Trade Forum 2024: Leveraging Trade to Address Climate Change in Asia and the Pacific

The Interplay of Fossil Fuel Subsidies and Carbon Pricing in Asia and the Pacific

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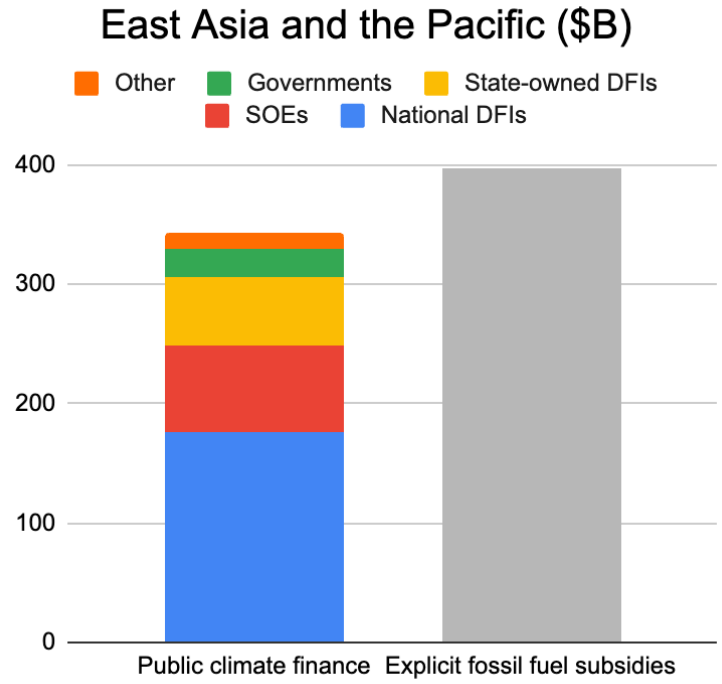
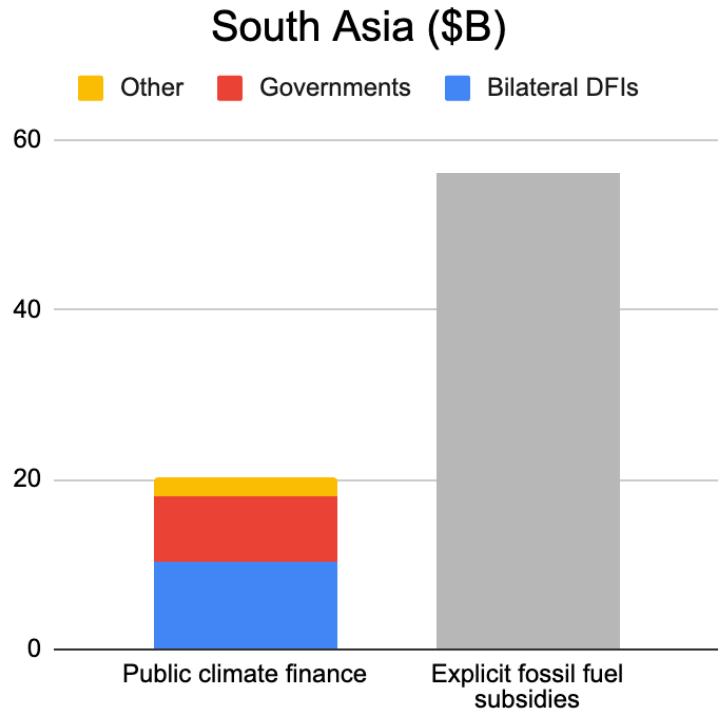
Fossil fuel subsidies complicate climate ambitions through multiple channels

- Public budgets
- Carbon prices
- Carbon-related revenues
- Other policies to reduce emissions (clean energy, electric vehicles)
- Implications for climate financing goals
- Fossil fuel subsidy: government action that
  - Lowers cost of fossil fuel production
  - Raises price received by fossil fuel procedures
  - Lowers price paid by fossil fuel consumers

Impact on public budgets

Fossil fuel subsidies and public climate finance (2021-2022 annual average)





Sources: Buchner et al. 2023 and Black et al. 2023.

Impact on carbon prices

Negative price on carbon

- Positive price on carbon: direct way to reduce greenhouse gas emissions and raise revenues
  - Carbon tax, emissions trading scheme permit, border adjustment mechanisms
- Fossil fuel subsidies: negative price on carbon
- Many countries have both carbon pricing and fossil fuel subsidies

Effective carbon rates

Effective carbon rate (ECR) = Fuel excise taxes + carbon taxes + emissions permit prices - some (limited) subsidies

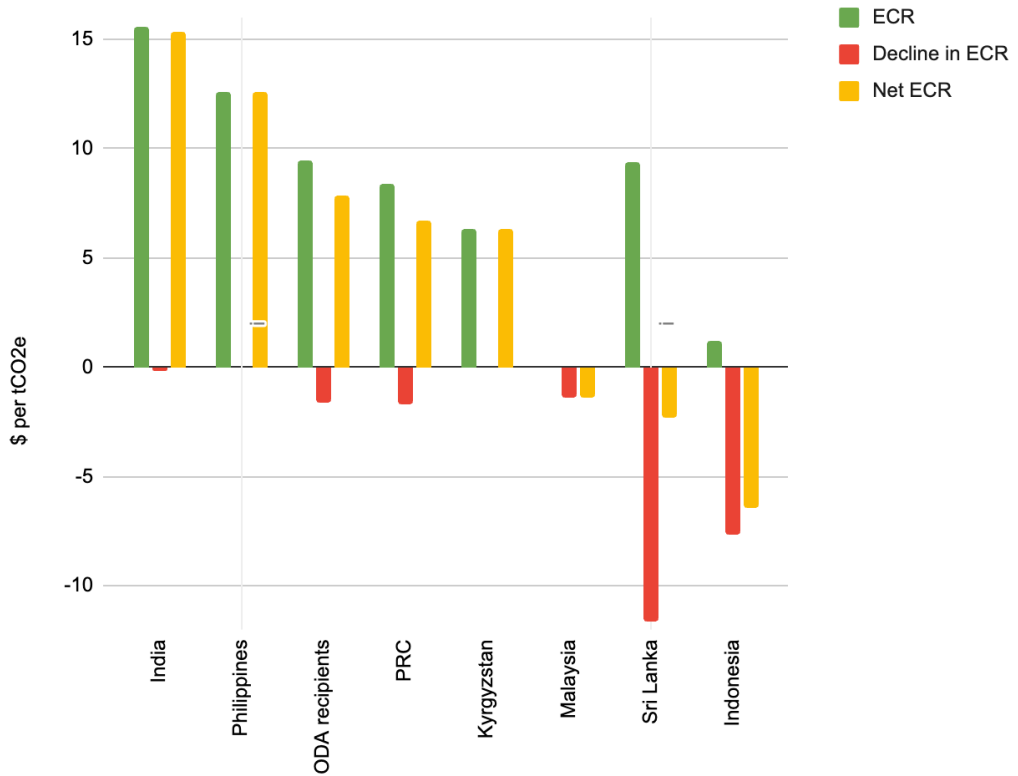
- In terms of carbon dioxide emissions
- Subsidies: support for fossil fuel production through tax code for excise/carbon tax relief

Net effective carbon rate (Net ECR) = ECR - more subsidies

- Converts pre-tax expenditures designed to benefit fossil fuel production or consumption relative to alternatives to negative carbon price

Source: OECD 2023a.

Effective carbon rates in Asian economies (2021)

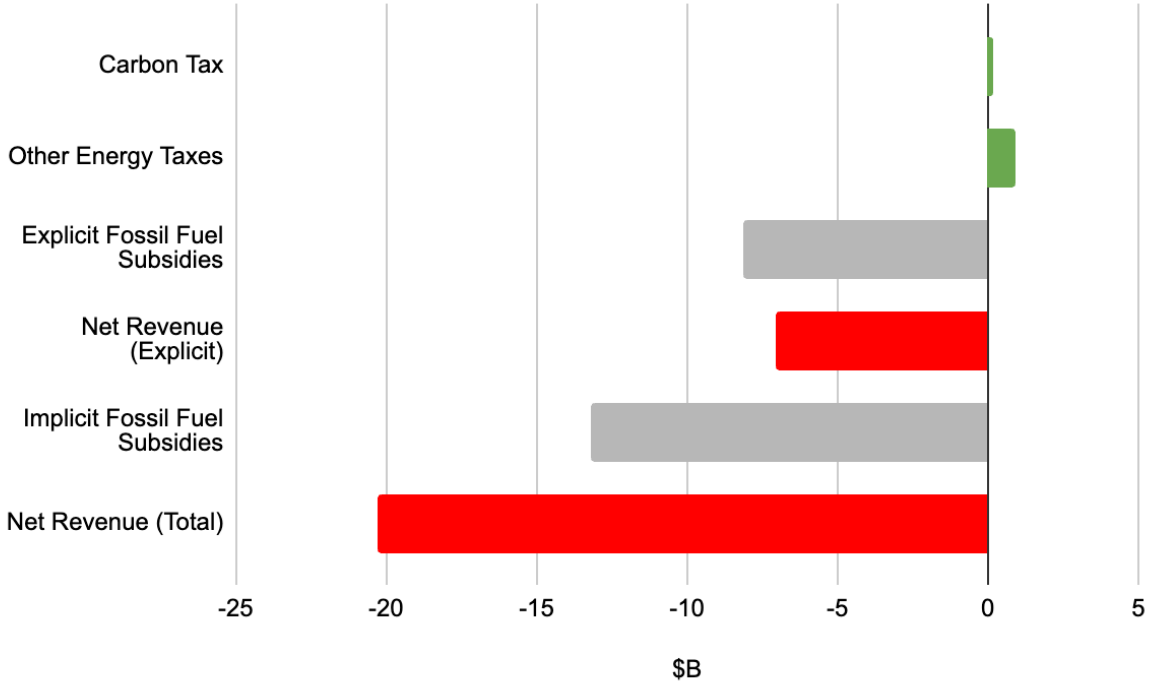


priate emission

Source: OECD 2023b.

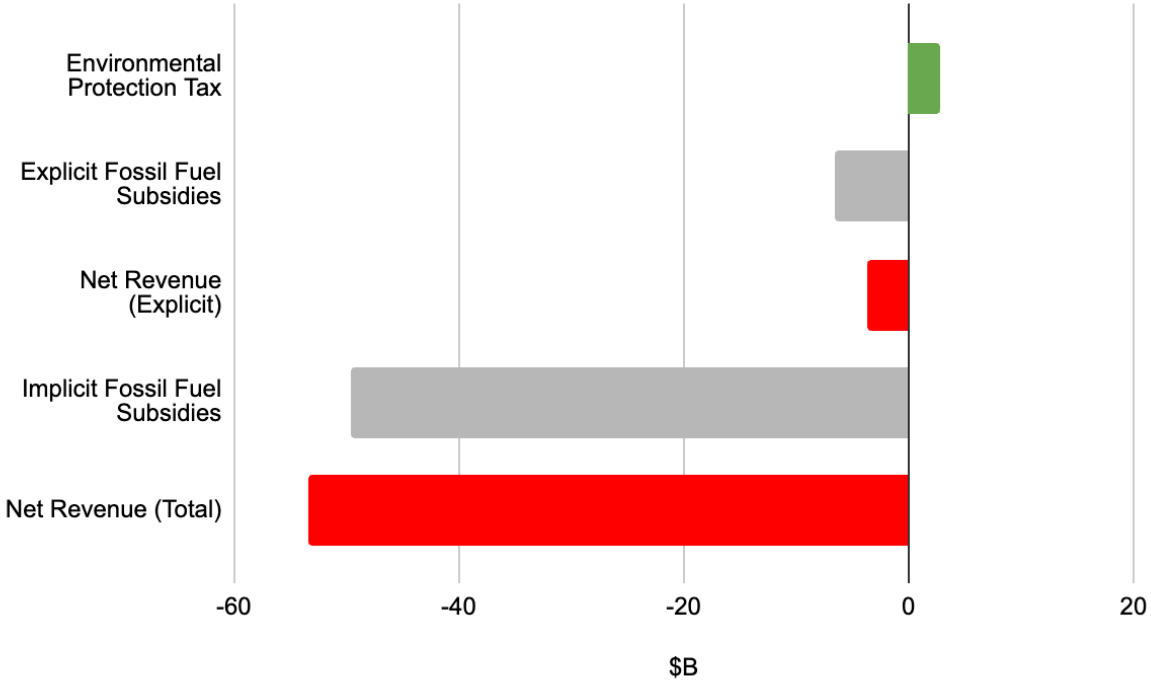
Impact on carbon-related revenue

Singapore: net carbon revenue (2022)



Source: calculations based on CEIC 2024 and Black et al. 2023.

Viet Nam: net carbon revenue (2022)



Source: calculations based on OECD 2023c and Black et al. 2023.

Fossil fuel subsidies and other policies to reduce greenhouse gas emissions

Clean energy

Energy: 75% of total greenhouse gas emissions (IEA 2024)

Spending needs in Asia and the Pacific: increase from ~$400B in 2021 to ~$700B per year until 2050 to achieve Paris Agreement Climate Goals (ADB 2023)

But fossil fuel subsidies deter investment in clean energy

- Lower price of fossil fuel energy
- Depress demand for and investment in clean energy
- Subsidies for fossil fuel investment crowd out clean energy investment

Electric vehicles

Transport sector: 23% of total greenhouse gas emissions (IEA 2023)

Rapid growth in Asia since 1990 (IPCC 2022)

Electric vehicles: crucial to decarbonize transport

Most governments: policies to promote EV supply and demand

But fossil fuel subsidies are deterrent

- Lower fuel price
- Reduce demand for EVs (Wang et al. 2019, Gong 2022, Bushnell et al. 2022)

Implications for climate financing goals

Climate financing needs are immense

- Mitigation through power supply in Asia and the Pacific: 2.2% of GDP per year until 2050 (ADB 2023)
- Adaptation through making infrastructure climate resilient in Asia and the Pacific: 3.3% of GDP per year until 2030 (Dabla-Norris et al. 2021)
- Fossil fuel subsidy reform for much-needed revenue

Fossil fuel subsidy reform

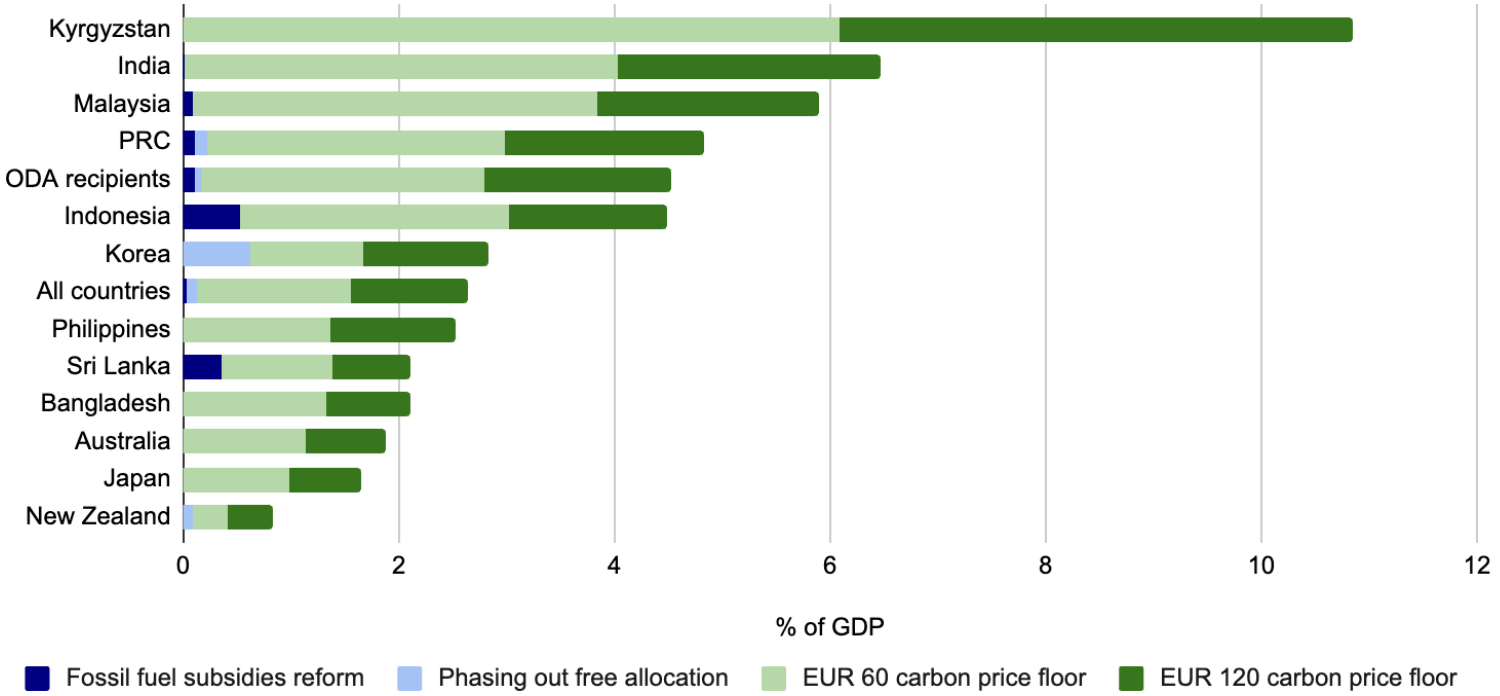
IMF approach

- "Full reform" (remove subsidies and raise fuel prices to efficient levels): $2.2 trillion in revenues in Asia and the Pacific (4.6% of GDP) in 2030 (Black et al. 2023)

OECD approach

- "Full reform" (remove subsidies and carbon price floor of EUR 120 per $MTCO_2e$): 2.6% of GDP (across selected economies) in 2021 (Garsous et al. 2023)

Revenue from subsidy reform and carbon pricing - some findings for Asia and the Pacific (2021)



Source: OECD 2023d.

Summary of main findings

Impacts of fossil fuel subsidies are complex

- Exceed spending on climate finance, divert from education, health, etc.
- Dominate carbon-related taxes, influence carbon price

Frustrate other efforts to reduce greenhouse gas emissions

Potential gains from reform are big

- Significant relative to climate financing needs…
- Especially when combined with carbon pricing

Thank you

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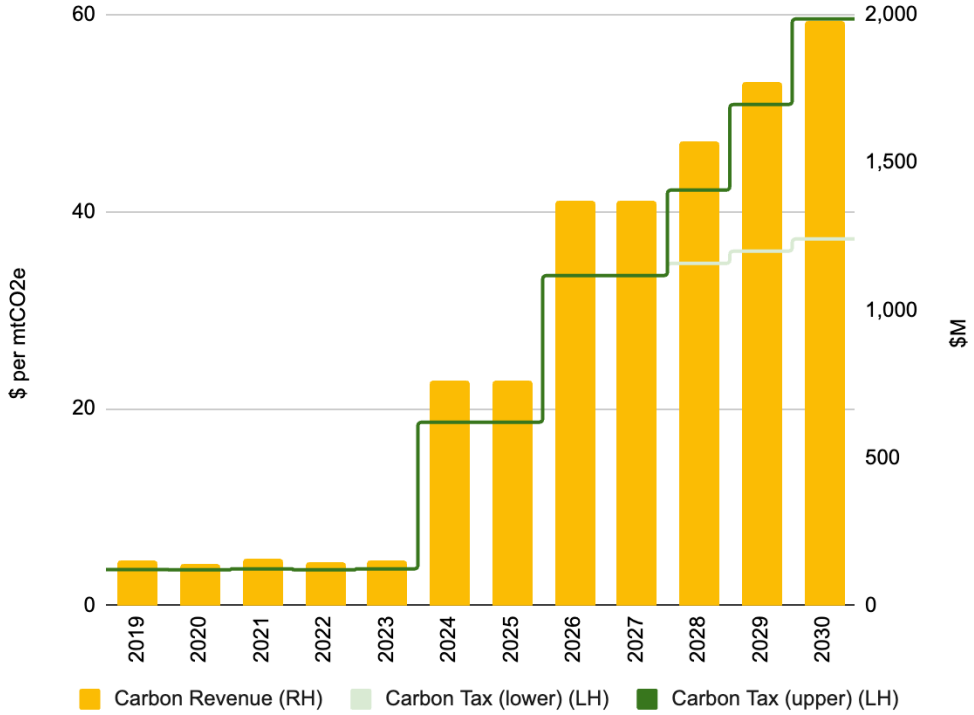
Annex

Singapore: carbon tax and revenue (2019-30)



Source: calculations based on CEIC 2024.