



FISCAL AFFAIRS

Development Today: New Challenges for Inclusive Growth in Developing Asia

IMF-JICA CONFERENCE: ECONOMIC SETBACKS FROM THE PANDEMIC & FISCAL POLICY DURING THE EXIT STAGE

FEBRUARY 13, 2023

Vitor Gaspar

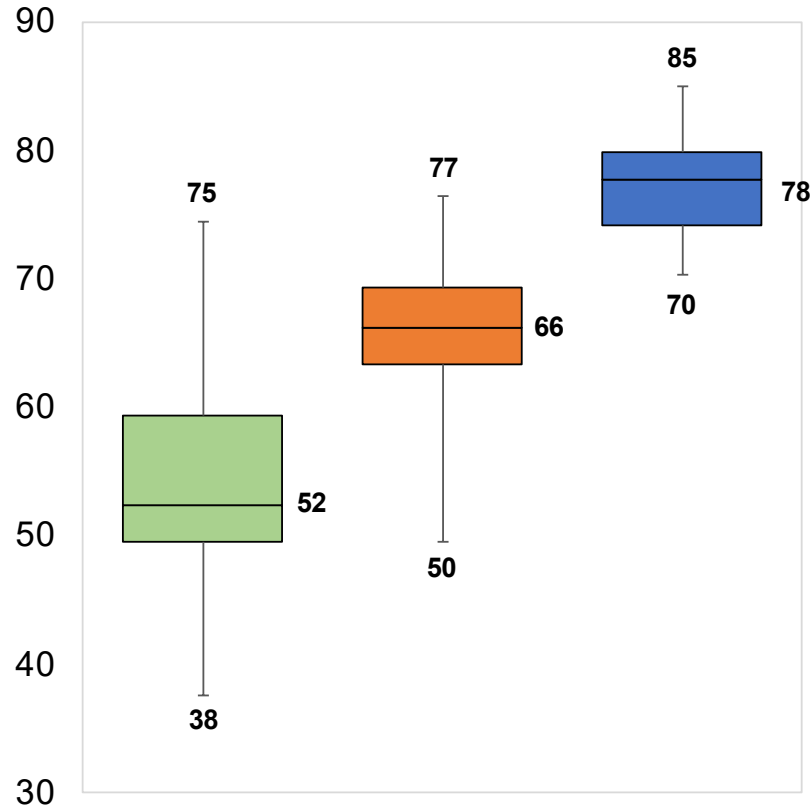
Director

Fiscal Affairs Department

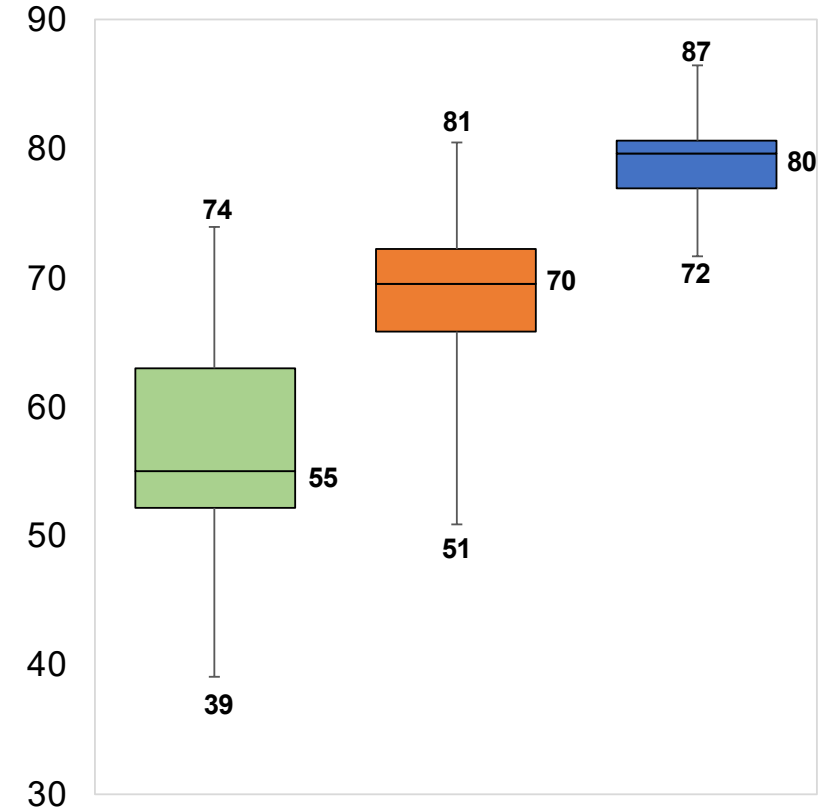
The State of The Sustainable Development Goals

Overall Performance in 17 SDGs In The World

Performance in 2018 (Gaspar et al. 2019)



Current Performance (2022)



Sources: Gaspar et al. (2019); IMF SDG Performance Tool, based on Sachs et al. (2018 & 2022 vintages)

Note: AEs = Advanced Economies; EMEs = Emerging Market Economies; LIDCs = Low-income developing countries. Income group classifications are based on the IMF World Economic Outlook (WEO) classifications.

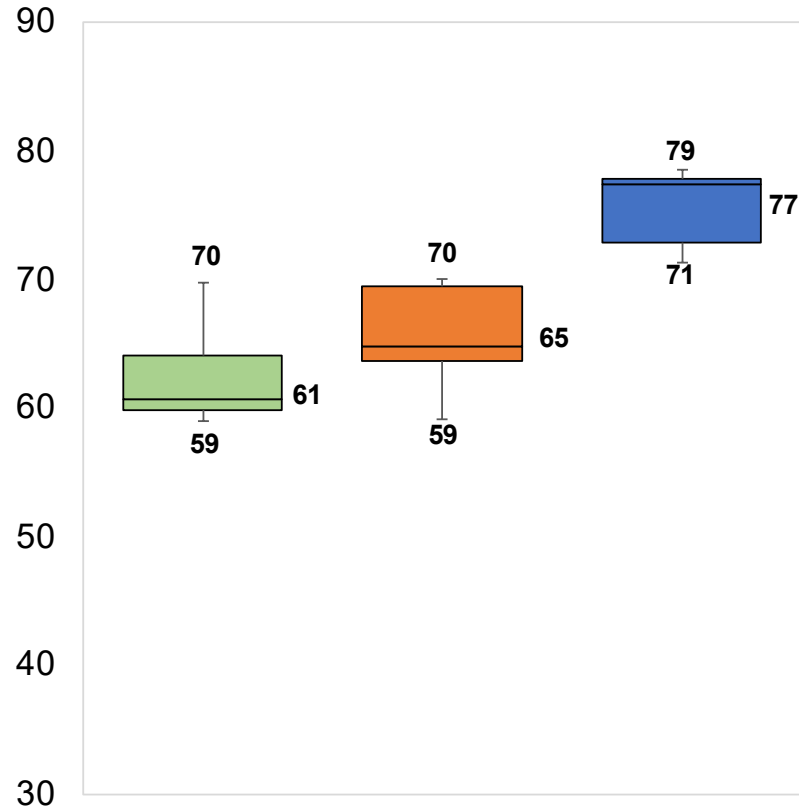
Horizontal lines inside the boxes are the median SDG index values. The top and bottom parts of the boxes are the upper (75th) and lower (25th) quartiles. The top and bottom horizontal lines of the "whiskers" are the minimum and maximum values. The SDG index goes from 0 and 100 = lowest and highest possible performance, respectively.

SDG = Sustainable Development Goals

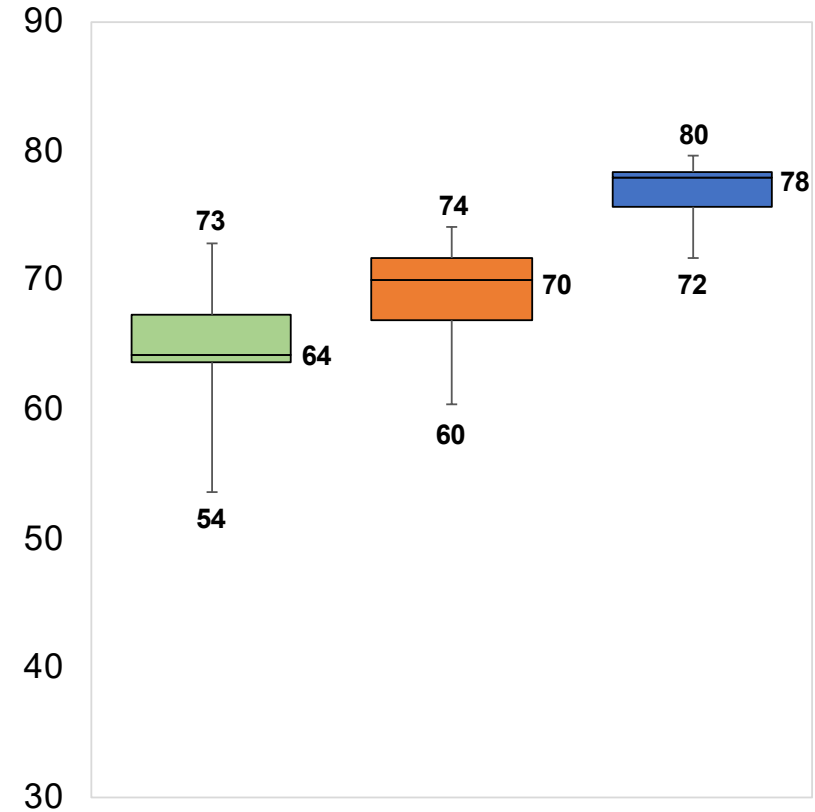
The State of The Sustainable Development Goals

Overall Performance in 17 SDGs In Asia-Pacific

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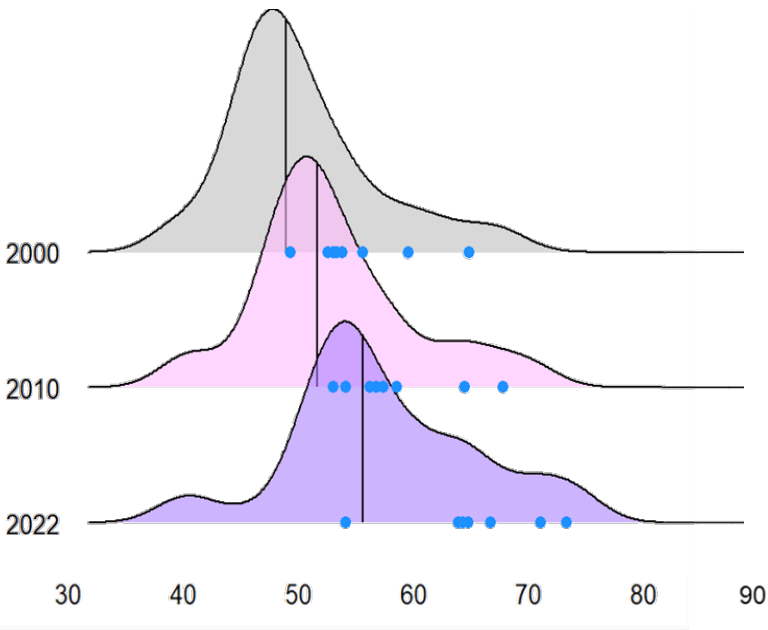
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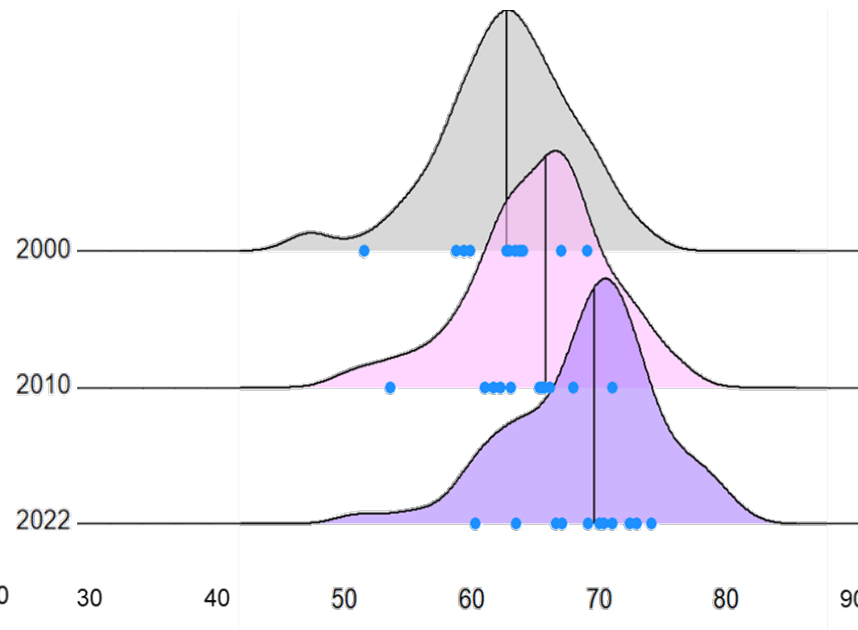
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The State of The Sustainable Development Goals

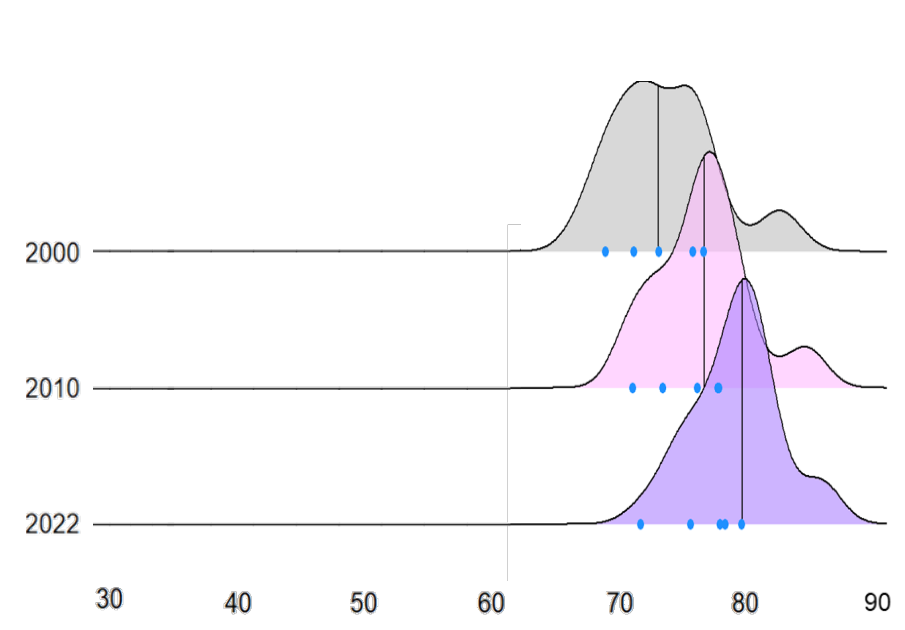
Distribution of SDG Index in LIDCs



Distribution of SDG Index in EMEs



Distribution of SDG Index in AEs



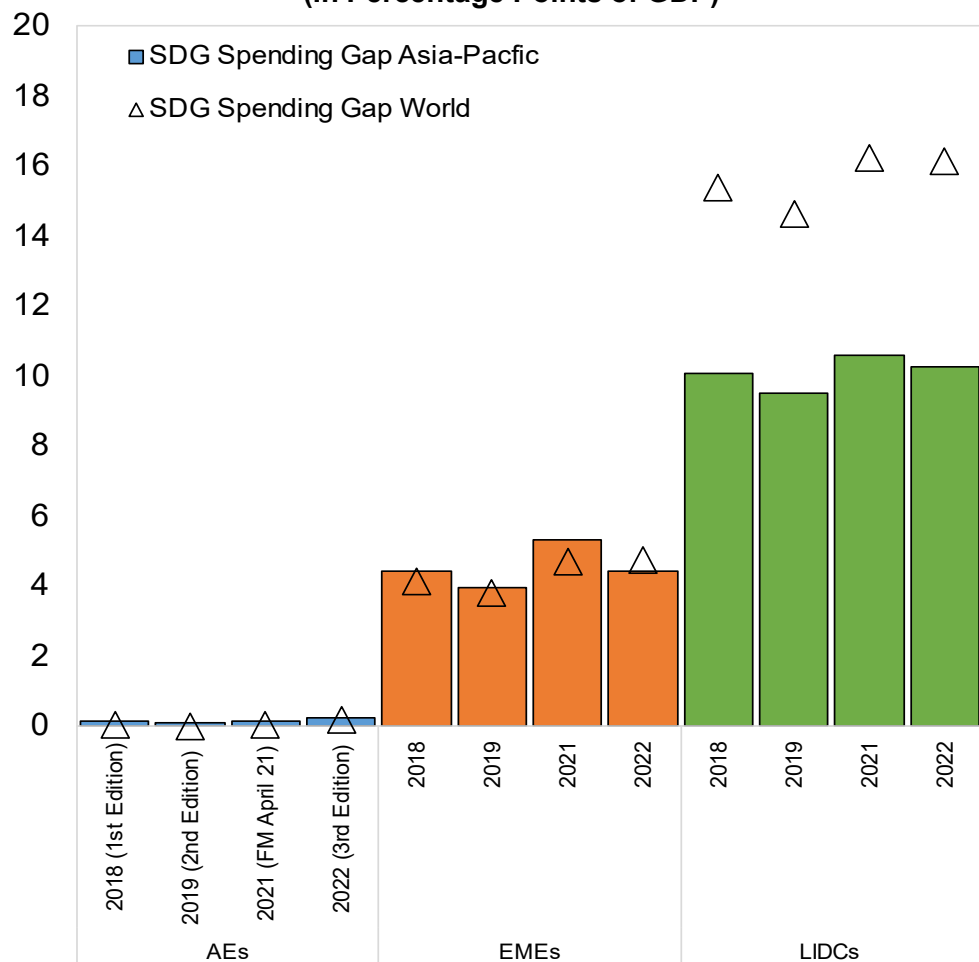
● Asia-Pacific Economies

Source: Sachs et. al (2022)

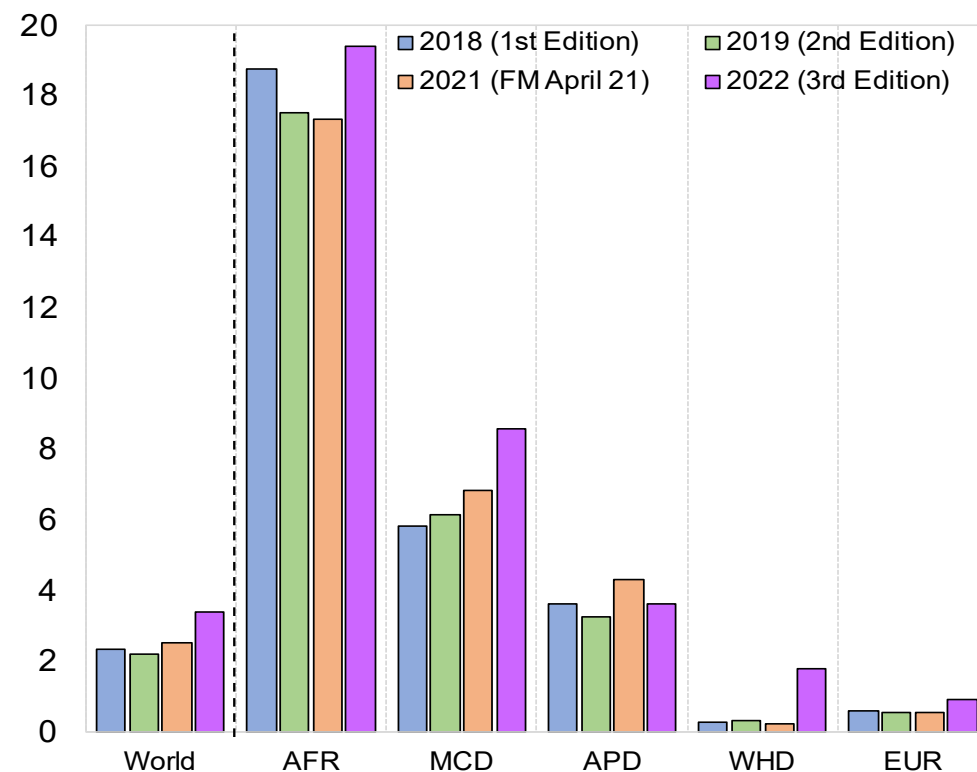
Note: AEs = Advanced Economies; EMEs = Emerging Market Economies; LIDCs = Low-income developing countries. Income group classifications are based on the IMF World Economic Outlook (WEO) classifications.

Spending Gap in 2030 to Attain SDGs

Average Additional Spending Gap in 2030 in The World and Asia-Pacific, By Income Groups
(In Percentage Points of GDP)



Average Additional Spending Gap in 2030, By Region
(In Percentage Points of GDP)

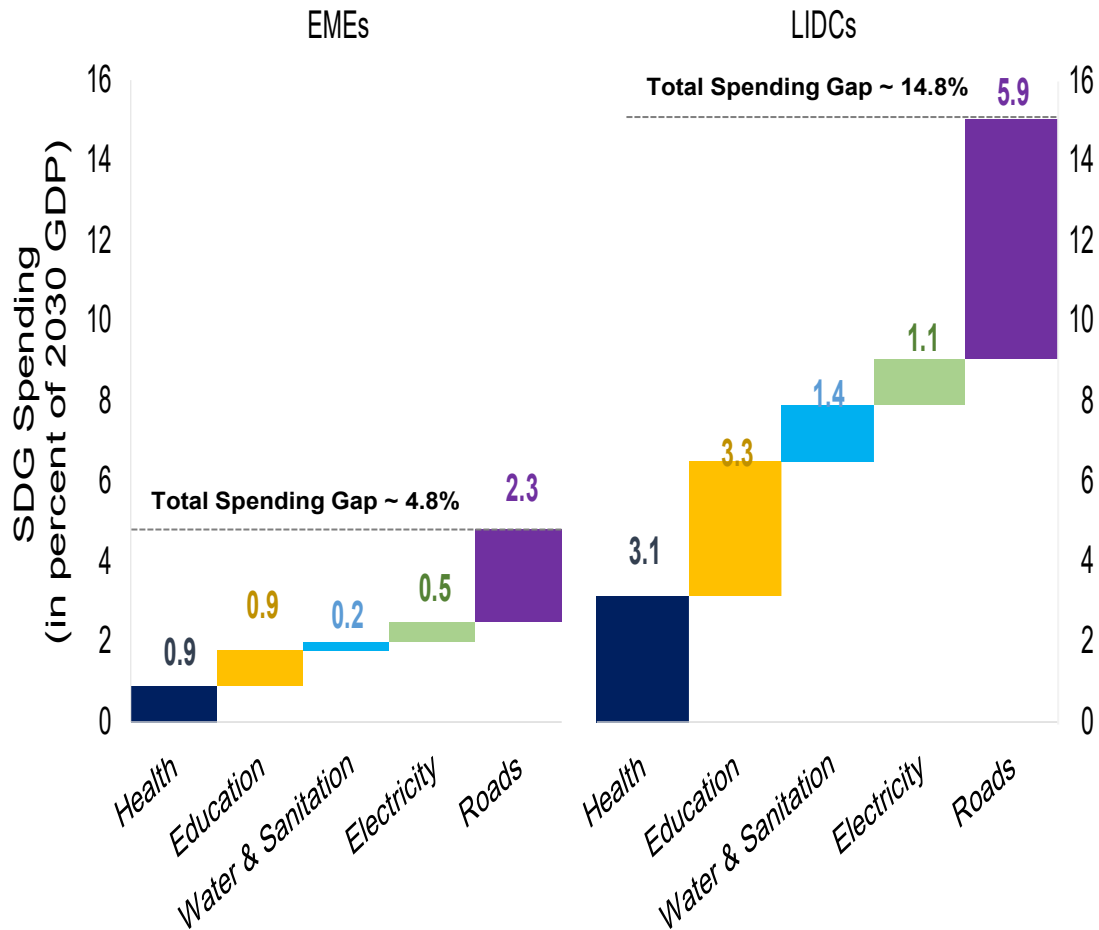


Sources: IMF Staff calculations, based on IMF SDG Costing Tool, 1st, 2nd and 3rd editions (Preliminary IMF Staff Estimates) and IMF Fiscal Monitor (April 2021) estimations.

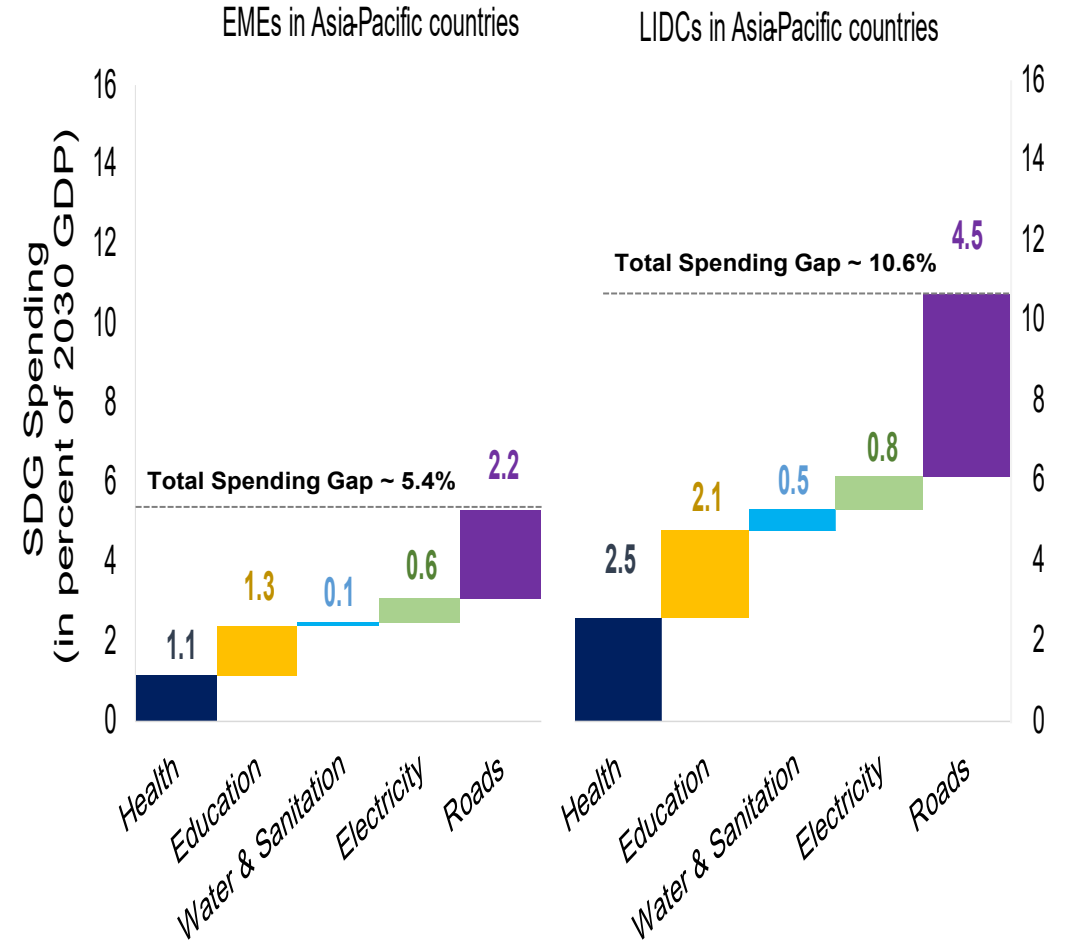
Note: The IMF SDG Costing Tool 1st edition refers to the original estimates of Gaspar et. al (2019); 2nd Edition refers to an interim update of previous estimates in 2019; the 2021 refers to the update of estimates for the IMF April 2021 Fiscal Monitor and the 3rd Edition are preliminary estimates put together by IMF staff for a forthcoming note. AEs = Advanced Economies; EMEs = Emerging Market Economies; LIDCs = Low-income developing countries. Income group classifications are based on the IMF World Economic Outlook (WEO) classifications

SDG Spending Gaps

SDG Spending Gap in The World (in percent of 2030 GDP)



SDG Spending Gap in Asia-Pacific Countries (in percent of 2030 GDP)

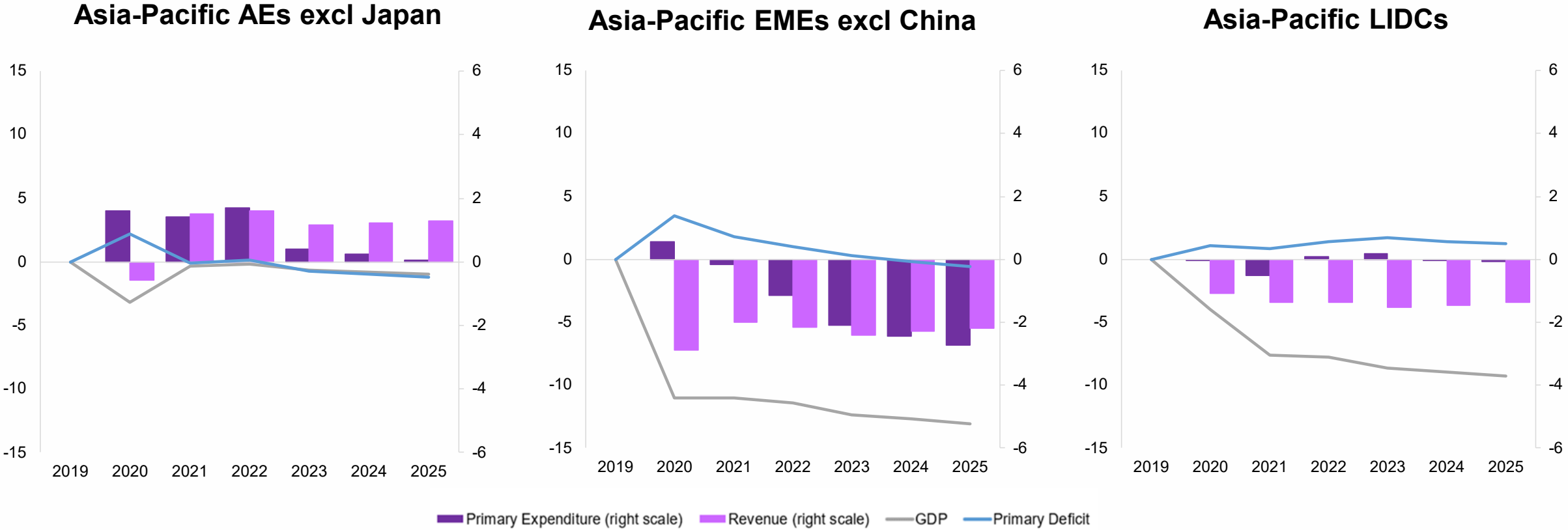


Sources: IMF Fiscal Monitor (April 2021)

Note: Updated estimates of Gaspar et. al (2019). Apart from updating the key input variables with more recent data, some methodological refinements were made including the development of a new education SDG performance index with recently developed education quality indicators, incorporating newly available rural access index, and systematic treatment of infrastructure depreciation and maintenance.

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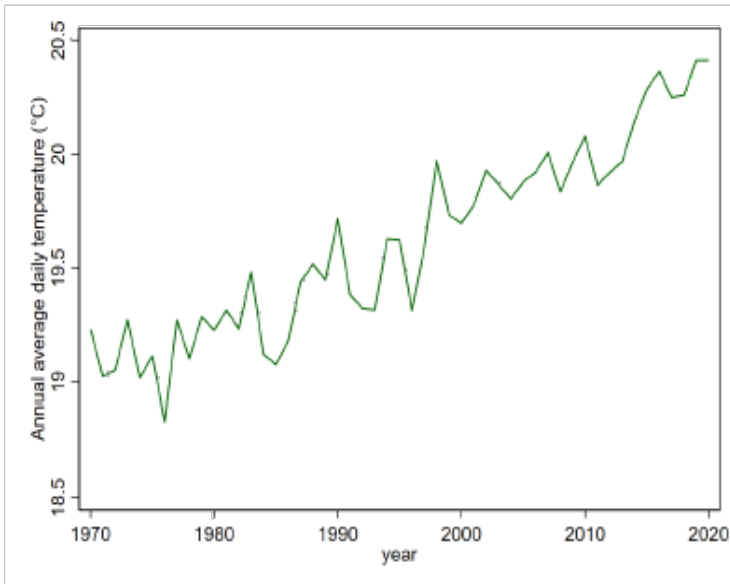
Effect of the Pandemic on Revenue, Spending, Primary Deficit and GDP



Source: IMF World Economic Outlook & Fiscal Monitor Databases (October 2019, October 2022 and January 2023)
 Note: All variables are weighted average real values, deviations from pre-pandemic projections as a percentage of WEO October 2019 vintage projected GDP.

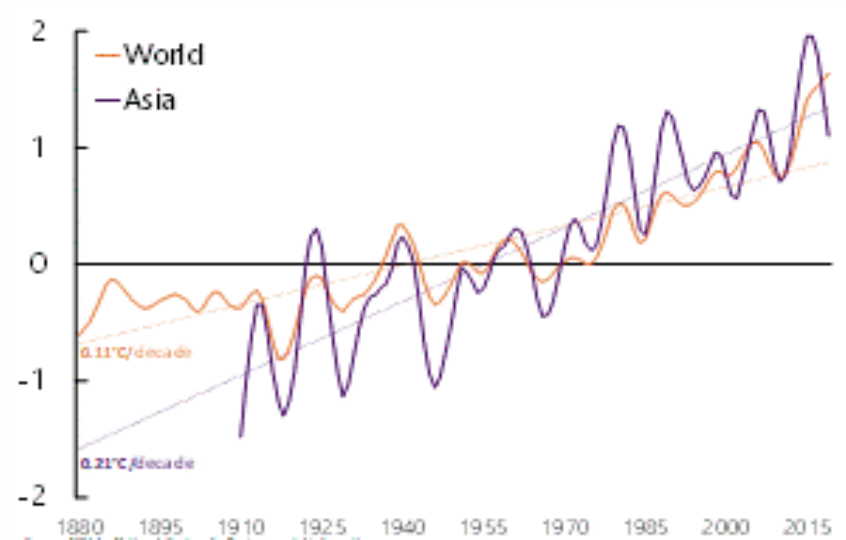
The Need for Climate Action is Now Burning

Annual Average Daily Temperature Evolution (1970-2021)



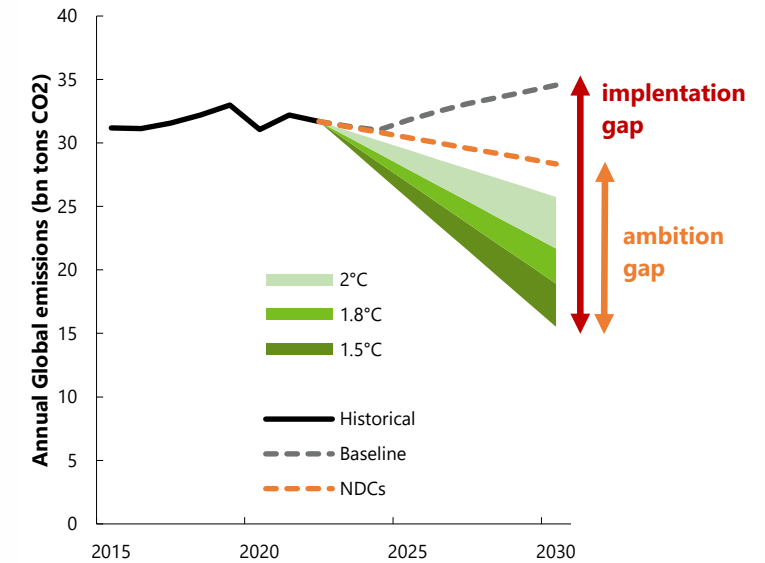
Sources: Guglielmo Zappala, “*The Sectoral Impact & Propagation of Climate Shocks*”, IMF Working Paper, forthcoming.

Extreme Land & Ocean Temperature Anomalies (1880-2019, Annual Temperature Anomalies in degrees Celsius)



Sources: National Centers For Environmental Information, National Oceanic & Atmospheric Administration
 Note: Departures from 20th century temperature average (1910–2000 for Asia). The series are filtered with a HP filter ($\lambda = 6.25$). The dotted lines are the linear trend.

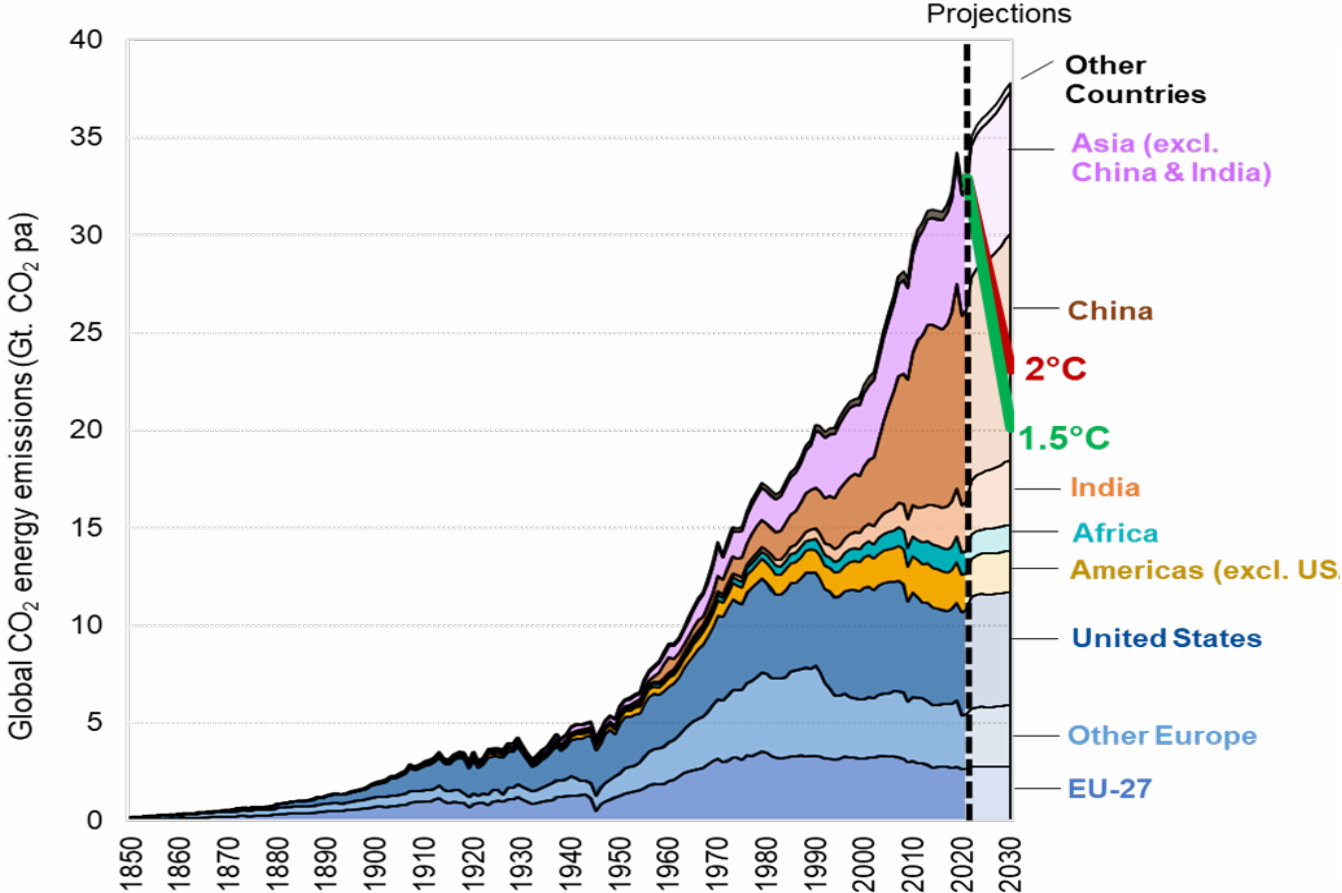
CO₂ Emissions, Mitigation, Ambition and Policy Gaps to 2030, Relative to Path Under Current Policies (Business As Usual)



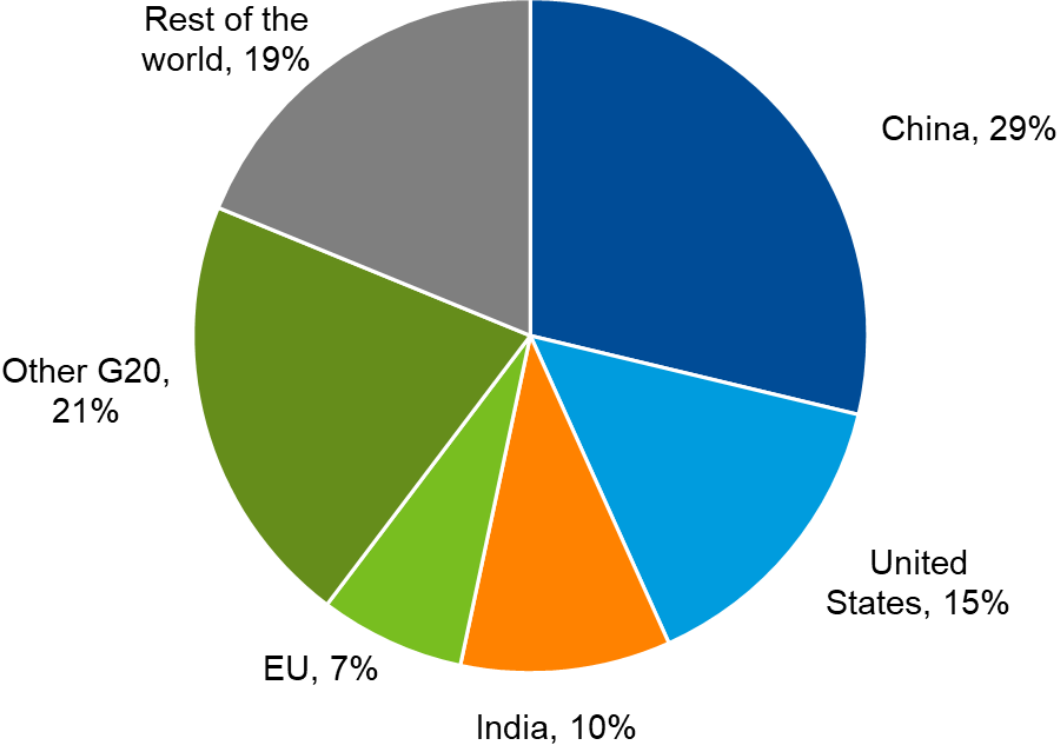
Sources: IMF Staff Estimates & Calculations

Current Policies Will Not Limit Global Warming to <math><2^{\circ}\text{C}</math>

Historical and Projected Annual Global CO₂ Emissions (1850-2030, GtCO₂/yr)



Projected Contributions to Global Carbon Emissions in 2030 with Unchanged Policies, By Major Emitter



Source : IMF CPAT-Tool; Sustainable Development Needs (2021); Global Carbon Budget (2021); Our World in Data (2022); International Energy Agency (2022) & IMF Staff Calculations

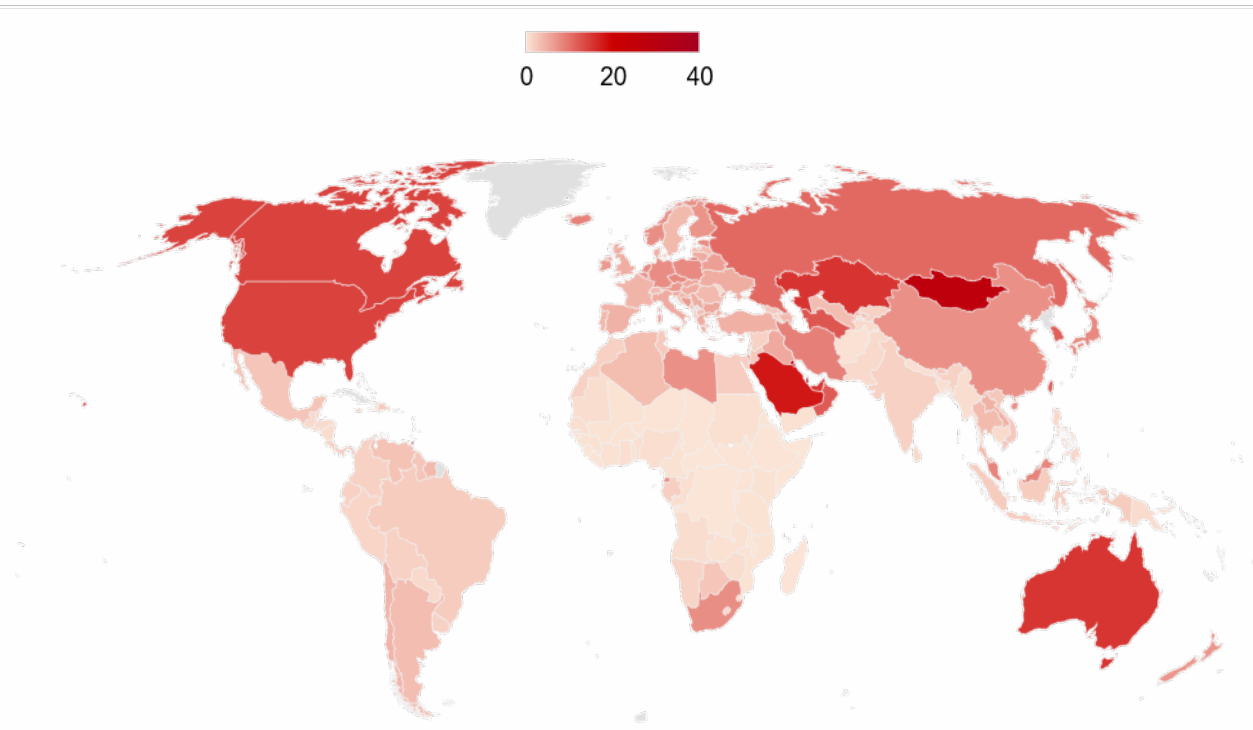
Note: Data uses fossil CO₂ emissions from energy-related and industrial processes, excluding international aviation and maritime. Projections are for a baseline scenario without further mitigation policies or strengthening of existing policies.

Source : IMF CPAT-Tool; Sustainable Development Needs (2021); Global Carbon Budget (2021); Our World in Data (2022); International Energy Agency (2022) & IMF Staff Calculations

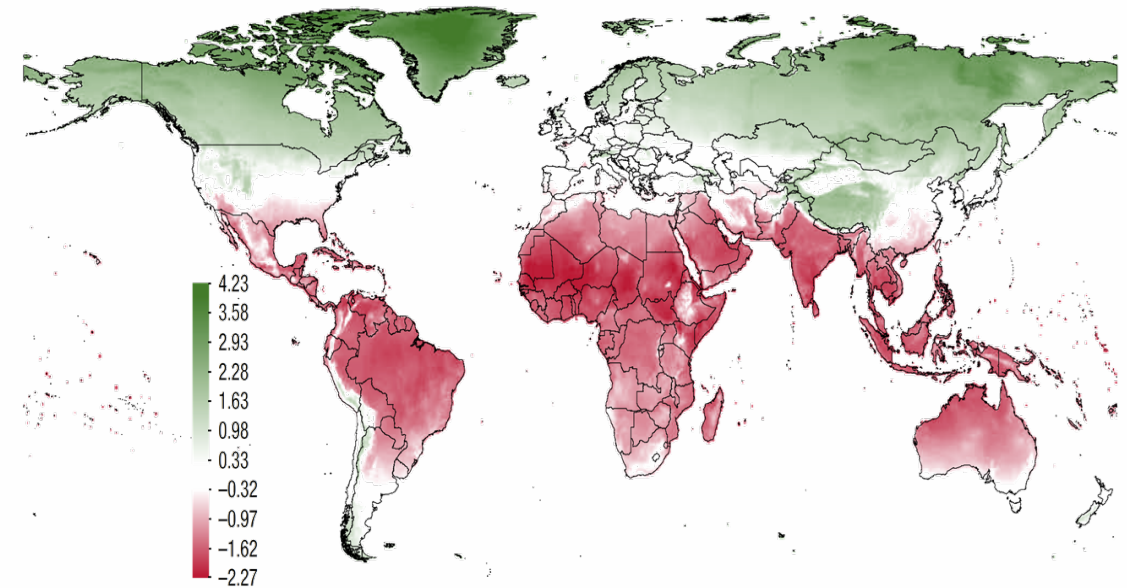
Note: Data uses fossil CO₂ emissions from energy-related processes, excluding international aviation and maritime.

Emissions And Vulnerabilities in The World

Annual per capita CO2 emissions (Tons)



Climate Vulnerabilities: Effect of 1°C Temperature Increase on Real Output per Capita (in percentage points)



Source: Our World in Data (2022) & IMF World Economic Outlook (October 2017)

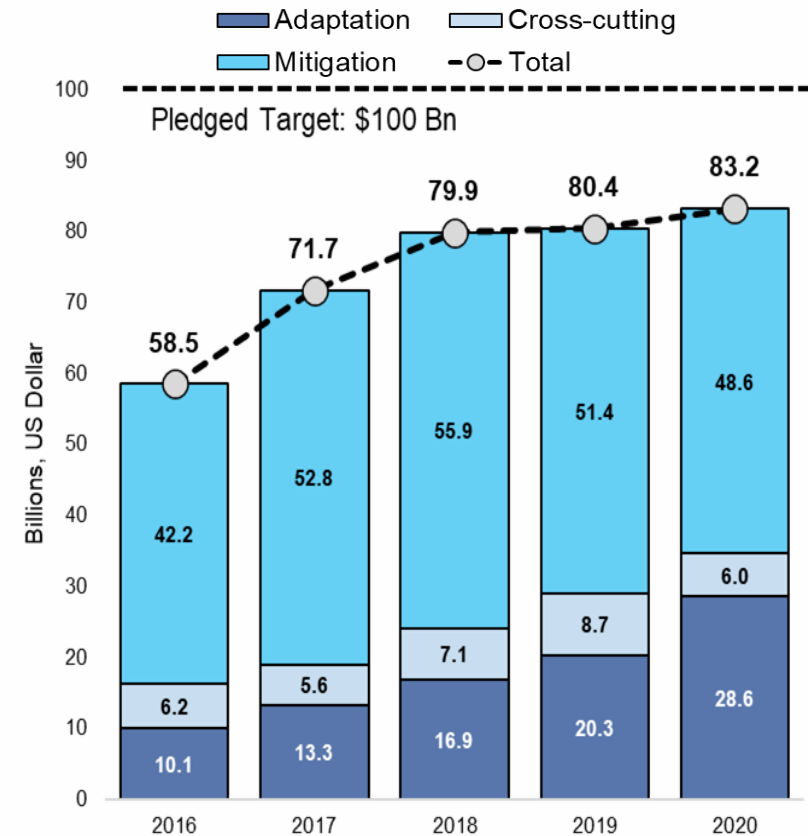
The Path To A Global Deal In An Equitable Way

Drivers of Support for Carbon Pricing:
Regression Coefficients & 95% Confidence Intervals
 (Question: Would you support a carbon pricing policy in your country?)



Sources: Dabla-Norris et al. (Forthcoming), "Public Perceptions of Climate Change Mitigation Policies: Evidence from across-Country Surveys", IMF Staff Discussion Note.

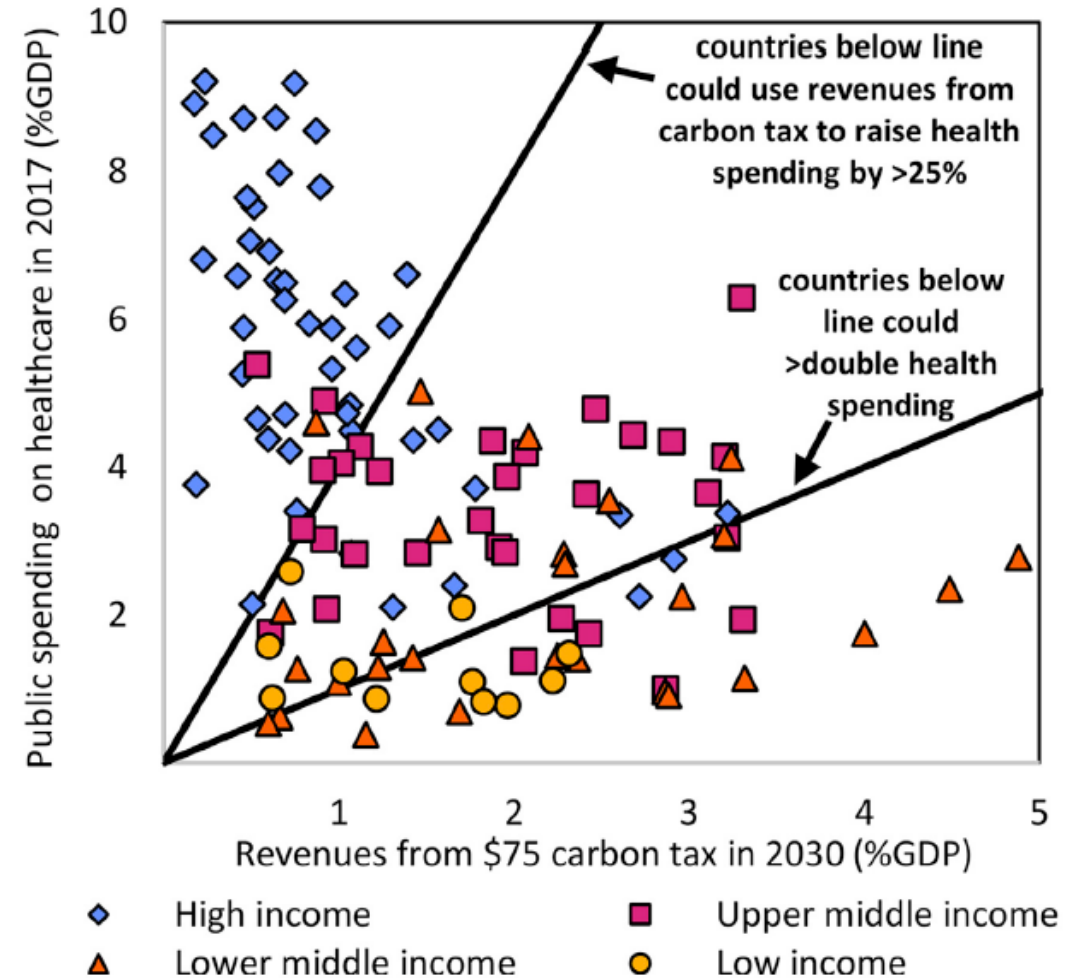
Developed Countries Climate Finance Provided & Mobilized Relative to \$100 Bn Pledged



Sources: OECD "Aggregate Trends of Climate Finance Provided and Mobilized by Developed Countries, 2013-2020".

Potential Revenues From Carbon Pricing Are Significant

- Raises significant revenue for e.g. health expenditures, investment, labor tax reductions
- Recommend mixing use of revenues based on goals:
 - ▶ Efficiency/equity – raise labor tax thresholds (mostly developed countries)
 - ▶ Equity & political support – targeted transfers & pro-poor expenditures (all countries)
 - ▶ Achieving the SDGs – development expenditures (developing countries)
 - ▶ Environmental effectiveness – recycle into green public expenditures (all countries)



Source: IMF Staff Calculations

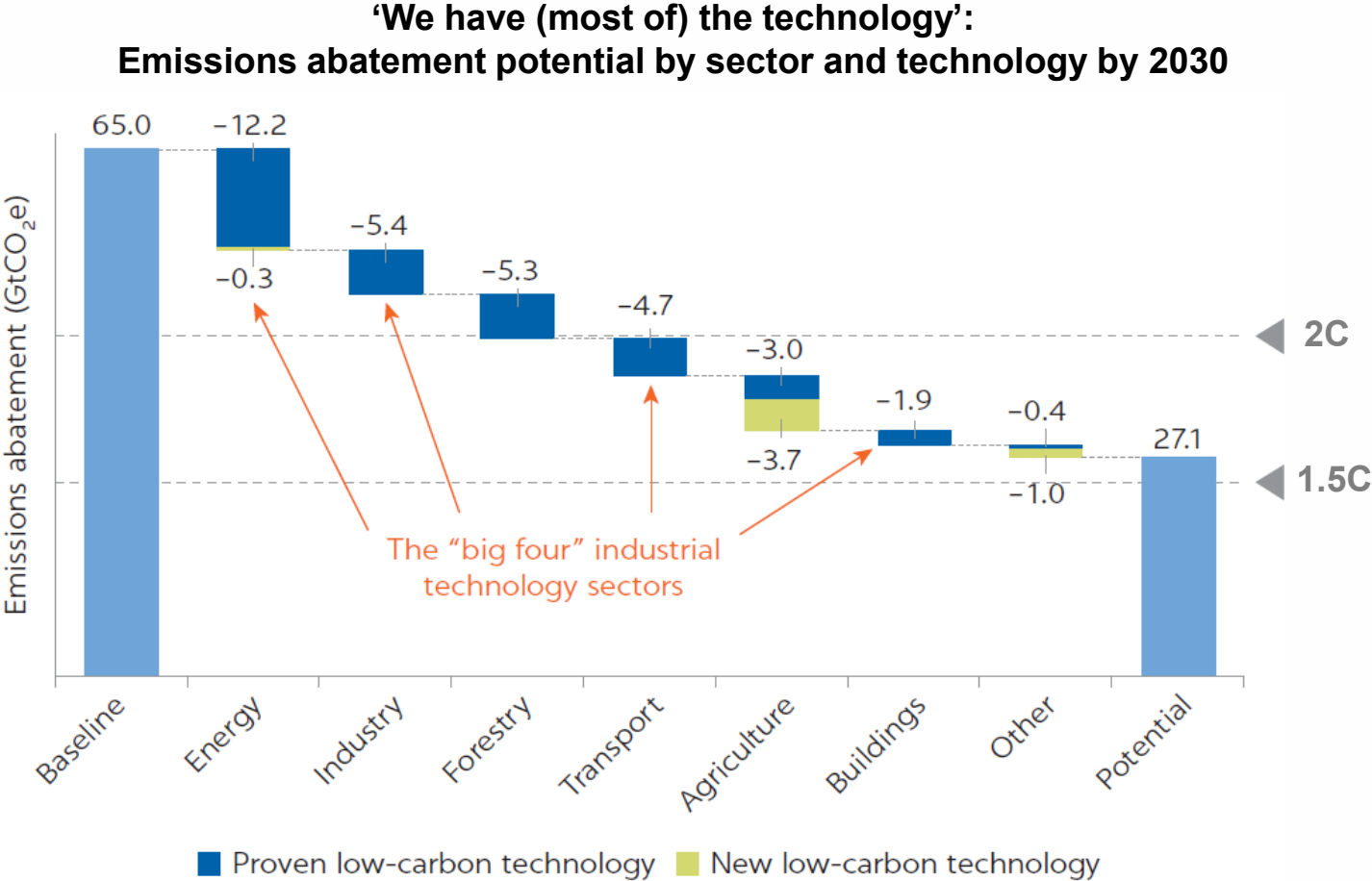
Technological Transformation

The **technology challenge is twofold**:

1. Diffusing existing, commercially proven low-carbon technologies everywhere (accounts for ~85% needed abatement to 2030, ~65% to 2050; see figure)
2. Facilitating investment in new, unproven technologies and processes (e.g. direct air capture, CO2-negative cement, aviation, flow batteries etc)

Requires comprehensive policy package:

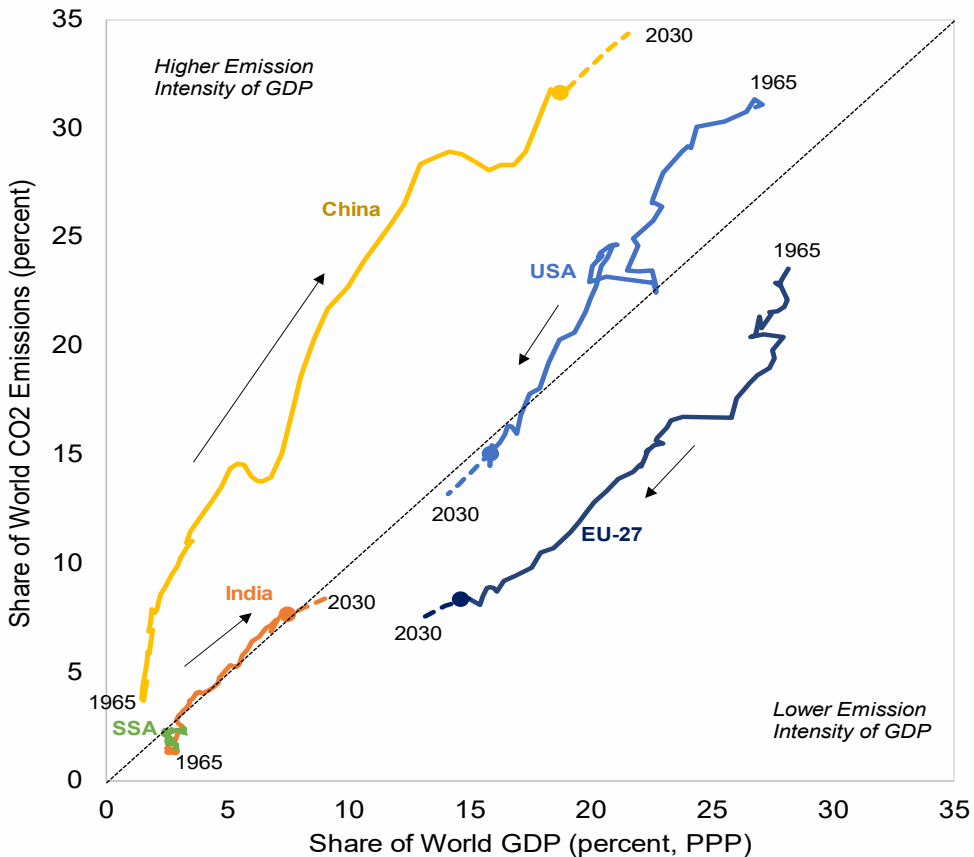
1. Set right incentives for clean energy (carbon pricing, feebates, subsidies)
2. Technology transfers to developing countries



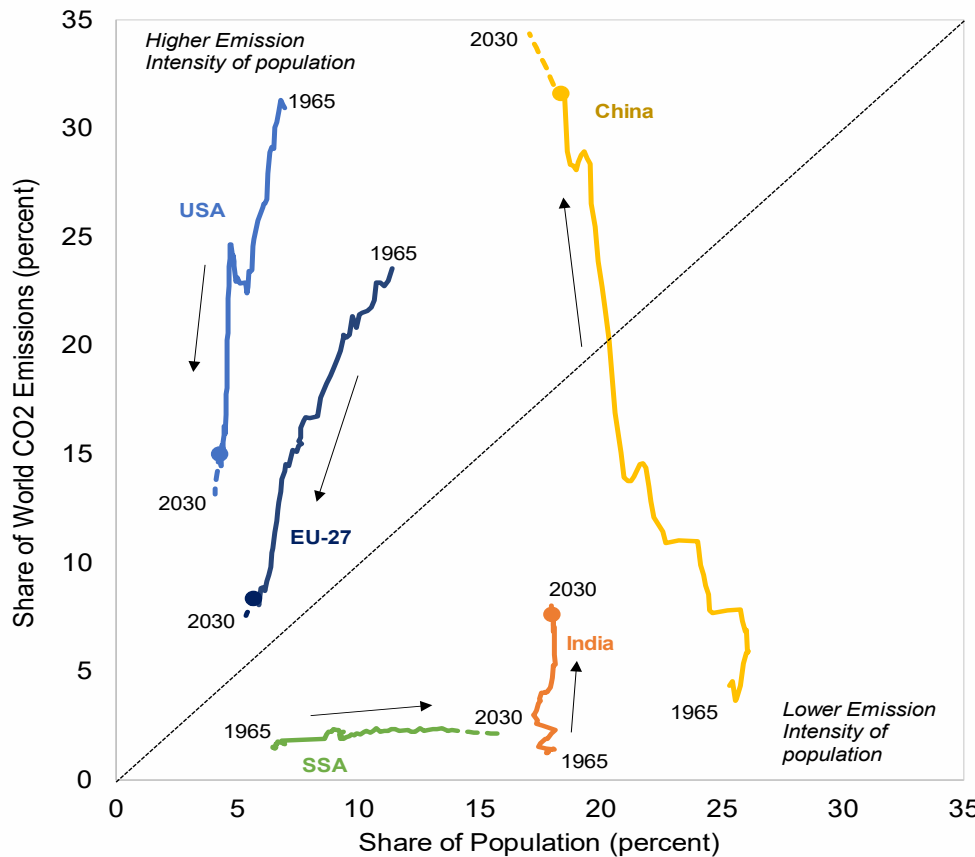
Source: IRENA and OECD/IEA 2017 in [Pigato, Black et. al 2019](#).

Global Carbon Emissions Intensity

Share of Emissions vs. Share of GDP (1965-2030)

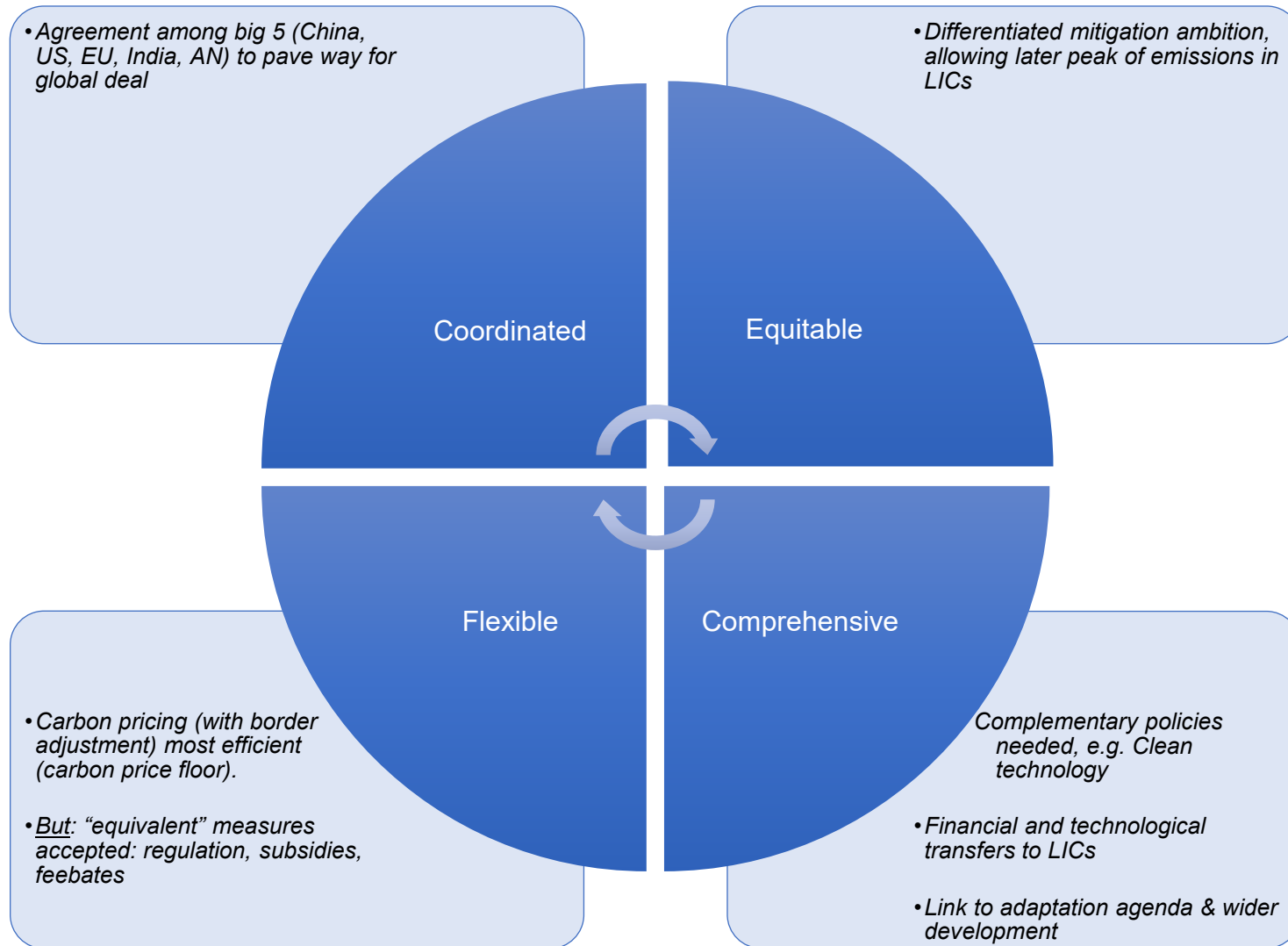


Share of Emissions vs. Share of Population (1965-2030)



Source: Global Carbon Budget (2021); Our World in Data (2022); IMF World Economic Outlook Database (January 2023); IMF Staff Estimates
 Note: Population and GDP from 2027 to 2030 uses the 2027 to 2028 GDP and population growth rate, respectively. IMF emissions projections start in 2020. Data uses fossil CO2 emissions from energy and industrial processes. Data labels indicate the percent of World (total emissions, GDP and population). GDP is Real GDP in PPP international Dollars. The dark dashed line is the 45-degree line to split the figures evenly.

Towards A Global Agreement



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