

Energy, Trade, and the Environment

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Globalization Important for Energy, Environment

- **Important**

- Energy a large share of trade, costly to limit
- International air/sea fastest growing broad sector for CO₂
- Trade provides carrots and sticks

- **Policy debates**

- Carbon border adjustments
- Climate clubs
- Climate finance
- Russia sanctions
- Inflation Reduction Act / friendshoring

Carbon Border Adjustments

- **Political economy of climate policy**
 - Domestic, foreign
- **Leakage**
- **Reshuffling across countries**
- **Foreign abatement incentive?**

Carbon Border Adjustments: Estimates With All Countries

Country	Non-Cooperative Border Taxes			Cooperative Carbon Taxes		
	ΔCO_2	ΔV	ΔW	ΔCO_2	ΔV	ΔW
EU	0.7%	-1.2%	-1.3%	-9.2%	0.0%	2.0%
BRA	-6.0%	-1.3%	-1.3%	-70.7%	-1.3%	-0.8%
CHN	3.0%	-1.0%	-1.0%	-69.3%	-1.3%	-0.9%
IND	1.1%	-4.4%	-4.4%	-76.0%	-2.6%	-2.1%
JPN	3.4%	-0.9%	-0.9%	-23.1%	-0.2%	1.5%
MEX	-1.6%	-3.2%	-3.2%	-79.5%	-0.6%	-0.4%
USA	1.3%	-1.7%	-1.7%	-48.2%	-0.3%	0.3%
Global	-0.6%	-1.7%	-1.7%	-61.0%	-0.6%	0.4%

Source: Farrokhi & Lashkaripour, 2022, "Can Trade Policy Mitigate Climate Change," Mimeo

Carbon Border Adjustments: Estimates With OECD v. Brazilian Steel

Table 2: Emission and Welfare Effects from Environmental Trade Policies

	First Best	BCA	Voluntary Certification $f = 0$	$f = f^*$
<i>Welfare</i>				
Gains in M USD	1212	714	692	866
% of First Best Gains	100	58.9	58.4	71.5
<i>Emissions</i>				
Reduction in Mt	24.4	5.6	6.3	11.1

Note: All gains are calculated relative to a unilateral domestic carbon tax in the OECD without border adjustments. First best is a global carbon emissions tax. f is a tax on certification, with f^* denoting the optimum certification tax.

Climate Clubs

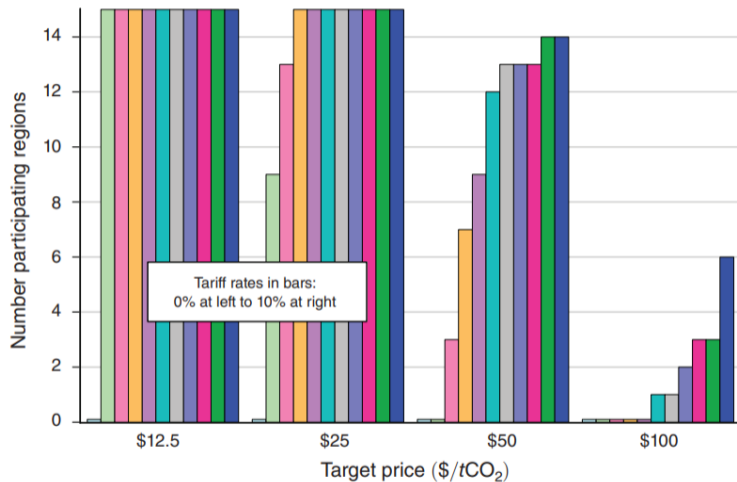
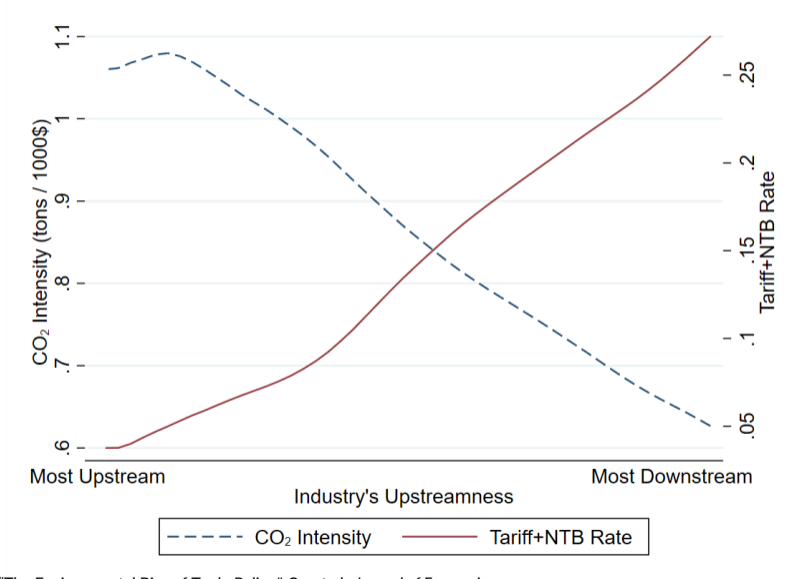


FIGURE 3. NUMBER OF PARTICIPATING REGIONS BY INTERNATIONAL TARGET CARBON PRICE AND TARIFF RATE

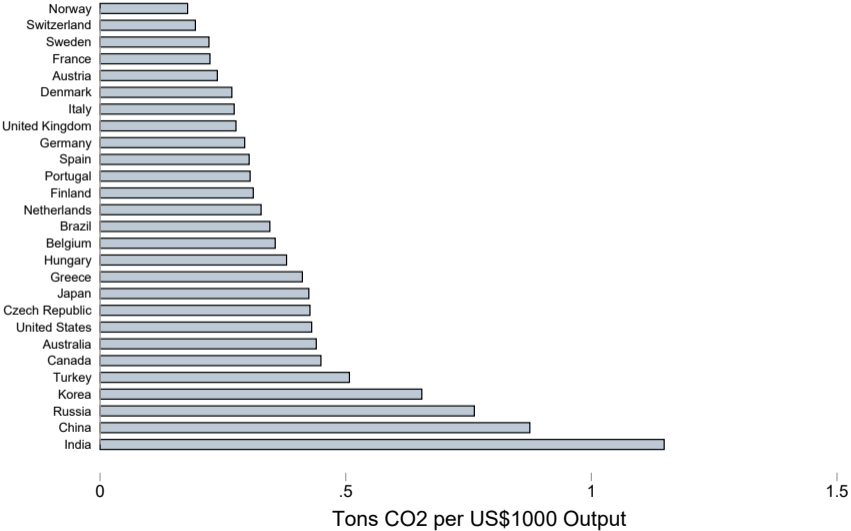
Source: Nordhaus, 2015, "Climate Clubs," *American Economic Review*

Environmental Bias of Trade Policy



Source: Shapiro, 2021, "The Environmental Bias of Trade Policy," *Quarterly Journal of Economics*

Climate Finance



Source: Garcia-Lembergman, Ramondo, Rodriguez-Clare, Shapiro, 2023, "The Carbon Footprint of Multinational Production," Mimeo