

Taxes and the Environmental Costs of Transport

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Renewables in Transport: How to Gain Market Share in a
Difficult Environment

Brussels, May 11, 2016

Background



- > 190 countries made mitigation pledges for Paris
 - E.g., reduce emissions 30% by 2030
- Outline
 - Case for and design of carbon taxes
 - Taxes for transportation

Carbon taxes

Choice of Mitigation Instrument



- Carbon pricing better than regulations
 - Environmentally effective
 - Raises revenue
- Trading systems should look like taxes
 - Auction allowances
 - Price stability provisions (e.g., price floors)
 - Combine with taxes for uncovered emissions (e.g., road, heating fuels)

Basic Design Issues



- Administration: on carbon content of fuel supply
 - Covers all emissions
 - Straightforward extension of existing fuel taxes
- Revenue: use productively
 - Reducing labor/capital taxes key for containing costs
 - Any extra spending should have comparable benefits
- Prices: aligned with environmental objectives

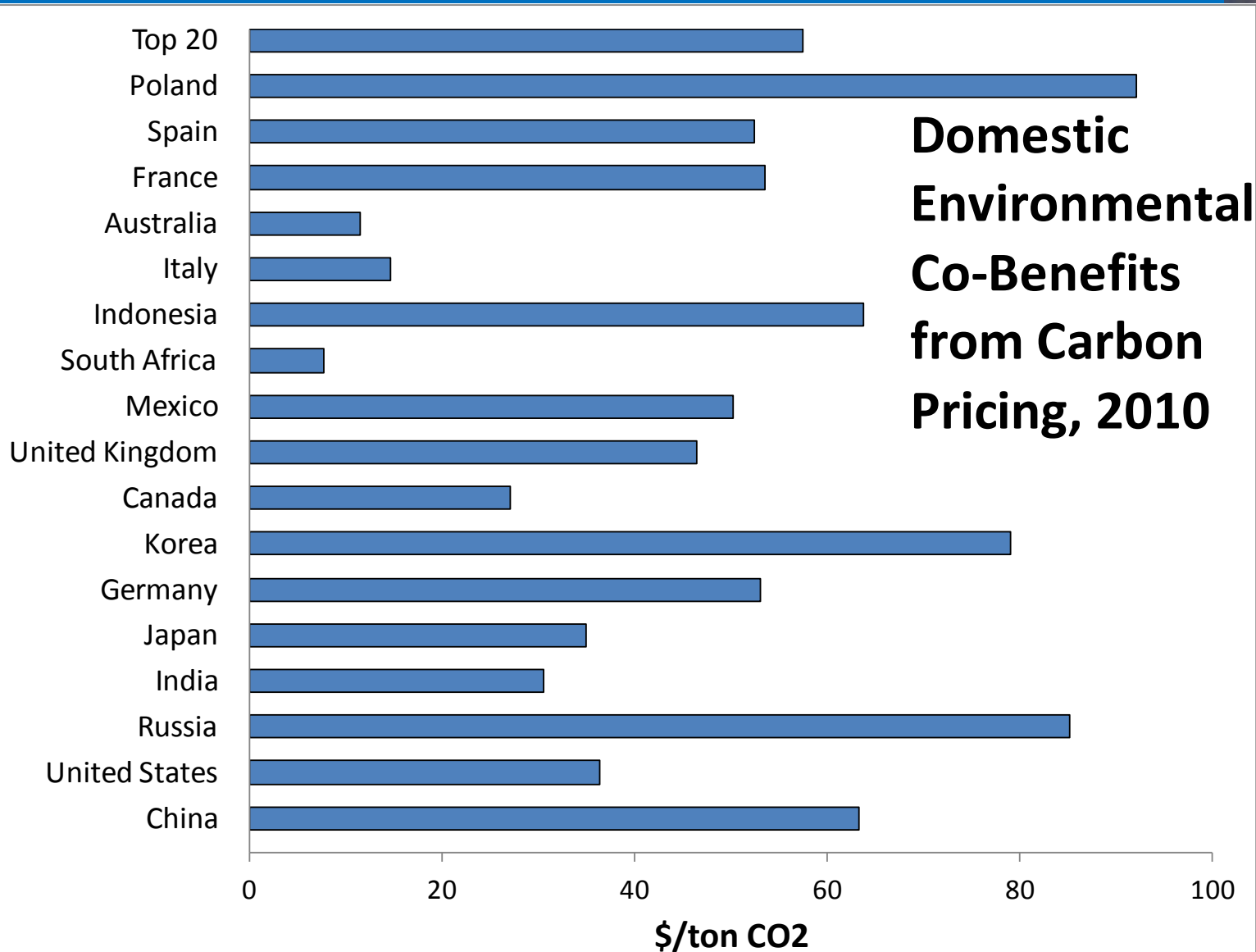
Illustrative Prices for Paris (by 2030)



Country	Main mitigation pledge: reduce... ^a	Share global CO ₂ , 2012 ^b	Required CO ₂ price, \$/ton ^c	Revenue, %GDP
China	Emissions to GDP 60-65% by 2030	26.8	47	1.5
US	Emissions 26-28% below 2005 levels by 2025	16.9	96	1.5
Russia	Emissions 25-30% below 1990 levels by 2030	5.5	13	1.6
India	Emissions to GDP 33-35% below 2005 by 2030	5.3	51	2.6
Japan	Emissions 25% below 2005 levels by 2030	3.6	>100	>1.7
Germany	Emissions 40% below 1990 levels by 2030	2.3	>100	>1.5
Korea	Emissions 37% below BAU in 2030	1.9	>100	>1.9
Canada	Emissions 30% below 2005 levels by 2030	1.7	>100	>1.9
UK	Emissions 40% below 1990 levels by 2030	1.5	>100	>1.0
Brazil	Emissions 37% below 2005 levels by 2025	1.5	>100	>1.2
Mexico	Emissions 25% below BAU in 2030.	1.4	81	1.7
Indonesia	Emissions 29% below BAU in 2030	1.3	91	1.9
Italy	Emissions 40% below 1990 levels by 2030	1.2	>100	>1.3
Australia	Emissions 26-28% below 2005 levels by 2030	1.2	>100	>1.7
France	Emissions 40% below 1990 levels by 2030	1.1	>100	>0.9
Spain	Emissions 40% below 1990 levels by 2030	1.0	>100	>1.2
Poland	Emissions 40% below 1990 levels by 2030	0.9	>100	>3.1

Source. Preliminary IMF calculations.

Pricing is in Countries' Own Interest



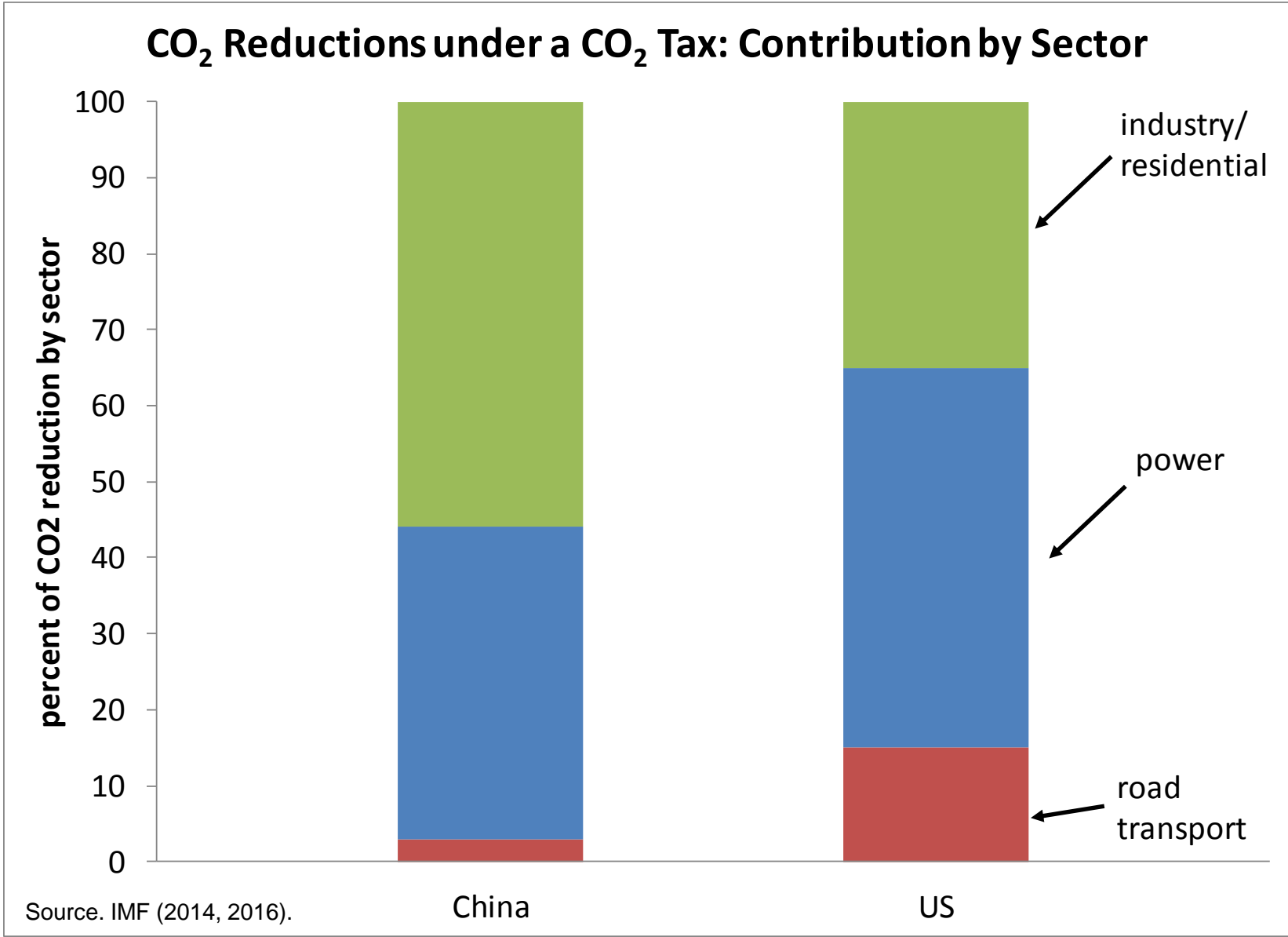
Source. IMF (2014).

Moving Forward with Pricing

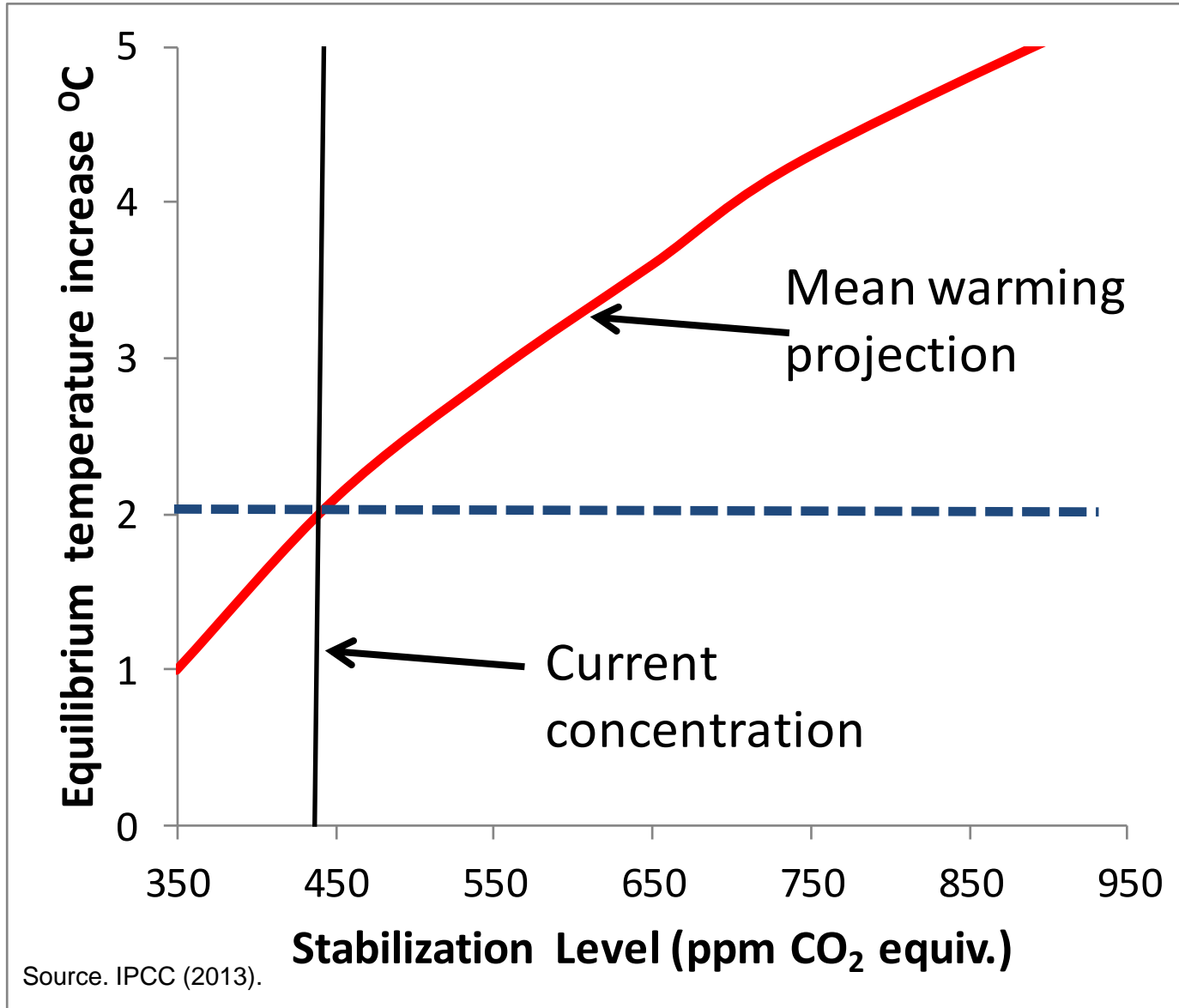


- Higher energy prices harm poor
 - But >90% of benefits from energy subsidies leak away
 - Targeted measures (with $\approx 10\%$ of revenues) are better
- International coordination: carbon price floors
 - Protection against competitiveness impacts
 - Allows countries to set higher prices than floor
 - Precedents include tax floors for VAT, excises in EU
 - Should account for broader changes in energy taxes

Near term reductions not in transport...



...but de-carbonization ultimately needed



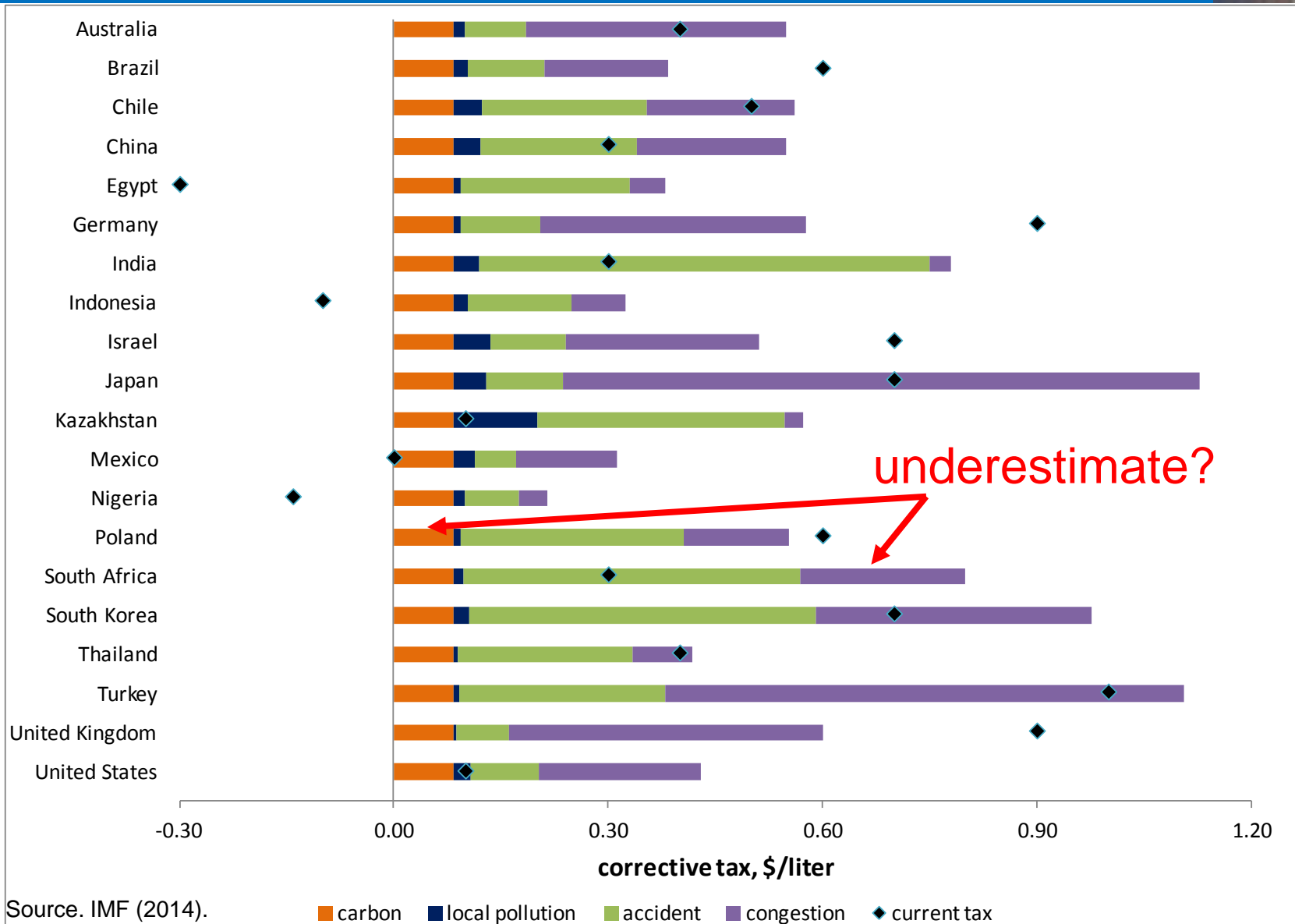
Taxes and transportation

Environmental costs of transportation

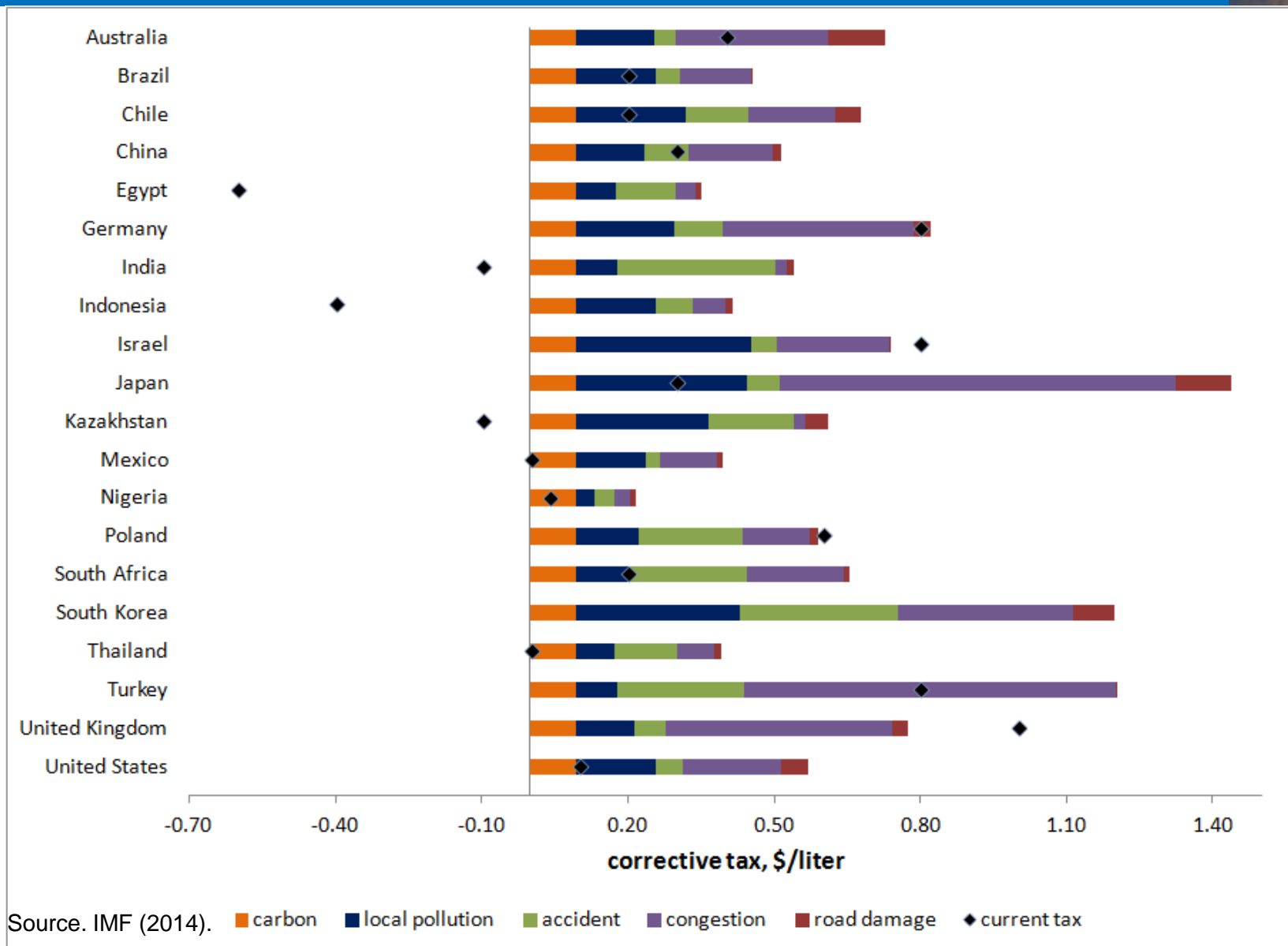


- Besides carbon
 - Local pollution, congestion, accidents, road damage
- Some require distance-based charges
 - E.g., peak period pricing for congestion
- But for the interim
 - All costs should be reflected in fuel taxes

Corrective Taxes on Gasoline, 2010



Corrective Taxes on Diesel, 2010



Fuel Economy Policies: Feebates



- Design
 - Taxes/subsidies for fleets with fuel economy falling short/exceeding 'pivot point'
- Advantages
 - Ongoing incentives (unlike regulation, vehicle taxes)
 - Broader incentives than renewables subsidies
 - Handle cost uncertainty
 - Avoid tension between environmental/fiscal objectives when combined with ad valorem tax

Charges for International Transport Fuels

- Attractive
 - Economic: fuels undercharged from environmental/fiscal perspective
 - Climate finance: national governments weak claim on tax base
 - Raise \$25 billion in 2014

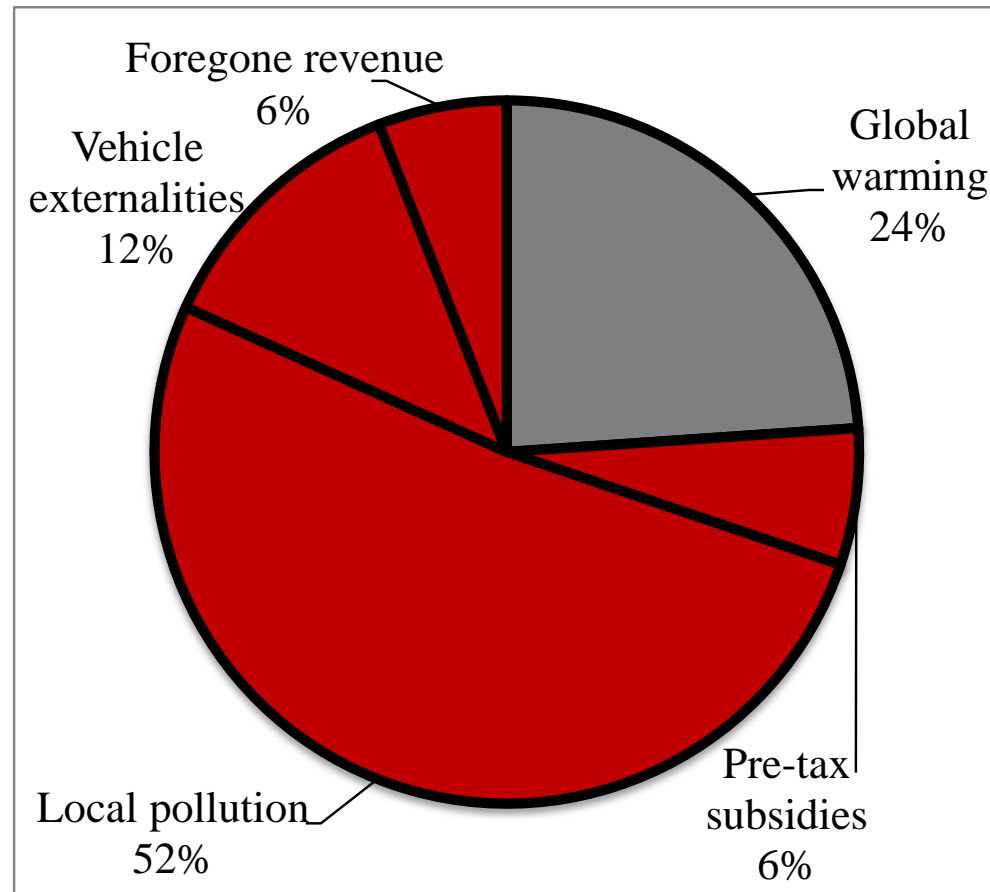
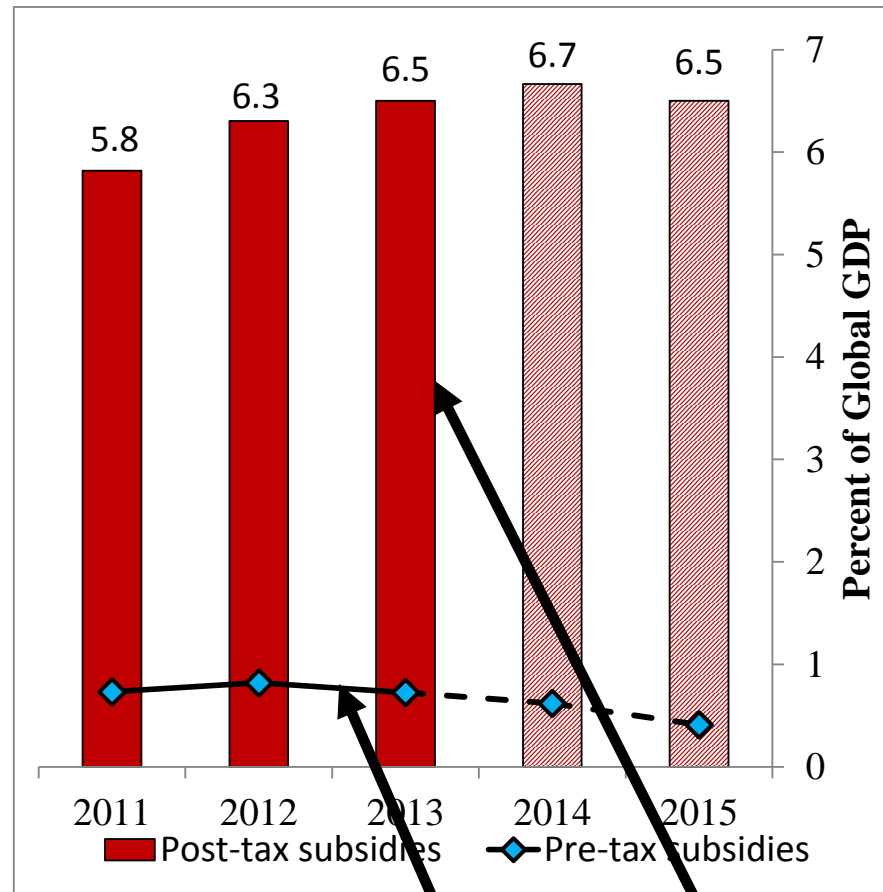
- Practicalities
 - Need global charges (but developing country compensation feasible)

Concluding: Broader Energy Subsidies



Global Energy Subsidies

By Component, 2015



Narrow Broad

Besides Getting Energy Prices Right



- Incentives for clean fuels
 - Especially for R&D
 - Fiscal incentives better than regulations for deployment