Harvard Model Congress
Boston 2024

THE SOCIAL COST OF CARBON

By Frances Connors

INTRODUCTION

Pakistanis on a makeshift raft amidst climate-crisis induced flooding

Getty Images

"The pace of global warming is accelerating, and the scale of the impact is devastating. The time for action is limited — we are approaching a tipping point beyond which the opportunity to reverse the damage of CO_2 emissions will disappear," former Governor of New York Eliot Spitzer reported in 2012 (Spitzer, 2012). About a decade later, and the world has already experienced many of the devastating impacts that Governor Spitzer was afraid of as temperatures continue to rise a nd we edge closer to the point of irreversible damage to the environment. An increase in carbon emissions has caused wildfires that have ravaged California, floods that have submerged Pakistan, a ty phoon that has critically harmed Guam, and many other extreme weather events.

On a foundational level, carbon emissions are so problematic because they increase the temperature of the atmosphere, leading to issues like the ones mentioned above and more. A report from the Intergovernmental Panel on Climate Change concludes that human activity is responsible for a 1.1° C increase in temperatures since pre-industrial levels (between 1850-1900), and that the most deadly impacts will arise when the earth hits 1.5° C and 2° C of warming (IPCC, 2021).

It is critical that the US and other nations reduce their carbon emissions to avoid the deadliest impacts of the climate crisis and ensure a sustainable future. One of the most important elements of emission reduction is calculating the **Social Cost of Carbon (SCC)**, which puts a dollar value on the amount of harm that one ton of carbon causes. It's a critical tool in the policy making process, but its value has changed a lot over the years as have its methods of calculation. As congresspeople, it is up to you all to decide how society values carbon emissions and what steps we can take to reduce them to sustainably develop our economy.

Social Cost of Carbon *– the dollar value on the amount of harm that one ton of carbon causes.*

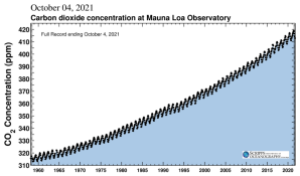
EXPLANATION OF THE ISSUE

Historical Development

The Industrial Revolution *– a period of rapid economic and technological development between 1760 and 1840.*

Increasing carbon emissions and climate change trace their roots back to the Industrial Revolution. **The Industrial Revolution** was a period of rapid economic development between 1760 and 1840 when Europe and the United States began to use more machines to produce goods. Since so many more factories came into place, people were burning more fossil fuels like coal and oil, which led to a marked increase in greenhouse gas concentrations in the atmosphere (Adapt New South Wales). The Industrial Revolution marks the start of over a century and a half of increasing carbon emissions. Because of this, the time before the Industrial Revolution is considered the baseline for "normal" levels of carbon emissions; thus , when scientists and government officials talk about emissions or temperatures, they will compare them to preindustrial levels.

Right after the Industrial Revolution, scientists began to wonder what effect the mass burning of fossil fuels would have on the planet. In 1896, a Swedish scientist, Svante Arrhenius, first contended that adding carbon dioxide to the atmosphere via the burning of fossil fuels would trap heat and warm the planet, a phenomenon called the greenhouse effect (Arrhenius 1896). Despite being correct, this hypothesis was not well-read or discussed, and it was not until the mid-twentieth century that people truly started to understand the consequences of increased carbon emissions. In 1938, an amateur scientist, Guy Callendar, began to record earth temperatures and concluded that the carbon emissions from industrialization had caused surface temperature rise, affirming what Arrhenius had hypothesized decades earlier. Dr. Charles Keeling made one of the most important scientific discoveries of the century when he began to measure the carbon content of the atmosphere—something never done before—from an observation station on the top of the Mauna Loa volcano in Hawaii. His work and analysis proved that burning fossil fuels increases CO2 concentrations (Keeling 1960).



The rise of carbon concentration in the atmosphere since 1960.
Scripps Oceanography

As the scientific community came to a consensus on the harms of carbon emissions, it came time to address these concerns through policy. In 1981, President Ronald Reagan required that all federal agencies quantify the costs and benefits of any major regulations they wished to enact. However, the social cost of carbon specifically did not come into play until 2007 after a Supreme Court ruling made the US government regulate carbon dioxide as it would an air pollutant. Suddenly, government entities had to use SCC in their cost benefit analysis. However, w ith the multitude of impacts that carbon can

have down the line, quantifying SCC has proved difficult (Kaufman, 2017).

Scope of the Problem

Carbon dioxide equivalent *– the amount of CO2 with an equal global warming potential as another greenhouse gas.*

In 2021, the US emitted 6,340.2 million metric tons of **carbon dioxide equivalents**, which was a 6% increase from 2020. This increase stemmed from the economy returning to pre-pandemic activity, so it does not reflect the general trend of the annual decreases in carbon emissions since their peak in 2007 (EPA, 2023). While good public policy has been the driving factor behind the United States' decrease in carbon emissions, there is still a long way to go to achieve President Biden's goal of net-zero emissions by 2050.

There are three main sectors that contribute most to carbon emissions: transportation, energy, and industry (Center for Climate and Energy Solutions, 2022). This briefing will explain how each of these three areas impact carbon emissions, and how regulation can lessen this impact. Read closely to find inspiration for future bills you will write to address this issue.

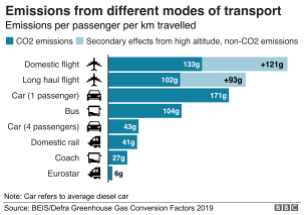
A key part of creating policy to reduce carbon emissions is properly quantifying their costs, so we will also delve deeper into how different domestic and international entities calculate the SCC and highlight some of the problems with these valuations. One way that policymakers have implemented the SCC is through carbon pricing mechanisms where they attempt to impose the economic costs of carbon onto businesses and consumers. The two most prominent versions of these policies are carbon taxes and cap and trade.

Finally, as you come up with new policies to reduce carbon emissions, it is of the utmost importance to consider how your choices will impact everyday Americans, especially those from historically marginalized communities.

Transportation

Car-centric *– prioritizing private automobiles over other forms of transportation like walking, biking, or public transit.*

In 2020, transportation accounted for 27% of carbon emissions in the US (Center for Climate and Energy Solutions 2022). The US is a largely car-dependent country save for some urban areas; millions of Americans rely on cars to drive them to work, buy groceries, see friends and family, and more. In 2022, Americans drove 3.26 trillion miles annually, almost triple the 1.13 trillion miles they drove in 1971 (Federal Highway Administration, 2022). Because of suburban sprawl and the **car-centric** nature of US towns, it is challenging to decrease Americans' reliance on their personal vehicles in the short-term. Hence, it is crucial to turn attention to the sustainability of cars in the US. Unfortunately, the vast majority of cars driven are gas- powered and emit greenhouse gases when they are driven. Right now, less than 1% of cars on the road are electric;



Flights have the highest greenhouse gas emissions out of any mode of transportation
BEIS/Defra Greenhouse Gas Conversion Factors 2019 via BBC

however, there has been significant growth in electric car sales in the past few years, and industry analysis predicts that 45% of car sales could be electric by 2035 (Cage, 2022). Thus, some would argue that i ncreasing electric car sales is critical to reducing carbon emissions . Critically, two main barriers to people buying electric cars are price and convenience. It is up to you to figure out how to make electric cars more affordable and make it easier to charge them anywhere in the nation via incentives and regulations.

Cars are not the only transportation contributors to carbon emissions; commercial flights and private jets also emit a lot of greenhouse gases. In addition to CO2, when planes burn jet fuel, they also emit nitrogen oxides, soot, water vapor, and sulfate aerosols, which interact with the atmosphere in a multitude of ways that harm the planet. Scientists have found that a one-hour flight emits 100 times more carbon than a one-hour bus or train ride, and globally, flights emit around 1 billion tons of carbon per year, more than most countries (Creutzig et al., 2015). A group of researchers from Oxford University have quantified this impact, finding that 4% of human-induced global warming is a result of global aviation (Klöwer et al. 2021). To lessen the harms of aviation, jet fuel and flights need to become more sustainable and there may need to be better alternatives to flying to reach far destinations.

4% of human-induced global warming is a result of global aviation

Energy

The second leading cause of carbon emissions in the US is energy. Energy greatly contributes to CO2 emissions for two reasons: the US uses a lot of it, and our grid relies primarily on fossil fuels. In 2021, the average US household used 10,632 kilowatt-hours of electricity (U.S. Energy Information Administration). To put this into perspective, that much energy could power a plasma TV for 9,949 hours, which is the equivalent of watching TV for 6 hours per day for 4 years. Obviously, Americans use electricity for far more than watching TV, but the point is that t hey consume a lot of energy. A promising way to reduce energy use is to make American appliances more energy efficient through regulation. Another way is to invest into **advanced metering** or smart metering, which gives consumers insight into how much electricity they use and when they use this electricity. This information makes it easier for consumers to reduce their electricity use, lowering their energy bills and reducing carbon emissions.

***Advanced metering** – telling consumers how and when they use energy, to reduce their consumption.*

The second energy problem is our reliance on dirty fuel sources. Natural gas and petroleum comprise 32% and 36% of US energy consumption, respectively (blue and red on the chart at left), while renewable energy sources make up just 12% of energy consumption (Energy Information Administration, 2021). Natural gas emits less greenhouse gases than petroleum or coal (11% of energy, grey), but still more than renewable energy sources or nuclear (8% of energy,

Grid scale energy storage devices *– devices that store energy produced by carbon free energy sources to be used when it is needed.*

Microgrids *– small groups of energy sources that support a local footprint like a college campus or hospital complex.*

orange) which emit negligible or no carbon emissions. The current goal of the Biden administration is to have a 100% carbon-free power sector by 2035; in other words, they want all power sources to be clean energy sources that do not emit carbon (Department of Energy). This will require a modernization of the current grid and improved technologies to support the increase in clean energy. One important technology is **grid scale energy storage devices**, which allow the grid to provide stored energy during peak hours of the day. These devices can store energy produced by carbon-free energy sources to be used when it is needed most. This technology requires more investment to make them feasible on a broad scale (Department of Energy). Another technology with potential is **microgrids**, smaller groups of energy sources that support a local footprint, such as a college campus or hospital complex. These grids are self-sufficient, often relying on renewable energy sources like solar or wind power. If the main grid experiences issues, microgrids are unaffected and can still operate, strengthening the overall grid system (Department of Energy). Investment into these and other technologies will be critical to expediting the transition to carbon-free energy in the US.

Industry

In 2021, 23% of US emissions came from industry, or the production of materials and goods that requires the burning of fossil fuels (Center for Climate and Energy Solutions, 2022). The US economy and population will continue to grow and will necessitate more materials and goods, so the US must develop technologies and strategies to sustainably manufacture, use, and dispose of these commodities. Some ways to improve the sustainability of production in the US are to increase material efficiency, implement low-carbon production processes like carbon capture and storage, and use more renewable fuel sources (International Energy Agency).

Industry is a leading cause of carbon emissions
International Energy Agency

Social Cost of Carbon

As discussed earlier, the social cost of carbon or SCC is a dollar amount that quantifies the amount of damage that emitting one ton of carbon produces. It is an incredibly important number in environmental policy as it can be a deciding factor for whether a law passes or fails. For example, before passing a bill to invest more money into renewable energy, the government must calculate the cost and benefits of their legislation, typically in dollar amounts. Scientists can confidently calculate how much the bill would reduce carbon emissions, but the benefits will vary greatly depending on the social cost of carbon. If the SCC is high, then the bill has higher monetary benefits of preventing carbon emissions, which makes it more likely to be greater than the costs of investing

into renewable energy, so the bill has a higher chance of passing . However, if the SCC is low, then there is less benefit to reducing emissions, so the benefits might not outweigh the costs and thus the bill might fail.

Historically, the social cost of carbon has fluctuated significantly across different presidential administrations. The Obama Administration calculated it to be $43 per ton by accounting for the impacts of carbon emissions around the world, while the Trump Administration put the number between $3 and $5 a ton because they only looked at US impacts. Currently, the Biden Administration estimates the SCC to be $51 a ton, but in November 2022, the EPA proposed a nearly four-fold increase to $191 a ton. The EPA's proposal has yet to be passed (Wessel, 2023).

The EPA values one American life equal to 9 Indian lives, 5 Ukrainian lives, or 55 Somalian lives

These differences in the social cost of carbon highlight a fundamental issue with the number: it is nearly impossible to calculate accurately. Scientists and economists use models to figure out how an extra ton of carbon dioxide will impact a range of indicators such as health outcomes, agricultural production, and property values, but estimates may vary for two main reasons. The first is that models predict that carbon will impact the given indicators in different ways to varying degrees, since it is difficult to know how exactly things will be impacted in the future (Wessel, 2023). Secondly, the models quantify social outcomes that do not have exact values. For instance, the value of human life is central in the current controversy over how the EPA calculated their SCC of $191 a ton. Instead of having one universal number for the price of a human life, the number varies based on how much the citizens of a country are willing to pay to reduce their risk of dying from health conditions caused by climate change. Unfortunately, this means lives from richer countries have a higher value than those from lower-income countries . For example, one climate-related death in the US is worth 9 deaths in India, 5 deaths in Ukraine, and 55 deaths in Somalia (Hersher, 2023). This approach is immoral and illogical. American carbon dioxide affects people all around the world, and often the effects are felt more acutely in low-income countries like India, where the Indian Meteorological Department estimates 2,200 people died from climate-driven disasters in 2022 alone. To value these lives less than those in the US lowers the social cost of carbon, making it harder for the US to pass climate legislation (Hersher, 2023). On a moral level, Daniel Hemel, a law professor who studies how policymakers assign value to lives saved for the purpose of regulations, cautions that the difference in life values sends "a problematic message to Americans when we use a method for assigning values to lives outside the United States that ends up valuing light-skinned people from the Global North more than dark skinned people from the Global South" (DIRECT QUOTE BUT WHERE IS THE CITATION?). As lawmakers, you have the power to

A wildfire in Morocco worsened by the climate crisis- the effects of US carbon emissions are felt worldwide, so our social cost of carbon should reflect that.

Jalal Morchidi

change the narrative of how human lives are valued and what the social cost of carbon is.

The Climate Gap

Climate gap *– poor Americans and people of color experience more of the negative health consequences of climate change.*

Inequality does not only exist between countries when it comes to climate change. It also exists here at home in the US, as evidenced by the climate gap. All Americans will be harmed by the negative health consequences of climate change, but the **climate gap** explains why low-income individuals and people of color will be hit the worst by these impacts. One example is the stark difference in deaths by heatwaves, a weather event that is only growing more common with global warming. A study that looked at nine different California counties found that low-income neighborhoods and neighborhoods with a higher percentage of people of color had more risk factors for heatwaves (Basu 2008). These neighborhoods are more often concentrated in the inner city where they experience the **heat-island effect.** The heat-island effect is a result of the combination of a lack of trees and greenery and too many dark materials used to construct roads and buildings, which traps heat in a neighborhood, raising surface temperatures (Oke, 1973). Adding onto the problem is that many low-income families cannot afford air conditioning or personal cars, which are critical coping mechanisms for heatwaves. Because of these and many other factors, one study found that African Americans in Los Angeles had a projected heat wave mortality rate almost twice that of the Los Angeles average (Cordova et al., 2006). As a result, r educing carbon emissions is not only an environmental issue, but it is also a social one .

Heat island effect *– increased surface temperatures because of poor tree coverage and overuse of dark building materials in urban centers.*

Another important consideration when it comes to drafting legislation to reduce carbon emissions is ensuring that the policy is not regressive, or disproportionately costly to low-income Americans. Switching to renewable energy may increase energy prices across the board, but this would be particularly hard-hitting for low-income Americans who already spend the highest proportion of their income on necessities like food, water, and electricity (Bureau of Labor Statistics, 2002). Programs that subsidize energy costs for low-income Americans during a clean energy transition might help mitigate these effects.

Congressional Action

Inflation Reduction Act *– the largest single action the US has ever taken to address climate change.*

In August 2022, President Biden signed the **Inflation Reduction Act** into law, the largest single action the US has ever taken to address climate change. The law will reduce US energy costs and expedite the transition to a clean energy economy through a variety of programs. This law explains the funding related to the Infrastructure Investment and Jobs Act (IIJA) that increases

electric vehicle (EV) charging, power infrastructure, and climate resilience (Barbanell, 2022).

It also includes many tax credits and incentives to switch to clean energy. It has "technology-neutral" clean electricity tax credits that drive the expansion of all types of clean electricity sources, like wind, solar, hydroelectric, and nuclear energy without favoring any source over another. It also introduces 10-year runways for energy tax incentives in the US, which maintain the value of a tax credit for 10 years to give investors, manufacturers, and developers confidence that they will have continued support to pursue projects that can take years to plan. The IRA expands production tax credits for solar panels, wind turbines, batteries, and the processing of critical minerals, to support US manufacturing. In addition to industry, the IRA offers everyday Americans incentives to decarbonize their homes by installing solar panels or switching furnaces and/or water heaters to heat pumps (Barbanell, 2022). Overall, the IRA has taken large steps to transition the US away from carbon intensive energy sources . Nonetheless, lots of work remains to be done.

Many states have taken action beyond what the federal government has done to address climate change and reduce carbon emissions. For instance, some states have implemented **cap-and-trade programs**. These programs limit the total amount of carbon that is allowed to be emitted and give out emission allowances to companies and power producers. Corporations can buy and sell these allowances if they want to emit more or less carbon, so it allows the market to decide where emissions originate. The first mandatory cap-and-trade program in the US was created by the Regional Greenhouse Gas Initiative (RGGI) featuring 11 member states: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey (withdrew in 2012, rejoined in 2020), New York, Rhode Island, Vermont, and Virginia (Center for Climate and Energy Solutions). The plan requires any power plants that generate over 25 megawatts to obtain allowances for any carbon they emit.

Cap-and-trade program *– a program that limits the total amount of carbon emissions that are allowed to be emitted and gives out emission allowances to companies and power producers..*

IDEOLOGICAL VIEWPOINTS

Conservative View

Compared to liberals, conservatives are more split on the cause of climate change and the role the government should play to stop it. A 2019 Pew Research Center survey found that younger conservatives are more likely than older ones to think that the government is not doing enough in regard to the climate. 78% of Gen Z and Millennial conservatives think the US should prioritize transitioning to clean energy sources, while only 53% of Baby

Zero Republicans voted for the Inflation Reduction Act.

Boomer conservatives have the same sentiments (Pew Research Center, 2019).

Although there are some differences within the party, for the most part, conservatives oppose many of the climate change policies that liberals propose because they believe they are too costly and harmful to the economy. For instance, no Republicans voted for the Inflation Reduction Act in either the House or the Senate (Mufson, 2022). Thus, conservatives would generally be in favor of policies that balance climate mitigation with reasonable economic impact.

Liberal View

In the same Pew Research Center study, it was found that 90% of liberals believe the government needs to increase its efforts to fight climate change, illustrating a strong consensus on this topic amongst this group. All Democrats in Congress voted for the Inflation Reduction Act, and many have been advocating for climate legislation for years (Mufson, 2022).

While this issue is clearly contentious, when it comes time for this committee to pass carbon emission legislation, delegates must remember to consider everyone's perspectives to craft bipartisan laws that meet the wants and needs of your constituents.

AREAS OF DEBATE

As you read earlier in this briefing, the issues with carbon emissions have a very wide scope, which means there are many ways to address these problems. Some might require the implementation of new systems, while others will build on existing institutions. Because this is such a large problem, it will take a multifaceted approach to solve it. The ideas below are not exhaustive, so we encourage you to explore other possible solutions before the conference.

Cap-and-Trade Program

Like the RGGI, the US could adopt a nationwide cap-and-trade program to reduce carbon emissions from energy and industry. The US would either hand out or auction off carbon credits or emission allowances. Companies could then trade these credits so firms that don't pollute as much could sell their credits to firms that would generate more pollution.

Those in favor of this system argue that it allows the government to decide how much carbon dioxide the US emits, while also allowing the markets the ability to decide freely and efficiently who gets to emit. If it is costly for a firm to emit carbon, then they will find

their own ways to reduce emissions as opposed to the government telling firms how to reduce emissions (Environmental Defense Fund). Historically, a cap-and-trade system was used in the 1990s to reduce the sulfur-dioxide emissions that caused acid rain, and it was largely successful (Conniff, 2023).

The biggest argument against the cap-and-trade system is that it will raise the prices of oil, coal, and natural gas without necessarily raising revenue for the government to subsidize energy for low-income constituents. These higher energy prices could make it a regressive policy since low-income individuals spend a greater percentage of their income on energy (Environmental Defense Fund). Another issue with a cap-and-trade system is that it is complicated and difficult to implement, especially on such a large scale. There are thousands of companies in the US that would need to be issued allowances and monitored to ensure their compliance, and it would take a long time to set up this system. (Carbon Tax Center).

Political Perspectives on this Solution

Conservatives generally favor cap-and-trade because it makes use of the free markets and allows firms to decide how and if they want to reduce their carbon emissions. When cap-and-trade is effective, liberals like that it reduces emissions; however, they are often skeptical that it is just a scheme for polluters to buy their way out of cleaning up their economic behavior (Conniff, 2023).

Carbon Dividend/Tax

Carbon tax *– a tax on every ton of carbon that a firm emits.*

A carbon dividend is like cap-and-trade in that it imposes a cost on polluting. The difference is that a carbon dividend or a **carbon tax** requires firms to pay a tax on every ton of carbon that they emit. Like cap-and-trade, this raises the price of energy, which makes a carbon tax regressive. However, the tax generates revenue for the government, which can be used to create energy subsidies or even reduce taxes in other areas. Many proponents therefore have switched to the name carbon dividend because it is more politically appealing and highlights the potentially redistributive nature of this solution.

A carbon dividend also uses economic incentives to reduce emissions by making it more expensive for firms to pollute, forcing them to internalize the costs of their environmental harm and act accordingly. For this reason, many economists favor carbon dividends as relatively straightforward solutions to reducing emissions. They are also generally more stable than cap-and-trade, leading to more energy price stability because the tax is constant and predictable. Furthermore, they incentivize individuals to reduce their carbon footprint because energy is more expensive (Carbon Tax Center).

Carbon taxes are often politically unpopular because people perceive them to be regressive, especially when they have "tax" in their name. People believe that energy prices are already too high, so raising them any higher is perceived as unfair (Povitkina et al.) This problem can be avoided if the revenue is used to subsidize energy or is somehow returned to households. Another concern is that taxes on domestic companies could encourage firms to move their production overseas, putting American jobs at risk (Povitkina et al.).

Political Perspectives on this Solution

Like with cap-and-trade, conservatives like that a carbon tax uses the free markets and allows firms to decide how they want to reduce their carbon emissions. However, they do not like that it does not allow as much firm choice as cap-and-trade does (Conniff, 2023). Liberals are most concerned about the potential of carbon taxes to be regressive, but they like that it definitively decreases carbon emissions by forcing firms to pay to pollute (Carbon Tax Center).

Clean Energy and Electric Vehicle Subsidies

To reduce the emissions from energy and transportation, the US could increase subsidies for electric vehicles (EVs) and clean energy to encourage consumers to choose less carbon intensive options in both these categories. These subsidies could be in the form of mailed checks or tax credit to households that buy EVs or use clean energy within their home, such as through personal solar panels.

The current highest EV subsidies are $7500

Subsidies work well because they make EVs and clean energy more accessible by essentially lowering their costs, thereby increasing the consumption of both. When people substitute their gas cars for an EV, it reduces carbon emissions. The same principle applies for clean energy. Currently, the highest EV subsidy in the US is $7500 (Nexus Auto Transport, 2023). At the moment, the US spends $45 billion subsidizing the clean energy industry (International Energy Agency, 2023).

The biggest argument against subsidies is that they are expensive. The US currently has a high budget deficit, and increasing subsidies via tax credits will reduce revenue (Freebairn, 2023).

Tesla is a leading EV producer, but its cars are too expensive for many Americans.

***Term** – This is where you explain what this very important term means.*

Political Perspectives on this Solution

Conservatives are not necessarily opposed to EVs or clean energy, but they have not fully embraced them as opportunities to reduce carbon emissions. They generally do not like spending excess money on energy-related expenditures, so they are opposed to increasing the subsidies. On the other hand, liberals are big proponents of EVs and clean energy, and they think it is worth it to

spend money to make both of them more widespread (Fumento, 2022).

Changing the Social Cost of Carbon

As outlined earlier, the social cost of carbon is a critical piece of creating environmental policy, but its calculation is deeply flawed. To multiply the impact of climate policy, the US could consider all lives to be equal and subsequently raise the cost of carbon above its current $51 threshold, potentially up to the EPA recommendation of $191 (Hersher, 2023).

Those in favor of a higher social cost of carbon believe that it will make it easier to pass environmental policy and reduce carbon emissions. They also believe it is ethically important to value all lives equally (Hersher, 2023).

Opponents believe that a high social cost of carbon overblows the impact that carbon emissions have on the world. They fear that it will ruin the cost-benefit analysis done in climate policy, leading to the passage of overly- costly policy (Plumer, 2018).

President Biden has a social cost of carbon that is 10x larger than President Trump's

Political Perspectives on this Solution

Conservatives believe that the social cost of carbon should be lower, while liberals favor a higher social cost of carbon. President Trump valued the number around $3 to $5 a ton while President Biden has a number ten times higher of $51 (Plumer, 2018).

BUDGETARY CONSIDERATIONS

As the House Energy and Commerce Committee, it is important for you to consider the costs of your proposed solutions. The US Environmental Protection Agency has the mission of protecting human health and the environment and is critical for passing climate policy. For fiscal year 2024, the proposed budget allocates about $12 billion to the EPA to support their mission (US EPA, 2023). Some of the solutions proposed and others you might come up with will cost more than others, especially subsidies or investment into green technology, while others will have higher administrative costs like implementing a cap-and-trade system.

CONCLUSION

Decreasing carbon emissions is critical to ensuring a safe future for our country and avoiding the worst impacts of climate change. The main polluting industries are energy, transportation, and industry . It is up to you to not only figure out how to reduce emissions in these respective areas, but also to do so in a way that

benefits everyone, especially people from historically marginalized communities. You will have the added challenge of compromising across party lines, which is no easy task when it comes to climate policy. You must balance protecting the environment with the economic interests of the United States and its workers.

The climate crisis impacts everyone in the world, so your actions will have a ripple effect . There is no right answer to solving the climate situation, and this briefing only scratches the surface of the many solutions that exist to reduce carbon emissions. Be creative and find the best combination of solutions for your constituents, this country, and the world!

GUIDE TO FURTHER RESEARCH

To prepare for the conference, we recommend that you investigate past examples of successful carbon emission reduction policies to give you more ideas for policies and evidence in support of your bills. Finding statistics that illustrate emission reductions or jobs created are a great way to convince your fellow delegates that you have a strong policy that will work well.

Many news articles can provide big picture ideas that explain topics you want to learn about, and they often link to research studies that provide more in-depth explanations as well as facts and figures. Checking out Congress.gov to view past bills regarding the climate and carbon emissions will also undoubtedly spark some ideas!

Your chairs cannot wait to meet you in February and hear all the amazing ideas you bring to the committee room!

GLOSSARY

Advanced metering – telling consumers how and when they use energy, to reduce their consumption.

Cap-and-trade program – a program that limits the total amount of carbon emissions that are allowed to be emitted and gives out emission allowances to companies and power producers.

Car-centric – prioritizing private automobiles over other forms of transportation like walking, biking, or public transit.

Carbon dioxide equivalent – the amount of CO_2 with an equal global warming potential as another greenhouse gas.

Carbon tax – a tax on every ton of carbon that a firm emits.

Climate gap – poor Americans and people of color experience more of the negative health consequences of climate change.

Grid scale energy storage devices – devices that store energy produced by carbon free energy sources to be used when it is needed.

Heat island effect – increased surface temperatures because of poor tree coverage and overuse of dark building materials in urban centers.

Inflation Reduction Act – the largest single action the US has ever taken to address climate change.

Micro grids – small groups of energy sources that support a local footprint like a college campus or hospital complex.

Social Cost of Carbon – the dollar value on the amount of harm that one ton of carbon causes.

The Industrial Revolution – a period of rapid economic and technological development between 1760 and 1840.

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