# Carbon Tax Aff-NWG 2024

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## Overview

This is the carbon tax affirmative file. Basically, a carbon tax is a tax on fuels that produce CO2 or other greenhouse gases. It is designed to discourage the use of fuels that produce CO2 by making them “pay” for externalities they produce like pollution and global warming.

There are a variety of ways to approach a carbon tax, and the cards in this file talk about several of these approaches. When you are deciding what kind of carbon tax case you want to run, you should think about some of the questions below.

One question is: At what level should the tax be imposed? You could either impose it broadly and in tiny amounts on consumers throughout the economy (like federal gasoline taxes currently do), or you could impose it at the producer level, so you would basically levy a large tax on things like oil and coal companies. The evidence in this file assumes you do it at the producer level, because that’s much easier, more efficient, and those companies pass on those costs to consumers (so it ends up looking like the first scenario anyway, e.g. gas prices get a little higher). There is evidence about this at the end of the file in the FYI section.

A second question is: Should the carbon tax be phased in or imposed right away? Again, while there are other options, all of the evidence in this file assumes a phase-in (and specifically one of the four options below).

### Which plan wording should I use?

The first four plan wordings are all supported by the Brookings/Stanford Energy Modeling Forum evidence. Their models demonstrated that all of these will work. The first two don’t reduce emissions as much, but avoid disadvantages better. The second two solve better, but probably link more to the disadvantages. Version 4 (starts at $50, increases 5% per year, no revenue recycling) is the default in the 1AC, but you can use whichever you want.

#### Plan: The United States Federal Government should adopt a clean energy policy for decarbonization in the United States, by implementing a carbon tax starting at $25 per ton of CO2 and increasing by one percent over inflation per year, leveling off in 2050.

#### Plan: The United States Federal Government should adopt a clean energy policy for decarbonization in the United States, by implementing a carbon tax starting at $25 per ton of CO2 and increasing by five percent over inflation per year, leveling off in 2050.

#### Plan: The United States Federal Government should adopt a clean energy policy for decarbonization in the United States, by implementing a carbon tax starting at $50 per ton of CO2 and increasing by one percent over inflation per year, leveling off in 2050.

#### Plan: The United States Federal Government should adopt a clean energy policy for decarbonization in the United States, by implementing a carbon tax starting at $50 per ton of CO2 and increasing by five percent over inflation per year, leveling off in 2050.

The big question is what to do with the revenue. There are cards in this file that:

* just talk about a carbon tax generally
* assume you use the revenue to reduce the federal deficit
* assume you use a “tax shift,” meaning that as you raise carbon taxes you lower corporate or personal income taxes
* assume you provide rebates to poor families
* assume you spend the revenue on incentives for clean technology

You can decide which of these works for you, but here are some things to keep in mind.

If you just say you do a carbon tax, and don’t specify what happens with the revenue, you won’t have any problems with the negative arguing that what you do with the revenue is extra-topical, but there are some disadvantage answers in this file that you won’t be able to use because you don’t offset other taxes etc. There are “solvency” cards in this file that say that the extra revenue will go to poor families, which helps answer the poverty/regressive tax argument (and probably helps access the critical advantages in the other carbon tax file). There are also cards saying the revenue would go to deficit reduction and paying down the debt, which allows you to claim the Debt advantage.

If you say you do a tax shift (also known as a “revenue neutral” carbon tax), you might have to deal with negative teams arguing that the part of your plan that reduces other taxes is extra-topical, though you might be able to defend that as part of your overall “climate policy.” You would also probably not be able to claim the Debt advantage. The benefit of going this route is that it gives you access to a lot of evidence that this form of the tax would avoid a lot of the economic and political consequences of the other versions.

If you specify that the revenue goes to incentives or research for renewables and other clean technology, you probably won’t run into any topicality problems, since this is easily defensible as part of a climate policy, but this file doesn’t have much solvency evidence for doing that. Again, you would not be able to claim the Debt advantage, and you would lose access to some of the disadvantage answers that assume you raise revenue or lower other taxes.

There is evidence that describes and supports some of these options in the “Revenue Spending Options” section near the end. It also includes some disadvantage answers that only apply when you use the revenue a certain way. You and your coaches can figure out what strategically works best for you. The ones this file has evidence for are:

#### Revenues will be used to provide rebates to low-income families.

#### Revenues will be used to offset payroll taxes by an equivalent amount.

#### Revenues will be used to offset corporate taxes by an equivalent amount.

If you are concerned with plan inclusive counterplans, you could also go with the more vague:

#### Plan: The United States Federal Government should adopt a clean energy policy for decarbonization in the United States, by implementing a carbon tax.

### Which Advantages should I use?

This file includes evidence for at least four advantages which you can pick and choose from. They should be interchangeable.

The warming advantage is very straightforward. The main reason to do a carbon tax is to reduce CO2 emissions and prevent global warming.

The Oceans advantage is about ocean acidification (increased CO2 levels makes oceans less alkaline, which is devastating to marine life). It is based on CO2 emissions, but does not rely on global warming.

The Trade advantage claims that the US is going to respond to the EU’s new carbon tariffs with tariffs of our own. Since we would be imposing a tax on others that we don’t impose on ourselves, the WTO would rule that this is unfair. Since we will do it anyway, it undermines the credibility of the WTO, making it look like they can’t ensure fairness for their members, so global trade becomes a free-for-all, and causing conflicts. If the US imposes a carbon tax on itself, it resolves the issue.

The Debt advantage claims that the current growth of our federal debt is unsustainable and will ultimately collapse our economy, increasing the risk of conflict. Revenue from a carbon tax can be used to reduce the federal deficit and reverse the growth of the US federal debt. As indicated above, you can’t really claim this advantage if you specify that the revenue from your carbon tax is going somewhere else.

The Air Pollution advantage just claims that current emissions cause pollution and kill people. Reducing emissions improves air quality.

### Abbreviations

I have largely tried not to overuse abbreviations in this file, but here are some important ones:

AT means “Answers to,” so “AT: No Consensus” would be your answers to the “no consensus” argument that the negative might make. In other files you might see this abbreviated as “A2”

Ext. means “Extensions on,” so more evidence to back up arguments in the 2AC.

CT means carbon tax, though I tried to spell it out every time I used it in the file, I probably missed a couple.

CBAM = Carbon Border Adjustment Mechanism

WTO = World Trade Organization

DS/DSM/DSP, etc. = Dispute Settlement (Mechanism or Process, etc.) It is the part of the WTO that adjudicates disputes between members over trade issues.

### Cross-Applications

There are several parts of this file that could be useful in answering more than one argument. While I tried to put evidence where it would be most directly responsive, there are still overlaps. For example, Economy/Business Confidence DA Answers, so look out for those.

There are also lots of cards that contain more than one argument. For example, some of the solvency cards say that, in addition to reducing greenhouse gas emissions, the carbon tax would not hurt the economy, so you could also use that evidence to answer an economic disadvantage. There are a lot more of these than I can point out in this overview, so you can look for other interactions yourself.

### DA & CP Answers

I have included some evidence to answer the disadvantages, counterplan, and Topicality in the other files in the novice packet. Keep in mind that these are not sorted, and will hopefully just supplement the affirmative answers in those files.

### Other Notes

I did a version of this file back in 2016. This is all new except a few cards in the Ocean Acidification section—I couldn’t find anything better than the 2016 cards for some arguments, so they are back.

Thanks to Maria Pinto & Gia Kardos of JMU for help with some of the DA & CP answers!

Good luck! Have fun! If you have any questions, you can email me at [buttns@jmu.edu](mailto:buttns@jmu.edu).

Neil Butt, James Madison University

# 1AC

## 1AC Modules

### Contention 1: Inherency

#### Current US policy will not meet our Paris commitments on CO2 emissions

Bistline, et al, 24

[John Bistline, Program Manager - Electric Power Research Institute, Kimberly Clausing, Eric M. Zolt Chair in Tax Law and Policy - UCLA School of Law, Nonresident Senior Fellow - Peterson Institute for International Economics, Neil R. Mehrotra, Assistant Vice President and Policy Advisor - Federal Reserve Bank of Minneapolis, James Stock, Nonresident Senior Fellow - Economic Studies, Center on Regulation and Markets, Catherine Wolfram, Nonresident Senior Fellow - Center on Regulation and Markets, Climate tax policy reform options in 2025, The Hamilton Project, Brookings institution, February 27, 2024. <https://www.brookings.edu/articles/climate-tax-policy-reform-options-in-2025/> ] [NSB] [NWG]

In addition, further action is needed to meet the United States’ Paris Agreement commitment to decarbonization. The Inflation Reduction Act (IRA), which has been described as the largest piece of climate legislation in U.S. history, relies on tax credits, loans, and direct spending to help meet that commitment. But even that package is projected to bring the United States only part way toward its commitment of 50–52 percent economy-wide greenhouse gas (GHG) reductions in emissions by 2030 relative to 2005.

#### Plan: The United States Federal Government should adopt a clean energy policy for decarbonization in the United States, by implementing a carbon tax starting at $50 per ton of CO2 and increasing by five percent over inflation per year, leveling off in 2050.

### Contention 2: Solvency

#### Multiple teams of experts using multiple models all found that carbon tax leads to significant reductions in CO2 emissions

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Carbon pricing is an important policy tool for reducing greenhouse gas pollution. The Stanford Energy Modeling Forum exercise 32 convened eleven modeling teams to project emissions, energy, and economic outcomes of an illustrative range of economy-wide carbon price policies. The study compared a coordinated reference scenario involving no new policies with policy scenarios that impose a price on all fossil fuel-related carbon dioxide (CO2) emissions in the U.S. The CO2 price scenarios begin in 2020 at $25/ton or $50/ton and rise each year over inflation at one percent or five percent. The scenarios also vary by the use of the revenue from the carbon pricing policy; scenarios include rebates to households and deficit neutral reductions in marginal tax rates on capital and labor income. Across all models and policy scenarios, the study finds that carbon pricing leads to significant reductions in CO2 emissions, the majority of which occur in the electricity sector via the reduction of coal use. Policy effects on other energy sources vary by model, for example owing to different technology cost assumptions (e.g., cost of natural gas vs. wind generation). Some models translate energy shifts into changes in conventional air pollutants, reporting declines consistent with substantial air quality benefits from the policy scenarios.

The economic costs of the policies are expected to be modest – allowing for nearly identical economic growth– but vary across models. These costs are offset by benefits from avoided climate damages (which are not modeled in this study) and health benefits from reductions in conventional air pollution. The study finds that the CO2 taxes generate significant revenue; a $25/ton price would generate roughly $1.4 trillion over the first decade and all models reported that emissions reductions do not significantly depend on the use of the revenue. Using revenues to reduce capital or labor taxes reduces economy-wide costs in most models relative to household rebates, but the estimated size of the cost reductions varies significantly across models. Across all models that estimated impacts across households, devoting at least some revenue to household rebates improves outcomes for low income households relative to applying all revenue to reductions in other taxes. We focus here on results through 2030, concluding that beyond a decade model uncertainties are too large to make quantitative results useful for near-term policy design.

#### With a carbon tax, we meet Paris goals. Without it, we don’t.

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Carbon emissions have been driving changes in global temperatures, imposing costs on economic, human, and natural systems. The main purpose of a carbon tax is to price carbon emissions in order to reduce the amount of carbon in the atmosphere and mitigate the adverse effects of climate change. Under current policies, U.S. greenhouse gases are estimated to be 18 to 22 percent below 2005 levels by 2025, falling short of the 26 to 28 percent the United States committed to in the Paris Agreement. Carbon pricing can significantly reduce carbon emissions and help meet climate goals.

### 1AC-Advantage: Warming

#### Climate change is real, rapid, and due to human activity

NASA, 2024

[National Aeronautics and Space Administration (NASA), Evidence, March 26, 2024. <https://science.nasa.gov/climate-change/evidence/> ] [NSB] [NWG]

There is unequivocal evidence that Earth is warming at an unprecedented rate. Human activity is the principal cause. While Earth’s climate has changed throughout its history, the current warming is happening at a rate not seen in the past 10,000 years. According to the Intergovernmental Panel on Climate Change (IPCC), "Since systematic scientific assessments began in the 1970s, the influence of human activity on the warming of the climate system has evolved from theory to established fact." Scientific information taken from natural sources (such as ice cores, rocks, and tree rings) and from modern equipment (like satellites and instruments) all show the signs of a changing climate. From global temperature rise to melting ice sheets, the evidence of a warming planet abounds.

#### It is NOT too late to make 2C targets, but if we don’t act now we risk catastrophic levels of warming

McKay, 20

[Dr. David A. McKay, Postdoctoral Researcher at Stockholm Resilience Centre (Stockholm University), where he is part of the Earth Resilience in the Anthropocene Project (funded by the European Research Council) and is researching non-linear climate-biosphere feedbacks, Fact-Check: will 2°C of global warming trigger rapid runaway feedbacks?, May 5 2020. <https://climatetippingpoints.info/2019/10/14/fact-check-will-2c-of-global-warming-trigger-rapid-runaway-feedbacks/> ] [NSB] [NWG]

In summary, although it is likely that feedbacks and tipping points beyond 2°C of warming will amplify and worsen warming and could hypothetically commit us to a “Hothouse Earth” state in the long-run, there is not yet any evidence to suggest this will happen at exactly 2°C or will trigger a rapid runaway process. The 2°C threshold in the Hothouse Earth paper was proposed as precautionary boundary with growing but uncertain risks of amplifying feedbacks beyond, rather than a sharp definite threshold. And the feedbacks driving the Hothouse Earth trajectory would take centuries and millennia to play out, committing us to a Hothouse world of +4°C and 10+ metres of sea level rise by the year 3000 rather than by 2100. However, if we carry on emitting on our current emissions trajectory we could end up nearing 4°C by 2100 anyway even without tipping points. Current global warming is at ~1.1-1.2°C, and even accounting for baseline choice and warming commitments it’s still geophysically possible to keep within the 1.5°C and 2°C Paris Targets. Some tipping points (like some ice sheets) may well be crossed soon, but striving to keep within 1.5°C gives us the best chance of avoiding passing any more tipping points that might commit the year 3000 to being a Hothouse world.

#### Unchecked warming exacerbates other crises and risks global extinction

Daily News, 23

[Daily News (Sri Lanka), quoting Sri Lankan President Ranil Wickremesinghe, President warns of impending climate crisis, October 6, 2023. (NexisUni database)] [NSB] [NWG]

Humanity is facing an existential threat. The interlinked and cascading effects of climate change, biodiversity loss, and pollution - the triple planetary crisis - are demanding a heavy toll on individuals, communities and threatening life on our planet.

"We are putting extreme pressure on the planet. The triple planetary crisis is already exceeding the planetary boundaries. The world has already lost 8 percent of known animal species and 22 percent are at risk of extinction due to the destruction of their natural habitats and the introduction of invasive species.

"We are now losing biodiversity up to 10,000 times faster than it was disappearing 100 years ago. Declines in nature and biodiversity at the current trajectory will undermine the progress towards 35 out of 44 targets of the SDGs related to poverty, hunger, health, weather, cities, climates, oceans and land. In terms of change, the Intergovernmental Panel on Climate Change estimates that global warming is likely to reach 1.5 degrees Celsius between 2030 and 2052.

#### It is not too late: Deep reductions now allow us to avoid the worst impacts

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Deep, rapid, and sustained mitigation and accelerated implementation of adaptation actions in this decade would reduce projected losses and damages for humans and ecosystems (very high confidence), and deliver many co-benefits, especially for air quality and health (high confidence). Delayed mitigation and adaptation action would lock in high-emissions infrastructure, raise risks of stranded assets and cost-escalation, reduce feasibility, and increase losses and damages (high confidence).

### 1AC-Advantage: Oceans

#### Independent of warming, CO2 emissions are causing ocean acidification, which threatens marine ecosystems and the humans that depend on them

Park, 24

[Sue Bin Park, Skeptical Science, Fact Brief - Is ocean acidification from human activities enough to impact marine ecosystems?, June 15, 2024. (NexisUni database)] [NSB] [NWG]

Is ocean acidification from human activities enough to impact marine ecosystems?

Carbon dioxide emissions from human activities are acidifying oceans, disrupting marine ecosystems by dissolving the shells and skeletons of certain organisms. The ocean absorbs at least 25% of the CO2 released in the atmosphere. CO2 reacts with ocean water (H2O) to form carbonic acid (H2CO3), which releases acidifying hydrogen ions (H+). Ocean acidification is when the pH level of ocean water decreases due to an increase in hydrogen ions. Hydrogen ions bind to carbonate, making it more difficult for plankton, coral, and other organisms to build their calcium carbonate shells and skeletons. Because these organisms serve as food and habitat for other marine life, their decline threatens ocean food chains, and by extension human populations that depend on fisheries. Since humans began burning fossil fuels around 200 years ago, the oceans have become 30% more acidic — a more rapid change than at any time in the last 50 million years.

#### Unchecked acidification threatens all life on Earth

USAID, 22

[US Agency for International Development, USAID Announces New Programs to Protect Our Ocean, April 14, 2022. <https://www.usaid.gov/news-information/press-releases/apr-14-2022-usaid-announces-new-programs-protect-our-ocean> ] [NSB] [NWG]

The ocean sustains all life on Earth, regulates our climate and weather, generates half of the planets oxygen, and provides food and livelihoods for billions of people. But today, the health of the ocean is under threat from the impacts of greenhouse gas emissions, including ocean warming, sea-level rise, and ocean acidification. Additional human-caused stressors such as plastic pollution are exacerbating these negative impacts of climate change, threatening marine ecosystems and livelihoods around the world.

#### Rapid reduction in emissions is required to protect the ocean

Australian Academy of Science, 15

[Professor Ove Hoegh-Guldberg, Fellow of the Australian Academy, Director, Global Change Institute, The University of Queensland, Dr Richard Matear, Senior Research Scientist, Division of Marine and Atmospheric Research, CSIRO (Australia's national science agency), Professor Emma Johnston, School of Biological, Earth and Environmental Sciences, The University of New South Wales, More than just temperature—climate change and ocean acidification, May 15, 2015. <https://www.science.org.au/curious/earth-environment/ocean-acidification> ] [NSB] [NWG]

Rising atmospheric and ocean temperatures are just part of the climate change problem. We are also changing the chemistry of our oceans, with serious implications for the entire marine ecosystem. A rapid and significant reduction in greenhouse gas production is required to help protect our oceans and the diversity of life they support.

### 1AC-Advantage: Trade

#### Coming EU Carbon Border Adjustment Mechanism (CBAM) will lead to a US CBAM. Without a domestic carbon tax, the US CBAM will violate WTO rules and provoke trade retaliation

Smith, 23

[Tori K. Smith, Former Director of International Economic Policy at the American Action Forum, U.S. Carbon Border Adjustment Proposals and World Trade Organization Compliance, Insight, February 8, 2023. <https://www.americanactionforum.org/insight/u-s-carbon-border-adjustment-proposals-and-world-trade-organization-compliance/> ] [NSB] [NWG]

The European Union’s new carbon border adjustment mechanism (CBAM), which will start taxing U.S. exports in carbon-intensive sectors in 2026, will likely bring U.S. proposals for a similar mechanism back to the forefront this year (members introduced legislation during the 117th Congress to tax carbon-intensive sectors, but the issue is still widely debated). A CBAM in any form would likely run the risk of violating international trade commitments under the World Trade Organization (WTO). Compliance with U.S. commitments under the WTO should be a top priority when considering any mechanism to tie trade and climate policy because disregarding WTO commitments could draw retaliation from trading partners.

#### Congress is gelling around the idea of tariffs without a domestic tax, defying WTO rules

Schonhardt, 22

[Sara Schonhardt, International climate reporter, E & E News, Climatewire, June 16, 2022. (NexisUni)] [NSB] [NWG]

The bill introduced by Whitehouse and three other Democrats last week would impose a levy starting at $55 a ton on a wide range of carbon-intensive imports, similar to what's envisioned in Europe. It would also offer a rebate for exports, making it more of an adjustment than a tariff. He's hoping the measure will gain the backing of Republicans who have expressed support for carbon border fees. Republicans have gelled around the policy as a competitiveness measure that would benefit U.S. businesses over global competitors, mainly China and Russia. And they're staunchly opposed to pricing carbon. Experts argue that levying a fee on imported goods without also subjecting domestic producers to a carbon tax is not actually a border adjustment — and it could face allegations of protectionism at the World Trade Organization. Those differences highlight how the U.S. and E.U. are going down different paths, said Raymond Kopp, a senior fellow at Resources for the Future. “If you think about the interests that right-leaning senators have had on this, it is really using the border measures to protect U.S. industry, without really too much emphasis on ‘let’s reduce the emissions from U.S. industry, let's leverage what’s viewed to be a competitive carbon advantage,’” he said. “That’s obviously not what the E.U. is doing. The E.U. is taking real measures to reduce its emissions and then trying to put measures in place to protect its domestic industry,” Kopp added.

#### US defiance of WTO risks collapsing the whole system

CRS, 21

[Congressional Research Service, report No. R45417, "World Trade Organization: Overview and Future Direction," Oct. 18, 2021. (NexisUni database)] [NSB] [NWG]

The founding of the GATT and WTO were premised on the notion that an open, transparent and rules-based multilateral trading system was necessary to avoid a return to the nationalistic interwar trade policies of the 1930s. There arguably are substantial reasons for the United States and other countries to uphold the rules and enforce their commitments. A liberalized, rules-based global trading system increases competition for companies domestically, but also helps to ensure that companies and their workers have access and opportunity to compete in foreign markets with the certainty of a stable, rules-based system. A system for enforcing the rules and resolving disputes that inevitably arise from repeated commercial interactions also helps ensure such trade frictions do not spill over into broader international relations.

However, certain actions by the United States and other countries have raised questions about respect for the trading system, and could weaken the credibility of the WTO. In particular, U.S. actions to raise tariffs against major trading partners and obstruct the functioning of the DS system have prompted concerns from some that the United States may undermine the effectiveness and credibility of the institution that it helped to create.

#### WTO credibility prevents war and maintains global peace

Huang & Li, 24

[Qiuyue Huang & Zhiyuan Li, School of Economics, Fudan University, Shanghai, Trade and peace: The WTO Case, China Economic Review, Volume 83, February 2024. <https://www.sciencedirect.com/science/article/pii/S1043951X23001578> ] [NSB] [NWG]

This paper empirically examines the impact of international trade on peace in the world and among different countries from the perspective of the World Trade Organization (WTO). Using data on interstate conflicts from 1950 to 2000, we find robust evidence that the international trade framework, represented by the WTO, reduces the probability and intensity of militarized interstate disputes, thereby making a significant contribution to the establishment and maintenance of global peace.

#### A carbon tax would legitimize US carbon tariffs—evidence from former WTO appellate member:

Hillman, 2013

[Jennifer Hillman is a senior transatlantic fellow at The German Marshall Fund of the United States, a partner in the law firm of Cassidy Levy Kent, and a former member of the WTO Appellate Body, Changing Climate for Carbon Taxes Who’s Afraid of the WTO? Climate & Energy Policy Paper Series, German Marshall Fund of the United States, July 2013. <https://www.americanactionforum.org/wp-content/uploads/files/research/1374767060Hillman_CarbonTaxes_Jun13_web.pdf> ]

Can such a carbon tax be applied in a way that does not violate U.S. obligations under the WTO Agreements? I believe the answer is yes, provided that policymakers carefully design such a tax, keeping in mind the basic requirements of the WTO not to discriminate in favor of domestic producers or to favor imports from certain countries over others. The key is to structure any accompanying border measure as a straightforward extension of the domestic climate policy to imports. If so designed, there should be few questions about the measure’s consistency with the WTO rules. Even if questions were raised, the United States would have strong defenses within the WTO system. And even if those defenses were somehow to fail, the United States would be able to make adjustments should some aspect of its carbon tax system be found wanting. A non-discriminatory tax enacted in good faith to address climate change should pass muster with the WTO. Therefore, the threat of WTO challenges should not deter policymakers from adopting a carbon tax system now.

### 1AC-Advantage: Debt

#### Current US debt is a growing risk to the global economy. Only reducing the debt-to-GDP ratio solves.

IMF, 24

[International Monetary Fund, United States of America Staff Concluding Statement of the 2024 Article IV Mission, June 27, 2024. <https://www.imf.org/en/News/Articles/2024/06/27/cs62724-united-states-concluding-statement-of-the-2024-article-iv> ] [NSB] [NWG]

There is a pressing need to reverse the ongoing increase in public debt-GDP ratio. The general government fiscal deficit and debt are, as a share of GDP, both projected to remain well above pre-pandemic forecasts over the medium term. Specifically, under current policies, the general government debt is expected to rise steadily and exceed 140 percent of GDP by 2032. Similarly, the general government deficit is expected to remain around 2½ percent of GDP above the levels forecast at the time of the 2019 Article IV consultation. Such high deficits and debt create a growing risk to the U.S. and global economy, potentially feeding into higher fiscal financing costs and a growing risk to the smooth rollover of maturing obligations.

These chronic fiscal deficits represent a significant and persistent policy misalignment that needs to be urgently addressed. To put debt-GDP on a clear downward trajectory, a frontloaded fiscal adjustment will be needed that shifts to a general government primary surplus of around 1 percent of GDP (an adjustment of around 4 percent of GDP relative to the current baseline). There are various tax and spending options to achieve this adjustment over the medium-term.

#### US debt collapse risks global economic disaster

Sharp, 23

[Christopher Sharp, Express Online, Global financial crash warning: World risks economic collapse as US nears debt limit, January 21, 2023. (NexisUni database) ] [NSB] [NWG]

If the US defaults on its debt, it could spell disaster for the world economy. As crisis looms, President Joe Biden has entered into talks with those who could fix the issue, including Republican House of Representatives Speaker Kevin McCarthy. Mr McCarthy could raise the US debt ceiling in order to avert disaster. However, this would mean the Democratic president making a deal with Republicans over the matter. Bank JPMorgan Chase has warned a failure to secure the deal would have large-scale ramifications for the US and global economy. Speaking to CNBC's Squawk Box, CEO of JPMorgan Chase Jamie Dimon said: "We should never question the creditworthiness of the United States government. That is sacrosanct, it should never happen. “Of course, Democrats can blame Republicans and the Republicans can blame the Democrats. I don’t care who blames who — even questioning it is the wrong thing to do. That is part of the financial structure of the world. This is not something we should be playing games with at all. “Americans should understand that the American financial system is basically the crux of the financial system of the world and we shouldn’t play with it.” In a letter, US Treasury Secretary Janet Yellen wrote: "I respectfully urge Congress to act promptly to protect the full faith and credit of the United States." She added that a US debt default would "cause irreparable harm to the US economy, the livelihoods of all Americans, and global financial stability". To get an idea of just how much harm, economists have said six million jobs could be lost overnight by the US defaulting on its payments.

#### Global economic collapse risks radicalization and global war

James, 24

[Harold James, professor of history and international affairs at Princeton University and IMF historian, Moving to Complexity, June 2024. <https://www.imf.org/en/Publications/fandd/issues/2024/06/Moving-To-Complexity-Harold-James> ] [NSB] [NWG]

The 1944 United Nations Monetary and Financial Conference, held in July of that year at Bretton Woods, New Hampshire, holds out a powerful narrative about how countries may tackle global collective challenges. It stands as the opening of a novel epoch in world history, an age of sustained recovery, widespread prosperity, dynamic growth, crisis-free development, and political stability. Bretton Woods still inspires. Policymakers and academics alike regularly attempt to revive, reinvent, or recast it. The conference was underpinned, first, by a big political vision of how—as US Treasury Secretary Henry Morgenthau Jr. put it—prosperity and peace are indivisible. Neither could be managed separately from the other. This message came at a time when the whole world was consumed by war: the Second World War was much more genuinely global than the First. The push for a new world order drew lessons from the war: how murderous conflict had been the product of the global economic collapse, the Great Depression; the ensuing political radicalization; and the disintegration of world order into competing blocs.

#### Using carbon tax revenue to reduce debt works—other countries have done it with multiple economic benefits

CPLC, 16

[Carbon Pricing Leadership Coalition (CPLC) administered by The World Bank Group, What Are the Options for Using Carbon Pricing Revenues?, September 2016. <https://pubdocs.worldbank.org/en/668851474296920877/CPLC-What-are-the-Option-for-Using-Carbon-Pricing-Revenues-09-2016.pdf> ] [NSB] [NWG]

4) REDUCING PUBLIC DEBT AND/OR DEFICIT High levels of national debt and fiscal deficit can impact economic growth by increasing interest rates, reducing or crowding out private sector investment and necessitating future tax increases to pay the principal or interest on the debt. Governments looking to pay down debt or close existing budget deficits may therefore find channeling revenues to debt reduction to be an attractive use of revenues. For example, the 2010 introduction of the Irish tax on carbon pollution raised much-needed revenue and may have avoided the necessity for even harsher fiscal tightening measures during the economic downturn. BENEFITS • Long-term economic benefits: Reducing high debt levels could reduce debt-servicing costs, reduce perceived risk to creditors thereby lowering the cost of borrowing, and improve economic growth. • Intergenerational fairness: Debt reduction reduces the cost of climate change that must eventually be paid back by future generations.

### 1AC-Advantage: Air Pollution

#### Fossil Fuel emissions kill more than 4 million people per year

AFP, 23

[Agence France Presse, As Dubai hosts climate talks, its air pollution soars, December 3, 2023. (NexisUni database)] [NSB] [NWG]

Outdoor air pollution driven by fossil fuel emissions kills more than four million people a year, according to the World Health Organization, as it increases the risk of respiratory diseases, strokes, heart disease, lung cancer, diabetes and other problems. The damage is caused partly by PM2.5 microparticles, which mostly come from fossil fuels burned in transportation and industry.

#### Reducing emissions restores air quality

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Accelerated climate action can also provide co-benefits (see also C.4) (high confidence). Many mitigation actions would have benefits for health through lower air pollution, active mobility (e.g., walking, cycling), and shifts to sustainable healthy diets (high confidence). Strong, rapid and sustained reductions in methane emissions can limit near-term warming and improve air quality by reducing global surface ozone (high confidence). Adaptation can generate multiple additional benefits such as improving agricultural productivity, innovation, health and well-being, food security, livelihood, and biodiversity conservation (very high confidence).

# Topicality Answers

### Carbon tax is a Market-Based Instrument

#### Carbon Tax is a market-based instrument

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

Climate change poses a significant risk for a broad range of human and natural systems. Policies to reduce emissions are critical if we are to avoid the most costly damages associated with a rapidly changing climate. Compared to traditional command-and-control regulations, market-based policies can more cost-effectively reduce greenhouse gas (GHG) emissions by creating financial incentives for GHG emitters to emit less. Ten U.S. states and many jurisdictions outside the United States have established market-based programs to reduce GHGs. This brief—an update to our 2015 brief—describes the theory behind market-based approaches; their success in cost-effectively reducing GHGs and other emissions; and a range of market-based options, including: a carbon tax, a cap-and-trade program, a baseline and credit program, and a clean energy standard.

#### Carbon tax is the most basic form of a market-based instrument

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

The most basic form of a market-based policy is a tax that sets a price on each unit of pollution. By introducing a tax on pollution, the entity producing the pollution incurs an additional cost based on the amount of pollution emitted. Because of this, the entity has an incentive to reduce the pollution produced by changing its processes or adopting new technology. In this way, the tax provides a continuous incentive for innovation; the more emissions can be reduced, the less tax a company would pay. Ideally, the cost of the tax would be set equal to the cost to society that the pollution creates. Ascertaining this cost, however, is not always easy. (See Box 1.) Taxes to reduce GHGs can come in two broad forms: an emissions tax, which taxes firms directly based on the GHG emissions they produce, and a tax on goods or services that are generally GHG-intensive—an example would be a carbon tax on gasoline, see Box 2.

### 2AC Answers to “Revenue recycling, etc. = Extra-Topical”

#### Revenue return IS an element of energy policy

Barrett, et al, 2002

[James Barrett, (PhD Econ) energy and environmental economist at the Economic Policy Institute, Andrew Hoerner, (J.D.) director of research at the Center for a Sustainable Economy. Steve Bernow is director of the Energy Group and Bill Dougherty is senior scientist at the Tellus Institute, CLEAN ENERGY AND JOBS A comprehensive approach to climate change and energy policy, 2002. <https://files.epi.org/page/-/old/studies/cleanenergyandjobs.pdf> ] [NSB] [NWG]

The goal of this study is to combine various elements of climate and energy policy that have been shown in other studies to reduce the economic cost or increase the economic benefit of achieving emissions reductions and energy efficiency improvements. The two most important of these are returning the revenue from a carbon/energy tax through cuts in other distorting taxes and investing in new energy technologies. Competitiveness policies described in the next section also play an important role.

#### “Carbon tax with revenue recycling” is just one example of possible market-based clean energy policies

Barrett, et al, 2002

[James Barrett, (PhD Econ) energy and environmental economist at the Economic Policy Institute, Andrew Hoerner, (J.D.) director of research at the Center for a Sustainable Economy. Steve Bernow is director of the Energy Group and Bill Dougherty is senior scientist at the Tellus Institute, CLEAN ENERGY AND JOBS A comprehensive approach to climate change and energy policy, 2002. <https://files.epi.org/page/-/old/studies/cleanenergyandjobs.pdf> ] [NSB] [NWG]

Market-based and technology-based energy policies

Benefits of a combined approach

Various efforts have been made to determine the feasibility of reducing U.S. consumption of fossil fuels, often in the context of meeting the carbon reduction targets laid out in the Kyoto Protocol. Those that use macroeconomic models of the U.S. economy tend to rely on a single blunt instrument, like a carbon tax or other pricing mechanism, to achieve the desired reductions in fossil fuels or carbon emissions. Some of these studies predict serious negative consequences in terms of lost jobs and decreased GDP should the U.S. adopt policies to reduce the amount of fossil fuels it consumes. A few of these studies appear to exaggerate the cost of such reductions, as they lack obvious cost-reduction components such as gradual phase-in of the tax or recycling of tax or permit revenues to offset other taxes.

Studies of such policies can play a valuable role by demonstrating that certain approaches to climate and energy policy entail substantial economic burdens on society. For example, a report released by the Economic Policy Institute assessing the results of a modeling effort prepared for the United Mine Workers of America and the Bituminous Coal Operators Association found that the greenhouse gas policies modeled would “have a strikingly consistent, negative impact on real wages” and “could have significant costs for the economy.” That effort modeled a tradable carbon emission permit system aimed at reducing emissions to levels 10% below their 1990 levels by 2010 (a larger reduction than found here); permits were issued to industry at no cost, i.e., there was no return of the revenue through cuts of other taxes to businesses or workers, and there were no technology-promoting policies. That study found that the equilibrium carbon charge would rise to $270 per ton in 2010, resulting in GDP 2.5% below baseline (Scott 1997).

However, macroeconomic studies that examine the use of market mechanisms (such as taxes or tradable permits) to promote energy and carbon efficiency are virtually unanimous in finding that, for any given level of emissions reductions, reduced net costs or net benefits are possible if the revenues are recycled.

#### Our interpretation is better. As our evidence explains, it is a more REAL-WORLD example of policy construction.

#### There is no abuse. We are a carbon tax, and the negative still has links to all of their disadvantages. They don’t lose ground—they still have links to those positions, we just gain one or two answers to SOME of their arguments.

#### There is no reason this should be a voting issue. As we said above, this DOES NOT change their strategy. At worst it means they have one or two more arguments to answer on SOME of their positions. Even if you think it is unfair, that is a reason to reject those ARGUMENTS, not the affirmative team.

### 1AR Extensions on “Part of the policy”

#### A “clean energy policy” is actually a package of actions/policies. And those include deploying the revenue (or forgoing revenue) in ways that make the policy more effective.

Barrett, et al, 2002

[James Barrett, (PhD Econ) energy and environmental economist at the Economic Policy Institute, Andrew Hoerner, (J.D.) director of research at the Center for a Sustainable Economy. Steve Bernow is director of the Energy Group and Bill Dougherty is senior scientist at the Tellus Institute, CLEAN ENERGY AND JOBS A comprehensive approach to climate change and energy policy, 2002. <https://files.epi.org/page/-/old/studies/cleanenergyandjobs.pdf> ] [NSB] [NWG]

This study assesses the impact of an alternative approach to climate and energy policy. Based on an extensive review of the literature and of the experience of other nations, it attempts to assemble a set of policies that would provide moderate but steady increases in energy efficiency and reductions in carbon emissions, while improving overall economic efficiency. It then estimates the macroeconomic impact of these policies. This alternative policy package has four main elements: • a modest carbon/energy tax on major energy sources, with most of the revenues returned through cuts in taxes on wages; • a set of policies to promote the development of new energy-efficiency and renewable energy technologies; • policies to offset competitive impacts on energy-intensive industries; and • transitional assistance to compensate any workers and communities harmed by the policies.

#### Revenue return is part of the energy policy design

Barrett, et al, 2002

[James Barrett, (PhD Econ) energy and environmental economist at the Economic Policy Institute, Andrew Hoerner, (J.D.) director of research at the Center for a Sustainable Economy. Steve Bernow is director of the Energy Group and Bill Dougherty is senior scientist at the Tellus Institute, CLEAN ENERGY AND JOBS A comprehensive approach to climate change and energy policy, 2002. <https://files.epi.org/page/-/old/studies/cleanenergyandjobs.pdf> ] [NSB] [NWG]

Overall, the results suggest four conclusions. First, the economic costs and benefits of a climate and energy policy depend critically on elements of the policy design. Specifically, costs are reduced and benefits enhanced by returning the revenue from carbon/energy charges through cuts in other taxes, and through more rapid introduction of new energy technologies; these two policies together can yield a net economic benefit. Second, the combination of technology promotion and well-designed policies to offset competitive burdens can reduce the harm to most energy-intensive industries to low or negative levels. Third, consumers and income distribution need not be harmed and can even benefit. Finally, substantial compensation can be provided to affected workers and industries without negating the general economic benefit.

#### Impact mitigation is part of the policy design

Barrett, et al, 2002

[James Barrett, (PhD Econ) energy and environmental economist at the Economic Policy Institute, Andrew Hoerner, (J.D.) director of research at the Center for a Sustainable Economy. Steve Bernow is director of the Energy Group and Bill Dougherty is senior scientist at the Tellus Institute, CLEAN ENERGY AND JOBS A comprehensive approach to climate change and energy policy, 2002. <https://files.epi.org/page/-/old/studies/cleanenergyandjobs.pdf> ] [NSB] [NWG]

Crafting an energy policy: environmental, security, economic, and equity goals Energy policy has many diverse and sometimes contradictory goals. In this section we briefly discuss five of the goals of energy policy that informed this study: protecting the environment, improving energy security, strengthening the economy, preserving competitiveness, and distributing burdens and benefits as fairly as possible.

#### Revenue returns are just an element of a comprehensive policy

Barrett, et al, 2002

[James Barrett, (PhD Econ) energy and environmental economist at the Economic Policy Institute, Andrew Hoerner, (J.D.) director of research at the Center for a Sustainable Economy. Steve Bernow is director of the Energy Group and Bill Dougherty is senior scientist at the Tellus Institute, CLEAN ENERGY AND JOBS A comprehensive approach to climate change and energy policy, 2002. <https://files.epi.org/page/-/old/studies/cleanenergyandjobs.pdf> ] [NSB] [NWG]

This study attempts to help fill this gap by assessing the economic implications of a comprehensive approach to climate change and energy policy by modeling a policy package that includes elements of all of the types of policies outlined above. This analysis suggests that a policy package that uses a relatively modest tax on carbon to shift the tax burden away from labor and onto fossil fuel consumption, along with an array of policies designed to accelerate the adoption of carbon- and energy-efficient technologies can result in substantial declines in fossil fuel consumption and carbon emissions with modest but positive impacts on the macroeconomy.

# Disadvantage Answers

## Economic DA Answers

### 2AC

#### US debt is already increasing taxes and draining the economy

Henney, 24

[Megan Henney, FOX Business, How much of your tax money goes toward servicing the US national debt?, April 15, 2024. <https://www.foxbusiness.com/money/how-much-your-tax-money-goes-toward-servicing-us-national-debt> ] [NSB] [NWG]

Interest on the U.S. national debt has grown so rapidly that it is now consuming nearly half of all individual personal income taxes. So far this fiscal year, about 39 cents of every dollar paid in individual income taxes has gone toward paying down the interest on the debt, according to new calculations published by the Committee for a Responsible Federal Budget. The problem may soon get worse. "If federal finances continue on their current path, we are only a few years from the entirety of income taxes being needed to finance the debt," said EJ Antoni, a research fellow at the Heritage Foundation. Interest payments on the national debt are the fastest-growing part of the federal budget – and are poised to leapfrog both Medicare and defense spending in 2024, according to new projections published by the Congressional Budget Office (CBO). Payments are expected to triple from nearly $475 billion in fiscal 2022 to a stunning $1.4 trillion in 2032. By 2053, the interest payments are projected to surge to $5.4 trillion. As a share of the economy, total interest on the national debt is projected this year to hit a record 3.1% of GDP, which is the broadest measure of goods and services produced in the country. That percentage is expected to surge to 3.9% by 2034.

#### Non Unique. We are already seeing economic impacts from warming

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Climate change has caused widespread adverse impacts and related losses and damages to nature and people that are unequally distributed across systems, regions and sectors. Economic damages from climate change have been detected in climate-exposed sectors, such as agriculture, forestry, fishery, energy, and tourism. Individual livelihoods have been affected through, for example, destruction of homes and infrastructure, and loss of property and income, human health and food security, with adverse effects on gender and social equity. (high confidence)

#### Non Unique. We are already seeing urban and disparate economic impacts from warming

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

In urban areas, observed climate change has caused adverse impacts on human health, livelihoods and key infrastructure. Hot extremes have intensified in cities. Urban infrastructure, including transportation, water, sanitation and energy systems have been compromised by extreme and slow-onset events, with resulting economic losses, disruptions of services and negative impacts to well-being. Observed adverse impacts are concentrated amongst economically and socially marginalised urban residents. (high confidence)

#### No Impact. Even with unfavorable models, the economic impact would be modest. Any benefits from our turns would be ON TOP OF this

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Carbon prices affect the economy by increasing the cost of fossil fuels and through the ripple effects across the economy. Because the cost-based effects can lower take-home benefits from working and investing, a carbon price can increase the economic burdens of preexisting labor and capital taxes. Using the carbon price revenue to cut other tax rates can decrease the economic burden from those other taxes. Reducing carbon and other pollution also produces economic benefits that could offset the economic burdens of carbon pricing, but these are not captured in these models.

As shown in Figure 2, the projected effects of the policies on gross domestic production (GDP) are modest. In the reference scenario, marked with an x, models project that GDP grows between 2 and 2.5 percent annually on average between 2015 and 2030. The colored icons in Figure 2 denote projected GDP growth rates in the carbon tax scenarios that start at $25 per ton and rise at 5 percent annually. Different icons represent different uses of revenue; blue squares are household rebates, red circles are labor income tax reductions, and green triangles are capital income tax reductions. The figure shows that no matter how the revenue is used, average GDP growth under a carbon tax is likely to be nearly identical to average growth without the carbon tax. Indeed, the spread in GDP growth rates is considerably larger across models than across the revenue scenarios within a model.

Some models and scenarios report higher GDP growth in the policy scenarios than in the reference scenario, an outcome known as a double dividend. In these instances, the projected economic benefits of the tax reduction are greater than the costs from the carbon tax. Whether this would happen in practice is uncertain, not least because the modeling was conducted before the 2017 legislation that significantly cut corporate tax rates. One could expect the pro-growth effect of further tax cuts to be smaller than those analyzed here.

Projected GDP in 2033 is about $25 trillion in the reference scenario. In the policy scenarios in Figure 2, the economy would reach the same level roughly three or four months later.

#### More evidence: Our models are conservative. They don’t take environmental benefits into account

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Any policy that significantly reduces U.S. greenhouse gas emissions will require important shifts in the energy system that powers the American economy. Anticipating this web of interactions within and between sectors is important to understanding the full set of potential outcomes of a policy. Modeling involves making assumptions about how the world works, and each assumption has its own implications. A few key limits to modeling studies like this are: Environmental benefits are not included. A complete measure of the economic impact of a climate policy would include both its costs and the benefits from avoiding climate damages as well as lower (conventional) air pollution. Models used here do not produce estimates of these air quality10 and climate benefits or capture their ripple effects through the economy, compounding over time, the way they do other outcomes (i.e. cost).

#### Experts agree, and history proves, that carbon taxes are the most efficient way to reduce emissions

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Economists have long argued that a well-designed carbon tax is the most economically efficient way to reduce carbon emissions. A carbon tax is considered a consumption-based tax. Generally, consumption-based taxes raise revenue with less distortionary effects than taxes on income, making them economically more efficient. As of August 2019, 25 national and three subnational jurisdictions around the world have implemented a carbon tax, and four are considering implementing one.

#### The plan would raise $1.87 trillion in revenue with minimal economic impact

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

In this paper, we discuss the design implications of a carbon tax and provide estimates for revenue, economic, and distributional effects. We estimate that a $50 carbon tax implemented in 2020 that grows at 5 percent each year would raise $1.87 trillion in additional federal revenue. A carbon tax would reduce after-tax wages and reduce the incentive to work, reducing GDP by 0.4 percent and full-time equivalent employment by 447,000 jobs. In isolation, a carbon tax would make the tax code less progressive.

#### Carbon tax can save costs by reducing OTHER federal emission control regulations

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

While not in the scope of this paper, a carbon tax would make current federal regulations that price carbon emissions redundant. If designed correctly, a carbon tax would provide the proper incentive to reduce carbon emissions and offset the negative externality. As such, there would no longer be a need for federal regulations meant to price carbon emissions.

#### Our evidence assumes the same levels as the affirmative solvency evidence AND takes mitigating factors into account

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

To illustrate the revenue, economic, and distributional impacts of a carbon tax, we model a sample carbon tax enacted by the federal government. This proposal would enact a carbon tax in 2020 equal to $50 per metric ton of carbon and growing annually at 5 percent. The carbon tax would apply to a broad tax base, covering all energy-related carbon emissions in the United States and would be border-adjusted. Finally, the tax would exempt international bunker fuels used for international aviation and maritime transport.

We estimate that a $50 per metric ton carbon tax would raise federal revenue by $1.87 trillion between 2020 and 2029.

The carbon tax itself would collect $2.6 trillion in receipts over this time. However, the imposition of the carbon tax would reduce income and payroll tax revenue. This is typically called the “excise tax offset.” The income and payroll tax offset can occur for one of two reasons, or a combination of both. If the excise tax is passed back to the factors of production and borne entirely by the producer, the tax reduces some combination of business profits and labor compensation. Alternatively, the tax could be passed forward in the form of higher prices. Higher prices reduce the amount of income available to consumers for purchasing other goods and services. The industries affected by the decline in consumption see lower revenue, resulting in lower profits and labor compensation.[21]

The size of the income and payroll tax offset depends on the tax rates and tax structures and varies by modeling assumptions. The Joint Committee on Taxation has historically estimated an income and payroll tax offset of around 25 percent. This means that for every dollar of excise tax revenue, income and payroll tax falls, offsetting $0.25 of the excise tax revenue. Under current law, the Joint Committee on Taxation estimates the income and payroll tax offset to be around 22 percent until 2026, when it rises to approximately 24 percent once the Tax Cuts and Jobs Act (TCJA) expires.[22] The Tax Foundation model estimates a slightly higher income and payroll tax offset, ranging between 26 percent and 30 percent over the next decade. In the past, estimates of the Joint Committee on Taxation have ranged between 25 percent and 35 percent.[23]

Our estimate also considers for the shift away from carbon-intensive goods. A carbon tax distorts the relative prices of goods in the U.S. economy away from carbon-intensive goods. This would encourage investment to shift towards less carbon-intensive production processes and reduce taxable carbon emissions, shrinking the tax base.

There is a degree of uncertainty in predicting the speed of technological change, changes in the energy mix, and consumer demand of carbon-intensive goods under current law and under a carbon tax. We assume in our analysis that carbon emissions would decrease incrementally to 80 percent of the baseline in the first five years of a carbon tax, and to 75 percent in the following five years.

#### Our evidence is a CONSERVATIVE estimate. It takes into account mitigating factors, but DOES NOT include benefits like reducing other regulation and climate change costs

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

According to the Tax Foundation General Equilibrium Model, we estimate that a $50 per ton carbon tax enacted in isolation would reduce long-run output (Gross Domestic Product) by 0.4 percent. A carbon tax would reduce after-tax wages and reduce the incentive to work. As a result, hours worked would decline by 421,000 full time equivalent jobs.

A carbon tax is a broad-based excise tax that increases the price of goods and services in the economy. Excise taxes are a type of consumption-based tax and impact the economy by reducing real after-tax wages. As an excise tax, it would not distort the choice between current and future consumption and does not have a direct impact on the incentive to save or invest. An individual would face roughly the same tax burden, in present value, if they choose to consume today compared to if they invested their income and consumed it later.

However, a carbon tax would ultimately distort investment decisions in the economy across different types of projects. A carbon tax, by design, would reduce the demand for goods produced in more carbon-intensive production processes.

This estimate only includes the direct effect of the new tax on the U.S. economy. This estimate does not account for the potential economic benefits from mitigating climate change. Nor does our modeling include the effect of repealing current federal regulations with respect to carbon emissions.

#### Market based options reduce costs

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

Often the debate surrounding policies to reduce greenhouse gases focuses primarily on the cost of implementing them. However, the failure to regulate greenhouse gases will also entail costs—the costs of climate damage resulting from inaction. Market-based climate policies can help minimize compliance costs while also avoiding the worst consequences of a dramatically changing climate.

#### Models show modest negative economic impacts, but they don’t include benefits

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

For years economists have been studying the potential economic impacts of carbon pricing policies. Models show that effects of a carbon tax on near-term macroeconomic outcomes like gross domestic product (GDP) are small and typically negative compared to a current policy scenario. These studies are highly imperfect—they nearly always exclude the economic benefits of avoided regulations and reduced air pollution, as well as any changes in technological progress stimulated by the tax.

### Ext. on NU-Debt

#### Non Unique. Current debt levels already risk fiscal crisis

Boccia & Lett, 24

[Romina Boccia and Dominik Lett, CATO Institute, Another CBO Report Warns of Debt Surging, As a Fiscal Crisis Brews, June 18, 2024. <https://www.cato.org/blog/another-cbo-report-warns-debt-surging-fiscal-crisis-brews> ] [NSB] [NWG]

On the heels of a new Congressional Budget Office (CBO) report that highlights the need for Congress and the White House to get serious about reining in federal spending and debt, it’s critical to understand that high debt levels are not just numbers on a page; they have real-world consequences. As debt grows and interest costs rise, irresponsible spending by Congress and the White House is taking a larger toll on American workers, reducing economic opportunity and their take-home incomes significantly. It also puts our nation at greater risk of a sudden fiscal crisis.

#### Non Unique. Debt is already slowing the economy.

Boccia & Lett, 24

[Romina Boccia and Dominik Lett, CATO Institute, Another CBO Report Warns of Debt Surging, As a Fiscal Crisis Brews, June 18, 2024. <https://www.cato.org/blog/another-cbo-report-warns-debt-surging-fiscal-crisis-brews> ] [NSB] [NWG]

Under highly optimistic assumptions that do not reflect already anticipated congressional moves to adjust tax and spending policies, the CBO projects that debt will reach 122 percent of GDP by 2034, as interest on that debt will exceed spending on defense this fiscal year. A previous CBO report illustrated how rising debt would make Americans poorer, reducing per-person income by $14,500 in the year 2054, based on CBO projections that assume the debt will rise to nearly three times the size of the US economy. Excessive government debt drags down the economy by crowding out more productive investments that improve American living standards.

### AT: Hurts Poor

#### Turn. Poor households benefit more from pollution reductions

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Some important distributional considerations are outside this study. For example, households in polluted areas or in places vulnerable to climatic damages are often also low-income. They may benefit relatively more from the environmental improvements of a carbon price. Also, it makes sense to compare the distributional outcomes of a carbon tax to those of alternative climate policies, such as regulation. Regulatory programs can raise costs and have distributional impacts, but they generally do not generate revenue that policymakers could use to ameliorate those impacts.

#### No Impact. Existing safety net programs mitigate the impact of a regressive tax

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Low-income households tend to spend a relatively large fraction of their income on energy, so policymakers may be concerned that a carbon tax would be disproportionately burdensome on them. Emerging research suggests that because low-income households receive relatively more of their income from price-indexed social safety net programs, the impacts of carbon prices on low-income households may not be nearly as regressive as originally thought (Cronin et al., 2017; Goulder et al., 2018). Nonetheless, reducing net burden on lower-income households is often a policy priority and it is important to understand the distributional outcomes of policy across the income scale.

## Business Confidence DA Answers

#### No link. Even oil companies no longer oppose carbon tax

Naef, 23

[Alain Naef, Assistant professor, ESSEC, From the Paris agreement to COP28, how oil and gas giants try to influence the global climate agenda, The Conversation - United Kingdom, December 8, 2023. (NexisUni database)] [NSB] [NWG]

Some oil companies understand that public opinion on climate change is shifting and are starting to reflect this in their public actions. Exxon's CEO, Darren Woods, urged then-US president Donald Trump to stay in the Paris agreement after Trump announced plans to withdraw the US in 2017. This decision was later reversed by Biden. Woods and Exxon also publicly advocate for a carbon tax. As some of the world's most polluting companies, oil producers surely have an interest in avoiding such taxes. But my recent research shows that 54% of oil and gas companies with a policy on carbon taxes support them (78% of the 50 largest firms by reserves). Among the 100 largest globally, I found 19 in favour of carbon taxes and 16 against them. 49 fossil fuel companies, mostly smaller operators, have no public position on the issue.

#### Non-Unique and Turn. Predicting business carbon costs is inevitable. The plan provides certainty.

Patnaik & Kennedy, 21

[Sanjay Patnaik, Director - Center on Regulation and Markets, and Kelly Kennedy, Former Senior Research Assistant - Center on Regulation and Markets, at Brookings Institute, Why the US should establish a carbon price either through reconciliation or other legislation, October 7, 2021. <https://www.brookings.edu/articles/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/> ] [NSB] [NWG]

The lack of a carbon price has created uncertainty for U.S. companies. Without knowing if or when the U.S. will institute carbon pricing, companies cannot accurately plan future investment decisions. Some companies have tried to rectify this issue by instituting internal carbon pricing, where business units incorporate a predetermined price on carbon emissions into their present and future budgets. Yet without guidance from the federal government on what this price should be, companies might set their price too low. A report from McKinsey & Company finds that most firms set their internal carbon price below the minimum price of $40 per ton recommended by economists and climate experts. These prices vary by industry: while the median internal carbon price set by energy companies is $25, the median price set by financial services companies is $6 per ton. Instituting a federal carbon price would allow firms to plan their long-term investment decisions better.

#### Non-Unique and Turn. EU tariffs are coming now. The plan avoids them.

Patnaik & Kennedy, 21

[Sanjay Patnaik, Director - Center on Regulation and Markets, and Kelly Kennedy, Former Senior Research Assistant - Center on Regulation and Markets, at Brookings Institute, Why the US should establish a carbon price either through reconciliation or other legislation, October 7, 2021. <https://www.brookings.edu/articles/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/> ] [NSB] [NWG]

Imposing carbon pricing in the U.S. might also ensure continued access for American companies to markets abroad. Recently, the EU announced that it was planning to impose a carbon border tax on carbon-intensive imports. Importers can avoid this tax if they can prove that “a carbon price has already been paid during the production of the imported goods.” If the U.S. continues to delay carbon pricing, then imports from the U.S. will be subject to this tax from the EU, one of the United States’ most important trading partners. As more countries choose to enact carbon pricing, the risk of this happening elsewhere grows stronger. A robust carbon price in the U.S. would ensure that American firms can continue to access international markets without frictions.

#### Non-Unique and Turn. Global shift to decarbonization inevitable. The plan allows US companies to lead.

Patnaik & Kennedy, 21

[Sanjay Patnaik, Director - Center on Regulation and Markets, and Kelly Kennedy, Former Senior Research Assistant - Center on Regulation and Markets, at Brookings Institute, Why the US should establish a carbon price either through reconciliation or other legislation, October 7, 2021. <https://www.brookings.edu/articles/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/> ] [NSB] [NWG]

Finally, instituting a carbon price in the U.S. can prepare American firms for global technological transitions, strengthening their competitiveness in the future. A carbon price will force companies to reevaluate their long-term investment decisions, shifting away from emissions-intensive production toward low-carbon technologies. Globally, a shift toward low-carbon production is inevitable, and the sooner U.S. companies can begin this transition, the more competitive they will be. A U.S. carbon price will help to ensure that U.S. companies can lead the new industries centered on low-carbon technologies that will become the lynchpin of the global economy in the coming decades.

#### Carbon tax provides more certainty for businesses

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

The trade-off between price-based (e.g., carbon tax) approaches and quantity-based (e.g., cap and trade) approaches is either greater compliance cost certainty or greater environmental certainty. Setting an explicit price on a unit of pollution offers a high degree of price certainty for the regulated businesses. However, while the compliance cost is more certain, the resulting level of pollution reduction overall is less certain because each company will respond differently to the price set by the tax. For example, a tax of $1 per gallon of gas could cause Company A to reduce its gasoline consumption by 20 percent but cause Company B to reduce its consumption by only 1 percent. The level of the reduction is difficult to know in advance and the level of the tax may need to be adjusted over time to achieve a specific emission reduction goal.

In contrast, a quantity-based market policy provides certainty about the environmental outcome because only a limited number of pollution allowances are distributed or auctioned. In this case, while the environmental outcome is certain, the cost to firms for emitting pollution is uncertain (particularly at the outset of the program) and will be determined by the market price for allowances. Real-world market-based policy proposals, however, are not so “black and white” and can be designed with policy components that create more certainty for both price and quantity. For example, programs in California and the Regional Greenhouse Gas Initiative (RGGI) have included price floors and allowance reserve (that acts like a price ceiling)—to give more compliance cost certainty.

#### Carbon tax promotes investments in innovation

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

A carbon tax provides a financial incentive to reduce emissions. Emitters of greenhouse gases will shift to lower-carbon alternatives if doing so costs less than the tax. Moreover, the carbon price will accelerate low-carbon technological progress due to increased deployments of low-carbon technologies today (i.e. “learning-by-doing”) and larger investments in innovation because of the promise of greater market share in the future.

#### Carbon price inevitable (even if not in US)

Eccles & Mulliken, 21

[Robert G. Eccles, visiting professor of management practice at Oxford University, John Mulliken is the founder of Carbonware.org and was the CTO of Wayfair, Carbon Might Be Your Company’s Biggest Financial Liability, Harvard Business Review, October 07, 2021. <https://hbr.org/2021/10/carbon-might-be-your-companys-biggest-financial-liability> ] [NSB] [NWG]

Through some combination of government intervention and the development of carbon trading markets, it seems inevitable that a price will eventually be put on carbon around the world.

#### Market based options improve business flexibility

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

No single policy can provide a comprehensive solution to mitigating climate change—a variety of policies will undoubtedly be required to address the challenges specific to different sectors of the economy. Market-based policies provide the most economically efficient path for doing so. The more flexibility that regulated businesses have, the more opportunities they will find to innovate and to reduce the costs associated with protecting the environment.

#### Market based options provide flexibility for companies

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

Market-based options provide greater flexibility for firms and seem particularly appropriate in the context of policies to reduce GHG emissions. For some types of pollutants, it matters that emissions at any particular point or region do not exceed health-related thresholds. For those types of pollutants, command-and-control regulation is often the appropriate policy response. Because GHGs are not harmful on a localized basis—they are globally mixed in the atmosphere and do damage on a global scale—market-based policies that provide greater compliance flexibility can achieve environmental objectives at lower overall costs. Beyond providing an incentive for the use of lower emitting technologies, market-based policies also provide a financial incentive for inventors and investors to develop and deploy lower-emitting technologies. This type of policy also leaves the private market to determine which technologies will thrive and expand. At the U.S. federal level, market-based policies have been used to reduce sulfur dioxide emissions at a fraction of the originally estimated cost, while at the state level they have been used successfully in renewable energy programs and cap-and-trade programs for greenhouse gases and nitrogen oxides.

#### Companies can adapt—they just need to pay attention

Eccles & Mulliken, 21

[Robert G. Eccles, visiting professor of management practice at Oxford University, John Mulliken is the founder of Carbonware.org and was the CTO of Wayfair, Carbon Might Be Your Company’s Biggest Financial Liability, Harvard Business Review, October 07, 2021. <https://hbr.org/2021/10/carbon-might-be-your-companys-biggest-financial-liability> ] [NSB] [NWG]

As Nicholas Kukrika, Partner at Generation Investment Management, puts it, “Companies need to manage their carbon exposure, and there is just about enough time if companies start mitigating these risks today. Corporate executives might be tempted to wait for ‘cheaper technologies’ to come, but there are projects that make perfect economic sense even at today’s relatively low carbon prices.”

#### Companies can adapt—Ryanair eaxmple

Eccles & Mulliken, 21

[Robert G. Eccles, visiting professor of management practice at Oxford University, John Mulliken is the founder of Carbonware.org and was the CTO of Wayfair, Carbon Might Be Your Company’s Biggest Financial Liability, Harvard Business Review, October 07, 2021. <https://hbr.org/2021/10/carbon-might-be-your-companys-biggest-financial-liability> ] [NSB] [NWG]

Some companies, however, are already choosing to act now. Take Ryanair, the European low-cost airline. Like all airlines, Ryanair is an “existential emitter,” meaning that there is no readily available substitute to fossil fuels that they use to conduct their core business of flying passengers. Listen to their FY2021 earnings call on May 17, 2021, and you’ll hear a vision of the future. The carbon they emitted in 2020 cost them €150 million last year. Since that time the EU market price per ton of CO2 emitted has doubled. However, they’ve already purchased CO2 options to hedge that exposure so that it doesn’t reach the ~10% of profit that it might have by one analyst’s estimate.

Ryanair aims to develop a competitive advantage due to their fuel-efficient fleet and focus on operational efficiency. They claim that any passenger who flies with Ryanair instead of a legacy carrier is lowering his or her environmental footprint by 50%. So as the price of carbon rises, they believe they will steal market share through price competition and branding. Group CEO Michael O’Leary said on the earnings call that they aim to “get to zero carbon emissions by 2050 and also to continue to reduce our fuel consumption and make flying with Ryanair ever more green.” They are managing their climate risk as financial risk.

#### Carbon tax promotes constant innovation

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

The most basic form of a market-based policy is a tax that sets a price on each unit of pollution. By introducing a tax on pollution, the entity producing the pollution incurs an additional cost based on the amount of pollution emitted. Because of this, the entity has an incentive to reduce the pollution produced by changing its processes or adopting new technology. In this way, the tax provides a continuous incentive for innovation; the more emissions can be reduced, the less tax a company would pay. Ideally, the cost of the tax would be set equal to the cost to society that the pollution creates. Ascertaining this cost, however, is not always easy. (See Box 1.) Taxes to reduce GHGs can come in two broad forms: an emissions tax, which taxes firms directly based on the GHG emissions they produce, and a tax on goods or services that are generally GHG-intensive—an example would be a carbon tax on gasoline, see Box 2.

## Politics Answers

#### Multiple factors are reducing opposition to carbon tax

Inside EPA, 24

[Inside EPA's Climate Extra, Looming Tax Crunch Sparks Renewed Debate Over Domestic Carbon Price, March 1, 2024. (NexisUni database)] [NSB] [NWG]

Calls for a domestic carbon price are receiving a boost from a Senate Democrat and a prominent think tank, with backers of the strategy arguing the looming expiration of Trump-era tax cuts could create a renewed opening via tax legislation next year despite years of Capitol Hill gridlock on the idea. The renewed carbon price push includes a Feb. 27 analysis touted by the Brookings Institution's Hamilton Project, making the case that existing climate mitigation policies including the Inflation Reduction Act (IRA) are not enough to achieve domestic greenhouse gas goals. Carbon tax advocates are also citing the European Union's new carbon border adjustment mechanism (CBAM) targeting imported goods as a factor that could accelerate discussion of a U.S. carbon price or carbon tariff. "It really takes carbon pricing to get to a pathway to climate safety," said Sen. Sheldon Whitehouse (D-RI) during a Feb. 27 Brookings event. "The forces are converging on making that work."

#### EU moves are reducing opposition to carbon tax

Inside EPA, 24

[Inside EPA's Climate Extra, Looming Tax Crunch Sparks Renewed Debate Over Domestic Carbon Price, March 1, 2024. (NexisUni database)] [NSB] [NWG]

The renewed debate about carbon pricing comes amid a highly uncertain political climate going into the November presidential election, and amid the prospect that former President Donald Trump, who is hostile to most climate policies, could win another presidential term. Even so, Whitehouse at the event flagged several factors independent of the election that he argued build pressure for further climate action. These include the looming implementation of the EU's CBAM, now in its data gathering phase; the growing climate threat; and that a push next year to renew expiring Trump-era tax cuts would create a large revenue hole that a carbon tax could help fill. Regarding Europe's new climate-trade program specifically, Whitehouse argued: "The propulsive effect of the CBA on American policy I think is going to be profound." During a subsequent Feb. 29 appearance at an American Council on Renewable Energy (ACORE) forum, Whitehouse expanded on this point by noting that American products that are being exported either into the EU or the United Kingdom will soon be subject to tariffs "for the relative carbon inefficiency of their manufacturing." This in turn "gives a very, very strong motivation for those industries to come to Congress and say, 'Hey, lift this tariff, I don't like this, I don't want to have to have this collar around my neck when I'm trying to compete in the EU and the U.K.,' and the only way they get that collar lifted is with a domestic carbon price."

#### Most Americans, including most Republicans, would support a carbon tax. Congressional Republicans are taking notice.

E & E News, 19

Nick Sobczyk, E & E News, GOP pollster pitches Republicans on carbon pricing, June 13, 2019. <https://www.eenews.net/articles/gop-pollster-pitches-republicans-on-carbon-pricing/> ] [NSB] [NWG]

But Luntz is not a fly-by-night consultant. He is influential in Republican circles. He famously wrote a memo encouraging the George W. Bush administration to use the term "climate change" instead of "global warming," in part to downplay its negative effects and cast uncertainty on the science. More recently, he has conducted polls showing public belief in climate change, including for CLC. The memo circulated yesterday touts data showing that a majority of Republican voters are concerned about the party losing young people due to its climate stance, and that 58% of GOP voters younger than 40 are more concerned about the issue than they were a year ago. It also shows 2 to 1 support among Republicans — and 4 to 1 support overall — for CLC’s proposal. The plan would put a $40-per-ton fee on carbon dioxide emissions and return the funds to taxpayers via quarterly checks, in exchange for regulatory rollbacks and a shield for companies against past climate liabilities. Put together, the data suggests "climate is both a major vulnerability and a major opportunity for Republicans," Greg Bertelsen, senior vice president at CLC, said in an interview. "It’s clear to us that Republicans on the Hill are feeling this way, as well," he said.

## Elections DA Answers

#### Vast majority of Americans support action on climate change

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

Specifically, 80–90% of Americans underestimate the prevalence of support for major climate change mitigation policies and climate concern. While 66–80% Americans support these policies, Americans estimate the prevalence to only be between 37–43% on average. Thus, supporters of climate policies outnumber opponents two to one, while Americans falsely perceive nearly the opposite to be true. Further, Americans in every state and every assessed demographic underestimate support across all polices tested.

#### Yes, this includes support for a carbon tax

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

We asked participants to estimate the percent of Americans who were at least somewhat concerned about climate change (see Methods for full survey text, and a discussion about using the phrase “climate change” vs “global warming” for this item). We then chose a set of specific climate policies especially relevant to the decarbonization of the US and the attainment of climate mitigation goals such as the 2015 Paris Agreement. We intentionally selected a set of climate change mitigation policies that varied in core features such as utilizing market instruments as opposed to mandates, or those that facilitate investment and the creation of infrastructure. For each policy, we asked participants to estimate the percent of Americans who would support it. Our list of policies included support for a carbon tax levied against fossil fuel companies and redistributed to Americans through tax breaks. The list also included a renewable energy standard that mandates 100% electricity generated by renewable energy in the near term—an essential step in decarbonizing our energy production. And, as decarbonizing our energy infrastructure will require rapidly siting of wind and solar across the US, we also included support for siting renewables on public lands. Given the need to consider infrastructure, jobs, and social equity in transitioning to renewable energy, we also asked participants to estimate the support for the Green New Deal (GND). Notably, large environmental policy packages like the GND and the American Jobs Plan may play a key role in passing environmental legislation, as research shows that bundling more redistributive, social equity, and job-creating measures into major environmental policies makes them more popular.

#### Most Americans, including most Republicans, support a carbon tax

E & E News, 19

Nick Sobczyk, E & E News, GOP pollster pitches Republicans on carbon pricing, June 13, 2019. <https://www.eenews.net/articles/gop-pollster-pitches-republicans-on-carbon-pricing/> ] [NSB] [NWG]

Republicans risk losing young voters if they don’t wake up to the reality that is climate change, Frank Luntz warned yesterday. Luntz Global Partners — the firm led by the prominent GOP consultant — distributed a memo to every Republican on Capitol Hill arguing that public climate opinion has reached a "tipping point." The report is based on the results of an online poll and focus groups Luntz Global conducted for the Climate Leadership Council. CLC is the carbon fee and dividend advocacy group funded by numerous corporate entities, including some oil companies. The memo, which makes the case for the CLC’s proposal, comes during a changing landscape for the Capitol Hill climate debate. Republicans are increasingly acknowledging climate science and voicing support for limited solutions. "The ‘political temperature’ on climate change has shifted — perhaps permanently," the memo reads. "Three in four American voters want to see the government step in to limit carbon emissions — including a majority of Republicans (55%)."

#### People underestimate support for climate action. Actual support is a supermajority

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

In the present work, we investigate national misperceptions of support for transformative climate policies and broader concern about climate change and show that Americans experience pluralistic ignorance to such a magnitude and breadth that it can be considered a false social reality: Americans from all walks of life systematically underestimate public concern about climate change and policy support over a range of climate policies. The magnitude of the effect is such that those who want action are a supermajority (i.e., 66% or higher), while there is a ubiquitous perception across demographics that they are only a minority.

### Ext. on “Support underestimated”

#### Underestimation of support true for all policies

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

Figure 1 shows that the vast majority of Americans greatly underestimate how many of their fellow Americans worry about climate change and support transformative climate policies to remedy the situation. While most Americans believe that less than half of the country is worried about climate change (Mest = 43.3), in actuality it is two-thirds (Mreal = 66), t(6118) = 70.9, d = 0.92, P < 0.001, 95% CIdiff = [22.0, 23.3] (see Methods for additional notes on these analyses). Americans’ estimates for major climate policy support is the same or even lower (Ms = 37–43%), when in fact two-thirds of the country or more support each of these policies (Table 1). The distributions of these estimates in Fig. 1 show two noticeable concentrations, one at around 50% and another around 25%, salient proportions that seem to serve as focal points for answering these questions, even though a similarly salient proportion—75%—would have been a far more accurate answer. The misperceptions in estimates are so robust that, for every item assessed, the estimates of the lowest 25% and of the middle 50% of respondents falls well below the true values. More precisely, between 79% and 88% of our national sample underestimate public concern or each policy support.

#### Their evidence is suspect: Republicans underestimate support even more than Democrats

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

Breaking these perceptions of national public concern and policy support down by partisan politics, we found that Democrats, Independents, and Republicans all estimate levels for climate concern and climate policy support below 50%, while actual values are much higher. However, Fig. 2 shows that Republicans’ estimates were reliably lower than Democrats’ by 5–12%, with Independents falling somewhere in between.

#### Everyone underestimates support for carbon tax

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

For the national policy items, contemporaneous polling was available broken down by partisans, so we can compare partisans’ estimates of nationwide support to actual partisan levels of support. Figure 2 shows that when Democrats, Independents, and Republicans estimate how the nation feels on these issues, their estimates of other Americans’ support for these policies only really resemble actual Republican levels of policy support. In fact, even if individuals’ estimates for the nation as a whole were, for some reason, based solely on Republican levels of support, all partisan groups would still be underestimating support for policies like a carbon tax and siting renewables on public lands. While differences between partisans are consistent with false consensus effects (e.g., Democrats—who are more likely to personally support climate policy—tend to provide relatively higher estimates of others’ policy support than do Republicans), these effects are dwarfed by the absolute levels of misperception held by all Americans that strongly underestimates climate policy support.

#### Everyone underestimates support for carbon tax, but Republicans are off by more

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

Reflecting the lower norm estimates by Republicans, Fig. 3 shows that Republicans’ opinion misperceptions are stronger in magnitude than Democrats’ and Independents’ across all items. Further, we find that all partisan groups underestimate concern for climate change at both the national and state level by roughly 20–30%. In policy support, we find that the magnitude of misperception is highest for support to site renewables on public lands, with underestimates closer to 35–40%. Underestimation is smaller for support for 100-percent renewable energy mandates, which is still between 20–25% lower than actual levels. Support for a carbon tax and a Green New Deal fall in between these levels.

#### A supermajority of Americans support carbon tax, but the perception is only a minority support

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

We find that roughly 80–90% of Americans underestimate the true level of concern for climate change as well as support for transformative climate policies like a carbon tax, 100-percent renewable energy mandates, and a Green New Deal. Not only are these misperceptions nearly universal in the country, but the magnitude is large enough to fully invert the true reality of public opinion: although polls show that a supermajority support these climate policies (66–80%), the average American’s estimate of public opinion suggests it is just a minority (37–3%, effect sizes of the difference ranging from d = 0.91–1.48). In other words, supporters of major climate policies outnumber opponents 2 to 1, but Americans falsely perceive nearly the opposite to be true. In fact, Americans’ estimates for all national support for climate policies is roughly the same or even lower than even just Republican levels of support.

#### Perceptions are WAY off—a strong majority support climate action

Sparkman, Geiger, & Weber, 22

[Gregg Sparkman, Department of Psychology and Neuroscience, Boston College, Nathan Geiger, Media School, Indiana University & Elke Weber, Andlinger Center for Energy and Environment, Princeton University, Americans experience a false social reality by underestimating popular climate policy support by nearly half. Nature Communications August 23, 2022. <https://www.nature.com/articles/s41467-022-32412-y> ] [NSB] [NWG]

This misperception is highly robust, being present for all the climate policies assessed here, and true across the country: Americans in every state and of all major demographics are 20% or more off in their estimates of support for all climate policies. In all cases, Americans failed to understand that a strong majority of fellow Americans support climate policy, instead, estimating it to be a minority.

# Counterplan Answers

## States Counterplan Answers

#### Need action at ALL levels—Perm solves best

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Government actions at sub-national, national and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development (very high confidence). Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity and justice, and when decision-making processes, finance and actions are integrated across governance levels, sectors, and timeframes (very high confidence). Enabling conditions are differentiated by national, regional and local circumstances and geographies, according to capabilities, and include: political commitment and follow-through, coordinated policies, social and international cooperation, ecosystem stewardship, inclusive governance, knowledge diversity, technological innovation, monitoring and evaluation, and improved access to adequate financial resources, especially for vulnerable regions, sectors and communities (high confidence).

# 2AC CASE EXTENSIONS

## Emissions (Contention1) Extensions

### Inherency: No policy now

#### A recent House vote proves No US carbon tax is coming now

States News Service, 24 [States News Service, ATR Applauds Anti-Carbon Tax Vote In The House, March 22, 2024. (NexisUni database)] [NSB] [NWG]

The House of Representatives on Thursday passed a resolution condemning carbon taxes, the first such vote since 2018. Americans for Tax Reform released a Key Vote Alert in favor of the resolution ahead of the vote. The House approved H. Con. Res. 86, "Expressing the sense of Congress that a carbon tax would be detrimental to the United States economy," by a vote of 222-196. The resolution was introduced by Congressman Ryan Zinke (R-Mont.) and featured 21 cosponsors including Majority Leader Steve Scalise (R-La.), who has introduced a version of the resolution in every Congress since 2013. This vote shows that the momentum is on the anti-carbon tax side. In 2018, just seven Democrats voted in favor of the resolution opposing carbon taxes, while six Republicans voted against it. This week, ten Democrats crossed party lines to join Republicans in voting yes. Only one Republican, Congressman Brian Fitzpatrick (R-Pa.), voted against the resolution.

#### US committed to emissions reductions but needs a carbon tax

Patnaik & Kennedy, 21

[Sanjay Patnaik, Director - Center on Regulation and Markets, and Kelly Kennedy, Former Senior Research Assistant - Center on Regulation and Markets, at Brookings Institute, Why the US should establish a carbon price either through reconciliation or other legislation, October 7, 2021. <https://www.brookings.edu/articles/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/> ] [NSB] [NWG]

From the start of his term, President Biden has indicated that he wishes to pursue an ambitious climate agenda. On his first day in office, he recommitted the U.S. to the Paris Climate Agreement and ordered agencies to review a slew of climate-related (de-)regulations enacted by the Trump administration. One week later, he signed the Executive Order on Tackling the Climate Crisis, which outlined a “whole-of-government” approach to mitigating and responding to climate change. And in April, he announced a new target for U.S. emissions reductions: to halve emissions from 2005 levels by 2030.

Now, President Biden and Democrats in Congress have to find a way to meet these goals. Democrats are in the midst of negotiations over what could be a very impactful climate bill. As part of the budget reconciliation process, Democrats are proposing a $3.5 trillion spending bill, a sizable portion of which would be allocated to climate-related provisions. Representatives have floated such ideas as investing in electric vehicle infrastructure, launching a “Civilian Climate Corps,” and even imposing a carbon border tax.

In considering how the U.S. can meet the targets set out by Biden, one fact becomes clear: the U.S. needs a carbon price.

### AT: Emissions decreasing

#### The drop in emissions is temporary—mostly due to the recent economic downturn (as some of their own evidence admits). Our evidence talks about the long-term trend.

#### Current US emissions will not meet Paris commitments in ANY model

Bistline, et al, 23

[John Bistline, Program Manager - Electric Power Research Institute, Emissions and energy impacts of the Inflation Reduction Act, *Science*, June 29, 2023. <https://www.science.org/doi/10.1126/science.adg3781> ] [NSB] [NWG]

Although IRA accelerates decarbonization, including beyond 2030, no models indicate that the 2030 US climate target would be met with IRA alone. Overall, the analysis suggests that IRA may have its largest effects in the power sector, as its incentives amplify trends already underway and lower decarbonization costs.

#### Current policies are not enough

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Policies and laws addressing mitigation have consistently expanded since AR5. Global GHG emissions in 2030 implied by nationally determined contributions (NDCs) announced by October 2021 make it likely that warming will exceed 1.5°C during the 21st century and make it harder to limit warming below 2°C. There are gaps between projected emissions from implemented policies and those from NDCs and finance flows fall short of the levels needed to meet climate goals across all sectors and regions. (high confidence)

#### The world will not meet emissions targets now

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

A substantial ‘emissions gap’ exists between global GHG emissions in 2030 associated with the implementation of NDCs announced prior to COP2626 and those associated with modelled mitigation pathways that limit warming to 1.5°C (>50%) with no or limited overshoot or limit warming to 2°C (>67%) assuming immediate action (high confidence). This would make it likely that warming will exceed 1.5°C during the 21st century (high confidence). Global modelled mitigation pathways that limit warming to 1.5°C (>50%) with no or limited overshoot or limit warming to 2°C (>67%) assuming immediate action imply deep global GHG emissions reductions this decade (high confidence) (see SPM Box 1, Table 1, B.6)27. Modelled pathways that are consistent with NDCs announced prior to COP26 until 2030 and assume no increase in ambition thereafter have higher emissions, leading to a median global warming of 2.8 [2.1 to 3.4] °C by 2100 (medium confidence). Many countries have signalled an intention to achieve net zero GHG or net zero CO2 by around mid-century but pledges differ across countries in terms of scope and specificity, and limited policies are to date in place to deliver on them.

### AT: IRA Solves

#### Our 1AC evidence answers this. It says we won’t meet targets despite the IRA.

#### US will fail to meet climate targets now. CT solves that

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

Not that there aren’t plenty of other great reasons for the US to jump on board. At the session with Wolfram was Harvard economist James Stock, who estimated that adding a carbon tax to the Inflation Reduction Act’s clean-energy incentives would cut US carbon emissions by 66% by 2035, easily surpassing the Biden administration’s stated goal of cutting emissions in half by 2030. Without it, the country is on a path to climate failure.

“No models indicate the 2030 US climate target would be met with the IRA alone,” Democratic Senator Sheldon Whitehouse of Rhode Island said on the panel. He has proposed legislation for both a domestic carbon price and a border tariff. “If we want a pathway to climate safety, it will require we do what’s economically and morally right and price carbon pollution.”

## Solvency (Contention 2) Extensions

### General Solvency

#### Even conservative economists agree—carbon tax makes sense

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

The late economist Milton Friedman, the patron saint of conservative capitalism, didn’t have much use for government involvement in business. But he made an exception for pollution. If an industry spoils the environment, he often said, then the government should tax it until it cleans up its act. Because if polluters can pollute for free, then they are essentially stealing wealth and well-being from everybody else.

When he said that in the 1960s and ’70s, he was talking about smog and the like. But as scientists and oil companies knew then, and we all know now, carbon dioxide is another form of pollution, one that is heating the world and threatening human civilization. Making polluters pay a price for this negative externality, as Friedman would call it, is an idea that is not only conservative and capitalist and moral but also a boon to both the environment and federal budgets.

So, naturally, the world’s shining bastion of conservative capitalism, the United States, consistently rejects Friedman’s idea. Fortunately, plenty of other countries are getting on board with it. And they may soon enough drag the US into joining them.

#### Plan reduces emissions to 39-46 below 2005 levels

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

The tax rate is the main design element that determines the magnitude of emissions reductions caused by the carbon tax, although the policy scope and revenues targeted at mitigation would influence emissions as well. Figure 4 below shows emissions reductions by 2030 from three illustrative carbon taxes along with a current policy scenario. Under the $50/ton scenario, US emissions fall to 39–46 percent below 2005 levels, depending on assumptions related to technological progress.

#### All EMF 32 scenarios meet our Paris commitments

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

All four price trajectories appear sufficient to achieve (or exceed) a 26 percent economy-wide emissions reduction below 2005 levels by 2025 – the low end of the U.S. commitment in Paris. In scenarios not shown here, modelers found that a price trajectory to achieve a 26 percent reduction target would begin between $9 and $22 per ton of CO2 in 2020 and rise to between $11 and $28 by 2025.

#### The US will NOT meet Paris commitments now, but the plan does

Patnaik & Kennedy, 21

[Sanjay Patnaik, Director - Center on Regulation and Markets, and Kelly Kennedy, Former Senior Research Assistant - Center on Regulation and Markets, at Brookings Institute, Why the US should establish a carbon price either through reconciliation or other legislation, October 7, 2021. <https://www.brookings.edu/articles/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/> ] [NSB] [NWG]

First and foremost, carbon pricing is the most direct and most efficient way to achieve the emissions reductions that are necessary to mitigate climate change. The U.S. will have to take drastic action if it is to meet its climate goals. The current “command-and-control” methods that U.S. regulatory agencies use to govern greenhouse gas (GHG) emissions are likely not sufficient to meet President Biden’s goal of halving emissions by 2030. While U.S. carbon emissions have fallen over the past two decades from their peak in 2005, they have not fallen rapidly enough. The Rhodium Group projects that, under current policies, the U.S. will only reduce emissions by 20-22 percent from 2005 levels by 2025, and by 20-26 percent by 2030. This is only half of the goal set by President Biden. When considering the turbulence created by the COVID-19 pandemic, this figure could fall to only a 17 percent reduction by 2030.

Carbon pricing can reverse this trend. Implementing a sufficiently high carbon price has been projected to have significant impacts on carbon emissions. A 2019 Brookings Institution report projects that a $25 per ton carbon tax that rises by one percent per year would reduce emissions by 17 to 38 percent relative to 2005 benchmark levels by 2030. Under their calculations, a $50 per ton carbon tax rising by five percent per year would reduce emissions by 26 to 47 percent relative to 2005 levels—up to 90 percent of the reductions needed to achieve President Biden’s Paris Agreement goal.

### Our evidence is Best

#### Our solvency evidence is from a study conducted by forum of experts (with no economic or political conflicts)

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

This discussion paper summarizes results from the Stanford Energy Modeling Forum study on U.S. carbon price scenarios (EMF 32). More detail on any section of this discussion paper and other results of the study appear in the February 2018 special issue of Climate Change Economics. Content is drawn heavily from Alexander R. Barron, Allen A. Fawcett, Marc A. C. Hafstead, James R. McFarland, and Adele C. Morris 2018 Policy Insights from the EMF 32 Study on U.S. Carbon Tax Scenarios Climate Change Economics 9:1 1840003. The authors did not receive financial support from any firm or person for this article or from any firm or person with a financial or political interest in this article. No author is currently an officer, director, or board member of any organization with a financial or political interest in this article.

#### Our evidence reflects the consensus of experienced researchers using multiple models

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Given the complexity of the global energy system and its links to the economy, modeling is one of the best available tools to anticipate possible outcomes of a carbon price and explore tradeoffs between policy design choices. Since all models come with strengths and limitations, one way to obtain a more robust understanding of the likely impacts of a policy is to analyze it with several different models. This helps identify results that are consistent across a range of model types (and their embedded assumptions) and those that are more sensitive to model design and inputs. The Stanford Energy Modeling Forum (EMF) has been analyzing policy-relevant topics with multiple models since the late 1970s. Its thirty-second study (EMF 32) convened eleven modeling teams to analyze alternative carbon pricing policies in the United States.

The study began with a coordinated reference scenario, which assumes no new climate policies in the United States or other countries. To the extent feasible, modelers calibrated their reference scenarios to the AEO 2016 Early Release No Clean Power Plan case.

Economically speaking, a carbon tax is actually two policies that operate in tandem – a price on carbon and the use of the revenue. This study examines twelve core policy variants that vary by price path and revenue use. Four price trajectories begin in 2020 at either $25 or $50 per ton of CO2 and rise at either one percent or five percent over inflation per year, leveling off in 2050. All dollar values are expressed in constant 2010 dollars. The policies apply the revenue either for direct rebates to households or to cuts in capital or labor taxes. All policy scenarios hold the U.S. federal budget deficit constant relative to the reference scenario. Modelers did not analyze new spending or deficit reduction scenarios, which are also options available to policymakers.

#### Consensus supports carbon tax

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

An extensive literature supports the economic case for imposing a price on greenhouse gas (GHG) emissions to reduce damages from climatic disruption. In particular, a tax on the carbon content of fossil fuels changes the relative prices of different energy sources. 1 This approach cost effectively reduces emissions of carbon dioxide (CO2), the largest contributor to the increase in global atmospheric concentrations of GHGs, by incentivizing shifts to lower emission fuels, reductions in overall energy use, and the development and deployment of lower cost lower-carbon technologies. The Intergovernmental Panel on Climate Change, the World Bank, OECD, and the International Monetary Fund have all endorsed carbon pricing as a cost effective tool for reducing emissions (Davenport, 2016; IPCC, 2014). Some form of carbon price is in place or under development in 46 national and 28 subnational jurisdictions (World Bank Group, 2018).

#### The plan results in significant reductions under multiple scenarios

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Assuming the adoption of no new climate policies in the United States or other countries, most models projected U.S. CO2 emissions to remain flat over the coming decade, continuing their annual contribution to rising atmospheric CO2 concentrations (the first column in Figure 1).3 The policy scenarios, labeled by their initial value in 2020 and the rate at which they escalate each year relative to inflation, appear in the subsequent columns. They show that the larger the carbon price, the deeper the projected emissions reductions. A CO2 price of $25 in 2020 that rises at one percent per year reduces CO2 emissions roughly 16 to 28 percent below 2005 CO2 emissions levels4 by 2020 and 17 to 38 percent below 2005 levels by 2030. A CO2 price of $50 in 2020 rising at 5 percent per year reduces emissions 21 to 35% below 2005 levels by 2020 and 26 to 47 percent below 2005 levels by 2030. Doubling the carbon price does not double the reduction in emissions, reflecting an increase in the marginal costs per ton reduced as the policy becomes more ambitious. For example, as the electricity sector becomes decarbonized, further reductions must come from less price-responsive sectors such as transportation and industry.

### AT: Economic models Uncertain

#### Our multiple models overcome this. We know enough to make policy

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Modeling the impacts of a carbon price is complex given the many connections between energy and the economy, as well as uncertainty about technology and socio-economic changes. Multi-model studies like EMF 32 can help identify results that are robust across models. The range of results captures one type of uncertainty; evolving technology costs, economic growth, and other factors further increase the range of uncertainty, but we can still draw policy insights from these results. Consistent with earlier studies (Fawcett et al., 2014), EMF 32 results indicate that a carbon price can lead to significant reductions in CO2 emissions and that policymakers can use both the starting tax rate and pace at which it escalates to define policy ambition. The uncertainties here are also not a reason to delay enacting a carbon price in the near future; any pricing policy can be modified as longer-term outcomes evolve. The literature makes clear that delaying action increases the cost to achieve a given level of reductions (McKibbin et al., 2014).

### AT: Demand is inelastic

#### Our evidence is better and takes this into account. That is why the models produce a RANGE of outcomes.

### AT: Canada/Europe prove carbon tax fails

#### Our evidence is better—our Barron et al evidence is specific to the US and the amounts we impose, and the way we phase it in. It uses multiple models and assumptions, so that the predictions can be made with a high level of confidence.

#### These editorials are wrong, Canada’s carbon tax actually IS reducing emissions

ECCC, 24

[Environment and Climate Change Canada (ECCC), How carbon pricing works, June 17, 2024. <https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/putting-price-on-carbon-pollution.html> ] [NSB] [NWG]

In 2022, Canada's emissions would have been approximately 19 megatonnes higher without carbon pricing systems. That is almost the equivalent of Manitoba’s emissions in 2022.

#### Ginn is just wrong, EU carbon taxes are working

European Commission, 23

[Directorate-General for Climate Action, Progress on climate action, 2023. <https://climate.ec.europa.eu/eu-action/climate-strategies-targets/progress-climate-action_en#climate-action-progress-report> ] [NSB] [NWG]

The EU has steadily decreased its greenhouse gas emissions since 1990, reaching a total –32.5% in 2022. COVID lockdown measures in 2020 caused an unprecedented fall in emissions, followed by a strong rebound in 2021. 2022 emissions, however, continue to fall below the 2019 level. Another positive development this year is that the volume of carbon removed from the atmosphere in the EU increased in 2022 compared to the previous year, based on approximate data. However, based on Member States' projections, the EU is currently not on track to reach its 2030 objective of removing 310 million tonnes of CO2 from the atmosphere per year.

#### Current carbon taxes are set too low

Rosenbloom et al, 2020

[Daniel Rosenbloom, Department of Political Science, University of Toronto, Jochen Markard, Department of Management, Technology, and Economics, ETH Zürich, Frank W. Geels, Alliance Manchester Business School, University of Manchester,and Lea Fuenfschilling, Centre for Innovation, Research and Competence in the Learning Economy, Lund University, Why carbon pricing is not sufficient to mitigate climate change—and how “sustainability transition policy” can help, April 8, 2020. <https://www.pnas.org/doi/full/10.1073/pnas.2004093117> ] [NSB] [NWG]

Carbon pricing strategies are often considered to be the most efficient means of reducing carbon emissions (4, 6). They do so by affording heterogeneous polluters (e.g., firms from different industries) the flexibility of responding to the carbon price signal in a least-cost fashion, selecting the level of abatement and specific abatement options that are most cost-effective for their circumstances. Abatement options are then adopted in a stepwise manner in line with the carbon price. Under a series of assumptions (e.g., economic rationality, perfect information, credibility, and broad coverage), the result is that “a given level of abatement is met at least global cost” which “no other instrument than pricing is able to realize” (2).

We question whether efficiency should be an overriding priority of climate policy. If we are to limit global warming to less than 1.5 °C, there is little time remaining to reach carbon neutrality (9). The negative impacts of climate change are already undermining human prosperity and the cost of inaction will escalate the longer we wait (10). Despite the urgency of the problem, carbon pricing places considerable weight on seeking low-hanging fruit and, according to Patt and Lilliestam, fails to appreciate that “we must eventually pick all of the apples on the tree” (11). Furthermore, as of 2019, existing carbon pricing schemes only cover about 20% of global emissions and more than two-thirds of these have prices below $20 United States dollars (USD) per ton of CO2 equivalent.\* This is far too low to be effective and increasing coverage and prices presents serious challenges, which we return to below.

Efficiency considerations must, therefore, be tempered by an immediate need to realize carbon neutrality through whatever means actually work. This implies moving beyond lowest-cost solutions to stimulate a diversity of mitigation options, including those that have considerable immediate reduction potential (e.g., phasing out coal or restoring peatlands) and others that may fundamentally transform systems in the longer term (e.g., mobility-as-a-service or biobased materials).

### AT: US action fails/Free-rider problem

#### Most major economies are already taking action. The US is the biggest “free rider.”

#### Our models take this into account—they assume worst-case scenario for free-riders. Reality is much better.

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

One concern about climate policy is its effects on trade and competitiveness. The EMF 32 study applied a carbon price only in the U.S., with other regions proceeding without new climate policies. Accordingly, the estimated trade impacts are far closer to a “worst-case” scenario than a likely outcome (Macaluso et al., 2018). In reality, many other regions of the world, including major U.S. trade partners Canada, Mexico, and China, have adopted or are considering carbon prices to reduce GHG emissions. (World Bank and Ecofys 2017).

The average reduction in U.S. exports across the tax trajectories ranges from 1 percent to 2.5 percent. Energy-intensive, trade-exposed industries (EITE), which include iron and steel, papermaking, aluminum, glass, and cement, feature a high proportion of energy consumption and trade exposure. U.S. EITE exports fall by1.3 percent to 3.5 percent across the policy scenarios. These shifts lead to increased emissions in other countries (leakage) which may be reduced by border carbon adjustments or other policies (McKibbin et al., 2018).

#### US is one of only 3 in G20 not to have CT. US action would “move the needle significantly”

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

The US government is one of just three members of the Group of 20 nations that are in no hurry to price carbon. The other two are Russia and Saudi Arabia (and even Saudi Arabia is at least about to launch a voluntary carbon-credit market, for whatever that’s worth). This is not what you would call good company, though it is perhaps understandable — all three are large producers of fossil fuels. Refusing to price carbon amounts to a $700 billion annual gift to US oil companies.

But the pressure to change is building, even if the pace is still too slow. Carbon pricing raised a record $104 billion in revenue last year, a far cry from the trillions needed annually to deep-six fossil fuels and avoid the most catastrophic climate change. US involvement would move the needle significantly.

#### The upcoming CBAM solves the free-rider problem

Leo & Singh, 22

[Utkarsh Leo, Lecturer in Law at the School of Justice, University of Central Lancashire, Nidhi Singh, Co-Founder & Counsel, BlackPearl Chambers (Advocates & Solicitors), Why the planet needs legally binding obligations to limit climate-mitigation 'free-riders,' World Economic Forum, June 22, 2022. <https://www.weforum.org/agenda/2022/06/incentives-free-rider-problem-climate-change-mitigation/#:~:text=Planet%20Earth%20is%20in%20crisis,without%20contributing%20to%20the%20costs>. ] [NSB] [NWG]

Above all, the current framework lacks teeth to address free-riding because it imposes no sanctions for violating terms. Neither does it have a governing body or an international court to enforce its compliance. In 2020, the US withdrew from the agreement without consequences and later rejoined after 107 days. The proposal of Professor William Nordhaus to set up a climate club model to eliminate free riding – using the right incentives to induce cooperation, could be one step in the right direction to find a solution to the problem. The model shows how a club of nations can price carbon and impose trade sanctions (via uniform percentage tariff) on all non-participating countries to internalize transnational externalities.

The European Union’s Carbon Border Adjustment Mechanism (CBAM), designed to prevent carbon leakages is quite similar as it uses trade policy to create the right incentives for climate protection. It certainly is a step in the right direction to achieve net-zero GHG emissions by 2050.

#### Border Adjustment solves

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Border Adjustment

Most carbon tax proposals also enact a border adjustment. A border adjustment addresses two concerns with the carbon tax: competitiveness and “leakage.” If the United States were to enact a tax on all carbon-intensive goods produced in the United States, it could create an incentive for companies to shift their production overseas to avoid the tax. Businesses would have an incentive to import goods to avoid the tax. This would particularly apply to emission-intensive and trade-exposed (EITE) sectors.

In addition, a carbon tax can create what is called “leakage.” If companies shift production overseas into jurisdictions without a carbon tax, the tax will fail to price the emissions that were previously emitted in the United States. Without a border adjustment, between 5 percent and 19 percent of domestic emission reduction resulting from a carbon tax is estimated to be offset by increases in emissions abroad. Under a border adjustment, such leakage would be reduced to between 2 percent and 12 percent, making the border adjustment an effective tool.[16]

A border adjustment shifts the base of the carbon tax from all carbon-intensive goods produced in the United States to all carbon intensive goods consumed in the United States. In effect, this eliminates the competitive pressures that may encourage companies to shift production overseas. This is because the price level for a carbon-intensive good consumed in the United States is the same, regardless of where it was produced.

#### 50 countries already have CT

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

Fifty countries now have national systems for pricing carbon, involving a carbon tax, emissions trading or a combination of both, according to the latest World Bank tally. These systems cover 24% of the world’s carbon emissions, up from just 7% in 2013.

Dozens of local governments have their own mechanisms, including California, Massachusetts and Washington. Nineteen countries and 13 more local governments are actively debating or preparing to take up the practice, including six more US states.

#### The world has mobilized, but it isn’t enough without the US

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

The UNFCCC, Kyoto Protocol, and the Paris Agreement are supporting rising levels of national ambition. The Paris Agreement, adopted under the UNFCCC, with near universal participation, has led to policy development and target-setting at national and sub-national levels, in particular in relation to mitigation, as well as enhanced transparency of climate action and support (medium confidence). Many regulatory and economic instruments have already been deployed successfully (high confidence). In many countries, policies have enhanced energy efficiency, reduced rates of deforestation and accelerated technology deployment, leading to avoided and in some cases reduced or removed emissions (high confidence). Multiple lines of evidence suggest that mitigation policies have led to several24 Gt CO2-eq yr-1 of avoided global emissions (medium confidence). At least 18 countries have sustained absolute production-based GHG and consumption-based CO2 reductions for longer than 10 years. These reductions have only partly offset global emissions growth (high confidence).

### AT: Tech Lock-in

#### Our evidence is better and takes this into account. That is why the models produce a RANGE of outcomes.

### AT: Carbon Tax not enough

#### This evidence is general, not specific. Our evidence is better and our models take this into account.

#### Meta-analysis of empirical data on carbon taxes proves that it reduces emissions

Von Lampe, 24

[Ulrich von Lampe, Mercator Research Institute on Global Commons and Climate Change (MCC), Carbon pricing works, major meta-study finds, Phys.org, May 16, 2024. <https://phys.org/news/2024-05-carbon-pricing-major-meta.html> ] [NSB] [NWG]

Between 5 and 21% emission reductions: this is the empirically measured effect of carbon pricing systems in their first few years of operation. A research team now identifies these findings for 17 real-world climate policies around the globe, condensing the state of knowledge more comprehensively than ever. The team uses artificial intelligence to collate existing surveys, making them comparable using a novel calculation concept. The major meta-study was led by the Berlin-based climate research institute MCC (Mercator Research Institute on Global Commons and Climate Change) and published in the journal Nature Communications. "This research can help set to rights the debate on the fundamental orientation of climate policy," says Ottmar Edenhofer, Director of MCC and a co-author of the study. "Politicians have repeatedly questioned the efficiency of curbing greenhouse gas emissions through pricing, and often focus excessively on bans and regulation instead. A policy mix is certainly needed as a rule, but the conflict of beliefs over the optimal core instrument of climate policy can be resolved with facts."

## Warming Advantage (Extensions)

### NIPCC Indict

#### NIPCC has no credibility, and neither does their sponsor

Government Accountability Project, 2018

Government Accountability Project, Heartland Institute and its NIPCC report fail the credibility test, October 26, 2018. <https://whistleblower.org/politicization-of-climate-science/global-warming-denial-machine/heartland-institute-nipcc-fail-the-credibility-test/> ] [NSB] [NWG]

The discredited Heartland Institute is attempting to present its new NIPCC report, Climate Change Reconsidered, as a legitimate alternative authority to the Intergovernmental Panel on Climate Change (IPCC). But the NIPCC report is not a credible scientific undertaking, and the Heartland Institute has no credibility, scientific or otherwise.

#### NIPCC was created by the Heartland Institute, neither have any credibility, especially not compared to the IPCC

Government Accountability Project, 2018

Government Accountability Project, Heartland Institute and its NIPCC report fail the credibility test, October 26, 2018. <https://whistleblower.org/politicization-of-climate-science/global-warming-denial-machine/heartland-institute-nipcc-fail-the-credibility-test/> ] [NSB] [NWG]

With the launch of new NIPCC report, the discredited Heartland Institute goes head to head with the entire world’s foremost climate scientists. Tomorrow the Heartland Institute launches a new report Climate Change Reconsidered. To write the report, Heartland assembled a group it calls the Nongovernmental International Panel on Climate Change (NIPCC), a particularly revealing choice of name. The name, combined with the timing of the release to coincide with the Intergovernmental Panel on Climate Change (IPCC)’s upcoming Fifth Assessment Report (AR5), shows that Heartland is attempting to present itself as a legitimate alternative authority to the IPCC. However, the Heartland institute is nowhere close to the IPCC in terms of credibility. A few key points show the NIPCC to be a transparent marketing gimmick rather than a legitimate scientific undertaking: The NIPCC does not follow the same rigorous scientific evaluation process as the IPCC. The Heartland Institute has a long history of opposing settled science in the interests of its free-market funders, and has used decidedly un-scientific tactics to do so.

The NIPCC vs. IPCC Process

The IPCC is supported by hundreds of scientists, think tanks, and organizations around the world that assess and synthesize the most recent climate change-related science. The IPCC’s Fourth Assessment Report (AR4), published in 2007, involved more than 500 Lead Authors and 2000 Expert Reviewers from more than one hundred participating nations. These authors and reviewers were all unpaid volunteers, and are required to identify and show consideration to theories that differ from conventional wisdom. Unlike the IPCC, the NIPCC examines literature published exclusively by climate contrarians who are paid to contribute their findings to NIPCC reports, according to leaked internal documents of the Heartland Institute. The 2009 NIPCC report Climate Change Reconsidered had two lead authors, Fred Singer and Craig Idso, and 35 contributors. Similarly, the 2011 Interim NIPCC report had three lead authors, Fred Singer, Craig Idso, and Robert Carter, and only eight contributors. The NIPCC does not employ the same rigorous standards and approval process used by the IPCC to ensure its assessment reports are accurate and inclusive.

#### Heartland has NO credibility

Government Accountability Project, 2018

Government Accountability Project, Heartland Institute and its NIPCC report fail the credibility test, October 26, 2018. <https://whistleblower.org/politicization-of-climate-science/global-warming-denial-machine/heartland-institute-nipcc-fail-the-credibility-test/> ] [NSB] [NWG]

The Heartland Institute’s Credibility

The Heartland Institute has a long history of valuing the interests of its financial backers over the conclusions of experts. It has campaigned against the threats posed by second-hand smoke, acid rain, and ozone depletion, as well as the Endangered Species Act. With its aggressive campaigning using tools such as billboards comparing climate change “believers” to the Unabomber, Heartland makes no pretense at being a scientific organization. Heartland’s funding over the past decade has included thousands of dollars directly from ExxonMobil and the American Petroleum Institute, but a large portion of their funding ($25.6 million) comes from the shadowy Donor’s Capital Fund, created expressly to conceal the identity of large donors to free-market causes. The Koch brothers appear to be funneling money into Donor’s Capital via their Knowledge and Progress Fund. Heartland’s credibility has been so damaged that mainstream funders have been abandoning the organization, and it has been forced to discontinue its annual climate conference.

### AT: Uncertainty

#### [Many of the AT: Natural/Not Humans also answers this.]

#### Literally ALL of our evidence answers this. This is why the IPCC uses multiple models and why they give ranges instead of one number.

#### There IS uncertainty, but only in the margins, and not enough to matter.

#### Warming is already killing people directly—there is no uncertainty

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

In all regions increases in extreme heat events have resulted in human mortality and morbidity (very high confidence). The occurrence of climate-related food-borne and water-borne diseases (very high confidence) and the incidence of vector-borne diseases (high confidence) have increased. In assessed regions, some mental health challenges are associated with increasing temperatures (high confidence), trauma from extreme events (very high confidence), and loss of livelihoods and culture (high confidence). Climate and weather extremes are increasingly driving displacement in Africa, Asia, North America (high confidence), and Central and South America (medium confidence), with small island states in the Caribbean and South Pacific being disproportionately affected relative to their small population size (high confidence).

#### We are already seeing food and water scarcity

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Climate change has reduced food security and affected water security, hindering efforts to meet Sustainable Development Goals (high confidence). Although overall agricultural productivity has increased, climate change has slowed this growth over the past 50 years globally (medium confidence), with related negative impacts mainly in mid- and low latitude regions but positive impacts in some high latitude regions (high confidence). Ocean warming and ocean acidification have adversely affected food production from fisheries and shellfish aquaculture in some oceanic regions (high confidence). Roughly half of the world’s population currently experience severe water scarcity for at least part of the year due to a combination of climatic and non-climatic drivers (medium confidence).

#### Unless they can point to something specific and why it matters, this argument should have no weight.

### AT: Natural/Not Humans

#### Our NASA evidence answers this. It says the evidence is “Unequivocal.”

#### We have even MORE evidence now that recent impacts are human-caused

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

It is unequivocal that human influence has warmed the atmosphere, ocean and land. Global mean sea level increased by 0.20 [0.15 to 0.25] m between 1901 and 2018. The average rate of sea level rise was 1.3 [0.6 to 2.1] mm yr-1 between 1901 and 1971, increasing to 1.9 [0.8 to 2.9] mm yr-1 between 1971 and 2006, and further increasing to 3.7 [3.2 to 4.2] mm yr-1 between 2006 and 2018 (high confidence). Human influence was very likely the main driver of these increases since at least 1971. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has further strengthened since AR5. Human influence has likely increased the chance of compound extreme events since the 1950s, including increases in the frequency of concurrent heatwaves and droughts (high confidence).

#### Human-caused impacts are already occurring

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have occurred. Human-caused climate change is already affecting many weather and climate extremes in every region across the globe. This has led to widespread adverse impacts and related losses and damages to nature and people (high confidence). Vulnerable communities who have historically contributed the least to current climate change are disproportionately affected (high confidence).

#### Current warming is faster than anything in history—it can ONLY be because of humans

NASA, 2024

[National Aeronautics and Space Administration (NASA), Evidence, March 26, 2024. <https://science.nasa.gov/climate-change/evidence/> ] [NSB] [NWG]

The rate of change since the mid-20th century is unprecedented over millennia.

Earth's climate has changed throughout history. Just in the last 800,000 years, there have been eight cycles of ice ages and warmer periods, with the end of the last ice age about 11,700 years ago marking the beginning of the modern climate era — and of human civilization. Most of these climate changes are attributed to very small variations in Earth’s orbit that change the amount of solar energy our planet receives.

The current warming trend is different because it is clearly the result of human activities since the mid-1800s, and is proceeding at a rate not seen over many recent millennia. It is undeniable that human activities have produced the atmospheric gases that have trapped more of the Sun’s energy in the Earth system. This extra energy has warmed the atmosphere, ocean, and land, and widespread and rapid changes in the atmosphere, ocean, cryosphere, and biosphere have occurred.

#### Multiple sources of data ALL prove warming is human-caused and much faster than anything in nature

NASA, 2024

[National Aeronautics and Space Administration (NASA), Evidence, March 26, 2024. <https://science.nasa.gov/climate-change/evidence/> ] [NSB] [NWG]

Do scientists agree on climate change?

Earth-orbiting satellites and new technologies have helped scientists see the big picture, collecting many different types of information about our planet and its climate all over the world. These data, collected over many years, reveal the signs and patterns of a changing climate.

Scientists demonstrated the heat-trapping nature of carbon dioxide and other gases in the mid-19th century. Many of the science instruments NASA uses to study our climate focus on how these gases affect the movement of infrared radiation through the atmosphere. From the measured impacts of increases in these gases, there is no question that increased greenhouse gas levels warm Earth in response.

Ice cores drawn from Greenland, Antarctica, and tropical mountain glaciers show that Earth’s climate responds to changes in greenhouse gas levels. Ancient evidence can also be found in tree rings, ocean sediments, coral reefs, and layers of sedimentary rocks. This ancient, or paleoclimate, evidence reveals that current warming is occurring roughly 10 times faster than the average rate of warming after an ice age. Carbon dioxide from human activities is increasing about 250 times faster than it did from natural sources after the last Ice Age.

#### Natural variation—only local and short-term effects, not on climate level

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Natural variability will continue to modulate human-caused climate changes, either attenuating or amplifying projected changes, with little effect on centennial-scale global warming (high confidence). These modulations are important to consider in adaptation planning, especially at the regional scale and in the near term. If a large explosive volcanic eruption were to occur, it would temporarily and partially mask human-caused climate change by reducing global surface temperature and precipitation for one to three years (medium confidence).

#### Human emissions are causing global warming

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Human activities, principally through emissions of greenhouse gases, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850-1900 in 2011-2020. Global greenhouse gas emissions have continued to increase, with unequal historical and ongoing contributions arising from unsustainable energy use, land use and land-use change, lifestyles and patterns of consumption and production across regions, between and within countries, and among individuals (high confidence).

#### Temperatures are increasing faster than any time in the last 2000 years

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Global surface temperature was 1.09 [0.95 to 1.20]°C5 higher in 2011–2020 than 1850–19006, with larger increases over land (1.59 [1.34 to 1.83]°C) than over the ocean (0.88 [0.68 to 1.01]°C). Global surface temperature in the first two decades of the 21st century (2001–2020) was 0.99 [0.84 to 1.10]°C higher than 1850–1900. Global surface temperature has increased faster since 1970 than in any other 50-year period over at least the last 2000 years (high confidence).

#### The IPCC report includes alternate causes and they aren’t significant

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

The likely range of total human-caused global surface temperature increase from 1850–1900 to 2010–20197 is 0.8°C to 1.3°C, with a best estimate of 1.07°C. Over this period, it is likely that well-mixed greenhouse gases (GHGs) contributed a warming of 1.0°C to 2.0°C8, and other human drivers (principally aerosols) contributed a cooling of 0.0°C to 0.8°C, natural (solar and volcanic) drivers changed global surface temperature by –0.1°C to +0.1°C, and internal variability changed it by –0.2°C to +0.2°C.

#### CO2 concentrations are higher than any time in at least the last 2 million years

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Observed increases in well-mixed GHG concentrations since around 1750 are unequivocally caused by GHG emissions from human activities over this period. Historical cumulative net CO2 emissions from 1850 to 2019 were 2400 ± 240 GtCO2 of which more than half (58%) occurred between 1850 and 1989, and about 42% occurred between 1990 and 2019 (high confidence). In 2019, atmospheric CO2 concentrations (410 parts per million) were higher than at any time in at least 2 million years (high confidence), and concentrations of methane (1866 parts per billion) and nitrous oxide (332 parts per billion) were higher than at any time in at least 800,000 years (very high confidence).

### AT: Impacts exaggerated/Can Adapt

#### Some adaptation is feasible now. That reduces with more warming

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Adaptation options that are feasible and effective today will become constrained and less effective with increasing global warming. With increasing global warming, losses and damages will increase and additional human and natural systems will reach adaptation limits. Maladaptation can be avoided by flexible, multi-sectoral, inclusive, long-term planning and implementation of adaptation actions, with co-benefits to many sectors and systems. (high confidence)

#### If we don’t start meeting commitments, we could see 4.4C warming

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Global warming will continue to increase in the near term (2021–2040) mainly due to increased cumulative CO2 emissions in nearly all considered scenarios and modelled pathways. In the near term, global warming is more likely than not to reach 1.5°C even under the very low GHG emission scenario (SSP1-1.9) and likely or very likely to exceed 1.5°C under higher emissions scenarios. In the considered scenarios and modelled pathways, the best estimates of the time when the level of global warming of 1.5°C is reached lie in the near term. Global warming declines back to below 1.5°C by the end of the 21st century in some scenarios and modelled pathways (see B.7). The assessed climate response to GHG emissions scenarios results in a best estimate of warming for 2081–2100 that spans a range from 1.4°C for a very low GHG emissions scenario (SSP1-1.9) to 2.7°C for an intermediate GHG emissions scenario (SSP2-4.5) and 4.4°C for a very high GHG emissions scenario (SSP5-8.5)30, with narrower uncertainty ranges than for corresponding scenarios in AR5.

#### We are approaching irreversible damage to some ecosystems

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Climate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater, cryospheric, and coastal and open ocean ecosystems (high confidence). Hundreds of local losses of species have been driven by increases in the magnitude of heat extremes (high confidence) with mass mortality events recorded on land and in the ocean (very high confidence). Impacts on some ecosystems are approaching irreversibility such as the impacts of hydrological changes resulting from the retreat of glaciers, or the changes in some mountain (medium confidence) and Arctic ecosystems driven by permafrost thaw (high confidence).

#### More than 3 BILLION people are at risk

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change. Human and ecosystem vulnerability are interdependent. Regions and people with considerable development constraints have high vulnerability to climatic hazards. Increasing weather and climate extreme events have exposed millions of people to acute food insecurity12 and reduced water security, with the largest adverse impacts observed in many locations and/or communities in Africa, Asia, Central and South America, LDCs, Small Islands and the Arctic, and globally for Indigenous Peoples, small-scale food producers and low-income households. Between 2010 and 2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability. (high confidence)

#### Without action, we may see more than a 3C increase by 2100

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Policy coverage is uneven across sectors (high confidence). Policies implemented by the end of 2020 are projected to result in higher global GHG emissions in 2030 than emissions implied by NDCs, indicating an ‘implementation gap’ (high confidence). Without a strengthening of policies, global warming of 3.2 [2.2 to 3.5] °C is projected by 2100 (medium confidence).

### AT: Too Late/Must Adapt

#### This is a terrible argument. Things are already going to be bad so we should not try to stop them from being worse? We are better off doing what we can.

#### It is NOT too late to make 2C targets

McKay, 20

[Dr. David A. McKay, Postdoctoral Researcher at Stockholm Resilience Centre (Stockholm University), where he is part of the Earth Resilience in the Anthropocene Project (funded by the European Research Council) and is researching non-linear climate-biosphere feedbacks, Fact-Check: will 2°C of global warming trigger rapid runaway feedbacks?, May 5 2020. <https://climatetippingpoints.info/2019/10/14/fact-check-will-2c-of-global-warming-trigger-rapid-runaway-feedbacks/> ] [NSB] [NWG]

Claim: Once global warming reaches 2°C (which we’ve nearly reached already, but scientists are downplaying it), positive feedback loops and tipping points will trigger rapid runaway warming and guarantee apocalyptic climate change in the next few decades.

Reality: The risk of tipping points grows significantly above 2°C, but this is an uncertain precautionary boundary and not a sharp definite threshold. Most feedbacks are long-term, committing to a Hothouse by the year ~3000 rather than 2100. Current warming is 1.1°C above the 1850-1900 baseline, not ~2°C. The 1.5°C & 2°C targets are still geophysically possible, and reduce the risk of passing more tipping points.

#### Each increment reduces risks of tipping points

Maguire, 22

[Gray Maguire, carbon project manager at Climate Neutral Group South Africa, COP27 - 'Every fraction matters' mantra is a cause for concern, Business Day (South Africa), November 16, 2022. (NexisUni database)] [NSB] [NWG]

A year ago, at COP26 in Glasgow, the mantra "Keep 1.5 alive" held sway, referring to the imperative of keeping the average global temperature increase below 1.5°C. At this COP a new, far less catchy slogan has begun to insinuate itself - "Every fraction matters", with alarming implications for humanity's future.

The reason for the concern is that beyond 1.5°C of warming four of the major climate tipping points move from being possible to likely, with cascading effects on our climate regime. Of these the collapse of the Greenland and West Antarctic ice sheets and northern permafrost thaw are of the highest concern, as the first two may be sufficient on their own to stop the Atlantic Meridional Overturning Circulation (AMOC) system. This is the system of weather-regulating ocean currents that carry warm water from the tropics into the North Atlantic. As for the permafrost, reaching this tipping point may be sufficient to drive global warming beyond our control altogether.

#### Tech improvements mean meeting emissions goals is possible

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Several mitigation options, notably solar energy, wind energy, electrification of urban systems, urban green infrastructure, energy efficiency, demand-side management, improved forest and crop/grassland management, and reduced food waste and loss, are technically viable, are becoming increasingly cost effective and are generally supported by the public. From 2010 to 2019 there have been sustained decreases in the unit costs of solar energy (85%), wind energy (55%), and lithium-ion batteries (85%), and large increases in their deployment, e.g., >10× for solar and >100× for electric vehicles (EVs), varying widely across regions. The mix of policy instruments that reduced costs and stimulated adoption includes public R&D, funding for demonstration and pilot projects, and demand-pull instruments such as deployment subsidies to attain scale. Maintaining emission-intensive systems may, in some regions and sectors, be more expensive than transitioning to low emission systems. (high confidence)

#### It is NOT too late to make 2C targets

McKay, 20

[Dr. David A. McKay, Postdoctoral Researcher at Stockholm Resilience Centre (Stockholm University), where he is part of the Earth Resilience in the Anthropocene Project (funded by the European Research Council) and is researching non-linear climate-biosphere feedbacks, Fact-Check: will 2°C of global warming trigger rapid runaway feedbacks?, May 5 2020. <https://climatetippingpoints.info/2019/10/14/fact-check-will-2c-of-global-warming-trigger-rapid-runaway-feedbacks/> ] [NSB] [NWG]

A temperature increase of 2°C above the pre-industrial baseline has long been a pivotal number in discussions of global warming. It first emerged as a potential upper limit to “safe” warming as a hypothetical estimate by economist William Nordhaus in 1975. One of the earlier scientific reports on climate change found 1°C to be a safer limit, but decided that 2°C was more achievable and the next-best target. 2°C gradually became the focal point of international climate negotiations, culminating in the adoption of the Paris Targets in 2015 of a maximum of 2°C warming (and preferably less than 1.5°C). The recent IPCC special report on 1.5°C has since further shown that substantially more damage would occur by 2°C (shown by the bars above), which has led scientists and activists to concentrate on finding ways to remain within 1.5°C of warming within the short time-frame that this might still be possible. We can be sure then that 2°C would represent a dangerous level of warming with significant negative consequences for humanity. But the IPCC reports have not found evidence of a sudden increase in climate impacts at 2°C. For the most part, climate impacts are projected to scale fairly linearly with additional warming, with every increment above 1.5°C having a greater impact. For tipping points, the IPCC reports and other papers have found that the risk of passing tipping points emerges above 1°C, becomes moderate within the 1.5-2°C range, and high above 3°C (see above), but there isn’t a sudden switch-on of multiple tipping points at exactly 2°C. Instead, the 1.5 and 2°C targets are based on what scientists and diplomats have compromised on as levels of warming beyond which lies an unacceptable risk of damaging impacts on human society.

#### IPCC take feedbacks into account--it is NOT too late

McKay, 20

[Dr. David A. McKay, Postdoctoral Researcher at Stockholm Resilience Centre (Stockholm University), where he is part of the Earth Resilience in the Anthropocene Project (funded by the European Research Council) and is researching non-linear climate-biosphere feedbacks, Fact-Check: will 2°C of global warming trigger rapid runaway feedbacks?, May 5 2020. <https://climatetippingpoints.info/2019/10/14/fact-check-will-2c-of-global-warming-trigger-rapid-runaway-feedbacks/> ] [NSB] [NWG]

Hothouse Unearthed

Since the last big IPCC report (AR5) though, there have been increasing worries that various climate feedbacks and tipping points may happen sooner and more strongly than previously anticipated. Contrary to many people’s perceptions, the IPCC reports actually do recognise and incorporate many of these feedbacks into their projections, including water vapour, sea-ice albedo, and weakening carbon sinks. There are still some feedbacks (such as permafrost emissions, marine respiration, and ice sheet instability) that are not fully represented in models yet, but this is the result of a lack of sufficient understanding to be able to model them.

#### Each increment of warming makes things worse

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Continued greenhouse gas emissions will lead to increasing global warming, with the best estimate of reaching 1.5°C in the near term in considered scenarios and modelled pathways. Every increment of global warming will intensify multiple and concurrent hazards (high confidence). Deep, rapid, and sustained reductions in greenhouse gas emissions would lead to a discernible slowdown in global warming within around two decades, and also to discernible changes in atmospheric composition within a few years (high confidence).

#### Some impacts ARE inevitable, but they can still be mitigated by sustained emissions reduction now

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

Some future changes are unavoidable and/or irreversible but can be limited by deep, rapid, and sustained global greenhouse gas emissions reduction. The likelihood of abrupt and/or irreversible changes increases with higher global warming levels. Similarly, the probability of low-likelihood outcomes associated with potentially very large adverse impacts increases with higher global warming levels. (high confidence)

### AT: Reduced Emissions won’t Reduce Warming

#### Our evidence on this is just better. Our source is the IPCC, a massive collection of climate experts who subject all of their work to extensive review by still more experts.

#### Lindzen’s claim is misleading. There WILL be a delay between emissions reduction and temperature reduction, but his claim of no effect is ridiculous. Reduction in emissions keeps the temperature from rising as quickly as it otherwise would.

#### Even if he is partially correct, the difference between slightly above 2C and slightly below 2C is a big one.

#### Net-zero emissions will eventually restore temperatures

IPCC, 23

[IPCC, 2023: Summary for Policymakers. In: Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, H. Lee and J. Romero (eds.), <https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf> ] [NSB] [NWG]

From a physical science perspective, limiting human-caused global warming to a specific level requires limiting cumulative CO2 emissions, reaching at least net zero CO2 emissions, along with strong reductions in other greenhouse gas emissions. Reaching net zero GHG emissions primarily requires deep reductions in CO2, methane, and other GHG emissions, and implies net negative CO2 emissions. Carbon dioxide removal (CDR) will be necessary to achieve net negative CO2 emissions (see B.6). Net zero GHG emissions, if sustained, are projected to result in a gradual decline in global surface temperatures after an earlier peak. (high confidence)

#### Lindzen is not credible

Inside Climate News, 2017

[Zahra Hirji, Inside Climate News, Climate Contrarian Gets Fact-Checked by MIT Colleagues in Open Letter to Trump, March 6, 2017. <https://insideclimatenews.org/news/06032017/climate-change-denial-scientists-richard-lindzen-mit-donald-trump/> ] [NSB] [NWG]

Richard Lindzen, an outspoken climate contrarian and retired Massachusetts Institute of Technology professor, sent a letter last month to President Donald Trump urging him to pull the United States out of the United Nations’ climate change regime because global climate action is “not scientifically justified.”

After MIT’s climate researchers and faculty found out, they wrote their own open letter to the president, setting the record straight.

“As [Lindzen’s] colleagues at MIT in the Program in Atmospheres, Oceans and Climate, all of whom are actively involved in understanding climate, we write to make it clear that this is not a view shared by us, or by the overwhelming majority of other scientists who have devoted their professional lives to careful study of climate science,” said the March 2 letter, signed by 22 current and retired MIT professors.

The MIT staff addressed specific inaccuracies in Lindzen’s letter, including his assertion that “carbon dioxide is not a pollutant.”

“The risks to the Earth system associated with increasing levels of carbon dioxide are almost universally agreed by climate scientists to be real ones,” they wrote. “These include, but are not limited to, sea level rise, ocean acidification, and increases in extreme flooding and droughts, all with serious consequences for mankind.”

#### Lindzen’s past work is full of errors

Inside Climate News, 2017

[Zahra Hirji, Inside Climate News, Climate Contrarian Gets Fact-Checked by MIT Colleagues in Open Letter to Trump, March 6, 2017. <https://insideclimatenews.org/news/06032017/climate-change-denial-scientists-richard-lindzen-mit-donald-trump/> ] [NSB] [NWG]

“In stark contrast to Lindzen’s letter, ours was signed only by those who know something about the climate system,” said [Kerry Emanuel](http://eaps4.mit.edu/faculty/Emanuel/), an MIT professor of atmospheric sciences who signed the letter opposing Lindzen. The science advocacy group the Union of Concerned Scientist also [annotated the letter](http://blog.ucsusa.org/wp-content/uploads/annotated-lindzen-letter.jpg)to point out its errors.

## Oceans Advantage (Extensions)

### AT: Overfishing/Alternate Causes

#### That may be true right now, but acidification will get worse, and it is the only one that is truly global

#### Those problems are synergistic with acidification

Australian Academy of Science, 15

[Professor Ove Hoegh-Guldberg Fellow of the Australian Academy, Director, Global Change Institute, The University of Queensland, Dr Richard Matear, Senior Research Scientist, Division of Marine and Atmospheric Research, CSIRO (Australia's national science agency), Professor Emma Johnston, School of Biological, Earth and Environmental Sciences, The University of New South Wales, More than just temperature—climate change and ocean acidification, May 15, 2015. <https://www.science.org.au/curious/earth-environment/ocean-acidification> ] [NSB] [NWG]

It's also important to remember that the stress ocean acidification will place on marine life will not be acting in isolation. As well as a drop in pH, marine life will have to cope with increasing temperatures, changes in currents and ocean circulation patterns, and in some areas, existing problems of pollution or over exploitation. In many cases, the cumulative effect of these stresses could well be greater than the sum of the parts.

#### Marine life can’t adapt to acidification. Historically, it causes mass extinctions

Timmons, 24

[Jeanne Timmons, International Herald Tribune, The New York Times - International Edition, Fearsome Sharks of Today Evolved When Ancient Oceans Got Hot, July 20, 2024. (NexisUni database)] [NSB] [NWG]

Which all sounds advantageous. With ocean temperatures increasing now because of global warming, could we see similar changes in today's sharks? In other words, could sharks get even bigger and faster? Global warming millions of years ago may have introduced important evolutionary adaptations in some sharks, but Dr. Higham emphasized that today's rapidly changing climate is more likely to result in damage to life in the ocean. "Because other animals, nonshark organisms, were absolutely devastated," he said. He added that while some sharks adapted to the Cretaceous oceans, "it also caused a lot of other animals to go extinct." Allison Bronson, a faculty member at California State Polytechnic University, Humboldt, who was not involved in the research, agreed. "The spread of marine anoxic zones and changes in global climate, often co-occurring with ocean acidification, have resulted in the worst mass extinctions in Earth's history," she said, adding that "the pace of change now is really unprecedented."

### AT: 1000s of years

#### It is true we can’t reverse it, but we haven’t crossed any tipping points yet, so there is still time to avert the worst extinctions. Our solvency evidence says reducing emissions can prevent things from getting worse.

#### This is essentially affirmative evidence—we must act now or there will be irreversible damage.

#### Oceans are reaching a tipping point, but future emissions affect the rate

UNF, 24

[MJ Altman and Dynahlee Padilla-Vasquez, United Nations Foundation, 5 Things to Know About Climate Change and The Ocean, States News Service, June 6, 2024. (NexisUni database)] [NSB] [NWG]

As greenhouse gases continue to be pumped into the atmosphere, our ocean is rapidly deteriorating. Yet when it comes to climate action, protecting the planet's biggest ecosystem remains overlooked and underfunded. In response, the UN is renewing ambition to accelerate climate-ocean action including through the Ocean Decade and Sustainable Development Goals before it's too late. The ocean appears to be reaching a tipping point. For the past year, sea surface temperatures have shattered records daily. Ninety percent of the globe's big fish populations are depleted. Half of the coral reefs are destroyed. The triple planetary crisis of climate change, pollution, and biodiversity loss is pushing Earth, especially life below water, to the brink of extinction. "The consequences are becoming unignorable," says Jessie Turner, Executive Director of the International Alliance to Combat Ocean Acidification (OA Alliance), a network hosted at the UN Foundation that represents more than 130 government and nongovernment members, comprising 225,000 miles of coastline and nearly 300 million people worldwide. While the bleaching of coral reefs is one of the most visible signs of the world's oceans in crisis, for the most part, we don't fully see what is happening underwater. Even so, warning signs have gone unheeded for years. Turner cites a UN report published in 2013 that described the ocean becoming "hot, sour, and breathless" because of rising sea surface temperatures, declining pH trends, and slowing currents. "The ocean is a massive heat and carbon sink. Ocean currents redistribute the heat being absorbed and help with global carbon cycling, supporting the regulation of Earth's climate," says Kerrlene Wills, Director for Ocean and Climate at the UN Foundation. "The exchanges between the atmosphere and ocean influence everything from daily weather patterns to long-term climate trends." Reports from the UN Intergovernmental Panel on Climate Change (IPCC) show that ocean warming, ocean acidification, and oxygen loss will continue to increase in the 21st century at rates dependent on future emissions of carbon dioxide and greenhouse gas. However, scientists, governments, and communities are still working to understand the scale and complexity of the damage these compounding threats are wreaking on the globe's most unexplored, unprotected, and uniquely vital habitat.

### AT: Claims exaggerated

#### “Exaggeration” claims are false—Webster and Ross misrepresent Browman

Readfern, 16

[Graham Readfearn, independent journalist & writer for The Guardian, “Scientist Accuses The Times Newspaper of "Cherry Picking" on Ocean Acidification Story,” March 10, 2016. <http://www.desmogblog.com/2016/03/10/scientist-accuses-times-newspaper-cherry-picking-ocean-acidification-story>] [NSB] [NWG]

Written by The Times’ environment editor Ben Webster, the story, republished on The Australian and echoed by the Daily Express, also claimed the impacts of OA on coral reefs had been “exaggerated”. Browman told DeSmog he did not think that studies had “exaggerated” the impacts of OA, and his publication had not found this. But he said some studies could have been more carefully interpreted. Responding to The Times, Browman issued a statement on Twitter: [The journalist] cherry-picked our conversation and presents phrases out of context - seemingly in order to be sensational - despite the fact that I told him that the press was part of the “exaggeration” problem.

#### “Exaggeration” claims based on misinterpretation and cherry-picking quotes

Readfern, 16

[Graham Readfearn, independent journalist & writer for The Guardian, “Scientist Accuses The Times Newspaper of "Cherry Picking" on Ocean Acidification Story,” March 10, 2016. <http://www.desmogblog.com/2016/03/10/scientist-accuses-times-newspaper-cherry-picking-ocean-acidification-story>] [NSB] [NWG]

A scientific journal editor has criticised the UK’s The Times newspaper for misinterpreting the findings of a special edition that looked at the science linking ocean acidification to impacts on marine organisms. The Times story claimed the publication, led by Dr Howard Browman, had concluded most studies found ocean acidification had little or no impact on marine organisms. But Browman, of the Institute of Marine Research in Norway, said The Times had omitted or misinterpreted key points and “cherry-picked” aspects of an interview with him.

#### 1000s of studies confirm acidification is a real threat

Readfern, 16

[Graham Readfearn, independent journalist & writer for The Guardian, “Scientist Accuses The Times Newspaper of "Cherry Picking" on Ocean Acidification Story,” March 10, 2016. <http://www.desmogblog.com/2016/03/10/scientist-accuses-times-newspaper-cherry-picking-ocean-acidification-story>] [NSB] [NWG]

Ocean acidification (OA) refers to the effect that increased levels of carbon dioxide in the atmosphere have on the oceans, causing ocean pH to fall, meaning the water is less alkaline. Thousands of OA studies have been published suggesting a wide range of negative impacts on marine organisms, from growth rates of corals to particular fish species and molluscs. A major UN report said there was “high confidence” that ocean acidification “will increase for centuries if CO2 emissions continue, and will strongly affect marine ecosystems.” Effects would be greater when combined with rising ocean temperatures, the IPCC report said. A study in Science in 2015 linked one of the world’s largest extinction events about 250 million years ago to ocean acidification.

#### More Evidence: Oceans are critical to all life on Earth

UNF, 24

[MJ Altman and Dynahlee Padilla-Vasquez, United Nations Foundation, 5 Things to Know About Climate Change and The Ocean, States News Service, June 6, 2024. (NexisUni database)] [NSB] [NWG]

We could lose 90% of the world's coral by 2050, Turner says, and the net productivity of our ocean is in decline. "It's not just about diving and tourism and seeing beautiful places. It's also about nurseries for keystone fisheries that many coastal communities rely on for sustenance," she says. "All of this has huge implications for our current assumptions on what it means to feed a growing population."

One of the biggest opportunities for the Ocean Decade of Ocean Science (2021-2030), Turner says, is bridging the divide between policymakers and scientists on climate and ocean change impacts and response, which she notes "should be a continuous conversation" as the deadline draws near.

Built by colonies of tiny sea creatures, coral reefs like this one off the coast of Dominica harbor the highest biodiversity of any ecosystem on Earth, according to the UN Environment Programme. But in the past year, more than 60% of the planet's coral reefs have experienced bleaching, which occurs when environmental stressors including pollution and higher ocean temperatures cause coral to expel the photosynthetic algae that inhabit them. Photo: Kraig Harris/UN Foundation

The ocean is critical to all life on Earth, yet Goal 14 Life Below Water remains the least funded of all 17 Global Goals.

The ocean covers 70% of the Earth's surface and produces nearly half of our oxygen. It regulates the planet's air, temperature, and water cycles. It's the main source of protein for more than 1 billion people and a major economic driver: The shipping industry transports 80% of all goods on our shelves, and ocean-based industries will employ some 40 million people by 2030.

Yet of all 17 Sustainable Development Goals, SDG 14: Life Below Water remains the least funded. Meanwhile, SDG 14's sub-targets among them restoring coastal and marine areas, reducing marine pollution and ocean acidification, and increasing scientific knowledge have only become more urgent.

### AT: Just less alkaline

#### This is just semantics. “Acidification” and “Lower Alkalinity” mean essentially the same thing. Our evidence citing marine biologists and other experts OBVIOUSLY takes this into account.

#### “Less alkalinity” caused a mass extinction 66 million years ago. We are looking at a MUCH LARGER drop in alkalinity this time.

Zaugg, 2019

[Julie Zaugg, CNN, Tiny shell fossils reveal how ocean acidification can cause mass extinction, October 21, 2019. (NexisUni database)] [NSB] [NWG]

Ocean acidification caused a mass extinction of marine life 66 million years ago, research into tiny shell fossils has shown. This could have implications for the current climate crisis, which is also making the oceans more acidic. Slightly less than 66 million years ago, a giant asteroid hit the earth near the Mexican town of Chicxulub, leading to massive tsunamis, earthquake-driven gravity flows and the ejection of molten rocks, according to a new paper published in the journal Proceedings of the National Academy of Sciences. This in turn caused acid rain and large scale acidification of the world's oceans, prompting a mass extinction of most marine and land based life, including all dinosaurs. Modeling had previously produced evidence of this ecological collapse but the mechanisms through which it occurred were unknown. To overcome this, the team of researchers led by Michael Henehan, a postdoctoral scientist at the GFZ research center in Potsdam, studied sea shells trapped in sediment which formed just after the asteroid hit. The samples were taken from caves and rivers in the Netherlands, Mississippi and Texas, as well as from deep-sea drilling sites, according to the paper.

A culprit

They found that the shell walls had become very thin because of a sharp drop in the pH of the oceans -- a sign of acidification -- a 100 to 1,000 years after the strike. This demonstrated that the asteroid impact was the main culprit for making the oceans more acidic and causing a mass die-off of marine life, the researchers said. Intense volcanic activity had also been considered as a possible cause. Today, the world's seas are again becoming more acidic, due to an increase in carbon emissions. At least one quarter of the CO2 released by burning coal, oil and gas doesn't stay in the air, but instead dissolves into the ocean, according to The NOAA Ocean Acidification Program, a US government initiative, and The Smithsonian Ocean Portal. So far, ocean pH has dropped from 8.2 to 8.1 since the industrial revolution, and is expected to fall by another 0.3 to 0.4 pH units by the end of the century, it added. Henehan's research showed a 0.25 pH unit drop 66 million years ago. Ocean acidification has already caused massive die-offs of oysters in the Pacific Northwest. Without a plan to reduce carbon emissions, the ocean may be so acidic by 2080, that even creatures like some corals that had been able to withstand these conditions may erode quicker than they can rebuild.

## Trade Advantage (Extensions)

### AT: Won’t pass/US CBAM coming

#### Bipartisan support for US CBAM has gained momentum

WRI, 23

[Ankita Gangotra, Willy Carlsen and Kevin Kennedy, World Resources Institute, 4 US Congress Bills Related to Carbon Border Adjustments in 2023, December 13, 2023. <https://www.wri.org/update/4-us-congress-bills-related-carbon-border-adjustments-2023> ] [NSB] [NWG]

Proposals related to environmental trade policies have picked up momentum in the 118th Congress, with a degree of bipartisan interest in such measures. The bipartisan PROVE IT Act would be a meaningful step toward instituting greater transparency of industrial emissions in the U.S. compared to other countries. By laying the groundwork for robust carbon accounting, the PROVE IT Act would provide a strong foundation for the design of future environmental trade policies.

#### US has done an about-face on CBAM

Schonhardt, 22

[Sara Schonhardt, International climate reporter, E & E News, Climatewire, June 16, 2022. (NexisUni)] [NSB] [NWG]

Mohammed Chahim, a Dutch lawmaker who's leading negotiations over the carbon border adjustment in the European Parliament, said he's seen an about-face from U.S. leaders since the end of last year. At that time, a group of 19 senators wrote a letter to President Joe Biden urging him to oppose the E.U.'s "unilateral implementation" of a carbon border adjustment, which they viewed as unfair to the United States. "Now they send me emails [asking] how can we align our proposals?" Chahim told reporters during a recent briefing on the proposal. He does see areas for compromise, like in the way carbon content in goods is calculated. Getting the E.U. and U.S. aligned on that metric could make the border adjustment easier to implement. "There will still be some issues between us, but the benefit from both continent and country will be higher than the administrative burden or the tariff that needs to be paid," Chahim said.

#### Bipartisan support for some form of US CBAM

Fishman, et al, 24

[Xan Fishman, John Jacobs, George David Banks, Daniel Elizalde, Bipartisan Policy Center, Designing a Climate and Trade Policy Fit for the United States July 2024. <https://bipartisanpolicy.org/download/?file=/wp-content/uploads/2024/07/BPC-24_Energy-Emissions-Performance_R05.pdf> ] [NSB] [NWG]

Democrats and Republicans alike are keenly interested in linking climate and trade policy to achieve many shared goals simultaneously: boosting domestic manufacturing, securing supply chains, pushing back on geopolitical adversaries like China and Russia, and reducing global greenhouse gas (GHG) emissions.

#### Coming EU Carbon Border Adjustment Mechanism (CBAM) will lead to a US CBAM. Without a domestic carbon tax, the US CBAM will violate WTO rules and provoke trade retaliation

Smith, 23

[Tori K. Smith, Former Director of International Economic Policy at the American Action Forum, U.S. Carbon Border Adjustment Proposals and World Trade Organization Compliance, Insight, February 8, 2023. <https://www.americanactionforum.org/insight/u-s-carbon-border-adjustment-proposals-and-world-trade-organization-compliance/> ] [NSB] [NWG]

On December 13, 2022, the European Union (EU) announced that it had finalized plans to institute the world’s first carbon border adjustment mechanism (CBAM). This announcement comes after years of debate in the EU member states on how to transition their carbon pricing system to a CBAM, which also led to a CBAM debate in the U.S. Congress.

Last session, members of Congress put forward several proposals to create a CBAM for the United States. Legislation ranged from a simple tariff on carbon-intensive products to establishing a carbon price and a CBAM. It is very likely that Europe’s new CBAM will reignite a debate over whether the United States should create its own CBAM.

As new legislation is developed and evaluated, it is essential that these proposals are compliant with the United States’ international trade commitments, namely rules under the World Trade Organization (WTO). The specifics of how or if a carbon price is set, how taxing carbon emissions is carried out, and how issues such as carbon leakage are addressed can run afoul of WTO commitments. If Congress fails to consider WTO commitments, the United States could be subject to retaliation from trading partners.

#### EU CBAM has increased support for a US version—4 new bills in the last year

WRI, 23

[Ankita Gangotra, Willy Carlsen and Kevin Kennedy, World Resources Institute, 4 US Congress Bills Related to Carbon Border Adjustments in 2023, December 13, 2023. <https://www.wri.org/update/4-us-congress-bills-related-carbon-border-adjustments-2023> ] [NSB] [NWG]

Proposals for policies at the intersection of climate and trade are becoming increasingly popular around the world and in the U.S. In October 2023, the European Union (EU) began the transitional period of its Carbon Border Adjustment Mechanism (CBAM), one of the most extensive environmental trade policies so far. The CBAM will apply the carbon price its manufacturers face under EU's Emissions Trading System to imported goods as well. CBAM is a type of carbon border adjustment (CBA) — an environmental trade policy that applies tariffs on imports such as steel and cement based on their carbon emissions.

Such policies can serve multiple purposes, such as driving down emissions, preventing carbon leakage, spurring domestic industries and onshoring manufacturing jobs, which can build support across the political spectrum. Here we summarize four key bills introduced in U.S. Congress related to climate and trade in 2023.

#### Bipartisan support for some form of US CBAM

WRI, 23

[Ankita Gangotra, Willy Carlsen and Kevin Kennedy, World Resources Institute, 4 US Congress Bills Related to Carbon Border Adjustments in 2023, December 13, 2023. <https://www.wri.org/update/4-us-congress-bills-related-carbon-border-adjustments-2023> ] [NSB] [NWG]

The differing approaches of the FPFA, the MARKET CHOICE Act and the CCA to implementing a carbon border adjustment illustrate the diversity of opinions on these issues among Members of Congress. Both the FPFA and the CCA build on the view that U.S. manufacturing is cleaner than that of many of our trading partners and in effect challenges others to catch up to the U.S. However, the CCA also recognizes that setting a goal for U.S. industries and applying its carbon intensity charge equally to U.S. and foreign goods will lead to deeper global emissions reductions. Both Democrats and Republicans introducing CBA bills indicates that there is appetite in Congress for environmental trade policies. Whether the sponsors of these bills can converge and negotiate a bipartisan CBA bill remains to be seen.

#### US views CBAM as increasing competitiveness

Schonhardt, 22

[Sara Schonhardt, International climate reporter, E & E News, Climatewire, June 16, 2022. (NexisUni)] [NSB] [NWG]

The specifics of what Europe is doing have factored less into U.S. lawmakers' thinking. "The way the conversations are playing out in Congress has much more to do with domestic politics, with the interest in finding bipartisan areas of collaboration on climate and with the general context of concern around trade, in particular with countries like China," said Nat Keohane, head of the Center for Climate and Energy Solutions, a nonprofit that's advocating for U.S. climate policy. But its importance as a potential point of bipartisan climate action shouldn't be overlooked, he added. Like the Kigali Amendment, which targets superpollutants known as hydrofluorocarbons, there is political logic to framing carbon border fees as something that can increase U.S. competitiveness, since many goods that would be covered by the tariffs are less carbon-intensive than those made in other countries (Climatewire , May 5).

### AT: Empirically Denied/WTO Dead/US Blocking

#### The WTO is NOT dead, nor is the Dispute Settlement Process. The only thing that is stuck is the Appeals Body for the process. That is a REAL problem, but it isn’t nearly as bad as the collapse of the whole process or the credibility of the WTO itself.

#### WTO members have set up an interim appeals process

Economic Times, 24

[The Economic Times, Why reforming the WTO dispute settlement mechanism is imperative, May 25, 2024. (NexisUni database)] [NSB] [NWG]

For members to continue to have access to an independent appeal process for dispute settlement, 16 WTO members set up a separate appeal system for trade disputes in March 2020 called the Multi-Party Interim Appeal Arbitration Arrangement (MPIA). WTO members can resort to the use of the MPIA under Article 25 of the WTO Dispute Settlement Understanding, as an alternative mechanism for dispute settlement.

#### As our evidence says, the REAL problem would be the US flouting the whole system so badly that it loses all credibility.

#### Also, our evidence says A US CBAM without a domestic tax could DIRECTLY provoke retaliation.

#### CBAM risks protectionism

Beaumont-Smith, 24

[Gabriella Beaumont-Smith, Former trade policy analyst at CATO Institute, Are Carbon Border Adjustments a Dream Climate Policy or Protectionist Nightmare?, Policy Analysis No. 978, July 30, 2024. <https://www.cato.org/policy-analysis/are-carbon-border-adjustments-dream-climate-policy-or-protectionist-nightmare#would-cbam-be-consistent-wto-rules-or-invite-retaliation> ] [NSB] [NWG]

A carbon border adjustment mechanism can theoretically help reduce carbon emissions, but the policy faces serious practical and legal challenges while creating ample opportunities for cronyism and costly protectionism.

#### CBAM will provoke retaliation

Beaumont-Smith, 24

[Gabriella Beaumont-Smith, Former trade policy analyst at CATO Institute, Are Carbon Border Adjustments a Dream Climate Policy or Protectionist Nightmare?, Policy Analysis No. 978, July 30, 2024. <https://www.cato.org/policy-analysis/are-carbon-border-adjustments-dream-climate-policy-or-protectionist-nightmare#would-cbam-be-consistent-wto-rules-or-invite-retaliation> ] [NSB] [NWG]

Regardless, a CBAM or carbon tariff is intended, at least in part, to protect domestic industry and could therefore provoke retaliation from foreign trading partners who see the measure as WTO-inconsistent protectionism and are unwilling to wait for a WTO dispute-settlement panel to rule otherwise.

### AT: No Solvency. EU CBAM already violates

#### EU taking steps to make its policy compliant

Beaumont-Smith, 24

[Gabriella Beaumont-Smith, Former trade policy analyst at CATO Institute, Are Carbon Border Adjustments a Dream Climate Policy or Protectionist Nightmare?, Policy Analysis No. 978, July 30, 2024. <https://www.cato.org/policy-analysis/are-carbon-border-adjustments-dream-climate-policy-or-protectionist-nightmare#would-cbam-be-consistent-wto-rules-or-invite-retaliation> ] [NSB] [NWG]

It seems the EU is attempting to preemptively safeguard against such disputes by noting that its CBAM methodology may be “refined” before its official starting period in 2026.

#### US support helps overcome opposition to EU CBAM

Majkut, 23

[Joseph Majkut, Joseph Majkut is director of the Energy Security and Climate Change Program at the Center for Strategic and International Studies (CSIS), The United States Should Learn to Live with EU CBAM, January 17, 2023. <https://www.csis.org/analysis/united-states-should-learn-live-eu-cbam> ] [NSB] [NWG]

Carbon-intensive exporters will take their case to the WTO. Trade experts fall on both sides of how the WTO might rule in the case of the EU CBAM. If countries are not satisfied by the WTO process, then the CBAM might become another reason to install retaliatory tariffs or start new trade conflicts. The weight of coordinated opposition will pressure Europe’s plans, though the continent seems undaunted for now.

The United States could play a helpful role here, politically supporting the European Union’s efforts and engaging constructively to help U.S. firms comply with the new reporting requirements. The stakes for the United States are smaller than many other economies as most of our exports to Europe are not covered by CBAM, even energy products like oil and natural gas. But the United States’ stake in both the development of low-carbon markets and border adjustments as a policy tool is potentially quite large.

For the goods covered by Europe’s new rule, the United States has a distinct advantage of being more carbon-efficient than its peers. Relative to Chinese steel, U.S. production is cleaner. So while U.S. steel exports might face a 6 percent price increase in European markets, Chinese exports will face an 18 percent increase, according to estimates from the Boston Consulting Group. As trade reorganizes around the EU CBAM, U.S. producers may just discover new opportunities.

The potential benefits are there on the policy side as well. While decarbonizing U.S. and European economies is essential, global climate outcomes depend on global decarbonization. Policies like the CBAM provide an opportunity for the European Union, and potentially the United States, to use their market power to incentivize decarbonization.

#### US support increases effectiveness and improves US climate leadership

Majkut, 23

[Joseph Majkut, Joseph Majkut is director of the Energy Security and Climate Change Program at the Center for Strategic and International Studies (CSIS), The United States Should Learn to Live with EU CBAM, January 17, 2023. <https://www.csis.org/analysis/united-states-should-learn-live-eu-cbam> ] [NSB] [NWG]

One source of U.S. opposition to the European Union plan has been that the United States is not quite ready to partner up on a CBAM. A fair number of U.S. policymakers would like to support a U.S. CBAM to ensure China and other countries cannot emit, and import, while the United States goes about decarbonization. While the United States has a lot of work to do before it can partner up with the European Union in assessing border adjustments or forming a climate club, that option looks better if Europe can make this one work.

The European agreement on the CBAM comes at a critical juncture in transatlantic—and global—cooperation on trade and climate. Because combating climate cooperation is a global commons problem, countries and blocs with ambitious emissions reduction plans cannot risk the offshoring of emissions to countries with less stringent regulation. As Europe takes the next steps forward, the United States affirmatively reinforcing the CBAM would have a net positive impact for long-term U.S. climate leadership by bolstering the transatlantic alliance and distinguishing it from countries with more protectionist and polluting tendencies.

#### DSM requires US support

Hopewell, 21

[Dr Kristen Hopewell, Associate Professor, and Canada Research Chair in Global Policy, University of British Columbia, interviewed by Ben Horton of Chatham House, Lessons from Trump’s assault on the World Trade Organization, Chatham House, August 10, 2021. <https://www.chathamhouse.org/2021/08/lessons-trumps-assault-world-trade-organization> ] [NSB] [NWG]

The WTO is unique amongst international institutions because it has a powerful enforcement mechanism – the dispute settlement system. However, the fundamental vulnerability is that if powerful states like the US and others won’t participate in the system and be bound by its rules, they quickly risk becoming irrelevant. And that’s the situation we’re in right now with the appellate body crisis, where, without a functioning mechanism to ensure that WTO rules are enforced, the entire system of global trade rules risk collapsing. Ironically, the United States has been the leader of the liberal trading order for the past 70 years, but since Trump, it has become its leading saboteur.

#### EU CBAM crafted to comply with WTO

Smith, 23

[Tori K. Smith, Former Director of International Economic Policy at the American Action Forum, U.S. Carbon Border Adjustment Proposals and World Trade Organization Compliance, Insight, February 8, 2023. <https://www.americanactionforum.org/insight/u-s-carbon-border-adjustment-proposals-and-world-trade-organization-compliance/> ] [NSB] [NWG]

An export rebate was not included in the European Union CBAM, though it was discussed as an alternative to the free allowances that are offered to some industries under the ETS. European businesses that currently receive free allowances asked the government to include an export rebate in the CBAM, but it was left out. According to the Peterson Institute for International Economics, “export rebates are a key point of friction between Parliament and the Commission, as they are not accepted by the Commission and were omitted from its proposal due to concerns about WTO compatibility.”[14]

#### Even if there are minor technical issues, a CBAM with an equivalent domestic tax would raise no serious concerns

Beaumont-Smith, 24

[Gabriella Beaumont-Smith, Former trade policy analyst at CATO Institute, Are Carbon Border Adjustments a Dream Climate Policy or Protectionist Nightmare?, Policy Analysis No. 978, July 30, 2024. <https://www.cato.org/policy-analysis/are-carbon-border-adjustments-dream-climate-policy-or-protectionist-nightmare#would-cbam-be-consistent-wto-rules-or-invite-retaliation> ] [NSB] [NWG]

Measures that violate these provisions, however, might be permitted where they qualify for one of the “general exceptions” of GATT Article XX, namely those that allow for measures necessary to protect human, animal, or plant life or health.22

Some legal scholars believe that a true CBAM would comply with WTO rules or meet one of the general exceptions as long as the measure meets three conditions:

The domestic carbon tax applies equally to domestic goods and imports.

The import tax is calculated in the same way for all WTO members.

Any rebates on exports do not exceed the amount of carbon tax paid or applied to those goods.

Other scholars disagree with this conclusion, but the general view is that the border adjustment would in this case resemble domestic taxes (e.g., sales taxes or value-added taxes) applied to imported goods and widely considered to raise no serious WTO concerns.

### Current US CBAM will violate WTO

#### US already on thin ice with IRA—CBAM without domestic tax would be a clear violation

Smith, 23

[Tori K. Smith, Former Director of International Economic Policy at the American Action Forum, U.S. Carbon Border Adjustment Proposals and World Trade Organization Compliance, Insight, February 8, 2023. <https://www.americanactionforum.org/insight/u-s-carbon-border-adjustment-proposals-and-world-trade-organization-compliance/> ] [NSB] [NWG]

The WTO agreements that a CBAM could violate are clearer, however. The WTO agreement most important for the structure of a tax on carbon-intensive products is the General Agreement on Tariffs and Trade (GATT), which details the core tenets of the WTO, such as the most-favored nation (MFN) and non-discrimination principles. Commitments under the Agreement on Subsidies and Countervailing Measures (SCM) are also important when it comes to making a measure border-adjusting by issuing rebates for exports. CBAMs have not been tested by a WTO dispute settlement panel, so it is difficult to know exactly how a panel would rule on questions under these agreements.

Uncertainty about the permissibility of CBAMs should give U.S. policymakers considering such a policy pause, because neglecting WTO rules could leave the United States open to retaliation by its trading partners. In recent years, U.S. trade policy and legislation, most recently with the Inflation Reduction Act (IRA), has disregarded WTO rules. The Biden Administration is currently engaged in yet another trade dispute with allies over its neglect of WTO rules in implementing the IRA. While debate among scholars remains, there do seem to be three principles to follow to have a “reduced risk of violating WTO law” [8] when considering a CBAM: (1) the carbon tax must apply to domestic goods and imports; (2) imports from all WTO members must be treated the same; and (3) rebates for exports cannot exceed the carbon tax.

#### US CBAM without carbon tax violates WTO

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

As Whitehouse noted, US manufacturers are already two-thirds less carbon-polluting than those in, say, China. This means Europe’s tariff will benefit them even if the US doesn’t lift a finger to impose its own price. But doing so would benefit them even more while also tweaking China. That calculus has inspired bipartisan interest, including a bill by Republican Senators Bill Cassidy of Louisiana and Lindsay Graham of South Carolina proposing their own carbon tariff.

As my Bloomberg Opinion colleague Liam Denning noted, Cassidy has gone out of his way to deny his tariff would amount to carbon pricing. Without a domestic carbon price, a border tariff probably wouldn’t be fair enough to withstand World Trade Organization scrutiny, Wolfram suggested. Still, the bill was another encouraging sign that momentum is growing toward the US finally taking Milton Friedman’s advice. It can’t happen soon enough.

#### CBAM without domestic tax clearly violates WTO rules

Beaumont-Smith, 24

[Gabriella Beaumont-Smith, Former trade policy analyst at CATO Institute, Are Carbon Border Adjustments a Dream Climate Policy or Protectionist Nightmare?, Policy Analysis No. 978, July 30, 2024. <https://www.cato.org/policy-analysis/are-carbon-border-adjustments-dream-climate-policy-or-protectionist-nightmare#would-cbam-be-consistent-wto-rules-or-invite-retaliation> ] [NSB] [NWG]

In particular, most scholars believe that a carbon tariff without a corresponding domestic measure would violate several WTO rules and not qualify for any general exception because there are less protectionist measures available to achieve the same public policy objectives.

### Domestic carbon tax Complies

#### CBAM complies if equal to domestic carbon tax

C2ES, 24

[Center for Climate and Energy Solutions, Carbon Border Adjustments, May 2, 2024. <https://www.c2es.org/content/carbon-border-adjustments/> ] [NSB] [NWG]

Some observers have raised concerns that carbon border adjustments could amount to disguised protectionism; at a minimum, such policies involve unsettled issues of trade policy that have the potential to provoke disputes in the World Trade Organization (WTO). The WTO’s General Agreement on Tariffs and Trade (GATT) includes protections aimed at ensuring equal treatment of domestic and foreign-produced goods, which a border adjustment could violate if not carefully designed. While the GATT allows exceptions for certain policies on environmental grounds, it nonetheless prohibits any measure that amounts to arbitrary or unjustifiable discrimination against trading partners. As such, some observers conclude a border adjustment could be consistent with WTO rules or an allowable exception under GATT Article XX as long as domestic producers pay an equivalent fee.

#### EU CBAM exempts countries with their own CT

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

Europe, of all places, may be the source of the most pressure. The European Union is transitioning to a carbon tariff, called the Carbon Border Adjustment Mechanism, that will be fully in place in 2026. This will charge foreign exporters for the emissions they generate in the production process, which will move the market’s invisible hand to favor cleaner production. And it will be fair because EU producers already pay a price for carbon as part of the union’s cap-and-trade system. The tariff and the trading system work together to set a carbon price that everybody pays.

Another key detail about the CBAM is that it gives exporters a break if they can prove they’ve already paid a carbon fee in their home countries. That will push those countries — including the US — to set their own carbon price or get left behind, MIT economist Catherine Wolfram noted in a recent session at Harvard University’s Climate Action Week.

### WTO Stops War

#### Credible WTO DS key to global trading system

Thai News Service, 24

[Thai News Service, India: Commerce Minister Piyush Goyal urges trust and implementation in WTO decisions, March 4, 2024. (NexisUni database)] [NSB] [NWG]

India reiterated its long-standing position that a credible and reliable WTO DS system is the bedrock of an equitable, effective, secure and predictable multilateral trading system.

#### Collapse of WTO DSM risks world war

Hopewell, 21

[Dr Kristen Hopewell, Associate Professor, and Canada Research Chair in Global Policy, University of British Columbia, interviewed by Ben Horton of Chatham House, Lessons from Trump’s assault on the World Trade Organization, Chatham House, August 10, 2021. <https://www.chathamhouse.org/2021/08/lessons-trumps-assault-world-trade-organization> ] [NSB] [NWG]

What are the implications of a permanent collapse of the international trading system?

The very real danger from such a breakdown is a return to what we saw in the 1930s. In response to the outbreak of the Great Depression, you had countries imposing trade barriers, blocking imports from other state, and a general escalation of tit-for-tat protectionism. This response wound up not only exacerbating the effects of the depression itself but has also been credited by some as paving the way for the outbreak of the second world war. The reason why institutions like the WTO were created in the first place was to prevent a recurrence of the 1930s protectionist trade spiral. The danger now – if those rules become meaningless and unenforceable – is the institutional foundations of postwar economic prosperity could unravel, throwing us back into economic chaos and potentially political disorder.

#### WTO prevents war/maintains peace

Huang & Li, 24

[Qiuyue Huang & Zhiyuan Li, School of Economics, Fudan University, Shanghai, Trade and peace: The WTO Case, China Economic Review, Volume 83, February 2024. <https://www.sciencedirect.com/science/article/pii/S1043951X23001578> ] [NSB] [NWG]

This paper empirically examines the impact of international trade on peace in the world and among different countries from the perspective of the World Trade Organization (WTO). Using data on interstate conflicts from 1950 to 2000, we find robust evidence that the international trade framework, represented by the WTO, reduces the probability and intensity of militarized interstate disputes, thereby making a significant contribution to the establishment and maintenance of global peace.

#### The whole point of the WTO is to prevent conflict

Huang & Li, 24

[Qiuyue Huang & Zhiyuan Li, School of Economics, Fudan University, Shanghai, Trade and peace: The WTO Case, China Economic Review, Volume 83, February 2024. <https://www.sciencedirect.com/science/article/pii/S1043951X23001578> ] [NSB] [NWG]

From an international political standpoint, the establishment of the WTO is primarily driven by the objective of promoting peace via trade. The First and Second World Wars resulted in unparalleled devastation and calamity on a global scale. Following the conclusion of the Second World War, several nations participated in diplomatic discussions and subsequently ratified the General Agreement on Tariffs and Trade (GATT) with the aim of averting the reoccurrence of such large-scale conflicts. Therefore, the WTO is founded on the desire for long-lasting security and peace with its fundamental goal being the achievement of peace and prosperity via trade and economic cooperation.

#### New research provides “robust” causal evidence that the WTO prevents or mitigates conflict

Huang & Li, 24

[Qiuyue Huang & Zhiyuan Li, School of Economics, Fudan University, Shanghai, Trade and peace: The WTO Case, China Economic Review, Volume 83, February 2024. <https://www.sciencedirect.com/science/article/pii/S1043951X23001578> ] [NSB] [NWG]

The potential contributions of our paper are as follows. Firstly, we employ a refined research design to address estimation bias, thereby providing a more accurate identification of the causal effect of the WTO on peace. With this modification, we find robust evidence that WTO has a significant impact in mitigating conflicts among countries. These findings offer empirical support for the organization's core objective of fostering peace and prosperity through trade and economic cooperation. Secondly, we conduct a comprehensive analysis of the peace effects generated by the WTO by examining its tariff regime and dispute settlement mechanisms. The findings of this analysis contribute significantly to the optimization of the rules established by the WTO and the mitigation of any adverse consequences that may arise from these rules. Thirdly, under the current precarious international security landscape, an in-depth investigation into the peace-promoting effect of the WTO assumes significant theoretical and practical importance. The results of this study offer important references for countries to promote national, regional, and global security through economic collaboration, thereby paving the way for long-term peace and security worldwide.

## Debt Advantage (Extensions)

### AT: Revenue will be lower

#### That’s true, but our evidence takes this into account. Our models have that built in.

#### Carbon tax raises federal revenue

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

In addition to pricing carbon emissions, a carbon tax would raise additional federal revenue. This additional federal revenue could be used to reduce the federal deficit, reform taxes, or create additional government programs. For example, many carbon tax proposals pair the enactment of a carbon tax with a new government program that would “rebate” the carbon tax back to Americans to offset the cost of the carbon tax on living standards. Other proposals would use part of the carbon tax revenue to reduce other taxes, such as income or payroll taxes.

#### Increase in rate offsets losses from reduced emissions

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

Recent carbon tax proposals would bring in hundreds of billions of dollars in revenue per year by the mid-2020s. As emissions decline, the total amount of taxable GHGs will also decline, impacting revenues. However, overall revenues will rise if, as contemplated in the Deutch and Whitehouse proposals, carbon tax rates increase sufficiently quickly to more than offset the decrease in emissions. A preliminary analysis of the Deutch Bill shows that carbon tax revenues would rise from $70 billion in 2020, to $400 billion in 2030. For context, the U.S. corporate income tax raised about $300 billion in 2017 (prior to the 2017 tax cuts), and the federal excise tax on gasoline and diesel fuel brought in about $40 billion. Under the Deutch Bill, nearly all revenue is used for annual dividend payments, which would increase to about $1400 for adults and $600 to children by 2030.

### AT: Not enough revenue/Mandatory spending swamps

#### We don’t have to erase US debt, just keep it from ballooning out of control—that’s the IMF evidence.

#### Carbon tax makes a huge difference. Even if it does not erase debt, it keeps it from growing as much

CENFENG, 24

[CE Noticias Financieras English, Global carbon pricing has a promising future, November 27, 2023. (NexisUni database)] [NSB] [NWG]

The IMF has now developed a new argument, which will annoy center-right political strategists who are trying to win over voters with economic arguments. In its new report, the Fund estimates the effects on fiscal sustainability of climate policy packages that rely solely on spending and subsidies, and those that also make emitters pay through a carbon tax or price. The results are significant: the choice is between increasing the proportions of public debt to GDP by 10 to 15 percentage points (with carbon taxes) or around 50 (without them)! The problem is that if you delay a carbon tax, your long-term public debt situation will worsen.

#### Current debt level is OK for short term, but not sustainable

Shenzhen Daily, 24

[Shenzhen Daily, US debt snowballs to US$35 trillion, August 1, 2024. (NexisUni database)] [NSB] [NWG]

The colossal debt has drawn fresh warnings from within the U.S. “We are going to have to get serious about the debt, and soon. Election years cannot be an exception for trying to prevent completely foreseeable dangers — and the debt is one of the major dangers we are facing,” Maya MacGuineas, president of the nonpartisan Committee for a Responsible Federal Budget, said in a statement, as quoted by the Global Times. Chinese analysts said that although the U.S. could get away with the debt issue in the short and medium term with various arrangements such as constantly raising its debt ceiling, there are rising global concerns about the U.S. debt. Song Guoyou, deputy director of the Center for American Studies, Fudan University, compared the ballooning U.S. debt to a barrier lake that hangs above the heads of everyone. “We must stay alert to the possibility of a U.S. financial crisis, or even an economic crisis stemming from its rising debt,” Song said. Ma Wei, a research fellow at the Institute of American Studies under the Chinese Academy of Social Sciences, said that growing market worries over the debt have caused many U.S. debt holders to lose confidence, and many have begun to slash their holdings in recent years.

#### Stabilizing the debt-to-GDP ratio reduces the risk of collapse

Boccia & Lett, 24

[Romina Boccia and Dominik Lett, CATO Institute, Another CBO Report Warns of Debt Surging, As a Fiscal Crisis Brews, June 18, 2024. <https://www.cato.org/blog/another-cbo-report-warns-debt-surging-fiscal-crisis-brews> ] [NSB] [NWG]

Now is not the time to be sanguine about high debt and deficits. With interest rates unlikely to dip back to the lows seen in the 2010s as federal debt expands, government borrowing costs will rise. Legislators should be more wary of the risk of a debt doom loop, where a sudden loss of investor confidence can cause a feedback loop of surging bond yields, interest spending, and borrowing that leaves policy-making decisions between a rock and a hard place. The UK and Greece offer cautious tales about how economic conditions can suddenly turn sour in response to changing investor sentiments about a country’s fiscal stability.

US legislators should take measures today to stabilize the US debt-to-GDP ratio at no higher than 100 percent of GDP, putting downward pressure on interest rates by reducing spending and addressing unfunded entitlement program obligations.

#### The plan would raise almost $2 trillion in revenue over 10 years

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Our estimates show that a carbon tax levied on all energy-related carbon emissions at a rate of $50 per metric ton and an annual growth rate of 5 percent would generate $1.87 trillion in additional federal revenue over the next 10 years.

#### Debt can be reduced, but requires significant changes

Gale & Rogers, 24

[William G. Gale, Codirector, & Tayae Rogers, Research Intern, at the Tax Policy Center, a joint venture of the Brookings Institution and the Urban Institute, Back to the Future: Can the Government Reduce Its Debt Again?, August 8, 2024. <https://www.taxpolicycenter.org/taxvox/back-future-can-government-reduce-its-debt-again> ] [NSB] [NWG]

The United States faces a long-term fiscal problem: Spending threatens to outrun revenues by such a large margin that the ratio of public debt to the size of gross domestic product (GDP) could increase inexorably. High debt will erode future generations’ living standards, hinder policymaking, and threaten national security. The good news is that the U.S. has successfully reduced debt several times in the past. The bad news is that previous fixes were too small to solve the current problem. Fixing the debt problem now requires far more substantial and sustainable policy changes than ever attempted.

#### Carbon tax reduces deficit by $2 trillion

Gongloff, 24

[Mark Gongloff, Bloomberg Opinion editor and columnist covering climate change, Some Kind of Carbon Tax Is Coming to America, Like It or Not, Bloomberg, June 13, 2024. <https://www.bloomberg.com/opinion/articles/2024-06-13/climate-change-carbon-pricing-is-coming-to-america-like-it-or-not> ] [NSB] [NWG]

A carbon tax could also raise $2 trillion over a decade, Wolfram said, putting a huge dent in the federal budget deficit when everybody is starting to panic about it again. That estimate is consistent with other studies — though a new one from researchers at the University of British Columbia suggests a global carbon tax could raise $2 trillion per year, enough to cover a universal basic income for the entire planet.

#### Carbon tax can be used for deficit reduction

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

Deficit reduction: Carbon tax revenue can be used to reduce the amount of money the U.S. government borrows each year. In 2018, the federal government’s budget deficit was over $470 billion and is projected to be much larger in the years to come.

#### Carbon tax raises significant federal revenue

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

A carbon tax differs from other regulatory strategies by not only encouraging emissions reductions across the economy but also requiring the remaining emissions sources to pay the tax, thus creating significant federal revenues. The revenues raised by the tax are contingent on the tax rates, scope, and other design options, as well as the degree to which market actors decide to pay the carbon tax instead of changing their behavior.

#### Absent new revenue, US debt will continue to skyrocket

Gale & Rogers, 24

[William G. Gale, Codirector, & Tayae Rogers, Research Intern, at the Tax Policy Center, a joint venture of the Brookings Institution and the Urban Institute, Back to the Future: Can the Government Reduce Its Debt Again?, August 8, 2024. <https://www.taxpolicycenter.org/taxvox/back-future-can-government-reduce-its-debt-again> ] [NSB] [NWG]

Currently at 99 percent, the debt-to-GDP ratio is projected to rise persistently—without any changes to policy—to 166 percent in 2054. Maintaining the 99 percent ratio 30 years from now would require a combination of permanent tax increases and spending cuts equal to 2.65 percent of GDP (about $750 billion per year) if implemented in 2025, or larger if enacted begin later, according to recent work with by Gale and Alan Auerbach. If Congress makes permanent the temporary provisions in the 2017 Tax Cuts and Jobs Act, the figures above rise to 229 percent and 4.3 percent (about $1.2 trillion), respectively. The nation’s fiscal challenges are enormous.

#### Significant new taxes necessary to reduce debt trend

Gale & Rogers, 24

[William G. Gale, Codirector, & Tayae Rogers, Research Intern, at the Tax Policy Center, a joint venture of the Brookings Institution and the Urban Institute, Back to the Future: Can the Government Reduce Its Debt Again?, August 8, 2024. <https://www.taxpolicycenter.org/taxvox/back-future-can-government-reduce-its-debt-again> ] [NSB] [NWG]

Tax increases or spending cuts would need to be much, much larger

In 1993, Democratic President Bill Clinton and a Democratic Congress pushed through higher taxes and reduced spending growth. In combination with an economic boom and other policies, the changes helped reduce the debt-to-GDP ratio from 49.5 percent to 34.5 percent in seven years.

But the pure arithmetic of these changes suggests they were small—about 0.63 percent of GDP annually over the following four years, a small fraction of the fiscal gap going forward. Other factors substantially helped reduce the debt-to-GDP ratio in the 1990s. Significantly larger tax increases or spending cuts will be needed going forward.

Reducing debt only seems impossible

Today’s fiscal outlook is unlike those experienced in our history. Neither a weak economy nor a war created the problem. Instead, an aging population, rising healthcare costs, and limited revenue growth fuel our fiscal woes amid rising inequality and political partisanship. In the absence of legislative action, problems will worsen.

Policymakers can tap some elements of previous debt-reduction efforts like thoughtful tax hikes and judicious reductions in spending growth. But the effort needs to be different this time around. The already high debt-to-GDP ratio requires much larger tax and spending changes. Our divisive political environment demands a bipartisan debt-reduction effort. New revenue sources may be needed—such as a value-added tax—to help close the yawning gap between revenues and outlays.

Can we do it? As Winston Churchill allegedly said, “You can always count on the Americans to do the right thing… after they have exhausted all of the other options.”

### AT: Congress will spend

#### This evidence doesn’t say that Congress will spend future revenue, it just gives one example of the deficit increasing despite increased revenue. There is no evidence of a trend.

#### Even if Congress continues to overspend, there is less impact if we also increase revenue.

### AT: No Econ Collapse

#### Both Greece and the UK prove: without efforts to reduce debt, the risk of a sudden collapse grows

Boccia & Lett, 24

[Romina Boccia and Dominik Lett, CATO Institute, Another CBO Report Warns of Debt Surging, As a Fiscal Crisis Brews, June 18, 2024. <https://www.cato.org/blog/another-cbo-report-warns-debt-surging-fiscal-crisis-brews> ] [NSB] [NWG]

Additionally, as debt grows unabated, there is the risk of a sudden loss of confidence in bond markets, with investors demanding much higher interest rates that could trigger a debt doom loop and broader fiscal crisis. The 2009 Greek debt crisis and the UK’s 2022 bond market turmoil demonstrate how a relatively small catalyst can disrupt financial markets and lead to a rapid surge in interest rates that forces severe austerity measures, from sudden spending cuts to ill-conceived tax increases.

#### Must act now and err on side of caution. History proves these collapses can happen suddenly.

Boccia & Lett, 24

[Romina Boccia and Dominik Lett, CATO Institute, Another CBO Report Warns of Debt Surging, As a Fiscal Crisis Brews, June 18, 2024. <https://www.cato.org/blog/another-cbo-report-warns-debt-surging-fiscal-crisis-brews> ] [NSB] [NWG]

One key takeaway from these incidents is that a sudden bond crisis can propagate from a single catalyst in unanticipated ways. Fiscal crises can often be difficult to predict, even if they appear obvious in hindsight, and can cause unforeseen financial disruption. In the UK, for example, the bond yield surge exposed over-leveraged pension funds, threatening the UK’s retirement system. In Greece, the fiscal crisis and the following austerity resulted in social unrest and economic stagnation. The key takeaway lesson for the US should be to err on the side of caution by addressing the unsustainable growth in the US debt before bond markets force corrective action.

#### Empirically, US collapse leads to global collapse

Sharp, 23

[Christopher Sharp, Express Online, Global financial crash warning: World risks economic collapse as US nears debt limit, January 21, 2023. (NexisUni database) ] [NSB] [NWG]

The United States is the kingpin of the world economy, with economic damage there having worldwide ramifications. Famously, the 2008 financial crash began in the United States, but went worldwide very soon after.

## Air Pollution Advantage (Extensions)

### AT: Only US

#### Saving thousands of lives instead of millions is still an advantage.

#### Carbon Taxes also more directly save thousands of lives by reducing air pollution

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Reductions in conventional air pollutants

As carbon prices reduce fossil fuel use, especially coal and transportation fuels, they also reduce air pollutants like sulfur dioxide (SO2) and nitrogen oxide (NOx). Reducing these conventional pollutants results in economically significant health benefits -- benefits that accrue within the United States to current populations. EMF 32 models that include some of these pollutants6 report significant air quality benefits in the first decade; projected SO2 emissions from coal-fired power decline 52 to100 percent relative to reference. The health benefits from the average reduction in SO2 and NOx in 2025 from a $25 CO2 price are on the order of 3,500 to 8,000 avoided cases of premature mortality and 90,000 cases of exacerbated asthma using standard epidemiological estimates (Krewski et al., 2009; Lepeule et al., 2012) and EPA tools (Abt, 2017).

#### Our answers to free riders also answers this. US action is likely to improve global action.

### AT: EPA Solves now

#### Our evidence takes this into account. Despite current regulations, people are dying. Things would be EVEN WORSE without current air quality laws.

#### Also: The Supreme Court stuck those rules down

Savage, 24

[David G. Savage, Los Angeles Times, Justices side with Midwest states on EPA air quality rule; Court blocks Biden administration's effort to limit ozone from 'upwind' power plants and industrial sites, June 28, 2024. (NexisUni database)] [NSB] [NWG]

The Supreme Court on Thursday blocked an interstate air quality rule issued last year by the Biden administration to limit ozone that comes from power plants and industrial sites in the Midwest and sends polluted air drifting toward the East Coast.

### AT: EPA Exaggerates

#### This is from the NIPCC, we have indicted them, and they don’t have any credibility as a source.

#### We don’t just rely on the EPA—our numbers are from studies outside the US too.

#### More evidence: Fossil Fuel emissions kill more than 4 million people per year

The Mercury, 23

[The Mercury (South African Newspaper), Climate change poses dire health risks, November 27, 2023. (NexisUni database)] [NSB] [NWG]

Almost 99% of the world’s population breathes air that exceeds the WHO’s guidelines for air pollution. Outdoor air pollution driven by fossil fuel emissions kills more than 4 million people every year, according to the WHO. Lung damage is caused partly by PM2.5 microparticles, which are mostly from fossil fuels. While spikes in air pollution, such as extremes seen in India’s capital New Delhi recently, trigger respiratory problems and allergies, long-term exposure is believed to be even more harmful.

### AT: No Link to Fossil Fuels

#### Lueken is from the Heartland Institute. We have indicted them, and they don’t have any credibility as a source.

#### Link is empirically proven—reductions in FF use have already reduced air pollution deaths

Lawler & Cortes, 23

[Daniel Lawler and Isabelle Cortes, Yerepouni Daily News, Heat, disease, air pollution: How climate change impacts health, November 30, 2023. (NexisUni database)] [NSB] [NWG]

However, it is not all bad news.

The Lancet Countdown report found that deaths from air pollution due to fossil fuels have fallen 16 percent since 2005, mostly due to efforts to reduce the impact of coal burning.

### AT: Won’t kill anyone

#### This is from the NIPCC, we have indicted them, and they don’t have any credibility as a source.

#### Cross-Apply our Lawler & Cortes evidence—the link is empirically proven.

## Revenue Spending Options

### Evidence for Different Revenue Spending options

#### Carbon Tax with Lump-Sum Dividend has same economic impact, but helps poorer Americans

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Carbon Tax and Lump-Sum Dividend

The first proposal would enact a $50 per metric ton carbon tax and rebate the additional federal revenue to each household as a lump-sum payment or “dividend.” We estimate that a carbon tax of this size would be able to fund a dividend of $1,057 per individual (each tax filer) and a dividend equal to half that for each dependent.

We estimate that in the long run the carbon tax and dividend proposal would have roughly the same economic impact as a carbon tax in isolation. GDP would be 0.4 percent lower and hours worked would decline by 421,000 full time equivalent jobs. This is because the lump-sum dividend would not alter taxpayers’ incentives to work, save, or invest. As a result, taxpayers would simply face the increased marginal tax rate on work from the carbon tax.

In contrast to a carbon tax in isolation, a carbon tax and dividend would be progressive. After-tax income would increase for taxpayers in the bottom three quintiles. Those in the bottom quintile (0% to 20%) would see a 6.8 percent increase in after-tax income. Taxpayers in the top 20 percent would face a net tax increase as their expected carbon tax burden would be larger than the rebate. Taxpayers in the top 1 percent would see a 1.3 percent decline in after-tax income.

#### Carbon Tax and Payroll Tax Cut means net economic growth

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Carbon Tax and Payroll Tax Cut

This proposal would use the revenue from a $50 per metric ton carbon tax to reduce the employee-side of the Old Age, Survivors, and Disability Insurance (OASDI) payroll tax. We estimate that the net revenue from a carbon tax of this size could reduce the payroll tax by 2.24 percentage points from the current 6.2 percent to 3.96 percent.

We estimate that using carbon tax revenue to reduce the employee-side of the OASDI payroll tax by 2.24 percentage points would increase the long-run size of the economy. On net, this swap would reduce the marginal effective tax rate on labor income, resulting in an increase in hours worked equal to 102,000 full time equivalent jobs.

A carbon tax paired with a cut to the employee-side OASDI payroll tax would make the tax code slightly more progressive on net. We estimate that taxpayers in the bottom four quintiles (0-20%, 20%-40%, 40%-60%, and 60%-80%) would see a slight increase in after-tax incomes, between 0.2 percent and 0.4 percent. High-income taxpayers would face an additional burden on both their labor income and capital income. Under current law, the OADSI payroll tax only applies to the first $138,000 and completely exempts capital income. The carbon tax would apply to labor income above that cap and to super-normal returns to capital income. As a result, taxpayers in the top 5 percent and top 1 percent see reductions in after-tax income of 0.5 and 0.8 percent respectively.

#### Carbon Tax and a Corporate Tax Cut means net economic growth, but hurts most individuals

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Carbon Tax and a Corporate Tax Cut

This proposal would use carbon tax revenue to reduce corporate income taxes through both a reduction in the rate and acceleration of cost recovery, or the speed at which companies can write off their investments. We estimate that a $50 per metric ton carbon tax would raise enough revenue to reduce the corporate income tax rate to 11 percent, make 100 percent bonus depreciation permanent, and cancel the amortization of research and development costs scheduled to occur in 2021.

This swap would raise the effective marginal tax rate on labor earnings, but also reduce the cost of capital, leading to a larger capital stock. The larger capital stock would boost labor productivity and lead to 0.5 percent higher wages. However, the higher marginal effective tax rate on labor would slightly reduce hours worked, leading to 198,000 fewer full-time equivalent jobs. On net, we estimate that this swap would boost output (GDP) by 0.8 percent.

While this swap would provide the largest boost to output, it would make the tax code less progressive overall. The carbon tax would place an additional burden on taxpayers of all income levels. At the same time, the corporate tax cut would primarily boost after-tax income for taxpayers in the top 10 percent of income earners. On net, the bottom 95 percent of taxpayers would see reductions in after-tax income between 0.4 percent and 1 percent, and taxpayers in the top 1 percent would see a 3 percent increase in after-tax income.

### General Revenue evidence

#### Emissions reduction does not depend on what you spend the tax on (though some programs could help even more)

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Figure 1 shows only the scenarios in which the carbon tax revenue is returned to households in equal rebates. Importantly, for a given carbon price path, the different uses of revenue have little, if any, impact on emissions. This is good news, as it gives policymakers freedom to address other policy priorities (such impacts on low-income households, the federal deficit, infrastructure, or tax reform) without sacrificing environmental benefits. An approach that uses the revenue to fund additional GHG reduction measures, for example in GHGs outside the taxed sources, could produce greater overall emissions reductions than shown in Figure 1.

#### Empirically, others have used revenue in different ways

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

The economic effects of a carbon tax vary significantly depending on how the generated tax revenues are used. For instance, using carbon tax revenues to reduce a more distorting type of tax can have a positive impact on the economy. Estimates show that in 2013, 44 percent of carbon tax revenues raised in countries around the world were used to lower other taxes, 28 percent went into general government funds, and 15 percent were used for environmental spending.

#### Revenue recycling can completely offset higher energy costs

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Higher carbon prices lead to higher fossil fuel and electricity prices, in an amount that depends on the carbon intensity of the fuels, and this leads to changes in the sources of energy. These cost increases for consumers can be offset (completely for some income groups) with recycling of the revenue as discussed above, and/or by adopting complementary policies to increase deployment of energy efficiency measures and provide transportation and heating alternatives.

### Revenue Recycling Evidence

#### Revenue recycling turns negative effects positive

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

Economic studies of carbon prices may be most useful in highlighting the trade-offs among policy design choices. How the carbon tax revenue is used is a differentiating factor in macroeconomic outcomes. Economic studies show that national economic outcomes are best when carbon tax revenues are used in ways that correct pre-existing inefficiencies in the U.S. economy. For example, using revenue to reduce payroll taxes or income taxes would not only return the revenues to taxpayers but also provide financial incentives for increased work. The Whitehouse, Rooney and Lipinski Bills use the majority of carbon tax revenue to reduce payroll taxes. In contrast, the carbon dividends approach of the Deutch Bill and Baker proposal returns the carbon tax payments to eligible recipients without correcting any existing distortions in the economy.

Figure 6 shows the effects of a carbon tax on U.S. gross domestic product (GDP) of three illustrative carbon tax scenarios compared to a current policy scenario. GDP impacts are less than 0.5 percent per year and they could be positive or negative, depending on the revenue use.

### Rebates Evidence

#### Turn. Carbon tax with rebates actually helps low income households

Barron et al, 2019

[Alexander Barron, Smith College, Marc Hafstead, Resources For The Future, Adele Morris, The Brookings Institution, Policy Insights From Comparing Carbon Pricing Modeling Scenarios, May 7, 2019. <https://www.brookings.edu/wp-content/uploads/2019/05/ES_20190507_Morris_CarbonPricing.pdf> ] [NSB] [NWG]

Several models in EMF 32 investigated this issue. Consistent with earlier studies, they find that the use of revenue from a carbon price has important effects on the net impacts of the policy across households. While tax cuts are generally more pro-growth, the benefits of the tax cuts accrue more to higher income households, who pay more in taxes. Household rebates are the most progressive approach; on average, rebates benefit lower income households by more than they incur in carbon tax costs. Models reported a wide range of welfare impacts from the labor tax cuts, suggesting significant differences in how they represent labor markets. Some modelers showed how a blend of rebates and tax cuts can balance efficiency and equity goals (Caron et al., 2018; Goulder et al., 2018).

#### Carbon tax alone hurts rural communities more; rebates solve

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

Nationwide results mask subnational variation, primarily caused by regional differences in energy production and consumption. Rural communities will likely face larger energy cost increases as a share of income than urban residents because low population density typically is associated with higher per capita energy demand for transport, heating, and cooling.

While the western and northeastern regions of the country would fare relatively well under a carbon tax, the economic effects would be worse in the more carbon- and energy-intensive southern and middle parts of the country, where, according to one recent study, the carbon tax causes gross regional product to fall by as much as 0.6 percent compared to the baseline scenario in 2030. Carbon tax revenues can be used to mitigate such regional disparities.

#### Rebates solve impacts on low-income households

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

One approach, contemplated by the Deutch Bill and Baker Proposal, is to use most or all of the revenue for equal per capita household rebates/dividends. Figure 5 below shows that in contrast to other revenue uses, when all revenues are used for equal rebates, the policy is progressive, with lower-income households receiving far more in rebates than they pay in additional taxes. The tax burden for low-income households (bottom 20 percent) decreases by 4–5 percent of pre-tax income in a $50/ton carbon tax scenario.

### Solvency Evidence if it is not in your plan

#### Solvency: Congress will provide relief—all existing proposals do

Kaufman, 2019

[Noah Kaufman, Senior Research Scholar at the Center on Global Energy Policy at Columbia University, What You Need to Know About a Federal Carbon Tax in the United States, April 02, 2019. <https://www.energypolicy.columbia.edu/publications/what-you-need-to-know-about-a-federal-carbon-tax-in-the-united-states> ] [NSB] [NWG]

Another approach is to use at least some of the carbon tax revenue in ways that specifically benefit low- and middle-income households. All of the proposed bills in Congress that do not use all revenues for equal dividends direct a portion of the revenues to low-income households, although the details differ across proposals. For example, under the MARKET CHOICE Act, a 2018 carbon tax bill proposed by Congressman Carlos Curbelo, 10 percent of the net government revenue is used for dividends to households in the bottom 20 percent of the income distribution, which would be sufficient to fully offset the price increases for the vast majority of these low-income households.

#### Current proposals for carbon tax revenue

Peace & Ye, 20

[Janet Peace & Jason Ye, Center for Climate and Energy Solutions, Market Mechanisms: Options for Climate Policy, April 2020. <https://www.c2es.org/wp-content/uploads/2020/04/market-mechanisms-options-climate-policy.pdf> ] [NSB] [NWG]

A carbon tax has the potential to raise significant revenues for the government. Ultimately, how the revenue is used will be a political decision. Recent U.S. congressional carbon pricing proposals would use the revenue to fund clean technology, reduce payroll taxes (i.e., tax and invest), or use at least some portion of the revenue as a dividend (e.g., tax and dividend).

## FYI Section

### General

#### FYI—What is carbon pricing?

Patnaik & Kennedy, 21

[Sanjay Patnaik, Director - Center on Regulation and Markets, and Kelly Kennedy, Former Senior Research Assistant - Center on Regulation and Markets, at Brookings Institute, Why the US should establish a carbon price either through reconciliation or other legislation, October 7, 2021. <https://www.brookings.edu/articles/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/> ] [NSB] [NWG]

What is carbon pricing?

Carbon pricing is exactly what the name implies: imposing a price on carbon emissions to mitigate the negative externalities created by greenhouse gas emissions. There are two common structures for carbon pricing schemes.

The first—and administratively simpler—approach is imposing a carbon tax. Under this approach, governments levy a fixed fee that firms must pay on every ton of carbon they emit. The level of emissions may fluctuate, but officials set the level of the tax according to the projected amount of carbon emissions at that price.

The second approach is implementing an emissions trading scheme (ETS, also known as a “cap-and-trade” system) for carbon emissions. This system caps carbon emissions at a specified level for a group of companies or industrial plants and then issues emissions allowances according to this level. Firms must obtain an allowance—either directly from the government or through trading with one another—for every ton of carbon they wish to emit. Under an ETS, the price on carbon fluctuates according to market demand for emissions, but the total amount of emissions is known.

While there are substantial differences between the two systems, the core benefit of carbon pricing remains the same: carbon pricing forces firms to internalize the cost of carbon emitted during production, such that they have to incorporate the cost of environmental damage in their production decisions.

The effectiveness of carbon pricing in reducing emissions depends in large part on their design. There are many considerations that policymakers have to take into account when designing a carbon pricing system. How much should emitting a ton of carbon cost, and how should this amount change over time? Who should be responsible for paying the carbon price—fossil fuel producers, consumers, or someone in between? Will the carbon pricing scheme be a source of revenue, and how should this revenue be used? The idiosyncrasies of the design influence popular support for the pricing system, the net cost of emitting carbon, and the environmental justice implications of the system, all of which can shape the system’s effectiveness in reducing carbon emissions.

#### Collecting from producers makes the most sense

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

There are different points in the supply chain at which a carbon tax can be levied. Various aspects, such as the scope of the tax base and administrative efficiency, determine the optimal point of taxation. Generally, carbon taxes can be levied at the point of fuel production (upstream), at the point of fuel consumption (downstream), or at different points in between (midstream).

Ideally, a carbon tax is levied at a point where the greatest share of emissions is included in the tax base and a minimum number of entities is subject to the tax. A broad tax base minimizes the economic costs by including potentially less costly abatement opportunities, while levying the tax on a small number of tax filers minimizes the administrative burden.

A paper by Metcalf and Weisbach (2009) suggests levying the carbon tax on fossil fuels when they enter the economy. In other words, when coal is extracted, oil is refined, and natural gas is processed. According to their estimates, collecting the tax upstream for coal and slightly downstream for oil and natural gas could cover approximately 80 percent of all U.S. emissions and collect the tax at fewer than 3000 points.

#### Carbon tax is easy to administer

Pomerleau & Asen, 2019

[Kyle Pomerleau, Resident Fellow, American Enterprise Institute, Elke Asen, Policy Analyst at Center for Global Tax Policy, Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications, November 6, 2019. <https://taxfoundation.org/research/all/federal/carbon-tax/> ] [NSB] [NWG]

Combusting one unit of a certain type of fossil fuel always emits the same amount of carbon, establishing a correspondence between fossil fuels and carbon emissions. As a result, a carbon tax does not have to be levied when carbon is emitted but can instead be imposed on the carbon content of fossil fuels. It is thus not necessary to measure the amount of carbon each individual and business emits, simplifying the administration of a carbon tax drastically.

### FYI: WTO/CBAM Information

#### WTO DSM description

Hopewell, 21

[Dr Kristen Hopewell, Associate Professor, and Canada Research Chair in Global Policy, University of British Columbia, interviewed by Ben Horton of Chatham House, Lessons from Trump’s assault on the World Trade Organization, Chatham House, August 10, 2021. <https://www.chathamhouse.org/2021/08/lessons-trumps-assault-world-trade-organization> ] [NSB] [NWG]

What is the WTO appellate body?

The appellate body basically functions as the supreme court for global trade. It hears appeals regarding decisions by WTO dispute settlement panels. Its rulings are binding on member states. Around two-thirds of all WTO disputes are appealed and reach the appellate body. There are seven seats on the appellate body and the system requires a minimum of three judges to form a panel to adjudicate a given dispute. Since December 2020, all seven seats on the appellate body have been vacant.

#### CBAM description

Smith, 23

[Tori K. Smith, Former Director of International Economic Policy at the American Action Forum, U.S. Carbon Border Adjustment Proposals and World Trade Organization Compliance, Insight, February 8, 2023. <https://www.americanactionforum.org/insight/u-s-carbon-border-adjustment-proposals-and-world-trade-organization-compliance/> ] [NSB] [NWG]

Increasingly, policymakers have sought to use trade policy to decrease carbon emissions, especially in developing countries with fewer environmental regulations than developed countries. A carbon border adjustment mechanism is one of the most prevalent examples of those efforts. A CBAM taxes carbon-intensive goods produced domestically or abroad based on an established carbon price, which is determined by the government. The border adjustment aspect of this is that the tax is based on domestic consumption of the carbon-intensive good, so products that are exported are given a rebate of the tax. A CBAM includes the rebate for exports to disincentivize moving carbon-intensive production overseas, known as carbon leakage.

Proponents of a CBAM claim that assigning a cost to carbon emissions would ensure that both domestically produced goods and imports are subject to that cost, and that this would prevent carbon leakage. The ultimate goal of a CBAM is to decrease carbon emissions by creating a cost to those emissions and hopefully incentivizing innovation to create cleaner ways to produce the goods.

#### EU CBAM description and dates

Smith, 23

[Tori K. Smith, Former Director of International Economic Policy at the American Action Forum, U.S. Carbon Border Adjustment Proposals and World Trade Organization Compliance, Insight, February 8, 2023. <https://www.americanactionforum.org/insight/u-s-carbon-border-adjustment-proposals-and-world-trade-organization-compliance/> ] [NSB] [NWG]

The EU will implement the first CBAM in October 2023, when importers of iron and steel, aluminum, cement, fertilizer, electricity, and hydrogen will be required to report their carbon emissions to the EU. Starting in 2026, importers will need to purchase CBAM certificates, the price of which will be determined by the Emissions Trading System (ETS). The EU’s approach is not a traditional border adjustment, however, because it does not include rebates for exporters.[4]