

Missing Link: EU ETS

- Carbon pricing should be the centerpiece of mitigation
 - ▶ Across-the-board incentives, cost-effective, revenue, domestic environmental co-benefits, administratively straightforward
 - ▶ But: (i) predictable and rising price (ii) comprehensive coverage needed
- EU ETS
 - ▶ Floor price (e.g., by linking Market Stability Reserve to prices)
 - ▶ Extending to transport/buildings to promote cost effectiveness but
 - ✓ compensation for MS needed (to replace burden sharing for these sectors)
 - ✓ will not be sufficient (due to lower responsiveness of emissions to pricing)

Missing Link: Feebates at National/Sectoral Level

- Feebates (fiscal analog of regulations)
 - ▶ Revenue neutral sliding scale of fees/rebates for products/activities with $>/<$ average CO₂ rates
 - ▶ Promote all responses for reducing emissions intensity
 - ▶ Cost effective
 - ▶ Avoid a fiscal cost
 - ▶ No burden on average household/firm
- Applications
 - ▶ Vehicles: $\text{fee} = \text{CO}_2 \text{ price} \times (\text{CO}_2/\text{km} - \text{fleet average CO}_2/\text{km}) \times \text{lifetime km}$
 - ▶ Generators: $\text{fee} = \text{CO}_2 \text{ price} \times (\text{CO}_2/\text{kWh} - \text{industry av. CO}_2/\text{kWh}) \times \text{output}$
 - ▶ Landowners: $\text{fee} = \text{CO}_2 \text{ price} \times (\text{baseline carbon storage} - \text{current storage})$
 - ▶ Industry, clean heating systems, efficient appliances, agriculture

Missing Link: International Carbon Price Floor (ICPF)

- Paris Agreement will not deliver needed reductions
 - ▶ Current pledges → 1/3 of 2030 reductions for 2°C
 - ▶ Negotiation (195 parties) and unilateral action (competitiveness/free rider) difficult
- ICPF focuses on China, India, US, EU (other G20)...
 - ▶ 2/3 global emissions
- ...and minimum carbon price
 - ▶ Efficient and easily understood parameter
 - ▶ Simultaneous action addresses free rider/competitiveness concerns
 - ▶ Equity: differentiated price floors and/or simple transfer mechanism
 - ▶ Flexibility: allow alternative approaches yielding equivalent emissions outcomes

G20 Emissions Outcomes under Alternative ICPF Scenarios

% reduction in G20 CO₂ emissions below baseline, 2030

Required for 2 degrees (1.5) target ^a	28 (55)
Only China, India, and US implement their Paris pledges	4.1
All G20 countries implement their Paris pledges and ^b	
none join an ICPF	10.4
China, India, US join a \$50/25 price floor	22.6
All G20 countries join a \$50/25 price floor	23.4
China, India, US join a \$50 price floor	28.6
All G20 countries join a \$50 price floor	29.9
China, India, US join a \$75/50 price floor	29.5
All G20 countries join a \$75/50 price floor	31.1
China, India, US join a \$75/50/25 price floor	28.4
All G20 countries join a \$75/50/25 price floor	29.8

Source. IMF staff calculations.

Note. ^a Assumes fossil fuel CO₂ emissions are reduced in proportion to total GHGs.

^b Higher/lower price for advanced/EME.

^b Higher/middle/lower price for advanced/high income EME/low income EME.