Key Takeaways

• Budget reconciliation is an expedited legislative process under which Congress can accomplish budgetary priorities through changes to revenues and spending.

• A carbon tax instituted as a budgetary measure would allow Congress to raise a significant amount of revenue while incentivizing economy-wide reductions in greenhouse gas emissions.

• Most of the components of existing carbon tax proposals could likely be included in budget reconciliation through spending provisions and border adjustments.
Overview

Budget reconciliation is a legislative procedure which allows certain legislation to avoid the filibuster in the U.S. Senate and thus only require 51 votes. With a high degree of polarization between the two political parties and a recent trend of Congress passing large legislative changes through reconciliation, this limited procedural mechanism may be used to advance climate policy this year.

This paper explores how budget reconciliation could include a carbon tax to raise new revenue and reduce greenhouse gas emissions. Implementing a carbon tax by itself would raise various concerns, including its impact on economic growth; energy prices for low-income earners; the economic prospects of disadvantaged communities, including those reliant on fossil-fuel production; and the ability to achieve key climate policy goals. A comprehensive climate change strategy would involve not only a carbon tax but also complementary measures to make the overall policy environment more effective at reducing emissions, more equitable, and less costly. Here, we explore how budgetary measures could be combined to achieve outcomes under reconciliation that would be similar to a climate policy drafted under standard procedures.

What is budget reconciliation?

Created under the Congressional Budget Act of 1974, reconciliation allows Congress to make changes to tax provisions, federal spending, and deficits under special procedures. Congress is
supposed to pass an annual budget resolution that sets broad fiscal parameters and may include instructions to other legislative committees to produce bills that meet particular budget targets in their areas of jurisdiction. If these reconciliation instructions are assigned to multiple committees, the House and Senate Budget Committees will then assemble the committees’ output in an omnibus measure. Reconciliation measures are not subject to a Senate filibuster, limit Senate debate to 20 hours, and require only a simple majority in the Senate and House of Representatives.

**What types of measures are permissible under reconciliation?**

Budget reconciliation is intended for affecting the debt and deficits by changing revenues and mandatory (or direct) spending, which is spending on programs set in statutes that carry over from year to year. The most prominent examples are entitlement programs (e.g., Medicare/Medicaid). In contrast to mandatory spending, discretionary spending is authorized by Congress through the appropriations committees and is used to fund spending on programs including defense, education, science, and environmental protection.

The Byrd Rule allows senators to block extraneous provisions during budget reconciliation. The Byrd Rule disallows any changes to Social Security or increases in the annual federal deficit beyond the window of the budget resolution (which is typically 10 years). It also precludes provisions that do not change revenues or outlays, or provisions where any such changes are “merely incidental” to the provision’s nonbudgetary effects. However, provisions that have no budgetary effect may be permitted if they are determined to be necessary “terms and conditions” of other provisions within the bill that do have budgetary effects. The Senate parliamentarian advises whether or not a particular provision is in violation of the Byrd Rule. And while the Byrd Rule only applies in the Senate, it restricts final legislation and any measures that come out of a conference between the House and Senate.

**How has budget reconciliation been used to achieve nonbudgetary goals?**

Despite the limited purview of budget reconciliation, legislation to resolve the budget can have significant, and directed, impacts on specific sectors of the economy.

In 2017, the Tax Cuts and Jobs Act (TCJA) was passed using budget reconciliation and made significant changes to corporate and personal tax rates. In addition to reducing tax rates on corporations and individuals, the TCJA raised new taxes on international transactions, created new tax credits for family leave, created tax preferences for investment in economically-distressed regions, and opened the Alaskan National Wildlife Refuge for oil and gas production. Each of those will affect the federal budget, but will also affect social welfare, investment patterns, and development of natural resources.

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For example, the statute directed the Department of the Interior to administer a competitive leasing program for producing oil in the Alaska National Wildlife Refuge. The Congressional Budget Office (CBO) estimated, in 2012, that production from leases in the refuge could generate $2 billion to $4 billion per year in federal revenue from leasing fees and revenue sharing. Under the TCJA, 50 percent of the royalties from oil produced under those leases is paid to the state of Alaska and the rest is paid to the Treasury. These payments to the federal government qualified the oil leasing provision as a budgetary measure, even if they were understood outside Congress as a policy measure for regional economic development that was included to win political support.

In 2010, the reconciliation process was used to make revisions to the Affordable Care Act, affecting both spending and revenues. The Affordable Care Act itself, which made changes to private health care markets and introduced new regulations for health insurance, passed the Senate under standard procedures and would not have been in compliance with the Byrd Rule. The 2010 amendments passed through reconciliation provided implementation funding and matching federal funds to states for Medicaid, while increasing subsidies for low-income households, levying taxes on high-income households, and altering Medicare reimbursement rates.

The Taxpayer Relief Act of 1997 was passed using reconciliation and included a range of new tax credits. This included the Child Tax Credit, which was created to provide financial relief to families with children, and the Hope and Lifetime Learning tax credits, which were created to subsidize educational expenses. Finally, among many changes it made to reduce the federal deficit, the Omnibus Budget Reconciliation Act of 1993 raised the rate of gasoline and diesel excise taxes, expanded the Earned Income Tax Credit, and raised the percentage of Social Security benefits taxable as income.

**The budget impacts of a carbon tax**

A carbon tax could be a significant source of revenue for the federal government. The amount of revenue a carbon tax would raise depends on both the carbon tax rate, generally defined in dollars per ton of CO2 (or equivalent), and the amount of greenhouse gas emissions covered by the tax.

Table 1 summarizes nine carbon taxes proposed in the 116th Congress. These proposals include carbon tax rates between $15 and $52 per ton in the first year of implementation (typically 2020), rising to between $40 and $165 per ton after a decade. Based on the Resources for the Future carbon pricing calculator, such a carbon tax would raise roughly $1.5 to $2.5 trillion in revenue over the next ten years, with annual revenues starting in the range of $70-$210 billion and increasing to $170-$390 billion after 10 years, depending on how the rate of the carbon tax changes over time.

According to one recent study, when a carbon tax is combined with a broader climate policy strategy, carbon tax rates in the range of $77 to $124 per metric ton (in 2018 dollars) by 2030 are

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5. Ibid., Title II, Sec. 20001
consistent with pathways to a net-zero-carbon economy by 2050.⁹ Four of the nine congressional proposals displayed in Table 1 fall within this range.

Table 1: Select Carbon Taxes Proposed in the 116th Congress

<table>
<thead>
<tr>
<th>Bill Name</th>
<th>Average Rate over First 10 Years ($2020/ton)</th>
<th>Annual Energy CO2 Emissions Covered by the Tax in the 10th Year (MMT)</th>
<th>Annual Gross Tax Revenue in the 10th Year (Billion $2020)</th>
<th>Cumulative Gross Tax Revenue After 10 Years (Billion $2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate Action Rebate Act</td>
<td>$83</td>
<td>2490</td>
<td>$374</td>
<td>$2,486</td>
</tr>
<tr>
<td>America’s Clean Future Fund Act</td>
<td>$67</td>
<td>2770</td>
<td>$306</td>
<td>$2,191</td>
</tr>
<tr>
<td>American Opportunity Carbon Fee Act</td>
<td>$69</td>
<td>3000</td>
<td>$264</td>
<td>$2,331</td>
</tr>
<tr>
<td>America Wins Act</td>
<td>$69</td>
<td>3000</td>
<td>$264</td>
<td>$2,331</td>
</tr>
<tr>
<td>Energy Innovation and Carbon Dividend Act</td>
<td>$60</td>
<td>2830</td>
<td>$297</td>
<td>$1,992</td>
</tr>
<tr>
<td>MARKET CHOICE Act</td>
<td>$43</td>
<td>3450</td>
<td>$184</td>
<td>$1,634</td>
</tr>
<tr>
<td>Raise Wages, Cut Carbon Act</td>
<td>$45</td>
<td>3440</td>
<td>$172</td>
<td>$1,664</td>
</tr>
<tr>
<td>Stemming Warming and Augmenting Pay Act</td>
<td>$37</td>
<td>3550</td>
<td>$162</td>
<td>$1,431</td>
</tr>
<tr>
<td>Carbon Reduction and Tax Credit Act</td>
<td>$40</td>
<td>3690</td>
<td>$148</td>
<td>$1,554</td>
</tr>
</tbody>
</table>

Notes: Carbon tax proposals start in different years. Different start dates may affect overall emissions and revenue estimates.

Such a carbon tax would be a large source of new revenue, but previous tax changes made through reconciliation have also had budgetary impacts larger than $1 trillion over 10 years. Table 2 shows line items for select provisions from the score of the 2017 Tax Cuts and Jobs Act. Reductions in the corporate tax rate reduced federal revenues by $1.3 trillion over 10 years, while changes to the individual income tax rates reduced federal revenues by $1.2 trillion and were offset by $1.2 trillion of new revenue from repealed deductions. The net budgetary effect of the TCJA over 10 years was predicted to be a debt increase of $1.4 trillion.

Table 2: JCT Score of Select Provisions of the TCJA¹⁰

<table>
<thead>
<tr>
<th>Tax Change</th>
<th>Sunset Date</th>
<th>2018-2027 Budget Effect ($ Billions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income tax rate reductions</td>
<td>12/31/2025</td>
<td>-1,214.2</td>
</tr>
<tr>
<td>Repeal of deductions for personal exemptions</td>
<td>12/31/2025</td>
<td>1,211.5</td>
</tr>
<tr>
<td>21 percent corporate tax rate</td>
<td>N/A</td>
<td>-1,348.5</td>
</tr>
<tr>
<td>Base Erosion and Anti-Abuse Tax</td>
<td>N/A</td>
<td>149.6</td>
</tr>
<tr>
<td>Opening portions of the Alaska National Wildlife Refuge to oil and gas leasing⁸</td>
<td>N/A</td>
<td>1.8</td>
</tr>
</tbody>
</table>


While a carbon tax alone would increase revenues, all of the carbon taxes summarized above also specify how carbon tax revenue should be spent (or make compensating tax cuts). The spending ranges from infrastructure funding to household tax cuts and rebates, with provisions to limit the costs imposed on low- and middle-income households, fossil-fuel and front-line communities, and the economy as a whole. Such models, which often aim to make a carbon tax swap revenue neutral, are less instructive for budget reconciliation. The reconciliation process is not intended for neutrality.

A budget reconciliation package, if it included a carbon tax, could also stipulate expenditures, so the net impact could be an increase or decrease in the budget deficit as specified by a budget resolution. For example, if the Budget Committee instructed the taxing committees to submit legislation to increase spending by $1 trillion over 10 years, then the committees could meet that goal with a combination of $2 trillion in spending and $1 trillion in new carbon tax revenue.

For scoring purposes, the projected net tax revenues (i.e., the tax rates multiplied by the covered emissions) will be lower than the projected gross revenues because payments of the carbon tax will leave individuals and businesses with less income, resulting in lower income- and payroll-tax revenue for the Treasury. This “income and payroll tax offset” (also referred to as the “CBO haircut”) is currently estimated by the Joint Committee on Taxation at about 21 percent of gross revenue.12

We cannot say exactly what is permitted under budget reconciliation, as the rules for how it is applied are interpreted by the Senate parliamentarian for specific legislative provisions, but implementing a new tax that puts a price on carbon dioxide emissions should be permissible and is broadly consistent with the ways budget reconciliation has been used in the past.

Reconciling with the climate challenge

A carbon tax can be a cornerstone of U.S. efforts to achieve its climate mitigation targets and should be permissible to enact using budget reconciliation. This section focuses on how other provisions that policymakers may wish to implement alongside a carbon tax may or may not comply with the rules of reconciliation.

In addition to a carbon tax, Congress may wish to include measures to avoid adverse impacts of the policy, including:

- Protection for those who cannot afford price increases.
- Measures to keep domestic industries on a level playing field with foreign competitors and thus avoid emissions leakage.
- Measures to improve economic opportunities in coal-dependent communities.
- Pro-growth measures to counteract the negative economic effects of higher prices.

In addition, carbon tax policies often include separate measures intended to make the overall policy

more effective at reducing emissions, more equitable, and/or less costly. Such measures include:

- Spending to support emerging low-carbon technologies.
- Regulatory changes that complement a carbon tax in reducing emissions.
- Regulatory changes that forestall federal or state regulations for reducing emissions.
- Measures to support environmental justice and communities in transition.
- Mechanisms that increase the certainty of achieving desired emissions outcomes.

The remainder of this section describes whether and how each of these additional measures can be achieved through budget reconciliation.

**Protection for those who cannot afford price increases**

Most carbon tax proposals stipulate some mechanism to offset the increased costs of purchasing fuel, electricity, and services for lower- and middle-income people. Rather than subsidizing energy use for lower-income people, such provisions usually include a mixture of tax cuts, dividends, and transfers. Those types of instruments will be possible under reconciliation.

A study by Chad Stone describes how existing government transfer programs can be used to compensate about 95 percent of the poorest quintile of American households using less than one-sixth of the revenue from a carbon tax\(^\text{13}\) (others studies find similar estimates\(^\text{14}\)). Specifically, he proposes providing working households with a tax credit similar to the Earned Income Tax Credit, providing beneficiaries of Social Security and certain other federally administered benefit programs with supplements to their regular payments, and offering very low-income families rebates through state human services agencies using the electronic benefit transfer system already used to deliver SNAP (food stamp) benefits. Even though the Social Security Administration would administer some of these transfers, or coordinate them with the Treasury, this approach would not change revenue into or spending from the Social Security Trust Fund, so it should be suitable for reconciliation.

Alternatively, some carbon tax proposals use some or all revenue to reduce other tax rates or provide rebates to American households. Proposals that use all of the carbon tax revenue for per-capita or per-household rebates result in highly progressive outcomes, because the consumption of carbon-emitting products is relatively small amongst low- and middle-income households. Either a reduction in income taxes or the creation of a refundable rebate to simulate “carbon dividends” could be part of reconciliation legislation.

**Measures to keep domestic industries on a level playing field and thus avoid emissions leakage**

By altering prices, a carbon tax would affect the competitiveness of U.S. products against goods produced in markets without equivalent policies. A poorly designed carbon tax policy could lead to production processes being moved abroad, sacrificing both carbon tax revenues and

\(^{13}\) Chad Stone, “The Design and Implementation of Policies to Protect Low-Income Households under a Carbon Tax,” Center on Budget and Policy Priorities, September 21, 2015.

the environmental integrity of the policy. To keep domestic industries on a level playing field, policymakers have various options.

First, Congress could levy a border adjustment for the carbon tax, which would impose carbon taxes on certain imported goods and provide rebates for the carbon tax burden on exported goods. Under such an adjustment, domestic consumers would pay the same tax on goods regardless of where they were produced and U.S. manufacturers would not be disadvantaged in international markets. In existing carbon price legislation, there is little consensus over which products would be subject to adjustment, how to account for the carbon emissions in manufactured products, and how any adjustment should treat foreign climate policies.15

Second, the policy can provide certain businesses with compensation in a way that retains the incentive for these industries to reduce emissions. For example, these businesses can be provided with a subsidy for each unit of production in addition to paying a tax on the carbon they emit. The subsidy could be designed to compensate a typical producer for its carbon tax payments using emissions intensity “benchmarks” that reflect the average emissions rate for domestic producers of that product. For producers that emit at a rate higher than the established benchmark, their carbon tax payments would exceed the rebates they receive; the opposite would be the case for producers that emit at a rate lower than the benchmark. Such subsidies could put domestic firms back on a level playing field with foreign competitors that are not subject to comparable regulations while retaining the most important incentive of the carbon price: the higher relative price of more carbon-intensive inputs to production.16

Either the border adjustment or output-based rebate approach should be permissible under budget reconciliation because both directly impact spending and revenues and can also prevent the loss of revenue that would occur if production shifted to foreign jurisdictions. Indeed, this is similar to the Base Erosion and Anti-Abuse tax passed under the TCJA, which was intended to prevent companies from reducing their tax liability by making payments to related foreign entities.17

**Pro-growth measures to counteract the adverse economic effects of higher prices**

The economic costs of continued inaction on climate change dwarf the costs of action, and a climate change strategy featuring a carbon price is likely to lead to better outcomes for the U.S. economy than a comparably-stringent strategy that eschews carbon prices. That said, there are economic costs associated with the regulation of greenhouse emissions via a carbon price or any other mechanism.

Carbon taxes are therefore often paired with pro-growth uses of revenue that can offset these effects. Previously, legislators and advocates have supported reducing tax rates on corporate income, payrolls, or personal income. Most tax changes are permissible under reconciliation, but policymakers would need to be careful not to run afoul of the Byrd Rule in changing the payroll tax, which funds the Social Security Trust Fund. Nevertheless, Congress could devise ways of

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15. Shuting Pomerleau, _Border Adjustments in a Carbon Tax_, Niskanen Center (July 2020).
making pro-growth changes to the tax code that accompany the carbon tax and avoid changes to Social Security.

Support for clean energy

Even in the presence of a carbon price, there will still be barriers to deploying low-carbon technologies sufficient to reduce greenhouse gas emissions. Federal spending is important across the innovation chain from basic research to development, demonstration, and deployment of new technologies. At the research and development stage, the federal government supports low-carbon technologies by directing funds to federal agencies. Congress appropriated $8.9 billion for energy R&D in the 2020 fiscal year, and in December 2020 lawmakers authorized $35 billion in new spending for energy R&D and demonstration projects. Independent research argues that total spending on clean-energy R&D could reasonably grow to $25 billion per year by 2025 to address the innovation needs for a net-zero economy. To enable congressional oversight, such programs are funded via discretionary appropriations, not mandatory spending, and are not typically altered through the reconciliation process.

More general tax credits are often used to promote the early-stage deployment of clean technologies, such as the production and investment tax credits for renewable energy, the 45Q tax credit for carbon capture and storage, or the tax credit for electric vehicle purchases or energy efficiency upgrades. Tax credits and other types of mandatory spending have direct budgetary implications and changing them has proven permissible under budget reconciliation in the past.

Some proposals create new government programs to directly invest in clean technology. For example, various policymakers have proposed “climate banks” that would enable the federal government to invest in technologies that would reduce greenhouse gas emissions. Often climate banks focus on enabling investments in disadvantaged communities. In August 2020, Sen. Dick Durbin (D-IL) proposed using a portion of the revenues from a carbon tax to establish an independent federal agency called the Climate Change Finance Corporation, which would finance investments in low carbon technologies and aim to encourage the infusion of private capital in such investments. While government expenditures to establish a climate bank have straightforward budgetary implications, such provisions may be susceptible to challenges that the budgetary implications are merely incidental to the creation of a climate bank.

Regulatory changes to complement a carbon tax

Regulations can complement a carbon tax and fill in gaps where a carbon tax alone will be insufficient for overcoming all barriers to rapid and cost-effective emissions reductions. For example, carbon taxes often do not cover methane emissions from oil and gas wells due to the complications of monitoring emissions and verifying reductions. Instead, such emissions can be regulated by the Environmental Protection Agency (EPA) under existing Clean Air Act authority, complementing a carbon tax.

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A carbon tax can also create a situation in which current or future regulations become redundant. That is the rationale for provisions in many existing carbon tax proposals that would suspend EPA authority to regulate the same emissions from stationary sources covered by the carbon tax. Such regulatory changes, however, are not well suited for passage through reconciliation because they do not involve changes in spending and revenue (or any such changes are arguably “incidental” to the policy change).

If Congress were to pass a carbon tax without otherwise altering EPA authority to regulate GHG emissions, the agency would be left with a very different regulatory landscape than without the tax. EPA might decide to write rules codifying the emissions reductions expected from the carbon price, emphasize rules that increase energy- or fuel-efficiency, or advance rules for source categories covered under the Clean Air Act but not included in the carbon tax (such as methane leaks from oil and gas production).

**Measures to promote environmental justice and support communities in transition**

Climate policies commonly include support for specific vulnerable communities, including:

- *Coal communities.* 50 U.S. counties are responsible for 90 percent of the country’s coal production.\(^{21}\) Coal communities are already struggling due to the downturn of the industry, and any serious decarbonization pathway will involve steep further cuts to coal production in short order, even relative to other fossil fuels and carbon-intensive products.

- *Communities vulnerable to climate impacts.* The impacts of climate change are accelerating, especially in regions that are disproportionately affected by extreme weather events and lack resources to adapt.

- *Communities suffering from pollution.* Often there is overlap among the sources of greenhouse gas emissions and more localized environmental hazards. Recent climate policy proposals commonly include measures to drive investment in communities of color, low-income communities, and tribal and indigenous communities that have been disproportionately subjected to harmful pollution.\(^{22}\)

Like measures supporting low carbon technologies, the permissibility under budget reconciliation of measures to support vulnerable communities will depend on their form. Congress should be able to design reconciliation-compatible spending programs that support each of these communities, but such programs may need to take different forms than they would absent the restrictions of budget reconciliation.

For example, the House Select Committee on the Climate Crisis proposed a range of measures to support each of the three vulnerable communities described above. Some recommendations involve mandatory spending and should be permissible under reconciliation, such as a proposal for Congress to create a refundable tax credit for institutions of higher education to develop and implement environmental justice programs as part of their curriculums. Other recommendations

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\(^{22}\) House Select Committee on the Climate Crisis Majority Staff, Solving the Climate Crisis: The Congressional Action Plan for a Clean Energy Economy and a Healthy, Resilient, and Just America (June 2020).
involve discretionary spending or other policy changes that would not directly affect revenues or spending and are likely outside the scope of a reconciliation package—for instance, amending the Civil Rights Act of 1964 to protect victims of environmental and climate injustice.

**Mechanisms that increase the certainty of achieving desired emissions outcomes**

The precise responses of producers and consumers to a carbon tax are uncertain, which would make future emissions levels uncertain. But policymakers often want to set credible emission targets and deliver on them. Therefore, carbon tax proposals often include mechanisms that can increase the likelihood that the policy will successfully achieve a desired emissions pathway (an “emissions target mechanism”). Most commonly, proposals make the changes in annual carbon tax rates contingent on emissions outcomes, so that if emissions do not respond as expected, the carbon tax rate will increase. Such mechanisms can improve the likelihood of meeting emissions targets at a relatively low cost.

Whether such a mechanism is compatible with budget reconciliation is not obvious, and should be a matter of immediate research for advocates of this approach. Emissions outcomes are directly related to how much revenue is raised by the carbon tax, but we are unaware of any articulation of these mechanisms as revenue stabilizers that could be scored and evaluated as part of the reconciliation process, which does not have mechanisms for conditional scoring. Even if they were made budgetary, Senators might object that the revenue implications of such provisions are only “incidental” to the policy change (especially given that revenue could, in theory, increase or decrease with a change in the carbon tax rate, depending on the response of producers and consumers). However, the Byrd Rule allows provisions that are “terms and conditions” of measures with budgetary implications, which tax rates clearly are. Here the procedural details and the specific implementation of these policies in statute will be critical.

**Conclusions**

Reconciliation enables Congress to make changes to federal tax provisions, spending, and borrowing. It is clear that a carbon tax, as a revenue instrument, would be permissible under budget reconciliation. And that a carbon tax consistent with those introduced in recent years could be achieved through the budget reconciliation process.

Congress may wish to implement measures alongside the carbon tax that avoid adverse outcomes and make the overall policy strategy more effective at reducing emissions, more equitable, and less costly. Many of these outcomes should be achievable through budget reconciliation as well, often through mandatory spending measures. For example, Congress can designate spending to offset energy cost increases for adversely affected households and businesses, to support communities that are in transition or historically disadvantaged, and to support the deployment of emerging clean energy technologies.

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However, we also point to numerous potential limits to the policy measures that Congress can pass alongside a carbon tax under budget reconciliation. Those include regulatory changes and adjustments of discretionary spending.

Acknowledgements

The authors thank Noah Kaufman for his research assistance and suggestions.