ADB

Climate Ambitions, Net Zero Pathways, and the Role of Trade and Trade Policies

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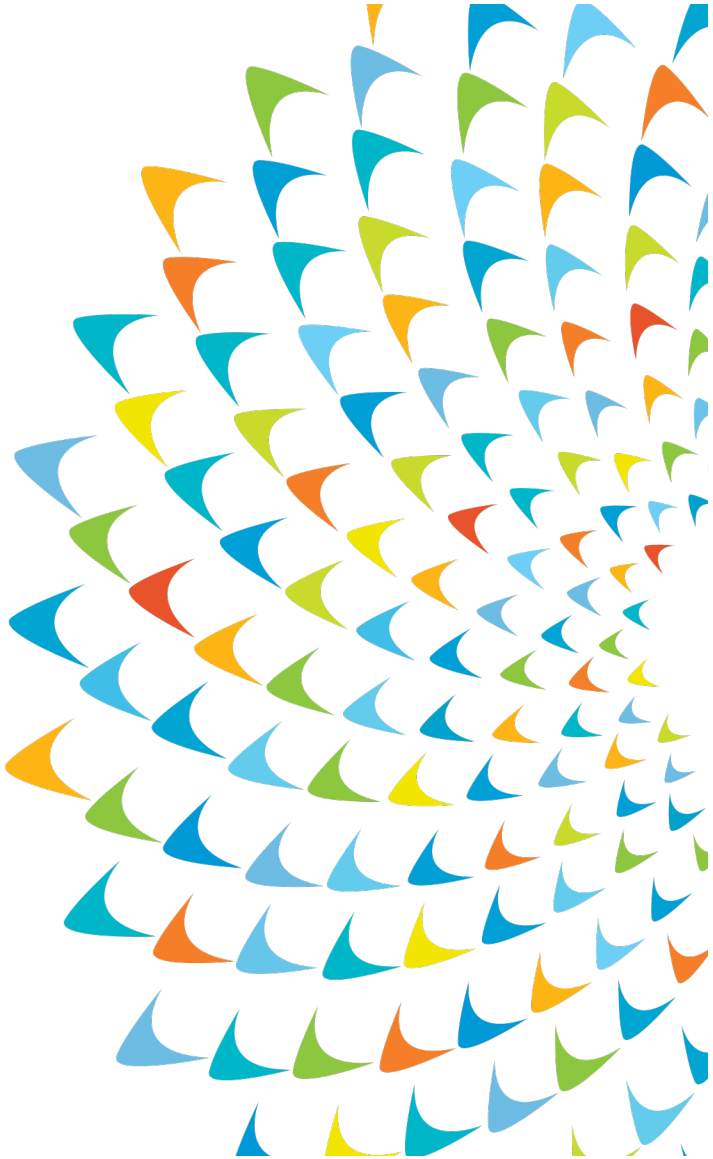
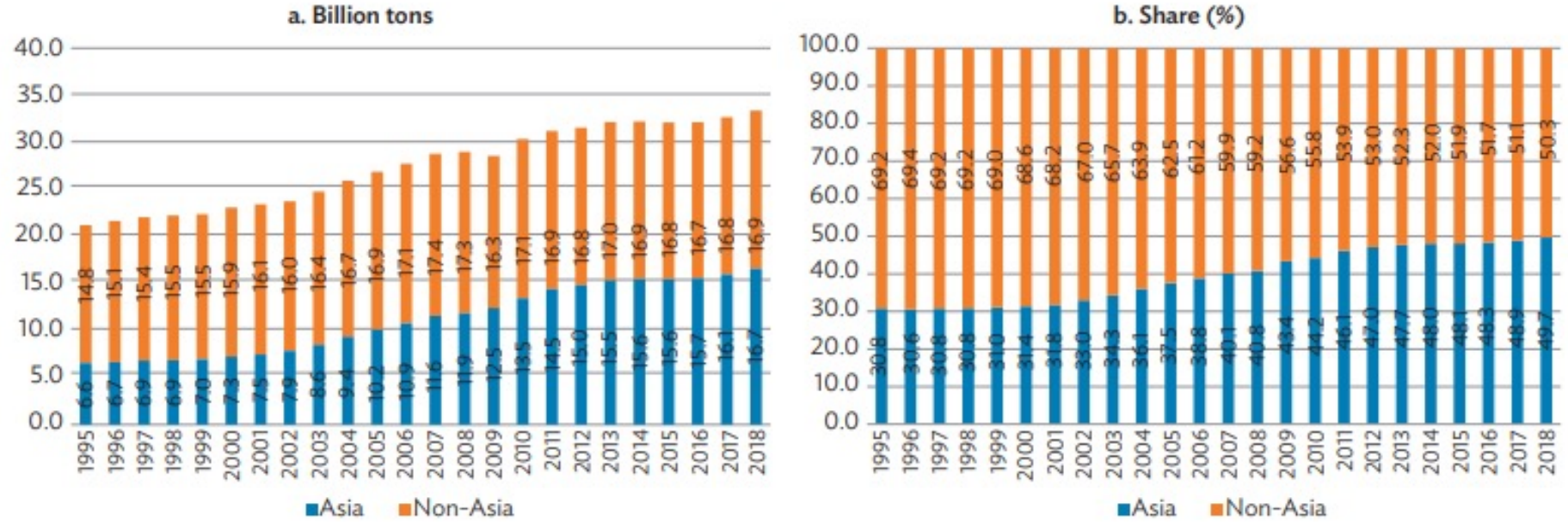


Current Scenario

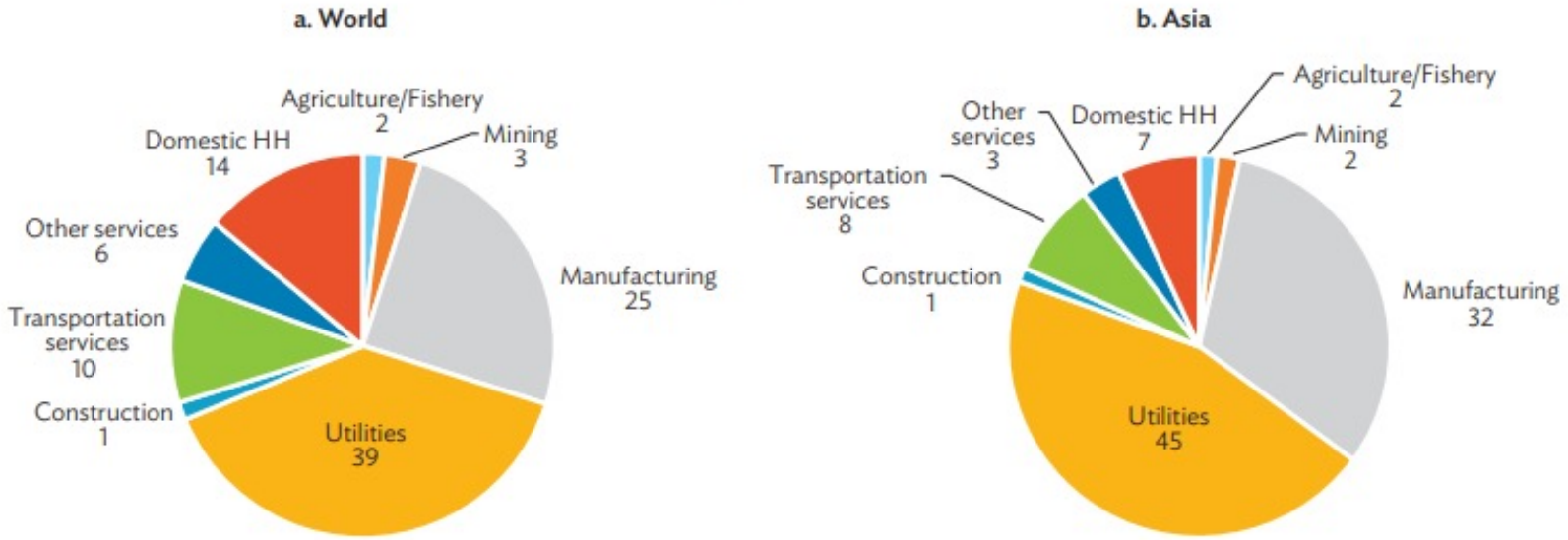
Figure 1: Asia's Production-Based Carbon Dioxide Emissions



Source: OECD $TeCO_2$ database.

Current Scenario

Figure 2: Production-Based Carbon Dioxide Emissions by Industry, 2018
(%, share)

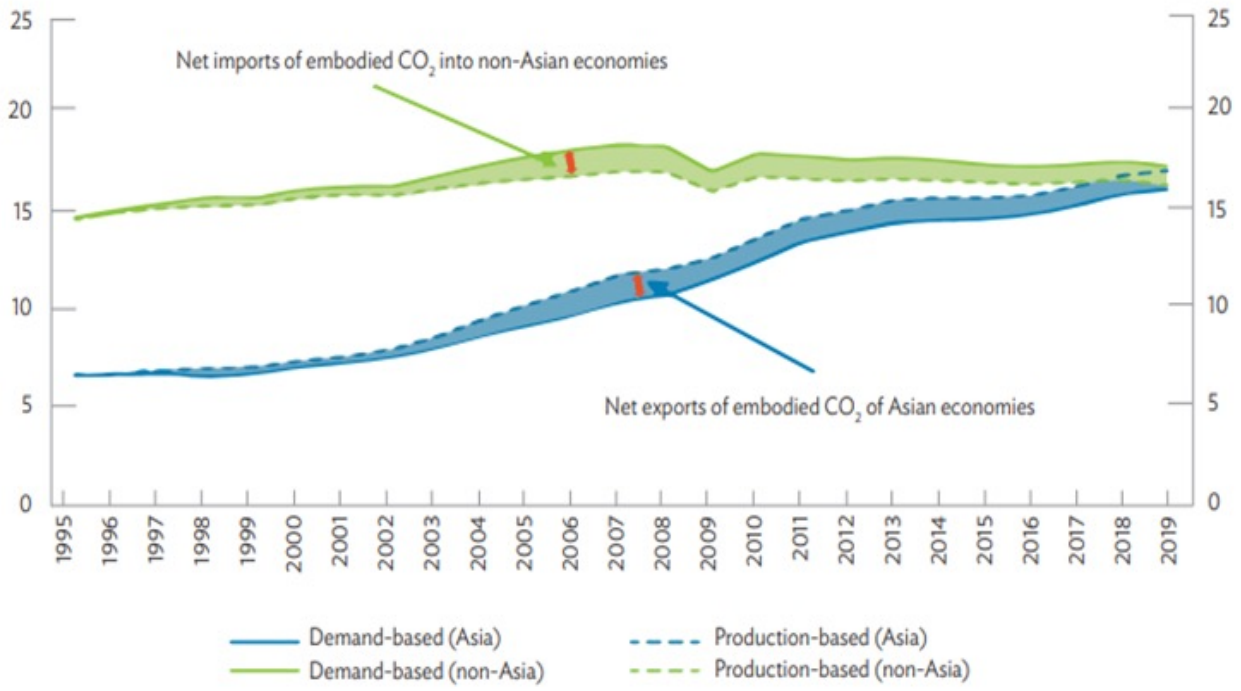


CO_2 = carbon dioxide, HH = household.

Source: OECD $TeCO_2$ database.

Current Scenario

Figure 4: Production- and Demand-Based Carbon Emissions—Asia versus Non-Asia
(giga tons CO_2)



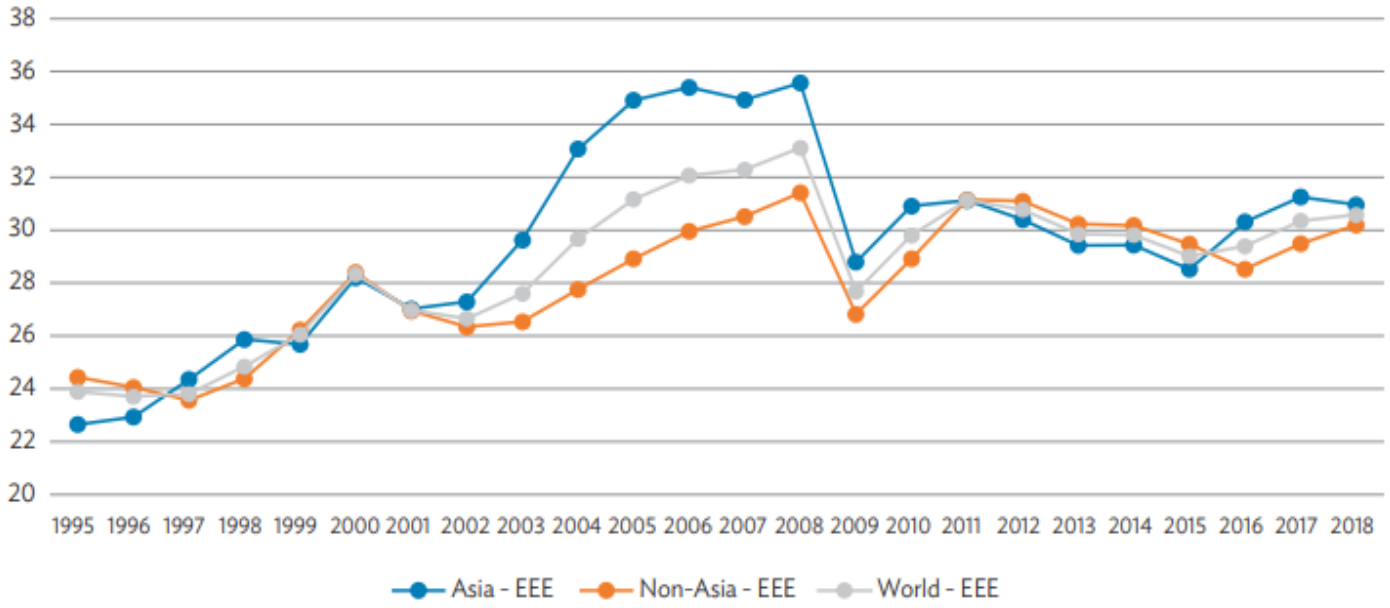
ADB (2023a) finds that since 2011 the ratio of carbon emissions per production unit, called carbon intensity, is decreasing, likely through technology enhancement, environmental regulation, and deepening environmental consciousness.

Trade and Climate Change: Theoretical Considerations

- The "**pollution haven hypothesis**" suggests that trade liberalization will lead to carbon-intensive industries moving to countries where carbon regulations are least stringent (WTO 2022).
- An "**uneven carbon playing field**" could lead to trade conflict and "**regulatory chill**" where carbon-price differences undermines the political momentum for net zero in green-focused countries.

Mapping out Trade and Climate Change

Figure 5: Asia's CO_2 Emissions Embodied in Exports
(% production-based)

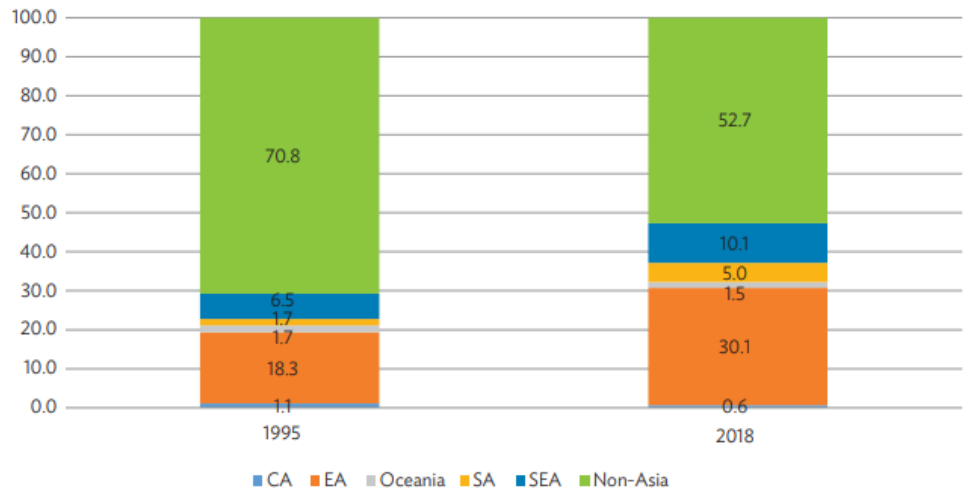


CO_2 = carbon dioxide, EEE = emissions embodied in exports.

Source: OECD TeCO, database.

Mapping out Trade and Climate Change

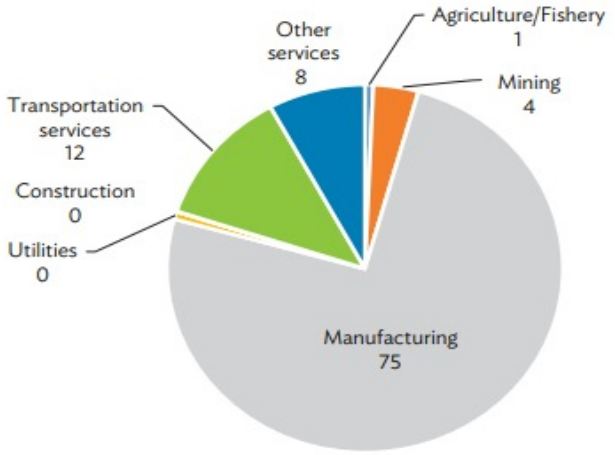
Figure 6: Asia CO_2 Emissions Embodied in Exports by Subregion
(%, global share)



CO_2 = carbon dioxide, CA = Central Asia, EA = East Asia, SA = South Asia, SEA = Southeast Asia.

Source: OECD $TeCO_2$ database.

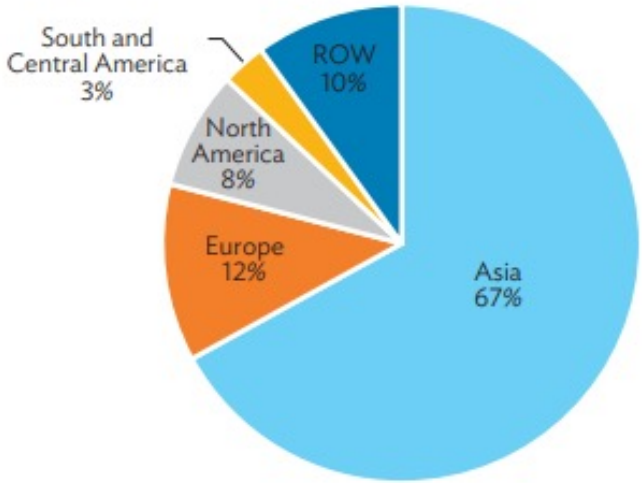
Figure 7: Asia Emissions Embodied in Exports by Industry
(%, global share)

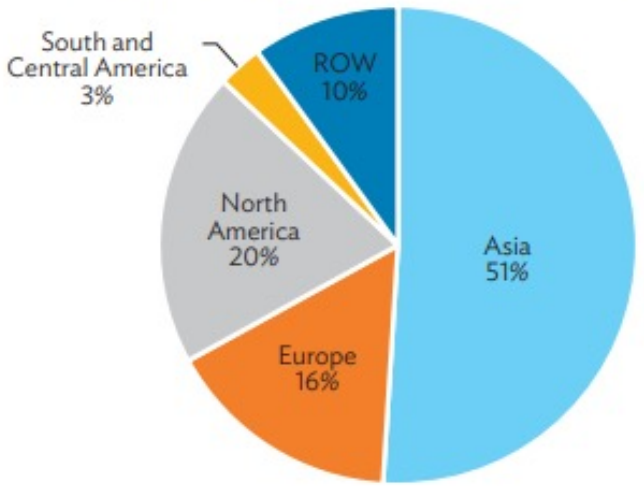


Source: OECD $TeCO_2$ database.

Mapping out Trade and Climate Change

Figure 8: Asia's CO_2 Emissions Embodied in Imports by Origin (left), Exports by Destination (right)





CO_2 = carbon dioxide ROW = rest of the world.

Source: OECD $TeCO_2$ database.

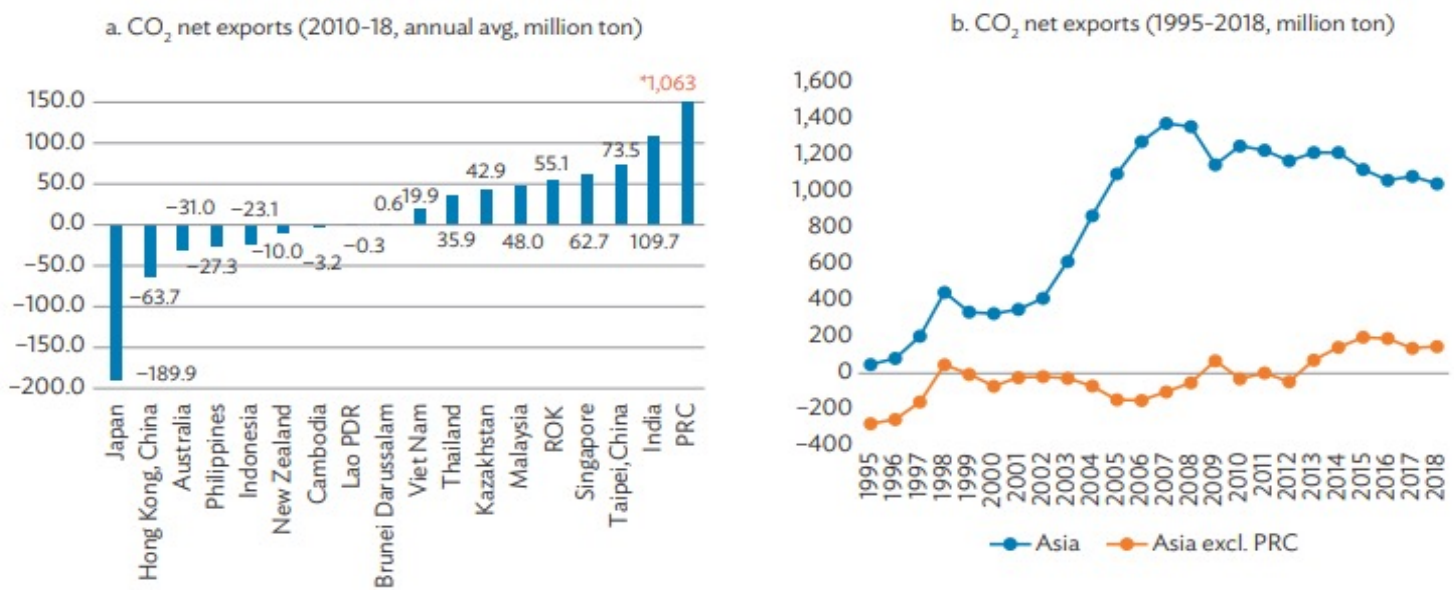
Carbon Balance and Carbon Leakage

The "**industrial structure effect**" suggests that the carbon intensity of the exports of some economies will be greater than others even when conditions are fair.

This effect has been called "**weak carbon leakage**" and has been described by Peters and Hertwich (2007) as production in developing countries to meet consumption in the developed countries.

Carbon Balance and Carbon Leakage

Figure 9: Carbon Balance
(CO_2 emissions, production versus final demand)



CO_2 = carbon dioxide, PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic, ROK = Republic of Korea.

Source: OECD $TeCO_2$ database.

Carbon Tax: Case Study of the EU Carbon Border Adjustment Mechanism

- Levy on carbon-intensive products in six sectors that are imported into the EU (iron and steel, cement, fertilizers, aluminum, electricity, and hydrogen)

- Important landmark to prevent carbon leakage by putting an established fee on carbon emissions generated during production of identified goods that are imported into the EU market

- Entered into force on 16 May 2023.

Carbon Tax: Case Study of the EU Carbon Border Adjustment Mechanism

Figure 11: CBAM Products Exported to the EU
(% of total CBAM products exports to world)

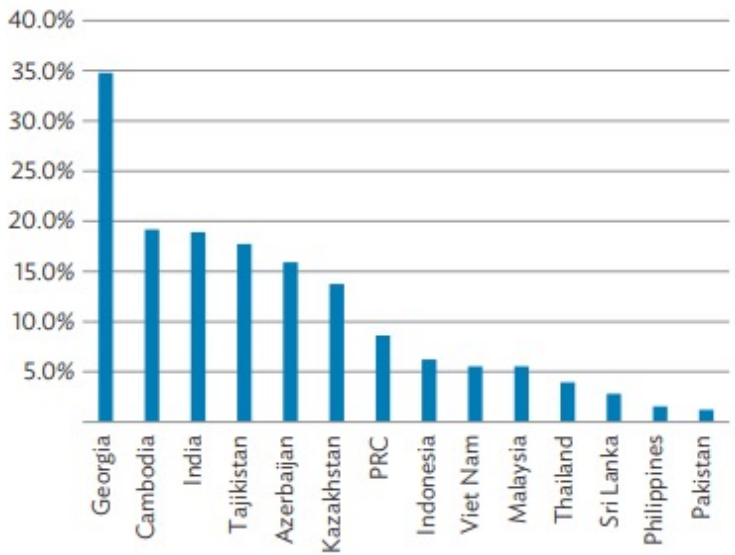
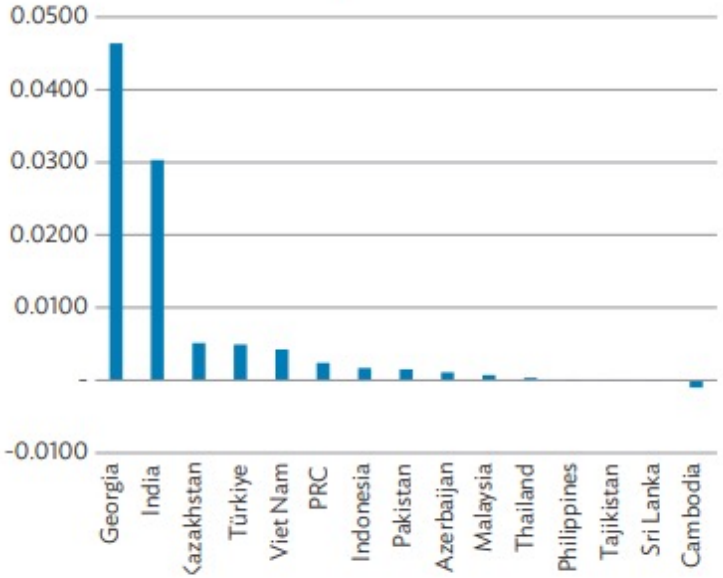


Figure 12: Aggregate Relative
CBAM Exposure Index



Policy Tools for the Future

1. Mainstream trade and trade policy into NDCs
2. Reduce tariffs and trade restrictions on environmental goods and services
3. Promote transfer of technology
4. Accelerate trade facilitation and logistics reforms
5. Develop national carbon-pricing strategies and strengthen regional carbon market cooperation
6. Strengthen international cooperation