The 2025 U.S. Clean Competition Act: Economic and Climate Impacts

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INTRODUCTION

Industrial production sits at the nexus of climate and trade policy. It accounts for over one-fifth of recent U.S. and global fossil fuel greenhouse gas (GHG) emissions (U.S. Environmental Protection Agency, 2024; Pathak et al., 2022). Yet, unlike power and transportation, industrial decarbonization is only beginning, with many low-carbon technologies still at early stages of deployment. Industrial products are also globally traded, with some products, such as iron, steel, and aluminum, carrying added national security and geopolitical significance.

Addressing these concerns requires coordinating domestic climate and trade policy. To that end, the U.S. Clean Competition Act (CCA), introduced in December 2025 in both chambers of Congress, aims to accelerate industrial decarbonization while maintaining U.S. industrial competitiveness.

To do so, the CCA is built on two core policy instruments applied to carbon-intensive, trade-exposed (CITE) sectors.[1] These include aluminum, iron and steel, cement, chemicals, glass, nitrogen-based fertilizers, paper and pulp, and fossil fuel extraction. The first policy instrument is a domestic performance fee, valued initially at $60 per ton GHG (or CO2e), and applied to U.S. firms that are more carbon intensive than the benchmark. The benchmark is initially defined as the current U.S. average for that CITE sector. Firms that are less carbon intensive than the U.S. sectoral average face no fee. The second is a carbon import tariff on imports from countries that are dirtier on average for that sector than the benchmark. The tariff is also valued initially at $60 per ton GHG. Over time, the benchmark declines and the carbon price increases for both the performance fee and tariff.

The two components of the CCA work in tandem. The domestic performance fee creates an incentive for U.S. firms to clean up. The import tariff levels the playing field by imposing costs on foreign producers similar to those faced by dirtier U.S. firms. Together, they serve to maintain U.S. competitiveness while extending emissions cuts beyond the U.S. Importantly, the CCA has provisions for the formation of international climate clubs: the U.S. carbon tariff is waived if a trade partner adopts a comparable domestic climate policy. This provision lays the groundwork for a U.S.-led global climate club, a trade agreement that rewards domestic climate action with market access.

There are many open questions regarding the climate and economic consequences of the CCA for the U.S. and its trading partners. Will the CCA have meaningful impacts on global GHG emissions? How will it alter U.S. economic activity and global trade patterns? How much revenue will it raise for the U.S. government? How do these impacts differ if the CCA were implemented without a domestic performance fee? What is the extent of global GHG reductions if climate club provisions are activated?

A computable general equilibrium model of global trade can answer these questions by capturing how domestic and trade policies reshape production and trade patterns world-wide. For climate and trade policies like the CCA, the model must be extended to include GHG abatement decisions and the recycling of tariff and fee revenues. Because the CCA covers specific industrial sectors (e.g., iron and steel, aluminum, cement, etc.), the model should also be applied to global data on production, trade, and emissions available at a fine sectoral resolution.

1. *See Clean Competition Act of 2025, full legislative text, available at https://www.epw.senate.gov/public/_cache/files/5/c/5c7ea0cd-529d-4532-b681-e583f814a2ad/73389B059829CEC13546120EAF6F33A014B7DEAB5E1744DA6FF87C84B7B099F8.clean-competition-act---2025.pdf*

This policy brief uses the modeling framework developed in Casey et al. (2025) with data that is well suited for analyzing climate and trade policies like the CCA. We model the performance fee and carbon tariff features from the initial year of the CCA on all CCA CITE sectors except for fossil fuel extraction (see Section A in the appendix for model details and explanations). In what follows, we model CCA impacts on economic and climate outcomes for the U.S. and other countries, assuming that there is no climate club. We then explore how these results change if the CCA were to be implemented without the domestic performance fee, i.e., as just a carbon import tariff. Finally, we present global emissions impacts under different international climate club memberships built on the CCA's climate club provisions.

UNILATERAL CCA IMPACTS

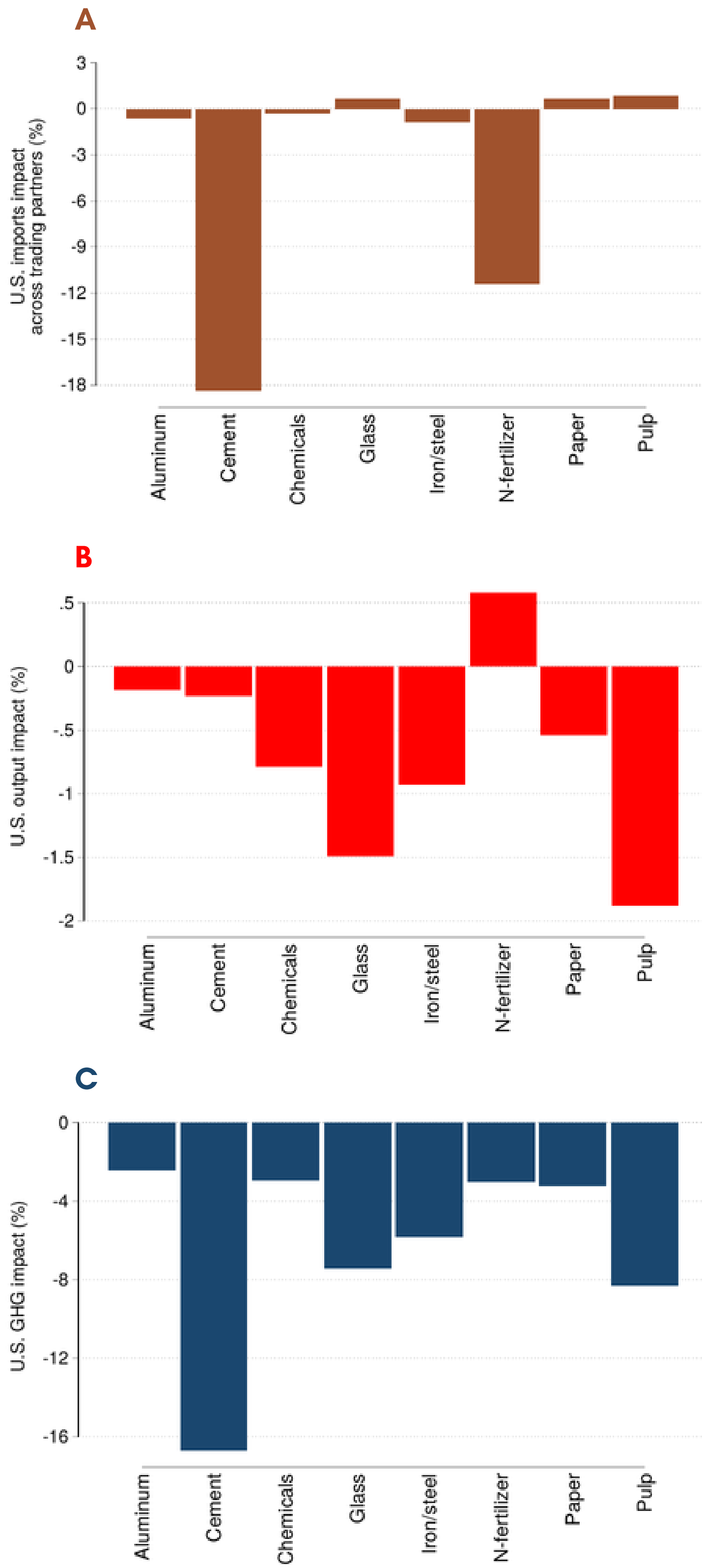
This section presents modeling results that capture the features of the first year of the CCA, assuming it is implemented unilaterally without an international climate club. We first present sector-level U.S. impacts, followed by aggregate economy-wide U.S. impacts. We then present economy-wide impacts on U.S. trading partners.

Sectoral U.S. impacts

Figure 1 and Appendix Table B.2 show the modeled impact of the CCA on U.S. imports from all destinations (Panel A), U.S. output (Panel B), and U.S. GHG emissions (Panel C) for each CITE sector. The CCA has heterogeneous effects across CITE sectors. CCA imposes a tariff on imports based on the extent in which a trade partner is dirtier than the U.S. and no tariffs on countries cleaner than the U.S. As such, impacts on U.S. imports depend in part on how U.S. GHG intensity ranks against that of trading partners in each CITE sector. Appendix Figure B.1 ranks GHG intensities across the countries/regions in our model for the 8 CITE sectors. For example, the U.S. is among the top 5 cleanest for cement, while it is in the bottom 5 for paper. This contributes to U.S. imports falling by 18.4% for cement and rising by 0.7% for paper under the CCA.

Sector-level U.S. output can rise or fall under the CCA. This is because the domestic performance fee and import tariff have opposing effects. The domestic fee raises production costs for dirtier-than-average U.S. firms. Holding all else equal, this increase in costs reduces U.S. output in that sector. Conversely, the

FIGURE 1: CCA impact on U.S. imports, output, and GHG emissions by U.S. CITE sector



Caption: Modeled impacts of a unilateral CCA on U.S. imports from all destinations (in %, Panel A), U.S. output (in %, Panel B), and U.S. GHG emissions (in %, Panel C) for each U.S. CITE sector.

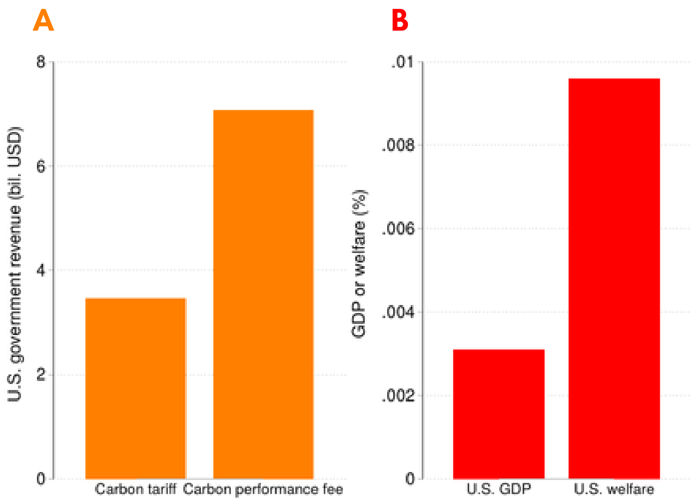
import tariff increases domestic demand for U.S. firms by restricting imports. Holding all else equal, the increase in demand increases U.S. output in that sector. Thus, a priori, the net effect of these two CCA components can push output in a U.S. CITE sector in either direction. Our modeling results show that most U.S. CITE sectors experience a small decline in output, ranging from 0.2 to 1.9%. One U.S. CITE sector, nitrogen-based fertilizer, increases output by 0.6% under the CCA.

For U.S. GHG emissions, CCA induces a decline in all U.S. CITE sectors with reductions that are in general an order of magnitude larger than output effects. This is because CCA lowers GHG intensity in addition to affecting output. GHG declines range from 2.4% for aluminum products to 16.7% for cement.

Aggregate U.S. and international impacts

Figure 2 and Appendix Table B.2 show aggregate U.S.-wide impacts on U.S. government revenues collected from the carbon import tariff and performance fee (Panel A) and on U.S. GDP and welfare (Panel B) under a unilateral CCA. The CCA's import tariff raises $3.5 billion 2025 USD in U.S. government revenue on an annual basis. The domestic performance fee raises double that amount at $7.1 billion. This difference in revenue generated arises because the U.S. does not

FIGURE 2: CCA impact on aggregate U.S. government revenues, GDP, and welfare



Caption: Modeled impacts of a unilateral CCA on U.S. import tariff and performance fee revenues (in billion 2025 USD, Panel A) and on U.S. GDP and welfare (in %, Panel B).

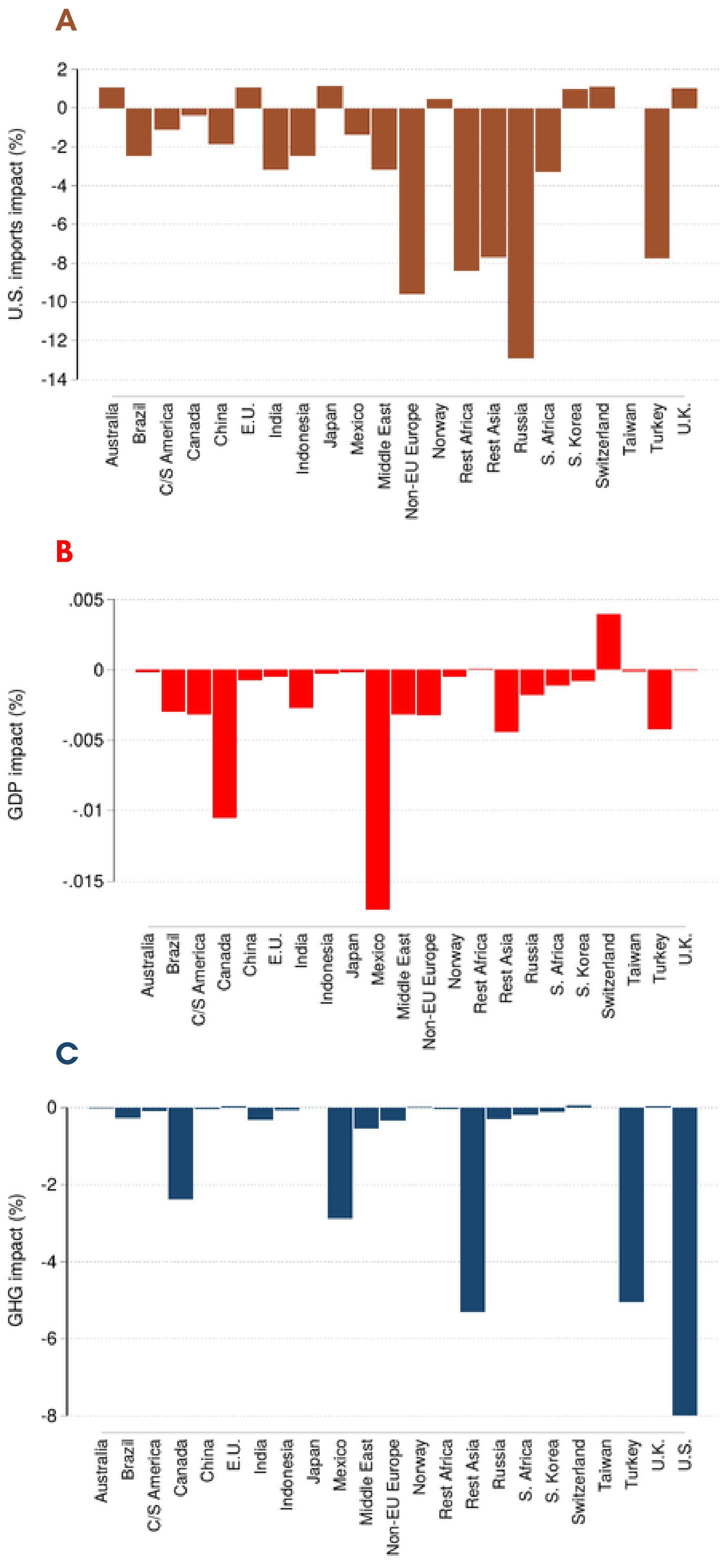
depend heavily on imports in CITE sectors: the average share of U.S. consumption from imports across CITE sectors is 23% (see Appendix Figure B.2). As such, a carbon fee of $60 per ton GHG is applied on a larger base of domestic emissions than foreign emissions, resulting in more revenue from the domestic performance fee than from the tariff.

The CCA has virtually no effect on GDP. Indeed, the model predicts a slight increase in GDP. All else equal, the increase in production costs pushes GDP down. This is offset by the fact that both the tariff and domestic policy improve U.S. terms of trade, lowering the price of imports relative to U.S. export prices. The impact of the tariff is a standard result from international trade theory (Costinot and Rodríguez-Clare, 2014).

The effect of the domestic tax is not as well known, but again consistent with existing findings (Conte, Desmet and Rossi-Hansberg, 2025). In an open economy, a domestic production tax can raise GDP provided that the taxed product is sufficiently exported and revenue from the tax is recycled back to the local economy. This is the case with the CCA and U.S. CITE sectors, which represent 13% of total U.S. exports. We find that the CCA increases U.S. GDP by 0.003%. We note that this GDP increase is extremely small, and well within the noise of annual GDP fluctuations. U.S. welfare, which further includes the avoided climate damage from CCA-induced lower global GHG emissions valued at the U.S. social cost of carbon from Kopits et al. (2025), increases by 0.010% under the CCA.

Turning to CCA impacts internationally, Figure 3 shows the modeled CCA impact on U.S. imports (Panel A), GDP (Panel B), and GHG emissions (Panel C) for other countries and regions. Countries that are dirtier than the U.S. experience a drop in U.S. imports, while some countries that are cleaner see U.S. imports rise. This is because CCA's carbon tariff not only lowers all CITE imports but also differentially favors cleaner over dirtier exporters. GHG emissions fall across other countries and regions, though more modestly than in the U.S. Overall, the CCA lowers global CITE emissions by 44.9 million tons (mtons), of which 16.3 mtons are U.S. reductions and 28.6 mtons are foreign reductions (see Appendix Table B.2)

FIGURE 3: CCA impact on U.S. imports, GDP, and GHG emissions for other countries/regions

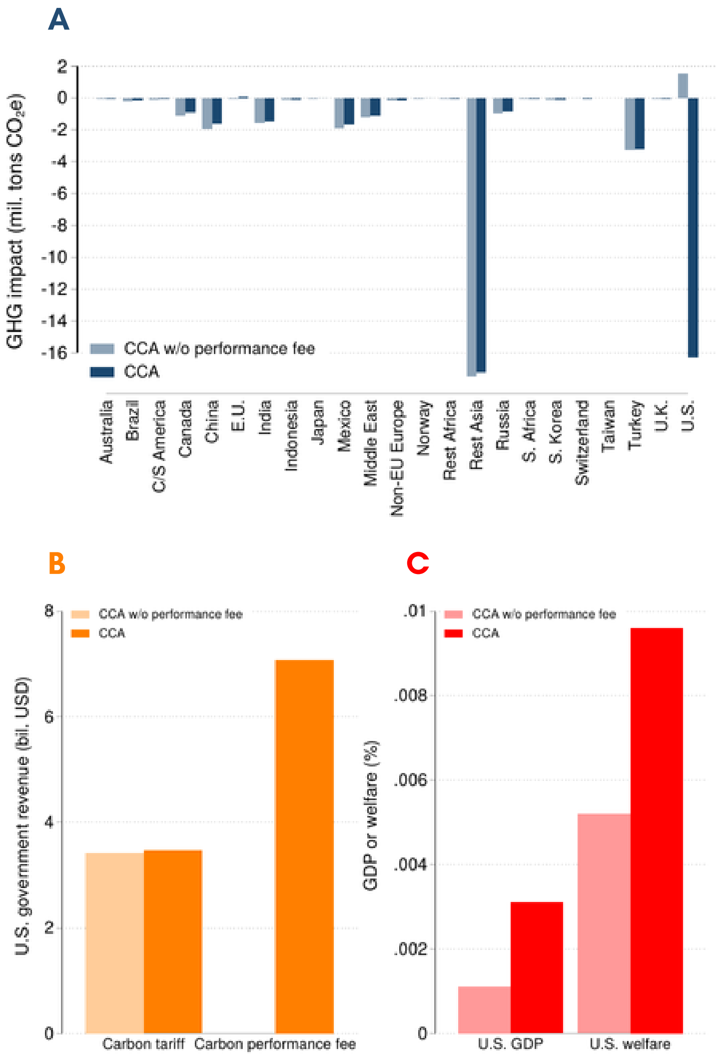


Caption: Modeled impacts of a unilateral CCA on U.S. imports (in %, Panel A), GDP (in %, Panel B), and GHG emissions (in %, Panel C) for each country/region.

IMPORTANCE OF THE DOMESTIC PERFORMANCE FEE

To what extent would the impact of the CCA change if the domestic performance fee were removed? To examine the role of the CCA's domestic performance fee, Figure 4 and Appendix Table B.2 compare U.S. impacts of the CCA with and without the domestic performance fee. On its own, the carbon tariff component of the CCA is similar to the design of the carbon tariff-only approach found in the U.S. Senate's Foreign Pollution Fee Act (FPFA), though the FPFA sets different import tariff rates than the CCA.

FIGURE 4: CCA impacts: with and without performance fee



Caption: Modeled impacts of a unilateral CCA with and without the domestic performance fee on GHG emissions by country/region (in million tons CO2e, Panel A), U.S. government carbon import tariff and performance fee revenues (in billion 2025 USD, Panel B), and U.S. GDP and welfare (in %, Panel C).

Without the domestic performance fee, global emissions reductions load entirely on foreign countries. U.S. GHG emissions increase by 1.5 mtons, while emissions from other countries fall by 30.4 mtons (Panel A). Global GHG reduction is 28.9 mtons, or roughly two-thirds the global GHG reduction of the full unilateral CCA. This asymmetry between increased U.S. emissions and decreased foreign emissions occurs because a carbon import tariff, like any tariff, protects domestic producers. It raises domestic output while lowering output of foreign producers. Without the GHG abatement incentive from the domestic performance fee, this implies higher U.S. emissions and lower non-U.S. emissions. In that sense, a carbon tariff on its own runs counter to how climate policies (e.g., carbon pricing, clean energy subsidies, etc.) typically operate: those policies aim to lower domestic GHG emissions, whereas a carbon tariff raises domestic emissions.

Without the domestic performance fee, total U.S. government revenue comes only from the import tariff, raising $3.4 billion on an annual basis. This is one-third of the total revenue of the full CCA. The change in U.S. GDP is again extremely small at 0.001% (Panel B). Smaller global GHG reductions also imply a lower U.S. welfare gain of 0.005%, about one-half that of the full CCA (Panel C).

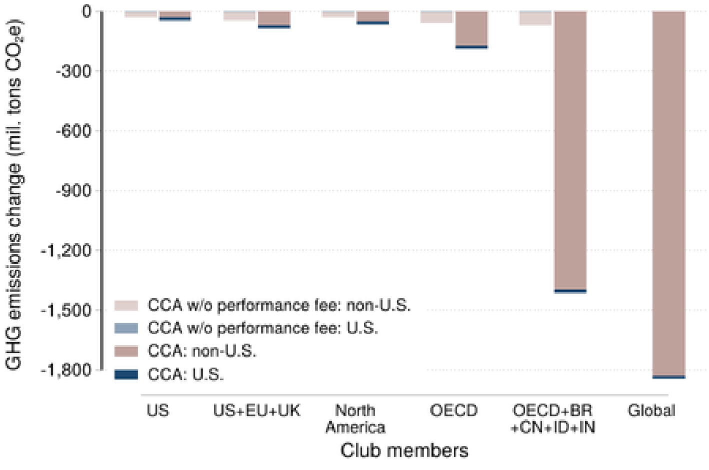
CLIMATE CLUBS

What are the global climate consequences of CCA's climate club provisions? Figure 5 and Appendix Table B.3 model different climate club scenarios. Within each club, members jointly adopt CCA-like domestic performance fees and waive carbon import tariffs on each other, while imposing carbon import tariffs on non-club members. We consider five club memberships besides a unilateral U.S. CCA. They are: (1) U.S., E.U., and U.K., (2) U.S., Canada, and Mexico, (3) OECD countries, (4) OECD plus Brazil, China, India, and Indonesia, and (5) all countries. For each club membership, we further consider a modified club structure: clubs that do not require adoption of a domestic performance fee.

Climate clubs based on the full CCA with both a domestic performance fee and a carbon tariff can lead to substantial global GHG reductions. For example, a climate club involving the U.S., E.U., and U.K. lowers members' CITE emissions by 8.5% and global CITE emissions by 1.5%. Expanding the club to OECD countries improves members' CITE emissions reduction to 15.4% and global CITE reductions to 3.2%. Further including Brazil, China, India, and Indonesia raises members' CITE emissions reduction to 28.8% and global CITE reductions to 24.2%. Finally, a climate club involving all countries leads to global CITE reductions of 31.6%. Across these different membership scenarios, U.S. CITE emissions reductions remain around 8%, showing how CCA's climate club provisions can magnify the global climate impact of the CCA without necessarily imposing more reductions on the U.S.

By contrast, a climate coalition built using only carbon tariffs achieves substantially lower global GHG reductions. Our modeling results in Figure 5 and Appendix Table B.3 show that small climate clubs can achieve limited global GHG reductions, even when they do not require domestic policy. Without the domestic GHG reductions from a domestic policy, a carbon tariff-only policy largely shifts emissions from club members to non-club members. There can be some global reductions initially with small climate clubs if members are relatively clean, but these reductions eventually disappear as the club becomes large. As the number of members rises, there are fewer non-members paying the tariffs, placing a limit to how much global GHGs can be reduced. Our results also show that a carbon tariff-only club that involves every country in the world does not reduce global GHG emissions. A tariff-only global climate club puts the world back to where it is today: no carbon tariffs and no additional domestic policy.

FIGURE 5: CCA GHG impacts under different climate club scenarios



Caption: Modeled impacts of CCA and CCA without the domestic performance fee on U.S. and non-U.S. GHG emissions (in million tons CO2e change). Climate club scenarios include U.S.-only, U.S., E.U., U.K., U.S., Canada, and Mexico (i.e., North America), OECD countries, OECD plus Brazil, China, Indonesia, and India, and all countries.

DISCUSSION

Geopolitical competition and climate concerns intersect when it comes to industrial activity. Our general equilibrium trade modeling shows that the combined domestic performance fee and carbon import tariff approach of the CCA addresses these joint concerns. The CCA can lower U.S. and global GHG emissions and raise U.S. government revenue while having negligible, and even slightly positive, effects on U.S. GDP. CCA also provides the foundation for a global climate and trade regime with potentially significant global GHG reductions via its climate club provisions.

CCA's carbon import tariff and domestic performance fee work in tandem as a carrot and stick, respectively, for U.S. CITE firms. The domestic performance fee incentivizes U.S. firms to lower their GHG emissions intensity, while the carbon import tariff levels the playing field for U.S. firms competing against dirtier foreign producers. The domestic performance fee is critical in achieving these benefits. Without it, the CCA's revenue-raising and welfare benefits are dampened. From a climate perspective, the two components of the CCA ensure both U.S. and foreign GHG reductions. Without the domestic performance fee, a carbon tariff increases U.S. emissions and lowers foreign emissions, which runs counter to the domestic reduction goals of typical climate policies.

From a political economy perspective, our modeling results also suggest that sequencing a carbon tariff before a domestic performance fee may also be ineffective compared with simultaneously implementing both components under the CCA. A carbon tariff by itself benefits CITE sector output more than a combined carbon tariff and domestic performance fee. Once a carbon tariff is adopted, CITE sectors will experience lower output when a domestic fee is later adopted, making CITE firms less inclined to politically support a domestic fee once a carbon tariff is in place. Put differently, if policy rollout is sequenced such that the carrot (i.e., tariff) comes first, there is no longer an incentive for firms to adopt the stick (i.e., performance fee).

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Appendix for
The 2025 U.S. Clean Competition Act: Economic and Climate Impacts

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A Methods

A.1 Model and data summary

We use the computable general equilibrium (CGE) global trade model developed in Casey et al. (2025). It builds on recent quantitative trade models (Costinot and Rodríguez-Clare, 2014) and extends them to allow for endogenous GHG abatement (Copeland and Taylor, 2004; Shapiro and Walker, 2018; Hollingsworth et al., 2026). Specifically, we employ a multi-sector Armington model with Cobb-Douglas preferences over sectors. Sectoral output is produced using labor and primary energy inputs, the latter generating GHG emissions. Policy shocks induce substitution between labor and energy inputs, endogenously changing GHG intensities. Our model does not include input-output linkages and thus implicitly assume that energy inputs are not globally traded. As such, the current model structure cannot impose tariffs on primary energy goods (e.g., coal, oil, and natural gas extraction). Revenue from tariffs and domestic fees is recycled back to households via lump sum income transfers. Welfare in the model includes disutility from climate change damages. For the U.S., these damages are valued using a U.S.-only social cost of carbon of \$55.47 per ton CO_2e in 2025 dollars, which is obtained from (Kopits et al., 2025).

We calibrate the model using 2020 country/region-specific bilateral trade data from Exiobase3 (Stadler et al., 2018), a multi-region input-output database with 200 sectors and 23 countries/regions. It is built, in part, on bilateral trade data from U.N. Comtrade. Baseline tariff rates come from the World Integrated Trade Solution (WITS) database. Baseline carbon prices come from OECD (2023). We obtain sector-specific trade elasticities by matching estimates from Ossa (2015) to Exiobase sectors. Column 3 of Table B.1 shows the trade elasticities for each CCA CITE sector. These sectors map onto CCA covered sectors and

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are aluminum, iron and steel, cement, chemicals, glass, nitrogen-based fertilizers, paper and pulp. We exclude fossil fuel extraction sectors which are covered under the CCA but are considered non-traded in our model. We follow Ossa (2014) by first solving for a balanced trade equilibrium before modeling policy scenarios to avoid distortions associated with exogenous trade deficits.

We model the performance fee and carbon tariff from the initial year of the CCA. Despite this being only for the first year of the CCA, we view our results as reflecting a long-run equilibrium as our model is calibrated using long-run elasticities. Let e_{im} be baseline GHG intensity for country i in CITE sector m. Under a unilateral CCA, the U.S. carbon import tariff in CITE sector m from origin country i in ad-valorem terms is:

$$\begin{aligned} t_{i,U.S.,m} &= \delta(e_{im} - e_{U.S.,m}) \text{ if } \quad e_{im} > e_{U.S.,m} \\ &= 0 \quad \text{otherwise} \end{aligned} \tag{A.1}$$

where δ is \$60 per ton CO_2e in 2025 USD. Our model does not feature firm heterogeneity within a sector. To model CCA's domestic performance fee on domestic firms that are dirtier than the U.S. sectoral average, we impose a \$30 per ton CO_2e carbon price across the domestic sector. This assumes that a \$60 per ton carbon price applied only to dirtier-than-average domestic producers has the same effect as a \$30 per ton carbon price on all domestic producers within a CITE sector.

Our model recycles all performance fee and tariff revenue back to households via a lump-sum income transfer. This deviates from how the CCA is implemented as it includes a \$75 billion initial year package of grants, loans, and rebates to accelerate U.S. industrial decarbonization.

To model CCA-based climate clubs, we apply the same domestic performance fee on each club member and waive bilateral carbon tariffs between club members. Each club member then applies the carbon tariff formula in equation A.1 on imports from non-club members.

A.2 Comparison with RFF's CCA analysis

Resources for the Future (RFF) has a computable general equilibrium analysis of the CCA using their Global Economic Model (GEM) based on the GTAP11 database (Aguiar et al., 2023).[4] There are several differences in model structure and underlying data.

GEM includes input-output linkages across sectors. This allows GEM to capture the impact of the CCA on sectors up- and downstream of CITE sectors in a manner that our

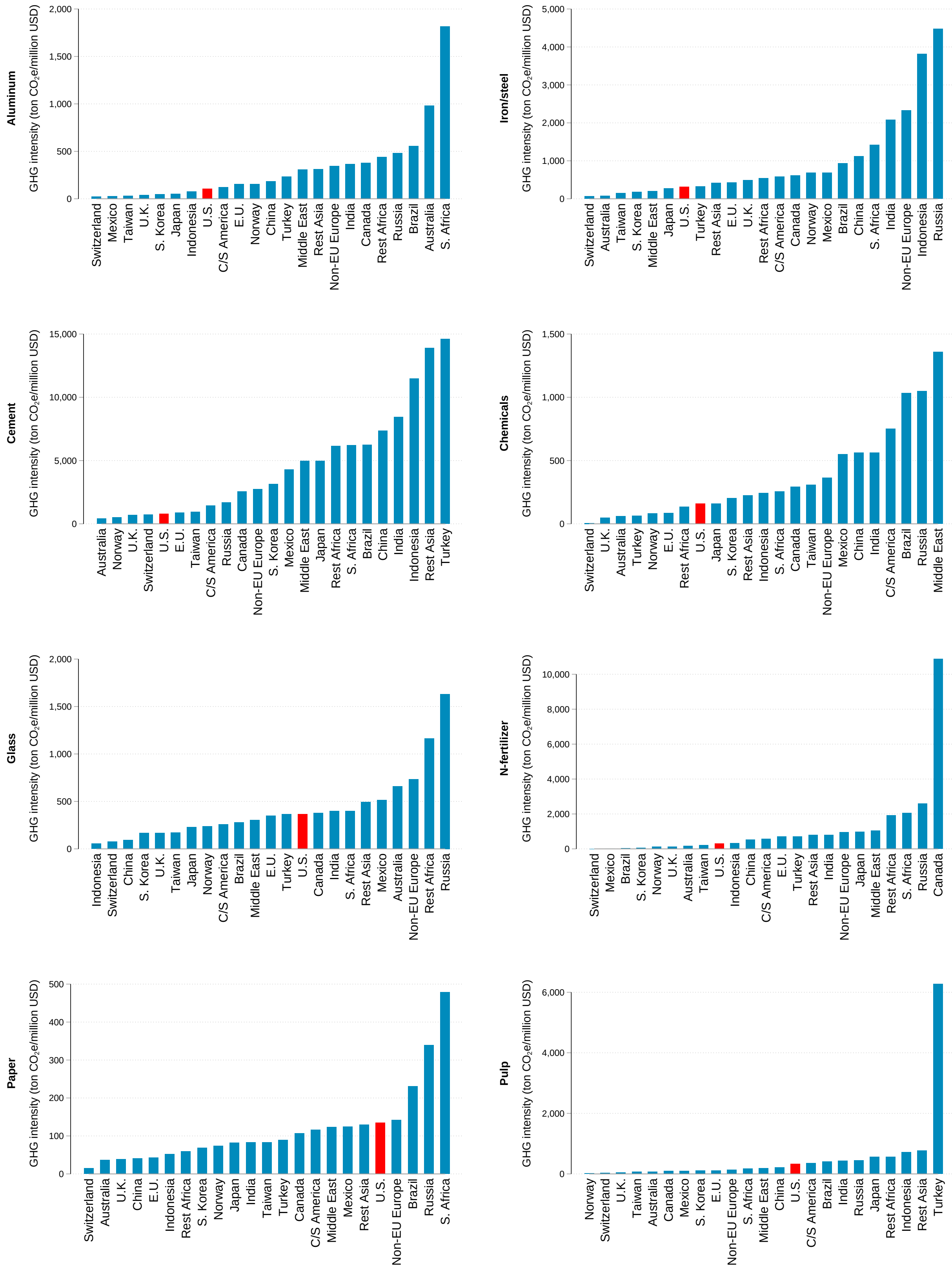
[4] Available here.

model cannot. This also implies that GEM can model CCA impacts on fossil fuel extraction sectors which are necessarily excluded from our model. GEM also models trade flows in a sector in two stages: a first stage that aggregates imports from different countries as imperfect substitutes and a second stage that further aggregates imported and domestic products also as imperfect substitutes. Our model does not feature differential preferences for domestic and foreign produced products. Finally, our model's welfare measure includes avoided climate damage from reduced GHG emissions, while GEM does not.

In terms of data, GTAP11 has more disaggregated countries/regions (160) countries/regions, but more aggregated sectors (65). In GTAP11, for example, cement and glass is grouped as part of non-metallic minerals, while aluminum is part of non-ferrous metals that also include copper and nickel. GTAP11 is based on 2017 trade data. Trade elasticities in GEMare generally higher than those estimated in Ossa (2015). For example, the "first stage" elasticities of substitution for non-ferrous metals is 8.4, for iron and steel is 5.9, and for non-metallic minerals is 5.8, all of which are higher than the elasticities shown in Table B.1. We note, however, that one cannot do an apples-to-apples comparison of these elasticities due to the different preference assumptions between GEM and our modelw noted above.

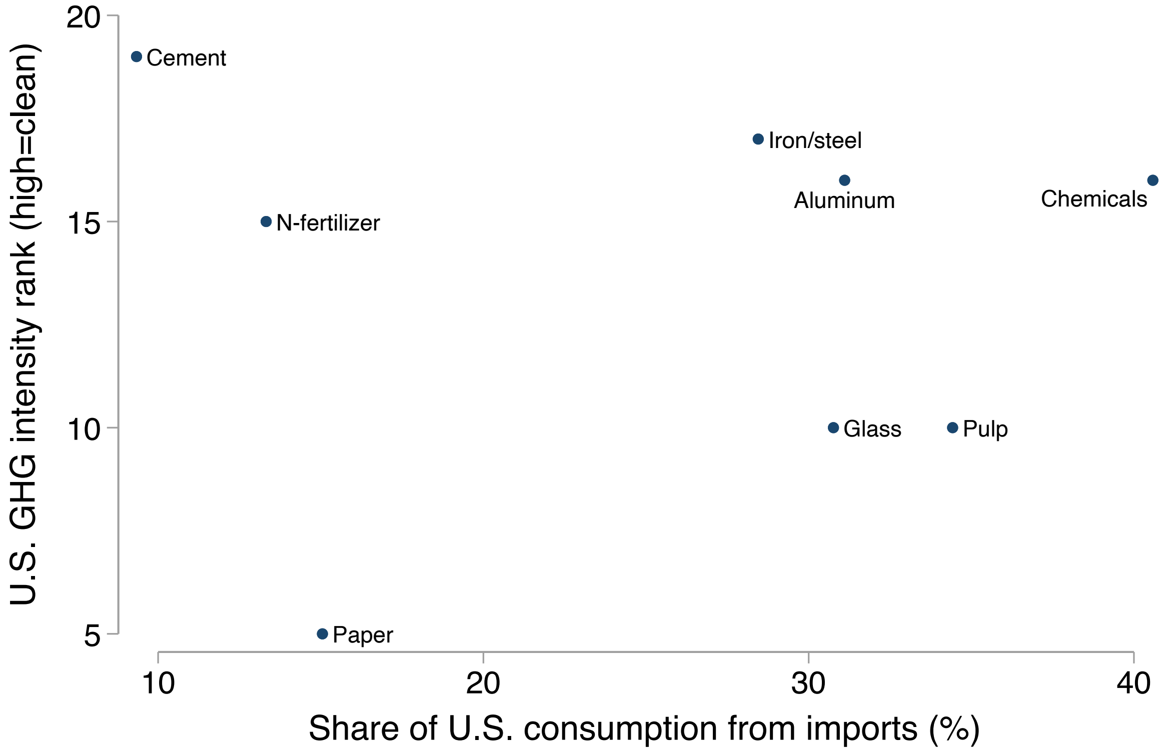
B Appendix exhibits

Figure B.1: Country/region GHG intensities across CCA CITE sectors



Notes: Country-level 2020 GHG intensities for CCA CITE sectors from Exiobase3 (Stadler et al., 2018).

Figure B.2: U.S. GHG intensity rank vs. U.S. import share of consumption across CCA CITE sectors



Notes: Plots shows the U.S. GHG intensity rank (high=clean) against the model's other 22 countries/regions (vertical axis) versus the share of U.S. consumption from imports (horizontal axis) for each CCA CITE sector. Based on 2020 GHG intensity and trade data from Exiobase3 (Stadler et al., 2018).

Table B.1: CCA CITE sectors

Exiobase sector	CCA covered sector	Trade elasticity
Aluminum (p27.42)	Aluminum (NAICS 331313, 331314)	2.47
Iron/steel (p27.a)	Iron and steel (NAICS 331110)	2.57
Cement (p26.d)	Cement, lime and gypsum product manufacturing (NAICS 327310, 327410, 327420)	2.05
Chemicals (p24.d)	Chemicals including asphalt, petroleum/petrochemicals, industrial gas, ethyl alcohol, and other basic organic chemicals (NAICS 324121, 324122, 324199, 325110, 325120, 325193, 325199)	2.69
Glass (p26.a)	Glass (NAICS 327211, 327212, 327213, 327215)	2.07
N-fertilizer (p24.b)	Nitrogenous fertilizer manufacturing (NAICS 325311)	2.25
Paper (p21.2)	Paper mills and paperboard mills (NAICS 322120, 322130)	2.84
Pulp (p21.1)	Pulp mills (NAICS 322110)	2.45

Notes: The first column shows Exiobase3 sectors with Exiobase3 sector identifiers in parentheses. The second column shows corresponding CCA-covered sectors with 6-digit NAICS in parentheses. The third column shows the matched trade elasticities used in the model for each sector from Ossa (2015).

Table B.2: Modeled U.S. impacts under unilateral CCA

A. CCA

Sector:	U.S. economic impacts: Imports	U.S. economic impacts: Output	GHG impacts: U.S.	GHG impacts: Other	GHG impacts: Global
	% chg		% chg (mil. tons CO2e chg)		
Aluminum	−0.6	−0.2	−2.4 (−0.1)	−3.4 (−0.1)	−5.9 (−0.3)
Iron/steel	−0.9	−0.9	−5.8 (−2.2)	−2.9 (−1.6)	−8.8 (−3.8)
Cement	−18.4	−0.2	−16.7 (−10.1)	−28.2 (−25.8)	−44.9 (−36.0)
Chemicals	−0.3	−0.8	−3.0 (−1.7)	−0.0 (−0.8)	−3.0 (−2.5)
Glass	0.6	−1.5	−7.4 (−1.0)	0.9 (0.0)	−6.5 (−1.0)
N-fertilizer	−11.4	0.6	−3.0 (−0.0)	−13.3 (−0.4)	−16.3 (−0.4)
Paper	0.7	−0.5	−3.2 (−0.7)	1.2 (0.0)	−2.1 (−0.7)
Pulp	0.9	−1.9	−8.3 (−0.4)	3.6 (0.0)	−4.7 (−0.3)
Aggregate:	Tariff rev.	Tax rev.	U.S.	Other	Global
	(bil. USD)		% chg (mil. tons CO2e chg)		
	3.5	7.1	−8.0 (−16.3)	−0.5 (−28.6)	−0.8 (−44.9)
			Real U.S. GDP (% chg):		0.003
			Consumption-equiv. U.S. welfare (% chg):		0.010

B. CCA without domestic performance fee

Sector:	U.S. economic impacts: Imports	U.S. economic impacts: Output	GHG impacts: U.S.	GHG impacts: Other	GHG impacts: Global
	% chg		% chg (mil. tons CO2e chg)		
Aluminum	−0.9	0.3	0.3 (0.0)	−4.3 (−0.1)	−4.0 (−0.1)
Iron/steel	−1.9	0.6	0.6 (0.2)	−5.0 (−2.1)	−4.4 (−1.9)
Cement	−19.9	2.0	2.0 (1.2)	−30.0 (−26.4)	−28.0 (−25.2)
Chemicals	−0.8	0.2	0.2 (0.1)	−2.8 (−1.4)	−2.6 (−1.2)
Glass	−0.2	0.0	0.0 (0.0)	−0.6 (−0.0)	−0.5 (−0.0)
N-fertilizer	−12.4	1.8	1.8 (0.0)	−14.0 (−0.4)	−12.2 (−0.4)
Paper	0.1	−0.0	−0.0 (−0.0)	0.2 (0.0)	0.2 (0.0)
Pulp	−0.0	−0.1	−0.1 (−0.0)	0.2 (0.0)	0.1 (−0.0)
Aggregate:	Tariff rev.	Tax rev.	U.S.	Other	Global
	(bil. USD)		% chg (mil. tons CO2e chg)		
	3.4	0.0	0.8 (1.5)	−0.5 (−30.4)	−0.5 (−28.9)
			Real U.S. GDP (% chg):		0.001
			Consumption-equiv. U.S. welfare (% chg):		0.005

Notes: Modeled impacts of CCA (Panel A) and CCA without a domestic performance fee (Panel B) on sector-specific U.S. imports (in % change), U.S. output (in % change), and U.S., non-U.S., and global GHG emissions (in % and million tons CO_2e change). Aggregate modeled impacts on U.S. carbon import tariff and performance fee revenues (in billion 2025 USD), U.S. GDP and welfare (in % change), and U.S., non-U.S., and global GHG emissions across CITE sectors (in % and million tons CO_2e change).

Table B.3: Modeled U.S. and global GHG impacts under CCA-based climate clubs

	GHG impacts			
	U.S.	Club members	Non-members	Global
Club membership	% change (mil. tons CO2e change)			
A. CCA				
US	−8.0 (−16.3)	−− (−−)	−0.5 (−28.6)	−0.8 (−44.9)
US+EU+UK	−7.9 (−16.2)	−8.5 (−40.9)	−0.8 (−45.0)	−1.5 (−85.9)
North America	−7.9 (−16.2)	−12.9 (−38.6)	−0.5 (−28.6)	−1.2 (−67.2)
OECD	−7.8 (−16.0)	−15.4 (−135.8)	−1.0 (−51.7)	−3.2 (−187.5)
OECD+BR+CN+ID+IN	−7.7 (−15.6)	−28.8 (−1365.9)	−4.2 (−45.5)	−24.2 (−1411.4)
World	−7.6 (−15.5)	−31.6 (−1844.8)	−− (−−)	−31.6 (−1844.8)
B. CCA without domestic performance fee				
US	0.8 (1.5)	−− (−−)	−0.5 (−30.4)	−0.5 (−28.9)
US+EU+UK	0.8 (1.6)	0.6 (2.8)	−0.9 (−48.6)	−0.8 (−45.8)
North America	0.6 (1.2)	0.6 (1.7)	−0.6 (−30.5)	−0.5 (−28.8)
OECD	0.6 (1.2)	0.5 (4.0)	−1.2 (−59.9)	−1.0 (−55.9)
OECD+BR+CN+ID+IN	0.4 (0.8)	0.3 (12.1)	−7.4 (−80.8)	−1.2 (−68.7)
World	0.0 (0.0)	0.0 (0.0)	−− (−−)	0.0 (0.0)

Notes: Modeled impacts of CCA (Panel A) and CCA without the domestic performance fee (Panel B) on U.S., climate club, non-climate club, and global GHG emissions (in % and million tons CO_2e change). Climate club scenarios include U.S.-only, U.S., E.U., U.K., U.S., Canada, and Mexico (i.e., North America), OECD countries, OECD plus Brazil, China, Indonesia, and India, and all countries.