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Build Back Better Act Methane Emissions Charge: In Brief

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Introduction

On November 19, 2021, the House passed the Build Back Better Act (H.R. 5376, also referred to as the budget reconciliation bill). Among other provisions, the bill includes a charge on methane emissions from selected entities in the oil and gas industry.[1] The charge would apply only to methane emissions from specific types of facilities that are required to report their greenhouse gas (GHG) emissions to the Environmental Protection Agency's (EPA's) Greenhouse Gas Emissions Reporting Program (GHGRP). The charge would start at $900 per metric ton of methane, increasing to $1,500 after two years, which equates to $36 and $60 per metric ton of carbon dioxide equivalent, respectively. If enacted, this charge would be the first time the federal government would directly impose a charge, fee, or tax on GHG emissions.[2]

In recent months, the methane charge proposal has received considerable attention from Members and a range of stakeholders. According to some analyses, the methane charge would account for a considerable percentage of the estimated GHG reductions that could be achieved by the Build Back Better Act.[3] Some groups have raised concerns about economic impacts resulting from the methane charge, including impacts on natural gas prices.[4] Some policymakers are concerned about the charge in the context of EPA's proposed regulations to address methane emissions from the same categories of new and existing facilities that would be subject to the methane charge.[5]

This report discusses the scope and applicability of the Build Back Better Act methane charge. The first section of this report provides background about methane emissions in the United States. The second section discusses the scope and applicability of the methane charge and its rate structure. The last section includes selected factors that may play a role in affecting the scope of the charge and its potential impacts.

[1] In earlier versions of the bill, this methane charge was called a methane "fee."

[2] For almost 20 years, some Members have put forth various legislative proposals which would attach a price to GHG emissions through carbon taxes, emission fees, or cap-and-trade programs. For more information, see CRS Report R45472, *Market-Based Greenhouse Gas Emission Reduction Legislation: 108th Through 117th Congresses*, by Jonathan L. Ramseur.

[3] See, for example, Megan Mahajan and Robbie Orvis, *Modeling the Infrastructure Bills Using the Energy Policy Simulator*, Energy Innovation: Policy and Technology LLC, October 2021, https://energyinnovation.org/publication/modeling-the-infrastructure-bills-using-the-energy-policy-simulator/; Jeffrey Rissman, "Benefits of the Build Back Better Act's Methane Fee," Energy Innovation: Policy and Technology LLC, October 2021, https://energyinnovation.org/wp-content/uploads/2021/10/Benefits-of-the-Build-Back-Better-Act-Methane-Fee.pdf; Princeton University, Rapid Energy Policy Evaluation and Analysis Toolkit (REPEAT), "Addendum to Preliminary Report: The Climate Impact of Congressional Infrastructure and Budget Bills," November 2021, https://repeatproject.org/.

[4] See, for example, American Gas Association et al., Letter to Congressional Leaders, September 2021, https://www.aga.org/globalassets/letter-to-congress-on-methane-fees-090721_final.pdf; Eweline Czapla, "Methane Fees for Petroleum and Natural Gas Systems," American Action Forum, November 2021, https://www.americanactionforum.org/insight/methane-fees-for-petroleum-and-natural-gas-systems/; Americans for Tax Reform, "Dem Reconciliation Bill Contains $8 Billion Home Heating Tax," November 2021, https://www.atr.org/dem-reconciliation-bill-contains-8-billion-home-heating-tax.

[5] EPA, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review," 86 *Federal Register* 63110, November 15, 2021. For more background on these issues, see CRS Report R42986, *Methane and Other Air Pollution Issues in Natural Gas Systems*, by Richard K. Lattanzio.

U.S. Methane Emissions and Sources

Methane (or CH_4) is the primary component of natural gas, which can be used as either a fuel or as a feedstock for the chemical industry.[6] Natural gas is generally produced from geologic formations in the ground through drilling and extraction activities by the oil and gas industry. As natural gas travels through the interconnected systems of exploration, production, processing, storage (sometimes), and transmission, that deliver natural gas from the wellhead to the consumer, methane emissions are released into the atmosphere in a variety of ways, including

- intentional venting from equipment (e.g., pneumatic devices);[7]
- unintentional equipment leaks, worker error, or malfunctions;
- routine maintenance of equipment; and
- flaring (burning) of excess natural gas at a petroleum production site, which can result in both uncombusted methane and carbon dioxide (CO_2) emissions.

Methane is a potent GHG. When averaged over a 100-year time period—the time period often used in annual GHG inventories—methane's global warming potential (GWP) is 25 times greater than that of an equivalent mass of CO_2.[8] Over a 20-year time period, methane's GWP is 72 times greater than that of CO_2.[9] Due to methane's shorter-term climate impacts, scientists contend that "methane mitigation [is] one of the best opportunities for reducing near term [global] warming."[10]

As illustrated in **Figure 1**, methane emissions in the United States accounted for 10% of total GHG emissions in 2019 (the most recent year of comprehensive GHG data).[11] The figure identifies the range of sources that produced these methane emissions. Methane emissions from enteric fermentation (e.g., in livestock)[12] accounted for the largest amount, followed by emissions from natural gas systems. If EPA's estimates of methane emissions from natural gas and petroleum systems were grouped together, they would account for the largest source of methane emissions, approximately 3% of total U.S. GHG emissions in EPA's inventory.

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[6] For more information, see CRS In Focus IF10752, *Methane Emissions: A Primer*, by Richard K. Lattanzio.

[7] Methane emissions from pneumatic devices have been one of the largest sources of vented methane emissions from the industry. See EPA, *Options For Reducing Methane Emissions From Pneumatic Devices In The Natural Gas Industry*, 2006, https://www.epa.gov/sites/default/files/2016-06/documents/ll_pneumatics.pdf.

[8] Global warming potential (GWP) is an index that allows comparisons of the heat-trapping ability of different gases over a period of time, typically 100 years. Consistent with international GHG reporting protocols, EPA's most recent GHG inventory (April 2021) uses the GWP values presented in the Intergovernmental Panel on Climate Change (IPCC) 2007 *Fourth Assessment Report*. In this report and EPA's inventories, a metric ton of methane equates to 25 metric tons of CO_2 when averaged over a 100-year time frame. The IPCC has since updated the 100-year GWP estimates, with some increasing and some decreasing. For example, the IPCC 2013 *Fifth Assessment Report* reported the 100-year GWP for methane as ranging from 28 to 36.

[9] EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019*, 2021, Annex 6, Table A-238, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.

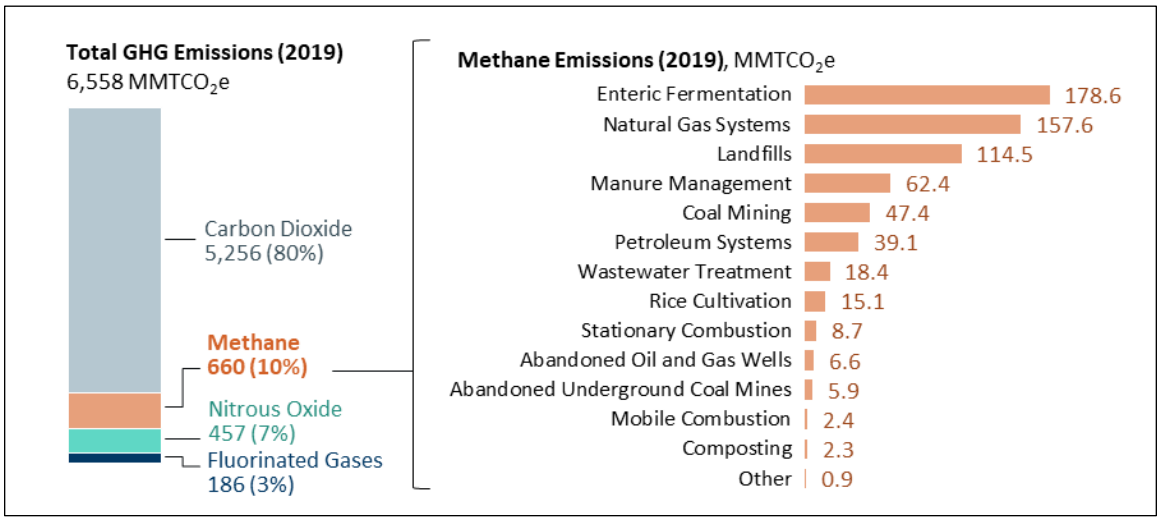
[10] EPA, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review," 86 *Federal Register* 63110, November 15, 2021. To support this argument, EPA cites statements from the Intergovernmental Panel on Climate Change (IPCC), *Sixth Assessment Report*, 2021, https://www.ipcc.ch/report/ar6/wg1/#SPM.

[11] EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019*, 2021, Table ES-2, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.

[12] *Enteric fermentation* refers to the normal digestive process in ruminant animals, such as cattle, during metabolism and digestion, resulting in methane emissions. For more information, see CRS In Focus IF11404, *Greenhouse Gas Emissions and Sinks in U.S. Agriculture*, by Genevieve K. Croft.

Figure 1. U.S. Total GHG Emissions by Gas and Sources of Methane Emissions

2019 Emission Estimates from EPA Inventory



Source: Prepared by CRS; emissions data from EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019*, 2021, Table ES-2, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.

EPA produces the GHG emissions estimates in its annual inventories using commonly accepted emission factors and activity levels to calculate aggregate estimates for all source categories. In recent years, the emission estimates for the natural gas and petroleum system categories have received scrutiny from a range of stakeholders. Some have put forth competing—and sometimes conflicting—estimates.[13]

Build Back Better Act Methane Charge

Scope and Applicability

The Build Back Better Act methane charge would apply to methane emissions from specific types of facilities in the petroleum and natural gas industry that, under current regulations, are required to report their GHG emissions, including methane, to EPA's GHGRP. Since 2011, EPA's GHGRP has collected annual emissions data from nearly 8,000 large industrial facilities and other sources in the United States.[14] The GHGRP requirements are codified in 40 C.F.R. Part 98. Subpart W includes the detailed requirements for petroleum and natural gas facilities.

[13] See, for example, Jeffrey S. Rutherford et al., "Closing the Methane Gap in US Oil and Natural Gas Production Emissions Inventories," *Nature Communications*, 2021; and Ramon Alvarez et al., "Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain," *Science*, June 2018. For more discussion, see CRS Report R42986, *Methane and Other Air Pollution Issues in Natural Gas Systems*, by Richard K. Lattanzio.

[14] For more information about the GHGRP, see CRS In Focus IF11754, *EPA's Greenhouse Gas Reporting Program*, by Angela C. Jones.

The act's methane charge would apply only to a subset of the petroleum and natural gas system facilities that are required to report GHG emissions in Part 98, Subpart W. The facilities that would be subject to the charge include the following industry operations:

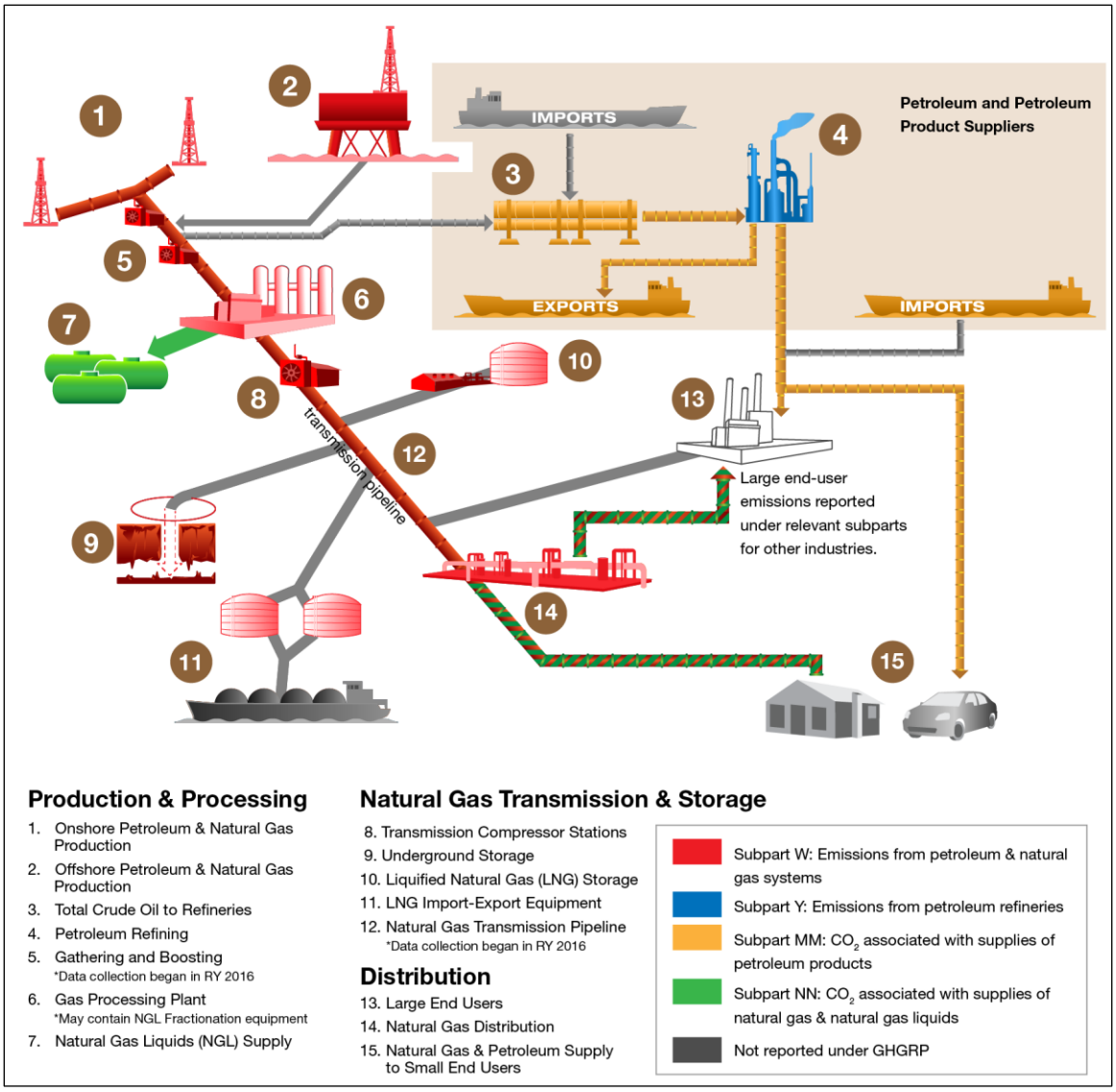
- offshore petroleum and natural gas production;
- onshore petroleum and natural gas production;
- onshore natural gas processing;
- onshore natural gas transmission compression;
- underground natural gas storage;
- liquefied natural gas storage;
- liquefied natural gas import and export equipment;
- onshore petroleum and natural gas gathering and boosting;[15] and
- onshore natural gas transmission pipelines.

Figure 2 illustrates the petroleum and natural gas system entities that are required to report their GHG emissions in EPA's GHGRP. The entities with red labels are subject to Subpart W reporting requirements. Not all of the entities that report emissions under Subpart W are subject to the methane charge. Two facility categories that report emissions under Subpart W would not be subject to the methane charge: (1) natural gas distribution facilities and (2) facilities EPA describes as "other oil and gas combustion facilities."[16]

[15] According to EPA, "gathering and boosting stations receive natural gas from production sites and transfer it, via gathering pipelines, to transmission pipelines or processing facilities…. Boosting processes include compression, dehydration, and transport of gas to a processing facility or pipeline." EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019, p. 3-90, 2021.

[16] EPA states these are "stationary fuel combustion emissions from facilities that are associated with the petroleum and natural gas industry, but that do not report process emissions from any of the above source categories." EPA, *2011-2020 Greenhouse Gas Reporting Program Sector Profile: Petroleum and Natural Gas Systems*, 2020, https://www.epa.gov/ghgreporting/ghgrp-petroleum-and-natural-gas-systems-sector-profile.

Figure 2. Petroleum and Gas Entities Subject to EPA's GHG Emission Reporting Program



Source: Reproduced from EPA, "GHGRP and the Oil and Gas Industry," https://www.epa.gov/ghgreporting/ghgrp-and-oil-and-gas-industry.

Note: RY refers to reporting year for EPA's GHGRP.

The reporting requirements in Subpart W apply to facilities that emit 25,000 metric tons of CO_2 equivalent ($mtCO_2e$) or more per year.[17] H.R. 5376 would direct EPA to revise that threshold (within two years) to 10,000 $mtCO_2e$. This change would increase the number of facilities subject to EPA's reporting requirements and thus the number of facilities (and emissions) subject to the methane charge.

Table 1 identifies the number of petroleum and natural gas facilities by category that reported their GHG emissions to EPA in 2019 pursuant to the regulations in 40 C.F.R. Part 98, Subpart

[17] Typically, GHG emissions are measured in $mtCO_2e$ because GHGs vary by global warming potential.

W.[18] The table also indicates the total methane emissions for each facility category. In 2019, reported methane emissions from facilities that would be subject to the methane charge totaled 78 million $mtCO_2e$ ($MMTCO_2e$). In 2019, onshore production (44.2 $MMTCO_2e$) and onshore gathering and boosting (21.9 $MMTCO_2e$) accounted for 84% of these reported emissions.

As discussed above, natural gas distribution facilities, which report emissions under Subpart W, would not be subject to the charge. According to EPA reporting data, 162 natural gas distribution facilities emitted approximately 13 $MMTCO_2e$ of methane in 2019.[19] As indicated in **Table 1**, if these facilities were subject to the charge, this group would rank third in methane emissions.[20]

Table 1. Number of Reporting Facilities and Methane Emissions from Petroleum and Natural Gas System Categories Initially Subject to the Methane Charge in H.R. 5376

Data for 2019; emissions in million metric tons of CO_2 equivalent ($MMTCO_2e$)

Facility Type	Number of Reporting Facilities	Reported Methane Emissions ($MMTCO_2e$)
Onshore petroleum and natural gas production	485	44.2
Onshore petroleum and natural gas gathering and boosting	361	21.9
Onshore natural gas transmission compression	624	4.2
Onshore natural gas transmission pipeline	39	2.9
Natural gas processing	457	2.9
Offshore petroleum and natural gas production	141	1.5
Underground natural gas storage	50	0.6
Liquefied natural gas import and export equipment	10	0.1
Liquefied natural gas storage	5	0.001
Total	**2,172**	**78.3**

Source: Prepared by CRS; data from EPA Greenhouse Gas Reporting Program, Facility Level Information on Greenhouse Gases Tool (FLIGHT), https://ghgdata.epa.gov.

Notes: The methane charge applies to facilities required to report under 40 C.F.R. Part 98, Subpart W. The reporting requirements apply to facilities that emit 25,000 metric tons of CO_2 equivalent ($mtCO_2e$) or more per year. Typically, GHG emissions are measured in $mtCO_2e$ because GHGs vary by global warming potential (GWP). GWP is an index that allows comparisons of the heat-trapping ability of different gases over a period of time, typically 100 years. H.R. 5376 would direct EPA (not later than two years after enactment) to issue a rulemaking to lower the reporting threshold to 10,000 $mtCO_2e$. This change would increase the number of facilities subject to EPA's reporting requirements and thus the number subject to the methane charge in H.R. 5376. A number of other facilities reported methane emissions (and other GHG emissions) under Subpart W during these years, but these facilities would not be subject to the methane charge. These include 163 natural gas distribution facilities: 162 facilities emitted 13 $MMTCO_2e$ of methane in 2019.

[18] Although reported emissions are available for 2020, the 2019 emissions data arguably provide a more useful indication of the magnitude of emissions than 2020 data due to impacts associated with the Coronavirus Disease 2019 (COVID-19) pandemic. In 2020, the reported emissions comparable to those in **Table 1** were 69.4 $MMTCO_2e$, 11% lower than those in 2019.

[19] EPA Greenhouse Gas Reporting Program, Facility Level Information on Greenhouse Gases Tool (FLIGHT), https://ghgdata.epa.gov.

[20] In addition, the methane fee would not apply to emissions from facilities EPA describes as "other oil and gas combustion facilities." In 2019, 55 such facilities reported approximately 5,000 $mtCO_2e$ of methane.

EPA's GHGRP covers a subset of U.S. methane emissions from petroleum and natural gas systems. It is uncertain what percentage of total emissions from this sector the reporting program covers. When EPA issued its final rule promulgating the Subpart W reporting regulations in 2010,[21] the agency estimated that the 25,000 $mtCO_2e$ reporting threshold would cover 85% of the methane emissions from the reporting categories. In the 2010 rule, EPA also estimated that decreasing the reporting threshold to 10,000 $mtCO_2e$ would increase the emissions coverage to 91%.[22] These estimates appear to be out of date. EPA stated in 2019 that the agency "does not have an exact estimate of what percent of U.S. emissions are covered under petroleum and natural gas systems at this time.… EPA will continue to analyze the emissions from reports as well as linking the information to the US GHG Inventory to identify what fraction of emissions from petroleum and natural gas systems are covered by the GHGRP."[23]

As a point of reference, **Table 2** lists the methane emission estimates for the petroleum and natural gas system activities that would match the applicability of the methane charge.[24]As the inventory estimates are intended to capture all of the methane emission in petroleum and natural gas systems, the inventory estimates are higher. As mentioned above, some have argued that EPA's inventory estimates of methane emissions from these systems have underestimated the magnitude of emissions. For example, a 2018 study estimated that methane emissions in these sectors are 60% higher than the estimates in EPA's inventory.[25]

Table 2. EPA GHG Emission Inventory Estimates of Methane Emissions from Petroleum and Natural Gas and Systems (2019)

Million Metric Tons CO_2e

Activity	Methane Emissions
Total onshore petroleum and natural gas production	84.7
Onshore natural gas production	*52.0*
Onshore petroleum production	*32.7*
Total offshore petroleum and natural gas production	5.8
Offshore natural gas production	*0.8*
Offshore petroleum production	*5.0*
Natural gas gathering and boosting	40.9
Natural gas processing	12.4
Natural gas transmission and storage	37.0
Total of above activities	**180.8**

[21] EPA, "Mandatory Reporting of Greenhouse Gases: Petroleum and Natural Gas Systems," Final Rule, 75 *Federal Register* 74458, November 30, 2010 (hereinafter, 2010 Final Rule).

[22] See Table 7B in 2010 Final Rule.

[23] EPA, Frequently Asked Questions, GHGRP, Subpart W, "What percentage of emissions from petroleum and natural gas systems are reported under the GHGRP?" September 25, 2019, https://ccdsupport.com/confluence/pages/viewpage.action?pageId=189038686.

[24] For example, methane emissions from natural gas distribution are not included in the table, as they would not be subject to the fee.

[25] Ramon Alvarez et al., "Assessment of Methane Emissions from the U.S. Oil and Gas Supply Chain," *Science*, June 2018.

Source: Prepared by CRS; data from EPA, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2019*, 2021, Table 3-38 and Table 3-63, https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks-1990-2019.

In the Build Back Better Act, the scope of emissions subject to the charge would be based on (1) the facility's reported emissions under EPA's GHGRP, as described above, and (2) an emissions threshold that varies by facility type.

- For petroleum and natural gas production facilities, the charge would apply only to the number of reported tons of methane that exceed 0.2% of the natural gas sent to sale from such a facility.
- For nonproduction facilities, such as gathering and boosting facilities, the charge would apply to methane emissions that exceed 0.05% of the natural gas sent for sale from the facility.
- For natural gas transmission facilities, the charge would apply to methane emissions that exceed 0.11% of the natural gas sent for sale from the facility.

These thresholds effectively allow for some amount of methane to be released from these facilities without being subject to the charge, thus decreasing the amount of emissions reported under the GHGRP that would be subject to the charge. **Table 3** compares the actual reported emissions (in 2019) for onshore petroleum and natural gas production facilities and onshore petroleum and natural gas gathering and boosting facilities (the two facility types that account for most of the methane emissions) with the emissions that would be subject to the methane charge at these facilities. As the table indicates, when the thresholds are applied, the methane emissions subject to the charge decrease by about 35%.

Table 3. Estimate of Methane Emissions Subject to Charge After Applying Emissions Thresholds (Based on 2019 Data)

Million Metric Tons CO_2e

Facility Type	Reported Methane Emissions	Reported Methane Emissions Subject to Charge After Applying Emissions Threshold
Onshore petroleum and natural gas production	44.2	27.2
Onshore petroleum and natural gas gathering and boosting	21.9	15.6
Total	66.1	42.8

Source: Prepared by CRS; emissions data from EPA Greenhouse Gas Reporting Program Facility Level Information on Greenhouse Gases Tool (FLIGHT), https://ghgdata.epa.gov; facility data (sales of natural gas and barrels of oil) from EPA Envirofacts database, customized search of petroleum and natural gas systems, using "facility overview" dataset.

Notes: To estimate the methane emissions potentially subject to the charge, CRS applied the relevant emissions threshold (e.g., 0.2% for production facilities) to the natural gas or petroleum sales at each facility. This value was then subtracted from the reported methane emissions. The remaining emissions would be subject to the charge. For some facilities, the threshold application resulted in these facilities not having any methane emissions subject to the charge.

In its cost estimate ("score") of H.R. 5376, the Congressional Budget Office (CBO) provided another estimate that may be informative. CBO estimated the revenue that the methane charge would generate over time. CBO's estimated revenue by fiscal year is provided in the first row of **Table 4**. CBO's analysis does not provide an estimate of methane emissions subject to the charge, but **Table 4** provides these estimates by applying CBO's revenue estimate and the rate of the

charge in the legislation. As CBO's revenue estimates are *net* revenue estimates, the second row includes an estimate of *gross* revenue from the methane charge.[26] The annual gross revenue is divided by the rate of the methane charge ($1,500) to produce annual estimates of methane emissions (in metric tons of methane). The last row converts metric tons of methane into metric tons of CO_2e for comparison purposes.

Table 4. Estimate of Methane Emissions Subject to the Charge Based on CBO's Cost Estimate Analysis

	FY2025	FY2026	FY2027	FY2028	FY2029	FY2030	FY2031
CBO Revenue Estimate (Net)	$1.2 billion	$1.3 billion	$1.4 billion	$1.2 billion	$1.1 billion	$1.0 billion	$0.9 billion
Estimate of Gross Revenue from Methane Charge	$1.6 billion	$1.7 billion	$1.9 billion	$1.6 billion	$1.4 billion	$1.3 billion	$1.1 billion
Methane Charge (dollars per metric ton of methane)	$900	$1,200	$1,500	$1,500	$1,500	$1,500	$1,500
Estimated Methane Emissions Subject to the Charge (million metric tons methane)	1.8	1.4	1.2	1.1	0.9	0.8	0.8
Estimated Methane Emissions Subject to the Charge (million metric tons CO_2e)	44	36	31	27	23	21	19

Source: Prepared by CRS; the data in the first row, "CBO Revenue Estimate (Net)," are from CBO, *Summary of Cost Estimate for H.R. 5376, the Build Back Better Act*, November 18, 2021, https://www.cbo.gov/publication/57627. In the above estimate, the revenue collected in FY2025 would account for methane emissions in calendar year 2023, during which the methane charge would be $900 per metric ton of methane; the revenue collected in FY2026 would account for methane emissions in calendar year 2024, during which the methane charge would be $1,200 per metric ton of methane. Subsequent fiscal year collections would involve a methane charge of $1,500 per metric ton of methane.

Rate of Charge

The Build Back Better Act methane charge would start in calendar year 2023 at $900 per metric ton of methane, increase to $1,200 in 2024, and increase to $1,500 in 2025. The charge would remain at $1,500 in subsequent years.[27] **Table 5** indicates the value of the methane charge rates in $mtCO_2e$, the measure commonly used in carbon tax and emission charge proposals. The methane

[26] CBO explains, "When excise taxes, customs duties, and other types of 'indirect' taxes are imposed on goods and services, they tend to reduce income for workers or business owners in the taxed industry and for others throughout the economy. Consequently, revenue derived from existing 'direct' tax sources—such as individual and corporate income taxes and payroll taxes—will also be reduced. To approximate that effect, the Congressional Budget Office (CBO), the Joint Committee on Taxation (JCT), and the Treasury Department's Office of Tax Analysis (OTA) apply a 25 percent offset when estimating the net revenue that legislation imposing some form of indirect tax is expected to generate." CBO, *The Role of the 25 Percent Revenue Offset in Estimating the Budgetary Effects of Legislation*, 2009, https://www.cbo.gov/publication/20110.

[27] Although the legislative text is not explicit, presumably the fees are per metric tons, as metric tons are the measure used in EPA's reporting program. Metric tons (tonnes) are the common unit of measure for GHG emissions. One metric ton equals 1.1 short ton.

charge rates below are comparable to the carbon tax and emission charge rates in recent legislative proposals.[28]

Table 5. Methane Charge Rates

Methane Charge Measure	2023	2024	2025	After 2025
Dollars per metric ton of CH_4 emissions	$900	$1200	$1500	$1500
Dollars per metric ton of CO_2 equivalent	$36	$48	$60	$60

Source: Prepared by CRS; dollars per metric ton of CO_2 equivalent calculated using a global warming potential of 25.

Selected Factors Affecting the Scope and Impact of the Methane Charge

A range of factors could play a role in determining the scope of emissions subject to the methane charge and its ultimate impacts on GHG emission levels and economic measures, such as natural gas prices. A comprehensive analysis of these factors is beyond the scope of this report. Selected factors include the following:

- **EPA Regulation of Petroleum and Natural Gas Systems.** On November 15, 2021, EPA proposed regulations to address methane emissions from the same categories of new and existing facilities that would be subject to the methane charge.[29] If finalized, these requirements would likely reduce methane emissions from these facilities, thus affecting the scope and impact of the methane charge. The degree to which the regulations would overlap with or complement the methane charge would depend on the scope and applicability of the final regulations.
- **Changes to Equipment or Operations.** A charge on methane emissions from petroleum and natural gas systems would provide an economic incentive for facilities to modify their equipment and operations in order to avoid paying the charge. Economic theory suggests facilities would likely find ways to reduce onsite methane emissions until the costs associated with these changes reach the level of the charge. At that point, facilities would pay the charge for the remaining emissions. The degree to which facilities make such changes would likely be based on site-specific economic conditions.
- **Funding for Technological Improvements.** The Build Back Better Act would include supplemental appropriations of $775 million to EPA to provide grants to facilities subject to the methane charge for a range of objectives, including "improving and deploying industrial equipment and processes" that reduce methane emission. The funds could lead to methane reductions at oil and natural gas facilities, thus affecting the impact of the charge.

[28] For more information, see CRS Report R45472, *Market-Based Greenhouse Gas Emission Reduction Legislation: 108th Through 117th Congresses*, by Jonathan L. Ramseur.

[29] EPA, "Standards of Performance for New, Reconstructed, and Modified Sources and Emissions Guidelines for Existing Sources: Oil and Natural Gas Sector Climate Review," 86 *Federal Register* 63110, November 15, 2021. For more background on these issues, see CRS Report R42986, *Methane and Other Air Pollution Issues in Natural Gas Systems*, by Richard K. Lattanzio.

- **Changes to the Subpart W Reporting Requirements.** The Build Back Better Act would direct EPA to lower the reporting threshold from 25,000 $mtCO_2e$ to 10,000 $mtCO_2e$. It is uncertain what percentage of facilities are currently covered by the existing threshold and what percentage of additional facilities would be covered by the lower threshold. In addition, the legislation directs EPA "to ensure the reporting [is] based on empirical data and accurately reflect the total methane emissions and waste emissions from the applicable facilities." It is uncertain how EPA would implement this directive and how it would affect reporting.

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