



Bipartisan Policy Center

Understanding America's Carbon Advantage and Identifying Strategic Goals for a Bipartisan Approach to U.S. Climate & Trade Policy

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Background and Context

Despite prior disagreements on climate policy, the current global emissions trajectory leaves room for Democrats and Republicans to come together to develop a new climate strategy anchored in commerce and geopolitics. Merging U.S. climate and trade policy in concert with America's allies would create market leverage that would accelerate private sector investment in low carbon technologies and push China and major developing country emitters to cut their emissions. An effective policy design would also help bring back key components of the supply chain to U.S. shores, bolster American manufacturing, and increase U.S. influence to check the ability of some countries to use energy as a political weapon.

In line with the Paris Agreement's call for global net zero greenhouse (GHG) emissions in the second half of this century,¹ an increasing number of countries are committing to long-term net zero goals. As of November 2021, 140 countries, which collectively account for 90% of global GHG emissions, had either formally adopted or announced, or were actively considering such a target.² Nonetheless, the totality of near-term GHG reduction pledges, as of the beginning of 2022, is not on track to limit expected warming this century to less than 2 degrees Celsius relative to the pre-industrial period.³

¹ The Paris Agreement, Article 2 and 4 at https://unfccc.int/sites/default/files/english_paris_agreement.pdf.

² Climate Action Tracker (accessed November 16, 2021) at <https://climateactiontracker.org/global/cat-net-zero-target-evaluations/>.

³ IPCC, 2021: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change at <https://www.ipcc.ch/assessment-report/ar6/>.

⁴ International Energy Outlook 2019," EIA. https://www.eia.gov/outlooks/aeo/data/browser/#/?id=10-IEO2019®ion=0-0&cases=Reference&start=2010&end=2050&f=A&linechart=Reference-d080819.11-10-IEO2019~Reference-d080819.25-10-IEO2019~Reference-d080819.26-10-IEO2019&ctype=linechart&sourcekey=0_ That budget has about 25 ½ years left (2046), given the current global emissions trajectory. See <https://www.mcc-berlin.net/en/research/co2-budget.html>. IPCC, 2021:

In fact, the last major international conference on climate change, held in Glasgow, Scotland in November 2021, is widely viewed as falling short on making up this deficit, to a large extent because China and India and other rapidly growing economies have resisted committing to the deep near-term emission-reduction targets that many developed countries have embraced. As a result, China and the developing world are forecast to account for more than 100% of the overall *increase* in global carbon dioxide (CO₂) emissions projected to occur by mid-century.⁴ Even if all OECD (Organization for Economic Cooperation and Development) countries achieved net zero emissions by 2050, that collective reduction would not be enough to make up for expected emissions growth from the non-OECD countries. Without new policies, this lack of alignment among governments in terms of near-term climate ambition, enforcement, and compliance can be expected to result in emissions leakage as carbon-intensive activities and industries migrate to parts of the world that have less stringent regulatory regimes. The result could be that many developed countries end up undermining their own ambitious climate goals because they will be, in effect, importing more carbon than they reduce when they buy goods produced by countries that rely on more carbon-intensive manufacturing processes.

This problem of “embodied” carbon is particularly relevant for developed economies. When the net amount of carbon embodied in traded goods is properly accounted for,⁵ U.S. carbon pollution is roughly 10% higher than what is officially reported in national inventories, which only count emissions within a country’s territorial boundaries.⁶ In the European Union and the United Kingdom, accounting for overall consumption, including carbon embodied in imported products, adds 30%⁷ and 40%,⁸ respectively, to their GHG inventories. For some countries, adding embodied emissions from imports negates *all* the GHG reductions reported since 1990, which is the common European baseline.

Closing this “carbon loophole”⁹ requires a merger of climate and trade policy to address the imbalance between imports and exports of goods with embodied emissions. An effective trade mechanism would level the playing field for domestic industries by imposing a fee on carbon-intensive imports from other countries. If a “club” of nations were to adopt a harmonized system, their combined demand for less carbon-intensive products would give cleaner producers a competitive advantage and help drive down global emissions.

Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change at <https://www.ipcc.ch/assessment-report/ar6/>.

⁴ “International Energy Outlook 2019,” EIA. <https://www.eia.gov/outlooks/aeo/data/browser/#/?id=10-IEO2019®ion=0-0&cases=Reference&start=2010&end=2050&f=A&linechart=Reference-d080819.11-10-IEO2019~Reference-d080819.25-10-IEO2019~Reference-d080819.26-10-IEO2019&ctype=linechart&sourcekey=0>

⁵ By “net” amount we mean the difference between the amount of carbon embodied in exports from a particular country and the amount of carbon embodied in imports to that country.

⁶ “The Carbon Loophole in Climate Policy,” Buy Clean, September 2018 at <https://buyclean.org/media/2016/12/buyclean-execsummary-082718.pdf>.

⁷ Becque, Renilde et al. “Europe’s Carbon Loophole,” Climate Works Foundation, September 2017 at https://www.climateworks.org/wp-content/uploads/2017/09/EU-carbon-loophole_final-draft-for-consultation.pdf.

⁸ Partington, Richard. “Britain now G7’s biggest net importer of CO₂ emissions, per capita, says ONS,” The Guardian, October 21, 2019 at [Britain now G7’s biggest net importer of CO₂ emissions per capita, says ONS | Office for National Statistics | The Guardian](https://www.theguardian.com/world/2019/oct/21/britain-g7-co2-emissions-per-capita-ns).

⁹ The “carbon loophole” refers to countries’ lack of accountability for GHG emissions that are embodied in imported goods. By “embodied” we mean the emissions that were generated when a good was produced.

Designing an effective policy to achieve this result, however, will be difficult and complicated given divergent economic interests, even among like-minded governments, and given the many issues that require agreement. These issues include how to harmonize reporting requirements, goods covered, and the level of carbon fee imposed on those products. These complexities might tempt some countries to act unilaterally, but that course risks creating a balkanized system of international climate and trade regulation that could lead to commercial retaliation and reduced global cooperation on climate change. Furthermore, imposing fees on imports from poor countries, which account for a trivial share of historic global emissions, could be viewed as unfair and inconsistent with international climate norms. Accordingly, getting the policy design right and ensuring that this design is adopted by as many countries as possible becomes crucial.

America's Carbon Advantage

GHG emissions from sources in the United States peaked around 15 years ago, in 2005. Thereafter, the U.S. economy began to decarbonize. Thanks largely to fuel switching from coal to natural gas, increased penetration of renewables, and energy efficiency gains, the United States has recently led the world in cutting CO₂ emissions:¹⁰ U.S. emissions fell 12% over the 13-year period from 2005 to 2018; in terms of total tons of CO₂ cut, this was a larger reduction by far than any other country achieved during the same period.¹¹ While there have been several year-on-year increases in U.S. emissions since the 2005 peak (for example, emissions for 2021 are expected to be higher than they were in 2020),¹² the U.S. economy has clearly become more carbon efficient over the last decade-plus and is on a decarbonization trend—even without the addition of new regulations and policies designed to curb GHGs.¹³

Data on carbon intensity—often measured in terms of carbon emissions per dollar of GDP or industrial output—confirm that the United States has made substantial progress in carbon efficiency since 2005. Roughly ten years ago, information compiled by the World Bank indicated that the carbon intensity of the U.S. economy was about 30% lower than that of the average upper-income nation, 34% lower than the next largest energy producer (i.e., Russia), and 46% lower than China's economy.¹⁴ More recent data suggest that this advantage

¹⁰ Not all countries use 2005 as a baseline. However, the Obama administration chose 2005 as the baseline year for the initial U.S. pledge under the Paris Agreement because U.S. emissions had peaked that year.

¹¹ Global Carbon Atlas. <http://www.globalcarbonatlas.org/en/content/welcome-carbon-atlas>

¹² The Energy Information Administration forecasts that this year's emissions will increase by 8%. See https://www.eia.gov/outlooks/steo/report/renew_co2.php

¹³ Data from PBL (2019), IEA (2020), and EIA (2020).

¹⁴ Comparison derived using World Bank data, "CO₂ emissions (kg per 2011 PPP \$ of GDP)," The World Bank. <https://data.worldbank.org/indicator/EN.ATM.CO2E.PP.GD.KD>

has, if anything, grown: a September 2020 report released by the Climate Leadership Council (CLC) found that U.S. manufactured products are now 40% more carbon efficient than the world average.¹⁵ Compared to two of its main geopolitical rivals, the United States is now three times more carbon efficient than China and more than four times more carbon efficient than Russia.¹⁶

Compared to most of the world's other major economies, America's carbon advantage, cuts across all energy-intensive sectors, including agriculture, mining, refining, and chemicals. For example, the U.S. steel industry is 75% to 320% more carbon efficient than its major competitors, depending on the product segment, according to another CLC-commissioned study in 2021.¹⁷

Current trade rules, in the United States and globally, do not reward U.S. industry for its relatively climate-friendly profile in terms of production. Policymakers on both sides of the aisle are looking to change this situation with a variety of calls and proposals that would give much deserved credit to U.S. manufacturers.

In March 2021, the Office of the U.S. Trade Representative (USTR) indicated in its annual policy report that it would consider carbon border adjustments “as appropriate, and consistent with domestic approaches to reduce U.S. greenhouse gas emissions.”¹⁸ This statement was also reflected in the Biden administration's mitigation pledge—or nationally determined contribution (NDC)—under the Paris Agreement.¹⁹ The most high-profile proposal yet to be introduced is the FAIR Transition and Competition Act, sponsored by Sen. Chris Coons (D-DE) and Rep. Scott Peters (D-CA). The Coons/Peters plan would impose carbon fees on energy-intensive manufacturing imports as well as imports of coal, crude oil, and natural gas.²⁰

For their part, Republicans in the House of Representatives have expressed interest in merging climate and trade policy, largely as a geopolitical and commercial tool against U.S. competitors. In a February 2020 letter to the Trump White House, for example, Republican House leadership asked the administration to lobby other countries to recognize the climate and energy security benefits of consuming U.S. fossil fuels and natural resources, compared to buying these inputs from less carbon-efficient suppliers, such as Russia.²¹ In August 2021, Sen. Kevin Cramer (R-ND) and 18 colleagues called on the

¹⁵ Based on 2015 data. Rorke, Catrina and Greg Bertelsen. “America's Carbon Advantage,” Climate Leadership Council, September 2020 at <https://clccouncil.org/reports/americas-carbon-advantage.pdf>.

¹⁶ Ibid.

¹⁷ “Leveraging a Carbon Advantage: Impacts of a Border Carbon Adjustment and Carbon Fee on the U.S. Steel Industry,” Climate Leadership Council, May 2021 at <https://clccouncil.org/reports/leveraging-a-carbon-advantage-key-findings.pdf?v3>.

¹⁸ The United States Trade Representative. “2021 Trade Policy Agenda and 2020 Annual Report of the President of the United States on the Trade Agreements Program,” March 2021 at <https://ustr.gov/sites/default/files/files/reports/2021/2021%20Trade%20Agenda/Online%20PDF%202021%20Trade%20Policy%20Agenda%20and%202020%20Annual%20Report.pdf>.

¹⁹ U.S. Nationally Determined Contribution under the Paris Agreement. See page 2 at <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/United%20States%20NDC%20April%202021%202021%20Final.pdf>.

²⁰ The Office of Senator Chris Coons, Press Release. “Sen. Coons, Rep. Peters introduce legislation to support U.S. workers and international climate cooperation,” July 19, 2021 at Sen. Coons, Rep. Peters introduce legislation to support U.S. workers and international climate cooperation ([senate.gov](https://www.senate.gov)).

²¹ Siegel, Josh. “House Republicans Call on Trump to Promote Fossil Fuel Exports to Curb Climate Change,” Washington Examiner, March 3, 2020 at <https://www.washingtonexaminer.com/policy/energy/house-republicans-call-on-trump-to-promote-fossil-fuel-exports-to-curb-climate-change>.

United States and its treaty allies to design a “common approach to climate and trade policy” that would address GHG emissions from China and developing economies.²²

Strategic Goals for U.S. Trade and Climate Policy

The United States could pursue multiple strategic goals in merging climate and trade policy. Five goals that deserve priority are summarized below. Importantly, these goals are not mutually exclusive, meaning that a trade mechanism could be designed to advance all of them.

Capture Market Share: If the United States creates a “carbon club” with likeminded governments, U.S. producers would gain overseas market share as they would be rewarded for their relatively low-carbon production. The design of any U.S. policy should therefore be consistent with the negotiation of a plurilateral agreement that would establish a harmonized approach to climate and trade policy.

Improve Supply Chain Security: A trade mechanism that covered mining, refining, and other energy-intensive sectors would encourage the return of key supply chain inputs and activities to U.S. shores, which would have national security benefits. Mining, quarrying, and other resource extraction activities, for example, are more than two times more carbon intensive in China than in the United States.²³

Prevent Job Leakage: A trade mechanism should address any negative competitive impacts from domestic regulations by leveling the playing field between domestic producers and foreign manufacturers that do not face equivalent policies. U.S. trade policy should therefore grant full exemptions to only those countries that share similar environment, human rights, and labor standards.

Reduce Global GHG Emissions: To achieve international climate goals and avoid the worst impacts of climate change, concerted efforts to reduce GHG emissions are needed worldwide. Setting an international price on carbon emissions is by far the most effective way to incentivize action on a global scale. For practical purposes, such a price could be set if a critical mass of countries forms a climate club. By itself, the United States accounts for 17% of total global

²² Office of Senator Kevin Cramer. “Senator Cramer Leads Letter to President Biden on EU Carbon Border Adjustment Mechanism,” August 10, 2021 at <https://senatorkevincramer.app.box.com/s/i6jel5ohwqppjr50zw6w14xwsti8r1g>

²³ Ibid.

imports,²⁴ but a G7-plus grouping would cover more than 40% of worldwide imports. This would create sufficient market leverage vis-a-vis China and other emerging economies to ensure that these countries also face strong incentives to invest in low-carbon infrastructure and technologies.^{25,26}

Resurrect U.S. Manufacturing: Of all the goods the United States imports, 75% come from less carbon-efficient countries.²⁷ Implementing a carbon fee at the border will make these imports less competitive by effectively taxing them for their higher carbon intensity and should increase demand for lower-carbon, domestically produced goods. At the same time, creating an international club of countries with similar trading policies would monetize America's carbon advantage and increase demand for U.S. exports.

Conclusion

Today's reality is in stark contrast to the days of the Kyoto Protocol when U.S. GHG emissions were still growing, with no end in sight, and there were understandable concerns that regulating carbon could harm the U.S. economy and create a competitive disadvantage for domestic producers. These worries featured prominently in domestic opposition to climate policies and deep skepticism, among some U.S. lawmakers, toward international engagement on the climate issue more generally.

In light of this history, a greater appreciation of the progress that has already been made toward decarbonizing the U.S. economy could fundamentally change perspectives, especially among Republicans, who have often opposed climate policies as a drag on the economy. Interest in checking China and increasing U.S. companies' share of global markets could catalyze new interest in finding common ground with Democrats on climate and trade policies that benefit domestic producers and address the concerns around jobs and emissions leakage that might otherwise undermine support for more ambitious climate policies.

Bipartisan efforts to develop a common strategy for international climate and trade policy that merges President Joe Biden's "Made in America" agenda with former President Donald Trump's "America First" approach could create a new dynamic in the domestic political debate about how best to accelerate the decarbonization of the U.S. economy and how to leverage U.S. policy to

²⁴ Sabanoglu, Tugba. "U.S. Trade: Statistics and Facts," Statista, February 19, 2021 at <https://www.statista.com/topics/1308/trade-in-the-us/>.

²⁵ Eurostat. "The EU, USA, and China account for almost half of world trade in goods," August 24, 2017 at <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20170824-1>.

²⁶ Importantly, G7 economies are more carbon efficient than the world average. See CLC.

²⁷ Carbon Advantage, Climate Leadership Council.

reduce global emissions. While Democrats and Republicans may have different motives, their respective objectives could bring both parties to the same place—an aggressive global strategy that increases investments in low-carbon domestic manufacturing capability, secures strategic supply chains for the United States and its allies, and checks geopolitical competitors, especially China and Russia.

Appendix:



America's Carbon Efficiency Advantage vs. Top Trading Partners²⁸

U.S. Index = 1.0

(Countries with higher carbon intensity (less carbon efficient than the U.S.) are shown in red; countries with lower emissions intensity (more carbon efficient than the U.S.) are shown in blue)

²⁸ An index of 3.2 for purposes of this table means that the country's economy on average requires 3.2 times as much CO2 emissions to produce its output than the United States. See CLC.

Largest U.S. Import Sources		
Country	U.S. Imports Share	Index
China	19%	3.2
Canada	12%	1.3
Mexico	10%	1.4
Germany	5%	0.9
Japan	5%	1.1
UK	4%	0.6
India	4%	3.8
South Korea	3%	1.8
France	2%	0.6
Italy	2%	0.9
World	100%	1.8

Largest U.S. Export Markets		
Country	U.S. Exports Share	Index
Canada	14%	1.3
China	12%	3.2
Mexico	10%	1.4
Japan	5%	1.1
UK	4%	0.6
Germany	4%	0.9
South Korea	3%	1.8
France	3%	0.6
Brazil	3%	1.1
Ireland	2%	0.6
World	100%	1.8



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