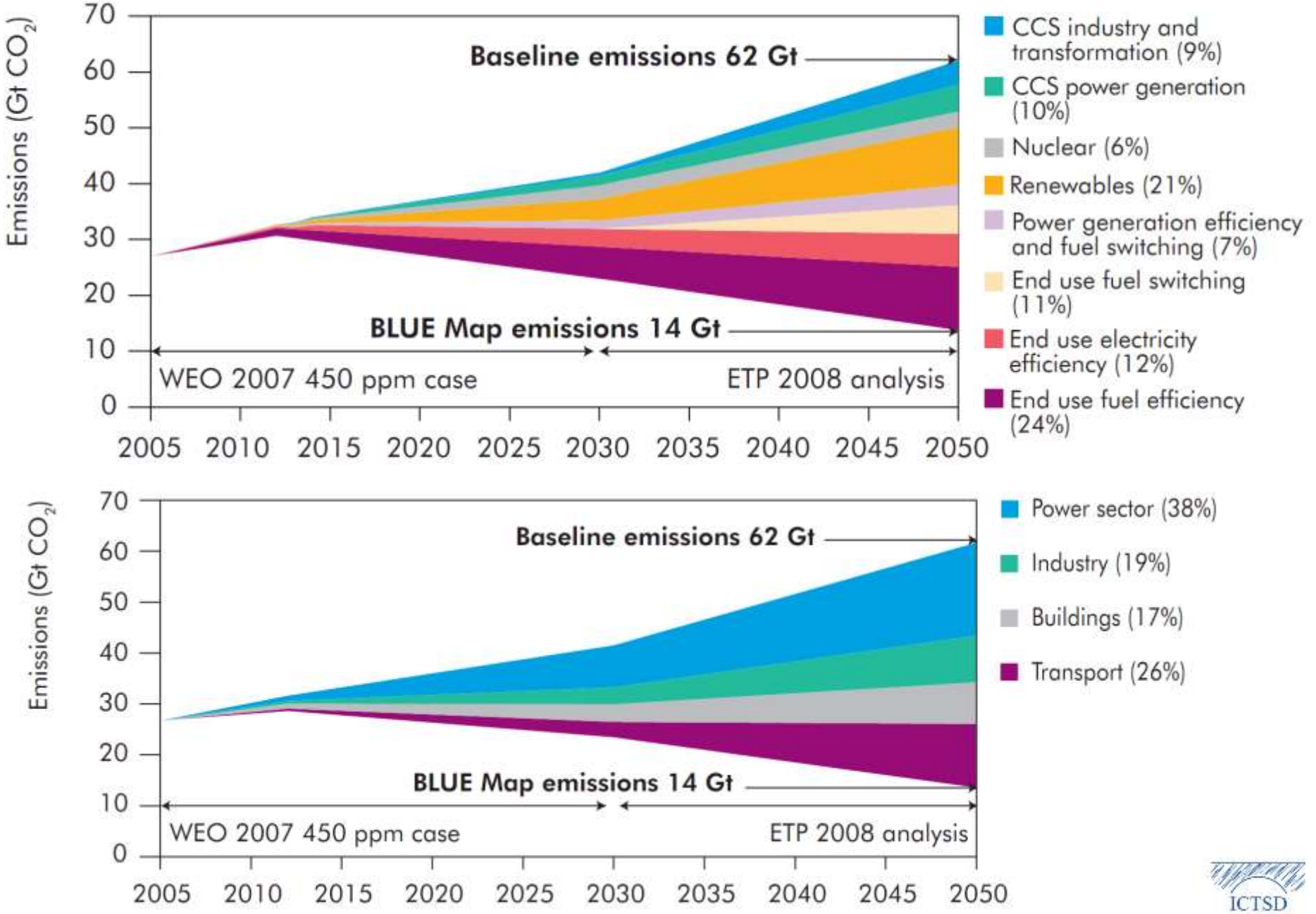
International Centre for Trade and Sustainable Development

Christophe Bellmann
Programmes Director – ICTSD
Multi-year Expert Meeting on Commodities and Development
Geneva, 20-21 March 2013

Overview

- The imperative of reducing GHG emissions while enhancing access to electricity
- As countries invest in renewable energy, trade tensions are growing around specific trade policy measures:
  - Tariffs
  - Subsidies
  - Local content requirements
  - Transfer of technology, and IPRs
- The need for an international trade policy framework to promote access to clean energy and diffusion of renewable energy technology, goods and services

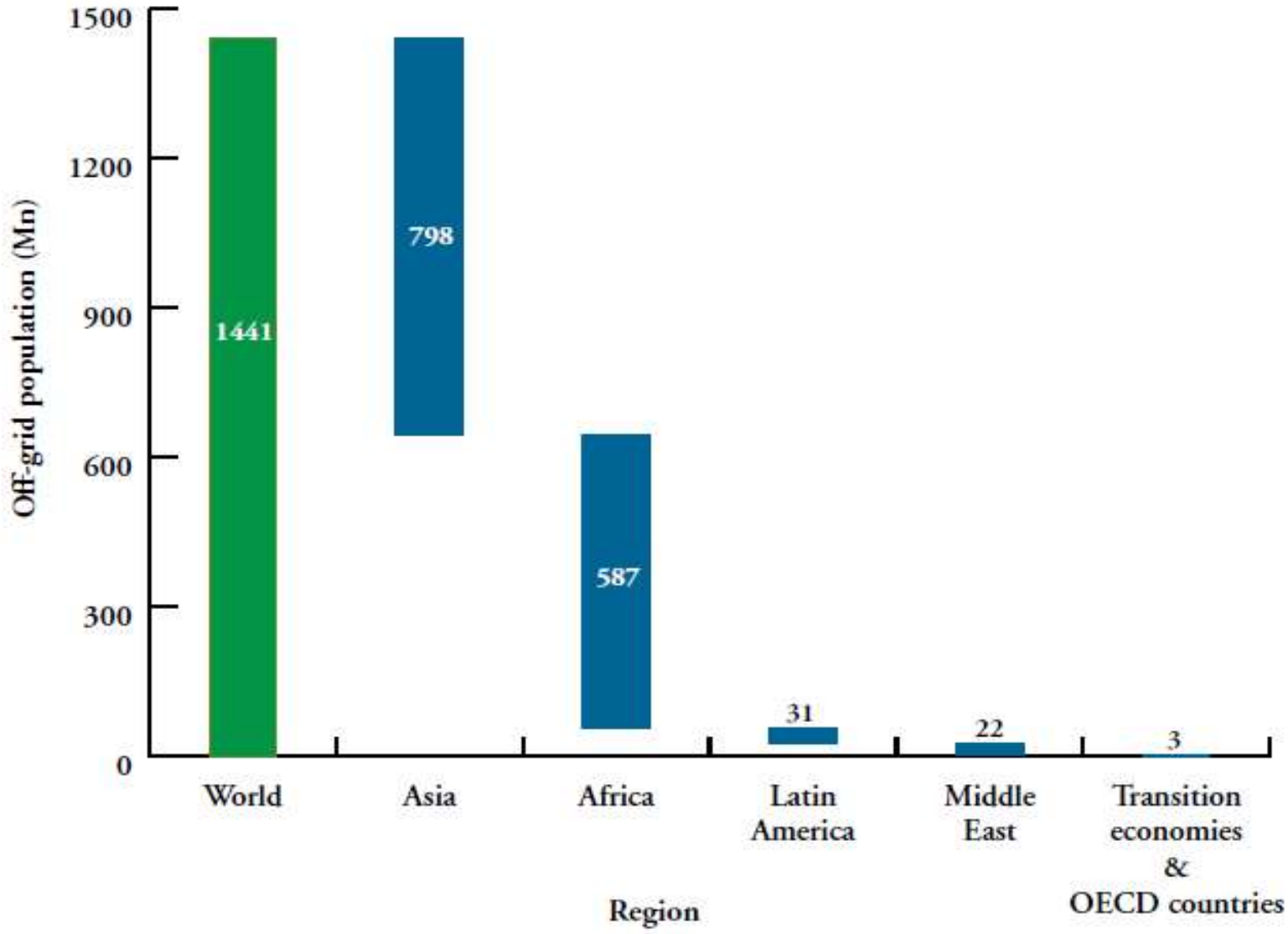
GHG Emissions Scenarios to 2050



Source: Energy Technology Perspectives: Scenarios & Strategies to 2050, IEA 2008

ICTSD
International Centre for Trade and Sustainable Development

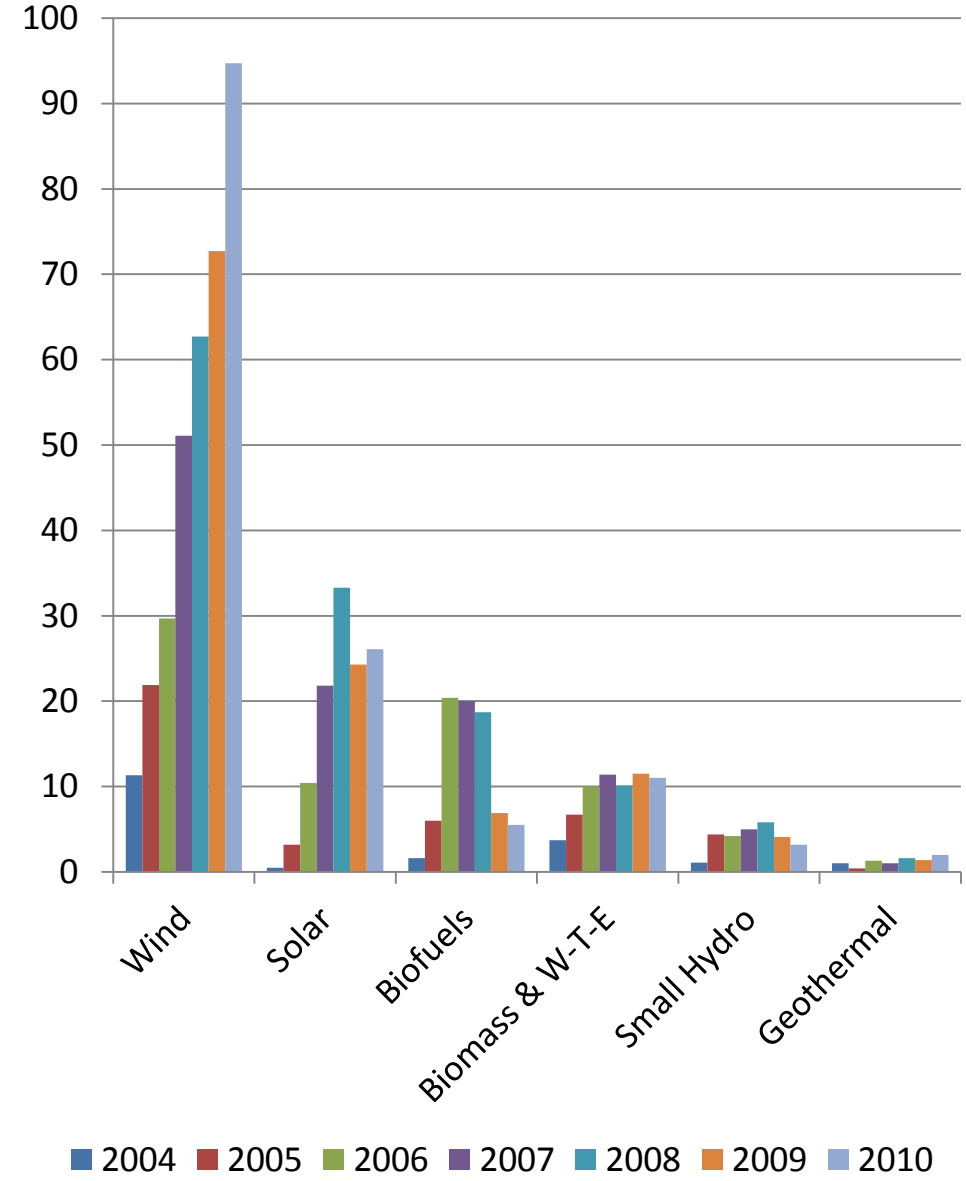
Access to electricity by region



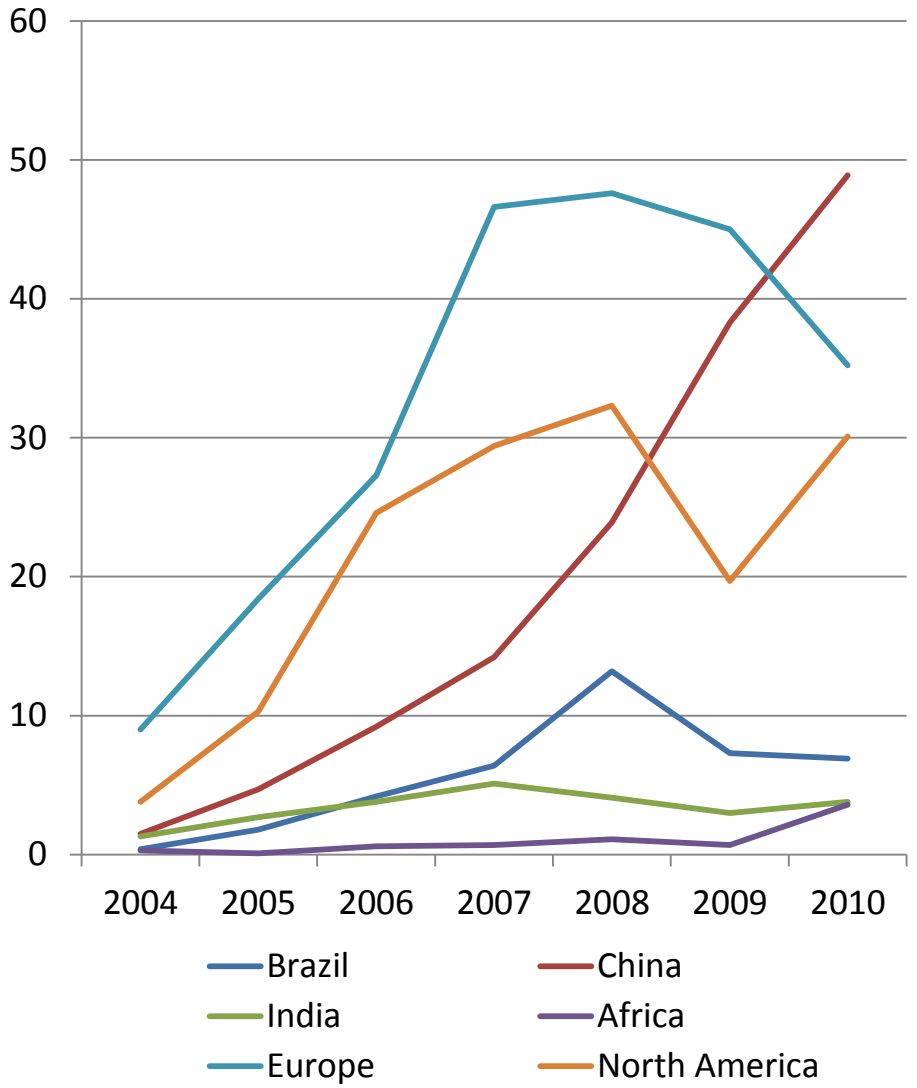
Source: International Energy Agency, Intellecap analysis

ICTSD
International Centre for Trade and Sustainable Development

Financial New Investment in Renewable Energy by Technology (USD Bn)



Financial New Investment in Renewable Energy (USD Bn)



Source: Global Trends in Renewable Energy Investment in 2011, United Nations Environment Programme and Bloomberg New Energy Finance, 2011

ICTSD
International Centre for Trade and Sustainable Development

Towards renewable energy trade wars? A growing number of WTO disputes

- Japan and the EU vs. Canada (FiTs and LCR in Ontario)
- China vs. EU (FiTs LCRs in Italy and Greece)
- US vs. India (LCRs)
- US anti-dumping/countervailing duties vs. solar cells (China) wind towers (China, Vietnam)
- China: AD and CVD investigation polysilicon

The Role of Tariffs

- Lack of consensus in the WTO on EG list (concerns around dual use products)
- APEC: Agreement in September 2012 to reduce applied tariffs on 54 sub-headings and “ex-outs” to maximum 5% by 2015
  - Covers approximately 70% of world trade in the relevant sectors; if EU joins then it would cover up to 95% of global trade in EGs
- Tariffs in renewable energy goods show less imbalances between dev’d and dev’ing countries than other EG.

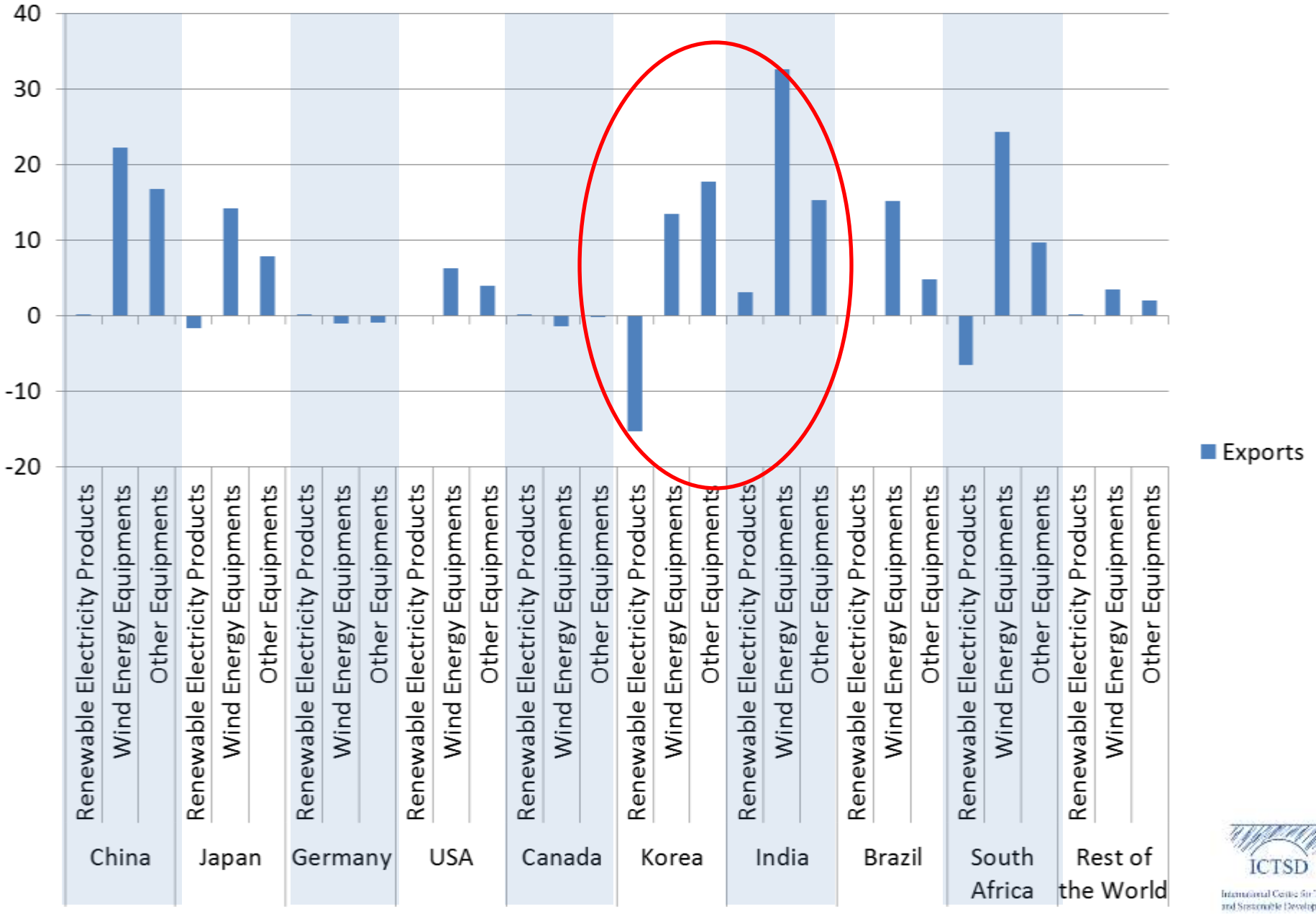
Identifying Renewable Energy Goods

Product Description	HS Tariff Code
Single-end Use Product	
Wind-powered Generating Sets (Wind Turbines)	HS 850231
Solar PV devices and light-emitting diodes	HS 854140
Solar water heaters	HS ex-841919
Hydraulic turbines (micro < 1 MW)	HS 841011
Hydraulic turbines (small 1 -10 MW)	HS 841012
Hydraulic turbines (large >10 MW)	HS 841013
Heat pumps	HS 841861
Thermostats	HS 903210
Un-denatured Ethyl Alcohol	HS 220710
De-natured Ethyl Alcohol	HS 220720
Energy Access Relevant Products	
Solar Cooking Stoves	HS 732119 (2007) HS 732111 (2002)
Wood Pellet Cooking Stoves	HS 732189 (2007)
Solar Water Heaters	HS 841919
Other Products with Dual-Use but Large Trade Volumes-including for Developing Countries	
Parts for Hydraulic Turbines	HS 841090
Heat Exchange Units	HS 841950
Tapered Roller bearings (Wind Turbine Components)	HS 848220
Spherical Roller bearings (Wind Turbine Components)	HS 848230
Needle Roller bearings(Wind Turbine Components)	HS 848240
Other Cylindrical Roller bearings (Wind Turbine Components)	HS 848250
Other Ball or Roller Bearings(Wind Turbine Components)	HS 848280
Gears and Gearing (Wind Turbine Components)	HS 848340
Static Converters	HS 850440
Towers and Lattice Masts (Wind Energy)	HS 730820

Source: Jha, V. Removing Tariffs and Subsidies on Renewable Energy Products, ICTSD (forthcoming)

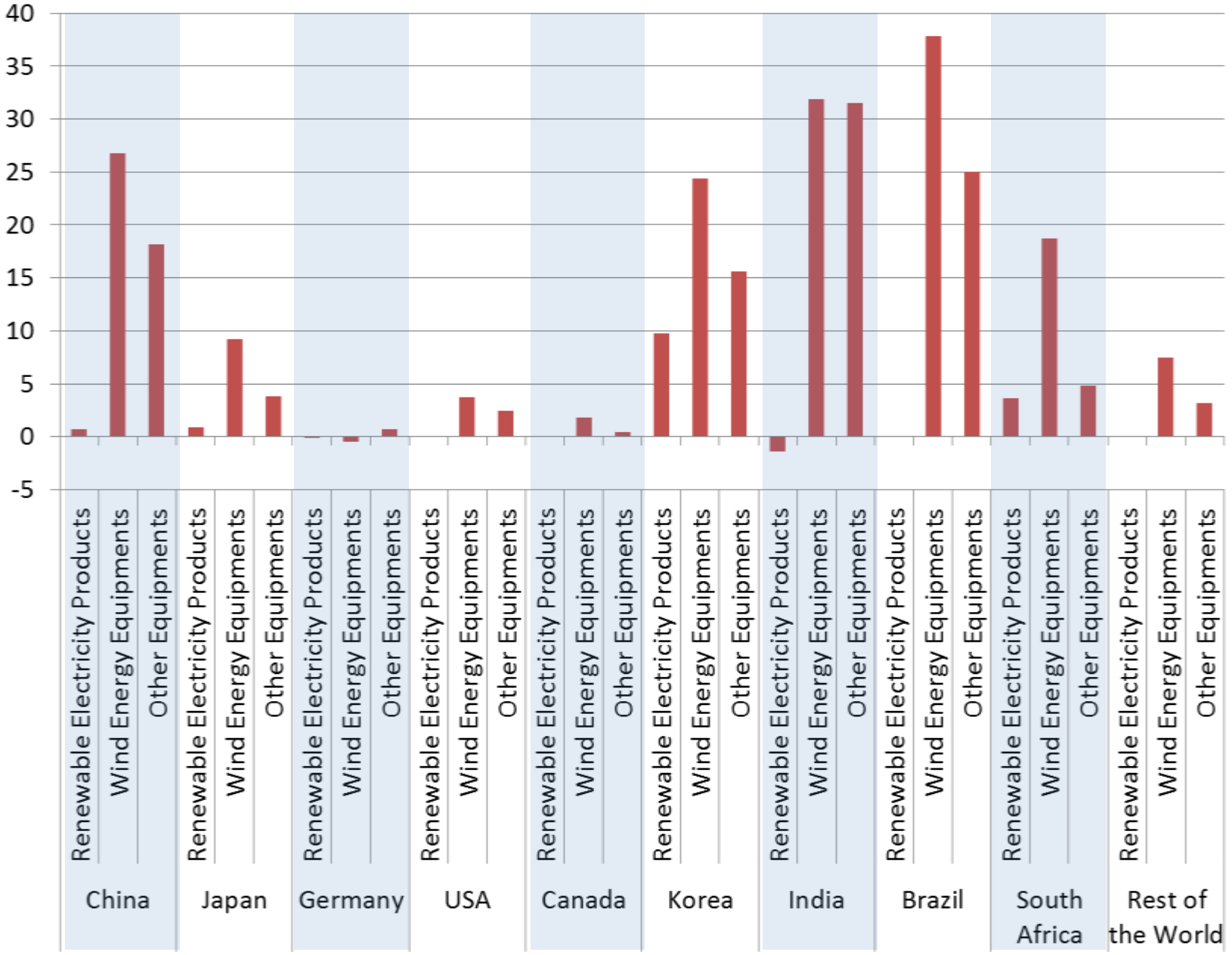
ICTSD
International Centre for Trade and Sustainable Development

Effect on Exports of Reducing Tariffs on Renewable Energy Products



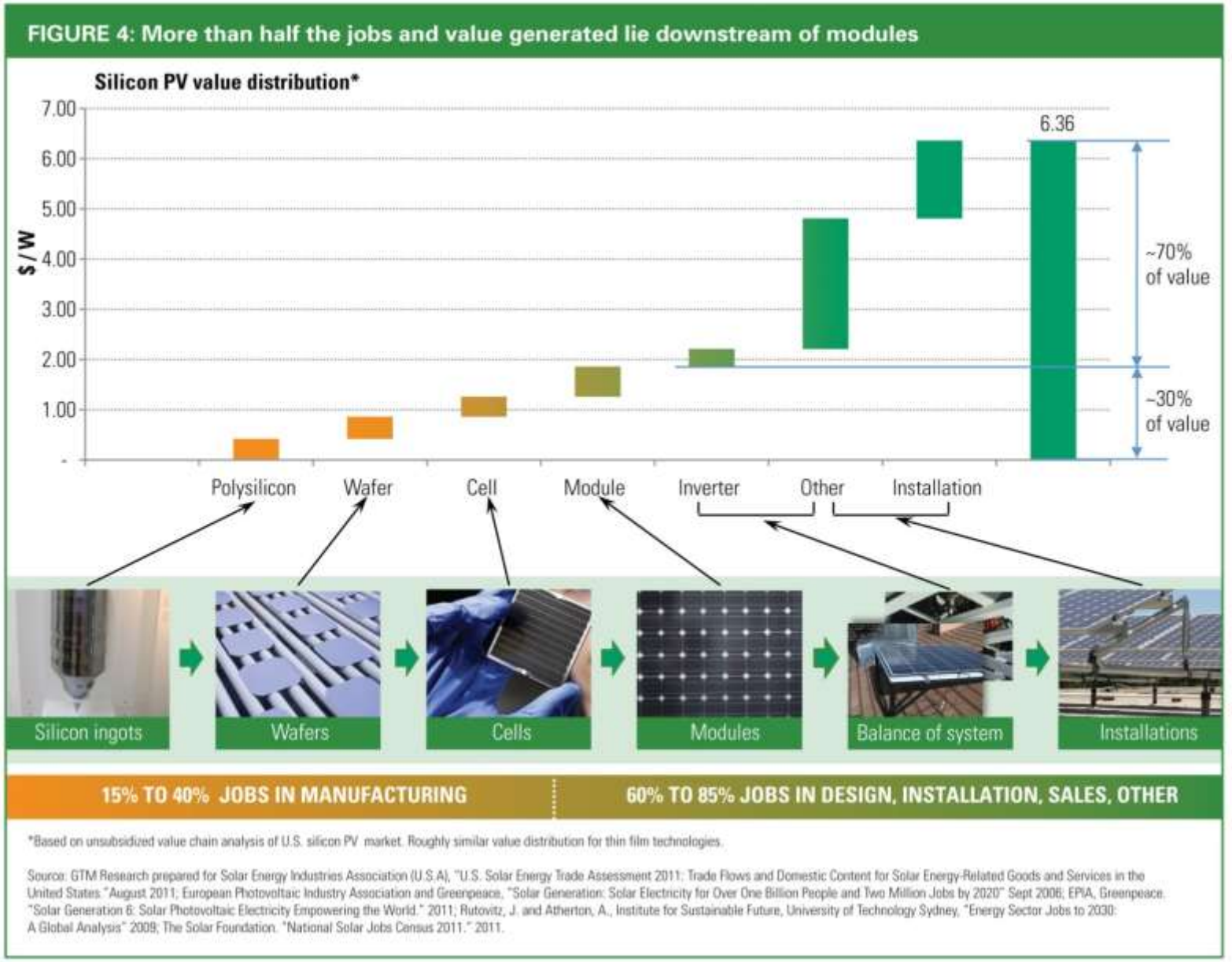
ICTSD
International Centre for Trade and Sustainable Development

Effect on Imports of Reducing Tariffs on Renewable Energy Products



ICTSD
International Centre for Trade and Sustainable Development

The Role of Services



ICTSD
International Centre for Trade and Sustainable Development

Renewable Energy Subsidies

A typology of clean energy measures				
	Direct financial transfers	**Preferential tax treatments**	**Regulation**	**Infrastructure support**
Clean energy access/ consumption	Consumer subsidy	Tax credits	Grid connection	Grid access; Net metering
Clean energy generation capacity	Feed-in-tariffs; Long-term PPAs; Preferential credit	Accelerated depreciation; Investment tax credits	Demand guarantees (RPOs); Trading of RECs; Government procurement	Land (below market price); Energy-related services from government
Clean energy manufacturing/ Production	Production subsidy	Excise duty rebate; Accelerated depreciation	Government procurement; Compulsory licencing of IP	Land (below market price); Access to water resources
Clean energy goods & services exports	Export subsidy	Export tax rebate	Special Economic Zones	Land (below market price); Energy-related services from government

Source: ICTSD

ICTSD
International Centre for Trade and Sustainable Development

Local Content Requirements

Country (technology)	Market potential	LCR % (start year), % (2012)	Vertical cooperation & financial support	Technology Installation prior to LCR[3]
China (wind)	Very large	20% (1997), 70% (2009)	Joint venture, CDM, state tariffs, national tender requirement	56.5 MW (1997), 468 MW (2002)
Ontario (wind)	Large	25% (2009), 50% (2012)	Feed-in tariff conditionality	704 MW (2008)
Québec (wind)	Small	40% (2003), 60% (2012)[1]	Tender requirement	100 MW (2002)
Spain (wind)	Large	70% (2012)[2]	Market entry requirement (provincial), non-coupled FIT (national)	73 MW (1994)
Turkey (wind)	Large	Variable (2011)	Additional feed-in tariff / local content used	1.3 GW (2010)
Brazil (wind)	Large	60% (2002), 60% (2012)	Condition for subsidized BNDES loans	22 MW (2002)
South Africa (wind)	Large	35% (2011), >35% (2012)	Tender requirement	< 10 MW (2010)
Ontario (solar)	Large	50% (2009), 60% (2012)	Feed-in tariff conditionality	2 MW (2008)
Italy (solar)	Large	Variable (2011)	5 to 10% bonus / local content used	3.5 GW (2010)
France (solar)	Medium	60% (2012)	10% bonus on EDF repurchasing price	2.5 GW (2011)
Turkey (solar)	Very large	Variable (2011)	Additional feed-in tariff / local content used	3 MW (2010) mostly off-grid
India (solar)	Very large	30% (2011), 30% (2011)	Feed-in tariff conditionality	22 MW (2010)

Source: Jan-Christoph Kuntze and Tom Moerenhout, "Local Content Requirements and the Renewable Energy Industry, A Good Match?", ICTSD, forthcoming

Local Content Requirements

	Arguments in favour of LCR	Arguments against LCR
Employment benefits	• LCR create domestic job • help gain political support for green industrial programs	• LCR destroy jobs because input prices are higher. Hence, there is less employment in renewable energy production
Economic benefits	• LCR foster infant industries. • Increase transfer of technology and know how, • Promote innovation.	• LCR lead to trade distortions and inefficient allocation of resources. • Reduce competition • May scare off investors and affect technology transfer.
Environmental benefits	Positive in the medium term: more mature players in the global market increase competition, innovation and hence lower green technology costs.	Negative: LCR drive up manufacturing costs and hence electricity retail prices affecting demand for renewable energy.

Critical elements in the design of potential LCR in the renewable energy sector

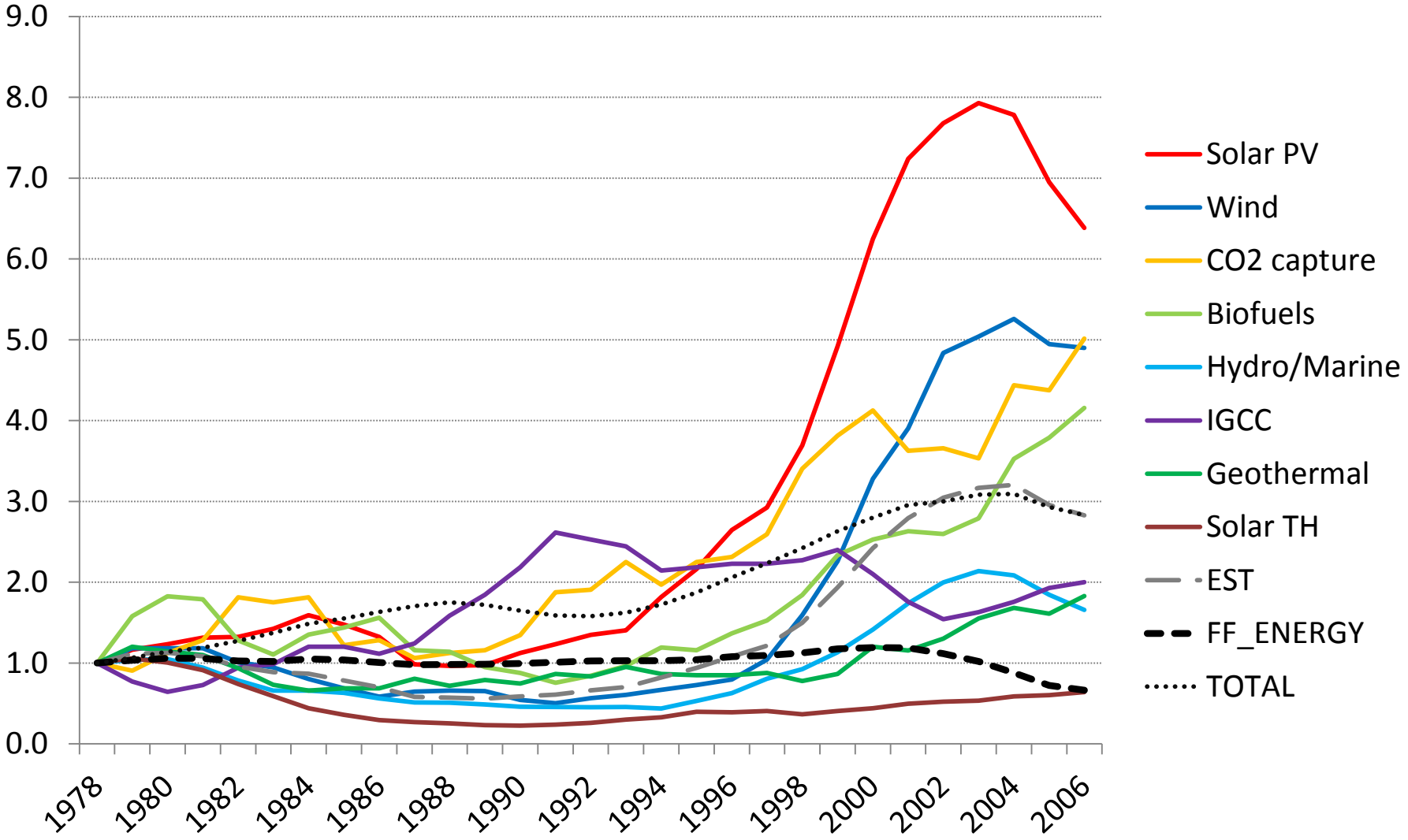
small	Market size and stability	*large*
too restrictive	Restrictiveness of LCR	*proper*
non-existing	Cooperation & subsidies	*existing*
low	Learning by doing potential and degree of current technological knowledge	*high*

WTO Compatibility

The use of LCR is likely prohibited by WTO law. GATT Article XX is unlikely to be able to justify their use. Public procurement tenders, however, are hardly disciplined by WTO law. It might be permissible for WTO Members to include an LCR as a requirement in tenders, and even to give an important score to them.

Source: Jan-Christoph Kuntze and Tom Moerenhout, "Local Content Requirements and the Renewable Energy Industry, A Good Match?", ICTSD, forthcoming

Growth rate of clean energy technology patenting



Counts are measured in terms of claimed priorities, normalised to 1978=1.0.
Source: OECD

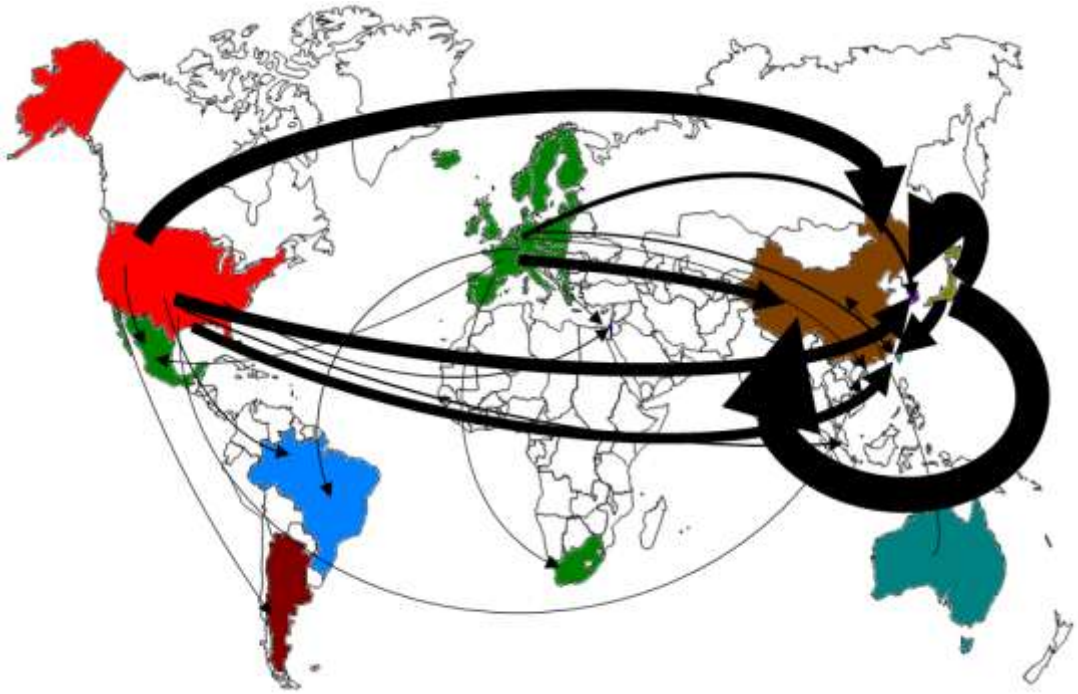
UNEP United Nations Environment Programme

Europäisches Patentamt
European Patent Office
Office européen des brevets

ICTSD International Centre for Trade and Sustainable Development

Is IP a Barrier to Clean Technology Diffusion?

Patenting trends, Solar PV 2009



Relationship between source country of inventions and countries in which protection of the intellectual property has been sought.

Source: OECD

Clean Technology Patent Applications in Selected Countries

Countries	No of Applications
China	Over 100’000
Russia	13’072
Brazil	11’037
Mexico	5’445
South Africa	4’540
India	1’272
Turkey	853
Malaysia	746
Indonesia	373
OAPI	337
Philippines	285
Colombia	254
Cuba	38
Kenya	18
Zambia	11
Vietnam	1

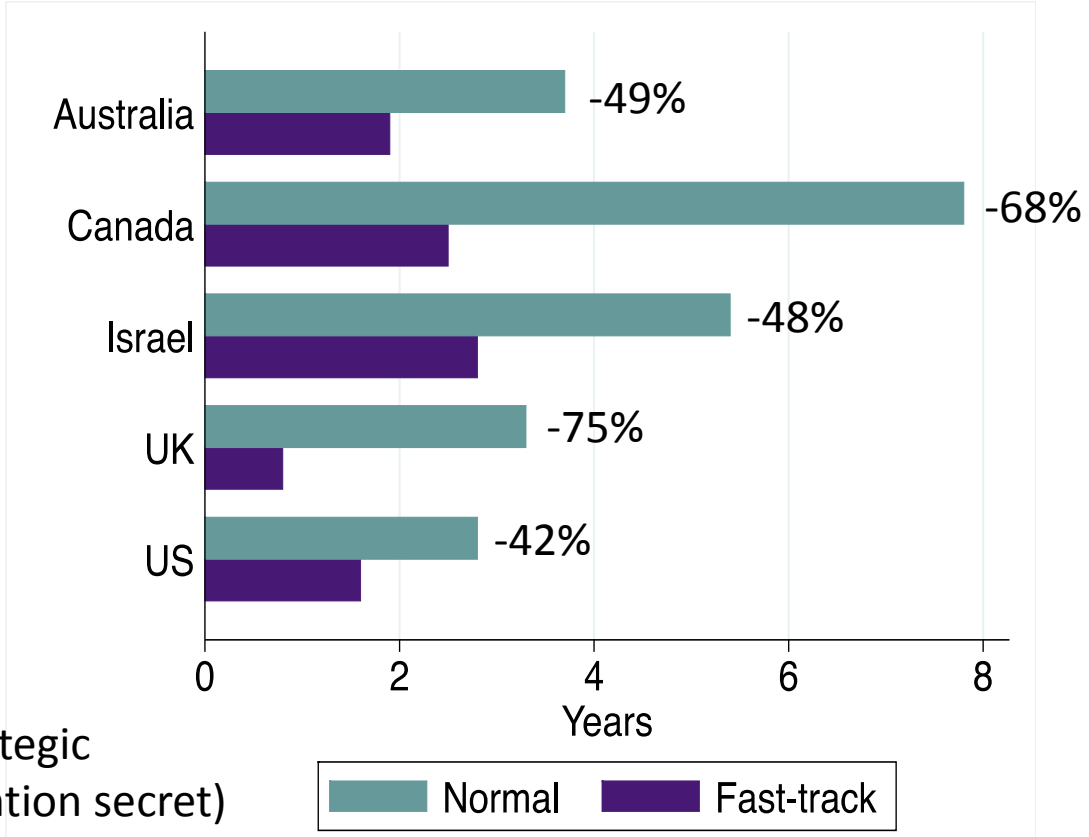
Fast-tracking of Green Patents Applications

Fast-tracking schemes existing in 8 countries

- Australia
- Brazil
- Canada
- China
- Israel
- Korea
- UK
- US

Fast-tracking up to 75% faster but low usage (20% of green patents) due to lack of information and strategic considerations (need to keep invention secret)

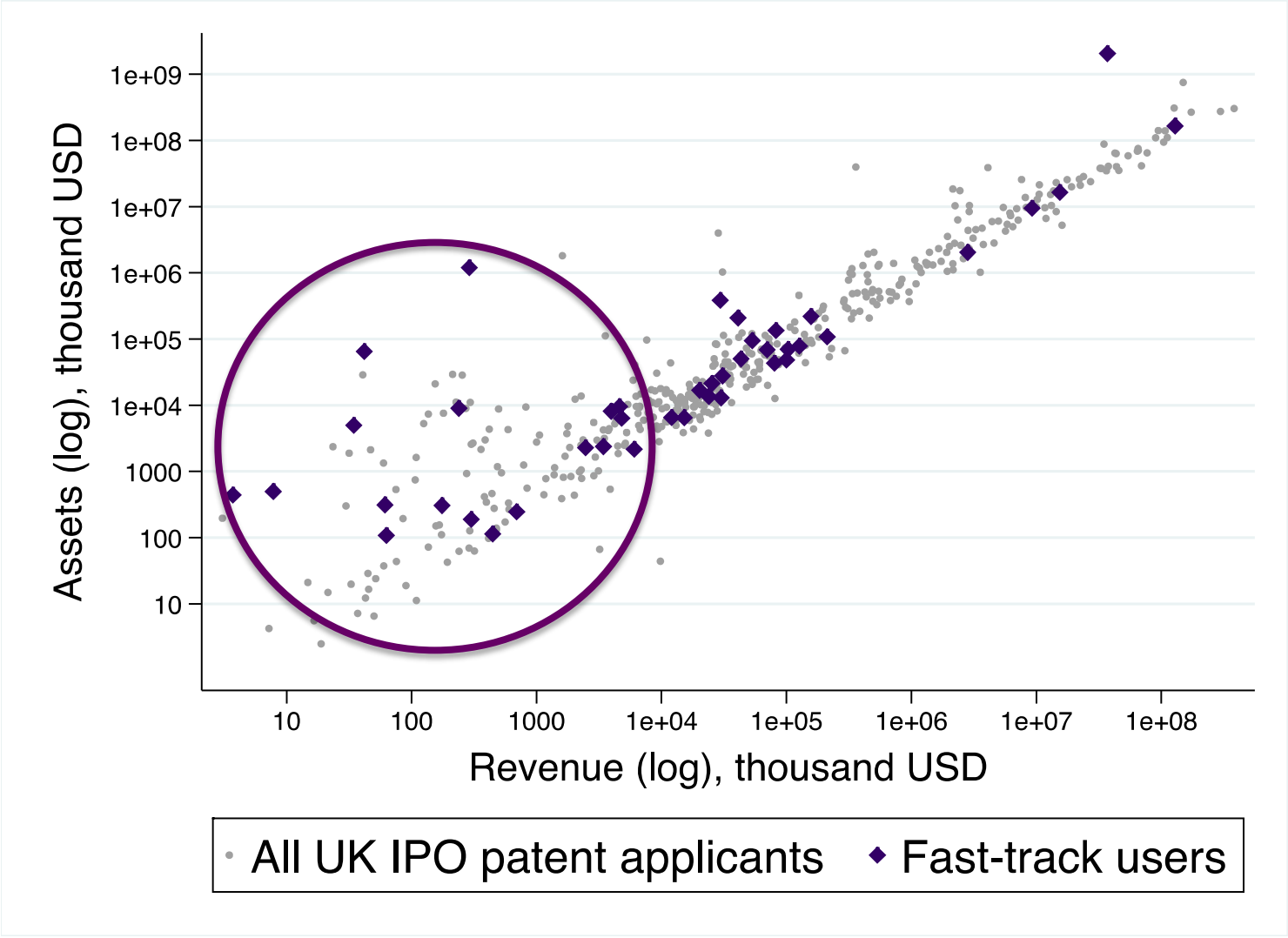
Fast-tracking reduces time to grant



Source: Dechezleprêtre, A: "Fast-tracking Green Patent Applications, An Empirical Analysis", ICTSD, Geneva 2013

ICTSD
International Centre for Trade and Sustainable Development

Start-ups use fast track a lot



Source: Dechezleprêtre, A: "Fast-tracking Green Patent Applications, An Empirical Analysis", ICTSD, Geneva 2013

ICTSD
International Centre for Trade and Sustainable Development

Conclusion and Way Forward

- There is a lack of a clear international forum/process to address the growing trade tensions in the renewable energy sector
- Little scope under UNFCCC
- Narrow mandate on EGS in the WTO with no real progress in the foreseeable future
- Towards A Sustainable Energy Trade Agreement (SETA)
  - At multilateral level? (e.g. WTO)
  - At regional level ? (e.g. APEC)
  - As a plurilateral “critical mass” agreement ?