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**ESCAP**  
Economic and Social Commission for Asia and the Pacific



## Trade in Climate Smart Goods: Trends and Opportunities in Asia and the Pacific

**International Seminar on “Selected Outstanding Issues  
in Services, Trade and Development”**

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## Outline



- Some facts...
- How “dirty” is trade (vs. no trade)?
- Focus on climate smart goods and technologies
  - Regional, sub-regional, country level and intraregional trends
- Zoom in on climate smart energy technologies
- Climate change policies: A concern for trade policymakers?
- Conclusion

## Some facts...



- Strong (trade-led) growth has led to sharp expansion of fossil fuel-intensive production and cargo transportation.
  - Downside is that it has resulted in a surge of GHG emissions, which accelerate climate change and its impacts.
  - Developing countries in ESCAP region expected to be hardest hit.
  - Therefore, pressing need to improve ecological sustainability of trade-led growth strategies in the region.
- ➔ *Need to pinpoint the trends, concerns and opportunities for the region*

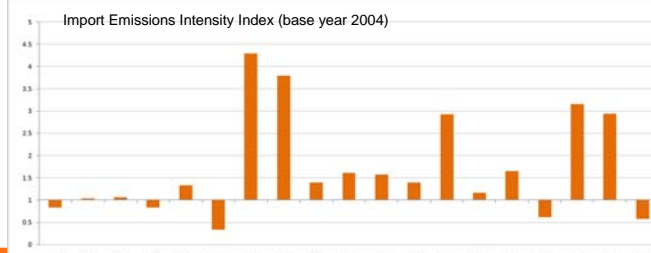
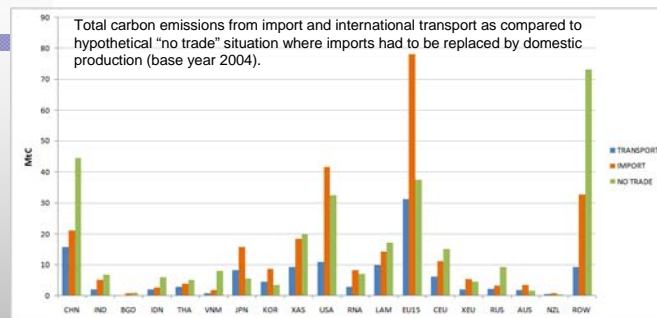


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## How “dirty” is trade (vs. no trade)?



Imports of all commodities

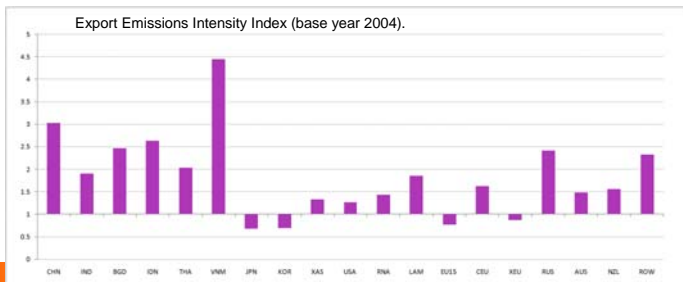
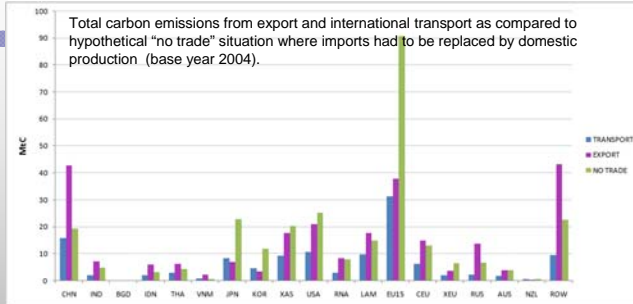


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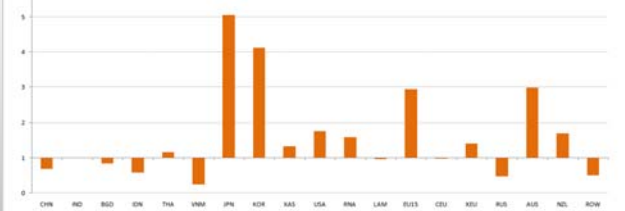
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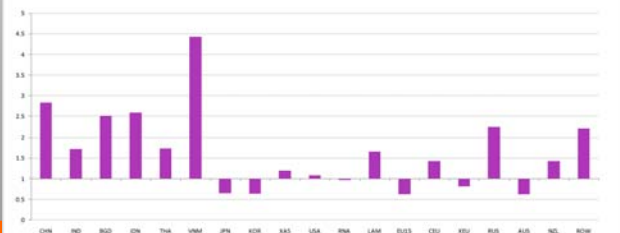


... climate smart goods only

Import Emissions Intensity Index of climate friendly goods only (base year 2004).



Export Emissions Intensity Index of climate friendly goods only (base year 2004).



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## Focus on CSGT



### What are climate smart goods and services (CSGS)\*?

- CSGS are products designed to measure, prevent, limit, minimize or correct the environmental impact from carbon emissions.
- No adequate data on climate smart services, therefore what follows is on climate smart goods and technologies (CSGT)

### Global status quo and trends

- In 2008, value of world CSGT exports was \$416 billion, accounting for 2.7% of total world exports (up from 2.5% in 2002). For comparisons, in 2008 the share of personal vehicles (HS8703) amounted to 4.4%!
- Imports show similar levels and shares.
- Conclusion: despite importance for climate change mitigation, slow growth and small shares of CSGT are recorded.

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\* ESCAP definition

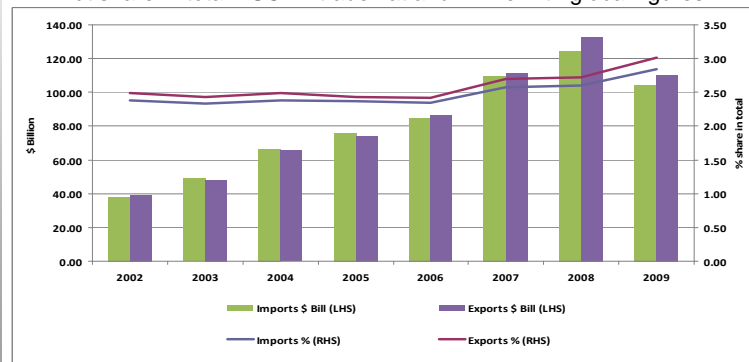


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## Regional trends in CSGT trade



- In 2008 ESCAP accounted for ~40% of world CSGT trade
- Value of exports and imports tripled between 2002 and 2008
- But share in total ESCAP trade flat and in line with global figures

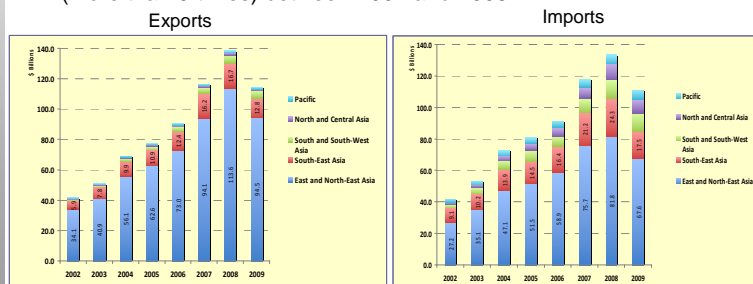


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## Sub-regional trends



- East and North-East Asia and South-East Asia account for the largest share for both exports and imports
- Only East and North-East Asia transformed from net importer to net exporter between 2002 and 2008
- North and Central Asia recorded the largest increase in imports (more than 6 times) between 2002 and 2008



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## Country level trends



- CSGT exports of ESCAP is dominated by China and Japan (67%)

Rank	Economy	Exports (%)	Economy	Imports (%)
1	China	36.1	China	30
2	Japan	30.9	Republic of Korea	13.2
3	Republic of Korea	7.4	Japan	10.2
4	Hong Kong, China	7.2	Hong Kong, China	7.5
5	Singapore	4.2	Russian Federation	5.7
6	Malaysia	3.1	Singapore	5.1
7	India	2.6	Thailand	4.3
8	Thailand	2.5	India	4.1
9	Turkey	1.4	Australia	3.8
10	Indonesia	1.2	Turkey	3.5

- Japan with 5.4% has the largest share of CSGT in total exports in the region (world's leader Denmark has 7%)

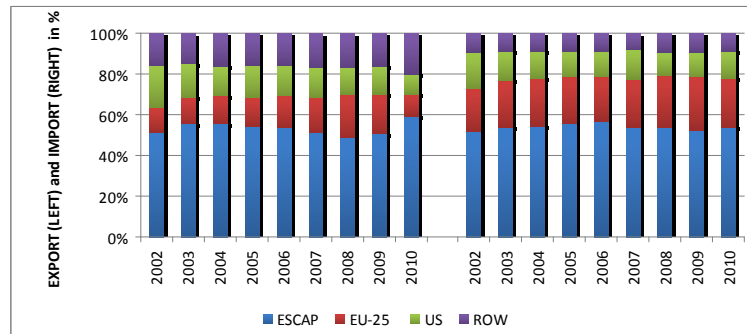


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## Intraregional trends



- Intraregional trade in CSGT stable at around 50%
- Outside the region: shift of trade to Europe (away from the US)
- Consequence of the stronger climate policies in Europe?

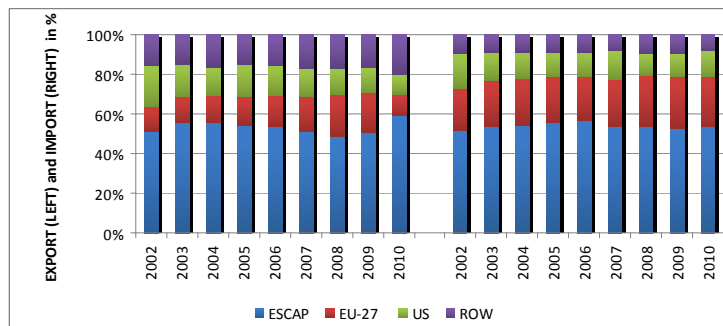


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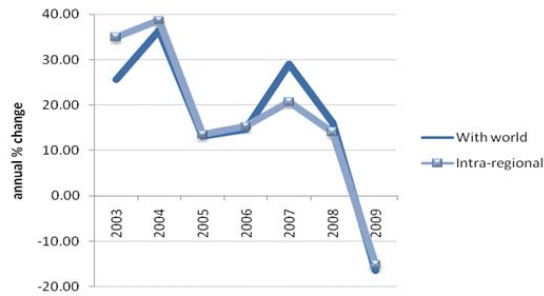


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## Intraregional trends



- Growth rates of intraregional trade and trade with world are symmetric.
- Stronger growth at the beginning of the decade.
- Not spared during the global crisis 2008/09

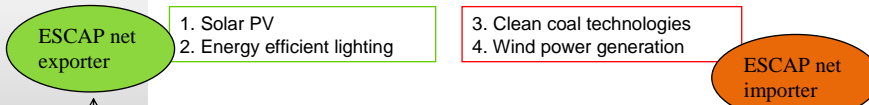


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## Zoom in on climate smart energy technologies

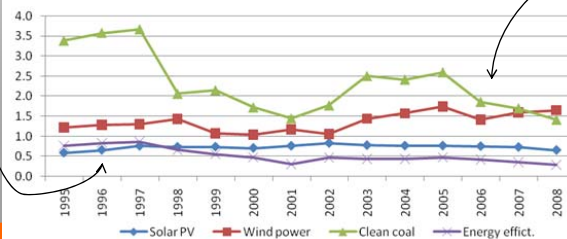


Four categories of climate smart energy technologies:



How big is the import and export market of these technologies?

	Share in ESCAP's total	Share in ESCAP's CSGT
Imports	0.64%	21.14%
Exports	0.92%	29.05%



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## Top ESCAP traders



- China is often the largest or the second largest trader; Japan and Republic of Korea among top five
- China's solar PV exports strong, *inter alia*, as a result of subsidies at home ⇒ bad for international cooperation, good for jobs and the environment?

TOP IMPORTERS				
Rank	Solar PV	Wind power	Clean coal	Energy efficient lighting
1	China	China	Singapore	Japan
2	Republic of Korea	Russian Federation	Japan	Hong Kong, China
3	Hong Kong, China	Republic of Korea	Republic of Korea	Turkey
4	Japan	Turkey	Indonesia	Indonesia
5	Thailand	Australia	China	Russian Federation
6	Russian Federation	Japan	Australia	Republic of Korea
7	Singapore	Vietnam	India	Australia
8	Malaysia	Thailand	Malaysia	China
9	India	India	Thailand	India
10	Australia	Indonesia	Russian Federation	Singapore

TOP EXPORTERS				
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6	Republic of Korea	Vietnam	Russian Federation	India
7	Thailand	Turkey	Turkey	Republic of Korea
8	India	Russian Federation	Hong Kong, China	Singapore
9	Australia	Hong Kong, China	Republic of Korea	Russian Federation
10	Russian Federation	Australia	Australia	Malaysia

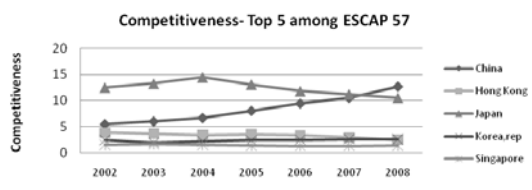


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## Gauging trade opportunities in CSGT

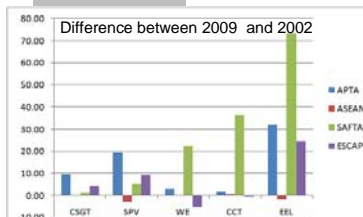


### Competitiveness index



Individual countries

### Regional Groupings\*



	APTA		ASEAN		SAFTA		ESCAP	
	2002	2009	2002	2009	2002	2009	2002	2009
CSGT	7.01	16.48	2.79	2.97	0.02	1.05	13.82	18.16
SPV	3.90	23.25	8.05	5.01	0.18	5.18	17.70	26.95
WE	3.82	6.59	0.64	0.47	0.52	23.09	15.84	10.27
CCT	0.57	2.24	0.28	0.82	0.58	37.01	7.03	6.55
EEL	30.04	61.74	3.01	0.95	2.63	75.93	23.46	47.90

\*based on extra-regional trade only



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# Gauging trade opportunities in CSGT



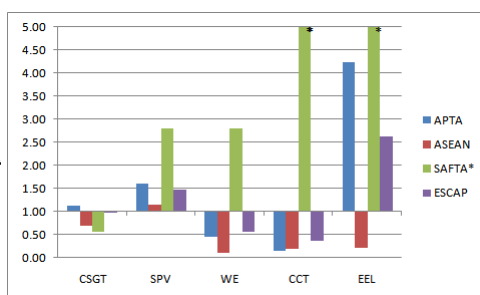
## Revealed comparative advantage

Individual countries in 2008

Solar PV	Wind power	Clean coal	Eff. lightning	Other CSGT
Japan (2.2)	Japan (2.04)	Pakistan (1.3)	China (6.01)	Japan (2)
China (2.1)	Turkey (0.56)	Singapore (1.1)	Sri Lanka (1.9)	Philippines (1.1)
Malaysia (1.9)		India (0.8)	Macao, China (1.3)	China (1.1)

Regional groupings in 2009

RCA > 1



# Gauging trade opportunities in CSGT



## Trade potential within the region

Status quo in trade protection: relatively low effective tariffs

Country	All Industrial Goods Average	Solar PV	Wind Power	Clean Coal	Energy Efficient Lighting
China	8.57	4.16	7.55	8.03	8.03
Indonesia	5.84	5.93	4.01	0	7.62
Russian F	8.19	4.33	4.14	8.85	0
India	9.74	5.41	7.28	7.25	9.39
Japan	2.61	0	0	0	0
Rep of Kor	8.29	4.64	5.5	5.35	6.98
Australia	3.93	1.91	6.88	0.69	3.97
Iran Islami	24.78	33.19	5.78	6.38	29.8
Turkey	2.41	0.47	0.47	0.46	0.52
Thailand	10.97	6.82	6.59	0.89	17
Malaysia	5.91	7.51	4.39	0	25.11
Myanmar	4.12	2.69	1	1	1
Pakistan	14.04	19.39	31.8	4.63	19.97
Philippines	5	4.97	0.84	2.07	9.88
Kazakhstan	3.91	1.27	4.6	0	0
Vietnam	11.68	14.91	11.8	0	32.22
Bangladesh	14.52	11.13	5	5	18.24
Singapore	0	0	0	0	0
Cambodia	12.45	18.59	12.65	7	6.27
Turkmenia	5.43	3.62	0	0	0
Average	8.12	7.55	6.06	2.88	9.8

### APTIR 2010 and APTIR 2011 findings

- further tariff cuts have little effect on volume of trade
- there is unexploited potential for some groups of products for some countries
- GTAP analysis shows what happens with emissions and welfare if intra-regional trade patterns are changed

Other non-tariff and behind-the border obstacles to trade, investment and transfer of technology seem to matter more



## Climate change policies: A concern for trade policy makers?



- **Recall:** Climate change is serious threat, in particular for ESCAP region
- Effective (multilateral) post-Kyoto agreement difficult.
- Therefore, governments in developing and developed countries (including ESCAP) are called on to be **proactive** and implement **nation-specific policy frameworks** that are supportive to trade and the climate
- **Objective here:**
  1. Provide an overview of national climate change policies that are implemented or planned in selected ESCAP countries.
  2. Highlight the extent to which trade policymakers should be concerned about such policies.
  3. Question whether these policies can result in enhanced trade in particular markets (e.g. CSGT).

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## Climate change policies: A concern for trade policy makers?



### Tax-like climate change policies

Environmental effectiveness depends on design and on the use of the revenue

- **Carbon taxes at-the-source:** A tax on carbon content of fuels which discourages the use of fossil fuels and aims to reduce carbon dioxide emissions.  
*Example:* India imposed tax on coal, revenue goes into clean energy fund which invests in climate smart technologies.
- **Emission trading scheme:** Cap on total emissions and allows firms to trade permits under this cap. In practice, however, permits often freely distributed.  
*Example:* New Zealand has mandatory ETS covering all sectors by 2015, scheme includes free and traded permits.
- **Renewable portfolio standard:** Requires electricity providers to supply a certain percentage of electricity from renewable energy sources.  
*Examples:* China, Japan, Thailand and Viet Nam

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## Climate change policies: A concern for trade policy makers?



### Tax-like climate change policies

#### Concerns and opportunities for trade policymakers

- **Concerns:** Competitiveness and “carbon leakage”, but limited empirical evidence points to small effects.
- Therefore, additional policies (e.g. free allowances in ETS or border tax adjustments to carbon taxes at-the-source) for counteracting competitiveness and “carbon leakage” issues are likely to distort trade.
- **Opportunity:** If collected revenue from these policies is used, for example, for investment in climate-smart technologies, new markets can be explored.
- **Challenge:** Trade policymakers should focus on design-specific aspects of these policies.

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## Climate change policies: A concern for trade policy makers?



### Subsidy-like climate change policies

- **Soft loan schemes and “green” bonds:** interest below market rates for soft loans and tax exemption for “green” bonds.  
*Example:* Thailand’s National Energy Conservation Programme provides financial incentives for projects related to climate change mitigation.
- **Feed-in-tariff:** Require utilities to purchase and feed-in to the grid any surplus electricity generated from renewable sources by individuals and companies.  
*Examples:* Australia, China, India, Rep. of Korea, Thailand,
- **“Green” public procurement:** give preference to CSGS in the tendering process  
*Examples:* China, Indonesia, Japan, Rep. of Korea, and Thailand

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## Climate change policies: A concern for trade policy makers?



### Subsidy-like climate change policies

#### Concerns and opportunities for trade policymakers

- **Opportunity:** Specialize in/develop climate-smart technologies, which will then open new and 'ever' increasing export markets.
- **Challenge:** Trade policy makers should promote these policies and work closely with their climate change communities in setting and improving regulatory conditions for exporting and importing of CSGS.
- This will accelerate adaptation by domestic industries to the competitiveness of today's global economic environment.



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## Conclusion



- Climate change debate will maintain momentum
- Climate change impacts particularly felt by countries and people in the ESCAP region
- Therefore, ESCAP countries need to campaign for the implementation of policies conducive to a low-carbon development path
- If designed appropriately, these policies can (as shown) be supportive for trade, for example, in CSGT
- Cooperation between countries rather than the introduction of (new) discriminatory policies is crucial
- Need for better use of many RTAs in the region to drive more effective trade in climate smart technologies



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**Thank you for your feedback**

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