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Resolved: Nations should adopt a carbon tax

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Topic Introduction

General information on carbon tax

Center for Climate and Energy Solutions. <https://www.c2es.org/content/carbon-tax-basics/>

Under a carbon tax, the government sets a price that emitters must pay for each ton of greenhouse gas emissions they emit. Businesses and consumers will take steps, such as switching fuels or adopting new technologies, to reduce their emissions to avoid paying the tax.

A carbon tax differs from a cap-and-trade program in that it provides a higher level of certainty about cost, but not about the level of emission reduction to be achieved (cap and trade does the inverse). Taxes on greenhouse gases come in two broad forms: an emissions tax, which is based on the quantity an entity produces; and a tax on goods or services that are generally greenhouse gas-intensive, such as a carbon tax on gasoline. We explore how to set a federal carbon tax more in depth in *Options and Considerations for a Federal Carbon Tax*. Several carbon tax proposals have been introduced in Congress in recent years. In the 117th Congress (2021–2022), five carbon pricing proposals have been introduced (as of October 2021), and the Senate Finance Committee is reportedly considering inclusion of a carbon price in the Build Back Better Act, the Biden administration-backed reconciliation package.

A number of countries, regions, and local governments around the world have a carbon tax or a something similar like an energy tax related to carbon content. As of 2021, 35 carbon tax programs have been implemented across the world. For example, British Columbia, has had carbon tax since 2008. South Africa became to the first African country to implement a carbon tax in 2019. In 2006, the city of Boulder, Colorado, became the first U.S. city with a directly voter-approved carbon tax, and other cities are exploring the idea. In the United States, interest in an economy-wide carbon tax has been gradually growing.

Debate often centers on how to use the revenue generated by a tax. One idea is to use the revenue to reduce taxes on productive activities, like payroll or corporate taxes. Other ideas include giving it back to all consumers, in the form of a carbon dividends, or using it to pay for infrastructure improvements. A 2017 study estimates a tax of \$49 per metric ton of carbon dioxide could raise about \$2.2 trillion in net revenues over 10 years from 2019 to 2028. So far in the 117th Congress (2021–2022), five carbon pricing proposals have been introduced. Moreover, carbon tax proposals have been introduced in Congress for several years without success, but supporters hope that the need for new revenues to pay for tax reform or infrastructure will make it more politically appealing. The economic implications of taxing pollution are well understood, but political viability is the primary challenge.

Historical context of carbon tax

World Bank. “State and Trends of Carbon Pricing 2022.” <http://hdl.handle.net/10986/37455>

In late 2021, world leaders met in Glasgow for what was billed as the most important climate conference since the Paris Agreement was adopted in 2015. The conference achieved significant outcomes, including agreements to phase down coal power and remove inefficient fossil fuel subsidies, as well as finalizing rules on international carbon markets. Coalitions of countries announced greater action on forests, methane, and climate finance. Nevertheless, combined nationally determined contributions (NDCs) as they stand today would, if fully implemented, still lead to 2.4°C of warming,³ and the Glasgow Pact called on countries to update their targets by the 27th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC), due to take place in November 2022. An analysis of NDCs, longer-term net zero targets, and global initiatives such as the Global Methane Pledge painted a slightly more positive picture indicating they would, if implemented in full and on time, amount to 1.8°C of warming, bringing them closer to Glasgow’s goal of “keeping 1.5 [degrees] alive.”⁴

While increasing the ambition of NDCs and net zero pledges is a key part of the picture, delivering on them is even more crucial. Analysis by the International Energy Agency indicates a significant gap between what countries have pledged and what existing policies can achieve.⁵ The Intergovernmental Panel on Climate Change’s latest report similarly confirms that many countries would need additional policies to meet their own NDC targets.⁶ And while emissions briefly decreased during the COVID-19 pandemic, energy demand has bounced back to pre-pandemic levels and global energy-related emissions rose to a record high in 2021.⁷

The current state of carbon pricing clearly reflects the gap between policies and pledges. While carbon prices reached record highs across a number of ETSs and carbon taxes over the past year, the majority of carbon prices remain significantly below what is needed to achieve net zero by 2050 and meet the goals of the Paris Agreement.ⁱⁱ Greater carbon pricing ambition can play a crucial role in closing the policy gap when part of a comprehensive climate policy package and grounded in robust long-term strategies. An increasing interest in cross-border carbon pricing policies reflects attempts to realize such ambition while addressing concerns related to economic competitiveness and carbon leakage.

Adopting ambitious carbon prices remains politically challenging, particularly in the context of rising energy commodity prices and continued pressure on economies from the ongoing COVID-19 pandemic. Developing and maintaining carbon pricing approaches in this context requires a strong emphasis on ensuring carbon pricing is fair, inclusive, and well

communicated. At the same time, high energy commodity prices coupled with current geopolitical tensions may also provide an additional incentive for governments to speed up their transition to alternative energy sources. Moreover, recent research highlights that environmental taxes can be less distortionary than other taxes, particularly in times of economic recovery.iii

Pro Sample Case

My partner and I affirm, *Resolved: Nations should adopt a carbon tax*

Contention 1: Mitigating the climate crisis

Pomerleau & Asen 19. Kyle Pomerleau, Elke Asen. "Carbon Tax and Revenue Recycling: Revenue, Economic, and Distributional Implications." November 6, 2019.
<https://taxfoundation.org/carbon-tax/>

Carbon emissions have been driving changes in global temperatures, imposing costs on economic, human, and natural systems.^[6] 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.^[7] Carbon pricing can significantly reduce carbon emissions and help meet climate goals.

Even a modest carbon tax solves within 20 years

Morris 13. Adele Morris. "The Many Benefits of a Carbon Tax." February 26, 2013.
<https://www.brookings.edu/research/the-many-benefits-of-a-carbon-tax/>

This paper proposes introducing a modest carbon tax to finance reforms to the U.S. tax system to promote economic growth, reduce budget deficits, reduce redundant and inefficient regulation, reduce unnecessary subsidies, and reduce the costs associated with climate change. The revenues from the new levy could fund permanent reductions in more distortionary taxes on capital income while also contributing to deficit reduction. And by providing simple, transparent, but powerful market-based incentives to reduce damaging greenhouse gas (GHG) emissions, this levy could supersede the array of costly regulatory command-and-control approaches and expensive subsidies aimed at reducing dependence on fossil fuels and promoting clean energy. In addition to these benefits, of course, is a contribution to stemming the global buildup of GHGs and improving the United States' standing to foster the broader international action necessary to stabilize GHG concentrations and avoid catastrophic climate disruption. As this proposal shows, with a carbon tax these gains are possible with less-adverse, potentially even positive, consequences for economic activity, unlike other revenue raisers. Indeed, within twenty years a modest carbon tax can reduce annual emissions by 12 percent from baseline levels, generate enough revenue to lower the corporate income tax rate by 7 percentage points, and decrease the deficit by \$815 billion, all while protecting the poorest households from undue burden.

Global cooperation is key to reducing emissions

World Bank 22. “Carbon Pricing Leadership Report 2021/22.” World Bank, Washington, DC. <https://www.carbonpricingleadership.org/s/Carbon-Pricing-Leadership-Report-2021-22.pdf>

Putting a price on carbon pollution is widely recognized as the most cost effective policy to cut emissions. And if there were any doubt about this, Canada is the proof. Canada has had carbon pricing in place in every jurisdiction since 2019. Since then, we’ve seen first-hand how this policy has helped cut emissions while putting money back in people’s pockets and spurring innovation. We have set our carbon price trajectory all the way to 2030 to provide certainty for households and businesses. Our approach to pricing is flexible, adaptable, and focused on principles of equity. We use revenues to directly support households in a way that benefits low-income and vulnerable communities the most. We have different pricing systems in different parts of the country that are tailored to local economies. We have designed our systems to decarbonize industries while also supporting their competitiveness and limiting the risk of carbon leakage. Pollution pricing is doable, it works, and it’s worth fighting for—not just in Canada but around the world. After all, climate action isn’t something any one country can do alone. That’s why at COP26, I challenged countries to adopt or expand carbon pricing, with a goal of tripling global coverage from around 20 percent of global greenhouse gas (GHG) emissions today to 60 percent by 2030. In the months since, I have been heartened to hear support for this goal from leaders around the world. Countries are working together to align policies and coordinate efforts, through organizations like the G7 Climate Change Mitigation Working Group, the International Monetary Fund, the Organisation for Economic Co-operation and Development (OECD), and the Carbon Pricing Leadership Coalition. Through initiatives like the World Bank’s Partnership for Market Implementation, countries are sharing best practices and supporting emerging systems. The momentum is there. So let’s keep going.

Carbon tax is practical and easy to implement

Black et al 22. Simon Black, Ian Parry, Karlygash Zhunussova. “More Countries Are Pricing Carbon, but Emissions Are Still Too Cheap.” July 21, 2022.

<https://www.imf.org/en/Blogs/Articles/2022/07/21/blog-more-countries-are-pricing-carbon-but-emissions-are-still-too-cheap>

A key choice is between carbon taxes and emissions trading schemes. Carbon taxes have practical appeal as they provide certainty over future emissions prices, helping encourage green investments and energy conservation. They can also be very simple to implement by tweaking existing fuel taxes and provide revenues that finance ministries can use to assist the poor, cut other taxes, or boost productive investments. Carbon taxes could also be extended to broader emissions sources, for example, methane emissions from extractive industries and, in some cases, agriculture.

Without a carbon tax to incentivize clean energy and curtail worldwide emissions—food insecurity, extreme weather, loss of biodiversity, and ecosystem collapse will put billions more at risk, starting with the most vulnerable

The impact is preventing illness and death on a global scale

IPCC 2022. UN Intergovernmental Panel on Climate Change. “Climate Change 2022: Impacts, Adaptation and Vulnerability.”

https://report.ipcc.ch/ar6/wg2/IPCC_AR6_WGII_FullReport.pdf

Climate change will increasingly put pressure on food production and access, especially in vulnerable regions, undermining food security and nutrition (high confidence). Increases in frequency, intensity and severity of droughts, floods and heatwaves, and continued sea level rise will increase risks to food security (high confidence) in vulnerable regions from moderate to high between 1.5°C and 2°C global warming level, with no or low levels of adaptation (medium confidence). At 2°C or higher global warming level in the mid-term, food security risks due to climate change will be more severe, leading to malnutrition and micro-nutrient deficiencies, concentrated in Sub-Saharan Africa, South Asia, Central and South America and Small Islands (high confidence). Global warming will progressively weaken soil health and ecosystem services such as pollination, increase pressure from pests and diseases, and reduce marine animal biomass, undermining food productivity in many regions on land and in the ocean (medium confidence). At 3°C or higher global warming level in the long term, areas exposed to climate-related hazards will expand substantially compared with 2°C or lower global warming level (high confidence), exacerbating regional disparity in food security risks (high confidence). (Figure SPM.3) {1.1, 3.3, 4.5, 5.2, 5.4, 5.5, 5.8, 5.9, 5.12, 7.3, 8.3, 9.11, 13.5, 15.3, 16.5, 16.6, CCB MOVING PLATE, CCB SLR}

Climate change and related extreme events will significantly increase ill health and premature deaths from the near- to long-term (high confidence). Globally, population exposure to heatwaves will continue to increase with additional warming, with strong geographical differences in heat-related mortality without additional adaptation (very high confidence). Climate-sensitive food-borne, water-borne, and vector-borne disease risks are projected to increase under all levels of warming without additional adaptation (high confidence). In particular, dengue risk will increase with longer seasons and a wider geographic distribution in Asia, Europe, Central and South America and sub-Saharan Africa, potentially putting additional billions of people at risk by the end of the century (high confidence). Mental health challenges, including anxiety and stress, are expected to increase under further global warming in all assessed regions, particularly for children, adolescents, elderly, and those with underlying health conditions (very high confidence). {4.5, 5.12, Box 5.10, 7.3, Figure 7.9, 8.4, 9.10, Figure 9.32, Figure 9.35, 10.4, Figure 10.11, 11.3, 12.3, Figure 12.5, Figure 12.6, 13.7, Figure 13.23, Figure 13.24, 14.5, 15.3, CCP6.2}

Contention 2: Alleviating global poverty

Carbon tax generates additional government revenue

Fried et al 22. Stephanie Fried, Kevin Novan, William B. Peterman. “Understanding the Inequality and Welfare Impacts of Carbon Tax Policies.” April 11, 2022.

https://konstanzseminar.org/wp-content/uploads/2022/05/Fried_Novan_Peterman.pdf

Returning to the recent surge of carbon tax proposals, there is clearly growing support among policymakers for recycling the revenue back to households through direct payments that are either

uniform across individuals or varying inversely with a household's total income. One reason that these direct payments are more politically palatable is because they are progressive, with relatively larger benefits accruing to lower income households. Consistent with these policy proposals, we find that it is welfare-maximizing to use a sizable portion of the revenue to increase the progressivity of the policy. However, we find that varying the payments with a household's total income is not an effective way to increase equity. We find that using the revenue to increase the progressivity of the labor income tax achieves far higher equity and welfare than payments that are uniform or vary with a household's total income.

Carbon-tax revenue can offset rising energy costs

Nicker 21. Brianna Nicker. "Why the US should establish a carbon price either through reconciliation or other legislation." October 7, 2021.

<https://www.brookings.edu/research/why-the-us-should-establish-a-carbon-price-either-through-reconciliation-or-other-legislation/>

In addition, any revenue earned from carbon pricing can be used to reduce the effects of climate change on the most vulnerable communities. Climate change has already disproportionately impacted vulnerable communities, and its impact is projected to worsen in the coming decades. Furthermore, the carbon pricing mechanisms and other environmental regulations needed to mitigate climate change can increase costs for consumers if costs are passed through by companies. Carbon pricing revenue should therefore be used to offset any potential increased energy costs for low-income households, as well as to build climate resilience in vulnerable communities. In addition, such revenue could be used to provide job retraining for fossil fuel workers.

This leads to greater social protections for all

Milivojeviczoe & Xie 21. Lazar Milivojeviczoe & Leiyu Xie. "Addressing climate change in South Asia through carbon taxing." November 12, 2021.

<https://blogs.worldbank.org/endpovertyinsouthasia/addressing-climate-change-south-asia-through-carbon-taxing>

All the more, revenues collected from climate-smart policies such as carbon tax in countries with high greenhouse gas intensity help increase government's fiscal resources, which in turn can be used to help economies grow in a green, resilient, and inclusive manner. Our latest South Asia Economic Focus (See Box 2.2 on page 81) depicts how having more fiscal resources before a natural disaster helps a country speed up recovery right thereafter. In addition, these resources can be used to expand social protection coverage and provide relief efforts to people affected by natural disasters. Adaptive social protection systems combine social protection with disaster risk management and climate change adaptation, and can help build resilience to shocks and ensure timely delivery of social

assistance to protect the poor. In its latest South Asia Roadmap for the Climate Change Action Plan, the World Bank has committed to providing technical assistance to India and investments to Bangladesh to help increase the climate-responsiveness of the countries' social protection systems.

The impact is alleviating global poverty and inequality

Budolfson et al 21. Mark Rudolfson, Francis Dennig, Frank Errickson, et al. "Protecting the poor with a carbon tax and equal per capita dividend." *Nat. Clim. Chang.* 11, 1025–1026 (2021). November 29, 2021. <https://doi.org/10.1038/s41558-021-01228-x>

We find that **a 2 °C target can be met while simultaneously increasing wellbeing, reducing inequality and alleviating poverty** if each country or region imposes a substantial carbon tax and refunds the revenues to its citizens on an equal per capita basis (Fig. 1). **Furthermore, the benefits are often large, particularly for those at the lower end of the income distribution. The overall benefits to society are even greater if total carbon tax revenues are returned on an equal per capita basis globally, which directs more of the revenues towards the poorest populations in the world** (rather than the poorest within each country or region). We also find that **the optimal decarbonization trajectory is characterized by rapid reductions in emissions initially — which limits runaway climate change and allocates substantial revenues to the current poor — followed by a slower climb towards net zero emissions, which preserves some tax revenues for future generations.**

Thus lifting up to 190 million people out of poverty worldwide

Malerba, et al 22. Daniele Malerba, Xiangjie Chen, Kuishuang Feng, Klaus Hubacek, Yannick Oswald (2022), "The impact of carbon taxation and revenue redistribution on poverty and inequality," IDOS Policy Brief, No. 11/2022, German Institute of Development and Sustainability. https://www.idos-research.de/uploads/media/PB_11.2022.pdf

How does revenue recycling change poverty in comparison to the pre-tax status? **In all the revenue-recycling scenarios** we find that **global poverty decreases significantly. In the case of a US\$50 tax with revenues recycled directly to households, global extreme poverty decreases between 16% and 27% across scenarios. In other words, between roughly 100 and 190 million people around the world would be able to escape poverty, leading to a decline in the extreme poverty rate** from 0.09 to 0.07. **More specifically, some countries and regions would see their poverty rates significantly decrease**, as in the case of China (driven by very low initial poverty rates). In contrast, the effects are the lowest in Africa, where extreme poverty would decrease by 2% across scenarios. This is mainly due to low revenues raised by the tax. India would experience the largest absolute decrease in terms of poverty rate, starting from a 0.12 initial poverty rate.

Answers to Con

AT: Carbon tax harms the economy

1. Energy price spikes are exaggerated

Newburger 19 Emma Newburger covers climate change and environmental policy for CNBC.com. “A carbon tax is ‘single most powerful’ way to combat climate change, IMF says.” October 10 2019.

<https://www.cnbc.com/2019/10/10/carbon-tax-most-powerful-way-to-combat-climate-change-imf.html>

Increasing the price of carbon is the most efficient and powerful method of combating global warming and reducing air pollution, according to a new report from the International Monetary Fund. While the idea of carbon taxes on fossil fuel corporations has been spreading across the globe in the past couple decades, increasing prices on carbon emissions has received widespread backlash from those who argue the tax would raise energy bills. But **economists have long contended that raising the cost of burning fossil fuels like coal, oil and gas is the best way to mitigate climate change, and that revenue raised from the tax can be returned to consumers** through rebates and dividends. “We view fiscal policy as a crucial way of combating climate change,” said Paolo Mauro, deputy director of Fiscal Affairs Department at the IMF. “You can reshape the tax system and you can reshape fiscal policy more generally in order to discourage carbon emissions.”

Global temperatures are projected to rise by roughly 4 C above preindustrial levels by 2100. The 2015 Paris climate accord aims to limit warming to 2 C, with a long shot goal of 1.5 C. **Most countries are not on track to achieve those targets**, and the U.S. plans to formally withdraw from the Paris agreement in 2020. More than 40 governments globally have implemented a form of carbon pricing, whether it be through direct taxation on fossil fuel producers or cap-and-trade programs. However, the global average carbon price is \$2 a ton — a small fraction of the estimated \$75 a ton price in 2030 consistent with a 2 C warming target, according to the report. The IMF estimates a \$75 a ton carbon tax will lead to the amount of emissions scientists estimate will correspond to 2 C of warming. At that level, coal prices would rise by more than 200% above baseline levels in 2030. Under the same tax, the price of natural gas, which is used for power generation and for heating and cooking in households, would increase by 70% on average, with most of the impact in North and South America, where baseline prices are much lower. Gasoline prices would rise by 5% to 15% in most countries. **For electricity and gas, the price increases might seem substantial. However, those price rises are within the bounds of price fluctuations experienced during the past few decades**, according to the IMF. “If you think about it **from a historical perspective, gasoline prices fluctuate ... much more than that,**” Mauro said. **“Carbon taxes ... and similar arrangements to increase the price of carbon, are the single most powerful and efficient tool to reduce domestic fossil fuel CO2 emissions,”** the report said.

Some countries have prices on carbon

In the U.S., a slew of presidential candidates have vowed to impose a carbon tax on corporations, proposals which have come under attack from President Donald Trump and Republicans, who are repealing environmental regulations. Most carbon pricing efforts in the U.S. have occurred on the state level. Nine states in the Northeast participate in a cap-and-trade program that hands out carbon pollution permits to power plants, and other states like New Jersey might join that system. Cap-and-trade programs work by taxing companies if

they produce higher emissions than their permit allows. Companies that reduce emissions can sell unused permits to other firms. The government also narrows the number of permits every year, reducing overall emissions. California has its own cap-and-trade program that includes other polluters in addition to power plants. In Britain, coal use has gone down substantially after a carbon tax in 2013 prompted electric utilities to switch away from coal. Canada has a carbon tax that started at \$15 per ton of carbon dioxide this year and will rise to \$38 per ton by 2022. And China plans to start a cap-and-trade program beginning in 2020.

“The cost of achieving emissions reductions through these approaches would be lower than the costs to people and the planet from climate change,” the report said.

“Finance ministers in all countries are central to designing and implementing policies to meet emissions reductions in the most efficient, equitable, and socially and politically acceptable way.”

2. Carbon tax revenue benefits the economy

Parry 19 Ian Parry is the Principal Environmental Fiscal Policy Expert at the International Monetary Fund. “Putting a Price on Pollution.” December 2019.

<https://www.imf.org/en/Publications/fandd/issues/2019/12/the-case-for-carbon-taxation-and-putting-a-price-on-pollution-parry>

Another important argument for **carbon taxes** is that they **could raise a significant amount of revenue**, typically **1–2 percent of GDP** for a **\$35 a ton tax in 2030** (Chart 2). **Using this revenue productively to benefit a country’s economy could help offset the harmful macroeconomic effects—reduced employment and investment—of higher energy prices.** For advanced economies, for example, the revenue might be used mostly to cut taxes on labor and capital income, implying a retooling of the tax system rather than an increase in the overall tax burden. For developing countries unable to mobilize adequate revenue from broader taxes because a substantial portion of economic activity occurs in the informal sector, carbon tax revenues might be used mostly to fund investments for achieving the United Nations Sustainable Development Goals. **In all countries, use of some revenues to fund clean-energy infrastructure upfront could enhance carbon pricing’s effectiveness and credibility.**

3. Carbon tax slows growth by just 0.1%

Williams 16 Robertson Williams is a Research associate of the National Bureau of Economic Research. He was previously an associate professor at the University of Texas, Austin. “Environmental Taxation.” <http://www.rff.org/files/document/file/RFF-DP-16-24.pdf>

By itself, a carbon tax is likely to slow economic growth slightly. Fossil fuels are used throughout the economy, and thus taxing carbon acts as an implicit tax on all production. This lowers the return to factors of production such as capital and labor (either directly, through effects on wages and profits, or indirectly, by raising product prices and lowering real returns), and thus discourages work, saving, and investment. **this effect is significant but not dramatic:** Carbone et al. (2013) estimate that a \$30/ton carbon tax would reduce GDP by roughly 3.5 percent in 2050. ¹⁹ Note that the figure expresses a difference in GDP levels, whereas we usually hear about GDP growth rates. **A 3.5 percent**

difference in GDP levels 35 years from now is equivalent to roughly a 0.1 percent difference in average annual growth rates over that time.

4. Carbon tax doesn't compromise trade

Meltzer 14 Joshua Meltzer is a Fellow in Global Economy and Development, Brookings Institution, and adjunct professor at the Johns Hopkins School for Advanced International Studies. "A Carbon Tax as a Driver of Green Technology Innovation and the Implications for International Trade." *Energy LJ* 35 (2014): 45.

Currently, there is also significant government involvement in the clean energy space, and this is likely to continue for some time. This involvement has raised a range of trade concerns and in a number of instances has been challenged at the WTO.¹⁷⁹ Balancing efforts to stimulate green technologies with the gains from an open trading system based on WTO rules is an ongoing challenge. **There is**

no reason climate change needs to be tackled at the expense of liberalized trade, an outcome which would make developed countries and in particular developing countries significantly worse off. This is particularly true in the Asia-Pacific region that is

deeply enmeshed in global supply chains.¹⁸⁰ **Ensuring that government support is developed in ways that are WTO consistent will leave governments with plenty of room to promote ambitious climate change action but in ways that do not discriminate against goods and services based on their country of origin. Moreover, as outlined above, climate change policies that are also WTO consistent will lead to the production of green technologies at lower costs.**

That said, the global impact of climate change suggests that there is need for negotiation to ensure that the WTO rules do not raise unnecessary legal risks for government when considering how best to act.

AT: Carbon tax is difficult to implement

1. Implementation is easy

Parry 21 Ian Parry is the Principal Environmental Fiscal Policy Expert at International Monetary Fund. “Five things to know about carbon pricing.” September 2021.

<https://www.imf.org/en/Publications/fandd/issues/2021/09/five-things-to-know-about-carbon-pricing-parry/>

1. **Carbon pricing can be readily implemented.** Carbon pricing, implemented through a tax on the carbon content of fossil fuels or on their carbon dioxide (CO₂) emissions, is straightforward to administer **as an extension of existing fuel taxes. Carbon taxes can provide certainty about future emissions prices, which makes a difference when it comes to mobilizing clean technology investment.** Revenue from carbon taxes can be used to lower burdensome taxes on workers and businesses or to fund investment in climate technology. **Carbon pricing can also be implemented through emissions trading systems**—firms must acquire allowances for each ton of greenhouse gases they emit, with the supply of such permits limited by government. **Businesses can buy and sell allowances, thus establishing a price for emissions.** Emissions trading programs can be designed to mimic the advantages of taxes through price-stabilizing mechanisms like price floors and revenue-raising measures such as permit auctions.
2. **Carbon pricing is gaining momentum.** More than 60 carbon tax and emissions trading programs have been introduced at the regional, national, and subnational levels. In recent months major pricing initiatives have been launched in China and Germany, the emissions price in the European Union has risen above €50 a ton, and Canada announced its emissions price would rise to CAN\$170 a ton by 2030. Nonetheless, only about one-fifth of global emissions are covered by pricing programs, and the global average price is only \$3 a ton. That's a far cry from the global carbon price of about \$75 a ton needed to reduce emissions enough to keep global warming below 2°C.

2. Support will grow as more nations adopt

Farber 12 Daniel Farber is a professor of law at UC Berkeley. “Carbon Leakage versus Policy Diffusion: The Perils and Promise of Subglobal Climate Action.” Chi. J. International L. 359, 2012.

Even apart from the opportunity for policy improvement, early adopters can decrease the risks of new policies for other jurisdictions simply by providing evidence of costs and benefits. For instance, if California's cap-and-trade system is successful, that success should dissipate fears in some US quarters that climate mitigation would be economically disastrous. **Early-mitigating jurisdictions can also lower the cost of further reducing emissions by fostering technological innovation, which then decreases**

mitigation costs for others. Indeed, there may be policy advantages to local over larger scale adoption of technology policies, in part because localized efforts may be more diverse and may more effectively avoid the risks of picking the wrong technology.¹⁰ Local efforts may also take advantage of the potential for local geographic clusters to foster innovation because "spatial concentrations allow inventors to readily access knowledge that reduces the costs of research, development, and commercialization."¹¹ Improved technology can then lower the cost of mitigation in other jurisdictions. Mitigation can also change the political dynamics facing policymakers. As Eric Biber has pointed out, **mitigation policies can create a set of political supporters in the clean energy industry, thereby reducing the likelihood of backsliding**.¹² [I]f the new regulatory system requires significant economic investment, it can inspire the creation of new businesses, industrial systems, employment opportunities, etc. The individuals and corporations that benefit from this new economic investment can provide a political base of support for the new regulatory system, even in the absence of immediate environmental benefits. . . . To the extent that climate change regulation is able to encourage the development of (for instance) new industries in renewable energy, this dynamic may play a role in maintaining support for the regulatory system.¹³ Indeed, firms that benefit from climate mitigation efforts have an incentive to press for further mitigation. Correspondingly, opponents of mitigation lose economic ground during the initial mitigation effort, making them less able to resist additional mitigation efforts. Thus, initial mitigation efforts may shift the political dynamics in favor of further mitigation. This section has sketched some of the economic and political dynamics that could make cooperation contagious, as jurisdictions gain confidence in each other and their individual economics and political dynamics shift in favor of mitigation. There is certainly no guarantee that such dynamics will occur, but the possibility does provide support for subglobal action. It would be difficult to provide definitive proof about the relative strength of positive versus negative feedback effects in the adoption of local mitigation efforts and in international bargaining positions. To take one example, however, the failure of the US Congress to adopt climate regulation surely has not been helpful to international negotiations or encouraged more mitigation efforts in other countries.

3. One country can set a favorable example

Schwerhoff 16 Gregor Schwerhoff is a researcher at Mercator Research Institute on Global Commons and Climate Change. "The economics of leadership in climate change mitigation." Climate Policy Volume 16, Issue 2. July 2016.

As seen in Section 4.1, Brandt (2004) describes the effect of leadership in communicating information on costs between governments. In this subsection we consider the case where no government has precise information on cost. Leadership then has the effect of exploring this unknown cost with the intention of making it available to others. The costs involved in introducing new regulation are often difficult to estimate. Harrington, Morgenstern, and Nelson (2000) empirically show, by comparing cost estimates before a policy is implemented with assessments of actual

costs afterwards, that in the majority of cases ex ante estimates are too high. **A major source for errors in cost estimates are technological innovations that were not anticipated at the time the regulation was introduced.** Elofsson (2007) uses a model with uncertainty over abatement cost. In this case there are two risk-averse countries with uncertain, but correlated costs of abatement. **By taking the lead one country can reduce the risk premium to followers. The level of uncertainty differs so that countries with low uncertainty are the natural candidates for taking unilateral action.**

Con Sample Case

My partner and I negate, *Resolved: Nations should adopt a carbon tax*

Contention 1: Carbon tax fails to solve climate change

Fundamental system transformation is a prerequisite

Rosenbloom et al 20. Daniel Rosenbloom – University of Toronto department of political science. Jochen Markard – Department of Management, Technology, and Economics, ETH Zürich. Frank W. Geels – Alliance Manchester Business School, University of Manchester. 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/10.1073/pnas.2004093117#con2>

The underlying rationale for carbon pricing is appealing in its simplicity: GHG emissions are viewed as a negative externality because the social costs flowing from climate change impacts are not reflected in the market price of carbon-intensive goods and services (6). Climate change is framed as the consequence of a market failure that can be corrected by placing a price on carbon so that actors also pay for the social cost of their carbon-intensive activities and reduce their demand for such goods and services. Framing the climate challenge as a market failure, however, fails to seriously appreciate its scope and depth. Indeed, the climate challenge has been referred to as a “grand challenge” (7) or “super wicked problem” (8) that has thus far resisted traditional policy approaches. We argue that climate change can be more appropriately understood as a system problem. Core societal functions, such as heating or mobility, are met through large and deeply entrenched sociotechnical systems made up of interconnected technologies, infrastructures, regulations, business models, and lifestyles (1). Over many decades, these systems have become increasingly locked into the combustion of fossil fuels and the associated release of GHG emissions. Consider, for instance, how the design of cities has developed alongside the diffusion of the gasoline-powered personal automobile; how norms about comfort and attire have become entwined with energy-intensive indoor temperature regulation; and how important political and economic interests have become entrenched with fossil fuel-based resource development or electricity provision.

Addressing the climate challenge, therefore, involves fundamental changes to existing systems, referred to as “sustainability transitions” (5). These transitions entail profound and interdependent adjustments in sociotechnical systems that cannot be reduced to a single driver, such as shifts in relative market prices. In mobility, for example, a low-carbon transition might encompass interacting developments around new vehicle technologies (e.g., autonomous electric cars), infrastructures (e.g., vehicle charging stations and high-speed rail), business models (e.g., mobility as a service and intermodal transport), and regulation (e.g., emission performance standards) but also changes in city planning (e.g., reduced urban sprawl) and lifestyles (e.g., telework and local vacations). The market failure framing fails to appreciate the broad scope of the climate challenge and the sweep of system elements that must undergo change. And so, the resulting solution orientation is far from sufficient.

Carbon tax fails to address alternative causes

Islam 22. Roumeen Islam is Economic Advisor for the Infrastructure Global Practice. She is a graduate of Harvard University, where she studied economics. She has a Masters in Public Policy from Princeton University and a PhD in Economics from Columbia University. “What a carbon tax can do and why it cannot do it all.” January 19 2022.

<https://blogs.worldbank.org/energy/what-carbon-tax-can-do-and-why-it-cannot-do-it-all>

Another issue with carbon taxes is that they target carbon dioxide emitted from fossil fuels. They do not directly target other carbon compounds, such as methane, which has a short atmospheric lifetime but a large warming potential. Carbon emissions from agriculture/livestock, deforestation, waste management, or poor land use, are hard to assess and monitor and these are generally not taxed directly. Alternative, non-tax-based policies are needed and used to limit carbon and other GHG emissions from these sources. These include altering manure and waste management, feeding or land-use practices, among others.

Wealthy nations are already “outsourcing” emissions

Plumber 18. Brad Plumer. “You’ve Heard of Outsourced Jobs, but Outsourced Pollution? It’s Real, and Tough to Tally Up.” September 4, 2018.

<https://www.nytimes.com/2018/09/04/climate/outsourcing-carbon-emissions.html>

Over the past decade, both the United States and Europe have made major strides in reducing their greenhouse gas emissions at home. That trend is often held up as a sign of progress in the fight against climate change. But those efforts look a lot less impressive once you take trade into account. Many wealthy countries have effectively

“outsourced” a big chunk of their carbon pollution overseas, by importing more steel, cement and other goods from factories in China and other places, rather than producing it domestically. Britain, for instance, slashed domestic emissions within its own borders by one-third between 1990 and 2015. But it has done so as energy-intensive industries have migrated abroad. If you included all the global emissions produced in the course of making things like the imported steel used in London’s skyscrapers and cars, then Britain’s total carbon footprint has actually increased slightly over that time.

Developing nations are unwilling to adopt a carbon tax

Cass 15. Oren Cass is a Senior Fellow at the Manhattan Institute, B.A. in political economy from Williams College and a J.D. from Harvard University. “The Carbon-Tax Shell Game.” National Affairs, Issue Number 24, Summer 2015.

<http://www.nationalaffairs.com/publications/detail/the-carbon-tax-shell-game>

The international community has established a goal of limiting the increase in average global temperature to 2 degrees Celsius, believing that warming above this threshold poses unacceptable risks of climate-related catastrophe. Achieving this goal requires reductions in global CO2 emissions on the order of 50% by 2050, according to the IPCC. With emissions still increasing rapidly in the developing world, developed nations are typically expected to make substantially sharper cuts. According to the Obama White House, the U.S. government’s official goal for 2050 is an 80% emissions reduction. Annual U.S. emissions represent less than one-fifth of the global total, however, and our share shrinks every year, so even a zeroing out of our emissions would achieve little without dramatic changes in global behavior. The effectiveness of a carbon tax, as a matter of environmental policy, would therefore depend not only on how it would directly alter the trajectory of American emissions, but also on its ability to affect global emissions by driving globally applicable technological innovation or by influencing the behavior of foreign governments. On each of these dimensions, the carbon tax fails. It would not, at the levels contemplated, come close to achieving America’s own targeted reductions. On the global stage, it would not make an already-implausible international agreement more likely, and, if anything, it would hinder those prospects. In the absence of such an agreement, the only route to lower global emissions runs through technological innovation that makes low-carbon fuels cheaper than conventional ones, but a carbon tax is poorly tailored to achieve that objective as well. For those serious about climate change, a carbon tax is not the answer. To their credit, carbon-tax supporters rarely claim that their proposals have the potential to deliver on U.S. emissions goals. The models for tax proposals frequently indicate reductions in the range of 15% to 30% by 2050, as compared to the official 80% target or the more moderate 50% goal sometimes advanced by researchers. Indeed, carbon-tax proponents tend not to link their proposals to any estimate of reduced warming, because the reductions amount to rounding errors. One might think this prima facie failure would represent a fatal flaw, but such naïveté only flags one as an easy mark; the shells are just beginning their delicate dance. Placing domestic emissions to the side, the pro-tax case quickly shifts to the international scene, where U.S. “leadership” in the form of a unilateral domestic carbon tax is described as necessary for and perhaps even the lynchpin of global action. As a preliminary matter, conceding in advance and then arriving at the table without any bargaining chips is a very poor negotiating strategy. To the extent such an agreement could move forward, moreover, it makes little sense to suggest that our weak domestic action would serve as

the basis for a strong global agreement. The larger problem, of course, is that under no theory of negotiation will developing countries accept costly policies that would slow their economic growth and hinder their populations' climb out of crushing poverty. Rapid electrification is a critical economic and social priority for these countries, and rightly so. A 2012 study from the World Resources Institute, for instance, identified 1,200 new coal power plants on drawing boards worldwide with more than three-quarters of that capacity in China and India. Just last month those two countries issued a joint communiqué demanding more action and financial support from developed nations but made no emissions-related commitments of their own.

Contention 2: Carbon tax exacerbates inequality

Low-income households shoulder most of the burden

Mathur & Morris 15. Aparna Mathur is a Resident Scholar in Economic Policy Studies at the American Enterprise Institute in Washington, DC, Ph.D. in Economics. Adele Morris is a Fellow and Policy Director for Climate and Energy Economics at the Brookings Institution, Ph.D. in Economics from Princeton. “Distributional Burden of a Carbon Tax: Evidence and implications for policy in Implementing a US Carbon Tax: Challenges and Debates.” 2015.

Economists usually express the distribution of burdens against a measure of households' socioeconomic status, such as annual income. Lower-income households in the United States generally devote a higher share of their household budget to energy and other goods whose prices would rise upon imposition of a carbon tax than higher-income households do. There are two reasons for this. First, poorer households spend a greater share of their current income than higher-income families, who save relatively more. That means that poorer households' budgets are generally more exposed to general increases in prices than richer households'. Second, poorer households spend proportionately more of their income directly on electricity and other fuels than higher-income households do. As Table 7.1 of Chapter 7 indicates, households in the bottom income quintile spend far more of their budget (21.4 percent) on energy than the top income quintile (4.1 percent). The two big energy items for all households are motor fuels and electricity. Other energy expenditures include natural gas, fuel oil, and other fuels. Of all the fuels, the electricity budget share falls most with higher income. The bottom line is that a carbon tax that raises the price of fossil fuels is going to look strongly regressive when burdens are expressed relative to income and the analysis focuses only on how households use their income. Figure 6.1 illustrates this point. It shows the burden to income ratio for a \$15 carbon tax by income decile, reported in Mathur and Morris (2014). The carbon tax looks quite regressive, with the bottom income decile suffering a burden equal to 3.5 percent of their income, or about six times the burden (relative to income) for the top income decile (0.6 percent).

Carbon tax exacerbates inequality, causing public backlash

Randow & Pickert 21. Jana Randow & Reade Pickert. “Climate Change Will Boost Inequality. So Could the Solution.” November 11, 2021,

<https://www.bloomberg.com/news/articles/2021-11-11/climate-change-will-exacerbate-in-equality-so-could-the-solution>

A concern is that **such an approach would risk disproportionately hurting the world's poorest households that are already suffering the most from global warming.** That's because they tend to spend a larger share of their income on gas, heat and other emissions-generating activities. **"They will be harder hit by carbon pricing,"** said Baoping Shang, a senior economist at the International Monetary Fund and author of a recent paper on the distributional impacts of carbon pricing. **"First, in many countries, it's going to worsen inequality and that's when government support is most important."** Ecuador, Nigeria and Iran have already seen violent protests over the years against higher prices at the pump -- even without such a levy -- offering a foretaste of the kind of uproar that could be in store should politicians choose to introduce one. In France, the world's largest collector of carbon-tax revenue, the government was forced to scrap plans in 2018 to boost a surcharge on fuel following a months-long revolt. Such public outbursts highlight the need to better understand distributional consequences of carbon pricing, and **find strategies to ensure rising inequality won't be the price for protecting the planet.**

Letting climate change run its course would have dire consequences. The world is on track to warm by 2.7 degrees Celsius (4.9 degrees Fahrenheit) by the end of the century, according to the latest United Nations estimates, far above the preferred 1.5 degree limit set by the Paris Agreement. Carbon taxes or cap-and-trade programs are generally imposed at the federal level, but state and regional authorities can also set the rules, as is the case in the U.S. Governments tend to use tax revenue to offset the burden they place on consumers, businesses and the broader economy, while proceeds from emissions trading schemes are often targeted toward green investments, according to research by the OECD. The levies alone aren't seen as sufficient to achieve climate goals. Only 10 of the 60 active carbon markets and taxes have high enough prices to achieve the goals of the Paris Agreement, according to BloombergNEF analysis. Pushing Into Poverty Climate change in and of itself exacerbates inequality and could push an additional 68 to 135 million people into poverty by 2030, according to the World Bank. And if the most dire projections on future economic damage prove true, other research has shown climate change would cause inequality to rise between countries, reversing decades of progress. **Without support, carbon pricing could burden the poor even more** since they often can't afford energy-efficient housing, exposing them to greater heating costs. In the U.S., energy prices are already up 30% from a year ago, the most since 2005. Lower-income families also tend to live in areas with insufficient public transportation, making them more reliant on their own cars. **That was the case in Sweden, one of the first countries to introduce a carbon price in 1991 and now has the world's highest. A study into the impact on different income groups between 1999 and 2012 showed an increasing burden on lower-income people that highly correlated with the country's recent rise in income inequality.**

Carbon tax harms the very people it aims to help

Loris 19. Nicolas Loris, an economist, focused on energy, environmental, and regulatory issues as the Deputy Director of the Thomas A. Roe Institute for Economic Policy Studies and Herbert and Joyce Morgan fellow at The Heritage Foundation. "Why the Carbon Tax Would Backfire on America." July 30 2019.

<https://www.heritage.org/energy-economics/commentary/why-the-carbon-tax-would-backfire-america>

Even worse, the burden would be heaviest on low-income families who spend a higher portion of their budget on energy costs. Some carbon tax proposals acknowledge this and offer rebates from the tax revenue collected. But even if a rebate check compensates low-income families for their higher energy bills, it won't undo the damage they'll incur from paying more for groceries, clothes, health care, and everything else they buy because of the increased cost of energy for all those providers. Some supporters talk of returning the tax revenue to the people in various ways, but not without taking some kind of cut for their own special interests, whether for green energy projects or new infrastructure. Then there's the bureaucratic nightmare of implementing a new tax. Acknowledging that a carbon tax would harm American businesses and U.S. competitiveness, carbon tax proponents suggest enacting a border adjustment tax for imported goods from countries where no carbon pricing exists. Others propose to eliminate environmental regulations in exchange for a carbon tax. Administering border taxes on goods imported from countries without carbon taxes "would be enormously complex, requiring an estimate of the tax-equivalent value of the given policies under examination," said resident American Enterprise Institute scholar Benjamin Zycher. And the administrative state would be empowered to make decisions micromanaging the economy via tax policy. Supporters argue a carbon tax is worth it despite the costs, but it's not clear it would do much to benefit the climate. No doubt, carbon dioxide emissions would decline—if you tax something, you'll get less of it. But the impact on global temperatures would be negligible by the end of the century, even if you assume the most catastrophic scenario. It's also highly unlikely a carbon tax would be faithfully applied to everyone. Zycher pointed out, because various interest groups will influence which businesses are subject to the tax and other countries are likely to implement alternative policies that subsidize solar and wind energy instead of taxing carbon. Carbon taxes are a cure worse than the alleged disease: They have a minimal impact on emissions and will do next to nothing to affect climate change. In the end, they hurt the very citizens they are intended to help.

Answers to Pro

AT: Carbon tax promotes clean energy

1. Carbon tax fails to spur innovation in renewable technology

Dryzek et al 11. John S. Dryzek Centenary Professor, ARC Laureate Fellow, Centre for Deliberative Democracy and Global Governance, University of Canberra. Richard B. Norgaard is Professor of Energy and Resources, University of California, Berkeley. David Schlosberg is Professor of Environmental Politics, University of Sydney. "The Oxford Handbook of Climate Change and Society." August 18 2011.

<https://doi.org/10.1093/oxfordhb/9780199566600.001.0001>

4 STRATEGIES AND POLICIES

This section first argues that a carbon price, in the form of either a carbon tax or a cap-and-trade emissions trading scheme, is not sufficient to redesign the energy system, and that several different types of government policies are needed to facilitate the development and commercialization of a wide range of technologies, not only the cheapest substitutes for fossil fuels.

4.1 Pricing is not Sufficient

The fallacy that pricing is sufficient is based on the incorrect assumption that the energy sector is a perfectly competitive market. In practice, efficient energy use is characterized by several market failures, such as split incentives between landlord and tenant; incomplete consumer information; lack of consumer understanding on how to trade off a higher capital cost against a lower operating cost; and the custom of demanding much higher rates of return from energy efficiency than energy supply (Hirst and Brown 1990; Greene and Pears 2003). In the absence of regulations and standards for buildings appliances, and energy-using equipment, many efficient energy use measures that are highly cost-effective are not being widely implemented. The market also fails to provide the necessary infrastructure for research institutes, transmission lines, railways, and gas pipelines. Government funding is needed for both the hardware and software, which includes good design and planning. Furthermore, the market, by its nature, cannot provide long-term planning. Some renewable energy technologies with large potential are still at the pre-commercial stage— such as offshore wind, solar thermal electricity with thermal storage, and innovative types of solar PV cells. To mitigate one of the most dangerous challenges to human civilization on a timescale extending from the present to 2050 and beyond, we cannot afford to risk limiting our response to commercially available technologies that are cheapest at the margin. Contrary to neoliberal economic dogma we must pick a portfolio of potential

winners and build up their markets now. **A low initial carbon price** of (say) US\$25 per tonne of CO **will allow natural gas in some countries to compete with conventional coal for base-load electricity. However, such a low carbon price would not enable renewable energy to compete with coal or gas.** Without complementary measures to a slowly increasing carbon price, renewable energy could be held back for decades until gas becomes scarce and its price very high. **It is vital that policy measures for greenhouse gas mitigation promote the development now of a range of zero emission technologies** with high potential and low degrees of physical and financial risk, so that their industries and contributions can make growing contributions. **This argument does not justify very large support for highly risky technologies,** such as CCS, generation 4 nuclear fission, and nuclear fusion.

2. Market complexity is a major impediment

Roberts 16. David Roberts is a writer on energy and climate change for Vox. "Putting a price on carbon is a fine idea. It's not the end-all-be-all." April 22 2016.

<https://www.vox.com/2016/4/22/11446232/price-on-carbon-fine>

The US electricity sector, for instance, is a Rube Goldberg contraption of overlapping jurisdictions, regulated monopolies, and quasi-markets. Coal, oil, and gas are extracted from public land and transported over public right-of-ways, leaving behind an array of local pollutants. **At every stage from extraction/production to transportation to consumption, all forms of energy are heavily regulated and dependent on public subsidies and public infrastructure.** In fact, **there are so many market failures in energy,** one almost wonders whether beginning with an idealized market and working backward through its "failures" is a fruitful way to approach policy thinking. Hmm. **Unpriced carbon is a market failure, if you want to look at it that way. But real-life markets, not just in energy but in transportation and agriculture, are failures all the way down** — irrational behaviors, asymmetrical information, barriers to entry, monopoly control, and more. Then **layer on top of that complicated regulatory systems, legacy policies and infrastructure, and the distorting influence of status quo interests, and you've got quite a mess.** One can look at the task ahead as painstakingly correcting an almost endless series of market failures. Or one can look at it as actively shaping and designing new markets to produce better social outcomes. Either way, **the "set it and forget it" schemes of hardcore tax advocates are a fantasy. It's a blunt-force tool. It will do wonders in some sectors (driving coal out of electricity) but very little in others (driving oil out of transportation). It will not do all the necessary work in any sector. Different markets are different; they have their own idiosyncrasies, their own failures. Believing a single tool will accomplish everything requires seeing the economy as a frictionless machine, a spreadsheet, not what it is: a path-dependent accretion of past decisions and sunk costs, to be tweaked and unwound.** One other thing: The neoclassical model of a perfectly efficient economy depends on full employment, which hasn't been the case in

the US for a very long time. Resources are being left slack, capital is cheap, and deficit spending is likely to boost growth. But when it comes to carbon and clean energy, many economists default to the knee-jerk stance that government spending is distortionary and only price-based instruments are legitimate.