

# Financing the Path to Zero Coal

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## Issue

- The International Energy Agency’s net zero emissions scenario requires a complete phase-out of coal for electricity generation by 2040.

## What we do

- Calculating how many and which power plants need to be shut down now under the 1.5°C scenario.
- Calculating the costs (stranded assets + replacement with low carbon)

## Main results

- 70% of the capacity of the operating coal fleet needs to be retired now.
- Replacing it by low carbon = \$8.4tn.
- But exit from coal brings large net savings because operating costs are much lower for low-carbon energy.
- Exiting coal could even generate positive net economic gains under certain policy conditions.

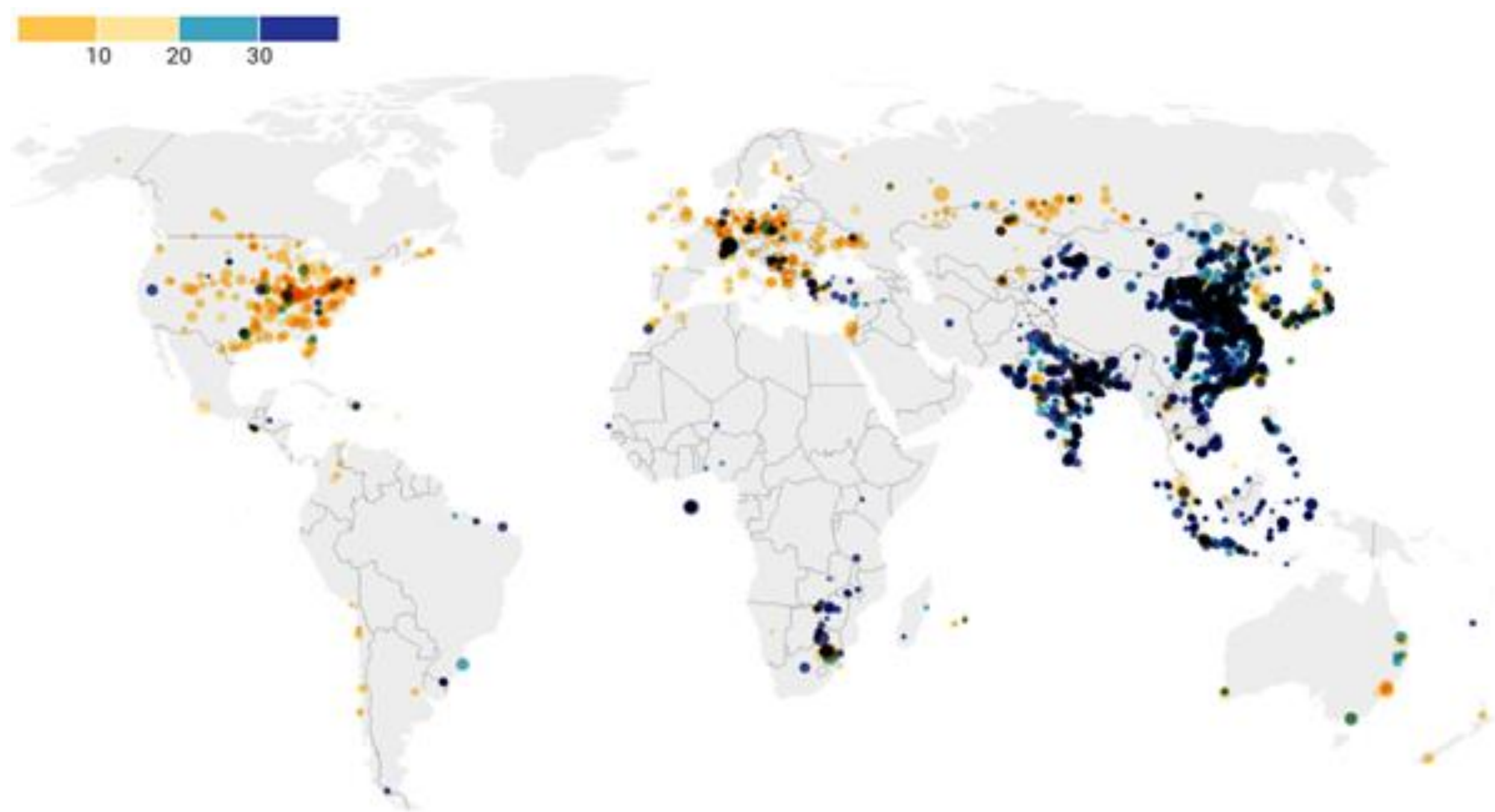


Fig 1. | Coal plants: annual CO2 emissions (size) and average remaining lifetime (color).

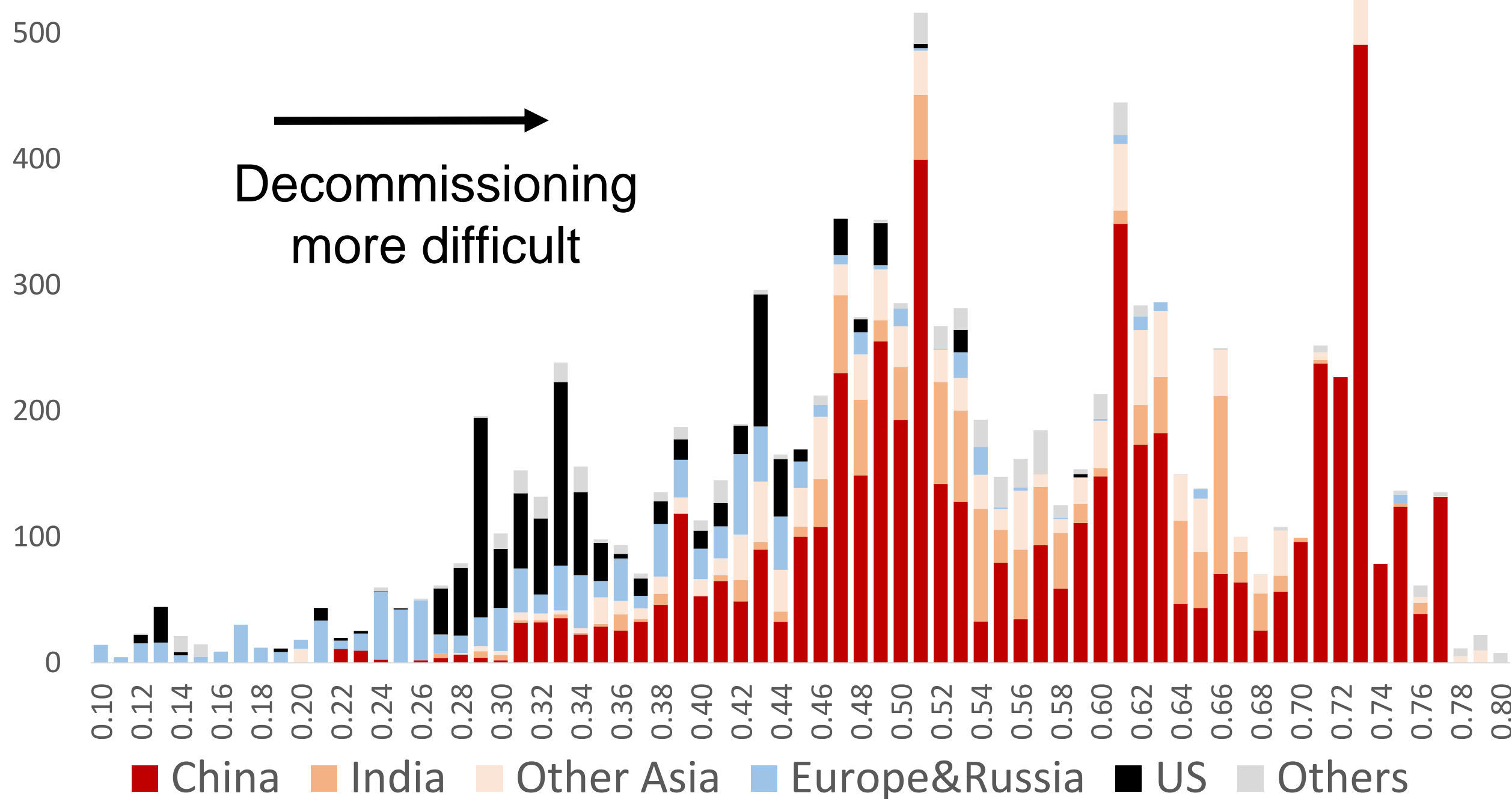


Fig. 2 |Transition readiness score of existing coal plants (horizontal axis) depending on their annual CO2 emissions (million tons, vertical axis) by location (color). The synthetic score helps identify plants that will be more difficult to transition. Plants with the highest scores would be the hardest to decommission.

## Exiting coal can generate net economic gains at the global level

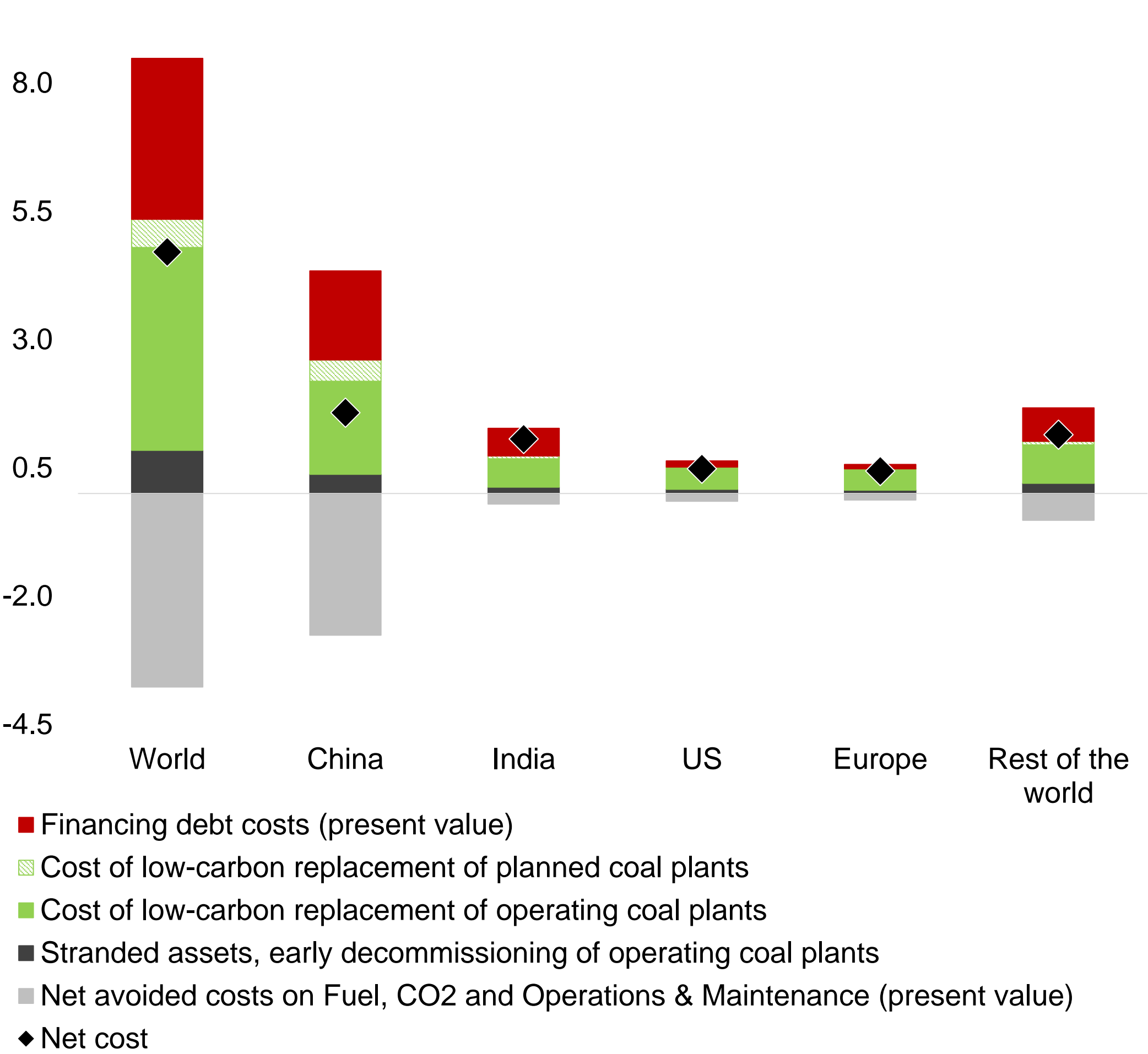


Fig. 3| Total cumulated costs implied by the 1.5°C pathway. In trillion USD. . Data are compiled by authors from Global Coal Plant Tracker (2023), World Economic Forum (2021), IEA (2023).

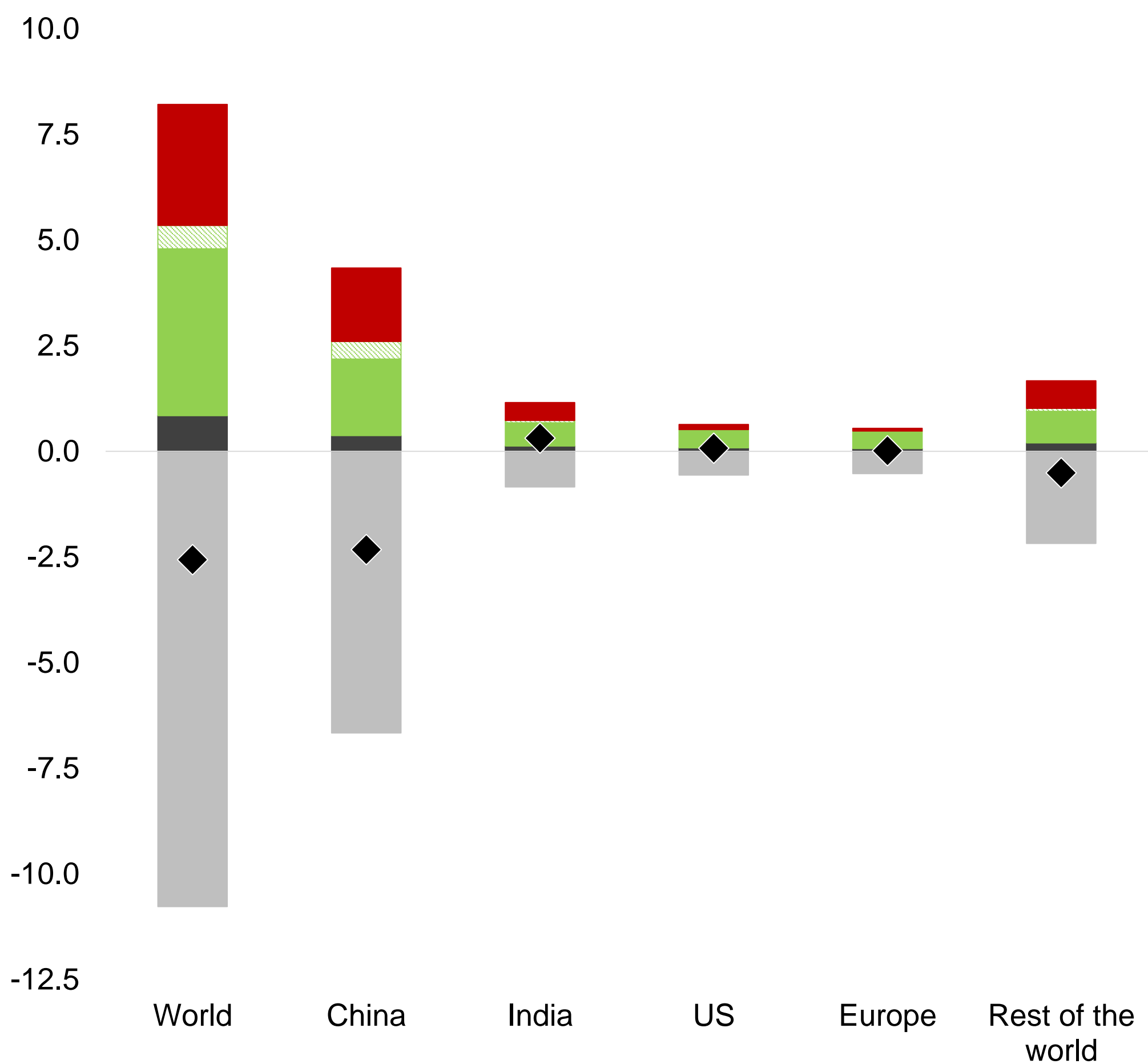


Fig. 4 | Total cumulated costs implied by the 1.5°C pathway with an alternative NZE scenario. In trillion USD. WACC at 4.75% for all countries and carbon pricing in line with the 2030 NZE scenario.