

THE CLIMATE FUND ACT:

Harmful to Workers and Consumers

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Written by

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EXECUTIVE SUMMARY

The sponsors of the “Polluters Pay Climate Fund Act” (PPCFA) wish to impose a cumulative \$500 billion “assessment” on major oil and gas companies for their alleged contribution to climate change damages from 2000–2019.

The sponsors argue that this assessment will fall entirely on the shareholders of the targeted companies, and because it only pertains to past activities, it will not affect current or future production decisions and hence won't impact consumers.

There are numerous problems with these justifications for the PPCFA. Even on their own terms, using official U.S. government estimates, the amount of climate change damages due to U.S. oil and gas operations and falling on the United States for the period 2000-2019 is below the alleged \$500 billion. Furthermore, even if it were true that the total \$500 billion assessment would be borne solely by the shareholders of major oil and gas companies, this still includes millions of middle-class U.S. households who own (either directly or indirectly) shares in these corporations.

However, the fundamental problem with the justification for the PPCFA is that its passage would obviously cause the decisionmakers at oil and gas companies to reduce current and future activity, as they would assume future assessments would “look back” in a similar fashion to impose assessments on their output. For a first-pass estimate of the likely impacts, we conclude the following:

1. In the immediate wake of the PPCFA, oil and gas shareholders would see a 42-percent drop in earnings.
2. In the medium-term, shareholders would suffer a 14-percent loss in earnings, oil and gas workers would suffer an 8-percent drop in income, and consumers would suffer a 13-cent-per-gallon hike in gasoline prices.
3. In the long run, as capital and labor are able to flow out of oil and gas until their earnings return to the pre-PPCFA rates, consumers bear the full burden of the PPCFA assessment, which works out to 40 cents per gallon (using 2020 consumption data).

SECTION 01

INTRODUCTION



In August 2021, Senator Chris Van Hollen (D-MD) along with Senator Bernie Sanders (I-VT) and a coalition of other Senate Democrats announced the “Polluters Pay Climate Fund Act”¹ (henceforth PPCFA) which would apportion a \$500 billion “assessment” over ten years among the largest fossil fuel extractors and refiners operating in the U.S., according to their estimated contribution to emissions during 2000-2019.

The senators claim that their plan would fund the necessary government response to climate change that these large companies helped cause. As Van Hollen said in a press release: “For years, fossil fuel companies have made trillions in profits while spewing carbon pollution that wreaks havoc on our environment and harms the public health...Our idea is simple: those who pollute should pay to help clean up the mess they caused...”

Because the assessment in the proposal is based on past activity, the senators claim that it would have no influence on future production and therefore wouldn’t raise prices for consumers. The press release states: “Under economic principles accepted across the ideological spectrum, the assessment would not be passed on to consumers.”

Despite the senators’ claims, their proposal makes no sense, whether from the perspective of legal liability or climate policy. Furthermore, if passed the PPCFA would raise gasoline prices for consumers and reduce wages for workers in the oil and gas industry, and on that score would violate President Biden’s campaign pledge to avoid tax hikes on any household earning less than \$400,000.

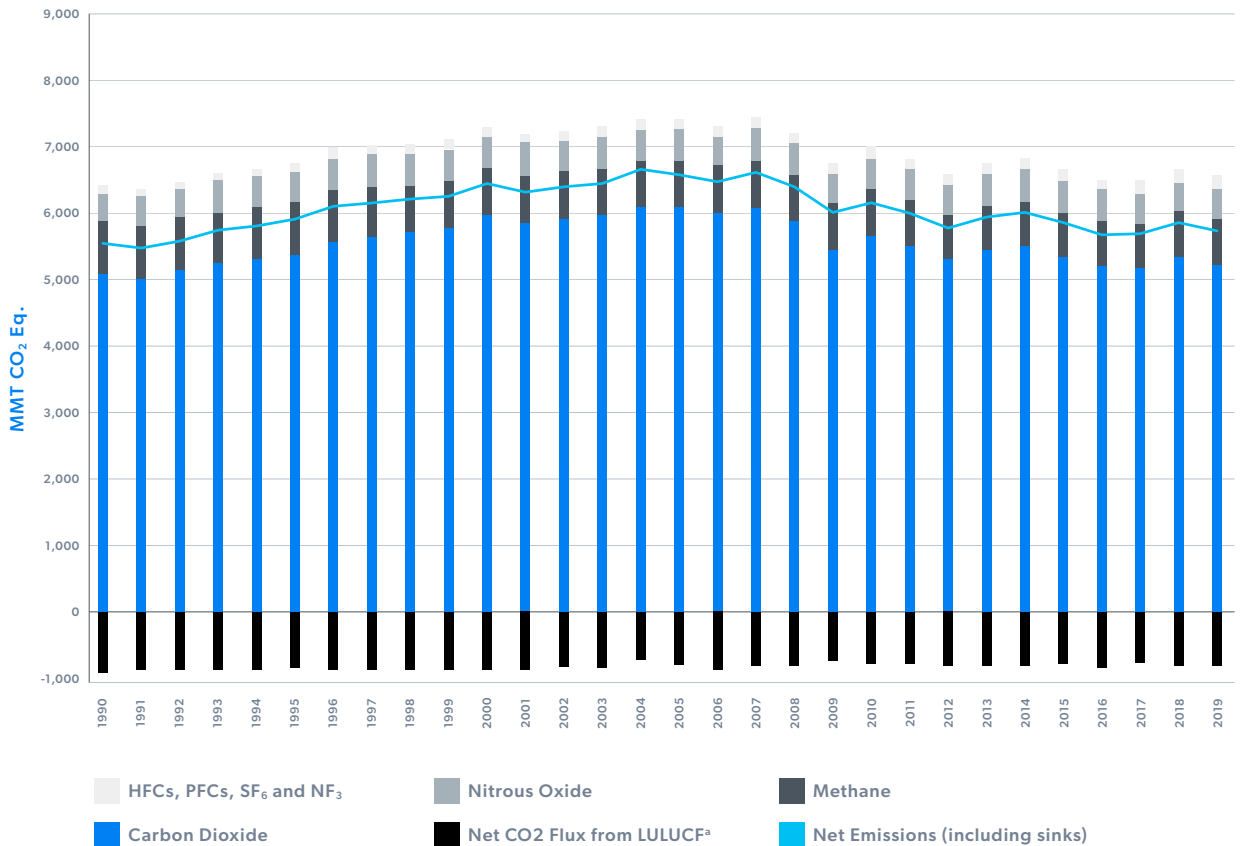
SECTION 02

THE PPCFA IS ARBITRARY AND MAKES NO SENSE AS EITHER LEGAL LIABILITY OR CLIMATE POLICY

Even on its own terms, the PPCFA makes no sense. The \$500 billion “assessment” for emissions over the last twenty years is far too high a damage estimate that could plausibly be attributed to major oil and gas companies. We will demonstrate this using U.S. government documents.

Figure 1 is reproduced from an EPA report documenting U.S. emissions of various greenhouse gases from 1990 through 2019.

FIGURE 1. U.S. EMISSIONS OF VARIOUS GREENHOUSE GASES, 1990-2019



SOURCE: Figure ES-1 (p. ES-5) from EPA (2021).ⁱⁱ

As Figure 1 indicates, U.S. greenhouse gas emissions gently rose for the first half of the period, but began falling in the mid-2000s, and the change in total emissions (both for the rise and fall) was largely due to changes in carbon dioxide emissions. Although not shown in the figure, the main reason for the steady fall since the mid-2000s was the increasing use of natural gas rather than coal in electricity generation. On this account, then, Senators Van Hollen et al. should arguably subsidize natural gas companies for their role in reducing U.S. emissions during this period.

In order to estimate the ostensible environmental damage from U.S. emissions, we need to know the “social cost of carbon” for the period in question. In Table 1 we reproduce estimates made in the 2016 technical update from the Interagency Working Group established during the Obama administration. (To be sure, we are not endorsing these estimates, but we are merely going through this exercise to show that the PPCFA cannot be supported by official data provided by the Obama administration’s own Working Group.)

TABLE 1. U.S. GOVERNMENT ESTIMATES OF “SOCIAL COST OF CARBON” FOR VARIOUS YEARS (USING 3-PERCENT DISCOUNT RATE, 2007 DOLLARS PER METRIC TON OF CO₂)

Year	Social Cost of Carbon
2010	\$31
2015	\$36
2020	\$42
2025	\$46
2030	\$50
2035	\$55
2040	\$60

SOURCE: Table ES-1 from Interagency Working Group (2016).ⁱⁱⁱ

Because the modeled damages from greenhouse gas emissions become greater with additional emissions, the estimated social cost of carbon (SCC) increases over time. Although the pattern isn’t perfect, Table 1 shows that on average, the estimated SCC increases about \$1 per year from 2010 through 2040. We can exploit this pattern to go backwards and estimate what the SCC would have been for the years prior to 2010 (when the official estimates begin, in the Interagency Working Group’s report).

Before making our calculations, we need one additional, crucial fact: The social cost of carbon is, by design, a global concept, referring to the theoretical damages from

emissions imposed on the whole world. In contrast, the domestic SCC refers to the theoretical damages imposed just on the United States. This is clearly the relevant component to use, as the senators supporting the PPCFA are justifying it as a method of compensating Americans for the damages they have (allegedly) suffered due to past emissions. As explained in the original Interagency Working Group report from 2010:

As an empirical matter, the development of a domestic SCC is greatly complicated by the relatively few region- or country-specific estimates of the SCC in the literature. One potential source of estimates comes from the FUND model.

The resulting estimates suggest that the ratio of domestic to global benefits of emission reductions varies with key parameter assumptions. For example, with a 2.5- or 3-percent discount rate, **the U.S. benefit is about 7-10 percent of the global benefit**, on average, across the scenarios analyzed. Alternatively, if the fraction of GDP lost due to climate change is assumed to be similar across countries, the domestic benefit would be proportional to the U.S. share of global GDP, which is currently about 23 percent.

On the basis of this evidence, the interagency workgroup determined that a range of values from 7 to 23 percent should be used to adjust the global SCC to calculate domestic effects. Reported domestic values should use this range. (Interagency Working Group 2010, p. 11, bold added.)^{iv}

In other words, the Interagency Working Group explained that when we ask what portion of the theoretical damages from greenhouse gas emissions falls on the United States,

it is only 7 – 10 percent of the total. We will take the high end of that range (i.e., 10 percent) for our next calculation.

In Table 2, we provide data on U.S. greenhouse gas emissions related to energy (which includes not just electricity generation but also transportation) for the years available in the EPA inventory report, along with our interpolated estimates of the SCC (based on the actual estimates from the Interagency Working Group). This procedure allows us to estimate the social cost of energy-related U.S. greenhouse gas emissions at various years during the period relevant for the PPCFA. We also report both global and domestic estimates of the total energy-related social costs of emissions. In the final column, we show the theoretical social cost of carbon falling on Americans due to petroleum emissions, which the Energy Information Administration (EIA) reports (in 2020) were only 45 percent of total energy-related emissions.^v

TABLE 2. U.S. ENERGY-RELATED GHG EMISSIONS AND SOCIAL COST OF CARBON FOR SELECT YEARS

Year	U.S. Energy-Related Emissions (MMT CO ₂ Eq)	Social Cost of Carbon (2007 USD per ton, 3% Discount Rate)	Global SCC Due to U.S. Energy Emissions (bns 2007 USD)	U.S. SCC Due to U.S. Energy Emissions (bns 2007 USD)	U.S. SCC Due to U.S. Petroleum Emissions (bns 2007 USD)
1990	5325.6	\$11	\$58.6	\$5.9	\$2.7
2005	6302.3	\$26	\$163.9	\$16.4	\$7.4
2015	5519.8	\$36	\$198.7	\$19.9	\$9.0
2016	5390.9	\$37	\$199.5	\$19.9	\$9.0
2017	5351.0	\$38	\$203.3	\$20.3	\$9.1
2018	5518.1	\$39	\$215.2	\$21.5	\$9.7
2019	5392.3	\$40	\$215.7	\$21.6	\$9.7

SOURCE: EPA (2021) and Interagency Working Group (2016). Note that italicized values represent interpolated SCC value based on actual 2010, 2015, and 2020 estimates.

As Table 2 indicates, even if we err generously on the side of Van Hollen et al. by including total U.S. energy-related emissions (which includes coal-fired electricity generation, for example, which is obviously not attributable to major oil and gas companies), the annual amount of theoretical damages falling upon the United States is below the PPCFA's assumed \$25 billion (which is \$500 billion in total damage spread over the twenty-year period).^{vi}

To reiterate, we are not here endorsing the estimates of the social cost of carbon published by the Obama administration and embraced by the Biden administration. (See the endnotes for a link to a formal critique.^{vii})

Rather, we are documenting that the PPCFA cannot be supported even on its own terms, because the numbers don't add up; it attributes far too much in damages to the companies upon which it seeks to levy its "assessments." As a further problem, even the estimates of the SCC used in the tables above are primarily the result of the present-discounted-value of future (computer-modeled) damages from climate change; so the senators' rhetoric, suggesting that Americans have already suffered these large losses for which these companies must pay, is completely nonsensical.

But there is an even bigger problem: The fundamental premise behind the Act—namely, that the corporations who have profited the most from fossil fuel emissions should bear the cost of the associated clean-up—is flawed. ExxonMobil, BP, Shell, etc. were not the sole beneficiaries of their oil-and-gas activities. Their customers all participated in the gains, too. We can make the point this way: If ExxonMobil, BP, etc. hadn't existed from 2000 through 2019, and if no smaller competitors expanded output to fill the gap, then billions of consumers around the globe would have suffered from higher electricity and transportation prices. The consumers were part of the voluntary process by which major oil and gas companies provided valued goods at reasonable prices. It is economically incorrect to attribute any liability to damages (allegedly) caused by these market activities solely to the supply side, while ignoring the beneficiaries on the demand side. If fossil fuel emissions are as harmful as Van Hollen et. al allege, that would be like prosecuting the hit man for murder, but not the mob boss who hired him.



SECTION 03

THE PPCFA WOULD RAISE PRICES FOR CONSUMERS AND REDUCE WAGES FOR OIL AND GAS WORKERS

In addition to appealing to the deep pockets of “Big Oil,” the supporters of the bill argue that it won’t raise crude oil or gasoline prices for regular motorists. From their white paper, here is the central economic argument:

Under economic principles accepted across the ideological spectrum, **the assessment would not be passed on to consumers. The assessment is based on past, not current, activity, so it does not impact the ongoing costs of production.** It is charged to those with the highest past production, leaving some companies that are not subject to the assessment to act as price competitors... And any attempts to collude to set a higher price would be illegal...

Instead, **the costs would be borne by the corporations and shareholders** who have reaped massive profits for decades. [Van Hollen et al., bold added.]^{viii}

Before proceeding, we should spell out exactly what the claim is. Before the proposed assessment was put on the table, the affected oil and gas companies had made their decisions on how much to invest in exploration and capacity, and they had made projections on how much oil they would extract and refine in the coming years. Standard economic theory says that the primary goal when making these decisions would be to maximize the returns to shareholders (taking into account the risk involved with different ventures).

Now if suddenly, out of the blue, the government assesses one of these major companies an annual \$5 billion charge because of its past behavior—and we assume its current behavior will have no effect on the size of the assessment—then standard economic theory would say the company should still proceed with the same decisions as before.

Whatever levels of investment, extraction, and refining maximized the return to shareholders before, will still maximize the return to shareholders after they’ve suffered the \$5 billion annual hit. And hence, so the argument from Van Hollen et al. goes, the annual assessment of \$50 billion shouldn’t reduce oil production from the industry, and therefore shouldn’t raise crude or gasoline prices for consumers. Allegedly, the measure will simply transfer wealth out of the hands of shareholders of the targeted oil and gas companies and into the coffers of the U.S. Treasury, leaving regular Americans unscathed.

At this point, we note that even if all of this were correct, it would still be the case that the PPCFA would hurt middle-class Americans. This is because tens of millions of regular American households own (either directly or indirectly through mutual funds and pensions) shares in major oil and gas corporations. Thus when Van Hollen et al. assure the public that the PPCFA will only fall on the shareholders of giant corporations, they are referring to millions of middle-class Americans.

However, the more fundamental problem with the argument that the PPCFA won’t hurt regular Americans is that of course its enactment would lead to a chilling effect on U.S. oil and gas production. After all, if the ostensible justification in 2022 for imposing a (total) \$500 billion “assessment” on the majors is their contribution to climate change damages from 2000 through 2019, then why wouldn’t the U.S. Treasury in (say) 2042 repeat the procedure to hold them accountable for damages due to emissions from 2020 through 2039?

We can reproduce some of the key statements from the PPCFA's sponsors to show that their rhetoric is in no way confined to the past. Here is the central explanation from their white paper:

Congress can generate significant revenue to address our climate challenges by turning to the industry that caused them. Using peer-reviewed "carbon attribution" research, **it is possible to definitively attribute carbon and methane in the atmosphere to specific companies like ExxonMobil, Chevron, and Shell. Using this methodology, Congress can establish a Polluters Pay Climate Fund that assesses companies based on their contribution to global emissions** and appropriate the funds to ensure a just climate transition. Fossil fuel companies have never been held to account for the societal costs of their emissions. [Van Hollen et al., bold added.]

For another example, in reference to the PPCFA Senator Sheldon Whitehouse (D-RI) said, "'Clean up your messes' is a principle that must apply to companies for the damage they've inflicted on the planet." Notice he didn't say, "Clean up any messes you caused up through the year 2019." Or to pick another example, Senator Edward Markey (D-MA) said their legislation would "take much-needed and long-overdue action to have fossil fuel companies pay their fair share in order to fund the federal response to the climate crisis they helped cause." Again we can ask: Why would our senators only insist that fossil fuel companies pay their fair share for a crisis they helped cause up through the year 2019? No sensible observer of the U.S. climate debate could seriously believe that passage of the PPCFA would be the last word on the subject.



ESTIMATING THE QUALITATIVE IMPACT OF THE PPCFA

To gauge the impact of the assessments on supply decisions, it is useful to consider both ends of the spectrum. Below we consider two extreme cases, one in which the oil company shareholders bear the full brunt of the assessment, and then a second scenario in which the implicit tax is completely “passed on” to consumers. After analyzing these simplistic scenarios, we proceed to an analysis of the real world to understand the likely impact of the assessment.

(Simple) Scenario 1: With No Capital or Operating Expenses, Oil Shareholders Bear the Full Tax

For simplicity, suppose that one giant company owns all of the crude oil in the world, and that the crude is conveniently located in shallow pools that make for costless extraction and delivery to refineries. Consequently, our hypothetical giant oil company in this unrealistic scenario has no need for capital expenditures or other operating expenses; it simply draws down on its giant pools of crude over time, at a flow rate that maximizes the present value of its inventory.

In this scenario, when the government imposes a \$50 billion assessment on the giant company (because this sole company controls all of the crude oil, by assumption), it still operates as before. Whatever flow of crude oil to market maximized the present-value of the inventory originally, will still do so after the assessment is imposed. In terms of the accounting, the market value of the pools of oil are reduced by the (present-value of) the \$50 billion payments going to the Treasury each year for the next decade.

(Simple) Scenario 2: With Plentiful Crude and No Specialized Capital or Labor, Oil Consumers Bear the Full Tax

Now imagine a totally different scenario. In this case, suppose that crude oil is relatively abundant, dispersed all over the earth, but at a sufficient depth that it still requires a substantial amount of equipment and workers to bring it to the surface. In this scenario, oil deposits in the ground would have no

market value, and the final price of a barrel of crude (or a gallon of gasoline) would reflect only the capital and labor expenses required for bringing it to market. Further suppose that the oil industry doesn’t require specialized equipment or workers, but instead relies on standard machinery and tools, and can hire anybody with basic skills.

In this second scenario, when the government imposes an annual \$50 billion assessment on the oil industry, it can’t simply be absorbed by the owners of the crude oil deposits, because those fields already start out with a market value of \$0 (in this unrealistic scenario). Furthermore, the capital and labor in the oil industry don’t take a hit either, because (by unrealistic assumption) they can simply move to other industries. So the owners of the equipment must still get paid the same, and the workers earn the same wages as before, since they will flow out of the oil sector until their rents and wages are restored to their original levels.

Under these circumstances, it is the consumers who bear the full brunt of the \$50 billion annual assessments. Specifically, output is reduced in the oil sector until the price of crude/gasoline rises enough so that the pre-tax profits of the oil companies are \$50 billion higher than they originally were, keeping them on the same footing after they pay the assessment to the Treasury. To repeat, with our assumptions it can’t be the shareholders (who own land and capital in the oil sector) or the workers (who work in the oil sector) bearing any of the burden of the tax, and so to restore equilibrium the total supply must fall, raising prices for consumers and making them bear the full tax.

Real-World Scenario 3: With Scarce But Incomplete Oil Deposits, Along With Temporarily Specialized Capital and Labor, Consumers Bear the Full Burden in the Long Run

In the real world, of course, oil deposits are scarce (and hence valuable), and there is specialized capital equipment that is explicitly designed for oil exploration, extraction, and refining. Furthermore, there are hundreds of thousands of U.S. workers who have skills that are specific to the oil and gas industry, who cannot simply transfer to another industry and earn the same wage.

The likely impact of the PPCFA would be to immediately reduce U.S. output from the major oil and gas companies, as they anticipated future impositions of “look-back” assessments on their contribution to emissions. Passage of the PPCFA would of course result in lower (after-tax) earnings and dividends for shareholders of the affected companies, but it would also depress investment in the oil and gas industry, particularly long-term investment in U.S.-based infrastructure. In the short- and medium-term, the market value of already-installed U.S.-based machinery and equipment would fall, so long as it were specialized and difficult to transfer to other industries. Had investors known ahead of time that the PPCFA “assessment” would be imposed, they wouldn’t have created such large U.S.-based capacity, but the specialized machinery and equipment have already been deployed, and much of it would still remain in operation (though at lower utilization rates). Interestingly, however, the market value of crude oil (and natural gas) fields themselves would probably not be significantly impacted, as oil and gas could always be shipped abroad and sold at world prices to operations outside of U.S. jurisdiction.

Likewise, the human capital of already-trained specialized U.S. workers in the oil and gas industry would also soon take a hit, as the drop in output would go hand-in-hand with a drop in industry demand for their services. As with the investors in physical capital, so too the workers who received specialized training and spent years in developing work experience

might regret how much investment in their human capital they devoted to the oil and gas industry, once their employers are hit with the surprise PPCFA assessment and their wages consequently fall below what they had expected to receive. But as with the physical capital, many of these specialized workers would still find the best option to continue working in the industry, albeit for lower wages. (Some workers might relocate to foreign jurisdictions, cushioning the blow to U.S. wage rates, but it is obviously harder for a worker to relocate abroad than a barrel of crude oil.)

Short- and Medium-Run Economic Impacts of the PPCFA

In the wake of the PPCFA, then, there would likely be three impacts:

1. U.S. output of oil and gas would fall, raising prices for consumers.
2. Oil and gas company profits would fall, reducing earnings/dividends for shareholders and the market value of fixed, industry-specific capital (but not the underlying natural resources themselves, as oil and gas could be shipped abroad to escape the tax). Investment in U.S.-based capacity would fall.
3. The demand for U.S.-based workers in the oil and gas sector would fall, lowering their wages. Seeing this result, fewer young people would begin careers in the oil and gas sector.

Long-Run Economic Impact of the PPCFA

In the long run, capital and labor would flow out of U.S.-based oil and gas, until their returns/wages were restored to their original rates (before the imposition of the PPCFA). Specifically, because of reduced investment in machinery and equipment, and because of fewer workers entering the industry, as the existing stock of capital depreciated and the existing stock of workers retired, U.S. capacity would shrink, causing an even further decline in U.S. output. Ultimately, U.S. consumers would bear the full cost of the PPCFA.

SECTION 04

NUMERICAL ESTIMATES OF ECONOMIC IMPACT OF THE PPCFA

As we have argued in the above sections, in the short- and medium-run, the imposition of the PPCFA would reduce output (and hence raise prices for consumers), but the fall in output would be mitigated by a fall in the earnings to industry-specific capital and labor in oil and gas. In other words, the economic burden of the PPCFA initially would be shared by consumers, capitalists, and workers. However, as time passed and there was turnover in both the physical capital as well as the workforce in the oil and gas industry, the burden would shift to eventually fall entirely on consumers.

According to the EIA, in 2020, Americans consumed some 123.8 billion gallons of finished motor gasoline.^x If the entire annual \$50 billion PPCFA assessment were to fall solely on motorists, this would work out to about 40 cents per gallon. (It's true that the 2020 figure is depressed because of the pandemic, but on the other hand the tax hike from the PPCFA would itself reduce the quantity of gasoline consumed, relative to the no-PPCFA baseline.)

To get a sense of the maximum impact on shareholders, in 2019 ExxonMobil posted an annual profit (i.e., net income) of \$14.3 billion.^{xi} (To make the exercise sensible we have to go back before the pandemic, because ExxonMobil lost \$22 billion during 2020, making the PPCFA rhetoric all the more dubious.) If the entire \$6 billion of the estimated assessment on the oil giant were to be fully borne by the shareholders, based on the 2019 data it would thus mean a 42-percent reduction in the available return to capital.

On the other hand, to get a sense of the maximum impact on workers in oil and gas, we can use estimates of total labor income in the industry. A 2013 PwC study (commissioned by the American Petroleum Institute) used 2011 data to estimate that oil and natural gas directly

supported some 2.6 million full- and part-time jobs, corresponding to total labor income (including benefits and also proprietor income of those running gas stations, etc.) of \$203.6 billion.^{xii} Thus if the full \$50 billion PPCFA assessment were to fall entirely on the workers in oil and gas, it would mean a reduction of about 25 percent (using 2011 data).

In conclusion, we can provide a rough sketch of the likely impact of the PPCFA: Initially, the burden would fall entirely on shareholders, as they are the ones "writing checks" to the Treasury. This would result in a drop in capital earnings up to 42 percent. However, the affected companies would react by reducing output and their demand for specialized labor services. This would effectively share the burden of the PPCFA with workers and consumers. Without more details and assumptions on how the industry would reorganize, we will arbitrarily assign one-third of the burden to each of the constituents for this medium-term condition, in which capital suffers a 14-percent (0.42/3) loss in earnings, oil and gas workers suffer an 8-percent (approx. 0.25/3) drop in income, and consumers suffer a 13-cent-per-gallon (approx. \$0.40/3) hike in gasoline prices. But in the long run, capital and labor are able to flow out of oil and gas until their earnings return to the pre-PPCFA rates, such that consumers bear the full burden of the PPCFA assessment, which works out to 40-cents per gallon (using 2020 consumption data).

SECTION 05

CONCLUSION

The sponsors of the PPCFA wish to impose a cumulative \$500 billion “assessment” on major oil and gas companies for their alleged contribution to climate change damages from 2000–2019. The sponsors argue that this assessment will fall entirely on the shareholders of the targeted companies, and because it only pertains to past activities, it will not affect current or future production decisions and hence won’t impact consumers.

There are numerous problems with these justifications for the PPCFA. Even on their own terms, using official U.S. government estimates, the amount of climate change damages due to U.S. oil and gas operations and falling on the United States for the period 2000-2019 is far below the alleged \$500 billion. Furthermore, even if it were true that the entire \$500 billion assessment would be borne entirely by the shareholders of major oil and gas companies, this still includes millions of middle-class U.S. households who own (either directly or indirectly) shares in these companies.

However, the fundamental problem with the justification for the PPCFA is that its passage would obviously cause the decisionmakers at oil and gas companies to reduce current and future activity, as they would assume future assessments would “look back” in a similar fashion to impose assessments on their output. For a first-pass estimate of the likely impacts, we conclude the following: In the immediate wake of the PPCFA, oil and gas shareholders would see a 42-percent drop in earnings. In the medium-term, shareholders would suffer a 14-percent loss in earnings, oil and gas workers would suffer an 8-percent drop in income, and consumers would suffer a 13-cent-per-gallon hike in gasoline prices. In the long run, as capital and labor are able to flow out of oil and gas until their earnings return to the pre-PPCFA rates, consumers bear the full burden of the PPCFA assessment, which works out to a 40-cent-per-gallon increase in the cost of gasoline.



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- vi According to the BLS, to convert 2007 to 2021 dollars, we should increase the values by 37 percent. This calculation brings the numbers in Table 2 closer to the PPCFA assessments, but they are still far short of the suggested assessments in the PPCFA.
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