# Climate change, tax policy & the global energy crisis

## Webinar on Carbon Pricing and Fossil Fuel Subsidies Reduction, Asian Development Bank, Manila

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# PRICING GREENHOUSE GAS EMISSIONS

## Turning Climate Targets into Climate Action

**ADB Photo**
Completion of the Building Climate Resilience of Watersheds in Mountain Eco-Regions Project

OECD

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# What role for carbon pricing?





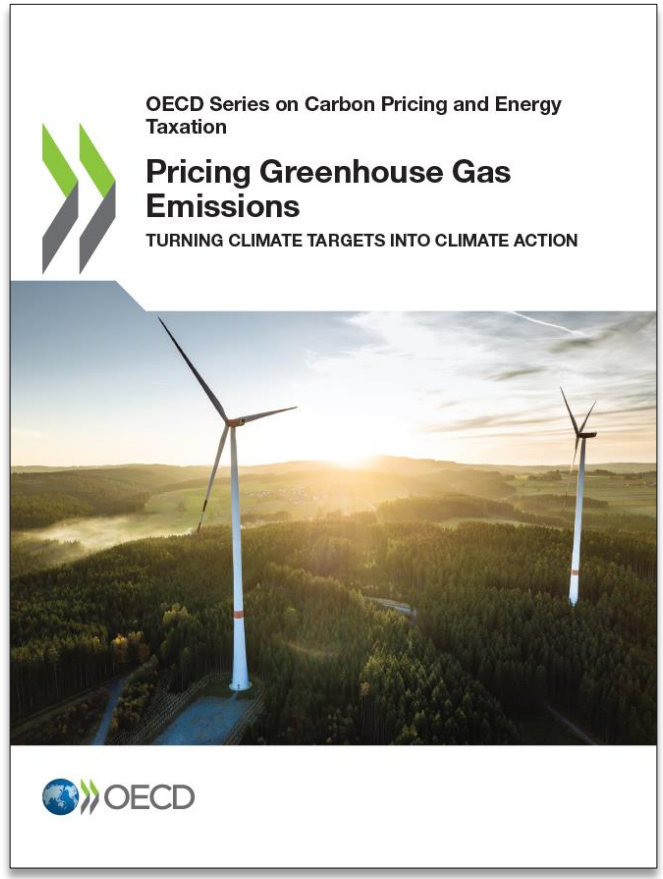


# First edition of the new OECD Series on Carbon Pricing and Energy Taxation

## Pricing Greenhouse Gas Emissions: Turning Climate Targets into Climate Action

- Tracks how carbon prices, energy taxes and subsidies have evolved across 71 economies between 2018 and 2021
  - Economies covered account for approximately 80% of global greenhouse gas emissions
  - Estimates ***positive carbon prices*** resulting from carbon taxes, emissions trading systems, and fuel excise taxes, and ***negative carbon prices*** from fossil fuel subsidies

- ***Carbon Pricing and Energy Taxation Series***
  - Brings together ***Taxing Energy Use*** and ***Effective Carbon Rates***



# A significant increase in coverage of GHG emissions by emissions trading systems

Share of GHG emissions subject to a positive net Effective Carbon Rate, and its components, 71 countries, 2018-2021

| Coverage | 2018 | 2021 |
|---|---|---|
| Carbon tax | 5.0% | 5.8% |
| **Emissions trading system** | **10.3%** | **19.0%** |
| Fuel excise | 23.9% | 23.8% |
| Fossil fuel subsidy | 22.4% | 22.2% |
| **Net Effective Carbon Rate** | **32.1%** | **40.7%** |



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# The average Net ECR across all GHG emissions has risen modestly but remains low

Average effective carbon prices in EUR/$tCO_2e$, by instrument, all 71 countries, 2018-2021, EUR/$tCO_2e$

| Price levels | 2018 | 2021 |
|---|---|---|
| Carbon tax | 0.6 | 0.7 |
| Emissions trading system | 1.2 | 3.6 |
| Fuel excise | 13.7 | 13.2 |
| Fossil fuel subsidy | 1.4 | 0.9 |
| **Net Effective Carbon Rate** | **14.1** | **16.7** |



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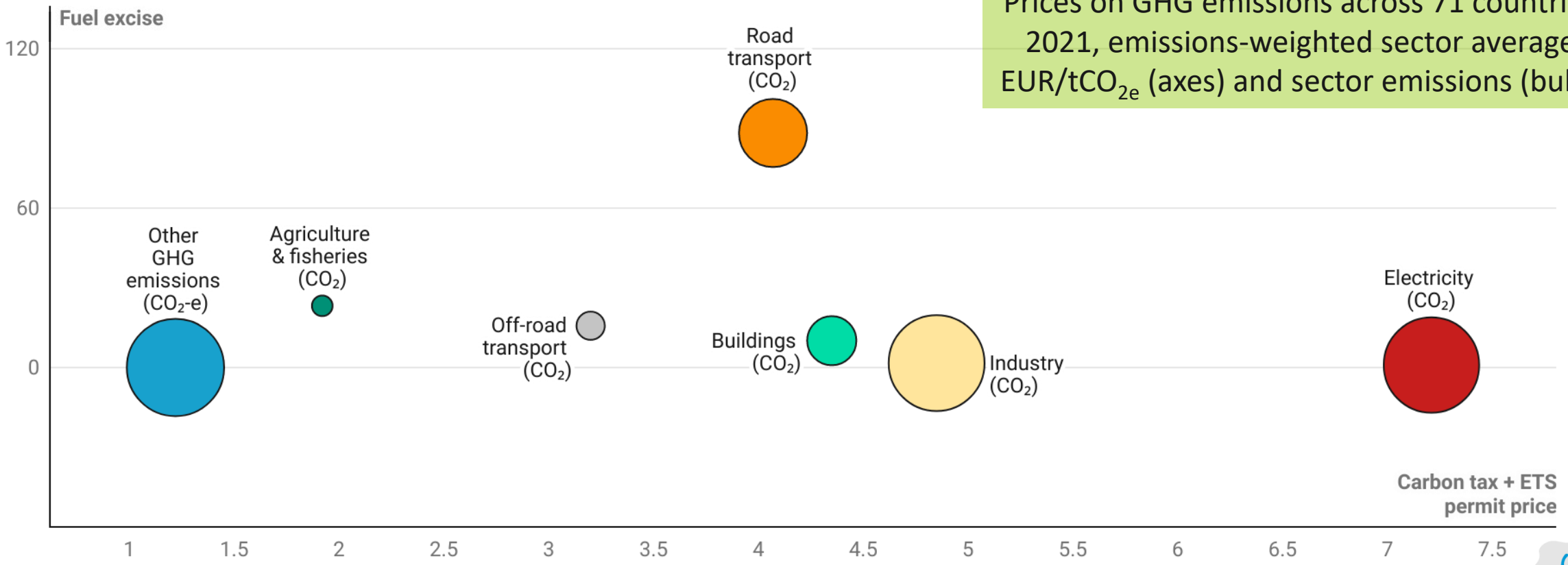
# Fuel taxes are highest in road transport; explicit carbon prices in electricity & industry

Prices on GHG emissions across 71 countries in 2021, emissions-weighted sector average in EUR/$tCO_{2e}$ (axes) and sector emissions (bubble)



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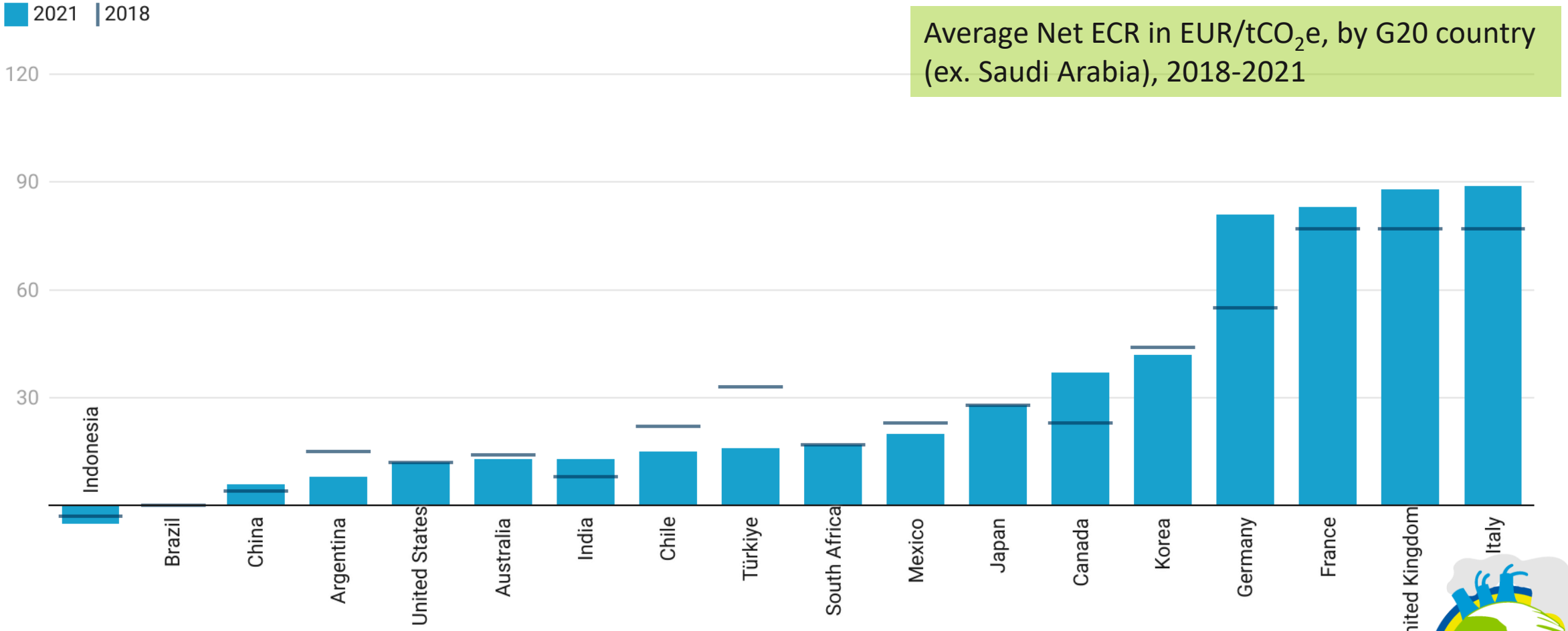
# Net effective carbon rates increasingly diverge across countries



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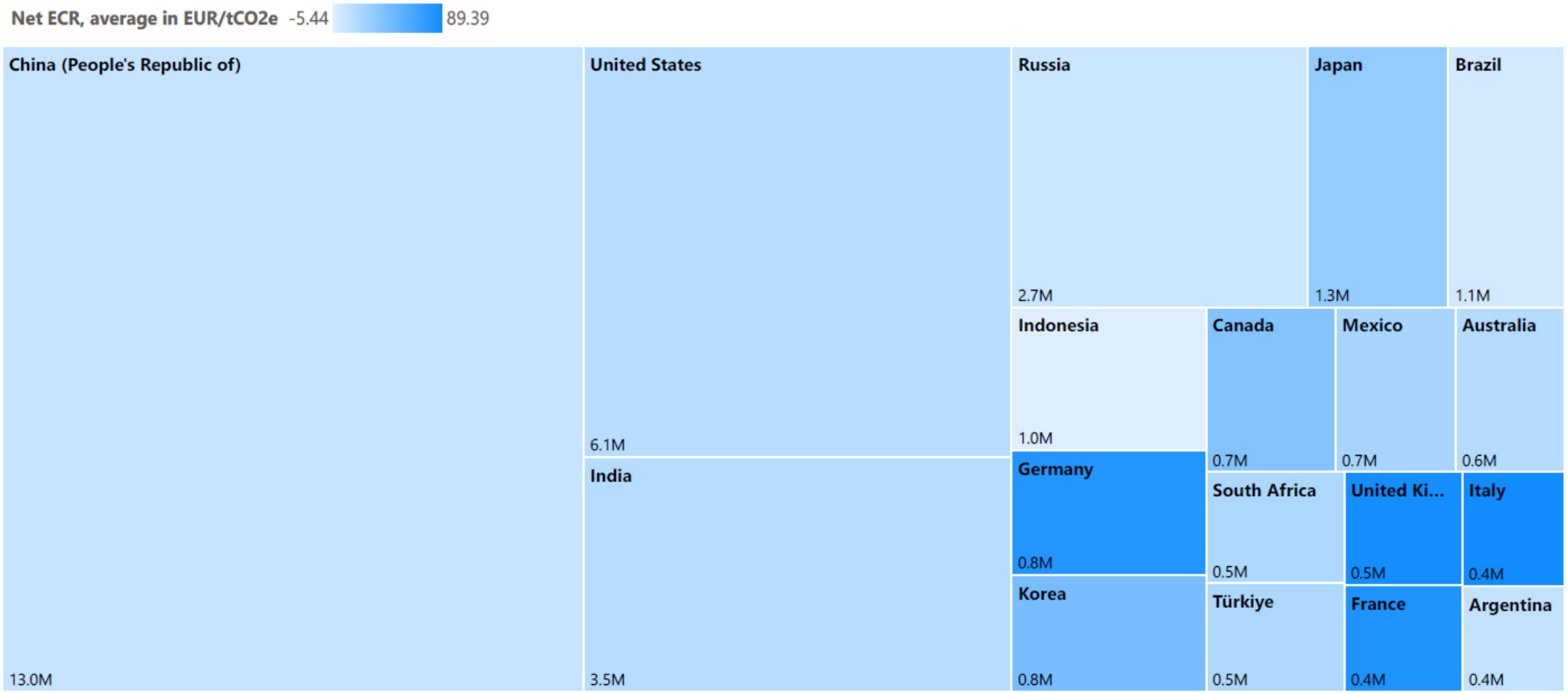
# Many of the world's largest emitters continue to have low carbon prices




**Note**: The chart shows all individual G20 countries except Saudi Arabia. The size of the rectangle indicates a country's GHG emissions (in kt of $CO_2e$). Darker shades indicate higher carbon prices (country-level average net ECR in EUR per t/$CO_2e$).



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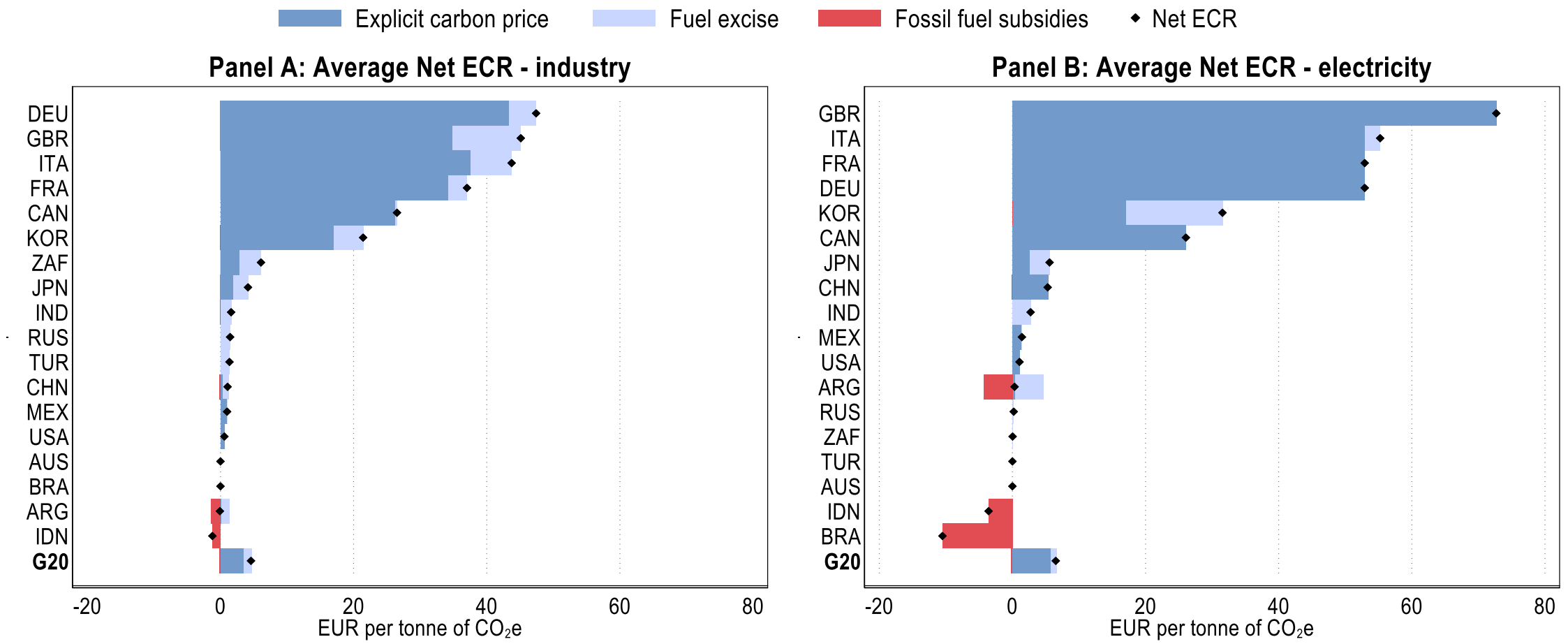
# Differences across countries partly reflects different carbon mitigation approaches

## Effective carbon prices in industry and electricity, by G20 country (ex. Saudi Arabia)



# INCLUSIVE FORUM

## on carbon mitigation approaches

**ADB Photo**
NGO representatives consultation at a community in Fiji.

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# Inclusive Forum on Carbon Mitigation Approaches

- Carbon pricing
  - a key policy instrument in the climate mitigation policy toolkit
  - this report shows clear evidence of progress on this front
- The greenhouse gas mitigation policy mix differs across countries
- A diversity of policies can further mitigation efforts while ensuring energy security and affordability
- The OECD's **Inclusive Forum on Carbon Mitigation Approaches** will support the international community in lifting the level of ambition and effort
  - by improving mutual understanding of the expected impact of a full range of policy approaches beyond carbon pricing



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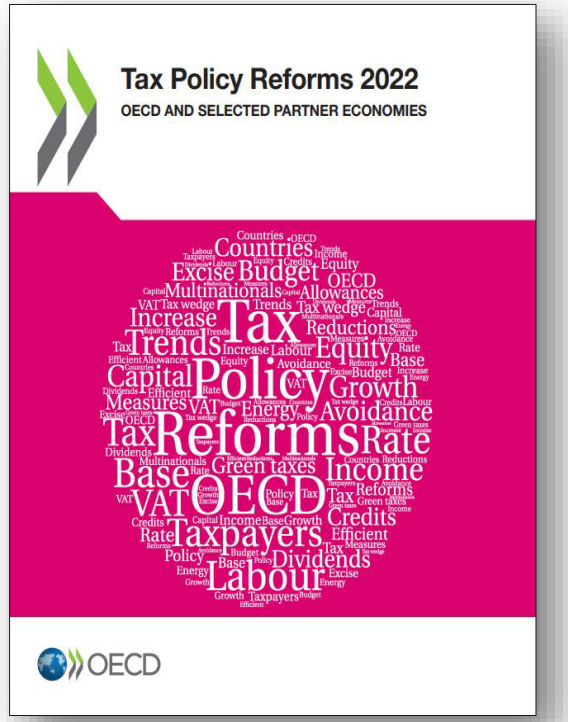
# TAX POLICY REFORMS:

## Special feature on policy responses to the global energy crisis

# This is the 7th edition of the Tax Policy Reforms Report

## Tax Policy Reforms: OECD & Selected Partner Economies

- The Tax Policy Reforms (TPR) Report is an annual publication that provides **comparative information on tax reforms** across countries and tracks tax policy developments over time
  - Covers tax policy reforms that were implemented or announced in 2021 in the **71 Inclusive Framework jurisdictions** that responded to the OECD's annual tax policy reform questionnaire
- **Special Feature: Policy Response to the Energy Crisis**





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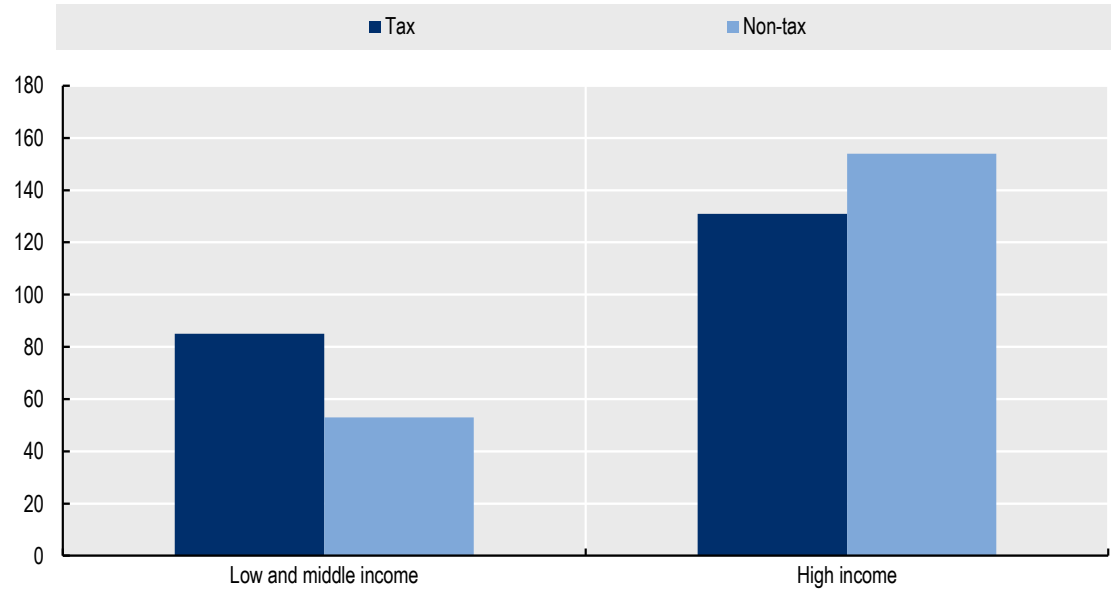
# Governments have responded with a wide variety of tax and non-tax measures

- **High-income countries**: greater emphasis on non-tax measures
  - subsidies, cash transfers
- **Low & middle-income countries**: Tax measures relatively more common
- Possible explanation:
  - Differences in the degree of development of transfer and benefit systems

Government measures introduced in response to rising energy prices, September 2021 to May 2022

Count of the total number of measures introduced by governments




**Note**: Covers measures from 89 jurisdictions. Up to date as of 25 May 2022. Country income status reflects World Bank classifications.

**Source**: *OECD Working Party 2 Delegate responses.*





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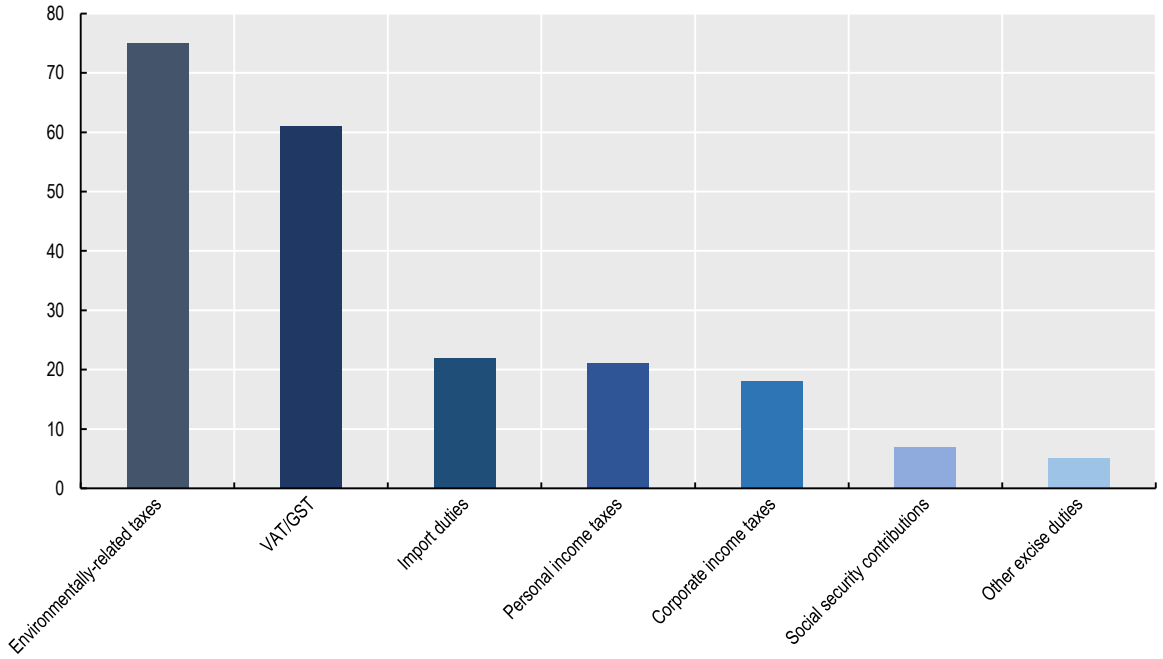
# Many countries have temporarily cut fuel and electricity excises

- **Excise taxes** were cut in **over 80% of the jurisdictions**
  - mainly petroleum products
- Initially for short periods and then extended and generosity increased
- Some European countries **reduced VAT** on electricity and natural gas products, with some introducing **windfall taxes** in oil, gas and electricity sectors

## Tax measures introduced in response to rising energy prices

Count of the total number of measures introduced by governments




**Note**: Covers measures from 89 jurisdictions. Up to date as of 25 May 2022
**Source**: *OECD Working Party 2 Delegate responses*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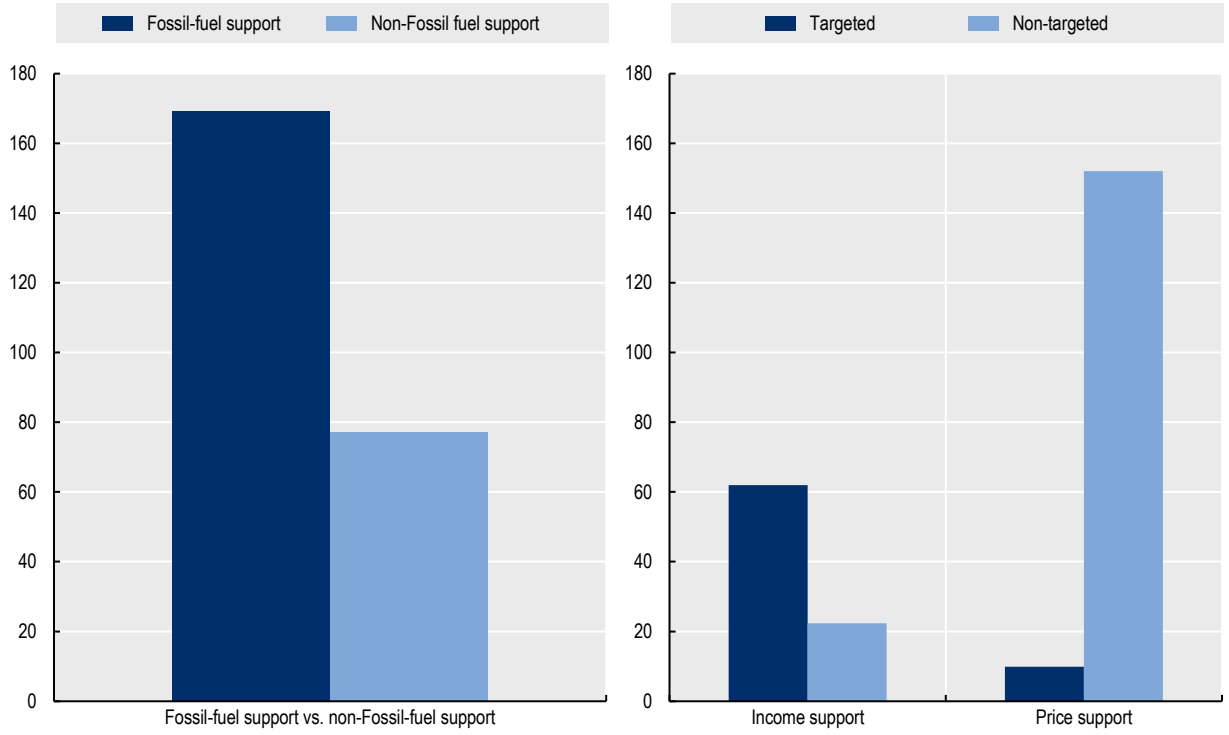
# The cost of measures introduced by governments has been significant

Cost of government responses to the energy crisis, October 2021 to December 2022

USD billions




Source: OECD (2022)

- Additional fiscal cost of fossil-fuel support is expected to be significant
- **Price support** versus **income support measures**
  - **66% of total spending has on price support measures**
  - Only **6% of price support** measures were targeted versus **73% of income support** measures





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# Countries should aim to support vulnerable populations through targeted income support…

## … while developing alternative energy sources and modes of transport

| Support for households is costly, but necessary | Price support understandable, but with major limitations | Better targeted support needed | More sustainable long-term policy responses |
|---|---|---|---|
| • Equity<br>• Energy affordability<br>• Political support for the long-term transition | • Costly<br>• Mutes price signals and can remove some incentives to reduce consumption | • Income-tested<br>• Other factors:<br>  • Age<br>  • Geography<br>  • Patterns of consumption | • Reduce dependence on fossil fuels<br>• Energy security<br>• Energy efficiency<br>• Improved networks and infrastructure |





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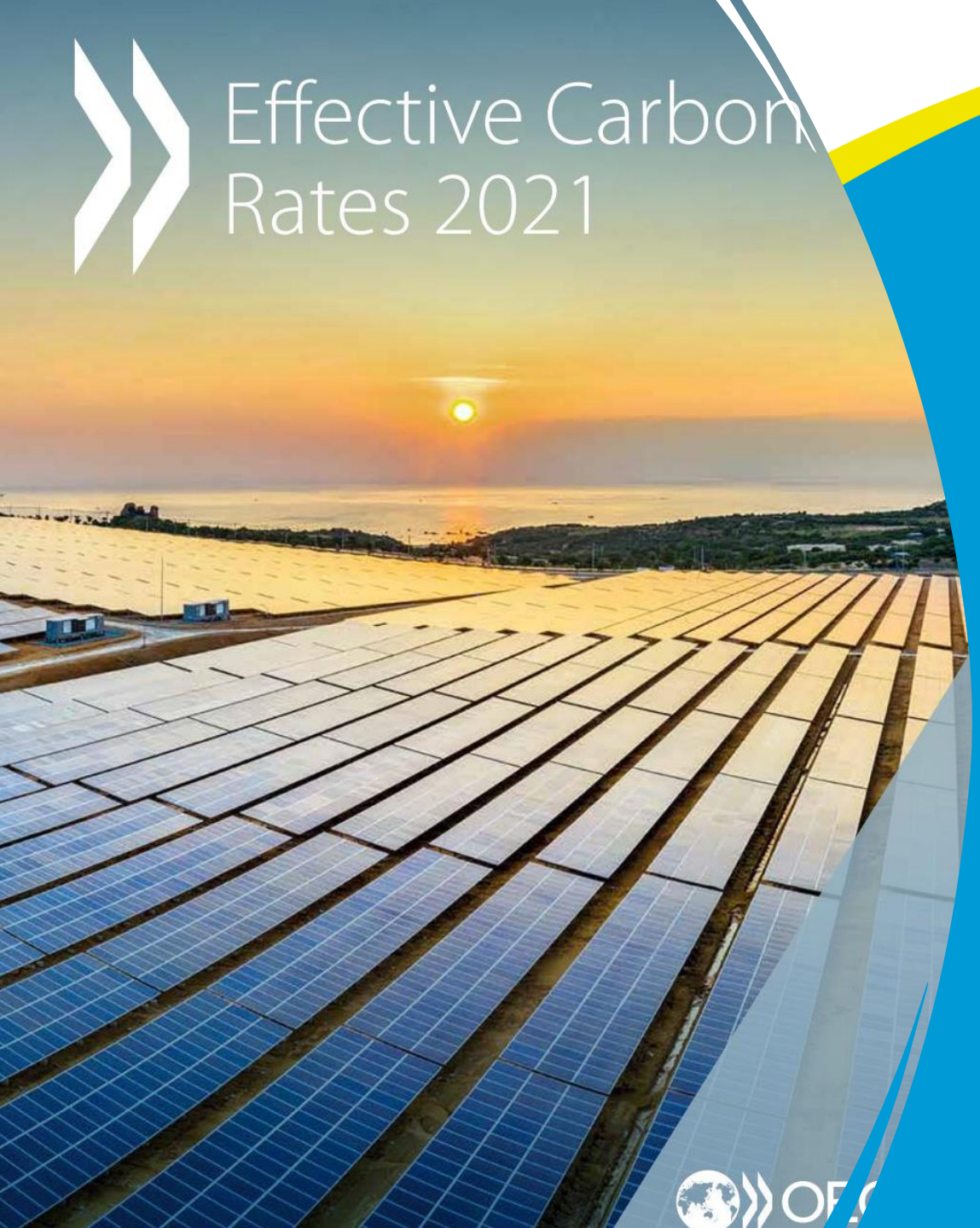



Applied work using OECD's

# EFFECTIVE CARBON RATES

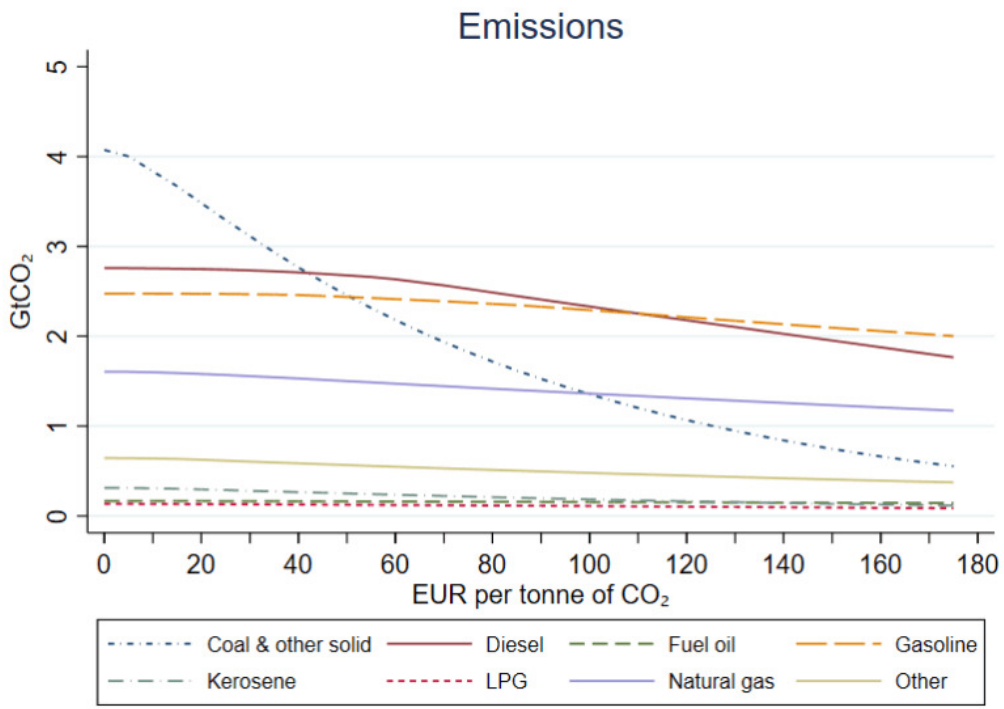
# Estimating $CO_2$ emission and government revenue responsiveness to carbon pricing – new evidence

## ➢ Newly published empirical paper

- D'Arcangelo, F., et al. (2022), "Estimating the CO2 emission and revenue effects of carbon pricing: new evidence from a cross-country dataset"

## ➢ Main findings are:

- A EUR 10/tCO2 increase in ECR would decrease CO2 emissior from fossil fuel use by 3.7%.
- Global figure which hides heterogeneity in response levels by sector and fuel category
- Can be used to infer the effect of increasing carbon prices on
  - CO2 emissions
  - Carbon-related revenues
  - Can be considered as a lower bound, as will evolve with increasing substitution possibilities.





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# Contact details



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